KONICA MINOLTA

NORD

SERVICE MANUAL

Field Service

bizhub PRO C6500

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

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SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the Safety and Important Warning Items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, Konica Minolta Business Technologies, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.
Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this Service Manual is complete and accurate.
The user of this Service Manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this Service Manual is intended.
Therefore, this Service Manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.
Keep this Service Manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions "⚠**DANGER**", "⚠**WARNING**", and "⚠**CAUTION**" is defined as follows together with a symbol mark to be used in a limited meaning.
When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

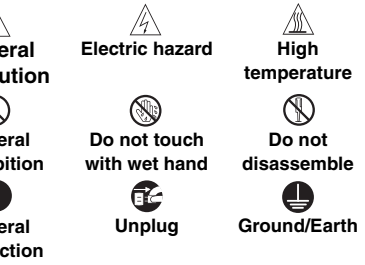
⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble and property damage**

Symbols used for safety and important warning items are defined as follows:

△ **:Precaution when using the copier.**

⃠ **:Prohibition when using the copier.**

● **:Direction when using the copier.**



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SAFETY WARNINGS

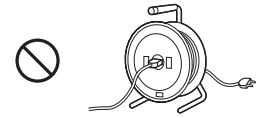
[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

Konica Minolta brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. The points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

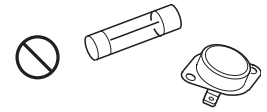
Prohibited Actions

⚠ DANGER

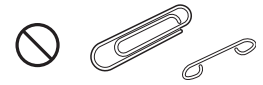
- Using any cables or power cord not specified by KMBT.



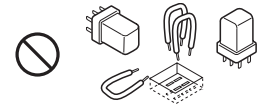
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



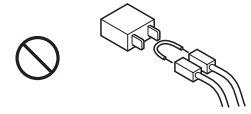
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts)

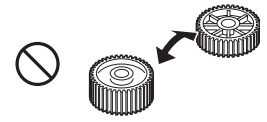


- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT

- Using parts not specified by KMBT



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[2] POWER PLUG SELECTION

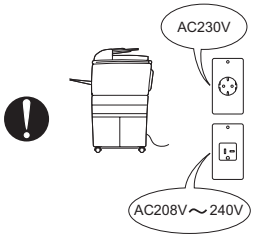
In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- Use power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.



- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - Black or Brown: L (line)
  - White or Light Blue: N (neutral)
  - Green/Yellow: PE (earth)

  Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

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[3] CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

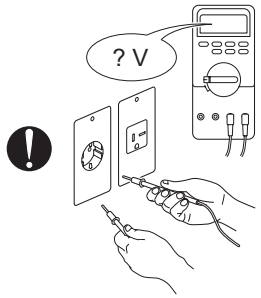
Konica Minolta brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and CE from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

Connection to Power Supply

⚠ WARNING

- Check that mains voltage is as specified.
  Connection to wrong voltage supply may result in fire or electric shock.

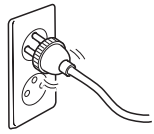


- Connect power plug directly into wall outlet having same configuration as the plug.
  Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.
  If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.

- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.
  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.
  If excessive current flows in the wall outlet, fire may result.

- Make sure the power cord is plugged in the wall outlet securely.
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



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Connection to Power Supply

⚠ WARNING

- Check whether the product is grounded properly.

  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.

  Connect power plug to grounded wall outlet.

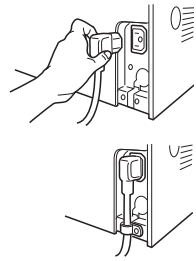
Power Plug and Cord

⚠ WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.

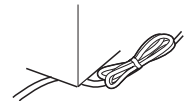
  When securing measure is provided, secure the cord with the fixture properly.

  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.



- Check whether the power cord is not stepped on or pinched by a table and so on.

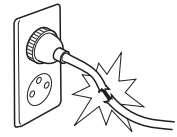
  Overheating may occur there, leading to a risk of fire.



- Check whether the power cord is damaged. Check whether the sheath is damaged.

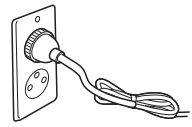
  If the power plug, cord, or sheath is damaged, replace with a new power cord or cord set (with plug and connector on each end) specified by KMBT.

  Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.

  Overheating may occur there, leading to a risk of fire.



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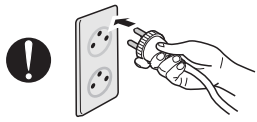
Power Plug and Cord

⚠ WARNING

- Check whether dust is collected around the power plug and wall outlet.

  Using the power plug and wall outlet without removing dust may result in fire.

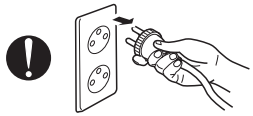


- Do not insert the power plug into the wall outlet with a wet hand.

  The risk of electric shock exists.

- When unplugging the power cord, grasp the plug, not the cable.

  The cable may be broken, leading to a risk of fire and electric shock.

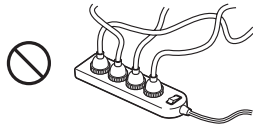


Wiring

⚠ WARNING

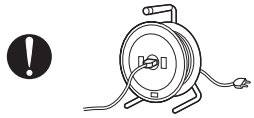
- Never use multi-plug adapters to plug multiple power cords in the same outlet.

  If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.

  Do not use an extension cable reel with the cable taken up. Fire may result.



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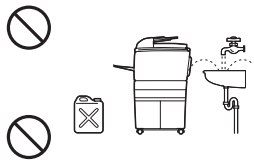
2. Installation Requirements

Prohibited Installation Places

⚠ WARNING

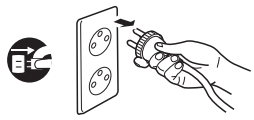
- Do not place the product near flammable materials or volatile materials that may catch fire.
  A risk of fire exists.
- Do not place the product in a place exposed to water such as rain.
  A risk of fire and electric shock exists.



When not Using the Product for a long time

⚠ WARNING

- When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord.
  Dust collected around the power plug and outlet may cause fire.



Ventilation

⚠ CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.
  If a bad smell of ozone is present in the following cases, ventilate the room.
  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time

Fixing

⚠ CAUTION

- Be sure to lock the caster stoppers.
  In the case of an earthquake and so on, the product may slide, leading to a injury.

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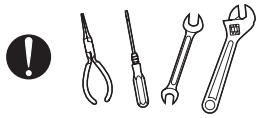
3. Servicing

Inspection before Servicing

⚠ CAUTION

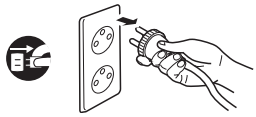
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.

  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.



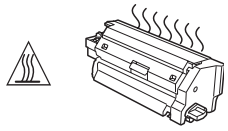
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. Arisk of electric shock exists.



- The area around the fixing unit is hot.

  You may get burnt.

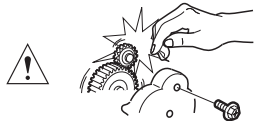


Work Performed with the Product Powered On

⚠ WARNING

- Take every care when making adjustments or performing an operation check with the product powered.

  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.

  High-voltage exists around the drum unit. A risk of electric shock exists.

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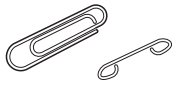
Safety Checkpoints

⚠ WARNING

- When taking a report of problems from a user, check each part and repair properly.
  A risk of product trouble, injury, and fire exists.

- Check the exterior and frame for edges, burrs, and other damages.
  The user or CE may be injured.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.
  They can short internal circuits and cause electric shock or fire.



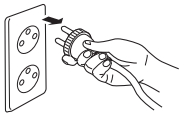
- Check wiring for squeezing and any other damage.
  Current can leak, leading to a risk of electric shock or fire.

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.
  Current can leak, leading to a risk of product trouble or fire.

- Check high-voltage cables and sheaths for any damage.
  Current can leak, leading to a risk of electric shock or fire.

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.
  Current can leak, leading to a risk of trouble or fire.

- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.
  The laser light can enter your eye, leading to a risk of loss of eyesight.



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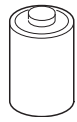
Safety Checkpoints

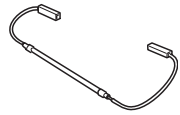
⚠ WARNING

- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

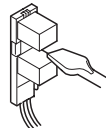
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.
  Improper replacement can cause explosion.



- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.
  A risk of fire exists.



- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.
  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.
  Current can leak, leading to a risk of electric shock or fire.

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)
  A risk of product trouble, electric shock, and fire exists.

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Handling of Consumables

⚠ WARNING

- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.

  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

- Never throw the used cartridge and toner into fire.

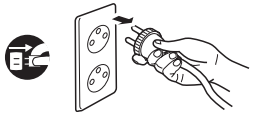
  You may be burned due to dust explosion.

Handling of Service Materials

⚠ CAUTION

- Unplug the power cord from the wall outlet.

  Isopropyl alcohol and acetone are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.

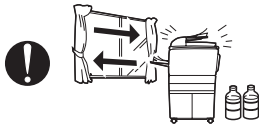
  A risk of fire exists.

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

  A risk of fire exists.

- When using any solvent, ventilate the room well.

  Breathing large quantities of organic solvents can lead to discomfort.



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4. Fuse

Fuse

⚠ CAUTION

- CAUTION
  Double pole / neutral fusing
- ATTENTION
  Double pôle / Fusible sur le neutre

5. Used Batteries Precautions

Handling of batteries

⚠ CAUTION

- ALL Areas

  CAUTION

  Danger of explosion if battery is incorrectly replaced.
  Replace only with the same or equivalent type recommended by the manufacturer.
  Dispose of used batteries according to the manufacturer's instructions.

- Germany

  VORSICHT!

  Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
  Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ.
  Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

- France

  ATTENTION

  Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
  Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
  Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

- Denmark

  ADVARSEL!

  Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
  Udskiftning må kun ske med batteri af samme fabrikat og type.
  Levér det brugte batteri tilbage til leverandøren.

- Finland, Sweden

  VAROITUS

  Paristo voi räjähtää, jos se on virheellisesti asennettu.
  Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
  Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

  VARNING

  Explosionsfara vid felaktigt batteribyte.
  Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
  Kassera använt batteri enligt fabrikantens instruktion.

- Norway

  ADVARSEL

  Eksplosjonsfare ved feilaktig skifte av batteri.
  Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
  Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

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SAFETY INFORMATION

IMPORTANT NOTICE

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States.

This copier is certified as a "Class 1" laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside this copier is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

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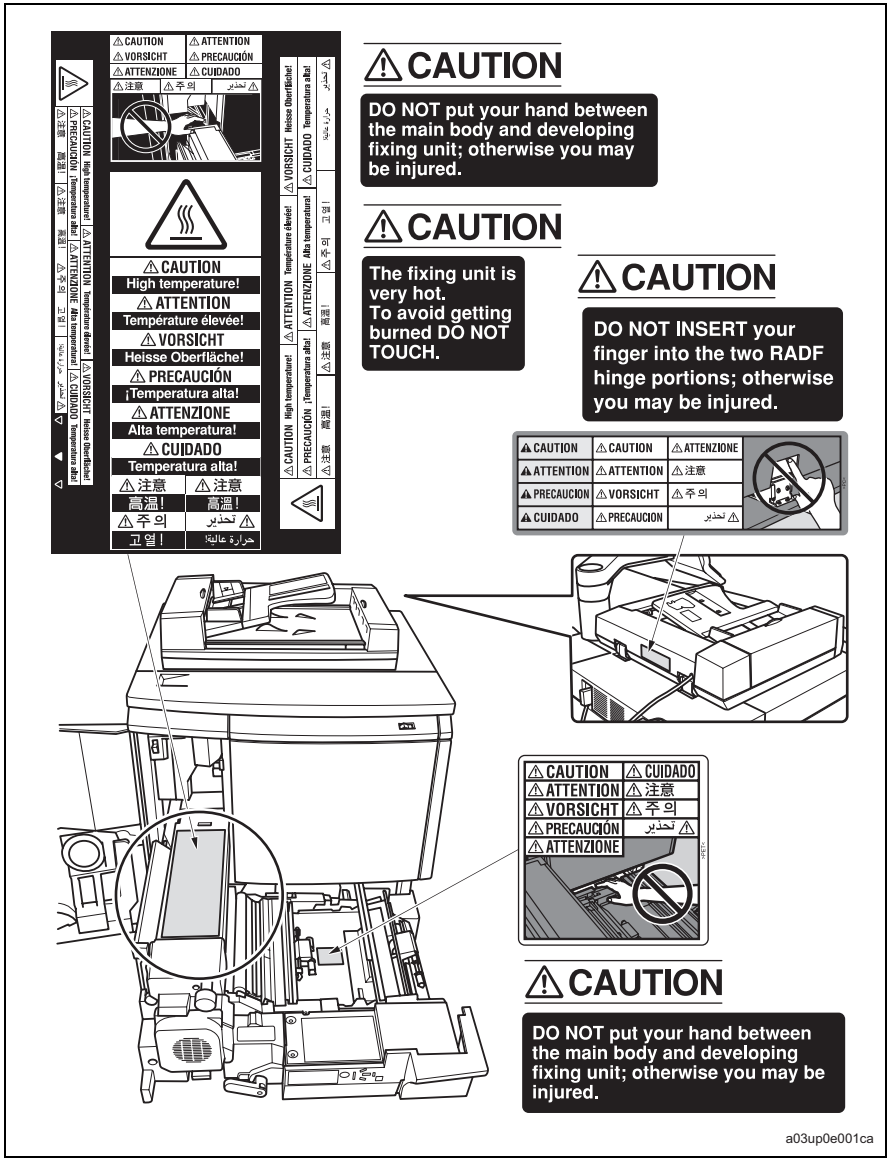
INDICATION OF WARNING ON THE MACHINE

Caution labels shown below are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.



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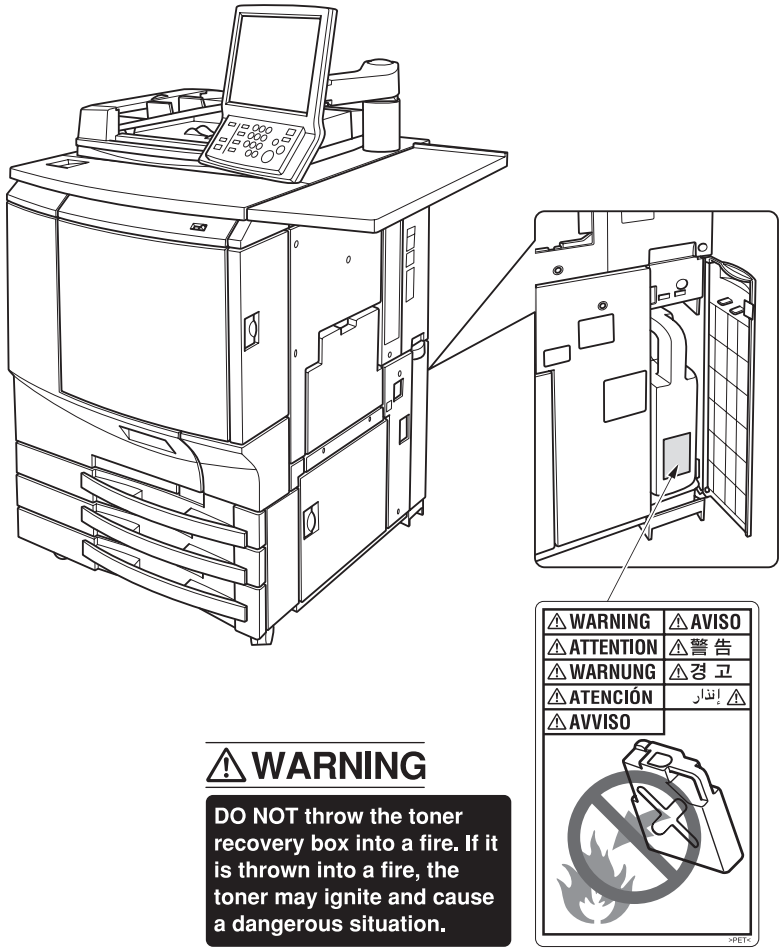

⚠ CAUTION:

- **You may be burned or injured if you touch any area that you are advised by any caution label to keep yourself away from. Do not remove caution labels. And also, when the caution label is peeled off or soiled and cannot be seen clearly, replace it with a new caution label.**

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MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and KMBT must be notified.
3. To determine the cause of the accident, conditions and materials must be recorded through direct on-site checks, in accordance with instructions issued by KMBT.
4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

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Legal restrictions on copying

Certain types of originals must never be copied with the purpose or intent to pass copies of such originals off as the originals.
The following is not a complete list, but is meant to be used as a guide to responsible copying.

<Financial Instruments>

- Personal checks
- Traveler's checks
- Money orders
- Certificates of deposit
- Bonds or other certificates of indebtedness
- Stock certificates

<Legal Originals>

- Food stamps
- Postage stamps (canceled or uncanceled)
- Checks or drafts drawn by government agencies
- Internal revenue stamps (canceled or uncanceled)
- Passports
- Immigration papers
- Motor vehicle licenses and titles
- House and property titles and deeds

<General>

- Identification cards, badges, or insignias
- Copyrighted works without permission of the copyright owner

In addition, it is prohibited under any circumstances to copy domestic or foreign currencies, or works of art without permission of the copyright owner.
When in doubt about the nature of an original, consult with legal counsel.

Detail
In order to prohibit the illegal reproduction of certain originals, such as paper currency, this machine is equipped with a counterfeit prevention feature.
Due to the counterfeit prevention feature that this machine is equipped with, images may be distorted.

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Composition of the service manual

This service manual consists of the following sections and chapters:

<Theory of Operation section>

OUTLINE:	System configuration, product specifications, unit configuration, and paper path
COMPOSITION/OPERATION:	Configuration of each unit, explanation of the operating system, and explanation of the control system

This section gives, as information for the CE to get a full understanding of the product, a rough outline of the object and role of each function, the relationship between the electrical system and the mechanical system, and the timing of operation of each part.

<Field service section>

OUTLINE:	System configuration, and product specifications
MAINTENANCE:	Service schedule *, maintenance steps, list of service tools and directions for use *, firmware version up method *, and removal/reinstallation methods of major parts
ADJUSTMENT/SETTING:	Utility mode *, Tech. Rep. mode *, security and mechanical adjustment
TROUBLESHOOTING*:	List of jam codes, their causes, operation when a jam occurs and its release method, and list of error codes, their causes, operation when a warning is issued and estimated abnormal parts.
APPENDIX*:	Parts layout drawings, connector layout drawings, timing chart, overall layout drawing

This section gives, as information required by the CE at the site (or at the customer's premise), a rough outline of the service schedule and its details, maintenance steps, the object and role of each adjustment, error codes and supplementary information.

The details of items with an asterisk "*" are described only in the service manual of the main body.

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Notation of the service manual

A. Product name

In this manual, each of the products is described as follows:

(1)	bizhub PRO C6500:	Main body
(2)	Microsoft Windows 95:	Windows 95
	Microsoft Windows 98:	Windows 98
	Microsoft Windows Me:	Windows Me
	Microsoft Windows NT 4.0:	Windows NT 4.0 or Windows NT
	Microsoft Windows 2000:	Windows 2000
	Microsoft Windows XP:	Windows XP
	When the description is made in combination of the OS's mentioned above:	
		Windows 95/98/Me
		Windows NT 4.0/2000
		Windows NT/2000/XP
		Windows 95/98/Me/NT/2000/XP

B. Brand name

The company names and product names mentioned in this manual are the brand name or the registered trademark of each company.

C. Electrical parts and signals

Those listed by way of example below are not exhaustive, but only some instances among many.

Classification	Load symbol	Ex. of signal name	Description
Sensor	PS	IN	Sensor detection signal
		PS	
		Door PS1	
		SIG	
		102 PS	
Solenoid	SD	24V	Power to drive the solenoid
		DRV	Drive signal
		SOL	
Clutch	CL	24V	Power to drive the clutch
		DRV	Drive signal
		SOL	

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Classification	Load symbol	Ex. of signal name	Description
Motor	M	24V	Power to drive the motor
		CONT	Drive signal
		DRV1	Drive signals of two kinds
		DRV2	
		D1	
		D2	
Motor	M	_U	Drive signals (control signals) of three kinds
		_V	
		_W	
		DRV1	
		DRV2	
		DRV3	
		D1	Drive signals (control signals) of four kinds Motor, phases A and B control signals
		D2	
		D3	
		D4	
		DRV A	
		DRV $\overline{A}$	
		DRV B	
		DRV $\overline{B}$	
		A	
		/A	
		B	
		/B	
		AB	
		BB	
		CLK, PLL	PLL control signal
		LCK, Lock, LD	PLL lock signal
		FR	Forward/reverse rotation signal
		EM, Lock, LCK, LD	Motor lock abnormality
		BLK	Drive brake signal
		P/S	Power/stop
		S/S	Operating load start/stop signal
		SS	
		CW/CCW, F/R	Rotational direction switching signal
		ENB	Effective signal
		TEMP_ER	Motor temperature abnormality detection signal
Fan	FM	24V	Power to drive the fan motor
		CONT, DRIVE	Drive signal
		HL	Speed control signal (2 speeds)
		EM, Lock, LCK, FEM	Detection signal
Others		TH1.S, ANG	Analog signal

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Classification	Load symbol	Ex. of signal name	Description
Ground		SG, S.GND, S_GND	Signal ground
		PG, P.GND	Power ground
Serial communication		DCD	Data carrier detection
		SIN	Serial input
		SOUT	Serial output
		DTR	Data terminal operation available
		GND	Signal ground (earth)
		DSR, DSET	Data set ready
		RTS	Transmission request signal
		CTS	Consent transmission signal
		RI	Ring indicator
		TXD	Serial transmission data
		RXD	Serial reception data

D. Paper feed direction

When the direction in which paper is fed is in parallel with the longer side of paper, the paper feed direction like this is referred to as the longitudinal feed.

And the paper feed direction that is perpendicular to the longitudinal feed is referred to as the transverse feed.

When specifying the longitudinal feed, "S (abbreviation for Short Edge Feeding)" is added to the paper size. For the transverse feed, no specific notation is employed.

However, when only the longitudinal feed is specified for one and the same paper size with no specification made for the transverse feed, "S" is not added even when being fed longitudinally.

<Example>

Paper size	Feed direction	Notation
A4	Transverse feed	A4
	Longitudinal feed	A4S
A3	Longitudinal feed	A3

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KONICA MINOLTA

SERVICE MANUAL

Field Service

bizhub PRO C6500 Main body

2006.09

Ver. 1.0

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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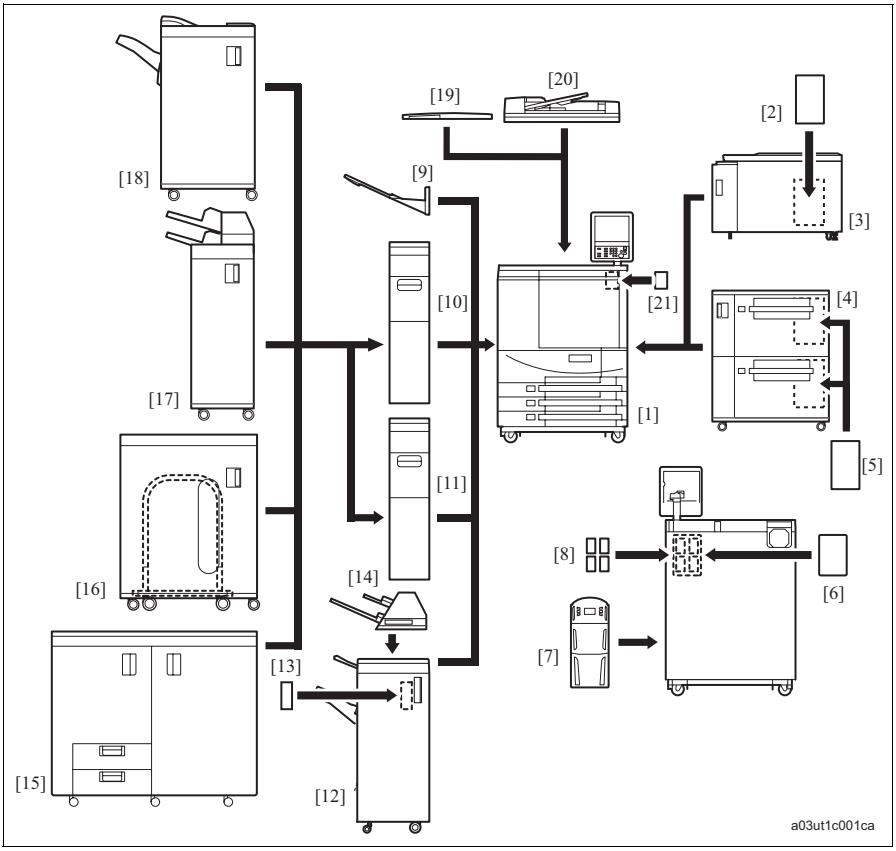
■ OUTLINE

1. SYSTEM CONFIGURATION

A. System configuration



[1] Main body
[2] Dehumidifier fan heater (HT-503)
[3] Large capacity paper feed tray (LU-202)
[4] Large capacity paper feed tray (PF-601)
[5] Dehumidifier fan heater (HT-504)
[6] Built-in type image controller (IC-408)
[7] Server type image controller (IC-303)
[8] Hard disk (HD-506)
[9] Output tray (OT-502)
[10] Conveyance cooling unit (RU-503)
[11] Conveyance cooling unit (RU-504)
[12] Saddle stitching staple finisher (FS-607)
[13] Punch kit (PK-512/513)
[14] Cover inserter (PI-502)
[15] Saddle stitching unit (SD-501)
[16] Large capacity stacker (LS-501)
[17] Punch and folding unit (FD-501)
[18] staple finisher (FS-503)
[19] Original cover (OC-506)
[20] Auto double sided original feeder (DF-609)
[21] Key counter

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B. Configuration for optional device connection

Note

- **Any combination other than those listed below is not available.**

No.	Paper feeding option	Combinations for finishing			AC power to be connected to
1	PF-601 *1	RU-504 *4	FS-503		External (RU-504)
2	PF-601 *1	RU-503 *4	FD-501		External (FD-501)
3	PF-601 *1	RU-503 *4	SD-501		External (SD-501)
4	PF-601 *1	RU-503 *4	LS-501		External (LS-501)
5	PF-601 *1	RU-504 *4	FD-501	FS-503	*5
6	PF-601 *1	RU-504 *4	LS-501	FS-503	External (RU-504/LS-501)
7	PF-601 *1	RU-503 *4	LS-501	SD-501	External (LS-501/SD-501)
8	PF-601 *1	RU-503 *4	FD-501	LS-501	External (FD-501/LS-501)
9	PF-601 *1	RU-503 *4	FD-501	SD-501	External (FD-501/SD-501)
10	LU-202 *2	FS-607 *3			—
11	PF-601 *1	OT-502			—
12	LU-202 *2	OT-502			—

*1 HT-504 can be connected to PF-601 arbitrarily.

*2 HT-503 can be connected to LU-202 arbitrarily.

*3 PK-512/513 or PI-502 can be connected to FS-607 arbitrarily.

*4 Use RU-503 or RU-504 as described below:
When connecting to FS-503 :RU-504
When not connecting to FS-503:RU-503
RU-504 can be substituted for RU-503, but RU-503 cannot be used when connecting to FS-503.

*5 Metric destination: External (RU-504/FD-501)
Inch destination: External (RU-504)

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2. PRODUCT SPECIFICATIONS

A. Type

Type	Console type (floor-mounted type)
Copying method	Four-drum tandem laser electrostatic method
Original stand	Fixed
Original alignment	Left rear standard
Photo conductor	OPC
Writing method	Two-beam laser scanning method
Paper capacity	Three trays (500 sheets x 3, 80g/m^2) Multi bypass (250 sheets, 80g/m^2) PF-601 (3000 sheets x 2, 80g/m^2)*1 LU-202 (2500 sheets, 80g/m^2)*1

*1 PF-601 and LU-202 are optional.

B. Functions

Original	Sheet, book, solid object	
Max. original size	A3, or 11 x 17 (Custom paper is Max.303 x 438mm)	
Copy size	Tray1, 2, 3	SRA3, A3, B4, SRA4, A4, SRA4S, A4, A4S, B5, B5S, A5S 13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½S 8½ x 13, 8¼ x 13, 8 ⅛ x 13¼, 8 x 13 8K, 16K, 16KS Tab paper (A4, 8½ x 11) Custom paper (Max. 330 x 487mm, Min. 140 x 182 mm)
	Bypass feed	SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5, B5S, A5, A5S, B6S, A6S, 13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½S 8½ x 13, 8½ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS Tab paper (A4, 8½ x 11) Custom paper (Max. 330 x 487mm, Min. 140 x 182 mm)
	ADU	SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5, B5S, A5, A5S 13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS Custom paper (Max. 330 x 487mm, Min. 140 x 182 mm)

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Magnification	Fixed magnification	Inch: x 1.000, x 2.000, x 1.545, x 1.294, x 1.214, x 0.785, x 0.772, x 0.647, x 0.500 Metric: x 1.000, x 2.000, x 1.414, x 1.224, x 1.154, x 0.866, x 0.816, x 0.707, x 0.500
	Zoom magnification	x 0.25 to x 4.00 (at the step of 0.1%)
Warm-up time	Inch: 390 seconds or less Metric: 420 seconds or less	
First copy out time	Full color	6.5 seconds or less (A4 / 8½ x 11)
	Monochrome	6.5 seconds or less (A4 / 8½ x 11)
	Black-and-white	5.0 seconds or less (A4 / 8½ x 11)
Continuous copy speed	Full color	65 copies /min. (A4 / 8½ x 11)
	Monochrome	65 copies /min. (A4 / 8½ x 11)
	Black-and-white	65 copies /min. (A4 / 8½ x 11)
Continuous copy count	Up to 9,999 sheets	
Resolution	Scan	Main scanning : 600 dpi Sub-scanning : 600 dpi
	Write	Main scanning : 600 dpi Sub-scanning : 600 dpi (1800 dpi *1)
Standard memory	256 MB for each color (Y, M, C, K)	
Expansion memory (HD-506)	30 GB for each color (Y, M, C, K)	
No. of originals in memory (Reference value)	Full color	Line1/Line2/Dot1/Dot2: 23 sheets [5461 sheets *2] Priority in high compression: 110 sheets [16384 sheets *2] Conditions Original: KM #101/A3 (color) Density: Standard Mode: Text/Photo, printed original, life size Memory capacity: Standard 256 MB
	Black-and-white/monochrome	Line1/Line2/Dot1/Dot2: 126 sheets or more [16384 sheets *2] Priority in high compression: 271 sheets or more [16384 sheets *2] Conditions Original: FAX test chart #4 /A4 Density: Standard Mode: Text/Photo, printed original, life size Memory capacity: Standard 256 MB
Interface section	RJ45 Ethernet, Serial port (RS232-C), Service port, Serial port (USB TypeB),Connector for printer controller	

*1 When "smoothing" is selected at the print setting

*2 When HD-506 is installed.

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C. Available types of paper and ranges of paper weight

Type of paper	Tray1, 2, 3	Bypass feed
Plain paper	O A4 or 8½ x 11 or larger : 64 to 256 g/m^2 A4 or smaller than 8½ x 11 : 64 to 209 g/m^2	O 64 to 300g/m^2
High Quality paper	O A4 or 8½ x 11 or larger : 64 to 256 g/m^2 A4 or smaller than 8½ x 11 : 64 to 209 g/m^2	O 64 to 300g/m^2
Color Specific paper	O A4 or 8½ x 11 or larger : 64 to 256 g/m^2 A4 or smaller than 8½ x 11 : 64 to 209 g/m^2	O 64 to 300g/m^2
Coated_GL, ML, GO , MO paper	△ A4 or 8½ x 11 or larger : 81 to 256 g/m^2 A4 or smaller than 8½ x 11 : 81 to 209 g/m^2	△ 64 to 300g/m^2
Label paper*1	—	O
OHP film*1 *2	O	O
Index paper*1 *3	O	O

O:Available △: Available only one sheet at a time —: Not available

*1 Paper type of the label paper can be Plain, High Quality, Color Specific, or Coated_GL, ML, GO, MO paper. Available ranges of paper weight (thickness) of the label paper are the same with those of the corresponding paper type.

*2 Print quality not guaranteed.

*3 Paper loading direction predetermined, single-sided printing only.

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D. Materials

Parts name	Useful life	Type name
Toner bottle /Y	24,000 prints *1	TN610Y
Toner bottle /M	24,000 prints *1	TN610M
Toner bottle /C	24,000 prints *1	TN610C
Toner bottle /K	35,000 prints *1	TN610K
Drum cartridge	200,000 prints *2	DU-102
Developer /Y	200,000 prints *2	DV610 (Y)
Developer /M	200,000 prints *2	DV610 (M)
Developer /C	200,000 prints *2	DV610 (C)
Developer /K	200,000 prints *2	DV610 (K)
Toner collection box Assy	50,000 prints *3	A03UA365

*1 A4 original at 5% coverage for each color.

*2 The end of actual useful life is reached when the number of sheets is printed, or when the total drive distance reaches a certain level, whichever comes first.

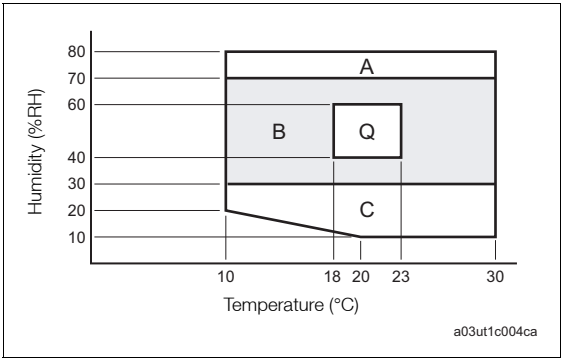
*3 The end of actual useful life is detected by the waste toner full sensor provided in the toner collection box.

E. Maintenance

Maintenance cycle	Every 200,000 prints
Machine service life	5,000,000 prints or 5 years (whichever earlier)
Ave. number of prints *1	35,000 to 75,000 per month
Max. number of prints *1	Q zone *2 : 300,000 per month, 10,000 per day
	B,C zone *2 : 150,000 per month, 8,500 per day
	A zone *2 : 100,000 per month, 5,000 per day

*1 The number of prints include all monochrome, solid color, and full color printings.

*2 The zone mean a temp&humidity range indicated in the graph below.



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F. Machine data

Power source	Inch: AC208 to 240V 16A, 60Hz Metric: AC230V 15A, 50Hz	
Maximum power consumption	Inch: 4,550W or less (B. When the type of the optional unit connection configuration (P2) is No. 9) 3,950W or less (B. When the type of the optional unit connection configuration (P2) is No. 10) Metric: 4,060W or less (B. When the type of the optional unit connection configuration (P2) is No. 9) 3,550W or less (B. When the type of the optional unit connection configuration (P2) is No. 10)	
Dimensions	Main body + OC-506	786 (W) x 992 (D) x 1,056 (H) mm
	Main body + DF-609 + RU-503 + LS-501 + SD-501	3,852 (W) x 992 (D) x 1,414 (H) mm
Weight	Approx. 360kg	

G. Operating environment

Temperature	10 to 30 °C
Humidity	10 to 80%RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

3. PERIODIC CHECK

3.1 Schedule

Guarantee period: 5 years or 5,000,000 prints

Service item		x 10,000 prints																										No. of executions
		0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	
Main body	Maintenance 1 Every 200,000 prints		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		24 times
	Maintenance 2 Every 400,000 prints			●		●		●		●		●		●		●		●		●		●		●		●		12 times
	Maintenance 3 Every 600,000 prints				●			●			●			●			●			●			●			●		8 times
	Maintenance 4 Every 1,000,000 prints						●					●					●					●						4 times
	Maintenance 5 Every 1,400,000 prints								●							●							●					3 times
	Maintenance 6 Every 2,000,000 prints											●										●						2 times
	Maintenance 7 Every 2,400,000 prints													●												●		2 times
	Maintenance 8 Every 4,000,000 prints																					●						1 times
DF	Maintenance 1 Every 180,000 prints										●									●								2 times
PF	Maintenance 1 Every 200,000 prints		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		24 times
	Maintenance 2 Every 600,000 prints				●			●			●			●			●			●			●			●		8 times
	Maintenance 3 Every 2,400,000 prints											●										●						2 times
LU	Maintenance 1 Every 200,000 prints		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		24 times
	Maintenance 2 Every 600,000 prints				●			●			●			●			●			●			●			●		8 times
	Maintenance 3 Every 2,400,000 prints											●										●						2 times
RU	Maintenance 1 Every 200,000 prints		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		24 times
FD	Maintenance 1 Every 2,200,000 prints											●										●						2 times

	Service item	x 10,000 prints																													No. of executions
		0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500				
FS-503	Maintenance 1 Every 600,000 prints				●			●			●			●			●			●			●			●					8 times
	Maintenance 2 Every 3,000,000 prints																					●									1 times
FS-607	Maintenance 1 Every 200,000 prints		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					24 times
	Maintenance 2 Every 400,000 prints			●		●		●		●		●		●		●		●		●		●		●		●					12 times
	Maintenance 3 Every 1,000,000 prints						●					●					●					●									4 times
PI	Maintenance 1 Every 200,000 prints		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					24 times
	Maintenance 2 Every 600,000 prints				●			●			●			●			●			●			●			●					8 times
	Maintenance 3 Every 1,000,000 prints						●					●					●					●									4 times
	Maintenance 4 Every 3,000,000 prints																					●									1 times
SD	Maintenance 1 Every 600,000 prints				●			●			●			●			●			●			●			●					8 times
	Maintenance 2 Every 1,400,000 prints								●							●							●								3 times

3.2 Maintenance item

Note

- **For the replacement procedure of periodically replaced parts, see "3.5 Maintenance procedure of the housing section" to "3.17 Maintenance procedure of the fusing section"**

3.2.1 Main body

- The alcohol described in this section represents the isopropyl alcohol.

A. Maintenance 1 (Every 200,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	External section	Dust-proof filter /1 assy A03UA122 • Parts counter reset (service mode)	1				●	Actual replacement cycle: Varies depending on the coverage, developing roller drive distance and temp/humidity.
		Dust-proof filter /2 assy 65AA-142	1				●	Must be replaced when replacing the dust-proof filter /1 assy.
		dust-proof glass /Y, /M, /C, /K		●				Cleaning pad
2	Scanner section	Scaner unit (glass, Mirror)		(●)	●			Blower brush/ alcohol/cleaning pad
3	Photo conductor section	Charging dust-proof filter		●	●			
		Drum cartridge DU-102 • Parts counter reset (service mode)	4				●	Actual replacement cycle: 106 km of drum drive distance, or 130 km of lubricant applying roller drive distance, whichever comes first.
4	Developing section	Developer /Y DV610 (Y) • Parts counter reset (service mode)	1				●	Actual replacement cycle: 130km of the developing roller drive distance
		Developer /M DV610 (M) • Parts counter reset (service mode)	1				●	
		Developer /C DV610 (C) • Parts counter reset (service mode)	1				●	

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No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
4	Developing section	Developer /K DV610 (K) • Parts counter reset (service mode)	1				●	Actual replacement cycle: 130km of the developing roller drive distance
		Developing unit /Y		●				Alcohol/Hydro wipe
		Developing unit /M		●				
		Developing unit /C		●				
		Developing unit /K		●				
5	Intermediate transfer section	Transfer belt unit A03U5042	1				●	
		Toner collection sheet 65AA-293	1				●	
		Belt Cleaning blade A03U5530 • Parts counter reset (service mode)	1				●	Actual replacement cycle: 130km of belt cleaning blade drive distance
		1st transfer roller /Y A03U5012 • Parts counter reset (service mode)	1				●	
		1st transfer roller /M A03U5012 • Parts counter reset (service mode)	1				●	
		1st transfer roller /C A03U5012 • Parts counter reset (service mode)	1				●	
		1st transfer roller /K A03U5004 • Parts counter reset (service mode)	1				●	
		2nd transfer roller /Up 65AA2611	1				●	
		Belt drive roller		●				Alcohol/Hydro wipe
		2nd transfer roller /Lw 65AA4501	1				●	
		Separation discharging assy A03UA522	1				●	
6	Registration section	Cleaning stay Assy		●				Alcohol/cleaning pad

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
7	Paper feed section	Paper feed roller rubber		●				Alcohol/cleaning pad
		Separation roller rubber		●				
		Pick-up roller		●				
8	Bypass tray section	Paper feed roller rubber		●				
		Separation roller rubber		●				
		Pick-up roller		●				
9	Vertical conveyance section	Intermediate conveyance Roller /1		●				
10	ADU	ADU conveyance rollers		●				
11	Fusing section	Fusing roller /Lw A03U7203	1				●	
		Fusing paper exit roller /Up A03U7225	2				●	
		Fusing paper exit roller /Lw		●				Alcohol/cleaning pad
12	OT-502	Paper retainer roller 65AA4849	2				●	
		Paper exit roller A0438907	1				●	
		Paper exit driven roller /2 65AA4818	4				●	

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B. Maintenance 2 (Every 400,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	paper feed roller rubber 25SA4096	3				●	Actual replacement count: 125,000 feed
		Separation roller rubber 25SA4096	3				●	
2	reverse/ paper exit section	Reverse decurler roller A03U8605	1				●	
		Reverse gate		●				Alcohol/cleaning pad
3	Fusing section	Fusing roller /2 A03U7202	1			●	●	Multemp FF-RM
		Fusing belt A03U7205	1				●	
		Belt regulation sleeve A03U7250	2				●	
		Insulating sleeve /Up A03U7295	2			●	●	Multemp FF-RM
		Fusing bearing /Lw	2			●		
		Fusing roller /1 A03U7201	1			●	●	
		Fusing bearing /Up A03U8078	2			●	●	
		Fusing drive gear /O A03U8095	1			●	●	
		Fusing bearing 56UA7507	2			●	●	
		Fusing drive gear /B 56UA7507	1			●	●	

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C. Maintenance 3 (Every 600,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Photoconductor section	Charging dust-proof filter 65AA-387	1				●	
2	Developing section	Developing unit /Y A03UA370	1				●	
		Developing unit /M A03UA370	1				●	
		Developing unit /C A03UA370	1				●	
		Developing unit /K A03UB390	1				●	
3	Intermediate transfer section	Belt cleaner unit A03UA515 • Parts counter reset (service mode)	1				●	
		Separation claw Assy 65AA-287	3				●	
4	Registration section	Cleaning stay Assy 65AA-462	1				●	
5	Fusing unit	Fusing limiter 65AA5365	1				●	
		Fusing bearing /Lw 26NA5371	2				●	
		Insulating sleeve /Lw A03U7227	2			●	●	Multemp FF-RM
		Fusing regulation gear /A 65AA7747	1			●	●	
		Fusing duct /2 Assy A03UA780	1				●	

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D. Maintenance 4 (Every 1,000,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Intermediate transfer section	2nd transfer earth plate assy 65AA-456	1				●	
2	Reverse/ paper exit section	Paper exit decurler roller A03U8926	1				●	
		Guide plate /Up		●				Alcohol/cleaning pad
3	Fusing section	Fusing drive gear /M A03U8093	1			●	●	Multemp FF-RM

E. Maintenance 5 (Every 1,400,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Intermediate transfer section	Belt separation claw solenoid 26NA8251	1				●	
2	Bypass feed tray section	Paper feed roller rubber 25SA4096	2				●	Actual replacement count: 125,000 feed
3	Registration section	Registration roller assy 65LA-464	1				●	

F. Maintenance 6 (Every 2,000,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Vertical conveyance section	Intermediate conveyance clutch /1 56AA8201	1				●	
2	ADU	Intermediate conveyance clutch /2 56AA8201	1				●	
		Intermediate conveyance clutch /3 56AA8201	1				●	

G. Maintenance 7 (Every 2,400,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up roller 56AA-458	3				●	Actual replacement count: 800,000 feed
2	Fusing section	Fusing lamp /Up A03UM31F (Europe) A03UM31E (U.S.A)	1				●	
		Fusing heater lamp /4 A03UM32F (Europe) A03UM32E (U.S.A)	1				●	
		Sensor mounting plate A assy A03UA737	1				●	
		Sensor mounting plate B assy A03UA768	1				●	

H. Maintenance 8 (Every 4,000,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Paper feed clutch /1 56AA8201	1				●	Actual replacement count: 2,000,000 feed
		Paper feed clutch /2 56AA8201	1				●	
		Paper feed clutch /3 56AA8201	1				●	
		Pre-registration clutch /1 56AA8201	1				●	
		Pre-registration clutch /2 56AA8201	1				●	
		Pre-registration clutch /3 56AA8201	1				●	
2	Bypass feed tray section	Pick-up roller 65AA-520	1				●	Actual replacement count: 800,000 feed
		Paper feed clutch /BP 56AA8201	1				●	Actual replacement count: 2,000,000 feed

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I. Spotted replacement part

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	ADU	ADU conveyance clutch /1 A03UM201	1				●	Actual replacement count: 3,600,000 prints
2		ADU conveyance clutch /2 A03UM201	1				●	
3		ADU conveyance clutch /3 A03UM201	1				●	
4		ADU pre-registration clutch A03UM201	1				●	

3.2.2 DF

A. Maintenance 2 (Every 1,800,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Paper feed roller 13YH4064	1				●	Actual replacement count: 625,000 feed
		Pick-up roller 13YH4039	1				●	
		Separation roller 20AJ4015	1				●	

3.2.3 PF

A. Maintenance 1 (Every 200,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up rubber		●				Alcohol/cleaning pad
		Paper feed roller		●				
		Separation roller		●				
		PF separation gear section		●		(●)		Alcohol/cleaning pad/multemp FF-RM
2	Conveyance section	Vertical conveyance roller /1		●				Alcohol/cleaning pad
		Horizontal convey-ance roller /1		●				

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B. Maintenance 2 (Every 600,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up rubber 55VA4111	2				●	Actual replacement count: 300,000 feed
		Paper feed roller 55VA-483	2				●	
		Separation roller 55VA-483	2				●	

C. Maintenance 3 (Every 2,400,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Paper feed clutch 56AA8201	2				●	Actual replacement count: 2,000,000 feed
		Separation clutch 56AA8201	2				●	
2	Conveyance section	Vertical conveyance clutch /1 56AA8201	1				●	
		Vertical conveyance clutch /2 56AA8201	1				●	
		Vertical conveyance clutch /3 56AA8201	1				●	
		Horizontal convey-ance clutch /1 56AA8201	1				●	
		Horizontal convey-ance clutch /2 56AA8201	1				●	
		Pre-registration clutch 56AA8201	1				●	

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3.2.4 LU

A. Maintenance 1 (Every 200,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up roller		●				Alcohol/cleaning pad
		Paper feed roller		●				
		Separation roller		●				
		Pre-registration roller		●				
		Paper dust removing brush		●				
		LU separation gear section			●	(●)		Alcohol/cleaning pad/multemp FF-RM

B. Maintenance 2 (Every 600,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up roller 55VA-484	1				●	Actual replacement count: 300,000 feed
		Paper feed roller 55VA-483	1				●	
		Separation roller 55VA-483	1				●	

C. Maintenance 3 (Every 2,400,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Paper feed clutch 56AA8201	1				●	Actual replacement count: 2,000,000 feed
		Pre-registration clutch 56AA8201	1				●	

3.2.5 RU

A. Maintenance 1 (Every 200,000 copies/prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Conveyance section	Entrance roller /2		●				Alcohol/cleaning pad
		Entrance roller /1		●				
		Conveyance roller		●				

3.2.6 FD

A. Maintenance 1 (Every 2,200,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	PI section	Paper feed rubber 13QN-443	2				●	Actual replacement count: 100,000 feed
		Separation rubber 56BA-575	2				●	

B. Spotted replacement part

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
2	PI section	Pick-up rubber 50BA-574	6				●	Actual replacement count: 200,000 feed

3.2.7 FS

A. FS-503

(1) Maintenance 1 (Every 600,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Main tray section	Paper exit roller /A 122H4825	8				●	

(2) Maintenance 2 (Every 3,000,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Stapler section	Stapler unit /Fr 15AA4222	1				●	Actual replacement count: 500,000 staples
		Stapler unit /Rr 15AA-450	1				●	

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B. FS-607

(1) Maintenance 1 (Every 200,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Conveyance section	Paper exit roller /A (sponge roller) 122H4825	6				●	
		Paper exit roller /B (sponge roller) A04D8904	4				●	

(2) Maintenance 2 (Every 400,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Conveyance section	Intermediate convey-ance roller (sponge roller) 13QE4531	4				●	Actual replacement count: 200,000 feed
	Stacker section	Paper assist roller (sponge roller) 20AK4210	1				●	

(3) Maintenance 3 (Every 1,000,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Stapler section	Stapler unit /Fr 15JM-501	1				●	Actual replacement count: 200,000 staples
		Stapler unit /Rr 15JM-501	1				●	

3.2.8 PI

A. Maintenance 1 (Every 200,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up roller		●				Alcohol/cleaning pad
		Paper feed roller		●				
		Separation roller		●				

B. Maintenance 2 (Every 600,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Paper feed roller 13QN-446	2				●	Actual replacement count: 100,000 feed
		Separation roller 13QN-443	2				●	

C. Maintenance 3 (Every 1,000,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Pick-up roller 50BA-574	2				●	Actual replacement count: 200,000 feed

D. Maintenance 4 (Every 3,000,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Torque limiter 13QN4073	2				●	Actual replacement count: 600,000 feed

E. Spotted replacement part

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Paper feed section	Papaer feed clutch /Up 13QN8201	1				●	Actual replacement count: 1,000,000 feed
		Papaer feed clutch /Lw 13QN8201	1				●	

3.2.9 SD

A. Maintenance 1 (Every 600,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Trimmer section	Trimmer board assembly 15AN5282 • Counter reset (I/O check mode)	1				●	Actual replacement count: 18,900 cuts

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B. Maintenance 2 (Every 1,400,000 prints)

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Trimmer section	Trimmer blade assembly 15AN-570	1				●	Actual replacement count: 37,500 cuts

C. Spotted replacement part

No.	Unit classification	Description	Quantity	Implementation classification				Materials Tools used
				Cleaning	Check	Lubrication	Replacement	
1	Saddle stitching section	Stapler assembly /Rt 15AN-550	1				●	Actual replacement count: 1,000,000 staples
2		Stapler assembly /Lt 15AN-550	1				●	
3	Trimmer section	Trimmer blade motor 15AN8002	1				●	Actual replacement count: 200,000 cuts
4		Trimmer press motor 15AN5092	1				●	
5	Bundle processing section	Bundle press stage gear 15AN7719	1				●	Actual replacement count:500,000 sets (Bundle exit tray)

3.3 Replacement parts list

3.3.1 Periodically replacement parts list

Note

- **For the replacement procedure of periodically replaced parts, see "3.5 Maintenance procedure of the housing section" to "3.17 Maintenance procedure of the fusing section".**
- **The parts count No. given in the table below represents the number of "Count of special parts" in the Service mode.**

A. Main body

No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
1	External section	Dust-proof filter /1 assy	A03UA122	1	See P.29	2
2		Dust-proof filter /2 assy	65AA-142	1	Must be replaced when replacing the dust-proof filter /1 assy.	3
3	Photoconductor section	Drum cartridge	DU-102	4	See P.29	14, 16, 18, 20
4		Charging corona • Parts counter reset (Service mode)	A03UA460	4	See P.29	6, 8, 10, 12
5		Charging dust-proof filter	65AA-387	1	600,000	5
6	Intermediate transfer section	Belt Cleaning blade	A03U5530	1	See P.29	37
7		1st transfer roller /Y	A03U5012	1	200,000	39
8		1st transfer roller /M	A03U5012	1	200,000	40
9		1st transfer roller /C	A03U5012	1	200,000	41
10		1st transfer roller /K	A03U5004	1	200,000	42
11		Transfer belt	A03U5042	1	200,000	34
12		2nd transfer roller /Up	65AA2611	1	200,000	43
13		Separation claw assy	65AA-287	3	600,000	44
14		Belt cleaner unit	A03UA515	1	600,000	35
15		Toner collection Sheet /1	65AA-293	1	200,000	36
16		2nd transfer roller /Lw	65AA4501	1	200,000	48
17		2nd transfer earth plate assy	65AA-456	1	1,000,000	50
18		Belt separation claw solenoid	26NA8251	1	1,400,000	47
19		Separation discharging assy	A03UA522	1	See P.29	49
20	Developing section	Developer /Y	DV610 (Y)	1	See P.29	22
21		Developer /M	DV610 (M)	1	See P.29	24
22		Developer /C	DV610 (C)	1	See P.29	26
23		Developer /K	DV610 (K)	1	200,000	28
24		Developing unit /Y	A03UA370	1	600,000	30
25		Developing unit /M	A03UA370	1	600,000	31

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No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
26	Developing section	Developing unit /C	A03UA370	1	600,000	32
27		Developing unit /K	A03UB390	1	600,000	33
28	Toner collection box	Toner collection box	A03UA365	1	See P.29	1
29	Paper feed section	Pick-up roller	56AA-458	3	800,000	78, 79, 80
30		Paper feed roller rubber	25SA4096	3	125,000	74, 75, 76
31		Separation roller rubber	25SA4096	3	125,000	74, 75, 76
32		Paper feed clutch /1	56AA8201	1	2,000,000	82
33		Paper feed clutch /2	56AA8201	1	2,000,000	83
34		Paper feed clutch /3	56AA8201	1	2,000,000	84
35		Pre-registration clutch /1	56AA8201	1	2,000,000	86
36		Pre-registration clutch /2	56AA8201	1	2,000,000	87
37		Pre-registration clutch /3	56AA8201	1	2,000,000	88
38	Bypass feed tray section	Pick-up roller	65AA-520	1	800,000	81
39		Paper feed roller rubber	25SA4096	1	125,000	77
40		Separation roller rubber	25SA4096	1	125,000	77
41		Paper feed clutch /BP	56AA8201	1	2,000,000	85
42	Vertical conveyance section	Intermediate conveyance clutch /1	56AA8201	1	2,000,000	89
43	Registration section	Cleaning stay assy	65AA-462	1	600,000	92
44		Registration roller assy	65LA-464	1	1,400,000	93
45	ADU section	Intermediate conveyance clutch /2	56AA8201	1	2,000,000	90
46		Intermediate conveyance clutch /3	56AA8201	1	2,000,000	91
47	Reverse/ paper exit section	Reverse decurler roller	A03U8605	1	400,000	94
48		paper exit decurler roller	A03U8926	1	1,000,000	95
49	Fusing section	Fusing drive gear /B	A03U8082	1	400,000	61
50		Fusing duct 2 assy	A03UA780	1	600,000	65
51		Fusing drive gear /M	A03U8093	1	1,000,000	67
52		Fusing lamp /Up	A03UM31F A03UM31E	1	2,400,000	68
53		Fusing roller /2	A03U7202	1	400,000	51
54		Fusing bearing	56UA7507	2	400,000	66
55		Fusing drive gear /O	A03U8095	1	400,000	63
56		Fusing belt	A03U7205	1	400,000	53
57		Fusing roller /1	A03U7201	1	400,000	60
58		Insulating sleeve /Up	A03U7295	2	400,000	57
59		Fusing bearing /Up	A03U8078	2	400,000	62
60		Belt regulation sleeve	A03U7250	2	400,000	54
61		Fusing heater lamp /4	A03UM32F A03UM32E	1	2,400,000	69

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No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
62	Fusing section	Fusing roller /Lw	A03U7203	1	200,000	52
63		Fusing bearing /Lw	26NA5371	2	600,000	58
64		Insulating sleeve /Lw	A03U7227	2	600,000	59
65		Sensor mounting plate A assy	A03UA737	1	2,400,000	71
66		Sensor mounting plate B assy	A03UA768	1	2,400,000	70
67		Fusing paper exit roller /Up	A03U7225	2	200,000	55
68		Fusing regulation gear /A	65AA7747	1	600,000	64
69		Fusing limiter	65AA5365	1	600,000	56
70	OT-502	Paper retainer roller	65AA4849	2	200,000	113
71		Paper exit roller	A0438907	1	200,000	111
72		Paper exit driven roller /2	65AA4818	4	200,000	112

B. Option

No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
1	DF	Paper feed roller	13YH4064	1	625,000	217
2		Pick-up roller	13YH4039	1	625,000	218
3		Separation roller	20AJ4015	1	625,000	219
4	PF	Pick-up rubber	55VA4111	2	300,000	126, 130
5		Paper feed roller	55VA-483	2	300,000	127, 131
6		Separation roller	55VA-483	2	300,000	127, 131
7		Paper feed clutch /1	56AA8201	1	2,000,000	128
8		Paper feed clutch /2	56AA8201	1	2,000,000	132
9		Separation clutch /1	56AA8201	1	2,000,000	129
10		Separation clutch /2	56AA8201	1	2,000,000	133
11		Vertical conveyance clutch /1	56AA8201	1	2,000,000	134
12		Vertical conveyance clutch /2	56AA8201	1	2,000,000	135
13		Vertical conveyance clutch /3	56AA8201	1	2,000,000	136
14		Horizontal conveyance clutch /1	56AA8201	1	2,000,000	137
15		Horizontal conveyance clutch /2	56AA8201	1	2,000,000	138
16		Pre-registration clutch	56AA8201	1	2,000,000	139
17	LU	Pick-up roller	55VA-484	1	300,000	118
18		Paper feed roller	55VA-483	1	300,000	119
19		Separation roller	55VA-483	1	300,000	119
20		Paper feed clutch	56AA8201	1	2,000,000	120
21		Pre-registration clutch	56AA8201	1	2,000,000	121
22	FD	Paper feed rubber	13QN-443	2	100,000	153, 156
23		Separation rubber	56BA-575	2	100,000	154, 157
24	FS-503	Stapler unit/Fr	15AA4222	1	500,000	144
25		Stapler unit/Rr	15AA-450	1	500,000	145
26		Paper exit roller /A (sponge roller)	122H4825	8	600,000	147

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No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
27	FS-607	Paper exit roller /A (sponge roller)	122H4825	6	200,000	196
28		Paper exit roller /B (sponge roller)	A04D8904	4	200,000	197
29		Intermediate conveyance roller (sponge roller)	13QE4531	4	200,000	198
30		Paper assist roller (sponge roller)	20AK4210	1	200,000	209
31		Stapler unit /Fr	15JM-501	1	200,000	189
32		Stapler unit /Rr	15JM-501	1	200,000	190
33	PI	Paper feed roller	13QN-446	2	100,000	201, 206
34		Separation roller	13QN-443	2	100,000	202, 207
35		Pick-up roller	50BA-574	2	200,000	200, 205
36		Torque limiter	13QN4073	2	600,000	203, 208
37	SD	Trimmer board assembly	15AN5282	1	18,900	179
38		Trimmer blade assembly	15AN-570	1	37,500	178

3.3.2 Spot replacement parts list

The parts shown below are not periodically replaced parts. However, be sure to replace them when they get to the actual count value.

A. Main body

No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
1	ADU section	ADU conveyance clutch /1	A03UM201	1	3,600,000	96
2		ADU conveyance clutch /2	A03UM201	1	3,600,000	97
3		ADU conveyance clutch /3	A03UM201	1	3,600,000	98
4		ADU pre-registration clutch	A03UM201	1	3,600,000	99

B. Option

No.	Classification	Part name	Part number	Qt.	Actual replacement cycle	Parts count No.
1	FD	Pick-up rubber	50BA-574	6	200,000	152, 155
2	PI	Paper feed clutch /Rt	13QN8201	1	1,000,000	199
3		Paper feed clutch /Lw	13QN8201	1	1,000,000	204
4	SD	Stapler assembly /Rt	15AN-550	1	1,000,000	176
5		Stapler assembly /Lt	15AN-550	1	1,000,000	177
6		Trimmer blade motor	15AN8002	1	200,000	180
7		Trimmer press motor	15AN5092	1	200,000	185
8		Bundle press stage gear	15AN7719	1	500,000	184

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3.4 Concept of parts life

3.4.1 Life value of consumables and parts

Parts name	Replacement cycle	Actual Life/Verification method
Drum cartridge	Every 200,000 prints or equivalent	When 106 km of drum drive distance, or 130 km of lubricant applying roller drive distance is reached, whichever comes first. On the user screen, the life counter shows the remaining life with percentage (100% is the end of life).
Developer	Every 200,000 prints or equivalent	130km of developing roller drive distance. On the user screen, the life counter shows the remaining life with percentage (100% is the end of life).
Toner collection box Assy	Every 50,000 prints or equivalent	When the waste toner full sensor (PS51) detects the waste toner full status.
Charging coronas	Every 100,000 prints or equivalent	Charging time of the charging coronas is 70 hours . On the user screen, the life counter shows the remaining life with percentage (100% is the end of life).
Dust-proof filter /1 assy	Every 200,000 prints or equivalent	Varies depending on coverage, developing roller drive distance, and temp./humidity. On the user screen, the life counter shows the remaining life with percentage (100% is the end of life).
Belt cleaner blade	Every 200,000 prints or equivalent	130km of the belt cleaner blade drive distance. On the user screen, the life counter shows the remaining life with percentage (100% is the end of life).

3.4.2 Conditions for life specifications values

The replacement cycles (number of prints) are values calculated based on the actual life of parts when printing is made under the conditions listed in the table below. Since the idle running time (when not creating an image) of each part can vary widely depending on the print mode, the actual life cycle may become different between the parts whose replacement cycle (number of sheets) are the same.

Item	Descriptions
Printing method	Full color six copies intermittently
Paper size	A4
Coverage	5% coverage for each color
Environmental temp/humidity	Q zone

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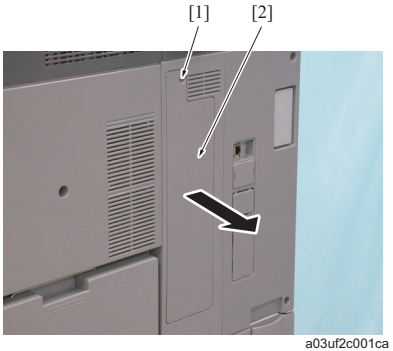
3.5 Maintenance procedure of the housing section

3.5.1 Replacing the Dust-proof filter /1 assy

A. Periodically replaced parts/cycle

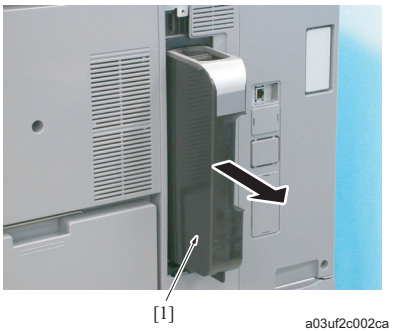
- Dust-proof filter /1 assy: Every 200,000 prints (actual replacement cycle: Varies depending on the coverage, the developing roller drive distance and temp/humidity)

B. Procedure



a03uf2c001ca

1. Remove the screw [1], and remove the filter cover [2].



a03uf2c002ca

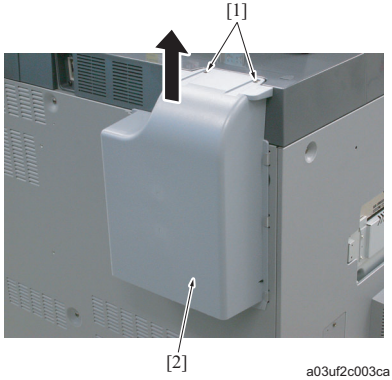
2. Remove the Dust-proof filter /1 assy [1].
3. Reinstall the above parts following the removal steps in reverse.

3.5.2 Replacing dust-proof filter /2 assy

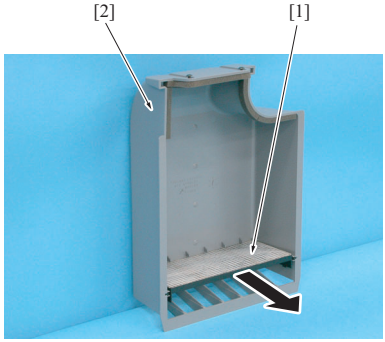
A. Periodically replaced parts/cycle

- Dust-proof filter /2 assy: Every 200,000 prints

B. Procedure



1. Loosen the two screws [1] and remove the filter cover [2].



2. Pull out the dust-proof filter /2 assy [2] from the filter cover [1].
3. Reinstall the above parts following the removal steps in reverse.

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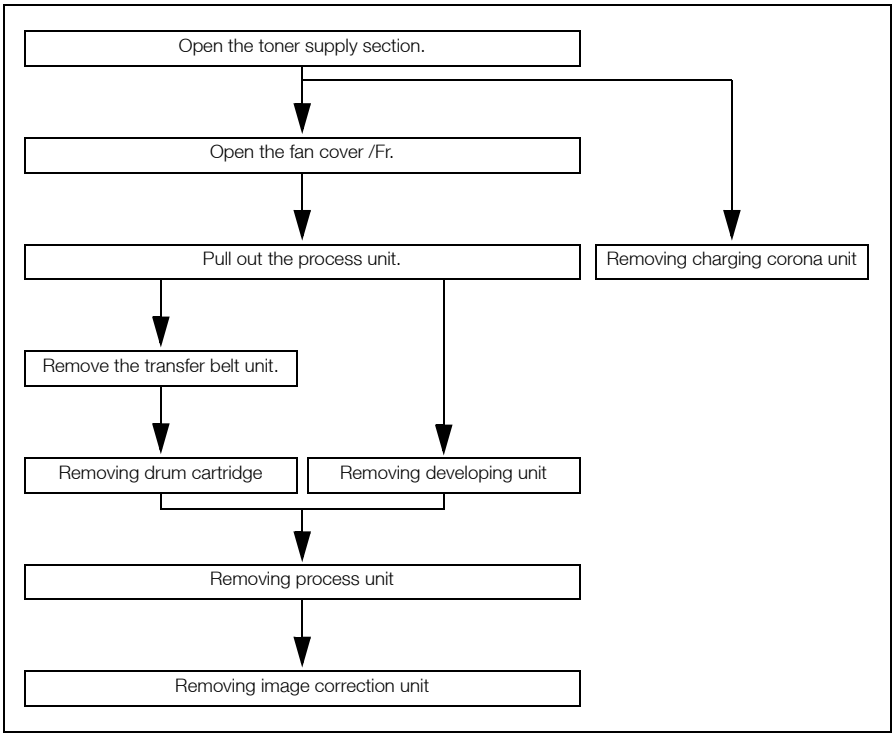
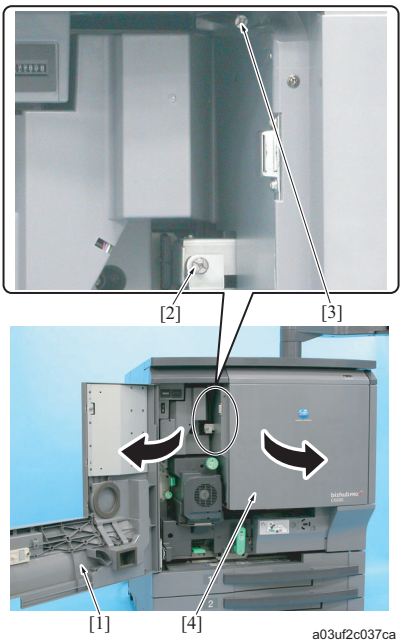
3.6 Maintenance procedure of the photoconductor section

3.6.1 Process unit disassembly flowchart



3.6.2 Opening/closing toner supply section

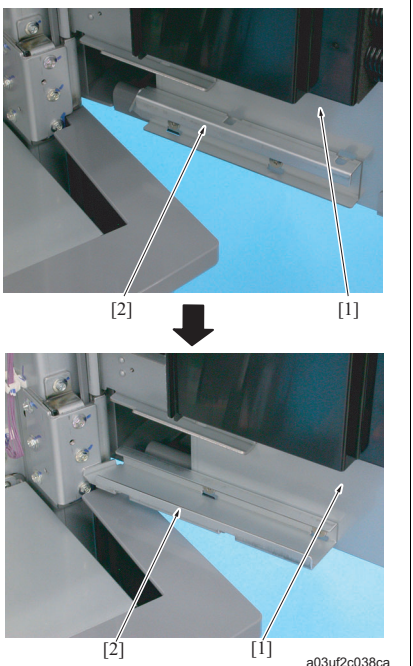
A. Procedure



1. Open the front door [1].
2. Loosen the screws [2] and [3], and open the toner supply section [4].

Note

- **Do not exert force on the toner supply section when it is opened. Otherwise the hinge of the toner supply section may be deformed.**
- **When closing the toner supply section, be sure to tighten the screw two turns with your fingers before using a screwdriver so as not to strip the thread.**



3. Remove the door lock [2] on the inside of the toner supply section [1], and attach the lock as a stopper as shown in the figure.

4. When closing the toner supply section, follow the removal steps in reverse.

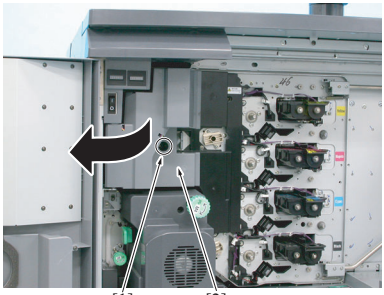
Note

- **When the toner supply section is opened, be sure to use the door lock as a stopper so as not to hit the toner supply section with the process unit upon removal.**

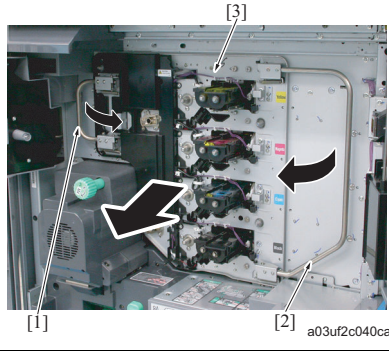
3.6.3 Pulling out the process unit

Note

- **In order to prevent rollover accidents, safety feature of the product does not allow the process unit and the ADU to be pulled out at the same time.**
- **Be sure to put the ADU in the main body before pulling out the process unit.**
- **If you cannot pull out the process unit, check the lock lever/1 and /2 for deformation and replace them as necessary. (See P.206)**



1. Open the toner supply section. (See P.33)
2. Loosen the screw [1] and open the fan cover/Fr [2].



3. Push the mount handle /Lt [1] and the process mount handle /Rt [2] inward together to unlock the process unit [3], and pull out the process unit [3] by holding the handles.

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3.6.4 Removing drum cartridge

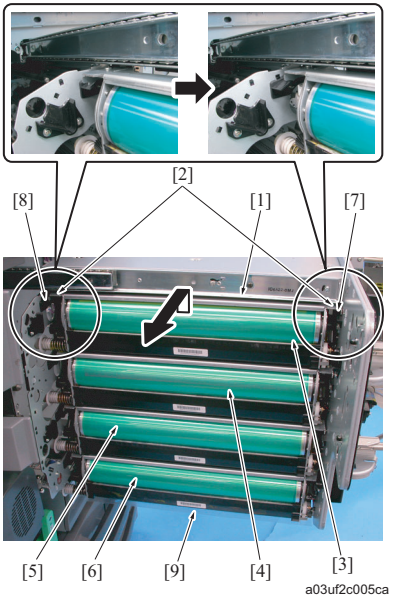
A. Periodically replaced parts/cycle

- Drum cartridge: Every 200,000 prints (actual replacement cycle: 106 km of drum drive distance, or 130 km of roller drive distance after lubrication, whichever comes first)

B. Procedure

Note

- **The product installs four drum cartridges one each for yellow, magenta, cyan, and black, and they are common parts. However, do not use a once-used drum cartridge for another color, or the old remaining toner and the new toner will mix up and the print quality will degrade.**



1. Pull out the process unit.
(See P.35)
2. Remove the transfer belt unit.
(See P.39)
3. Lift up the both ends [2] of the drum stay/Up [1], grab the ends, and remove the drum cartridge/Y [3].
4. Remove the drum cartridge/M [4], /C [5], and /K [6] in the same manner as step 3.

Note

- **When installing drum cartridges, confirm that the both ends of the cartridges are fitted in the groove of the drum attachment block/Fr [7] and /Rr [8]. (Drum attachment block/Fr [7] and /Rr [8] shown on the left is the one for yellow drum cartridge. Install magenta, cyan, and black drum cartridges in the same manner.)**
- **When installing the drum cartridge/K [6], be careful not to entangle the sheet [9].**
- **Do not damage or touch the drum photoconductor area with bare hands.**
- **When leaving drum cartridges, be sure to spread a sheet over the cartridges to protect from light, and put them in a dark place.**

5. Reinstall the above parts following the removal steps in reverse.

3.7 Maintenance procedure of the charging section

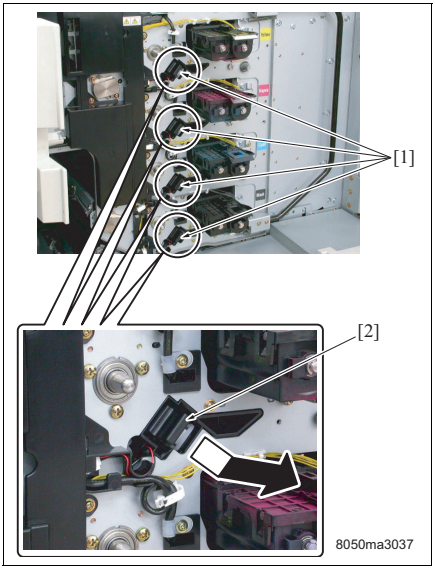
3.7.1 Replacing the charging corona

A. Periodically replaced parts/cycle

- Charging corona: Every 100,000 prints

Note

- **The product installs four charging coronas one each for yellow, magenta, cyan, and black, and they are common parts. However, do not use a once-used charging corona for another color, or the old remaining toner and the new toner will mix up and the print quality will degrade.**



1. Open the toner supply section. (See P.33)
2. Place the lever [2] of the charging corona [1] in its lower right position, then pull the lever toward you to remove the charging corona.
3. Reinstall the above parts following the removal steps in reverse.

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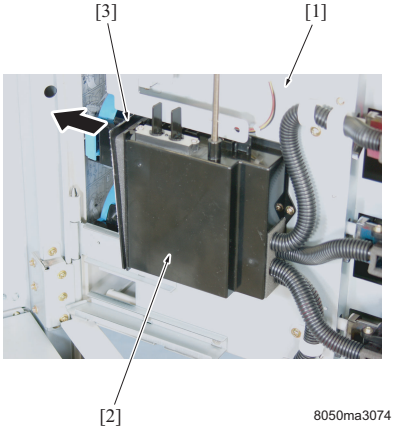
3.7.2 Replacing the charging dust-proof filter

A. Periodically replaced parts/cycle

- Charging dust-proof filter: Every 600,000 prints

B. Procedure



1. Open the toner supply section. (See P.33)
2. Remove the charging dust-proof filter [3] from the charging suction assy [2] installed inside the toner supply section [1].
3. Reinstall the above parts following the removal steps in reverse.

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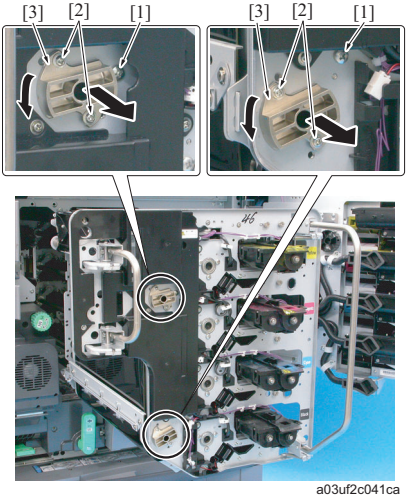
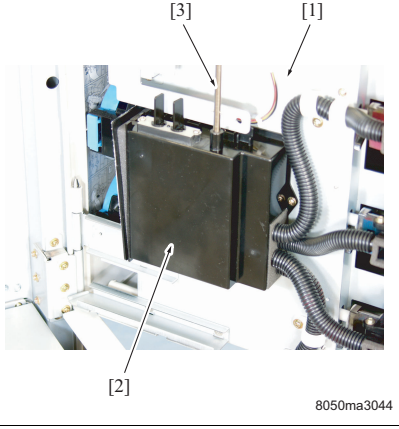
3.8 Maintenance procedure of the intermediate transfer section

3.8.1 Removing/installing the transfer belt unit

A. Procedure



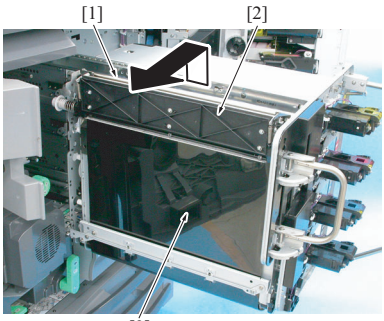
1. Pull out the process unit.
(See P.35)
2. Remove the screws [1], 1 each.
3. Loosen the two screws [2].
4. Turn the belt positioning shaft [3] counterclockwise, and remove the shaft.



5. Remove the supporting shaft [3] from the charging suction assy [2] installed inside of the toner supply unit [1].

Note

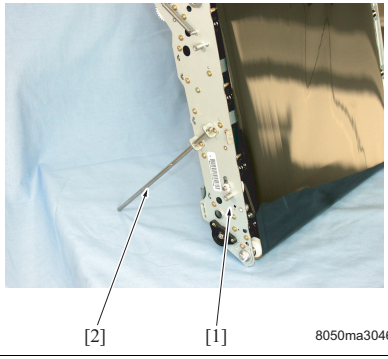
- **Supporting shaft is an assist device to let the transfer belt unit stand by itself and the supporting shaft should be made ready beforehand when removing the transfer belt unit.**



6. Lift up the handles [1] and remove the transfer belt unit [2].

Note

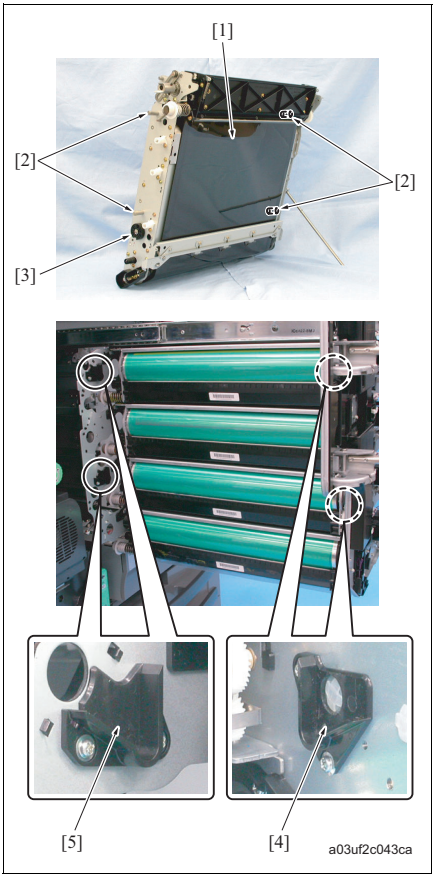
- **Do not damage or touch the transfer belt [3] with bare hands.**
- **When removing the transfer belt unit, be sure to hold the handles on both ends.**



7. Attach the supporting shaft [2] to the transfer belt unit [1] and let the unit stand by itself.
8. Reinstall the above parts following the removal steps in reverse.

Note

- **Do not rotate the transfer belt when the transfer belt unit is standing alone.**



Note

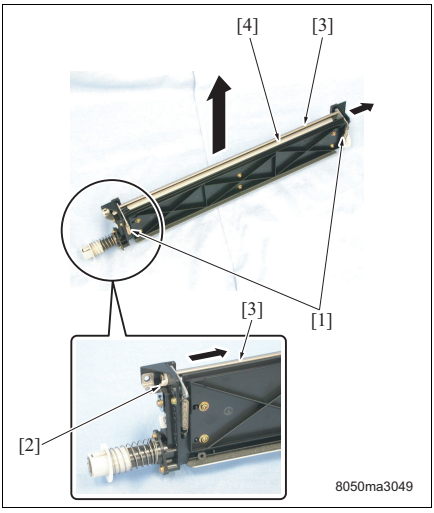
- **Before installing the transfer belt unit [1], rotate the cam [3] clockwise as far as it will go.**
- **When installing the transfer belt unit, align the guide pins [2] on the front and the rear of the unit with two notches of the transfer block/Fr [4] and two notches of the transfer block/Rr [5].**
  Be careful not to hit the drum with the belt.

3.8.2 Replacing the belt cleaning blade

A. Periodically replaced parts/cycle

- Belt Cleaning blade: Every 200,000 prints

B. Procedure



1. Remove the belt cleaner unit.
(See P.48)
2. Remove the two springs [1].
3. Remove the C-clip [2], pull out the blade support shaft [3], and remove the belt Cleaning blade [4].

Note

- **When installing the belt cleaner unit, apply setting powder to entire surface of the transfer belt to which the belt cleaner unit is attached.**
- **Take extra care not to touch or damage the blade of the belt Cleaning blade [4].**

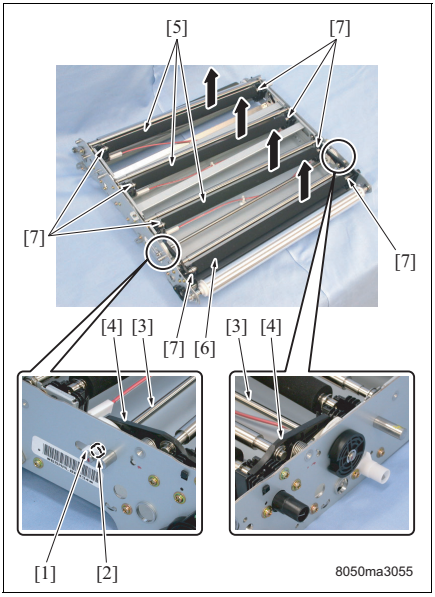
4. Reinstall the above parts following the removal steps in reverse.

3.8.3 Replacing 1st transfer roller /Y, /M, /C and /K

A. Periodically replaced parts/cycle

- Transfer roller /Y, /M, /C: Every 200,000 prints
- Transfer roller /K: Every 200,000 prints

B. Procedure



1. Remove the transfer belt.
(See P.44)
2. Place the transfer belt unit as shown in the figure on the left.
3. Remove the C-clip [1].
4. Remove the bearing [2] and slide the stopper/4 [3] to release the tip of the transfer release arm [4].
5. Slide and remove the 1st transfer roller/K [6].
6. Remove the 1st transfer roller/Y, /M, /C [5],1 each.

Note

- **Do not touch the roller surface of the 1st transfer roller. When handling the 1st transfer roller, always grasp it by its metal shaft.**
- **Install the 1st transfer roller so that the shaft surface with two grooves (one for E-ring, the other is shallow) faces toward you.**
- **When installing the 1st transfer roller, confirm that the cables are securely fastened and the plastic films on the cables are not twisted. If the cables are not fastened, correct by pressing the cables against the metal frame side. If the plastic films are twisted, move the films to the center of the cables.**

7. Remove the E-rings [7], two each from the four 1st transfer rollers.
8. Reinstall the above parts following the removal steps in reverse.

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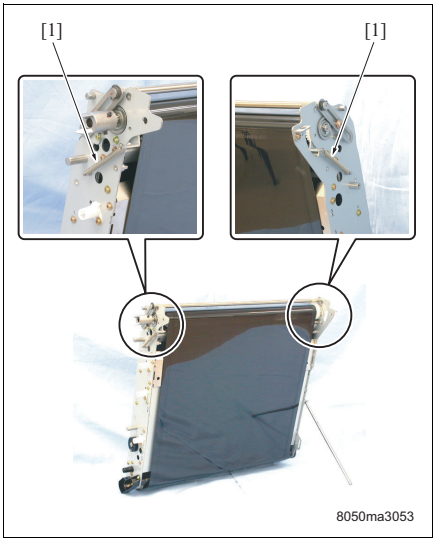
3.8.4 Replacing the transfer belt

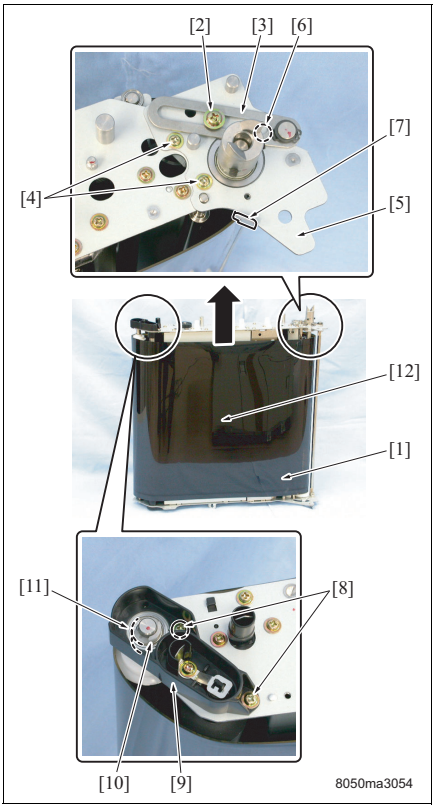
A. Periodically replaced parts/cycle

- Transfer belt: Every 200,000 prints

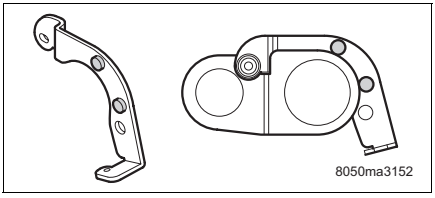
B. Procedure



1. Remove the transfer belt unit. (See P.39)
2. Remove the belt cleaner unit. (See P.48)
3. Remove the separation claw assy. (See P.47)
4. Remove the two springs [1].



5. Have the transfer belt unit [1] stand with its front side facing down.
6. Remove the screw [2] and release the handle [3].
7. Remove the two screws [4] and remove the shaft stopper [5].
8. Remove the screw [6] and remove the tension plate /Rr [7].
9. Remove the two screws [8] and remove the high voltage power supply collar/Rr [9].
10. Remove the C-clip [10] and remove the bearing [11].
11. Remove the transfer belt [12] by pulling it straight up.
12. Reinstall the above parts following the removal steps in reverse.



Note

- **When installing the tension plate/Rr, be sure to push the projection of the plate as far as it will go as shown in the figure on the left. Do not pinch the black sheet when tightening the screw.**
- **When installing the C-clip, lift up the shaft so that the C-clip is securely fitted in the groove of the shaft.**
- **Install the transfer belt with the UP SIDE mark facing up.**
- **Hold the transfer belt by its both ends within 10 mm from the edge, and do not touch other areas.**
- **Do not damage or touch the transfer belt with bare hands.**
- **When installing the transfer belt cleaner unit, apply setting powder to the entire surface of the transfer belt to which the belt cleaner unit is attached.**

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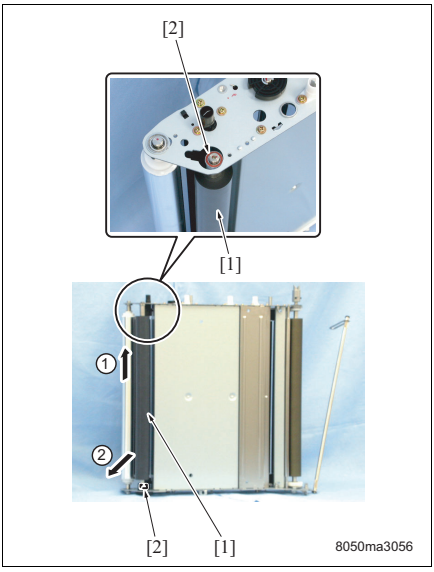
3.8.5 Replacing the 2nd transfer roller /Up

A. Periodically replaced parts/cycle

- 2nd transfer roller /Up: Every 200,000 prints

B. Procedure



1. Remove the transfer belt.
(See P.44)
2. Lift the 2nd transfer roller /Up [1] upward temporarily, and remove the roller obliquely downward.

Note

- **the 2nd transfer roller /Up has been released since the high voltage power supply collar /Rr is removed.**
- **Do not touch the roller surface of the 2nd transfer roller /Up. When handling the 2nd transfer roller /Up, hold it by its metal shaft.**
- **Install the transfer roller/Lw with the concave shaft end facing down.**

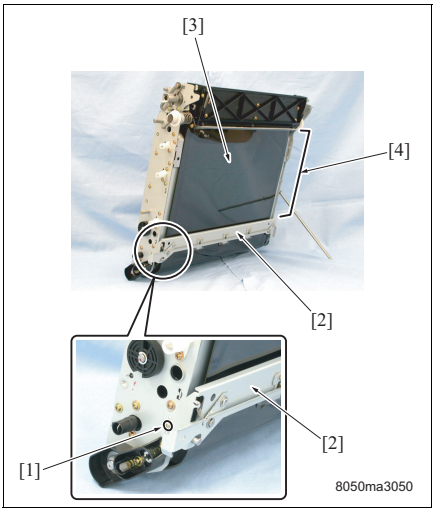
3. Remove the two bearings [2] from the 2nd transfer roller /Up [1].
4. Reinstall the above parts following the removal steps in reverse.

3.8.6 Replacing the separation claw assy

A. Periodically replaced parts/cycle

- Separation claw assy: Every 600,000 prints

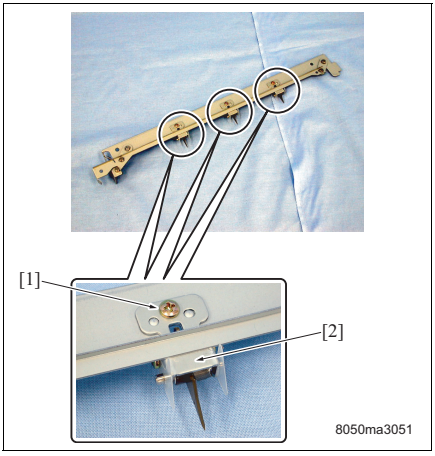
B. Procedure



1. Remove the transfer belt unit. (See P.39)
2. Remove the screw [1] and remove the separation claw unit [2].

Note

- **Do not damage or touch the transfer belt [3] with bare hands.**
- **Before installing the separation claw unit, apply setting powder to half the area [4] of the transfer belt [3].**



3. Remove the three screws [1], and remove the three separation claw assys [2].
4. Reinstall the above parts following the removal steps in reverse.

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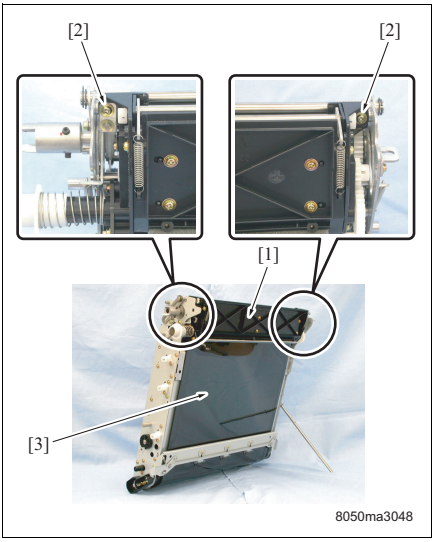
3.8.7 Replacing the belt cleaner unit

A. Periodically replaced parts/cycle

- Belt cleaner unit: Every 600,000 prints (actual replacement cycle: 130km of belt Cleaning blade drive distance)

B. Procedure



1. Remove the transfer belt unit.
(See P.39)
2. Holding the belt cleaner unit [1], remove the two screws [2], and remove the belt cleaner unit.

Note

- **Handle the belt cleaner unit gently when removing the unit, or the toner accumulated in between the toner guide roller and the belt cleaning belt may spill. It is normal if the toner is accumulated because the toner is used to grind the belt surface. If the toner is spilled over the separation tab unit, remove and clean the unit.**
- **The belt cleaner unit consists of the belt cleaning roller unit and the following components: Belt cleaning blade: 1**
  Spring: 2
  C-clip: 2
  Blade support shaft: 1
  Toner collection sheet /1: 1
  Toner collection sheet /2: 1
  Screw: 3
- **Before installing the belt cleaner unit, apply setting powder to the part [3] on the transfer belt.**
- **When installing the belt cleaner unit, insert the tow guides at the both bottom ends of the belt cleaner unit over the pins of the transfer belt unit and tighten the screws.**

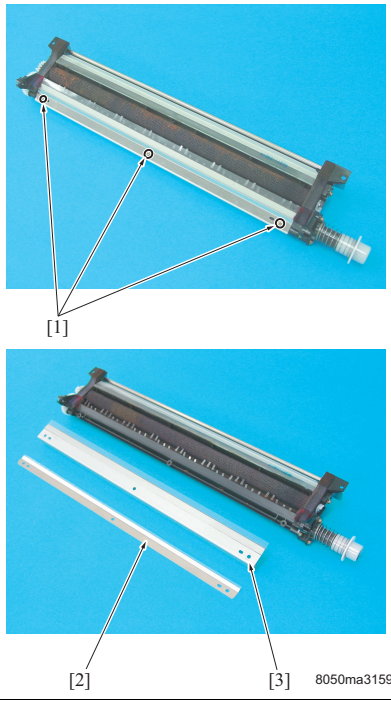
3. Reinstall the above parts following the removal steps in reverse.

3.8.8 Replacing the toner collection sheet /1

A. Periodically replaced parts/cycle

- Toner collection Sheet /1: Every 200,000 prints

B. Procedure



1. Remove the belt cleaner unit.
(See P.48)
2. Remove the three screws [1], toner collection sheet /2 [2], and the toner collection sheet /1 [3].

Note

- **Do not bend or damage the PET sheet of the toner collection sheet /1.**

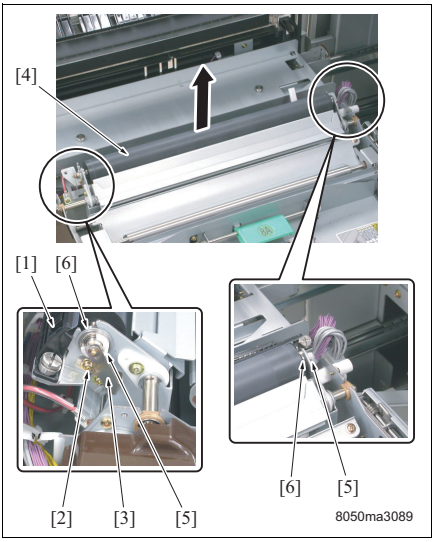
3. Reinstall the above parts following the removal steps in reverse.

3.8.9 Replacing the 2nd transfer roller /Lw and the transfer earth plate assy

A. Periodically replaced parts/cycle

- 2nd transfer roller /Lw: Every 200,000 prints
- 2nd transfer earth plate assy: Every 1,000,000 prints

B. Procedure



1. Remove the separation discharging assy [1]. (See P.48)
2. Remove the screw [2] and remove the 2nd transfer earth plate assy [3].
3. Remove the two C-clips [5].
4. Slide the two bearings [6] outward, and remove the 2nd transfer roller /Lw [4].
5. Remove the two bearings [6] from the 2nd transfer roller /Lw[4].

Note

- **Do not touch the roller surface of the 2nd transfer roller /Lw [4] with bare hands. Always hold the 2nd transfer roller/Lw by its shaft.**
- **When installing the 2nd transfer roller /Lw, make sure that the shaft surface with a concave portion is facing the rear side of the device. (The concave portion should not face to the 2nd transfer earth plate assy.)**

6. Reinstall the above parts following the removal steps in reverse.

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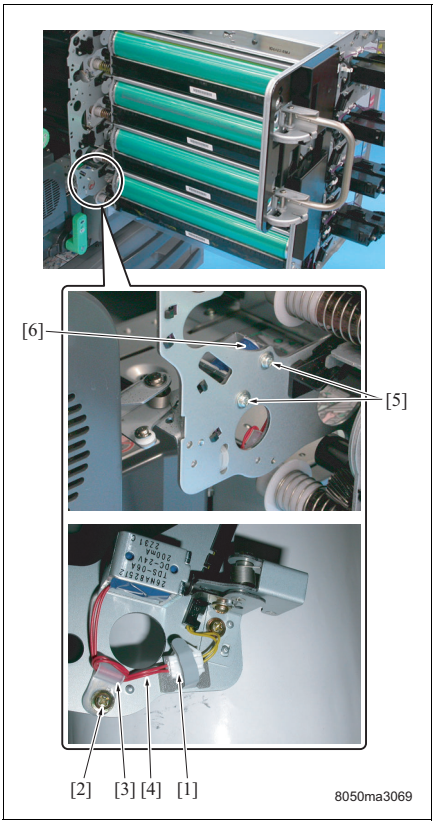
3.8.10 Replacing the belt separation claw solenoid (SD1)

A. Periodically replaced parts/cycle

- Belt separation claw solenoid (SD1): Every 1,400,000 prints

B. Procedure



1. Remove the transfer belt unit.
   (See P.39)
   Disconnect the connector [1].
2. Remove the screw [2] and release the cable [4] from the cable clamp [3].
3. Remove the two screws [5] and remove the belt separation claw solenoid (SD1) [6].

Note

- **After installing the solenoid lever, check if the shaft of SD1 slides smoothly.**

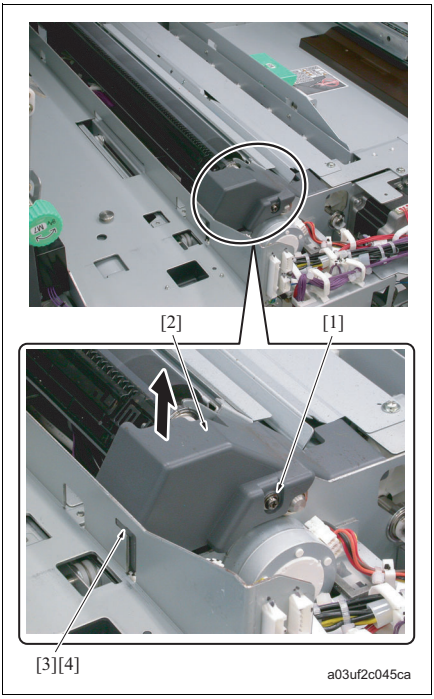
4. Reinstall the above parts following the removal steps in reverse.

3.8.11 Replacing the separation discharging assy

A. Periodically replaced parts/cycle

- Separation discharging assy: Every 200,000 prints

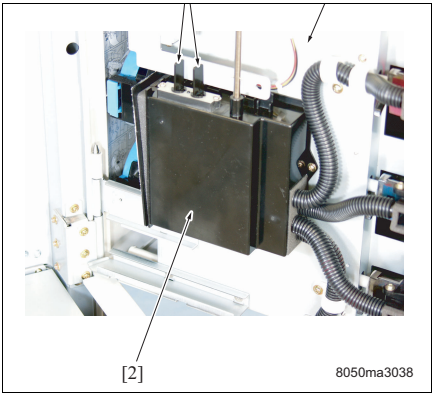
B. Procedure



1. Open the toner supply section.
(See P.33)
2. Pull out the ADU.
(See P.75)
3. Remove the fusing unit.
(See P.85)
4. Remove the screw [1], and remove the terminal cover [2].

Note

- **When installing the terminal cover, match the projection [3] with the positioning hole [4].**



5. Remove the two separation installation screws [1].
6. Lift up the separation discharging assy [2], remove the faston [3], and remove the separation discharging assy [2].

Note

- **When removing the faston from the separation discharging assy, pull out the cover section of the faston straight.**
- **When installing the separation discharging assy, tighten the separation installation screw on the front side first positioning the assy properly. Then tighten the other separation installation screw.**

7. Reinstall the above parts following the removal steps in reverse.

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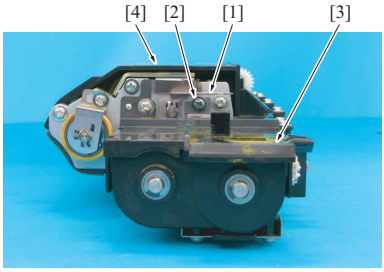
3.9 Maintenance procedure of the developing section

3.9.1 Replacing the developer /Y, /M, /C, /K

A. Periodically replaced parts/cycle

- Developer /Y, /M, /C, /K: Every 200,000 prints (actual replacement cycle: 130km of the developing roller drive distance)

B. Procedure

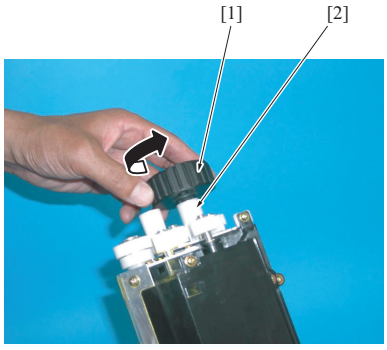


8050ma3149

1. Remove the developing unit.
(See P.55)
2. Remove the fixing screw [2] on the plate [1], turn the plate 90 degrees counterclockwise, and rotate the upper side of the developing unit to eject the developer. After that, repeat steps 3 and 4 to eject all the developer.

Note

- **Do not remove the cover [4] of the developing unit or the developer charging funnel [3] when ejecting developer.**
- **After ejecting developer, be sure to put the platel [1] back to its original position, and secure the plate with a screw.**



8050ma3150

3. Attach the rotating jig [1] installed inside the toner supply unit to the coupling [2] on the agitator screw side, and turn the jig in the direction of the arrow.

Note

- **Do not turn the coupling against the direction of the arrow.**

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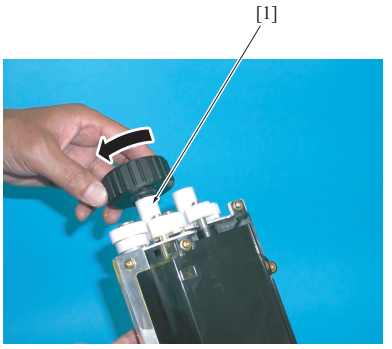

4. Attach the rotating jig to the coupling [1] on the developing roller side, and turn the jig in the direction of the arrow.

Note

- **Do not turn the coupling against the direction of the arrow.**
- **After replacing the developing unit, be sure to perform the "Toner Density Sensor Initial Auto. adjustment." in service mode.(See P.287)**

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3.9.2 Replacing the developing unit /C, /M, /Y, /K

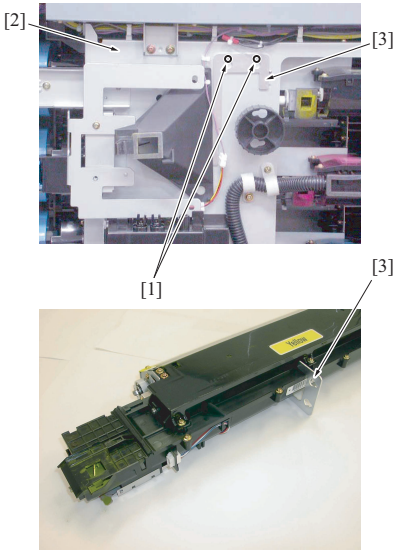
A. Periodically replaced parts/cycle

- Developing unit /C: Every 600,000 prints
- Developing unit /M: Every 600,000 prints
- Developing unit /Y: Every 600,000 prints
- Developing unit /K: Every 600,000 prints

B. Procedure

Note

- **Do not bend the teflon coated sheet attached to the developing roller side of the upper cover of the developing unit.**
- **Always use a hydro wipe authorized as a CE tool to clean the developing unit. Use of paper or cloth other than the specified cloth (hydro wipe) will contaminate the developing control plate inside the developing unit with paper dust or lint and may cause white bands on images.**
- **The product installs four developing units one each for yellow, magenta, cyan, and black, and they are common parts. However, do not use a once-used developing unit for another color, or the old remaining toner and the new toner will mix up and the print quality will degrade.**



8050ma3062

1. Open the toner supply section. (See P.33)
2. Remove the two screws [1] and remove the four developing support plate [3] installed inside the toner supply section [2].

Note

- **When having the developing unit stand alone, insert a developing support plate into the body of the developing unit and use the plate as a base so as to protect the bristle section of the toner from contacting other parts.**

3. Pull out the process unit. (See P.35)

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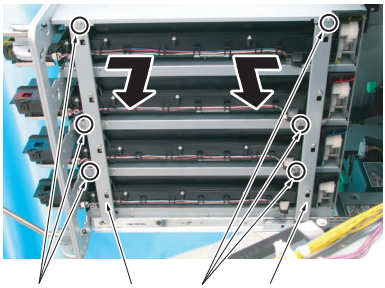
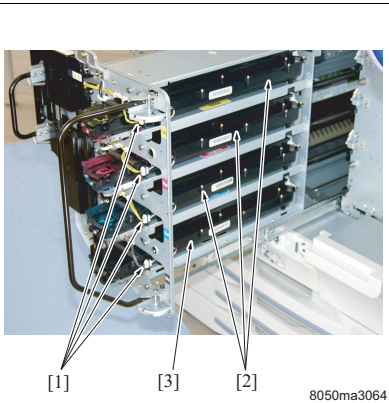


4. Remove the screws [1], three each, and remove the upper side of the developing holding frames [2] in the direction of the arrow.



5. Disconnect the four connectors [1] and remove the three developing units /C, /M, /Y [2] and the developing unit /K [3].

6. Reinstall the above parts following the removal steps in reverse.

Note

- **Before installing developing units without black, attach labels included in each of the four unit packages.**

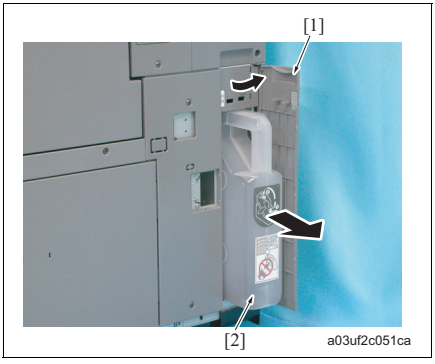
3.10 Maintenance procedure of the toner collection box assy

3.10.1 Replacing the toner collection box assy

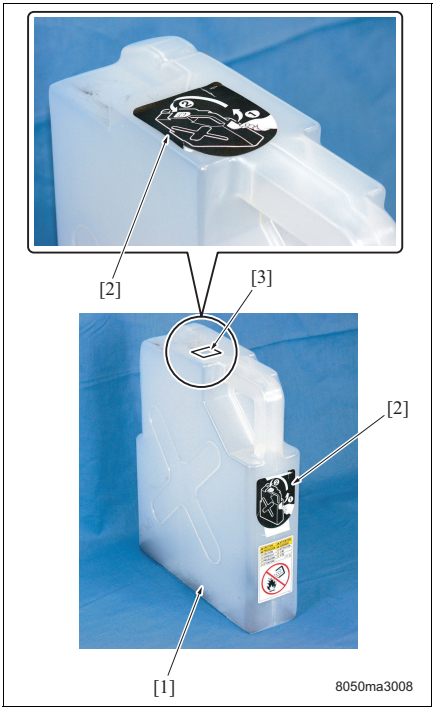
A. Periodically replaced parts/cycle

- Toner collection box assy: Every 50,000 prints

B. Procedure



1. Open the toner collection door [1], and pull out the toner collection box assy [2].



2. Peel off the label [2] on the toner collection box assy [1] and close the opening [3] of the toner collection box assy [1] with the label.
3. Reinstall the above parts following the removal steps in reverse.

3.11 Maintenance procedure of the paper feeding section

3.11.1 Replacing the pick-up roller/paper feed roller rubber

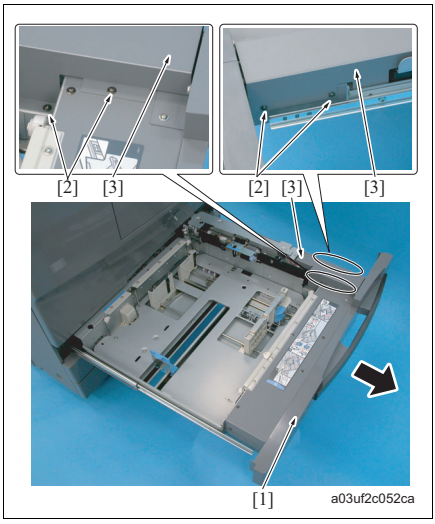
A. Periodically replaced parts/cycle

- Pick-up roller: Every 2,400,000 prints (actual replacement cycle: every 800,000 feed)
- Paper feed roller rubber: Every 400,000 prints (actual replacement cycle: every 125,000 feed)

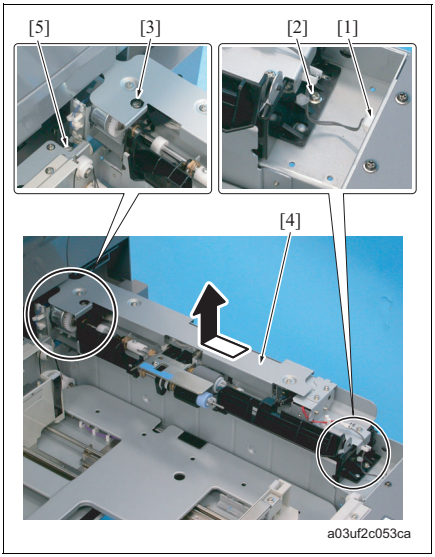
B. Procedure

Note

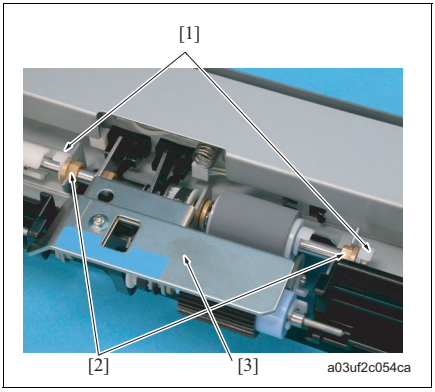
- **The tray /1 was used to illustrate the replacement procedure below. The procedure is the same for the tray /2 and tray/3.**



1. Pull out the paper feed tray /1 [1].
2. Remove the four screws [2] and remove the paper feed unit cover [3].



3. Disconnect the connector [1].
4. Remove the screw [2] and loosen the fixing shaft screw [3].
5. Slide the paper feed unit [4] in the direction of the arrow, and lift the unit to remove it disconnecting the connector [5].



6. Remove the two C-clips [1], slide the two bearings [2] outward, and remove the paper feed roller assy [3].

Note

- **Before installing the paper feed roller assy, make sure the rollers are free of grease or dust.**

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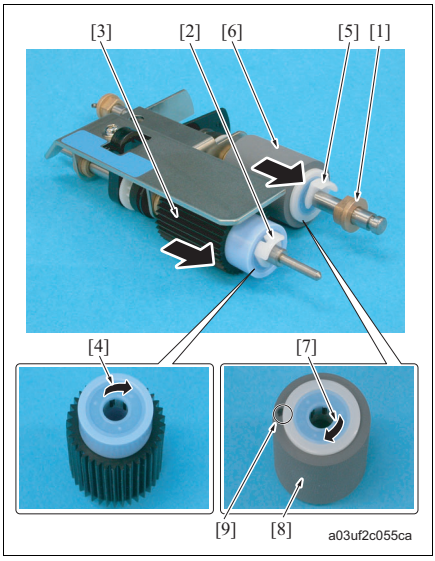

7. Remove the bearing [1].

8. Remove the C-clip [2] and remove the pick-up roller [3].

Note

- **When installing the pick-up roller, be sure that the arrow mark [4] is facing toward the C-clip [2].**

9. Remove the C-clip [5] and remove the paper feed roller [6].

Note

- **When installing the paper feed roller, be sure that the arrow mark [7] is facing toward the C-clip [5].**

10. Remove the paper feed roller rubber [8] from the paper feed roller.

Note

- **When installing the paper feed roller rubber, be sure that the painted mark [9] is facing toward the arrow mark [7].**

11. Reinstall the above parts following the removal steps in reverse.

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3.11.2 Replacing the separation roller rubber

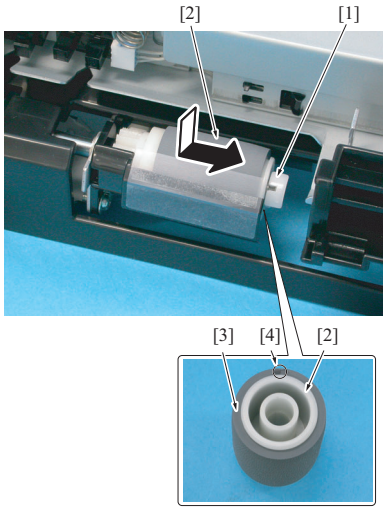
A. Periodically replaced parts/cycle

- Separation roller rubber: Every 400,000 prints (actual replacement cycle: every 125,000 feed)

B. Procedure

Note

- **The tray /1 was used to illustrate the replacement procedure below. The procedure is the same for the tray /2 and tray /3.**



1. Remove the paper feed roller assy (See P.58)
2. Remove the C-clip [1] and remove the separation roller [2].

Note

- **Before installing the separation roller, make sure the roller is free of grease or dust.**

3. Remove the separation roller rubber [3] from the separation roller [2].

Note

- **When installing the separation roller rubber, be sure that the painted mark [4] is facing toward the c-clip [1].**

4. Reinstall the above parts following the removal steps in reverse.

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3.11.3 Replacing the paper feed clutch/pre-registration clutch

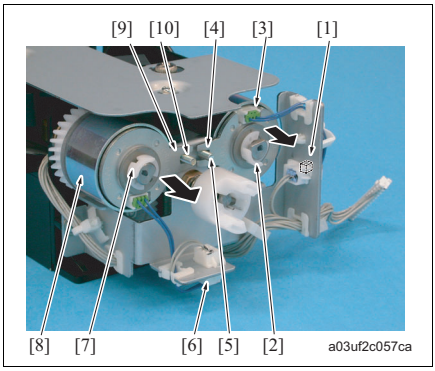
A. Periodically replaced parts/cycle

- Paper feed clutch /1 - /3 (MC7, MC9, MC11): Every 4,000,000 prints (actual replacement cycle: every 2,000,000 feed)
- Pre-registration clutch /1 - /3 (MC8, MC10, MC12): Every 4,000,000 prints (actual replacement cycle: every 2,000,000 feed)

B. Procedure

Note

- **The tray /1 was used to illustrate the replacement procedure below. The procedure is the same for the tray /2 and tray /3.**



1. Pull out the paper feed tray /1.
2. Remove the paper feed unit. (See P.58)
3. Disconnect the connector [1].
4. Remove the C-clip [2] and remove the paper feed clutch /1 (MC7) [3].

Note

- **When installing MC7, match the stopper [4] with the guide [5].**

5. Disconnect the connector [6].
6. Remove the C-clip [7] and remove the pre-registration clutch (MC8) [8].

Note

- **When installing MC8, match the stopper [9] with the guide [10].**

7. Reinstall the above parts following the removal steps in reverse.

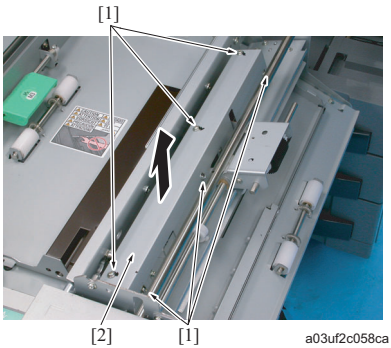
3.12 Maintenance procedure of the bypass feed tray section

3.12.1 Replacing the pick-up roller/paper feed roller rubber

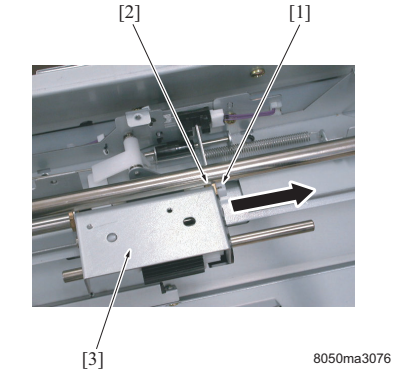
A. Periodically replaced parts/cycle

- Pick-up roller: Every 4,000,000 prints (actual replacement cycle: every 800,000 feed)
- Paper feed roller rubber: Every 1,400,000 prints (actual replacement cycle: every 125,000 feed)

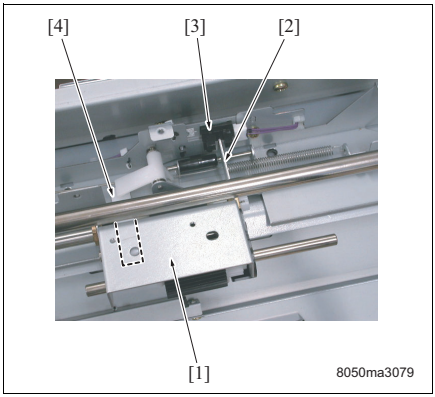
B. Procedure



1. Pull out the ADU.
(See P.75)
2. Remove the six screws [1] and remove the paper feed solenoid cover [2].

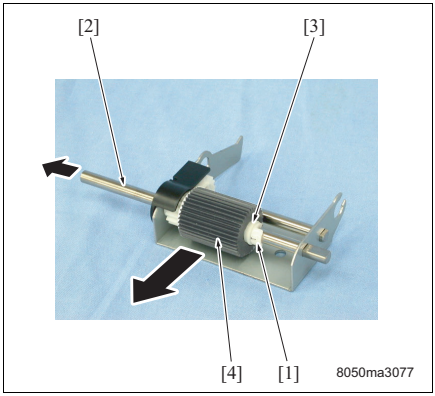


3. Remove the C-clip [1].
4. Remove the bearing [2] and remove the paper feed roller unit [3].

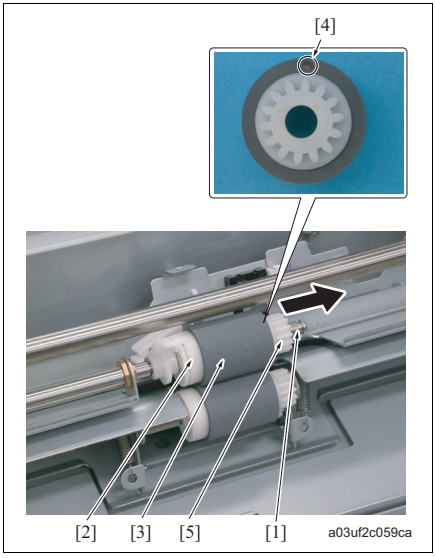


Note

- **When installing the paper feed roller unit [1], be sure to fit the actuator [2] in the detection section of the paper empty sensor/BP (PS47) [3].**
- **When installing the paper feed roller unit [1], bring the tip of the paper feed lift-up lever [4] into contact with the undersurface of the plate of the paper feed roller unit [1].**



5. Remove the C-clip [1], pull out the shaft [2], and remove the pick-up roller assy [3].
6. Remove the pick-up roller [4] from the pick-up roller assy [3].



7. Remove the paper feed roller assy [2] from the shaft [1].
8. Remove the paper feed roller rubber [3] from the paper feed roller assy [2].

Note

- **When installing the paper feed roller rubber, be sure that the painted mark [4] is facing toward the gear [5].**

9. Reinstall the above parts following the removal steps in reverse.

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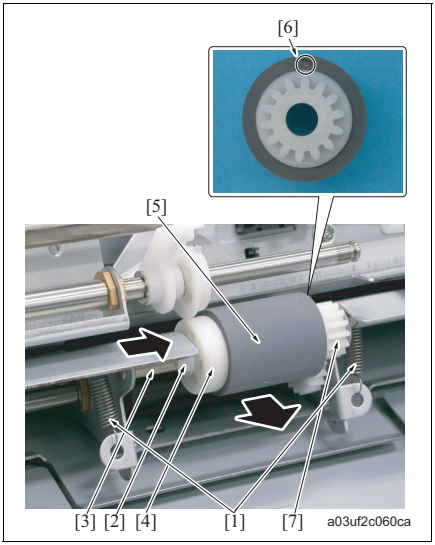
3.12.2 Replacing the separation roller rubber

A. Periodically replaced parts/cycle

- Separation roller rubber: Every 1,400,000 prints (actual replacement cycle: every 125,000 feed)

B. Procedure



1. Remove the pick-up roller and the paper feed roller assy.
(See P.63)
2. Remove the two springs [1].
3. Remove the C-clip [2], pull out the shaft [3], and remove the separation roller assy [4].
4. Remove the separation roller rubber [5] from the separation roller assy.

Note

- **When installing the separation roller rubber, be sure that the painted mark [6] is facing toward the gear [7].**

5. Reinstall the above parts following the removal steps in reverse.

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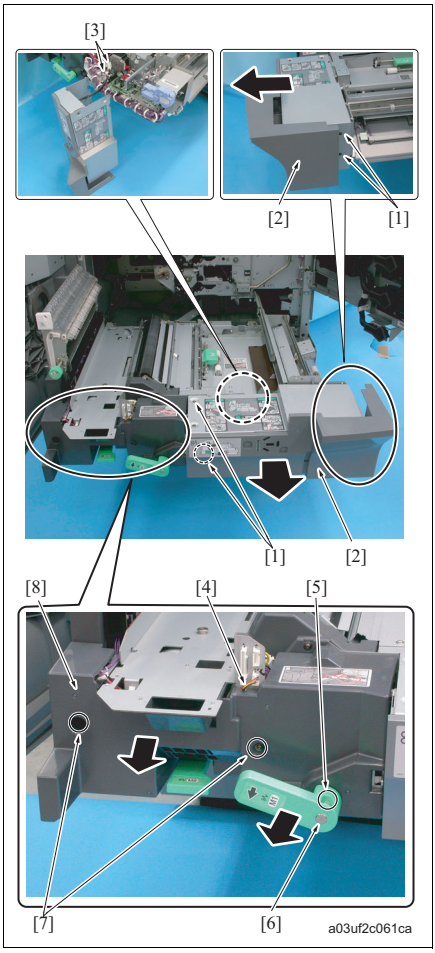
3.12.3 Replacing the paper feed clutch/BP (MC6)

A. Periodically replaced parts/cycle

- Paper feed clutch/BP (MC6): Every 4,000,000 prints (actual replacement cycle: every 2,000,000 feed)

B. Procedure



1. Open the toner supply section.
   (See P.33)
2. Pull out the ADU.
   (See P.75)
3. Remove the fusing unit.
   (See P.85)
4. Remove the four screws [1]. (One screw is located at the bottom of the ADU cover /Rt [2].)
5. Pull out the ADU cover /Rt [2] halfway, disconnect the two connectors [3], and remove the ADU cover /Rt [2].
6. Disconnect the connector [4].
7. Remove the screw [5] and remove the ADU release lever [6].
8. Remove the two screws [7] and remove the ADU cover /Lt [8].

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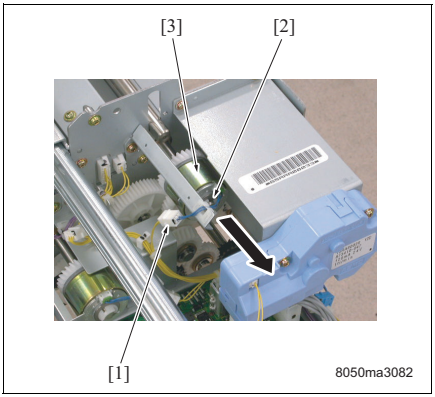
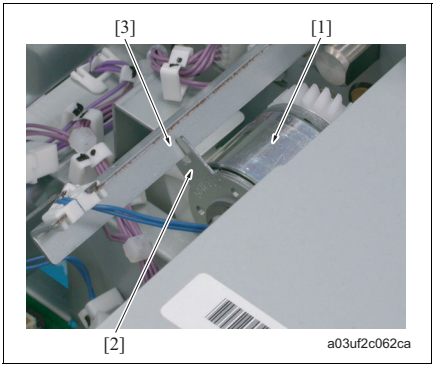


9. Disconnect the connector [1].

10. Remove the C-clip [2] and remove the paper feed clutch/BP (MC6) [3].



Note

- **When installing MC6 [1], match the stopper [2] with the guide [3].**

11. Reinstall the above parts following the removal steps in reverse.

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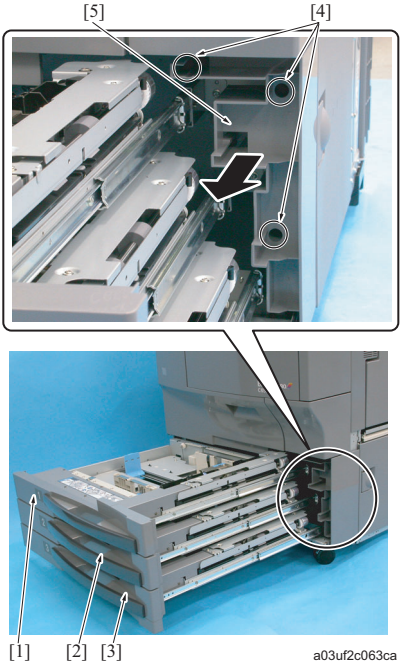
3.13 Maintenance procedure of the vertical conveyance section

3.13.1 Replacing the intermediate conveyance clutch /1 (MC13)

A. Periodically replaced parts/cycle

- Intermediate conveyance clutch /1 (MC13): Every 2,000,000 prints

B. Procedure



1. Remove the right cover /Lw1 and /Lw2. (See P.171)
2. Pull out the paper feed tray /1 [1], /2 [2], and /3 [3].
3. Remove the three screws [4] and remove the right cover /Lw3 [5].

Note

- **Remove the right cover/Up1 before installing the LU-202.** **(See P.171)**

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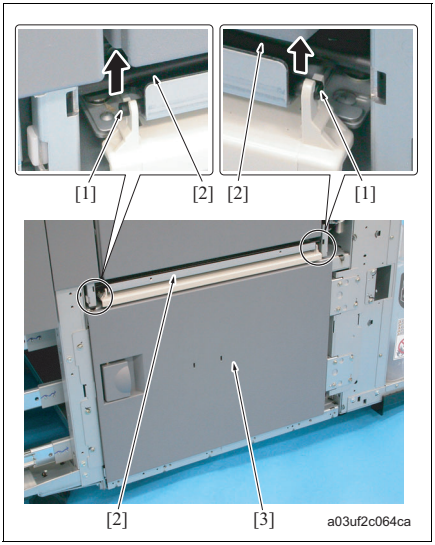
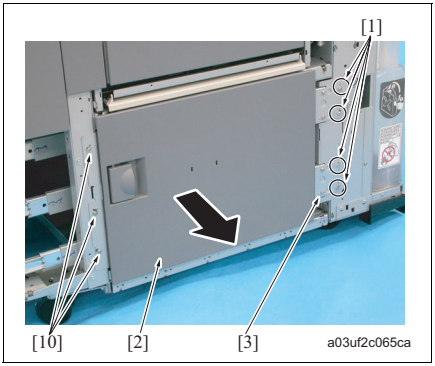


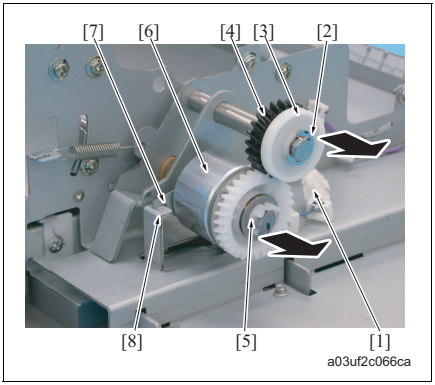
4. Push up the two tabs [2] and separate the vertical conveyance section [3] from the bypass up/down cover [2].



5. Remove the seven screws [1].
6. Pull out the vertical conveyance section [2], disconnect the connector [3], and remove the vertical conveyance section [2].

Note

- **Always close the vertical conveyance door and tighten the screws when installing the vertical conveyance section.**



7. Disconnect the connector [1].
8. Remove the E-ring [2], spacer [3], and the gear [4].
9. Remove the C-clip [5] and remove the intermediate conveyance clutch /1 (MC13) [6].

Note

- **When installing MC13, match the stopper [7] with the guide [8].**

10. Reinstall the above parts following the removal steps in reverse.

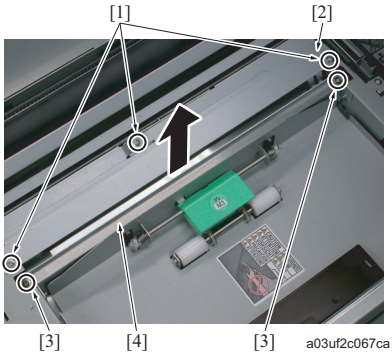
3.14 Maintenance procedure of the registration section

3.14.1 Replacing the cleaning stay assy

A. Periodically replaced parts/cycle

- Cleaning stay assy: Every 600,000 prints

B. Procedure



1. Open the toner supply section.
   (See P.33)
2. Pull out the ADU.
   (See P.75)
3. Remove the three screws [1] and remove the cover [2].
4. Remove the two screws [3] and remove the cleaning stay assy [4].
5. Reinstall the above parts following the removal steps in reverse.

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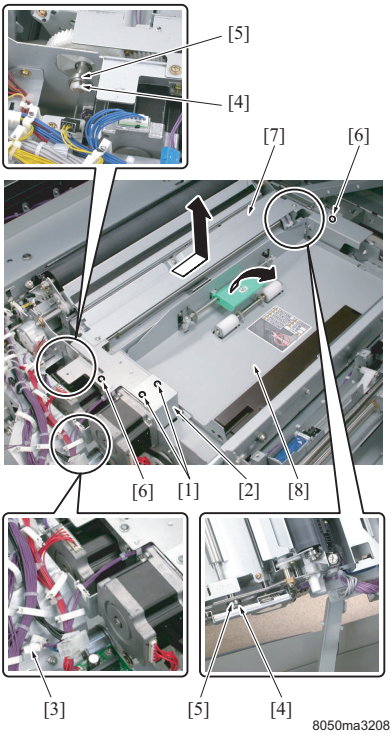
3.14.2 Replacing the registration roller assy

A. Periodically replaced parts/cycle

- Registration roller assy: Every 1,400,000 prints

B. Procedure



1. Remove the cleaning stay assy. (See P.70)
2. Remove the ADU cover /Rt, ADU release lever, and ADU cover /Lt. (See P.66)
3. Remove the terminal cover. (See P.52)
4. Remove the two screws [1] and remove the gear cover [2].
5. Disconnect the connector [3] and remove the wire from the two clamps.
6. Remove the C-clips [4] and remove the bearings [5] at the both and rear sides on the registration assy.
7. Remove the two screws [6] and remove the registration unit [7].

Note

- **Before removing the registration unit [7], open the conveyance guide plate/Up [8], move the registration unit toward the rear side of the ADU, and pull the shaft on the front side out of the ADU panel.**
- **When installing the registration unit, be careful not to scratch the surface of the guide plate where contacts with paper.**

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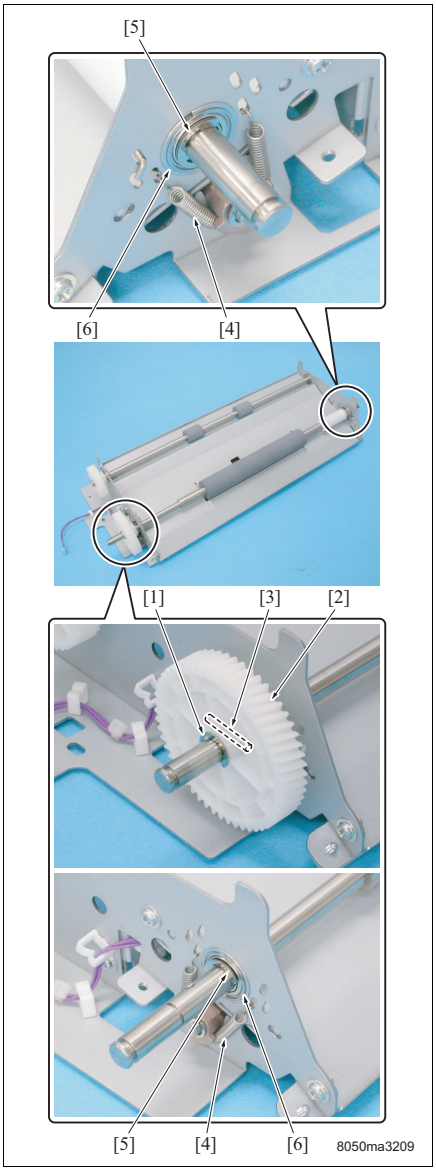


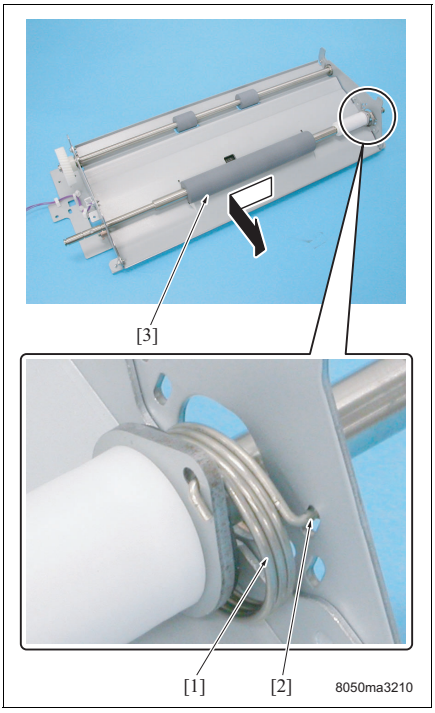
8. Remove the E-ring [1], registration gear [2], and the pin [3].

Note

- **When installing the registration gear [2], make sure you install the pin [3].**

9. Remove the two springs [4].

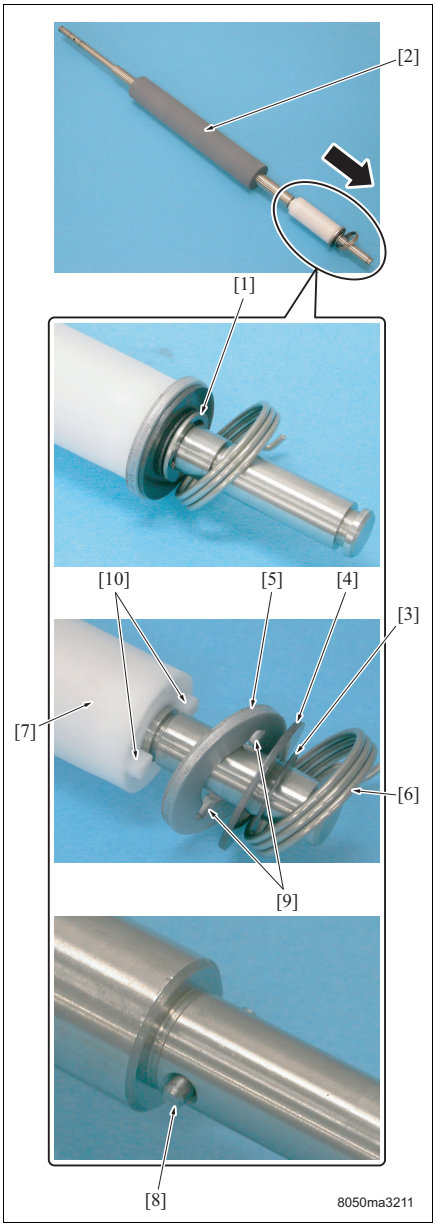
10. Remove the two E-rings [5] and the two bearings [6].



11. Disengage the hooked end [2] of the spring [1], and remove the registration roller assy [3].

Note

- **Make sure to attach the spring [1] as shown in the figure on the left.**



12. Remove the E-ring [1], and remove the spacer/1 [3], /2 [4], registration regulating plate [5] (together with the spring [6]), torque limiter [7], and pin/A [8] from the registration roller assy [2].

Note

- **When installing the registration regulating plate, insert the two indentations [9] over the two projections [10] on the torque limiter.**

13. Reinstall the above parts following the removal steps in reverse.

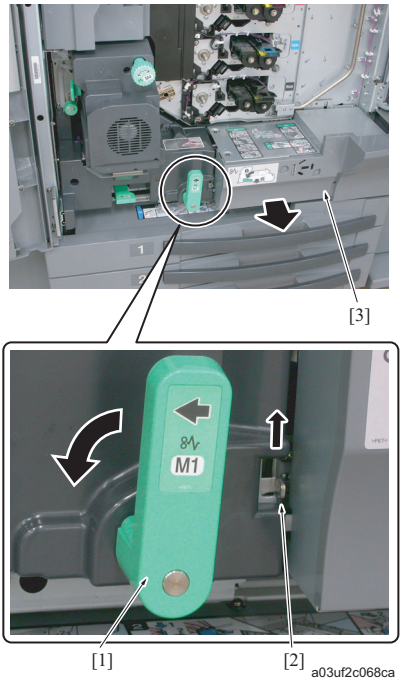
3.15 Maintenance procedure of the ADU section

3.15.1 Replacing the intermediate conveyance clutch/2 (MC4) and /3 (MC5)

A. Periodically replaced parts/cycle

- Intermediate conveyance clutch/2 (MC4): Every 2,000,000 prints
- Intermediate conveyance clutch/3 (MC5): Every 2,000,000 prints

B. Procedure



1. Open the toner supply section. (See P.33)
2. While releasing the lock [2] of the ADU release lever [1], turn the lever counterclockwise, and pull out the ADU [3].

Note

- **In order to prevent rollover accidents, safety feature of the product does not allow the process unit and the ADU to be pulled out at the same time.**
- **Be sure to put the process unit in the main body before pulling out the ADU.**
- **If you cannot pull out the ADU, check the lock lever/1 and /2 for deformation and replace them as necessary.** **(See P.204)**

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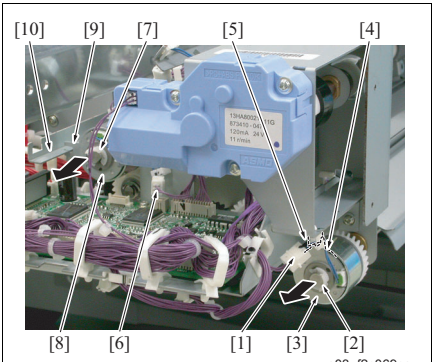

3. Remove the ADU cover/Rt.
(See P.66)
4. Disconnect the connector [1].
5. Remove the C-clip [2] and remove the intermediate conveyance clutch/2 (MC4) [3].

Note

- **When installing MC4, match the stopper [4] with the guide [5].**

6. Disconnect the connector [6].
7. Remove the C-clip [7] and remove the intermediate conveyance clutch/3 (MC5) [8].

Note

- **When installing MC5, match the stopper [9] with the guide [10].**

8. Reinstall the above parts following the removal steps in reverse.

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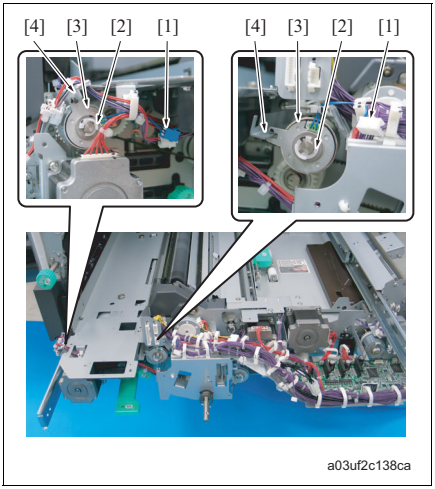
3.15.2 Replacing the ADU conveyance clutch/1 (MC1), /2 (MC2), /3 (MC3), and the ADU pre-registration clutch (MC18)

A. Spot replacement parts/cycle

- ADU conveyance clutch/1 (MC1) : 3,600,000 prints
- ADU conveyance clutch/2 (MC2): 3,600,000 prints
- ADU conveyance clutch/3 (MC3) : 3,600,000 prints
- ADU pre-registration clutch (MC18) : 3,600,000 prints

B. Procedure



1. Open the toner supply section. (See P.33)
2. Pull out the ADU. (See P.75)
3. Remove the fusing unit. (See P.85)
4. Remove the ADU cover/Rt. (See P.66)
5. Remove the ADU cover/Lt. (See P.66)
6. Disconnect the connector [1].
7. Remove the C-clip [2], and remove the MC1 and the MC2 [3].

Note

- **When installing the MC1 and the MC2, align the stopper [4] with the guide.**

8. Reinstall the above parts following the removal steps in reverse.

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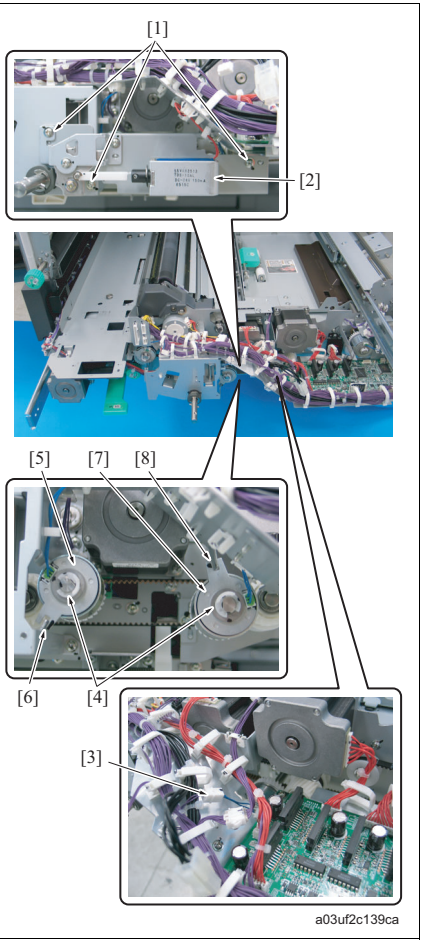


9. Remove the three screws [1], and remove the ADU lock solenoid unit [2].
10. Disconnect the connector [3].
11. Remove the two C-clips [4], the ADU conveyance clutch/3 (MC3) [5], and the ADU pre-registration clutch (MC18) [7].

Note

- **When installing the MC3 and the MC18, align the stopper [6] with the guide [8].**

12. Reinstall the above parts following the removal steps in reverse.

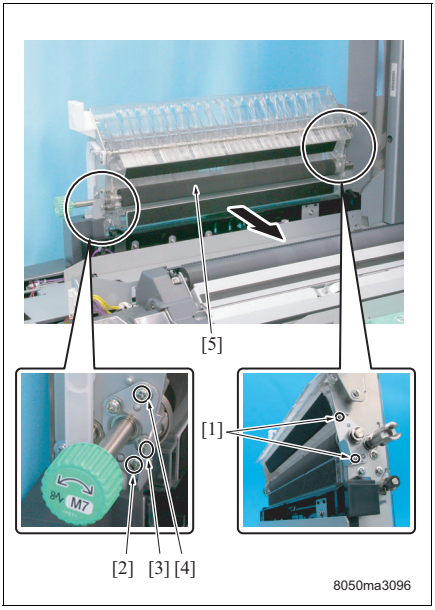
3.16 Maintenance procedure of the reverse/paper exit section

3.16.1 Replacing Reverse decurler roller

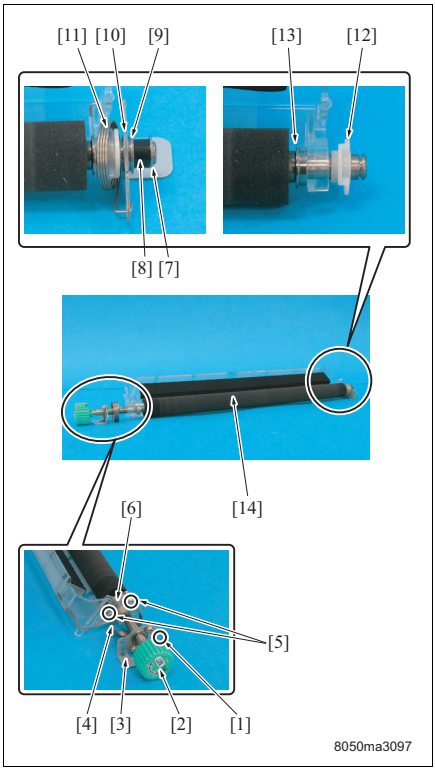
A. Periodically replaced parts/cycle

- Reverse decurler roller: Every 400,000 prints

B. Procedure



1. Pull out the ADU.
(See P.75)
2. Remove the fusing unit.
(See P.85)
3. Remove the two screws [1].
4. Release the hook [3] of the spring from the screw [2], and remove the two screws [2], [4].
5. Remove the paper eject guide plate /4 assy [5].



6. Remove the screw [1], and remove the knob [2].
7. Remove the paper exit mounting plate/Fr [3] and the spring [4].
8. Remove the two screws [5] and remove the bearing [6].
9. Remove the E-ring [7], spacer [8], bearing [9], and paper exit mounting plate/Rr [10].
10. Remove the spring [11] and the spacer [12].
11. Remove the bearing [13] and the reverse decurler roller [14].
12. Reinstall the above parts following the removal steps in reverse.

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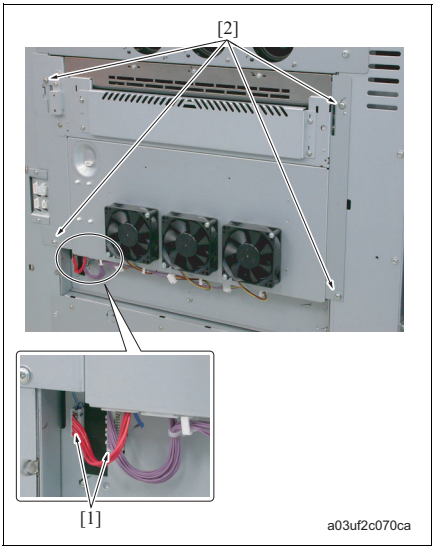
3.16.2 Replacing the paper exit decurler roller

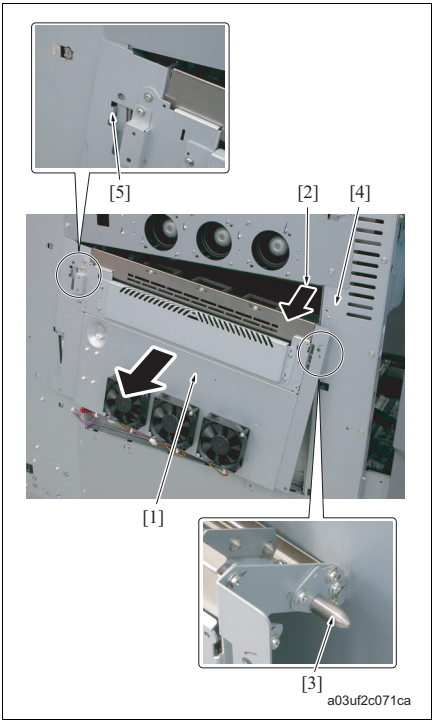
A. Periodically replaced parts/cycle

- paper exit decurler roller: Every 1,000,000 prints

B. Procedure



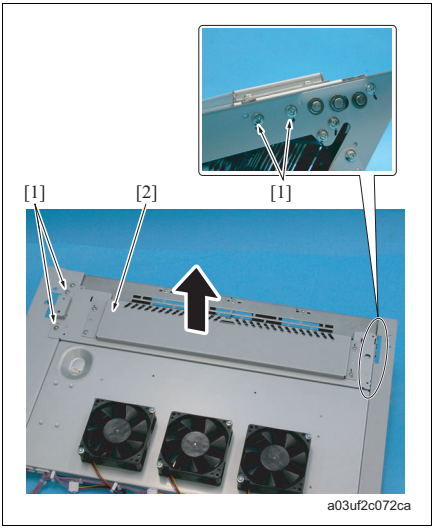
1. Remove the left cover.
   (See P.170)
2. Pull out the ADU.
   (See P.75)
3. Disconnect the two connectors [1].
4. Remove the four screws [2].



5. Lower the front upper portion [2] of the paper exit unit [1], and remove the paper exit unit taking care not to hit the frame [4] with the pin [3].

Note

- **When installing the paper exit unit, insert the tab [5] into the slot on the frame first.**



6. Remove the four screws [1] and remove the strengthening plate/Lt [2].

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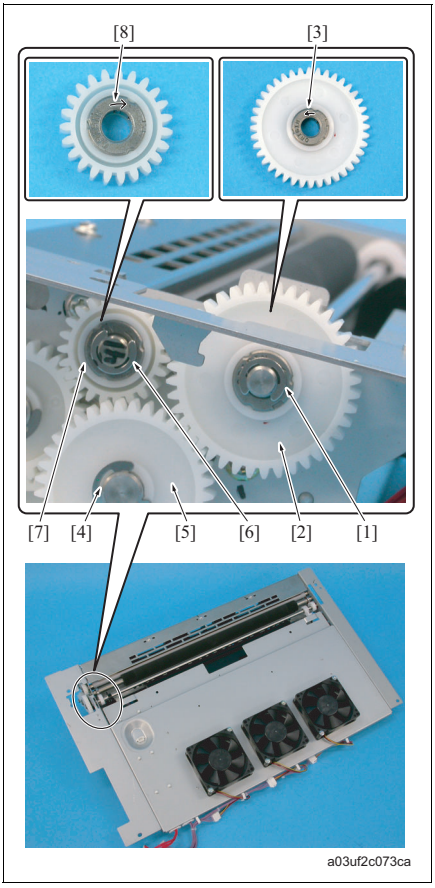


7. Remove the E-ring [1] and the gear [2].

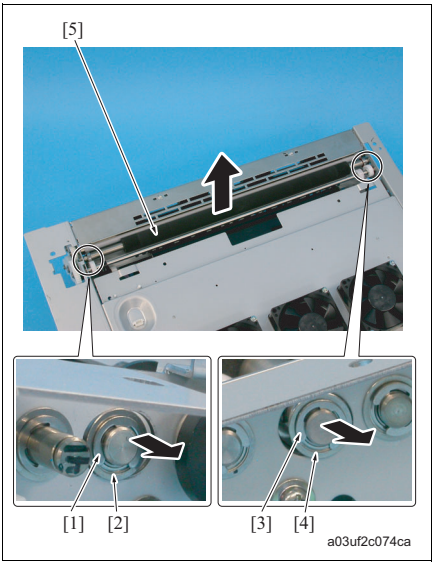
Note

- **When installing the gear [2], be sure that the arrow mark [3] is facing toward the E-ring [1].**

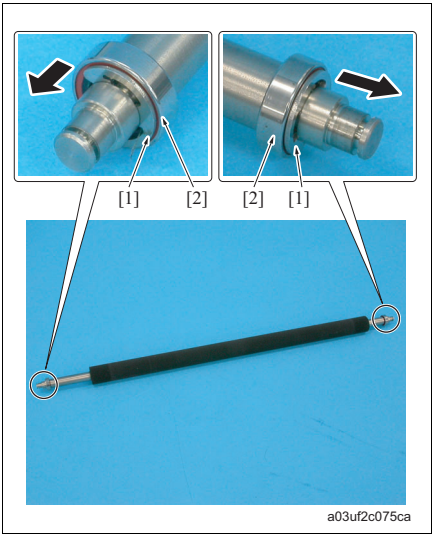
8. Remove the E-ring [4] and the gear [5].
9. Remove the E-ring [6] and the gear [7].

Note

- **When installing the gear [7], be sure that the arrow mark [8] is facing toward the E-ring [6].**



10. Remove the E-ring [1] and the bearing [2].
11. Remove the E-ring [3] and the bearing [4].
12. Remove the paper exit decurler roller [5].



13. Remove the two E-rings [1], and remove the two bearings [2].
14. Reinstall the above parts following the removal steps in reverse.

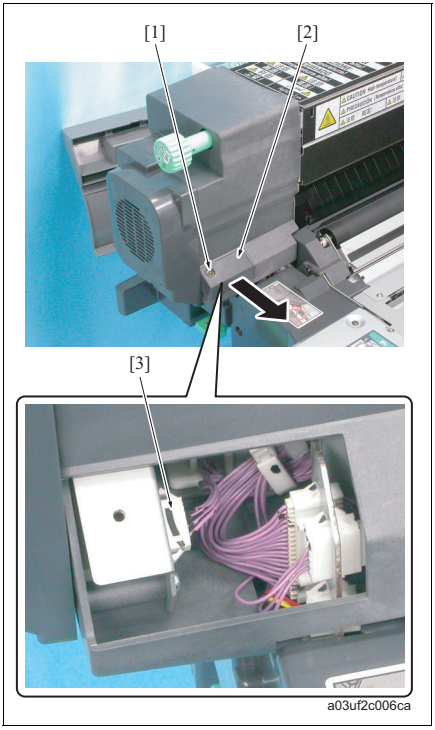
3.17 Maintenance procedure of the fusing section

3.17.1 Removing/installing the fusing unit

⚠Caution:

- **Immediately after turning off the main power switch (SW1) or the power switch (SW2), the fusing section is very hot and you may get burnt. Be sure to start operations when the temperature cools down sufficiently.**

A. Procedure



1. Open the front door and the toner supply section. (See P.33)
2. Pull out the ADU. (See P.75)
3. Remove the screw [1], and remove the connector cover [2].
4. Disconnect the connector [3].

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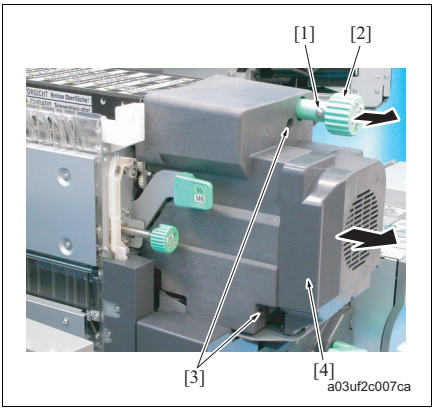
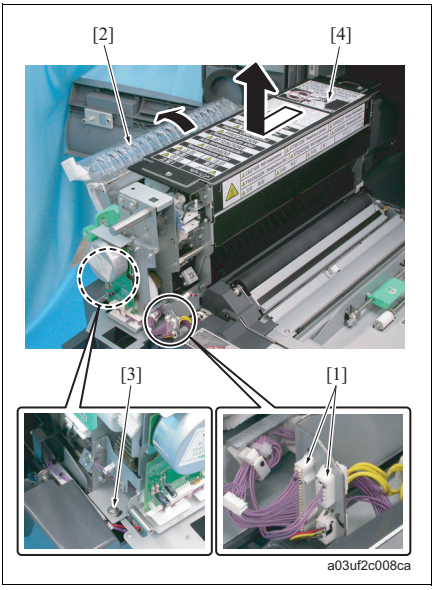


5. Remove the screw [1], and remove the knob [2].
6. Remove the two screws [3] and remove the fusing cover /Fr [4].



7. Disconnect the two connectors [1].
8. Open the reverse/exit section [2].
9. Remove the screw [3] and remove the fusing unit [4].

Note

- **When installing/removing the fusing unit, be sure to hold both ends of the unit and slide it toward you in the direction of the arrow before lifting up the unit.**

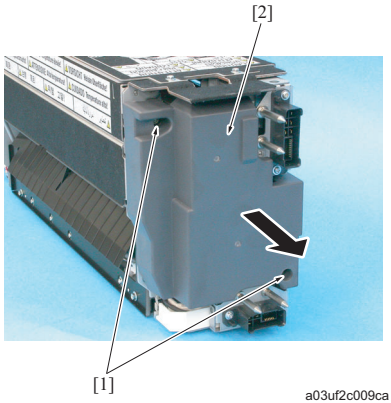
10. Reinstall the above parts following the removal steps in reverse.

3.17.2 Replacing the fusing drive gear /B and the fusing duct 2 assy

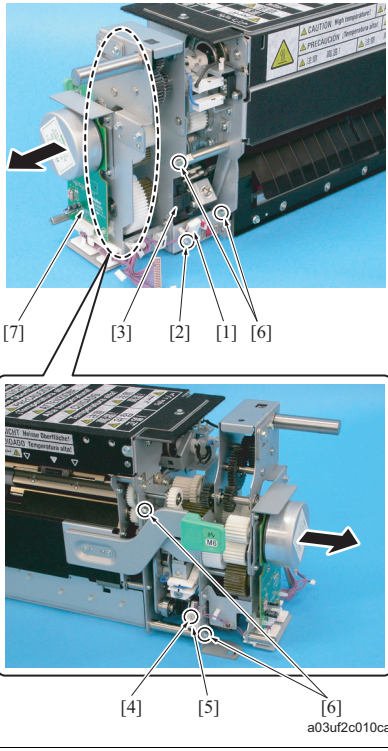
A. Periodically replaced parts/cycle

- Fusing drive gear /B: Every 400,000 prints
- Fusing duct 2 assy: Every 600,000 prints

B. Procedure



1. Remove the fusing unit.
(See P.85)
2. Remove the two screws [1] and remove the fusing cover/Rr [2].

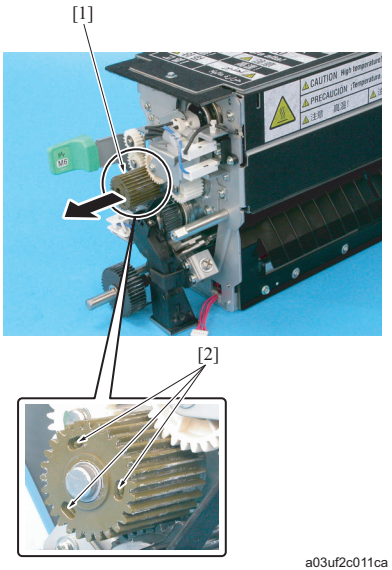


3. Disconnect the connector [1].
4. Remove the screw [2] and release the fusing duct 2 assy [3].
5. Remove the screw [4] and remove the sensor positioning plate assy [5].

Note

- **Make sure that the fusing duct /2 assy is released before removing the fusing drive assy. If you attept to remove the fusing drive assy with the fusing duct /2 assy secured, fusing heater lamp /4 (L5) may be broken.**

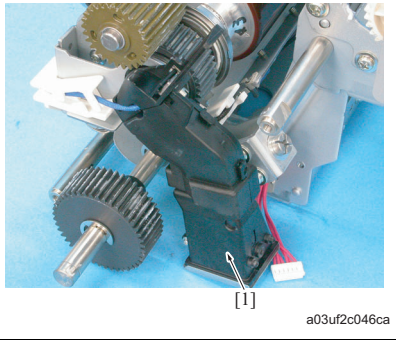
6. Remove the four screws [6] and remove the fusing drive assy [7].



7. Remove the fusing drive gear /B [1].

Note

- **When installing new fusing drive gear /B, be sure to apply multemp FF-RM to its gear section.**
- **When installing the fusing drive gear /B, attach it so that the end surface with three indentations [2] faces toward you.**



8. Pull out and remove the fusing duct/2 assy [1].

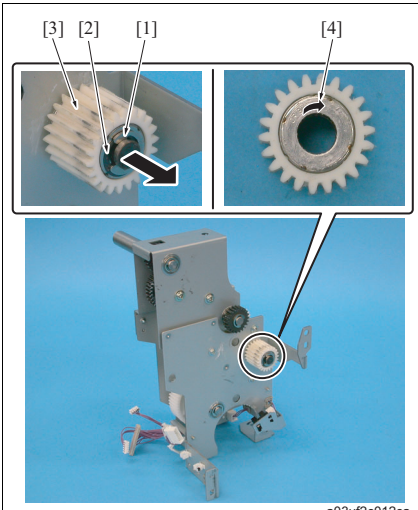
9. Reinstall the above parts following the removal steps in reverse.

3.17.3 Replacing the fusing drive gear/M

A. Periodically replaced parts/cycle

- Fusing drive gear/M: Every 1,000,000 prints

B. Procedure



1. Remove the fusing unit.
(See P.85)
2. Remove the fusing drive assy.
(See P.87)
3. Remove the E-ring [1], spacer [2], and the fusing drive gear/M [3].

Note

- **When installing the fusing drive gear /M, attach it so that the arrow mark [4] indicated as shown in the figure.**
- **Before installing the fusing drive gear /M, be sure to apply multemp FF-RM to the gear.**

4. Reinstall the above parts following the removal steps in reverse.

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3.17.4 Replacing the fusing lamp /Up

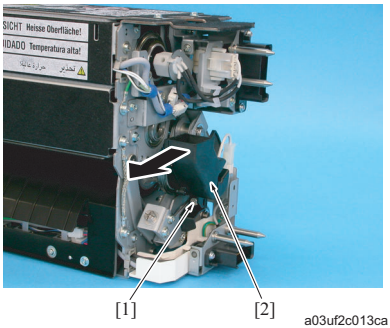
A. Periodically replaced parts/cycle

- Fusing lamp /Up: Every 2,400,000 prints

Note

- **The fusing lamp /Up consists of the fusing heater lamp /1 (L2), /2 (L3), and /3 (L4).**

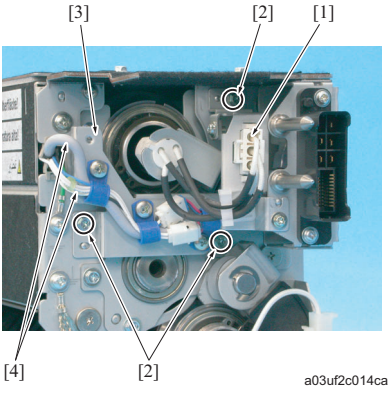
B. Procedure



1. Remove the fusing unit. (See P.85)
2. Remove the fusing drive assy. (See P.87)
3. Remove the screw [1] and remove the fusing duct /5 assy [2].

Note

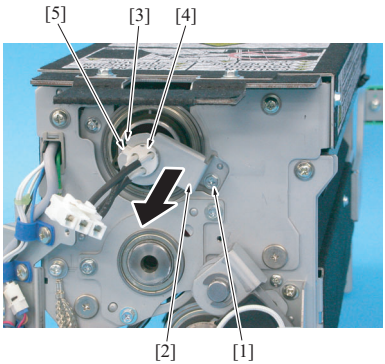
- **When installing the fusing duct/5 assy, make sure that the tip of the duct is placed under the retention plate /2, or the fusing heater lamp may be broken.**



4. Disconnect the connector [1].
5. Remove the three screws [2] and remove the fusing power supply plate/Up assy [3].

Note

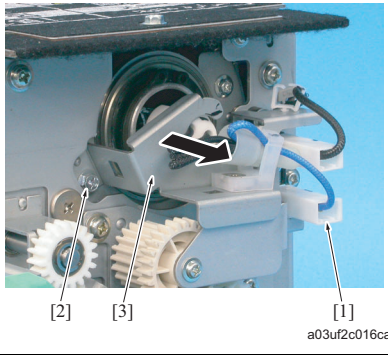
- **The cables [4] should remain attached to the fusing power supply plate/Up assy.**



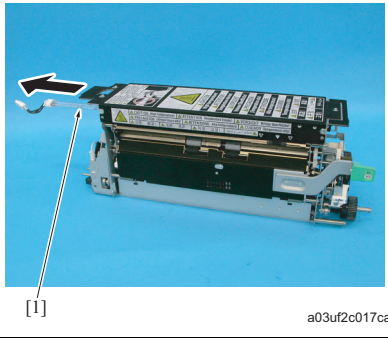
6. Remove the screw [1] and remove the heater supporting plate /Rr [2].

Note

- **When installing the heater supporting plate / Rr, fit the projection [5] of the fusing lamp /Up [4] in the slit [3].**



7. Disconnect the connector [1].
8. Remove the screw [2] and remove the heater supporting plate /Fr [3].



9. Remove the fusing lamp/Up [1].

Note

- **Make sure to remove the fusing lamp /Up in the direction of the arrow.**
- **Do not touch the lamp of the fusing lamp /Up with bare hands.**

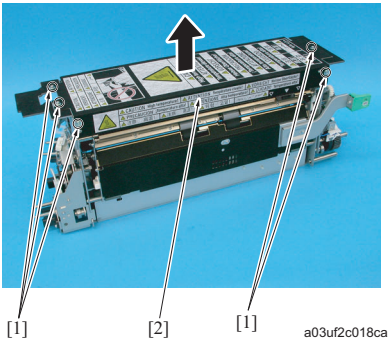
10. Reinstall the above parts following the removal steps in reverse.

3.17.5 Replacing the fusing roller /2, fusing bearing, and fusing drive gear /O

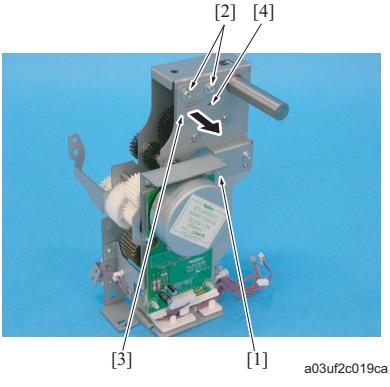
A. Periodically replaced parts/cycle

- Fusing roller /2: Every 400,000 prints
- Fusing bearing: Every 400,000 prints
- Fusing drive gear /O: Every 400,000 prints

B. Procedure



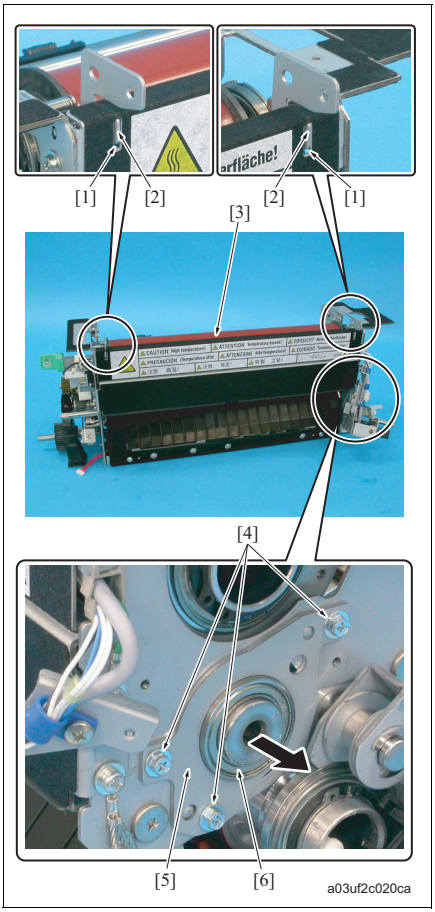
1. Remove the fusing unit.
   (See P.85)
2. Remove the fusing drive assy.
   (See P.87)
3. Remove the fusing lamp/Up.
   (See P.90)
4. Remove the five screws [1] and remove the fusing cover/Up assy [2].



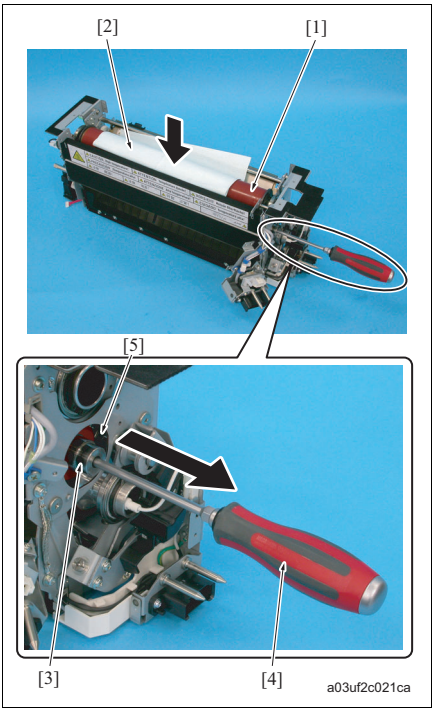
5. Locate the removed fusing drive assy [1].
6. Remove the two screws [2] and remove the two fusing jigs [3].

Note

- **When installing the fusing jigs, be sure not to obstruct the screw holes [4].**



7. Insert the two fusing jigs [2], one each into the two slits [1], and loosen the pressure of the fusing belt [3].
8. Remove the three screws [4] and remove the roller mounting plate [5].
9. Remove the fusing bearing [6].



10. Spread a hydro wipe [2] over the fusing belt [1].

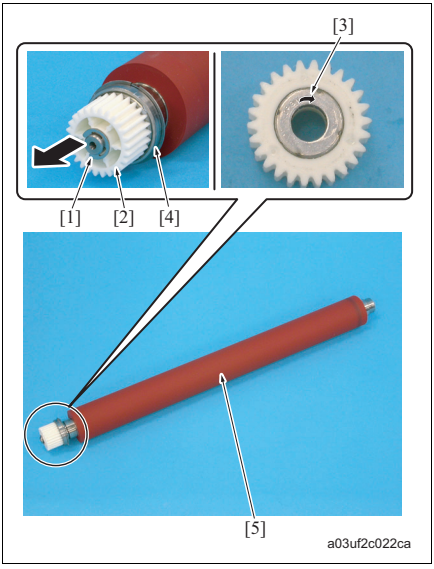
Note

- **Do not touch the fusing belt with bare hands.**

11. Insert a screwdriver [4] into the fusing roller /2 assy [3], and remove the fusing roller /2 assy while holding the fusing belt.

Note

- **When removing the fusing roller /2 assy, through the hole [5] on the frame, be careful not to let the assy contact with the hole edge.**



12. Remove the E-ring [1] and the fusing drive gear /O [2].

Note

- **When installing the fusing drive gear /O, be sure that the arrow mark [3] is facing toward the fusing bearing [4].**
- **Before installing the fusing drive gear /O, be sure to apply multemp FF-RM to the gear.**

13. Remove the fusing bearing [4] from the fusing roller /2 assy [5].

14. Reinstall the above parts following the removal steps in reverse.

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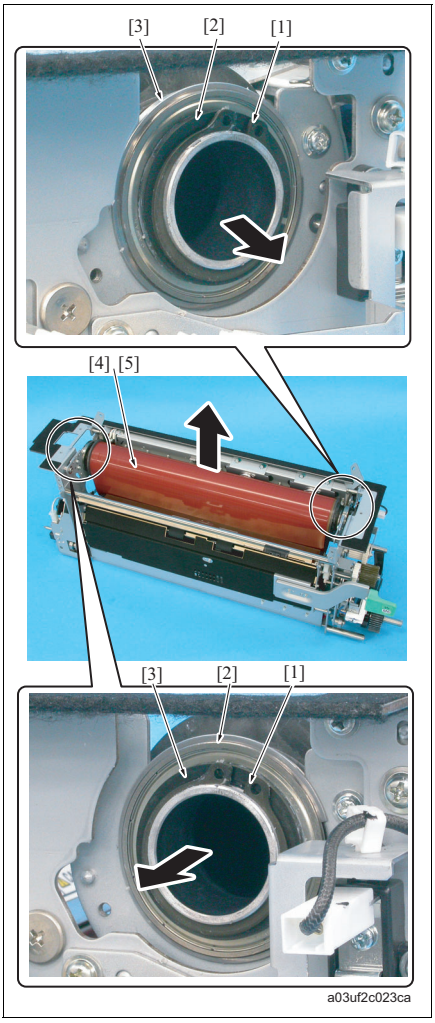
3.17.6 Replacing the fusing belt, fusing roller /1, insulating sleeve /Up, fusing bearing /Up, and belt regulation sleeve

A. Periodically replaced parts/cycle

- Fusing belt: Every 400,000 prints
- Fusing roller/1: Every 400,000 prints
- Insulating sleeve/Up: Every 400,000 prints
- Fusing bearing/Up: Every 400,000 prints
- Belt regulation sleeve: Every 400,000 prints

B. Procedure



1. Remove the fusing unit. (See P.85)
2. Remove the fusing drive assy. (See P.87)
3. Remove the fusing lamp /Up. (See P.90)
4. Remove the fusing roller /2 assy. (See P.92)
5. Remove the two O-rings [1].
6. Remove the two insulating sleeve /Up [2] and the two fusing bearing/Up [3].

Note

- **When installing the insulating sleeve /Up, apply multemp FF-RM to the contact surface with the fusing bearing /Up and the fusing roller /1 assy [4].**

7. Remove the fusing roller /1 assy [4] and the fusing belt [5].

Note

- **Do not touch the roller of the fusing roller /1 assy, nor the area other than the both ends of the fusing belt.**

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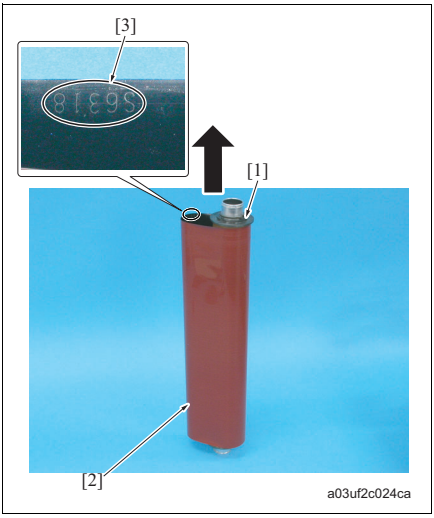
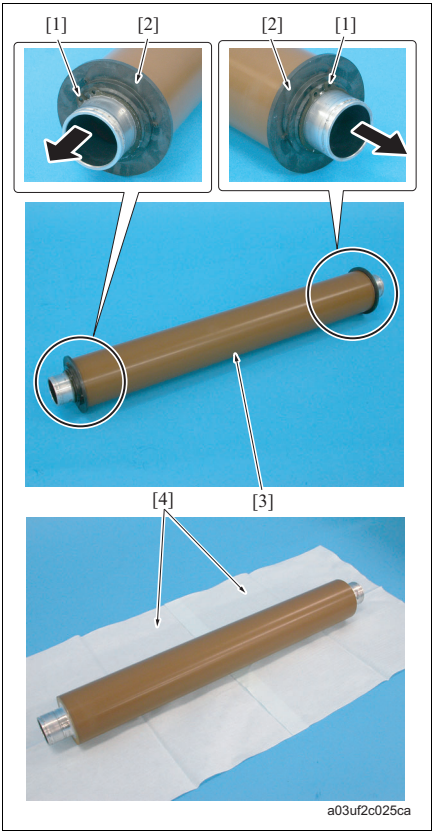


8. Remove the fusing belt [2] from the fusing roller /1 assy [1].

Note

- **Install the fusing belt with the lot number [3] facing to the far side.**
- **Be careful not to let the carriers adhere to the inside of the fusing belt or the surface of the fusing roller /1 assy. If the developer adheres, image failures may occur.**



9. Remove the two O-rings [1] and the two belt regulation sleeve [2].

Note

- **Do not touch the roller of the fusing roller /1 [3].**
- **When laying the fusing roller /1 on the ground, spread a hydro wipe [4] under it in order not to let the developer adhere to the roller.**

10. Reinstall the above parts following the removal steps in reverse.

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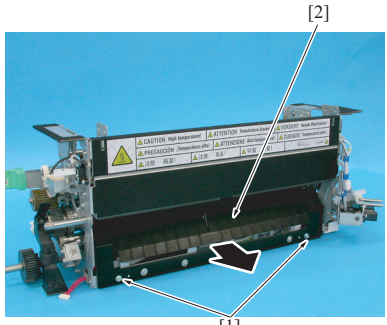
3.17.7 Replacing the fusing heater lamp /4 (L5)

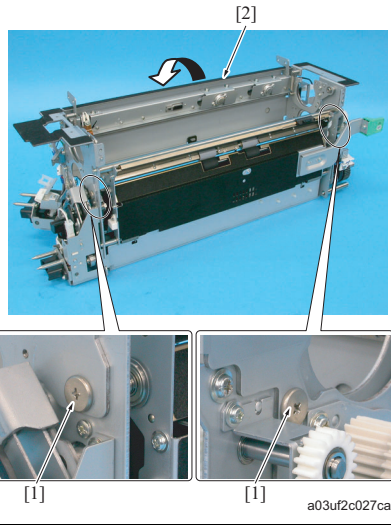
A. Periodically replaced parts/cycle

- Fusing heater lamp /4 (L5): Every 2,400,000 prints

B. Procedure



1. Remove the fusing unit. (See P.85)
2. Remove the fusing drive assy. (See P.87)
3. Remove the fusing lamp /Up. (See P.90)
4. Remove the fusing roller /2 assy. (See P.92)
5. Remove the fusing belt. (See P.95)
6. Remove the two screws [1], and remove the fusing access guide plate [2].



7. Remove the two screws [1] and open the fusing main unit/Up assy [2].

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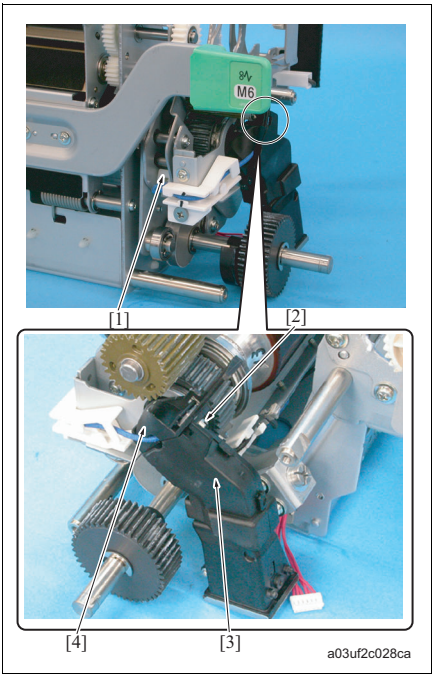
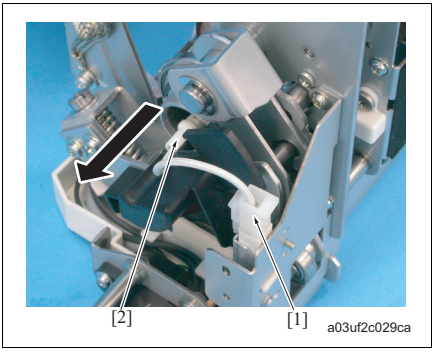


8. Disconnect the connector [1].

9. Remove the screw [2], and remove the fusing duct/3 assy [3] and the fusing duct/4 assy [4].



10. Disconnect the connector [1] and remove the fusing heater lamp/4 (L5) [2].

Note

- **Do not touch the lamp of L5 with bare hands.**
- **When installing the L5, be sure to route the white wire to the rear as shown in the figure.**
- **When installing the fusing ducts /3 assy and / 4 assy, make sure that the tip of the duct is placed under the retention plate/1, or the fusing heater lamp may be broken.**

11. Reinstall the above parts following the removal steps in reverse.

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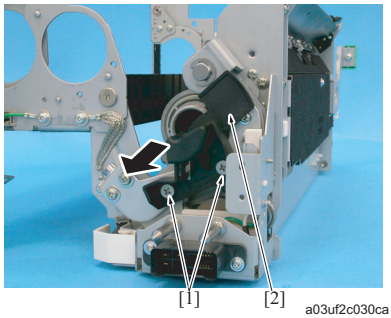
3.17.8 Replacing the fusing roller/Lw, fusing bearing/Lw, and insulating sleeve/Lw

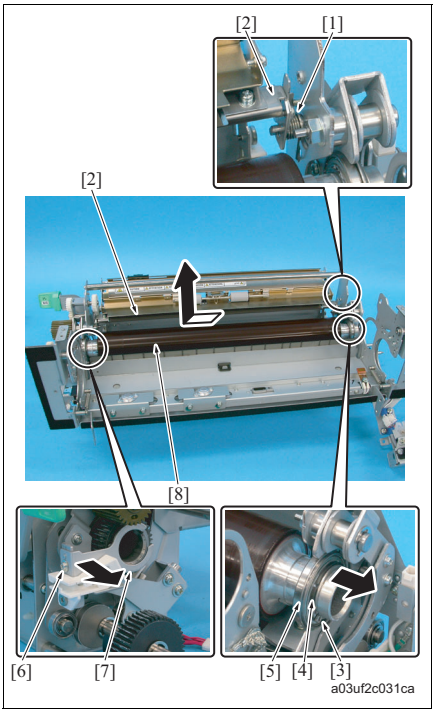
A. Periodically replaced parts/cycle

- Fusing roller/Lw: Every 200,000 prints
- Fusing bearing/Lw: Every 600,000 prints
- Insulating sleeve/Lw: Every 600,000 prints

B. Procedure



1. Remove the fusing unit. (See P.85)
2. Remove the fusing drive assy. (See P.87)
3. Remove the fusing lamp/Up. (See P.90)
4. Remove the fusing roller/2 assy. (See P.92)
5. Remove the fusing belt. (See P.95)
6. Remove the fusing heater lamp/4 (L5). (See P.97)
7. Remove the two screws [1] and remove the retention block/Rr assy [2].



8. Loosen the screw [1] once and tighten it again at the position where the fusing separation plate assy [2] is opened so that the plate works as a stopper.
9. Remove the C-ring [3], insulating sleeve/Lw [4], and fusing bearing/Lw [5].

Note

- **When installing the insulating sleeve, apply multemp FF-RM to the contact surface with the fusing roller/Lw.**

10. Remove the screw [6] and remove the retention plate/1 [7].
11. Remove the fusing roller/Lw assy [8].

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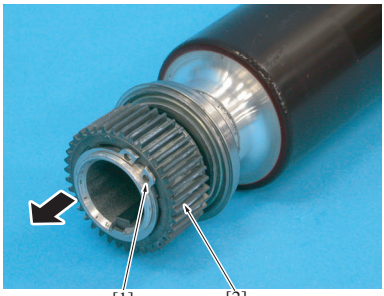
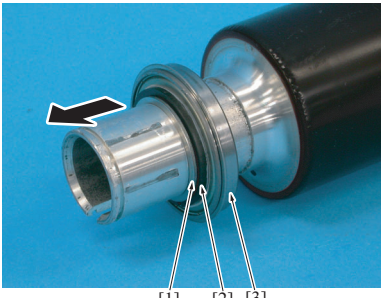


12. Remove the C-ring [1] and the gear [2].



13. Remove the C-ring [1], insulating sleeve/Lw [2], and fusing bearing/Lw [3].

Note

- **When installing the fusing roller/Lw [4] and the insulating sleeve, apply multemp FF-RM to each contact surface.**

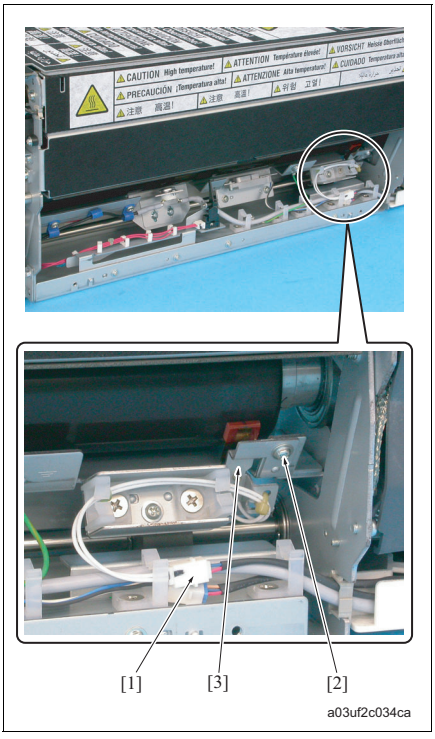
14. Reinstall the above parts following the removal steps in reverse.

3.17.9 Replacing the sensor mounting plate A assy

A. Periodically replaced parts/cycle

- Sensor mounting plate A assy: Every 2,400,000 prints

B. Procedure



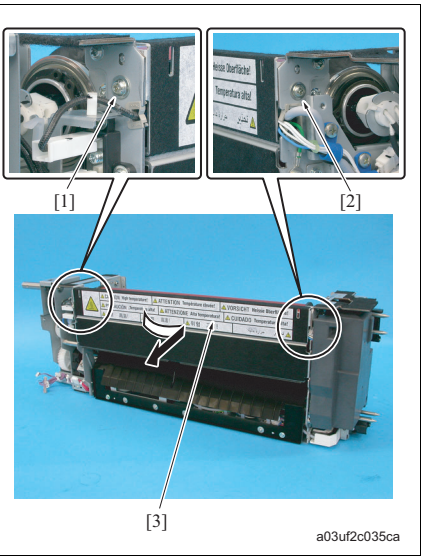
1. Remove the fusing unit. (See P.85)
2. Remove the fusing access guide plate. (See P.97)
3. Disconnect the connector [1].
4. Remove the screw [2] and remove the sensor mounting plate A assy [3].
5. Reinstall the above parts following the removal steps in reverse.

3.17.10 Replacing the sensor stay B assy

A. Periodically replaced parts/cycle

- Sensor stay B assy: Every 2,400,000 prints

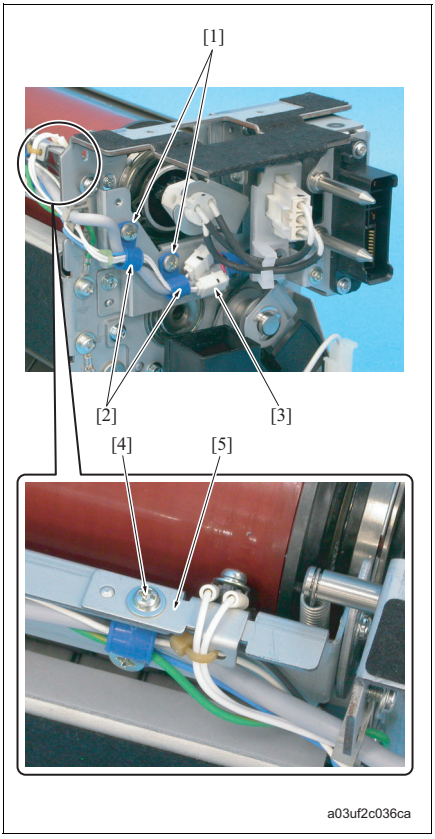
B. Procedure



1. Remove the fusing unit.
   (See P.85)
2. Remove the fusing cover /Up assy.
   (See P.92)
3. Remove the fusing cover /Rr.
   (See P.87)
4. After removing the screw [1], loosen the screw [2] and remove the cover [3].

Note

- **Make sure that the screw [2] comes free from the cover [3] as the screw [2] cannot be taken out.**



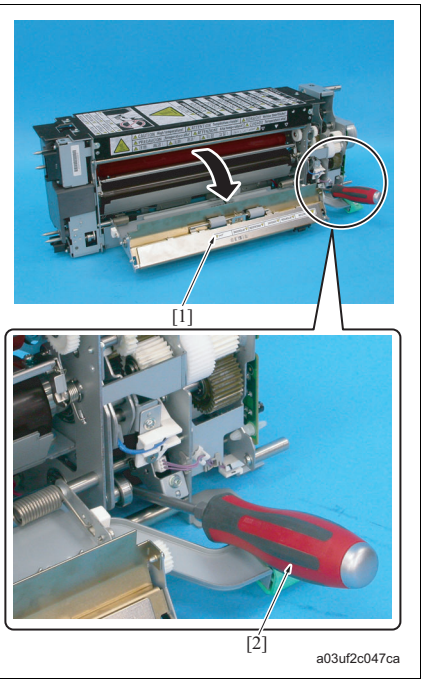
5. Remove the two screws [1] and the two cable clamps [2].
6. Disconnect the connector [3].
7. Remove the screw [4] and remove the sensor stay B assy [5].
8. Reinstall the above parts following the removal steps in reverse.

3.17.11 Replacing the fusing paper exit roller /Up

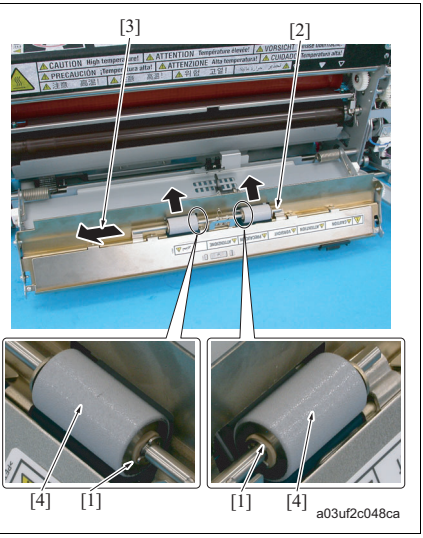
A. Periodically replaced parts/cycle

- Fusing paper exit roller /Up: Every 200,000 prints

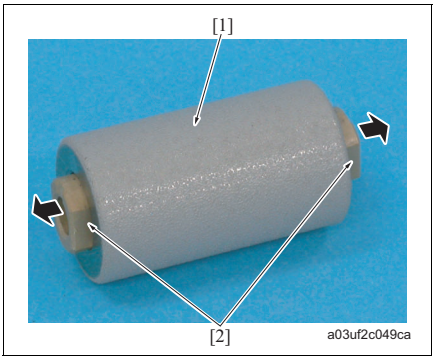
B. Procedure



1. Remove the fusing unit.
(See P.85)
2. Open the fusing paper exit plate assy [1], and keep it opened with a screwdriver [2] as shown in the figure.



3. Remove the two E-rings [1].
4. Slide the shaft [2] in the direction of the arrow [3], and remove the two fusing paper exit rollers /Up [4].



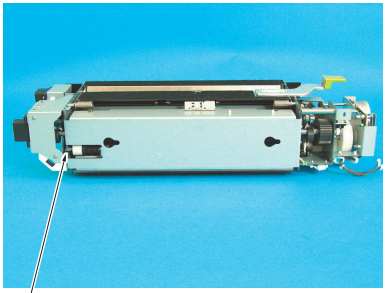
5. Remove the two bearings [2] from each fusing paper exit roller /Up [1].
6. Reinstall the above parts following the removal steps in reverse.

3.17.12 Replacing the fusing regulation gear/A and the fusing limiter

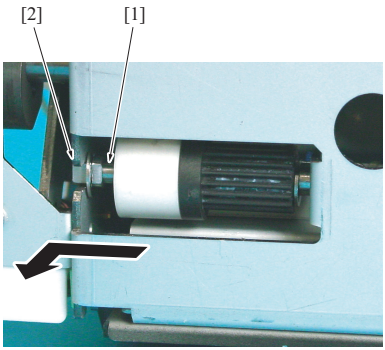
A. Periodically replaced parts/cycle

- Fusing regulation gear/A: Every 600,000 prints
- Fusing limiter: Every 600,000 prints

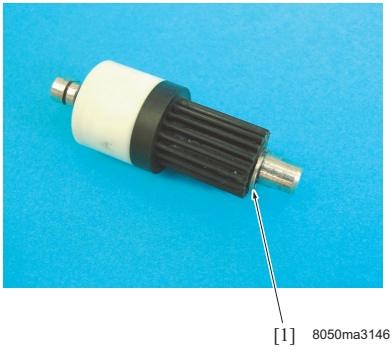
B. Procedure



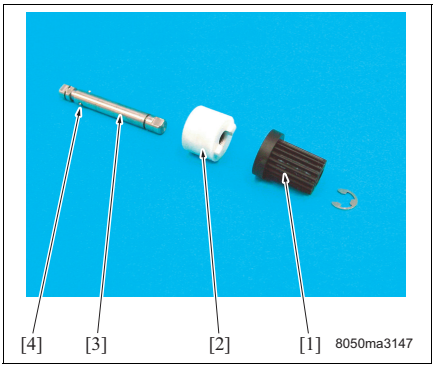
1. Remove the fusing unit.
2. Place the fusing unit softly on the level surface with the paper feed side down.
3. Remove the E-ring [1].



4. Slide the shaft [1] to the rear side, and remove the gear while matching the flat-cut surface [2] of the shaft with the notch of the panel.



5. Remove the E-ring [1].



6. Remove the fusing regulation gear/A [1] and the fusing limiter [2].

Note

- **Be careful not to lose the pin [4] inserted in the shaft [3].**

7. Reinstall the above parts following the removal steps in reverse.

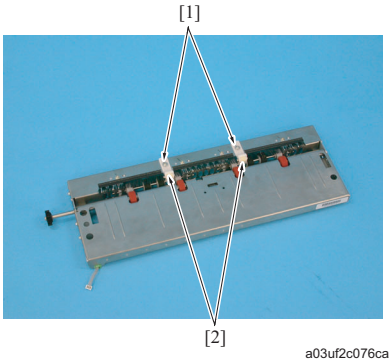
3.18 Maintenance procedure of OT-502

3.18.1 Replacing the paper retainer roller

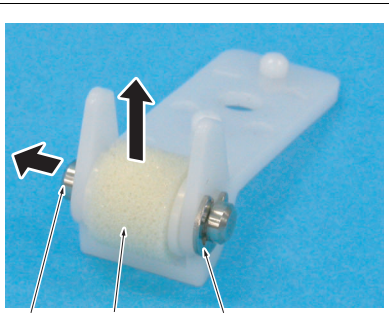
A. Periodically replaced parts/cycle

- Paper retainer roller: Every 200,000 prints

B. Procedure



1. Remove OT-502.
(See P.217)
2. Remove the two screws [1] and remove the two paper retainer roller assys [2].



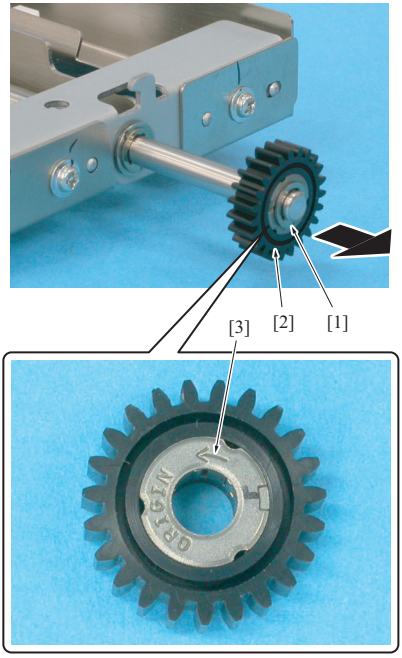
3. Remove the E-ring [1], pull out the shaft [2], and remove the paper retainer roller [3].
4. Remove the other paper retainer roller in the same manner as step 3.
5. Reinstall the above parts following the removal steps in reverse.

3.18.2 Replacing the paper exit roller

A. Periodically replaced parts/cycle

- Paper exit roller: Every 200,000 prints

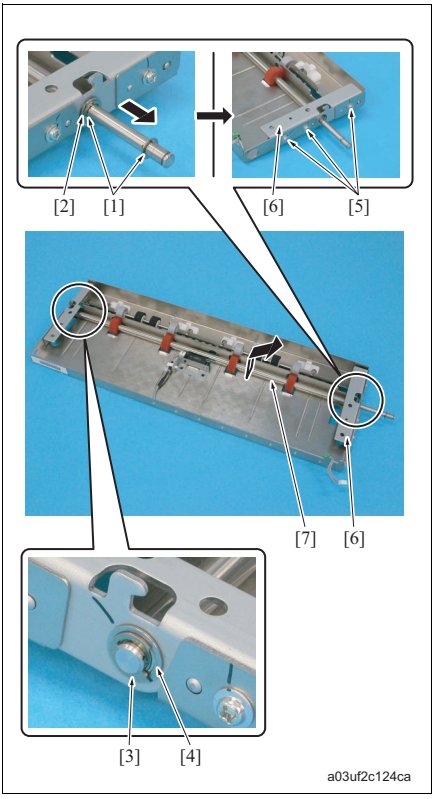
B. Procedure



1. Remove OT-502.
(See P.217)
2. Remove the E-ring [1] and the gear [2].

Note

- **When installing the gear, be sure that the arrow mark [3] is facing toward the E-ring [1].**



3. Remove the two E-rings [1] and the bearing [2].
4. Remove the E-ring [3] and the bearing [4].
5. Remove the three screws [5], and remove the paper exit roller mounting plate/Rr [6] and the paper exit roller [7].
6. Reinstall the above parts following the removal steps in reverse.

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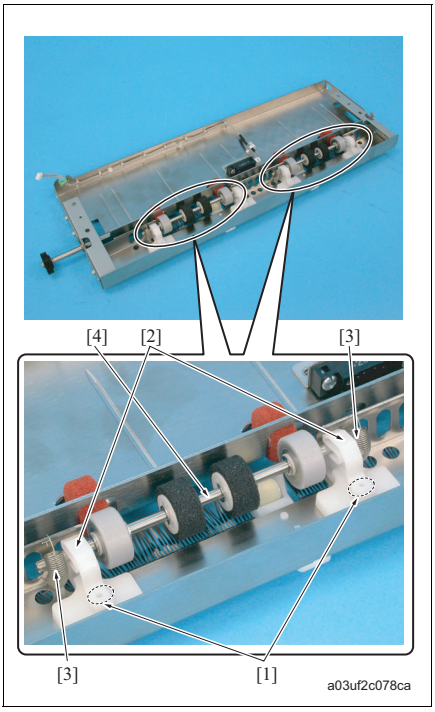
3.18.3 Replacing the paper exit driven roller/2

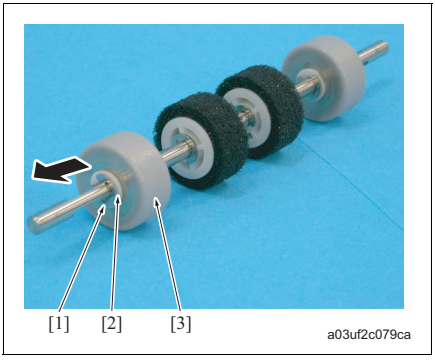
A. Periodically replaced parts/cycle

- Paper exit driven roller/2: Every 200,000 prints

B. Procedure



1. Remove OT-502.
(See P.217)
2. Remove the four screws [1] and the four roller holders [2].
3. Remove the two paper exit driven roller assys [4] from the four springs [3].



4. Remove the E-ring [1] bearing [2], and paper exit driven roller/1 [3].

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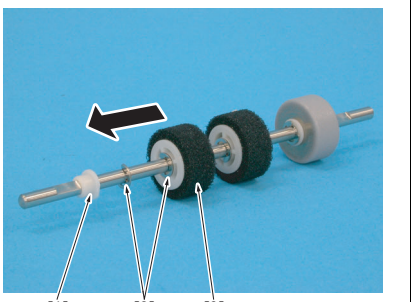
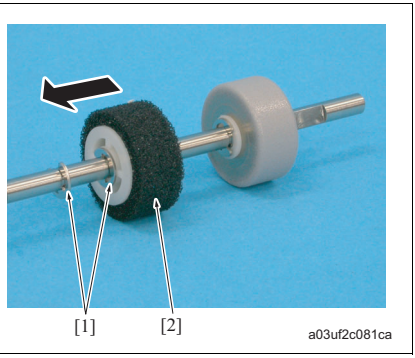


5. Remove the bearing [1].
6. Remove the two E-rings [2] and remove the first paper exit driven roller/2 [3].



7. Remove the two E-rings [2] and remove the 2nd paper exit driven roller/2 [2].
8. Remove the other two paper exit driven rollers in the same manner as step 4 - 7.
9. Reinstall the above parts following the removal steps in reverse.

4. SERVICE TOOLS

4.1 Service material list

Material No.	Name	Shape	Remark
000V-19-0	Setting powder		25g
000V-18-1	Cleaning pad		10pcs/1pack
65AA-9920	Hydro wipe		10pcs/1pack
00GR00260	Multemp grease FF-RM		25g

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4.2 Jig list

Parts No.	Name	Shape	Quantity	Remark
A03UPJG2##	Thermostat jig /UF		1	
A03UPJG3##	Thermostat jig /L		1	
A03UPJG1##	Thermostat jig /UC		1	
7050K0020	Mirror positioning jig		2	
00M6-2-00	Door switch jig		1	
40367940##	Color chart (A3 size)		1	
40397941##	Color chart (11 x 17 size)		1	
403079400#	Test chart (A3 size)		1	Monochrome
403479410#	Test chart (11 x 17 size)		1	Monochrome
120A9711#	Adjustment chart		1	For DF
65AA-991#	Paper for fusing speed adjustment (16 sheet/A3 size)		1	For Multi-feed detection adjustment
00VC-2-00	Drum cover		4	

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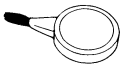
Parts No.	Name	Shape	Quantity	Remark
00VD-1000	Blower brush		1	
00VE-1003	Tester		1	
13QEJG010	Stapler positioning jig		1	For FS-607

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4.3 Mail remote notification system

4.3.1 Outline

"Mail remote notification system" is a system that allows you to obtain a list print which can be output by the main body using the Internet mail (E-mail).
Using this system dispenses not only with printing the list on paper but also visiting the users.
Sending a mail filled-in with a simple keyword to the main body allows you to receive by mail all sorts of list print information of the main body.

4.3.2 Operating environments

In order to use the functions of "Mail remote notification system", the following conditions must be met. The operation of the functions is available while in jams, malfunction and a low power mode. A mail sent to the main body that is not operating does not get lost, but it is handled when the main body is activated again.

(1) The main body has a server that can receive a mail using POP3 or IMAP protocol.
(2) The main body has a mail server that can send a mail using SMTP protocol.
(3) In the following 4 cases, "Mail remote notification system" does not operate in the main body.
- **When the main power switch (SW1) is turned off.**
- **When the power switch (SW2) is turned off.**
- **While the main body is in auto shut-off.**
- **When the "Enhance Security Mode" is set to ON (the use of the main body NIC is not allowed.)**

4.3.3 Major functions

Sending a mail with a simple keyword allows you to use the following functions.

(1) The list print information of the main body you want to obtain can be received by mail.
List prints that can be obtained are the following 11 lists.
- Mode memory list
- User setting list
- Font pattern list
- Management list
- Adjustment list
- Use management list
- Counter list
- Coverage Data list
- Communication log list
- Audit log report

(2) The counter list can be checked by cellular phone.
(3) A password used for certification of a mail can be changed.
(4) Directions for use of "Mail remote notification system" can be received by mail.
To make use of the above functions, it is necessary to send a mail to the main body with a simple keyword (command).
For particulars of the command, See "4.3.5 Usage of the mail remote notification system".

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4.3.4 Initial setting

To make use of "Mail remote notification system", it is necessary to register the network parameter on the main body and the account on the mail server.

A. Setting from the operation panel

Set the IP address of the main body from the operation panel to connect the main body to the network. When already set, proceed to "B. Setting from the Web Utilities".

(1) Procedure

Step	Operation
1	Select [Utility/Counter] on the touch panel.
2	Press the [03 Machine Admin. Setting].
3	Press the [05 Network Setting].
4	Press the [01 Machine NIC Setting].
5	Enter "IP Address," "Subnet Mask," and "Gateway Address."
6	Restart the main body.

Note

- **The IP address of the main body is normally assigned by the system administrator. For particulars, contact the system administrator.**

B. Setting from the Web Utilities

Enter the setting of the mail server from the Web Utilities. To use the Web Utilities, make preparations of a PC that can be connected to the network.

Note

- **No space is available in all items to be set. The following characters cannot be used for setting an E-mail address.**
  ( ) < > ; : " [ ]
  When an improper entry or setting is made on the Web browser, be sure to make corrections following the error massage. When no correction is made, a down load error of the program may result.

(1) Procedure

Step	Operation
1	Start the Web browser. When a proxy is set on the Web browser, the main body Web may not be accessible. For particulars, contact the network administrator. For Web browser, Internet Explorer 6.02, Netscape Navigator 7.1 or Firefox 1.0 is recommended. However, no setting should be made from two or more browsers simultaneously.

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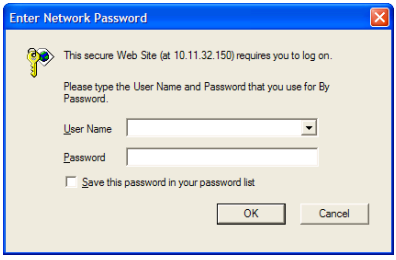
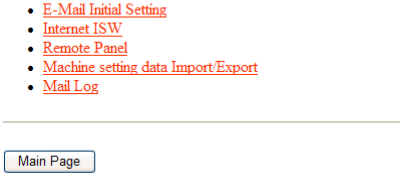
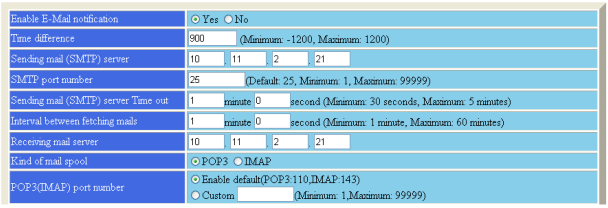
Step	Operation
2	Specify the IP address of the main body that is entered from "A. Setting from the operating panel." "Main page" is displayed when an access is made to the Web Utilities of the main body. Copyright © 2000 GoAhead Software, Inc. All Rights Reserved.
3	"Main page screen" Click [Extension for maintenance].
4	Enter the user name and the password in the window and click "OK." User name: ce (small letter, cannot be changed) Password: Enter the CE password. (Default: "92729272") 
5	"Extension for maintenance screen" Click "E-Mail Initial Setting." 

Step	Operation
6	"E-Mail Initial Setting screen"

E-Mail Initial Setting

(E-Mail Notification)



Set item	Details
Enable E-mail notification	When using the mail remote notification system, select "Use." Default is "Not use."
Time difference	The time at which a mail was send out is calculated based on this value. For time difference setting, enter the difference from the standard time UTC in the range from -1200 (- 12 hour 00 minute) to +1200 (-12 hour 00 minute). When no value is entered, +0000 (UTC) is set. (Ex.: In the case of Japan, enter + 900.)
Sending mail (SMTP) server	Set the IP address of the SMTP server.
SMTP port number	Set the port No. of the SMTP server. For default, 25 is set.
Sending mail (SMTP) server time out	Set the time-out of the SMTP connection. For default, 5 minutes is set.
Interval between fetching mails	The main body check the receiving mail server to see if a mail is newly received. (An interval can be specified in the range from 1 minute to 60 minutes.) Taking into consideration the load on the network, this is usually set at the interval of 10 minutes.
Receiving mail server	Set the IP address of the incoming mail server.
Kind of mail spool	Select either of POP3 and IMAP. For default, [POP3] is selected.
POP3 (IMAP) Port number	Select "Use the default value" when using 110 for POP3, and 143 for IMAP. When using other than the default, select "Custom" and enter a port number to be used.
User name on the server	Enter an account name assigned to the main body by the receiving mail server.
Password	Enter a password to the account name above.
E-mail address of this copy machine	Enter the mail address of the main body its own. This is normally "mail account name@receiving mail server name."
Nickname	Enter a nickname that is added to the title (subject) of a mail sent from the main body. No entry cause no problem.

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<table>
<tr><td>Step</td><td>Operation</td></tr>
<tr><td></td><td>
<table>
<tr><td>Set item</td><td>Details</td></tr>
<tr><td>CE password</td><td>Enter a password that is added to the title (subject) of a mail sent to the main body. The main body uses this password for security check.</td></tr>
<tr><td>Also Notice to the administrator</td><td>• no: Default
• only illegal mail: When a mail received by the main body does not match with the password above, or when the mail size is in excess of a fixed size (10k bytes), transfer the mail.
• all mails: Transfer all mails that use "Mail remote notification system."</td></tr>
<tr><td>Administrator E-mail address</td><td>When "only illegal mail" or "all mails" is selected, enter an E-mail address for transfer.</td></tr>
<tr><td>Announce delay time in reply mail</td><td>A selection is made if the difference (time required) between the time when a mail was sent to the main body and the time when the main body handled the mail is indicated in the mail. For default, "No" is selected.</td></tr>
<tr><td>Enable POP (IMAP) before SMTP</td><td>After authentication is made by the receiving mail server, a selection is made to decide whether to send the mail or not. For default, "Yes" is selected.</td></tr>
</table>
</td></tr>
<tr><td>7</td><td>After completion of entry, click the [Apply].</td></tr>
<tr><td>8</td><td>Conduct the mail sending/receiving test.
• Click "Sending and Receiving test" and a sending test and a receiving test are conducted collectively to check to see if a test mail sent is correctly received.
When a test failed, re-check the set items following the error message.
<table>
<tr><td>Sending test</td><td>A mail sending test is made on the SMTP server. A test mail is sent to "E-mail address of this copy machine" set in Step 6.</td></tr>
<tr><td>Receiving test</td><td>A receiving test is made on the receiving mail server. A test mail is received from "E-mail address of this copy machine" set in Step 6.</td></tr>
</table>
</td></tr>
<tr><td>9</td><td>Restart the main body.</td></tr>
</table>

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4.3.5 Usage of the mail remote notification system

For commands for communications with the main body and the details of options, see the table below.

Command	Option	Description	Minimum letters
GETLOG		Send back the information specified in [Option].	G
	ModeMemory	Send back [Mode memory list] by mail.	M
	UserSetting	Send back by [User setting list] mail.	U
	FontPattern	Send back [Font pattern list] by mail.	F
	Management	Send back [Management list] by mail.	Ma
	Adjustment	Sent back [Adjustment list] by mail.	A
	UserManagement	Send back [User management list] by mail.	UseM
	Counter	Send back [Counter list] by mail.	C
	CoverageData	Send back [CoverageData list] by mail.	Cov
	CommunicationLog	Send back [Communication log list] by mail.	Co
	AuditLog	Send back [Audit log report] by mail.	Au
	ALL	Send back all of the above list prints by mail.	AL
	(Not specified)	[Counter list] is edited so that it can be shown by cellular phone. And this is sent back by mail.	
CHPASS	[OldPasswd][NewPasswd]	Change a password to be used for certification of a mail.	C
	[OldPasswd]	Specify a password that is currently used.	
	[NewPasswd]	Specify a new password.	
HELP	(Not specified)	Send a help mail that describes the operating instructions of the commands above.	H

4.3.6 Mail sending

The command and option on the mail are recognized by the top letters without distinction between capital and small letters. Accordingly, not all letters of the command must be typed. It is recognized by the minimum letters in the above table.

Note

- **Mail software can be used without discrimination by OS and a hand-held device or a free mail using browser.**
- **Use the mail software in the text mode. A mail in the HTML mode cannot be used.**
- **For the mail software, as a condition for reception, 128 characters or more are recommended as the maximum number of characters displayed in a line.**
- **There are one or more spaces or TAB required between a command and an option that are written in the mail. However, a line feed is not allowed.**
- **Enter all the commands that are written in the mail in alphanumeric characters (ASCII characters). When any other characters are used, an error message "Command Not Found" is sent back.**
- **Start a command written in the mail from the line head without space. When there is a space or TAB found at the line head, the line is ignored.**
- **The maximum number of commands available in a mail is ten. Commands exceeding ten are ignored.**
- **Do not paste an attached file to a mail sent to the main body. This may be treated as an illegal mail according to the size of the attached file.**

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- **Do not enter a signature to a mail sent to the main body. A signature may be treated as a command and sent back as an error mail.**
- **When the power is shut off while the main body is sending/receiving a mail or when the main body is printing the list print, the same mail may be sent back twice.**
- **The maximum number of mails that can be received by the main body at a time is five. When more mails than 5 is being receive by the mail server, they will be handled while in the next reception.**

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5. FIRMWARE VERSION UP

5.1 ISW

5.1.1 Types of ISW

A. ISWTrns

This is a software for Windows to rewrite the firmware, it rewrites firmware with the main body and the PC locally connected with a parallel cable or a UBS cable.

Note

- **When upgrading the ISWTrns version, be sure to uninstall the old version of ISWTrns before installing the new version. When installed by overwriting, the USB driver may not be installed.**
- **When the main body uses the USB cable to conduct the ISW, it is necessary to install the USB driver of the ISWTrns. For procedure for installation, see "5.2.3 Usage of the ISWTrns" "A. Installation of the USB driver (Windows2000/XP)".**

B. USB memory ISW

Directly connect the USB memory to the service port of the main body, and use the program stored in the USB memory to rewrite the firmware.

C. Internet ISW

Use the main body NIC to connect the main body to network environment, and use the FTP or the HTTP protocol to rewrite firmware via the program server on the Internet.
For the Internet ISW, the following methods are available.

- Internet ISW using Web Utilities
  Rewrite the firmware by accessing the Web Utilities of the main body from the Web browser of the PC. However, a network connected PC with the main body is required.
- Internet ISW using the operation panel
  Rewrite the firmware using the operation panel.
- Internet ISW using mail remote notification system
  Rewrite the firmware by sending mail to the main body and giving ISW instructions.

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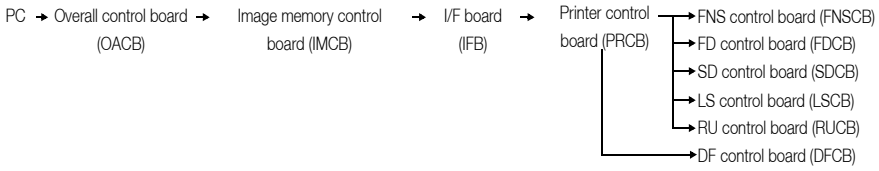
5.1.2 Firmware data flow

The following shows the flow of the ISW data.



When executing the ISW over the entire system, be sure to execute it in the order given below. (To minimize the occurrence of malfunction resulting from the mismatch of the firmware version)

Step	Type of programs
1	FD (H), FS-503 (N1), FS-607 (N2), SD (B), LS (S), RU (R), DF (F)
2	Printer control (c)
3	Overall control (I)

Note

- **After replacing the OACB, be sure to conduct the ISW of the image control (Collective (I0)) first. The main body power will not turn on if the overall control firmware is not in the OACB.**
- **Whenever the FDCB, FNSCB (FS-503), SDCB, or LSCB is replaced, be sure to make the main body model setting using the DIPSW (FD, FS, SD) (refer to P.634,P.640, P.645), or using the LS toggle SW (refer to LS-501/502 Field Service P.22) before conducting the ISW.**

5.1.3 Settings on the main body side while in ISW

There are the following two ways for settings on the main body side.

A. Types of the setting

- Power ON mode
  This mode is used when the firmware is not installed to the overall control board (OACB) or when it is damaged. In this condition, ISW of the OACB is possible when sub power switch (SW2) is turned ON.

- Service mode
  This mode is used when the firmware of the OACB is installed properly.

B. When upgrading the firmware

Target board	Display when the power is turned ON	Mode
Overall control board	Normal	Service mode
Other boards	Normal	Service mode

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C. When writing the firmware newly (When replacing the board or when failed in rewriting the firmware)

Target board	Display when the power is turned ON	Mode
Overall control board	Power save LED blinks in orange	Power ON mode
	No display on touch panel	
Other boards	Malfunction code display	Service mode

(1) For the overall control board (OACB), when something is wrong with the firmware or no firmware is written, the normal start-up cannot be made. In this condition, the power save LED blinks in orange when power switch is turned ON and placed in the ISW stand-by mode.
In this status, write the OACB firmware (I1 to I5 all) in ISWTrns using a PC.

Note

- **Firmware can only be written in ISWTrns.**

(2) For other boards, when the firmware of the overall controller is normal and something is wrong with other firmware, a malfunction code is shown on the touch panel when the power is turned ON. In that case, enter the service mode and perform ISW normally.

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5.2 ISWTrns

5.2.1 Specifications

A. ISWTrns (PC software)

(1) Operating environment of the software

- OS: Windows95/98/98SE/Me/NT4.0/2000/XP
- CPU: Pentium 75MHz or above
- Memory: 32MB or more
- Free space in hard disk: 100MB or more
- Others: PC provided with parallel (printer) or USB interface (type A)

(2) Transmission time

- Varies according to each PC.

(3) Parts required to conduct the ISW

- Personal computer (PC): 1
  IBM-compatible PC/AT, Provided with D-sub25 pin parallel (printer) interface or USB interface
- ISWTrns setup program
- Parallel cable or USB cable: 1
- Firmware

Item	Specifications	
Board to be rewritten	Overall control board (OACB), Printer control board (PRCB), DF control board (DFCB), FNS control board (FNSCB), FD control board (FDCB), SD control board (SDCB), LS control board (LSCB), RU control board (RUCB)	
Rewritable firmware	Image control	Collective (I0), I1 to I5
	Printer control	C
	ADF	F
	Stapler (FS-503)	N1
	Stapler (FS-607)	N2
	Multi-folder	H
	Saddle stitcher	B
	Stacker	S
	RU	R

Note

- **For boards other than the above, ROM replacement is required.**

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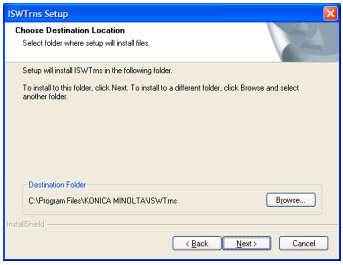
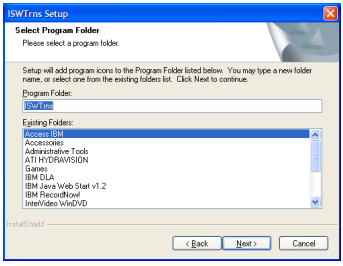
5.2.2 Installation of the ISWTrns

Install the ISWTrns program to the PC.

(1) Procedure

Step	Operation
1	Start the PC.
2	Copy the setup files to the PC and double click the [Setup.exe] file to start the install program. **Note** • **When the old version of the ISWTrns remains, uninstall the old version first, and then install the new version.**
3	"ISWTrns setup screen" Following the instructions on the screen, check the folder to which an installation is made, and then click [Next].  **Note** • **For default, "C: \ Program Files \ KONICA MINOLTA \ ISWTrns" is set as a folder to which an installation is made.** • **When changing the folder to which an installation is made, click [Browse] and specify the folder.**
4	Following the instructions on the screen, check the folder to which the ISWTrns program is stored and then click [Next].  **Note** • **For default, "ISWTrns" is set as a folder to which an installation is made.** • **When changing the folder to which an installation is made, enter the folder name directly, or select one from the existing folder displayed.**
5	Following the instructions on the screen, click [Finish].
6	The installation of the ISWTrns program is automatically completed.

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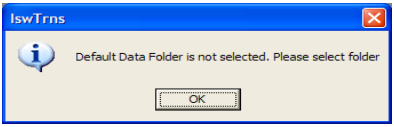
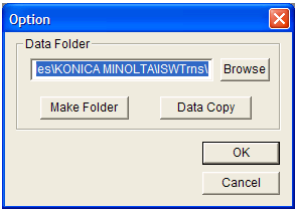
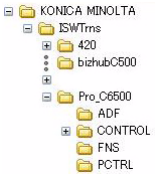
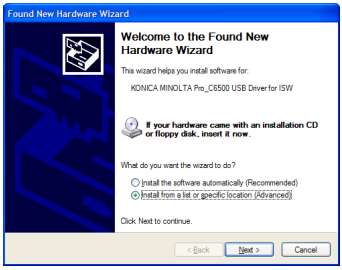
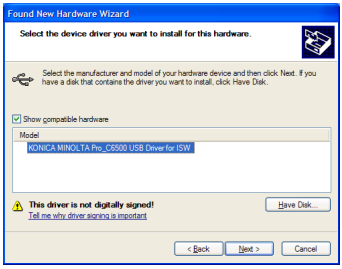
Step	Operation
7	Select [ISWTrns] from the start menu or double-click the [ISWTrns] icon on the desk top to start up the ISWTrns program.
8	"ISWTrns dialogue screen" Click [OK] to set the storage folder of the firmware.  **Note** • **This screen is shown only when the program is started for the first time after installing the ISWTrns.**
9	"Option screen" Click [Make Folder].  **Note** • **A folder (C:\Program Files\KONICA MINOLTA\ISWTrns) into which the ISWTrns program is installed as a storage folder is set by default.** • **When changing the storage folder, click [Browse] to specify it arbitrarily or enter it directly in the editor box in full path.** • **Clicking [Make Folder] creates hierarchical folders with the storage folder set above as a route.** 
10	"Option screen" Click [OK]. **Note** • **This operation allows the data folder created in step 9 to be stored in the INI file of the ISWTrns program.**

5.2.3 Usage of the ISWTrns

A. Installation of the USB driver (Windows2000/XP)

When a connection is made between the PC and the main body with a USB cable, the installation of the USB driver is automatically started by the plug-and-play. However, this may result in the installation of the Windows USB driver (USBPRINT.SYS), be sure to set the USB driver following the steps given below.

(1) Procedure

Step	Operation
1	Connect one end of the USB cable to the main body.
2	Connect the other end of the USB cable to the USB connector of the PC.
3	From the screen below, select "Install from a list or specific location," and then click [Next]. The driver is stored in C:\WINDOWS\Drivers\Usb. 
4	In the "Please choose your search and installation options" screen, select "Don't search. I will choose the driver to install," and then click [Next].
5	Select USB driver in the driver selection screen and click [Next] to start the installation. Driver name: KONICA MINOLTA Pro_C6500 USB Driver for ISW 
6	When the "Completing the Found New Hardware Wizard" screen is displayed, click [Finish] to exit the installation.

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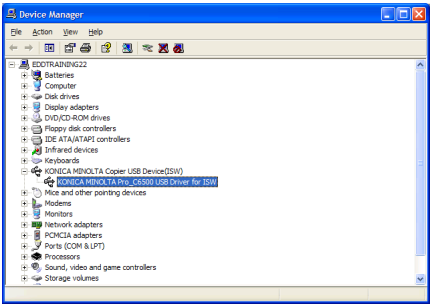
Step	Operation
7	Check the "Device Manager screen" to see if the USB driver has been correctly installed. Driver name: KONICA MINOLTA Pro_C6500 USB Driver for ISW 

B. Setting the communication method

(1) Parallel port setup

When using ISWTrns program for parallel port data transfer, ECP mode settings of the PC parallel need to be canceled. ISWTrns does not support parallel port data transfer in ECP mode. Because of the above, an error occurs during transfer and cancels the transfer if it is done in ECP mode. Therefore using ISWTrns in a PC with ECP settings, the ECP mode need to be canceled.

1) Cancelling procedure of the ECP port

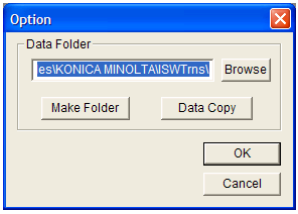
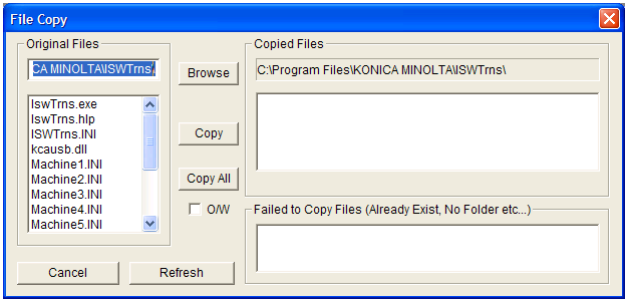
Cancel the ECP mode following the procedure given below.

Step	Operation
1	Start the PC.
2	Open "System" in the "Control panel" and select "Device manager" then look for LPT1 in the "Port (COM and LPT)". • ECP port when the LPT1 port is "ECP printer port (LPT1)" • Normal parallel port when the LPT1 port is "Printer port (LPT1)"
3	When the printer port is set to ECP port, change the BIOS settings of the PC and cancel the ECP port. **Note** • **Contact the system administrator to cancel the ECP mode as it varies depending on the PC to change the BIOS.**

C. Firmware copy

By using the ISWTrns, copy the firmware to be transferred to the main body and save it into the specified folder.

(1) Procedure

Step	Operation
1	Start the PC.
2	Select [ISWTrns] from the start menu or double click the [ISWTrns] icon on the desktop to start up the ISWTrns.
3	Click [Option (O)] from the menu and then click [Option (O)].
4	"Option screen" Click [Data Copy]. 
5	"File Copy screen" Click [Browse]. Select the folder into which firmware is stored as a copied file. **Note** • **The folder selected is shown in the upper display section of the "Original Files."** • **In the lower display section of the "Original Files," the firmware related files stored in the folder are shown.** 
6	Select a file you want to copy from the lower display section of the "Original Files." **Note** • **The plural transferred files (rewritten data) can be selected.** • **When copying all of the files that are displayed, skip this step and proceed to step 7.**

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Step	Operation
7	Clicking [Copy] automatically copies the selected file into the specified folder created by installing the ISWTrns. **Note** **• When copying all of the files that are displayed in the lower display section of the "Original Files", click [Copy All] instead of [Copy].** **• In the upper display section of the "Copied Files", a folder name created at the setup of the ISWTrns is displayed.** **• In the list shown in the lower display section of the "Copied Files," the copy of which has been successfully completed are listed in full path. In the "Failed to Copy Files", files the copy of which have been failed are listed. As the causes of failure, following are considered.** **A. There exists a file of the same name and "O/W" is not checked.** **B. Cannot find the folder to be stored.** **C. An overwrite is made on an overwrite-prohibited file.** **• When changing a file that is currently stored into a new data, click the overwrite check box to make a check mark.**
8	After completion of copy, click [Refresh].
9	Click [Cancel] to get back to "option screen."
10	"Option screen" Click [OK].

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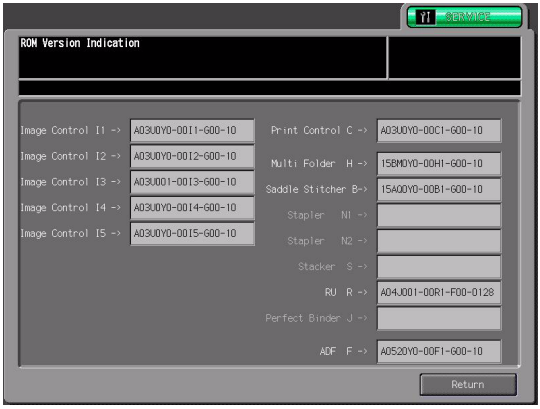
D. Preparation for transfer of the main body

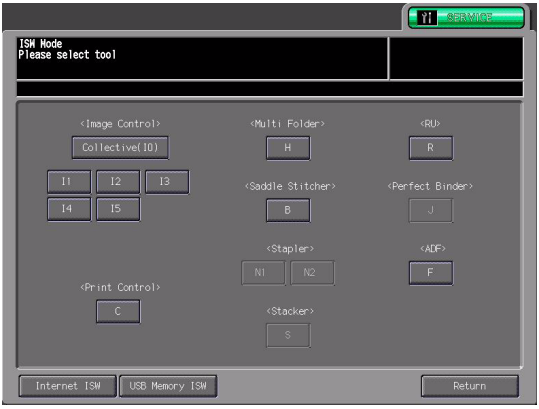
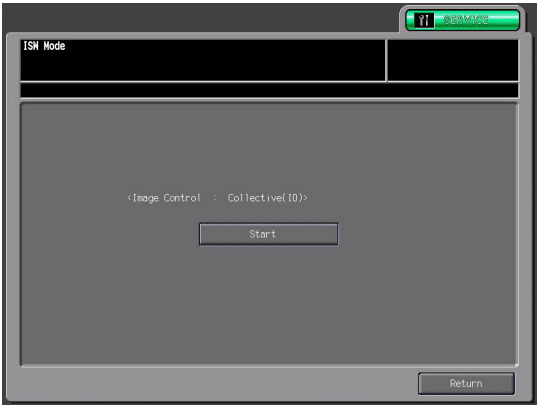
(1) Checking the firmware version

Before rewriting firmware, be sure to check the current firmware version following the procedure given below.

Step	Operation
1	Enter the Service mode.
2	Press the [08 Firmware Version] in "Service Mode Menu" screen.
3	Press the [01 ROM Version] in the sub menu shown to the right of the screen.
4	" ROM Version Indication screen" 

(2) ISW transfer standby

Open the Service mode of the main body to put the ISW transfer in the standby condition.

Step	Operation
1	Enter the Service mode.
2	Press the [12 ISW] in "Service Mode Menu" screen.
3	Press the [01 ISW] in the sub menu shown to the right of the screen.
4	"Board Type Selection" screen 
5	Press the button corresponding to the firmware to be rewritten. e.g.) <Image Control> Collective (I0) "ISW Mode <Image Control: Collective (I0)> screen" 

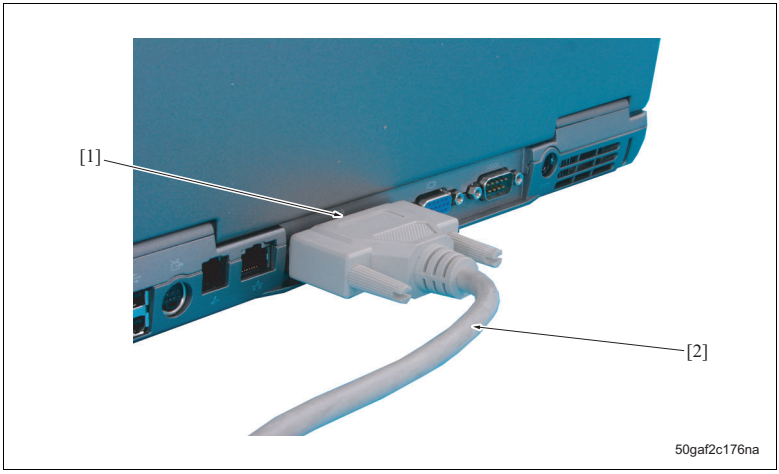
E. Connection to the main body

(1) When using the parallel cable

Prepare the followings before connecting to the main body.

- PC which firmware have been copied.
- Parallel cable

1) Procedure

Step	Operation
1	Turn OFF the power of the main body.
2	Turn OFF the power of the PC.
3	Connect the parallel cable [2] to the IEEE1284 port [1] of the PC. 
4	Connect the parallel cable [1] of the PC to the ISW connector [2] of the main body.

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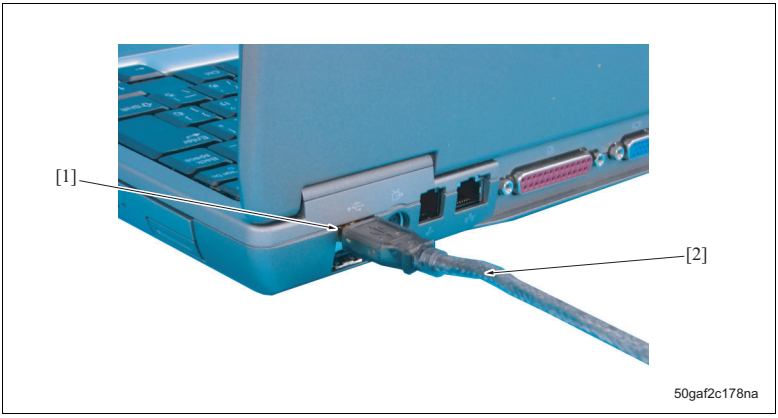
(2) When using the USB cable

Prepare the followings before connecting to the main body.

- PC which firmware have been copied.
- USB cable

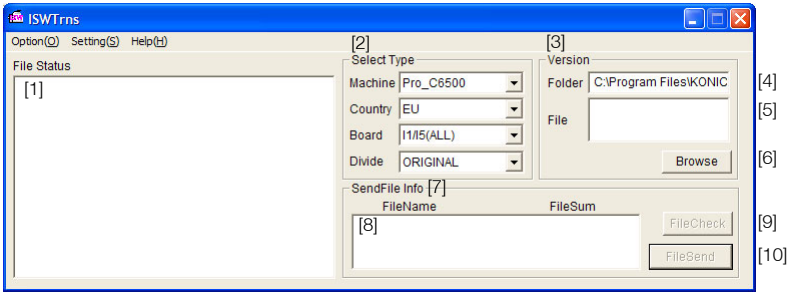
1) Procedure

Step	Operation
1	Turn OFF the power of the main body.
2	Turn OFF the power of the PC.
3	Connect the UBS cable [2] to the USB port [1] of the PC.  50gaf2c178na
4	Connect the USB cable [1] of the PC to the ISW connector [2] of the main body. a03uf2c133ca

F. Rewriting of firmware

(1) Relationship between the ISW and the display of the operation panel

When the ISWTrns starts up, the main screen is displayed. In the main screen, the transmission file (firmware) is selected, the information is displayed, the checksum and the transmission file are sent out. For detailed information of the functions, refer to the following.



[1] File status information list

View detailed information about the version file when firmware is selected.

[2] Select type frame

Select condition for a transfer file. When selecting all of the four types of the combo boxes, a folder [4] is set from the information set in the ISWTrns.INI file. The setting of the selected combo boxes are saved to the ISWTrns.INI file and it is displayed initially when started next time.

[3]Version selection frame

This frame let you select which version of a transfer file you want to be transmitted when more than one version is stored in a folder.

[4] Version storage folder edit box

When the select type frame of [2] is decided, a folder name is displayed in full path from the information of the data folder set in the option window and the INI file. When the firmware is in a folder other than the specified data folder, this can be changed by clicking [Browse] [6] to specify the file location or entering directly the file location. A firmware corresponding to the INI file conditions in the folder shown here is displayed in the list box of [5].

[5] Version file selection list box

Displays files that are in the folder selected at [4]. When more than one version files are stored in the same folder, all versions are displayed in this list box. The list displayed here is sorted in the order of names, and an item displayed last is selected when the list is displayed. Changing the selected item decides a firmware version to be transmitted.

[6] Version file [Browse]

This key is used when the firmware is in a folder other than the specified data folder. Display the folder selection screen to select the folder of [4].

[7] Send file information frame

Display the list of firmware to be actually transmitted based on the information selected in the frames [2] and [3], and click [FileCheck] [9] to display the checksum of the file and the consistency (OK, NG, ??) of the checksum.

[8] Send file information display list

When version files are selected at [5], files to be actually transmitted are displayed. The number of files actually transmitted is described in the checksum attached to the firmware. Click [FileCheck] at [9] to calculate the checksum of the entire displayed files. And compare the obtained value with the checksum value stored in the checksum file (*.sum) attached to the firmware to display the result.

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[9] [FileCheck]

With a transmission file displayed in "SendFile info" of [8], press this key to calculate the file checksum (checksum of the entire file) of the displayed transmission file and show a result beside the transmission file. And also, compare the result of the checksum with the checksum file attached to the firmware and display the obtained result in the form shown below.

"OK": Accord

"NG": Not accord

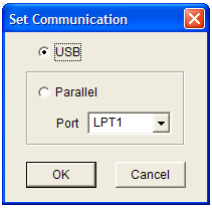
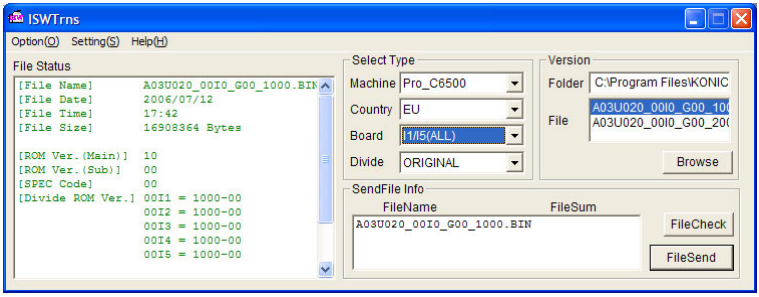
"??": Checksum file (*.sum) not found

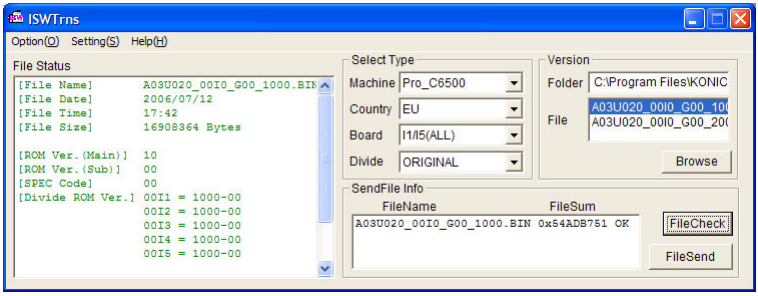
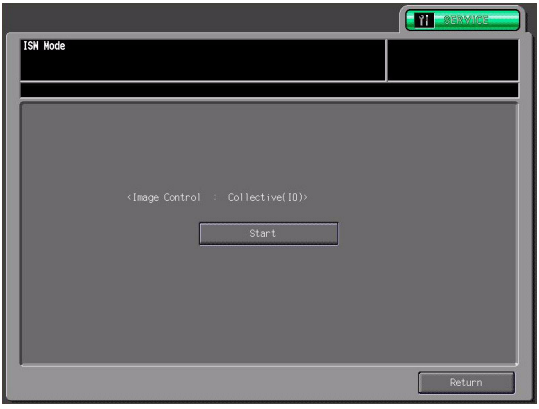
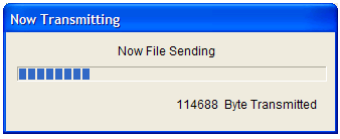
[10] [FileSend]

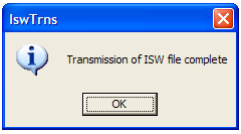
Starts the transmission of the transferred file.

(2) Procedure

e.g.) When the overall program (ALL) is written.

Step	Operation
1	Start the ISWTrns program.
2	Click [Set-up (S)] from the menu and then click [Communication setting (C)].
3	"Set Communication" screen Select a port through which the transmission is made and click [OK].  **Note** • **When [Parallel] is selected, be sure to specify [Port] as well.**
4	Select the machine type, the destination and the board types. • Machine type: Pro_C6500, Country: EU, Board type: I1/I5 (ALL) 
5	The data to be used is displayed in the version selection frame and the send file information frame.

Step	Operation
6	Press the [FileCheck] to check if the file to be used has any problems. 
7	Place the main body in the ISW standby condition. 
8	First, press [Start] on the touch panel, then click [FileSend] in ISWTrns.
9	The following window is displayed on the PC while in the file transfer. 

Step	Operation
10	The following screen is displayed when transmission of the file is complete. "ISWTrns"  "Touch panel"
11	"ISWTrns" Click [OK]. "Touch panel" Press [Continue] when conducting the ISW successively. To end ISW, press [End]. The main body automatically restarts when [End] is pressed.
12	Check the firmware version in the service mode to see if the ISW is completed successfully.

5.2.4 Error list

A. Overall control board firmware abnormality

When the main body detects an overall control board firmware abnormality after turning ON the power switch, the power save LED turns ON with nothing displayed on the LCD of the operation panel (ISW stand-by condition). For details of the power save LED display, refer to the table below.

No.	Operation	Power save LED status
1	CPU in initialization when the power is turned on	OFF
2	Flash memory in checking	OFF
3	An error is detected while in memory check (ISW standby status)	Blinks in orange
4	ISW processing (data being received from the PC and firmware being written)	Blinks in green
5	When abnormality is detected while in data transmission	Blinks in red and green alternately
6	When an error is detected while in writing firmware	Blinks in red
7	Memory check completed successfully: During reboot	OFF

B. ISWTrns error list

The ISWTrns displays messages when an error is shown or the operation is completed. The table below shows the contents of the message and the status of the ISWTrns.

Message	Status of the ISWTrns
Cannot open a checksum file	Opening of a checksum file failed. Possible causes include a corrupted file and a file in use.
Cannot read a checksum file	Loading of a checksum file into memory failed. Possible causes include a shortage of memory and an OS problem.
Cannot open a file	Opening of a send file failed. Possible causes include a corrupted file and a file in use.
Cannot open the LPT port	Opening of the LPT port failed.
Communications port setup acquisition error	A call to GetCommState failed.
Communications port setup error	A call to SetCommState failed.
Cannot open a send file	Opening of a send file failed. Possible causes include a corrupted file and a file in use.
Cannot send a Term Test file	Transmission of a communications test block failed. 1. The main body is not ready to receive. 2. The cable is out of position. 3. Transmission of the wrong send file was attempted.
Unsuccessful file transmission	The transmission of a send file failed. Possible causes include a cable out of position.
Unsuccessful transmission to the LPT port	Output to the LPT port failed. Possible causes include a cable out of position.
Invalid folder name	An invalid folder name was entered. Start a folder name with a drive name, such as C:\.
Default data folder is not set. Please select folder.	A data folder is not set in ISWTrns.INI. This message is displayed when ISW Trns launches for the fist time.
Unsuccessful thread creation	The creation of a thread failed.

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Message	Status of the ISWTrns
No send file available	No file to copy file is selected or exists in the folder.
Unable to copy several files	1. The destination folder does not exist. 2. When the overwrite check box is not checked, an attempt is made to copy to a file having the same file name. 3. An attempt is made to overwrite a protected file. 4. Any other cause (such as a file being used by another application or OS problem)
Send file not found, or invalid file name in the folder. Check.	The number of divisions of a send file recorded in the checksum file and the number of files actually existing do not match. 1. When a file with an illegal name is in the data folder, or a file name that seems to be illegal is displayed in the folder list. 2. The number of files in a divided file is wanting. Identify the wanting files in the folder list and copy them again. 3. When the checksum file is damaged, copy it to the folder again.

C. Main body error list

The following shows the malfunction code.

Code	Error	Applicable program
41	Input data format abnormality	Common
42	Input data model name abnormality	
43	Input data board name abnormality	
64	Rewritten address error	F (DFCB)
81	Input device abnormality, such as input time-out	Common
C1	Flash ROM deletion failure	I (OACB)
C2	Flash ROM writing error	
C3	Checksum abnormality	
C4	Output device abnormality, such as output time-out	Common
E1	Program SUM check error	F (DFCB)
	Flash ROM deletion failure	C (PRCB) /H (FDCB) /B (SDCB) /N (FNSCB) /S (LSCB)
E2	Flash ROM writing error	
E3	Blank check error	F (DFCB)
	Communication error	C (PRCB) /H (FDCB) /B (SDCB) /N (FNSCB) /S (LSCB)
100	Network, USB memory connection error	Common
101	Network, USB memory file error	
102	Communication error with the USB memory	
4xx	HTTP error (protocol regulations error, was able to connect to network, but an error was returned from the server)	
5xx	FTP error (protocol regulations error, was able to connect to network, but an error was returned from the server)	

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D. ISWTrms troubleshooting

When an error occurs while in the execution of the ISWTrns program.

	Condition	Causes	Measure taken
1	The ISWTrns does not start up.	The ISWTrns.EXE file is damaged	Set it up again.
		The setup files itself is damaged.	Check the setup files and set it up again.
2	When an item in the combo box is selected, the transferred file is not displayed.	The transferred file is not stored in the specified folder.	Check to see if the firmware file is stored in the folder displayed in the "File" text box of "Version." Use the "Data Copy" function if the file storage location is unknown.
		The data folder in the option screen is set incorrectly.	Check the setting of the data folder. Use the "Data Copy" function if the file storage location is unknown.
		The file name is illegal (or has been changed.)	The file name must be used with no change made. When the file name is changed, the display or selection of the file becomes unavailable. When the file name is changed, return it to former state.
		The folder name is illegal (or has been changed.)	When the folder name created by the "Make Folder" in the option screen has been changed, it cannot be found. Return it to former state and check it again.
3	"NG" is displayed while in the file checksum.	The transferred firmware is damaged.	Copy the firmware and check it again. When "NG" still recurs, contact the supplier of the firmware.
4	"??" is displayed while in the file checksum.	When the firmware was copied to the PC, the copying of the checksum file (*.sum) was forgotten.	Copy the checksum file into the same folder as the one for the firmware at the same time. (If you use the "Data Copy" function, a copy is made automatically.)

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	Condition		Causes	Measure taken
5	The transfer of the file failed.	An error "Cannot open a file" is displayed.	The file is being used by anther program or system.	Exit another program. The error still recurs, reboot Windows.
		An error "Cannot send a Term Test file" is displayed.	The connection of the cable is loosened.	Check the cable to see if it is connected securely or if there is any problem found with the cable itself.
			The main body is not in the receiving condition.	Check the main body to see if it is in the receiving condition.
		An error "Unsuccessful transmission to the LPT port" is displayed.	The connection of the cable is loosened.	Check the cable to see if it is connected securely or if there is any problem found with the cable itself.
			Wrong data has been sent.	Check the file status screen to see if the receiving mode on the main body side (type of receiving board) corresponds with the transferred file on the PC side.
			The length of the cable is out of specifications.	Use a cable the length of which is less than 2 m.
			The parallel port of the PC is set to the ECP mode.	Cancel the ECP mode with reference to the PC manual.
			There is a compatibility problem between the parallel port of the PC and the port on the main body side.	Conduct a test with a PC that has a track record of transmitting, and check if there is any compatibility problem found.

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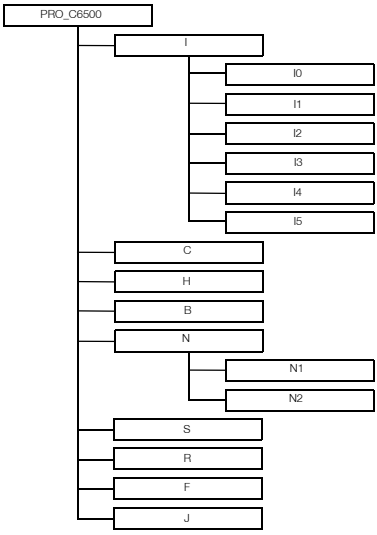
5.3 USB memory ISW

5.3.1 Usage of the USB memory ISW

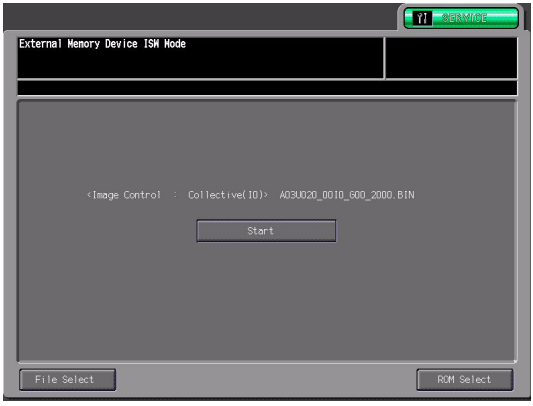
Note

- **The "Service Port Device" must be set to [On] in the settings menu mode of the "User Setting-System Setting-service Port Device", or the USB memory ISW cannot be used.**

A. Procedure

Step	Operation
1	Save the firmware to the USB memory in the folder structure described below.  **Note** • **Create the PRO_C6500 folder directly under the USB memory route.** • **Several firmware can be saved to a folder. However 24 files is the maximum it can display on the touch panel. Also, two byte font cannot be displayed.** • **Maximum 40 letters for a file name.**

Step	Operation
2	Connect the USB memory [1] to the main body service port [2].
3	Enter the Service mode.
4	"Service Mode Menu screen" Press [12 ISW].
5	"ISW Menu screen" Press [01 ISW].
6	"Board Type Selection screen" Press [USB Memory ISW], once the 1shot message "Connection of a USB memory has been recognized." is displayed, press the button that is applicable to the firmware be rewritten.

Step	Operation
9	e.g.) <Image Control> Collective (I0) The file in the USB memory applicable folder will be displayed. (Maximum 24 files) Select the version of the file you want to rewrite, and press [OK] **Note** • **From the file name, the file availability is judged and the result is shown by text color.** **White: File effective as ISW.** **Yellow: Special ROM file.** **Red: File other than ISW or file for different destination.** • **Press [Limit] to display only the effective files, files can be sorted by pressing [File Name], [Date], [Size (byte)].**
10	"External Memory Device ISW Mode" screen Check the type and name of file to conduct ISW, and press [Start]. **Note** • **Press [File Select] to return to the file name selection screen.** • **Press [ROM Select] to return to the board type selection screen.** 

Step	Operation
11	The following screen is displayed when ISW is complete.
12	Press [Continue] when conducting the ISW successively. To end the ISW, pull out the USB memory from the service port, then press [End]. The main body automatically restarts when [End] is pressed.
13	Check the firmware version in the service mode to see if the ISW is completed successfully.

5.3.2 Main body error list

When an error occurs during USB memory ISW operation, the malfunction code is displayed on the touch panel.
(See P.142)

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5.4 Internet ISW

5.4.1 OUTLINE

"Internet ISW" is a system to operate the ISW by the main body automatically receiving firmware from the program server, using Web browser, main body operation panel, or Internet mail (E-mail) to direct the ISW. ISW can be operated at the customer facility without carrying the program, if Internet ISW using main body operation panel or Web browser is used. Also, with Internet ISW using mail remote notification system, ISW can be operated remotely.

5.4.2 Operating environment

To use the Internet ISW function, the following conditions must to be met.

- The main body must be connected to the network environment that allows the download of firmware from the Internet by using ftp or http protocol.

The following four are status of "Internet ISW" not operating in the main unit.

- The main power switch (SW1) is OFF.
- The sub power switch (SW2) is OFF.
- The copier is in the auto shut-off mode.
- When the "Security Strengthen Set" is set to ON (the use of the main body NIC is not allowed.)
- During print operation, or various JOB (including reserve JOB) exists, or suspended JOB exists during main body idling.
- Using modes other than normal mode
- Paper jam has occurred
- Image file exists in the image memory
- Program type, board do not match

5.4.3 Initial settings

To use the Internet ISW, it is necessary to set in advance the network parameter, program server address and the fire wall address etc. of the main body.

A. Settings from the operation panel

To introduce the main body into the network, set the IP address of the main body from the operation panel. When this setting has been already made, proceed to "B. Settings from the Web browser" .

(1) Procedure

Step	Operation
1	Press the [Utility/Counter] key on the operation panel.
2	Press [03 Machine Admin. Setting].
3	Press [05 Network Setting].
4	Enter [01 Machine NIC Setting].
5	Type in [IP Address], [Subnet Mask], [Gateway Address].
6	Restart the main body by turning the sub power switch (SW2) OFF/ON.

Note

- **The IP address etc. of the main body is normally assigned by the system administrator. For particulars, contact the system administrator.**

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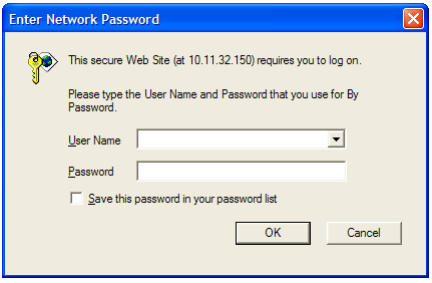
B. Settings from the Web browser

Enter the setting of the program server from the Web browser. At this time, in order to use the Web browser, make preparations of the PC that can be introduced into the network.

Note

- **For all the settings, "Space" cannot be set.**
- **When an incorrect setting is made on the Web browser, be sure to correct it following the error message. Correcting no input error may result in the download error of the program.**

(1) Procedure

Step	Operation
1	Start up the Web browser. When the proxy is set on the Web browser, the main body Web may not be accessed. For particulars, contact the network administrator. For Web browser, Internet Explorer 6.02, Netscape Navigator 7.1 or Firefox 1.0 is recommended. However, be sure to avoid setting from two or more browsers at a time.
2	Specify the IP address of the main body that is entered thorough "A. Settings from the operation panel". When you access the Web Utilities of the main body, "Main page screen" is displayed. "Main page" screen
3	"Main page screen" Click [Extension for maintenance].
4	Enter user name and CE password in the window and press [OK]. User name: ce (small letter, cannot be changed) Password: Enter the CE password. (Default: "92729272") 

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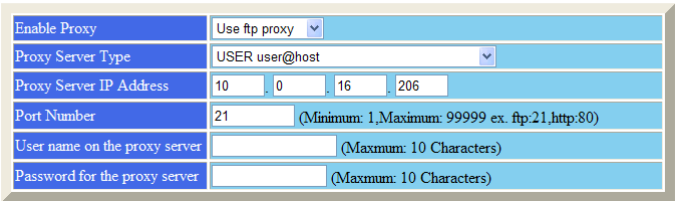
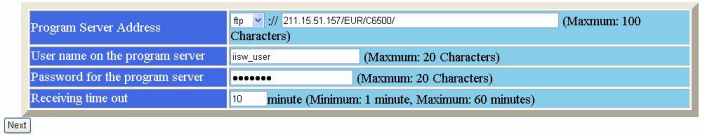
Step	Operation
5	"Extension for maintenance screen" Click [Internet ISW]. **Extension for maintenance** • E-Mail Initial Setting • Internet ISW • Remote Panel • Machine setting data Import/Export • Mail Log Main Page
6	"Internet ISW screen" Click [Initial Setting]. **Internet ISW** **Setting** Initial Setting Setting proxy server and program server **Test**

<table>
<tr><th>Step</th><th>Operation</th></tr>
<tr><td>7</td><td>"Proxy Server Setting screen"
Set the proxy server settings.
When using no proxy server (fire wall), proceed to the step 9.

Proxy Server Setting
 

<table>
<tr><td>Enable proxy</td><td>Select the following.
When not using proxy: "no."
When using ftp proxy: "Use ftp proxy."
When using http proxy: "Use http proxy."</td></tr>
<tr><td>Proxy Server Type</td><td>When selecting "Use ftp proxy" in "Enable Proxy," then select a proxy server type from among the below.
Type 1: "User user@host"
Type 2: "OPEN host"
Type 3: "FW user => FW password => SITE host"
Type 4: "FW user => FW password => User user@host"

Note
• Types 2, 3, and 4 are unsupported.
• For authentication of proxy server, see "5.4.8 Authentication of the proxy server in the Internet ISW" .</td></tr>
<tr><td>Proxy Server IP Address</td><td>When using the proxy server, set the IP address of the proxy server.</td></tr>
<tr><td>Port Number</td><td>When using the proxy server, set the number of the port that uses the proxy server.</td></tr>
<tr><td>User name on the proxy server</td><td>When selecting the type 1 or type 2 in "Proxy Server Type" above set the account of the proxy server.</td></tr>
<tr><td>Password for the proxy server</td><td>When selecting the type 1 or type 2 in "Proxy Server Type" above set the password of the proxy server.</td></tr>
</table></td></tr>
<tr><td>8</td><td>After completion of entry, click [Next] and then after checking the set items in the setting check screen, click [Next]. However, if there is an input error, click [Back] following the message shown in red and then re-set the item.</td></tr>
</table>

<table>
<tr><th>Step</th><th>Operation</th></tr>
<tr><td>9</td><td>"Program Server Setting screen"
Set the program server settings. (When using the proxy)
Program Server Setting
 

<table>
<tr><td>Program Server Address</td><td>Set the address of the server into which the program to be down loaded is stored. Select the protocol to be used from the pull-down menu left and enter the address after that in the text box on the right. In the case of ftp, it is a relative path from the home directory.</td></tr>
<tr><td>User name on the program server</td><td>Enter the account name of the program server.</td></tr>
<tr><td>Password for the program server</td><td>Enter the password of the program server.</td></tr>
<tr><td>Receiving time out</td><td>Set the receiving time out of the program. When the time is out, the down load of the program forcibly comes to an end, and the system returns to the normal mode without conducting the ISW.</td></tr>
</table></td></tr>
<tr><td>10</td><td>After completion of entry, click [Next]. Then after checking the set items in the setting check screen, click [Finish]. However, if there is an input error, click [Back] following the message shown in red and then re-set the item.</td></tr>
<tr><td>11</td><td>Set the program server settings. (When not using the proxy)
<table>
<tr><td>Protocol</td><td>Select the protocol that receives the program.</td></tr>
<tr><td>Program Server IP Address</td><td>Set the IP address of the server that stores the firmware to be downloaded.</td></tr>
<tr><td>Target directory</td><td>With http, set the path after the host domain. Also, with ftp, set the relative pass from the home directory.</td></tr>
<tr><td>User name on the program server</td><td>Enter the account name of the program server.</td></tr>
<tr><td>Password for the program server</td><td>Enter the password of the program server.</td></tr>
<tr><td>Receiving time out</td><td>Set the receiving time out of the firmware. When the time is out, the down load of the firmware forcibly comes to an end, and the system returns to the normal mode without conducting the ISW.</td></tr>
</table></td></tr>
<tr><td>12</td><td>After completion of entry, click [Next]. Then after checking the set items in the setting check screen, click [Finish]. However, if there is an input error, click [Back] following the message shown in red and then re-set the item.</td></tr>
</table>

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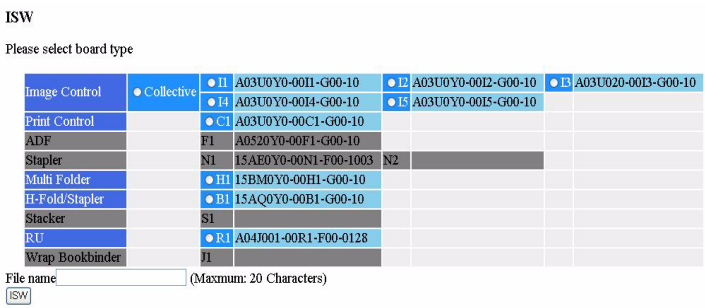
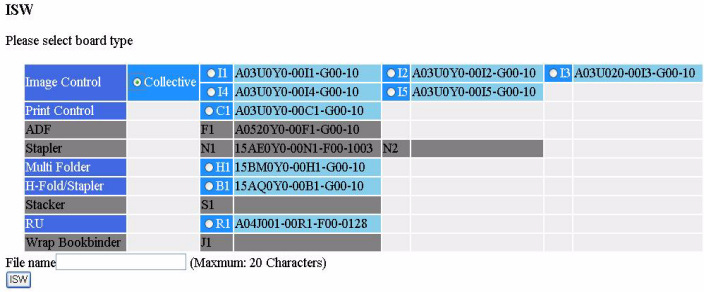
Step	Operation
13	Conduct the Download test. • In the down load test, "test.dat" is down loaded from the program server set in the initial setting to check the connection. When the down load test failed, re-check the set items following the error message. • When the down load test is successfully completed, the communication speed and the estimated receiving time are displayed as shown below. Refer to the "Receiving time out" setting. **Download test** **No Problem was found while downloading** **Estimated line speed 6501584(bps)** Receiving data size / Estimated receiving time 1M byte / 0minute 1second 3M byte / 0minute 3second 5M byte / 0minute 6second 7M byte / 0minute 8second • When the down load test failed, the response malfunction code from the server is display as shown below. Since there may be a setting error, re-check the initialization. **Download test** **Can't download from program server** **Response Error Code from server [530]** **Please change the initial setting accordingly** Initial Setting Back

5.4.4 Internet ISW using the Web Utilities

Using the Web Utilities of the main body allows the customer engineer, by just making a click from the browser, to download the programs from the program server automatically for rewriting.

(1) Procedure

Step	Operation
1	Proceed to "Internet ISW" on the Web Utilities. "Internet ISW screen" The firmware version of the board is displayed beside each of the board types. 
2	Select one ISW intended board at the item of "ISW." When specifying a file name to be download, enter it in the [File name] text box.  When firmware file name is not specified, it will be rewritten in the following files stored in the program server. <table><tr><td>I0</td><td>bootI0.bin</td><td>C1</td><td>bootC1.bin</td><td>N1</td><td>bootN1.bin</td><td>B1</td><td>bootB1.bin</td></tr><tr><td>I1</td><td>bootI1.bin</td><td></td><td></td><td>N2</td><td>bootN2.bin</td><td></td><td></td></tr><tr><td>I2</td><td>bootI2.bin</td><td>F1</td><td>bootF1.bin</td><td></td><td></td><td>S1</td><td>bootS1.bin</td></tr><tr><td>I3</td><td>bootI3.bin</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>I4</td><td>bootI4.bin</td><td>H1</td><td>bootH1.bin</td><td></td><td></td><td>R1</td><td>bootR1.bin</td></tr><tr><td>I5</td><td>bootI5.bin</td><td></td><td></td><td></td><td></td><td>J1</td><td>bootJ1.bin</td></tr></table> **Note** • **bootN1.bin is for FS-503, bootN2. bin is for FS-607.**

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Step	Operation
3	After completion of entry, click the [ISW]. If there is an input error, click [Back] following the message displayed in red and then enter the item again.
4	ISW condition verification Power save LED will blink green when downloading program. Also by the web screen, the present operation status and errors can be checked. • "ISW is downloading" • "ISW is writing" • "Finish" • "ISW was canceled due to transferring problem" • "ISW was canceled due to transferring overtime" • "ISW was canceled due to writing proglem to flash memory"
5	The main unit will automatically restart and complete ISW when ISW is normally completed.
6	After the main unit has restarted, check that the firmware version has been updated successfully in the "Internet ISW main screen".

5.4.5 Internet ISW using the mail remote contact system

When the customer engineer sends a mail that describes the key word briefly to the main body, the main body that receives that mail can download the program from the program server to conduct the rewrite automatically. For the operating environment and initial setting, see "4.3 Mail remote notification system".

(1) Usage of the Internet ISW using the mail remote notification system

For a command that is sent to the main body and its options, see the table given below.

Command	Option	Descriptions
ISW	I0, I1, I2, I3, I4, I5 C1 F1 H1 N1 N2 B1 S1 R1 J1	Specifies a board that execute ISW. I: Overall control board (OACB) C: Printer control board (PRCB) F: DF control board (DFCB) H: FD control board (FDCB) N1: FS-503 control board (FNSCB) N2: FS-607control board (FNSCB) B1: SD control board (SDCB) S1: LS control board (LSCB) R1: RU control board (RUCB) J1: PB control board (PBCB) By specifying "= firmware file name" following the option name, the specified file in the program server can be turned into ISW. e.g.) ISW I0=A03U001_00I0_G00_1000.bin
	5 (minimum) 1440 (maximum)	Specify the time of validity of the mail. (Unit: in minutes) When no specification is made, 90 minutes are employed. When the time period after CE sends out a mail until the main body receive the mail exceeds the time specified here, ISW is not conducted. e.g.) ISW I0 5
ISWHELP	(Not specified)	A help mail that describes the usage of the commands above is returned.

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When firmware file name is not specified, it will be rewritten in the following files saved in the program server.

I0	bootI0.bin	C1	bootC1.bin	N1	bootN1.bin	B1	bootB1.bin
I1	bootI1.bin			N2	bootN2.bin		
I2	bootI2.bin	F1	bootF1.bin			S1	bootS1.bin
I3	bootI3.bin						
I4	bootI4.bin	H1	bootH1.bin			R1	bootR1.bin
I5	bootI5.bin					J1	bootJ1.bin

Note

- **bootN1.bin is for FS-503, bootN2.bin is for FS-607.**

(2) Mail sending

Refer to "4.3 Mail remote notification system" for sending mail.

Note

- **The number of commands that can be written down on a mail is only 1. When two or more commands are written down, the second and the succeeding commands are ignored.**

(3) Return mail

In the following cases, a mail is returned from the main body.

- After receiving an ISW start mail, the main body starts ISW. (A command sent and the firmware version before ISW are written down.)
- When the ISW completed (sent command and the firmware version after ISW will be listed)
- When the time of validity of the mail expires. (A command sent is written down.)

5.4.6 Notes for use

(1) Notice to the administrator

When conducting the Internet ISW, be sure to notify the administrator of it and get approval from administrator in advance.

Be sure to execute ISW with the main body not used. However, when the main body is in use (jobs present), the Internet ISW does not operate.

(2) Power cut while in the ISW

While in the ISW rewrite, the operation panel and the power switch (SW2) are locked. However, when the main power source is turned off due to power cut etc., the main body cannot start up.

However, this is a problem encountered while in the overall control board (OACB) rewrite. As for other errors while in the ISW, they can be rewritten by the Internet ISW again.

Should the main body be not able to start due to the reason above, go to the actual place and use ISWTrns to conduct the rewrite of the program.

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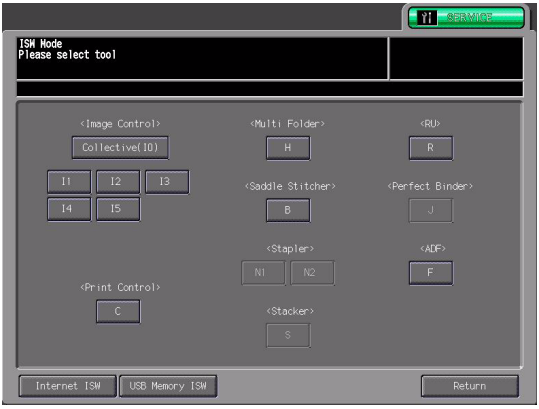
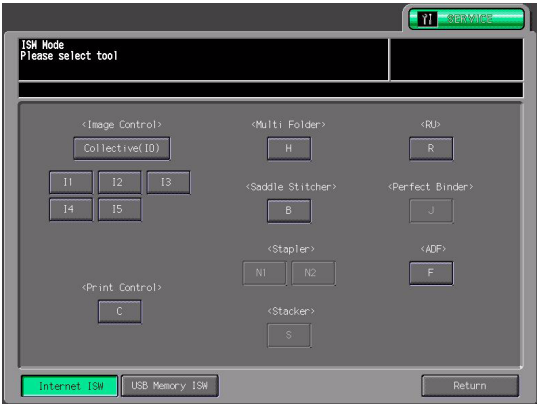
5.4.7 Internet ISW using the operation panel

When the customer engineer uses the Internet ISW from the operation panel, with no PC brought with, the main body can download the program from the program server to conduct the rewrite automatically.

(1) Procedure

e.g.) When rewrite the overall control board (OACB) firmware (ALL).

Step	Operation
1	Display "ISW Mode screen" 
2	Press [Internet ISW] on the screen, then press [Collective (I0)] of the <Image Control>. 

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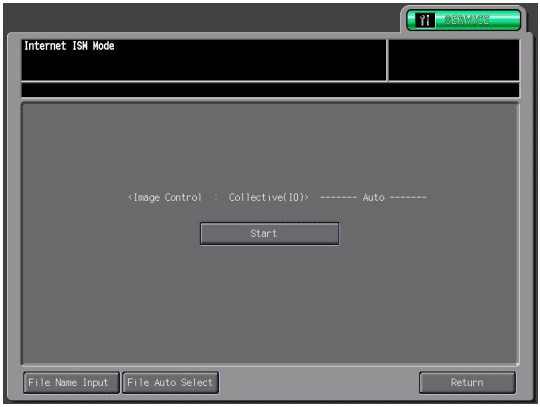
Step	Operation
3	Press the [Start] and download the latest firmware to start the rewrite.  In a case in which the download of an old version firmware is required, press the [File Name Input] key and enter the file name manually.
4	The following screen is displayed when ISW is complete.
5	Press [Continue] when conducting the ISW successively. To end the ISW, press [End]. The main body will automatically restart when [End] is pressed.
6	Check the firmware version in the service mode to see if the ISW is completed successfully.

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(2) Main body error list

When an error occurs during Internet ISW operation, the malfunction code is displayed on the touch panel.
(See P.142)

5.4.8 Authentication of the proxy server in the Internet ISW

A. Proxy server

Proxy server which is provided on the inside of the fire wall is the generic name of a mail server that serves the proxy of a client who receives an access demand (HTTP and FTP) from the client.

B. Authentication of the proxy server

There are four types of authentication methods for the proxy server.
The Internet ISW is corresponding to these four types.

C. Authentication type of the proxy server and the command list

(1) Type 1: User user@host

When accessing the outside through the proxy, authentication to the proxy server is not required.
When accessing the outside through the proxy server, the entry of the user name and password of the proxy server is not required, this proxy authentication is likely to be used.

Command

Command	Parameter	Reply Code	Description
USER	User@host	331	Transmit the user name of the program server and the program server address
PASS	password	230	Transmit the password for the user name above

(2) Type 2: OPEN host

This is almost the same as the type 1, except for the exchange of commands while in authentication.
When all the settings are made correctly and no communication is available with type 1 authentication, apply this type.

Command

Command	Parameter	Reply Code	Description
OPEN	host	ftp expanded function, defined for each server	Transmit the program server address
USER	user	331	Transmit the user name of the program server
PASS	password	230	Transmit the password for the user name above

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(3) Type 3: FW user = > FW password = > SITE host

This is a type that requires the authentication to the proxy server itself when accessing the outside.
The information of the server you want to access, the user name and password of the proxy server (F/W) are necessary.
In case of the user name and the password of the proxy server are required when accessing the outside through the proxy server, this proxy authentication is likely to be used.

Command

Command	Parameter	Reply Code	Description
USER	FW user	331	Transmit the user name of the proxy server
PASS	FW password	230	Transmit the password for the user name above
SITE	host	ftp expanded function, defined for each server	Transmit the program server address
USER	user	331	Transmit the user name of the program server
PASS	password	230	Transmit the password for the user name above

(4) Type 4: FW user = > FW password = > USER user @host

This is almost the same as the type 3, except for the exchange of commands while in authentication.
When all the settings are made correctly and no communication is available with type 3 authentication, apply this type.

Command

Command	Parameter	Reply Code	Description
USER	FW user	331	Transmit the user name of the proxy server
PASS	FW password	230	Transmit the password for the user name above
USER	user@host name	331	Transmit the user name of the program server and the program server address
PASS	password	230	Transmit the password for the user name above

D. Remark

For fwtk2.1 (for Unix) and Black Jumbo Dog (for Windows), the type 1 authentication is used. For most of the proxy servers, the type 1 authentication is used. When the authentication type of the proxy server is not known, you are recommended to make settings in type 1 authentication as a temporary measure.

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6. OTHERS

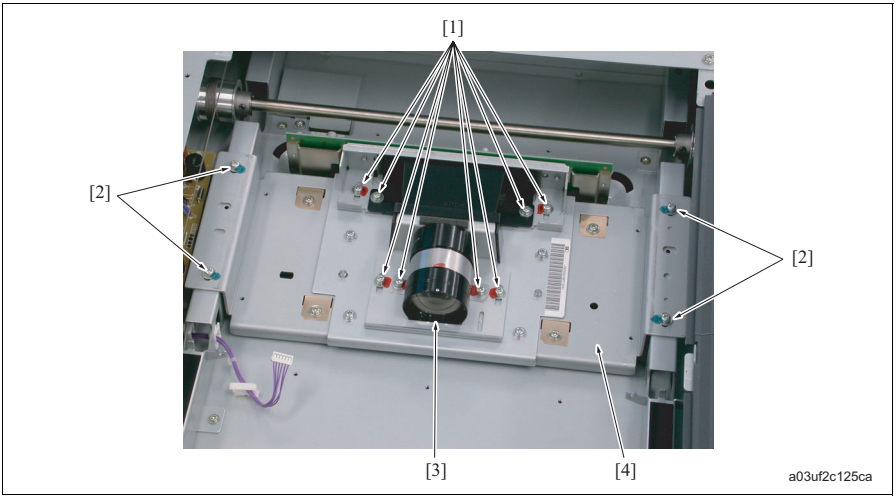
6.1 Items not allowed to be disassembled and adjusted

6.1.1 Scanner section

A. CCD unit

(1) Parts not allowed to be removed

- The eight screws for the CCD unit.
- The four attaching screws of the lens reference plate assy



[1] Screws not allowed to be removed
[2] Screws not allowed to be removed
[4] CCD unit
[5] Lens reference plate assy

(2) Reason for prohibition

Since the accuracy of the CCD unit is guaranteed as a unit, no accuracy is guaranteed if it is disassembled. Therefore, screws that lead to the disassembly of the CCD unit must not be removed.

The lens reference plate assy is a reference for the positioning the CCD unit. If the lens reference plate assy is removed, the optical axis of the CCD unit may become misaligned. Therefore, the attaching screws of the lens reference assy must not be removed.

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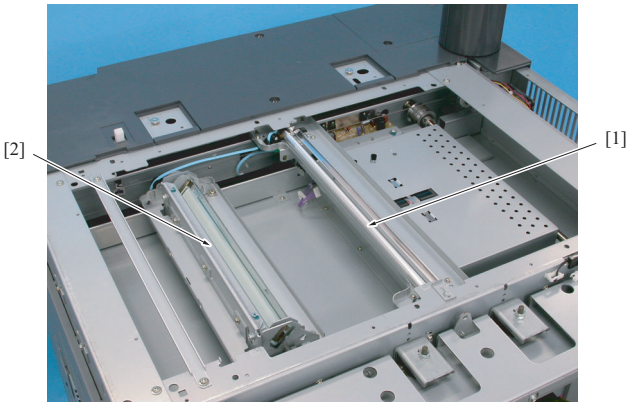
B. Mirror unit/Exposure unit

(1) Parts not allowed to be removed

- Positions of the mirror unit and the exposure unit.



[1] Exposure unit [2] Mirror unit

(2) Reason for prohibition

The distance between the mirror unit and the exposure unit relates to the magnification of the sub-scan direction for scanning the original. Therefore, the positions of the mirror unit and the exposure unit must not be arbitrarily adjusted. Should the exposure unit and the scanner wire need to be removed, reinstallation of them must be made using the optics unit adjustment jig.

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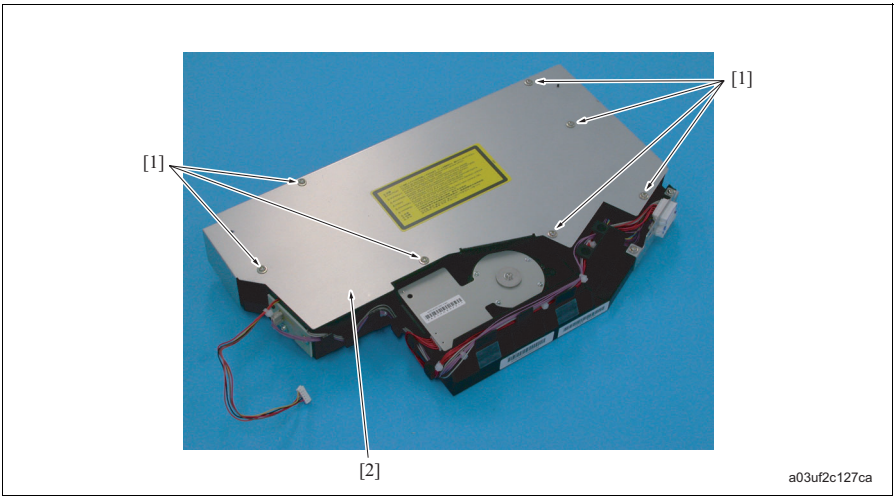
6.1.2 Write section

A. Write unit cover

(1) Parts not allowed to be removed

- The seven screws for the write unit installation



[1] Screws not allowed to be removed

[2] Write unit cover

(2) Reason for prohibition

A laser beam path runs through inside of the write unit. Opening the cover allows dust and dirt to enter deep into the write unit and they may block the laser beam path. Therefore, the attaching screws of the write unit cover must not be removed.

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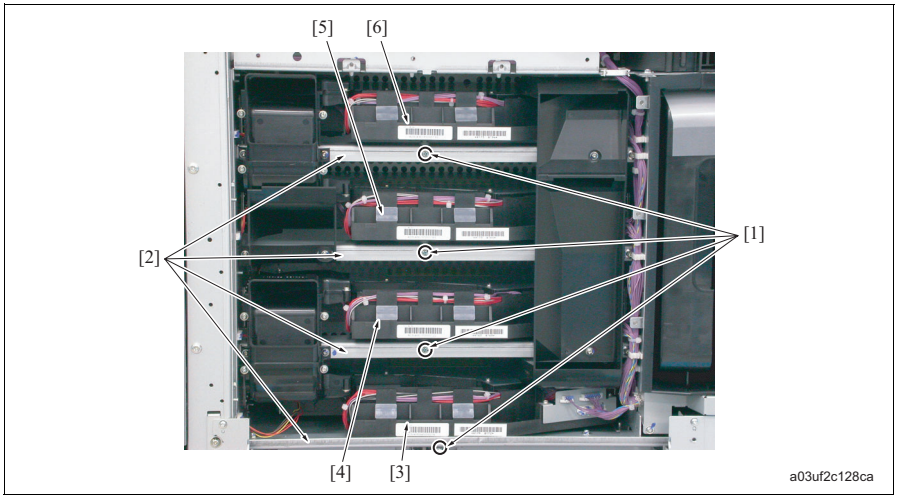
B. Installing section of the write unit

(1) Parts not allowed to be removed

- The four attaching screws of the write unit mounting plate



[1]	Screws not allowed to be removed	[4]	Write unit /C
[2]	Write unit mounting plate	[5]	Write unit /M
[3]	Write unit /K	[6]	Write unit /Y

(2) Reason for prohibition

The write unit mounting plates are a reference for positioning the write units accurately with respect to the drums. The removal of the write unit mounting plate may cause an image distortion by lack of parallelism between the drum and the write unit. Therefore, the attaching screws of the write unit mounting plate must not be removed.

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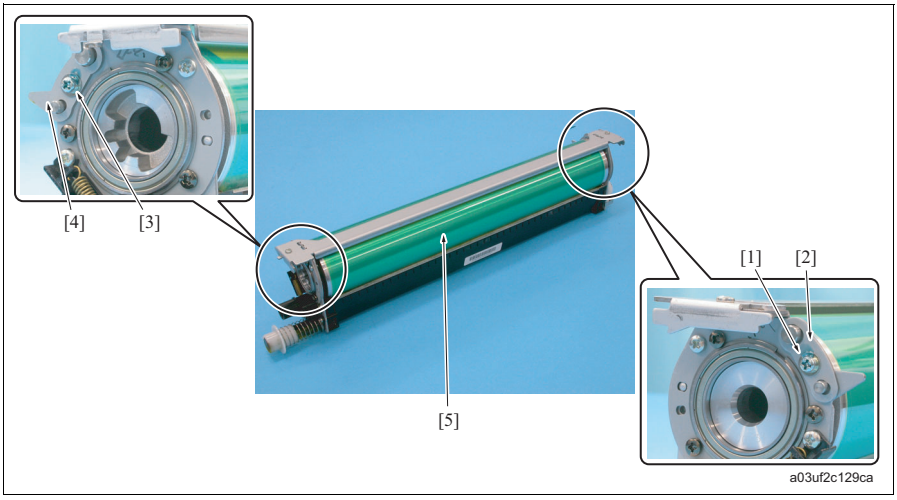
6.1.3 Photoconductor section

A. Parts not allowed to be removed

- An attaching screw of the drum cartridge end plate/Fr
- An attaching screw of the drum cartridge end plate/Fr



[1] Screws not allowed to be removed
[2] End plate /Fr
[3] Screws not allowed to be removed
[4] End plate /Rr
[5] Drum cartridge

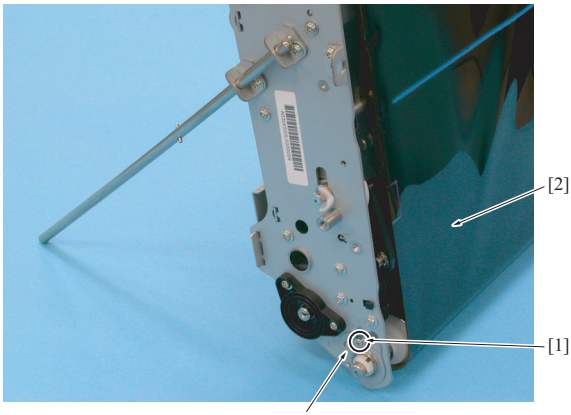
B. Reason for prohibition

Clearance between the drum and the developing roller has been precisely adjusted by the position of the end plate /Fr and Rr. Therefore, the attaching screws of the end plate /Fr and Rr must not be removed.

6.1.4 Intermediate transfer section

A. Parts not allowed to be removed

- An attaching screw of the tension adjusting plate



[1] Screws not allowed to be removed
[2] Belt
[3] Tension adjusting plate

B. Reason for prohibition

The belt tension has been precisely adjusted with the tension adjusting plate. Therefore, the attaching screw of the tension adjusting plate must not be removed.

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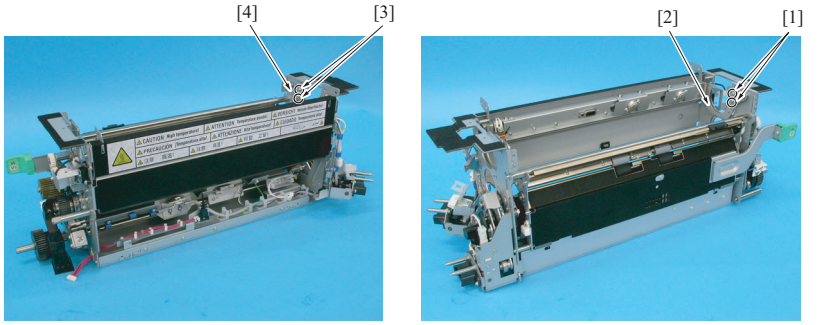
6.1.5 Fusing unit section

A. Parts not allowed to be removed

- The two attaching screws of the pressure roller arm/Fr
- The two attaching screws of the pressure roller arm/Rr



a03uf2c131ca

[1] Screws not allowed to be removed
[2] Pressure roller arm /Fr
[3] Screws not allowed to be removed
[4] Pressure roller arm /Rr

B. Reason for prohibition

The fusing belt position has been precisely adjusted by the pressure roller arm /Fr and /Rr. Therefore, the attaching screw of the pressure roller arm /Fr and /Rr must not be removed.

6.2 Disassembly/reassembly parts list

Note

- **The table below lists parts other than the periodically replaced part. The disassembly/reassembly procedures of them are described on the following pages, however, except for the covers, they do not need to be removed under normal conditions.**
- **For information on how to replace the periodically replaced parts, see "3.5 Maintenance procedure of the housing section" to "3.18 Maintenance procedure of OT-502".**

No.	Section	Part name	Reference page
1	Cover	Rear cover	P.170
2		Left cover	P.170
3		Right cover /Up1	P.171
4		Right cover /Up2	P.171
5		Right cover /Up3	P.171
6		Right cover /Lw1	P.171
7		Right cover /Lw2	P.171
8		Original glass assy	P.172
9		Upper cover /Fr	P.173
10		Upper cover /Rt	P.173
11		Upper cover /Lt	P.173
12		Upper cover /Rr1	P.174
13		Upper cover /Rr2	P.174
14		Main board unit	P.174
15	Scanner section	CCD unit	P.176
16		Exposure unit	P.178
17		Exposure lamp	P.181
18		Scanner wire (for removing)	P.182
19		Scanner wire (for installing)	P.184
20	Write section	Write unit	P.187
21	Process section	Process unit	P.189
22		Image correction unit	P.190
23	Toner collection section	Belt collection pipe	P.191
24		Vertical conveyance pipe	P.191
25		Horizontal conveyance pipe	P.191
26	ADU section	ADU	P.204
27		Lock lever /1	P.206
28		Lock lever /2	P.206
29	Paper feed section	Paper feed tray	P.208
30		Tray up/down wire	P.209
31	Fusing unit	Temperature sensor /1 (TEMS/1)	P.212
32		Thermostat /1 (TS1)	P.212
33		Thermostat /2 (TS2)	P.212
34		Temperature sensor /3 (TEMS/3)	P.215
35		Thermostat /3 (TS3)	P.215
36	OT	OT	P.217

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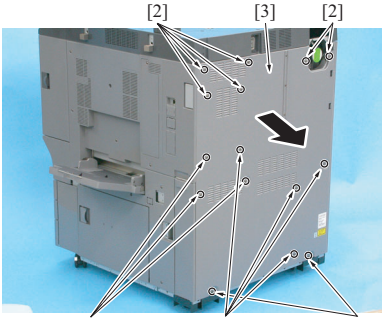
6.3 Disassembly/reassembly procedure

6.3.1 Removing/reinstalling rear cover

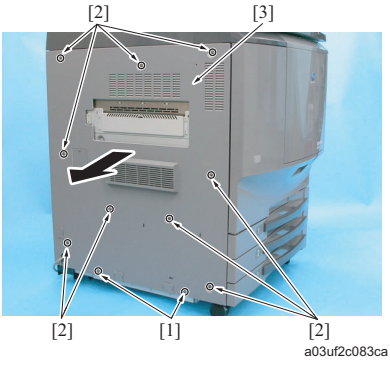
A. Procedure



1. Remove the filter cover.
(See P.31)
2. Loosen the two screws [1].
3. Remove the 13 screws [2] and then remove the rear cover [3].
4. Reinstall the above parts following the removal steps in reverse.

6.3.2 Removing/reinstalling left cover

A. Procedure



1. Loosen the two screws [1].
2. Remove the nine screws [2] and then remove the left cover [3].
3. Reinstall the above parts following the removal steps in reverse.

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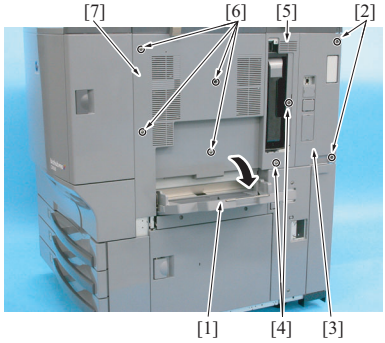
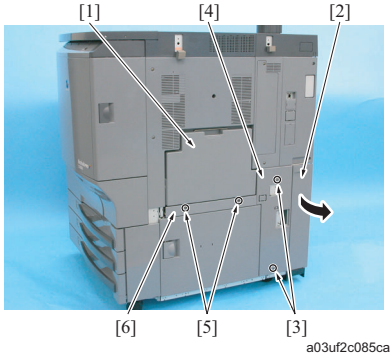
6.3.3 Removing/installing right cover/Up1, /Up2, /Up3, /Lw1 and /Lw2

A. Procedure



1. Remove the filter cover.
(See P.31)
2. Open the bypass feed tray [1].
3. Loosen the two screws [2] and remove the right cover/Up3 [3].
4. Remove the two screws [4] and remove the right cover/Up2 [5].
5. Loosen the four screws [6] and remove the right cover/Up1 [7].



6. Close the bypass feed tray [1].
7. Open the toner cellction door [2].
8. Loosen the two screws [3] and remove the right cover/Lw2 [4].
9. Remove the two screws [5] and remove the right cover/Lw1 [6].
10. Reinstall the above parts following the removal steps in reverse.

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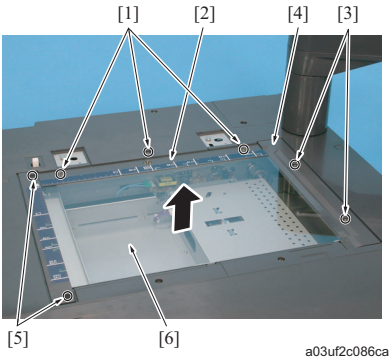
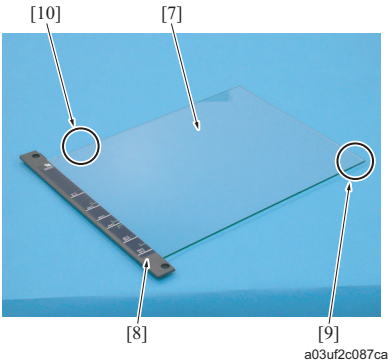
6.3.4 Removing/reinstalling original glass assy

A. Procedure



1. Remove the three screws [1] and remove the original positioning plate /Rr [2].
2. Remove the two screws [3] and remove the scanner cover /Rt [4].
3. Remove the two screws [5] and remove the original glass assy [6].



Note

- **When removing the original glass assy, do not hold the original positioning plate /Lt [8], or the glass [7] may come off since the plate and glass are attached with each other only with two-side tape. Be sure to hold the original glass assy by its [9] and [10] portions.**

4. Reinstall the above parts following the removal steps in reverse.

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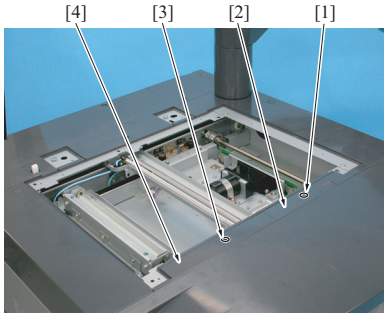
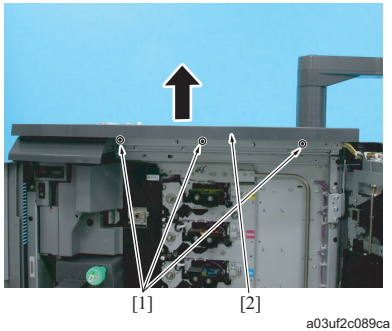
6.3.5 Removing/reinstalling upper cover/Fr, /Rt, and Lt

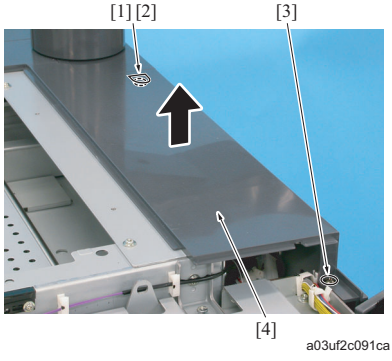
A. Procedure



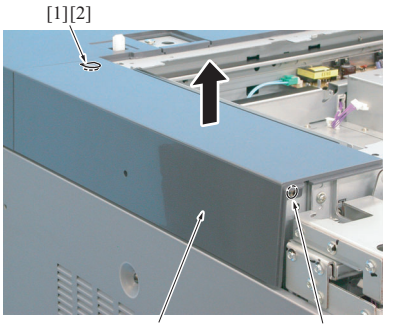
1. Remove the original glass assy.
(See P.172)
2. Open the toner supply section.
(See P.33)
3. Remove the screw [1] and remove the scanner cover/Fr2 [2].
4. Remove the screw [3] and remove the scanner cover/Fr1 [4].



5. Remove the three screws [1] and remove the upper cover/Fr [2].



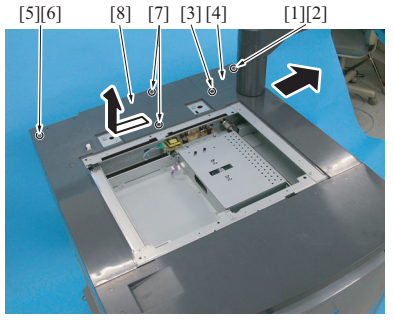
6. Remove the screw cap [1].
7. Remove the two screws [2] and [3] and remove the upper cover/Rt [4].



8. Remove the screw cap [1].
9. Remove the two screws [2] and [3] and remove the upper cover/Lt [4].
10. Reinstall the above parts following the removal steps in reverse.

6.3.6 Removing/reinstalling upper cover/Rr1 and /Rr2

A. Procedure



1. Remove the screw cap [1].
2. Remove the two screws [2] and [3] and remove the upper cover /Rr2 [4].
3. Remove the original glass assy.
(See P.172)
4. Remove the screw cap [5].
5. Remove the two screws [6] and [7], and remove the upper cover /Rr1 [8].
6. Reinstall the above parts following the removal steps in reverse.

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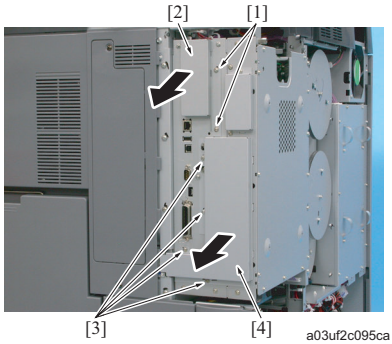
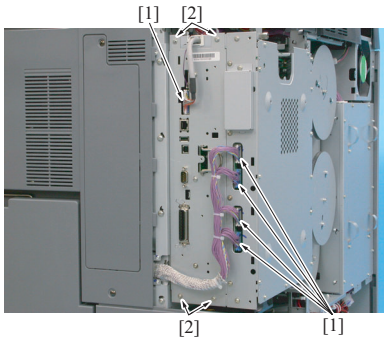
6.3.7 Removing/installing main board unit

A. Procedure



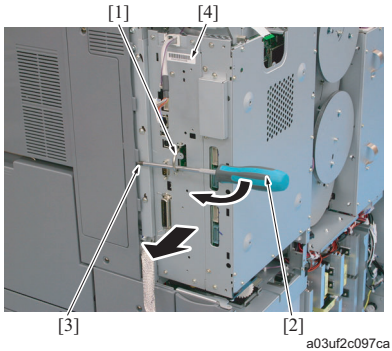
1. Remove the rear cover.
(See P.170) .
2. Remove the right cover/Up3.
(See P.171)
3. Remove the upper cover/Rr2.
(See P.174)
4. Remove the two screws [1] and remove the connector cover/1 [2].
5. Remove the four screws [3] and remove the connector cover/2 [4].



6. Disconnect the six connectors [1].
7. Remove the four screws [2].

Note

- **Be careful not to damage the connector [1] or the wires when removing the main board unit.**



8. Put a screw driver [2] through the hook [1] and insert the tip [3] of the driver into the clearance. Pull the screw driver toward you while pivoting it on the tip to pull out the main board unit [4].
9. Reinstall the above parts following the removal steps in reverse.

Note

- **Be sure not to pinch the wires.**

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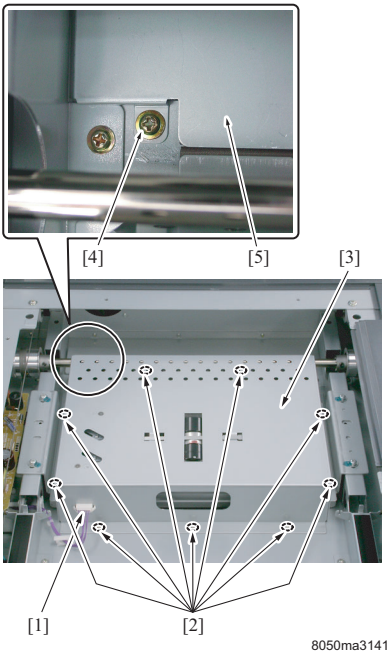
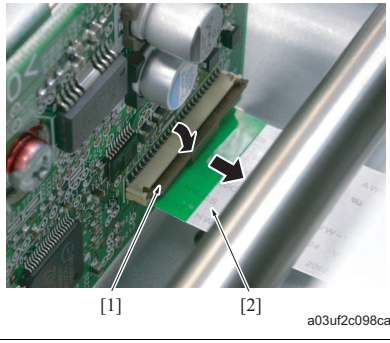
6.3.8 Removing/installing CCD unit

A. Procedure



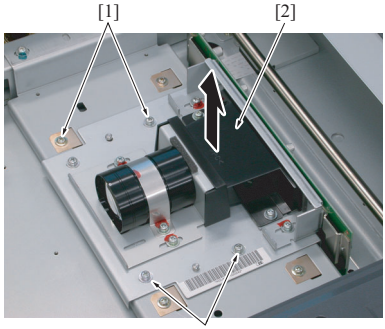
1. Remove the original glass assy. (See P.172)
2. Disconnect the connector [1].
3. Remove the 9 screws [2] and remove the CCD cover [3].
4. Remove the screw [4] and remove the ribbon cable cover [5].



5. Open the lock lever [1] to unlock the ribbon cable [2], and disconnect the cable.

Note

- **Connect the ribbon cable following the procedure below.**
- **Open the lock lever [1] and insert the ribbon cable [2] as far as it will go. Make sure the conductive surface of the cable does not face to the lock lever.**
- **Close the lock lever [1] to lock the ribbon cable [2].**



6. Remove the four screws [1] and remove the CCD unit [2].

Note

- **Never remove any screws other than the four screws [1]. If they are removed, optical adjustments that cannot be made in the field service or stores are required.**
- **Never touch the lends with your hand, otherwise it causes image quality problems.**

7. Reinstall the above parts following the removal steps in reverse.

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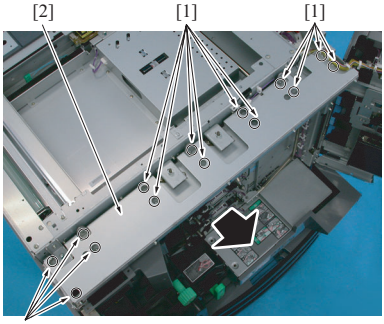
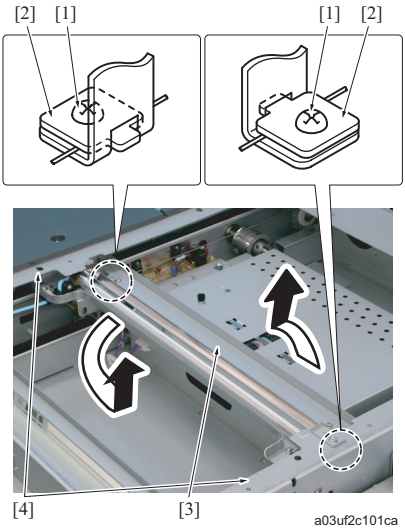
6.3.9 Removing/installing exposure unit

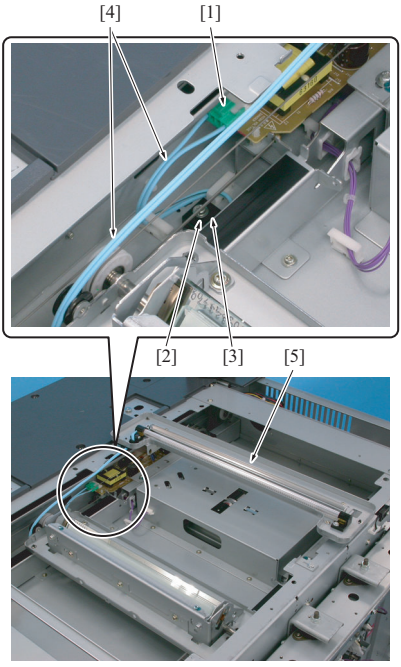
A. Disassembly procedure



1. Remove the original glass assy.
(See P.172)
2. Remove the upper cover/Fr, /Rt and Lt.
(See P.173)
3. Remove the 14 screws [1] and remove the stay [2].

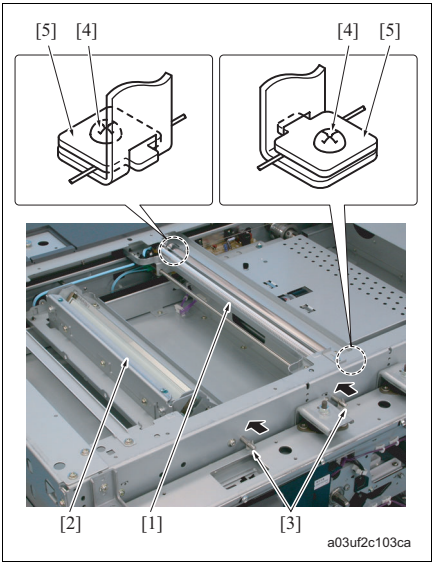


4. Remove the screws [1],1 each, and remove the two wire holdings [2].
5. Turn the exposure unit [3] a little to take it upward while keeping it in a horizontal position, and put the unit on the scanner frame [4].



6. Disconnect the connector [1].
7. Remove the screw [2] and release the cable [4] from the cable clamp [3].
8. Remove the exposure unit [5].

B. Reassembly procedure



1. Install the exposure unit to the main body.
2. Move the V mirror unit [2] toward paper eject side and put the optic unit positioning jigs [3] one for each V mirror unit [2] and exposure unit [1] through the holes on the frame at the front side and through the holes on the other side frame.

Note

- **Use the optic positioning jigs when reinstalling the exposure unit.**

3. Secure the exposure unit with the screws [4] and the wire holdings [5], one for each side of the unit.
4. Remove the two optic positioning jigs [3].
5. Follow the removal steps in reverse from here.

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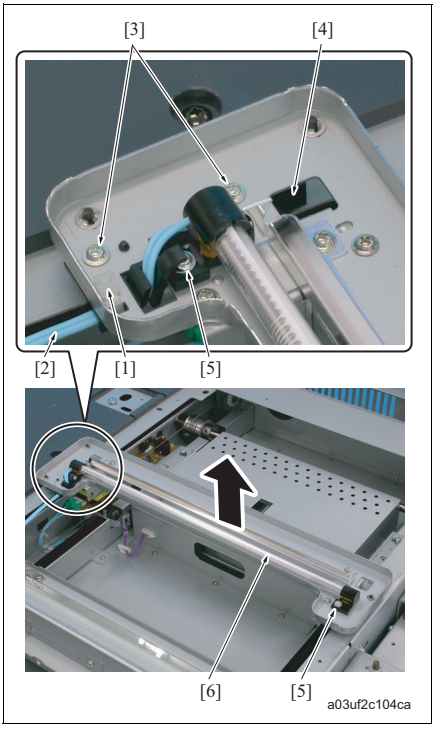
6.3.10 Removing/installing exposure lamp

A. Procedure



1. Remove the exposure unit.
(See P.178)
2. Cut the wire binding band [1] to release the cable [2].
3. Remove the two screws [3] and remove the HP detection plate [4].
4. Remove the two screws [5] and remove the exposure lamp (L1) [6].
5. Reinstall the above parts following the removal steps in reverse.

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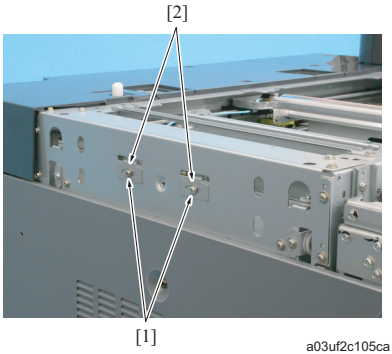
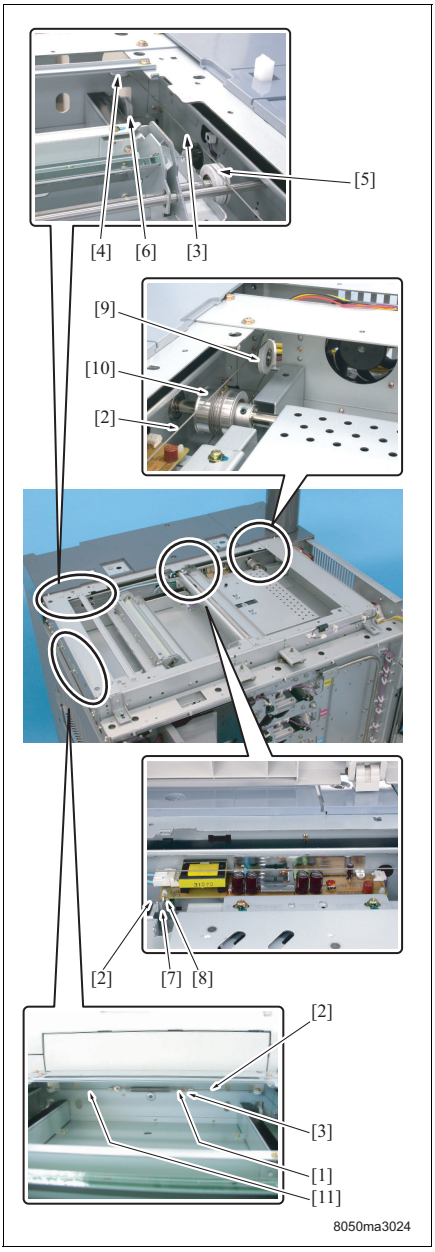
6.3.11 Removing scanner wire

A. Procedure



1. Remove the exposure unit.
(See P.178)
2. Loosen the screws [1] for each of two spring fixing plates [2] and release the plates.



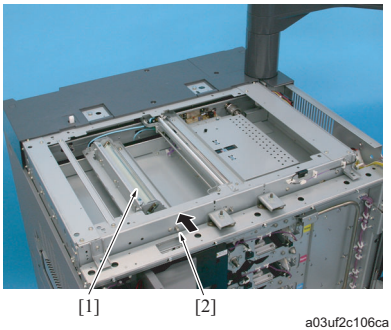
3. Release the wire terminal [3] of the scanner wire/Rr [2] from the spring fixing plate [1]. And then remove the scanner wire/Rr [2] from each parts in the following order: 1. Pulley/3 [4] 2. Outer side of the V mirror pulley [5] 3. Pulley/2 [6]
4. Release the metal ball [8] of the scanner wire/Rr [2] from the wire stopper [7]. And then remove the scanner wire/Rr [2] from each part in the following order: 1. Inner side of the V mirror pulley [5] 2. Pulley/1 [9]
5. Remove the scanner wire/Rr [2] from the drive pulley [10].
6. Remove the scanner wire/Fr [11] following the step 3 to 5.

Note

- **The scanner wire /Fr and /Rr should be symmetrically installed.**

6.3.12 Reinstalling the scanner wire

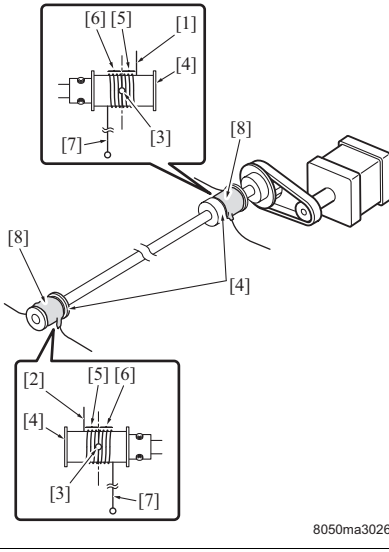
A. Procedure



1. Move the V mirror unit [1] toward paper eject side and put the optic unit positioning jig [2] for the V mirror unit [1] through the hole on the front side frame and through the V mirror unit.

Note

- **Be careful not to damage the mirror with the optic positioning jig.**
- **When reinstalling the scanner wire, secure the V mirror unit with the optic positioning jig.**



2. Put the metal ball [3] provided at each intermediate section of the scanner wires/Fr [1] and /Rr [2] into the drive pulley [4] installation hole. With this as a starting point, wind the wire 3.5 turns [5] outwards and 3.5 turns [6] inwards.

Note

- **The scanner wire /Fr and /Rr are common parts.**
- **Wind each scanner wire so that the wire terminal comes outer side of the drive pulley while the metal ball [7] comes inner side of the drive pulley.**
- **When winding each scanner wire, be sure to pull out the both edges of wire from beneath the drive pulley.**
- **Be sure to wind the scanner wires to each drive pulley intimately and in a single layer.**

3. After winding the scanner wire/Fr [1] and /Rr [2], secure each wire with the tape [8] to prevent the wires from becoming unfastend.

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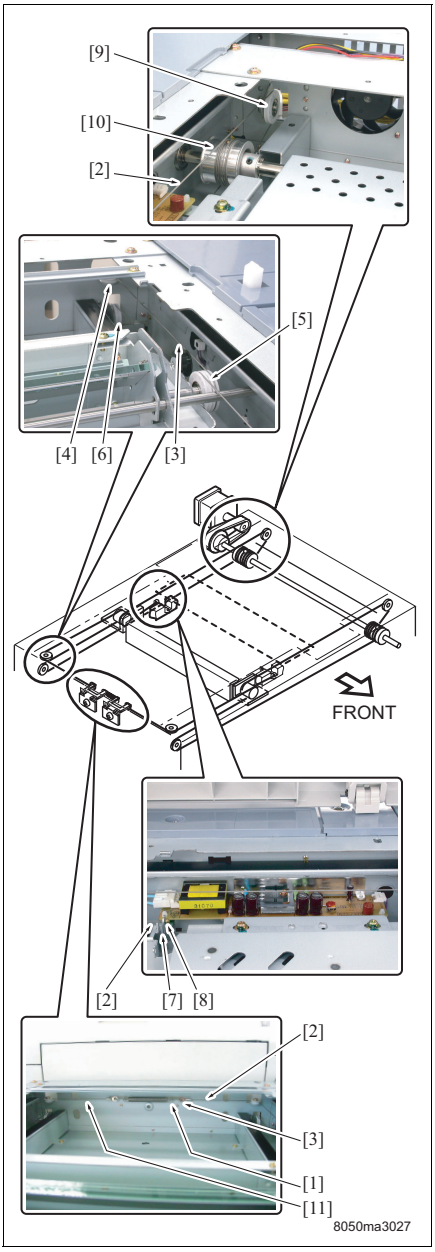
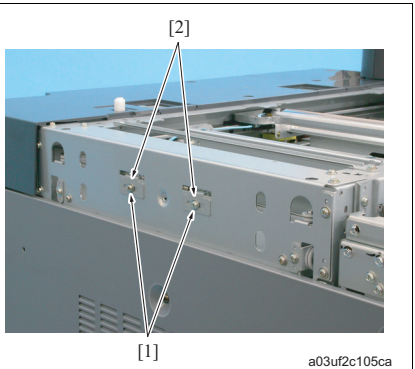


4. Pass the scanner wire/Rr [2] (metal ball [3] side) wound to the drive pulley [1] through the pulley/1 [4] and inward the V mirror pulley [5] in that order, and then hook the metal ball [3] to the wire stopper [6].
5. Pass the scanner wire/Rr [2] (wire terminal [7] side) wound to the drive pulley [1] through the pulley/2 [8], outward the V mirror pulley [5] and the pulley/3 [9] in that order, and then hook the wire terminal [7] to the spring fixing plate [10].
6. Reinstall the scanner wire/Fr [11] following the step 4 to 5.



7. Fasten the screws [1] for each of two spring fixing plates [2] and secure the plates.
8. Follow the removal steps in reverse from here.

6.3.13 Removing/installing write unit

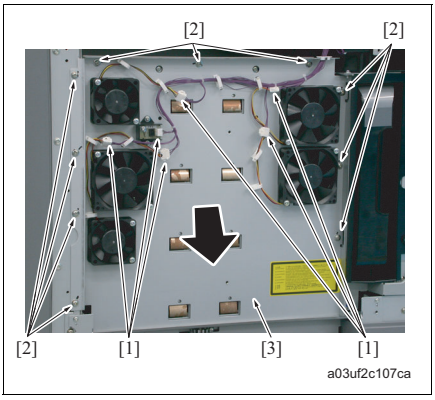
⚠ WARNING

- **Do not power the product when the write unit is not in its original position.**
- **Never remove the covers of the write unit with the product powered. If a laser beam is emitted and strikes your eye, it may result in permanent vision loss.**

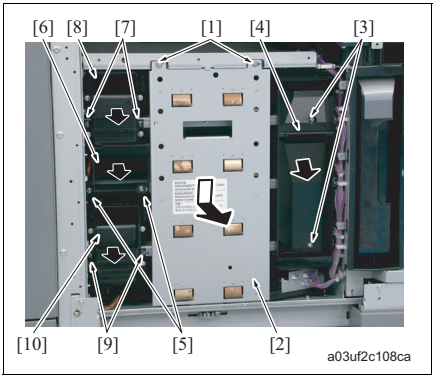
Note

- **Never remove the covers of the write unit, and even loosening the screws of the cover must be avoided.**
- **Be careful not to touch the dust-proof glass when removing the write unit.**
- **Never remove the write unit for at least two minutes after turning the main power switch (SW1) off.**

A. Procedure



1. Remove the right cover/Up1 and /Up2. (See P.171)
2. Disconnect the six connectors [1].
3. Remove the 10 screws [2] and remove the fan mounting plate/Rt [3].



4. Remove the two screws [1] and remove the write unit pressing plate [2].

Note

- **When removing the write unit pressing plate, be sure to do that while holding the upper of the plate.**

5. Remove the two screws [3] and remove the write unit duct/Rr [4].
6. Remove the two screws [5] and remove the write unit duct/Fr2 [6].
7. Remove the two screws [7] and remove the write unit duc/Fr1[8].
8. Remove the two screws [9] and remove the write unit duct/Fr3 [10].

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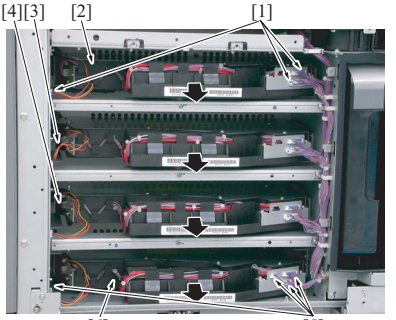

9. Disconnect the three connectors [1] and remove the write unit/Y [2], /M [3] and /C [4].

10. Disconnect the four connectors [5] and remove the write unit/K [6].

Note

- **The write unit/C, /M and /Y are common parts.**
- **The write unit/C, /M, /Y and the write unit/K differs in the number of connector.**
- **Never install the other write units to the place where the write unit/K is to be installed.**

11. Reinstall the above parts following the removal steps in reverse.

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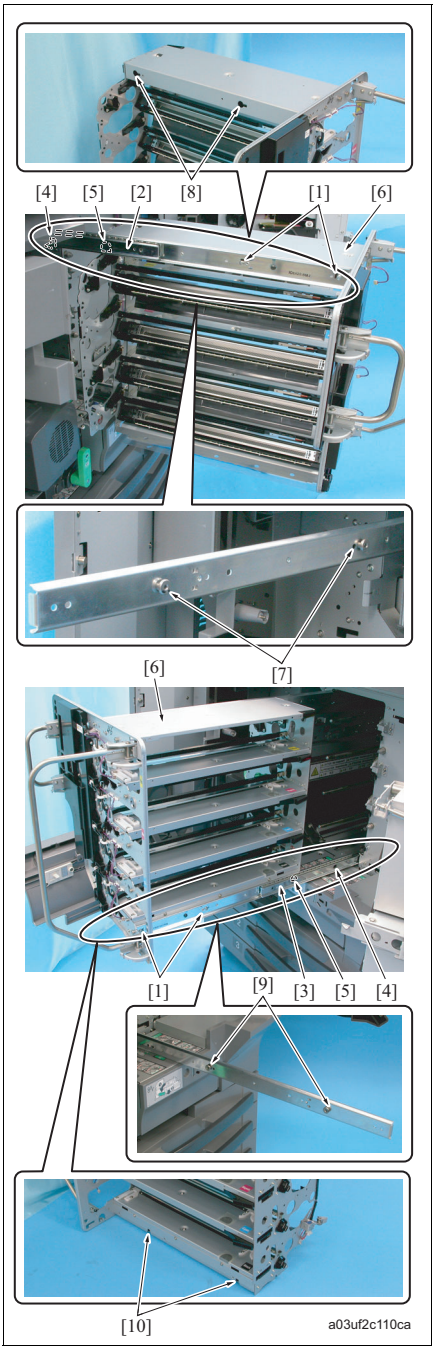
6.3.14 Removing/installing process unit

A. Procedure



1. Remove the transfer belt unit.
(See P.39)
2. Remove all drum cartridges.
(See P.36)
3. Remove all developing units.
(See P.55)
4. Remove the two screws [1].

Note

- **The transfer belt unit, drum cartridges, and the developing units must have been removed before removing the process unit.**
- **Do not remove the black screws.**

5. Push back the process unit until the screw [5] appears through each hole [4] of the guide rail/Lt [2] and /Rt [3].
6. Remove the two screws [5], one each on the guide rail/Lt [2] and /Rt [3].

Note

- **Do not remove the black screws.**

7. Pull out the process unit [6] again. And remove the process unit from the guide rail/Lt [2] and /Rt [3] following the procedure below.
Projections [7] on the guide rail /Lt are inserted in the notches [8] of the process unit. And the notches [10] on the process unit are engaged with the projections [9] on the guide rail/Rt. Release the process unit from the guide rail/Lt while sliding the guide rail/Lt a little against the process unit, then lift the process unit to release it from the guide rail/Rt, and remove the process unit.
8. Reinstall the above parts following the removal steps in reverse.

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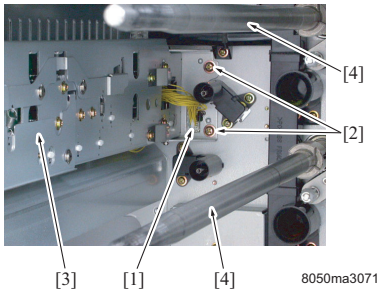
6.3.15 Removing/reinstalling image correction unit

A. Procedure



1. Remove the process unit.
(See P.189)
2. Disconnect the connector [1].
3. Remove the two screws [2] and remove the image correction unit [3].

Note

- **When removing the image correction unit, be sure to remove the process unit beforehand.**
- **When removing the image correction unit, avoid touching or exerting any force on the drum drive shaft [4].**

4. Reinstall the above parts following the removal steps in reverse.

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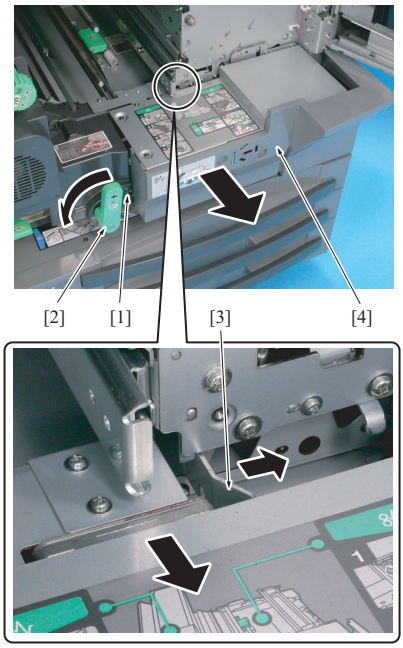
6.3.16 Removing/installing belt collectin pipe, vertical conveyance pipe and horizontal conveyance pipe

A. Procedure

Note

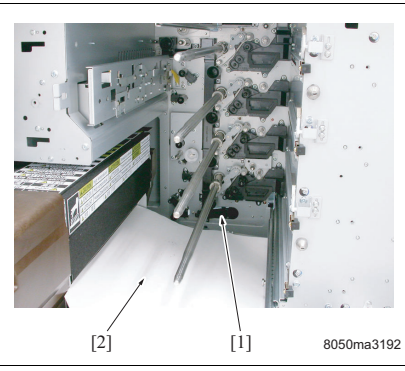
- **If a paper feed motor error (C-0101) or a transfer belt motor error (C-2220) occurs, clean the inside of the pipes following the procedure below.**



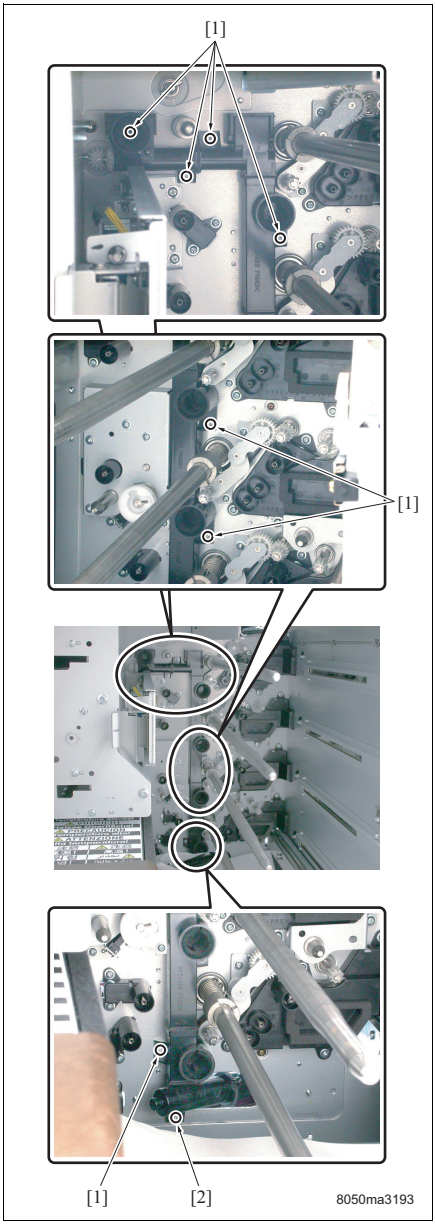
1. Remove the process unit.
(See P.189)
2. While releasing the lock [1] of the ADU release lever [2], turn the lever counterclockwise.
3. While releasing the lock [3], hold the ADU release lever and pull out the ADU [4].

Note

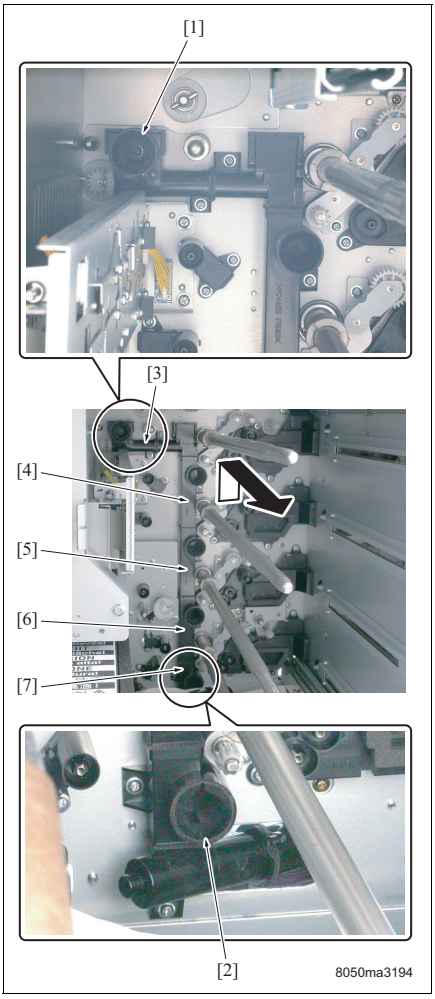
- **With the process unit removed, ADU cannot be pulled out without releasing the lock [3] in order to avoid rollover accidents.**



4. Spread a sheet [2] just below the horizontal conveyance pipe /1 [1] since waste toner may spill out from the pipe.



5. Remove the seven screws [1] and loosen the screw [2].



6. Hold the belt waste toner inlet [1] and the drum/K waste toner inlet [2], and remove the belt collection pipe [3], the vertical conveyance pipe /1 [4], /2 [5], /3 [6] and /4 [7] with all those pipes connected each other.

Note

- **When removing the belt collection pipe and the vertical conveyance pipe, be sure to remove them while slightly tilting the belt waste toner inlet side toward you.**
- **When installing the belt collection pipe and the vertical conveyance pipe, insert the projections located on rear side of each inlet into holes of the main body.**

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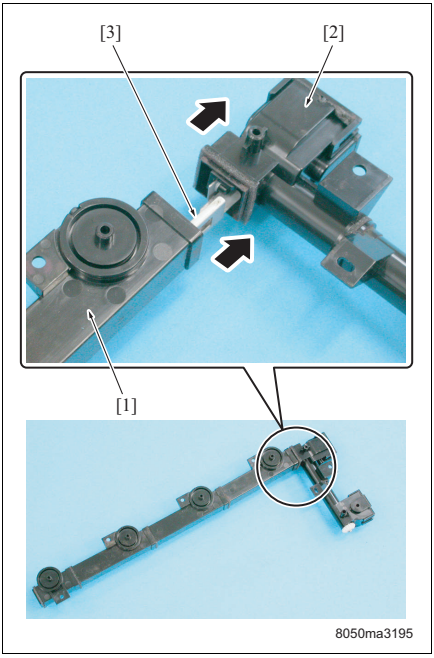
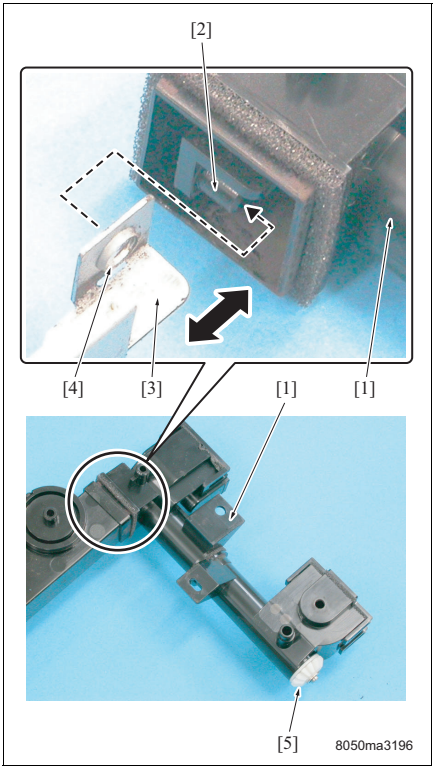
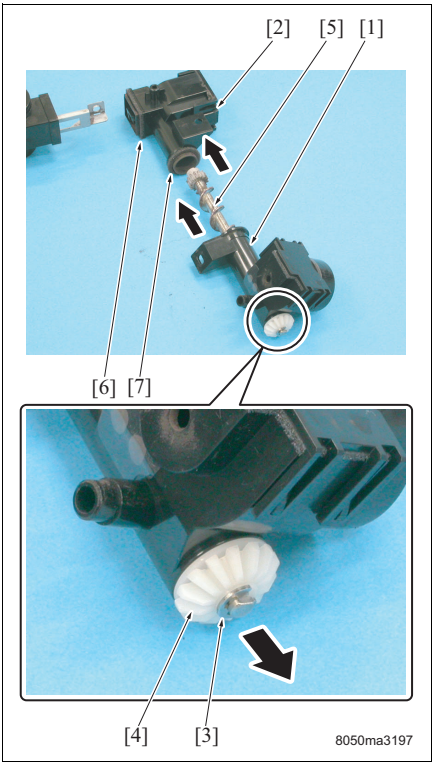


7. Remove the toner collection pipe [2] from the vertical conveyance pipe/1 [1], and pull out the toner oscillating plate [3].



Note

- **When installing the toner oscillating plate, insert the drive hole [4] of the toner oscillating plate [3] over the guide pin [2] on the toner collection pipe [1]. Turn the gear [5] to check if the toner oscillating plate moves up and down properly.**



8. Remove the toner collection pipe/2 [2] from the toner collection pipe/1 [1].
9. Remove the E-ring [3] and the gear [4].
10. Pull out the toner collection screw [5] from the toner collection pipe/1.
11. Clean off the waste toner in the toner collection pipe/1 and /2.

Note

- **When cleaning the toner collection pipe /2, be careful not to lose the sponge [6] and [7].**

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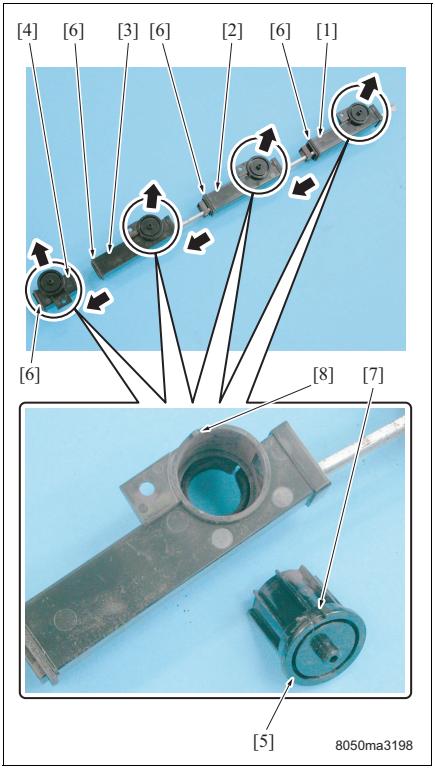
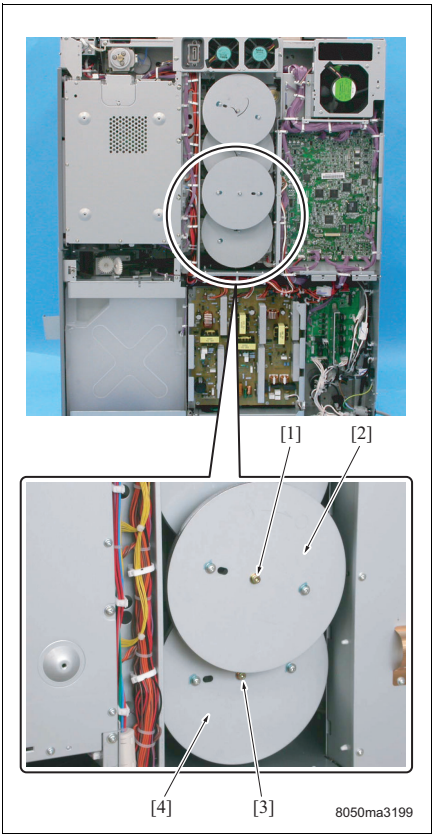


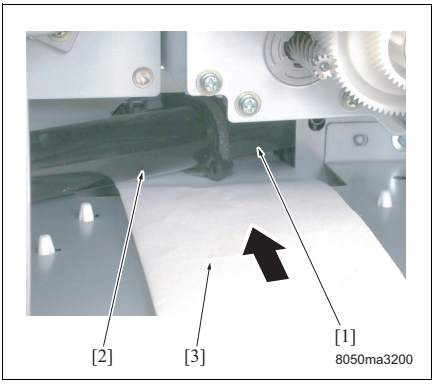
12. After uncoupling the vertical conveyance pipe into four parts [1][2][3][4], remove each inlet cap [5], and clean off the waste toner inside the pipes.

Note

- **When cleaning each vertical conveyance pipe, be careful not to lose the four sponges [6].**
- **When installing each inlet cap, match the concave part [7] of the inlet cap with the convex part [8] of the vertical conveyance pipe.**



13. Remove the toner collection box assy.
(See P.57)
14. Remove the rear cover.
(See P.170) .
15. Remove the screw [1] and the flywheel/C [2].
16. Remove the screw [3] and the flywheel/K [4].



17. Spread a sheet [3] below the joint part between the horizontal conveyance pipe/1 [1] and the horizontal conveyance pipe assy [2].

Note

- **Waste toner may spill out of when the horizontal conveyance pipe/2 is removed from the conveyance pipe/1. Be sure to spread a sheet to prevent the waste toner from spilling on the internal components.**

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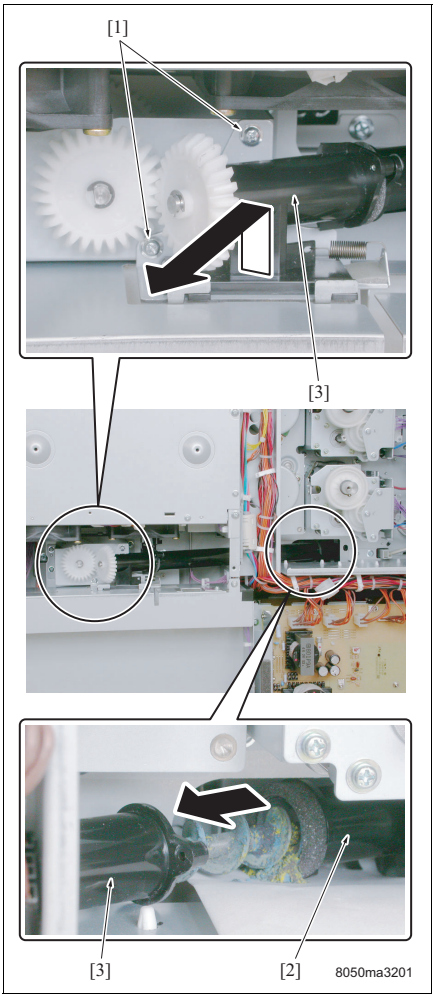
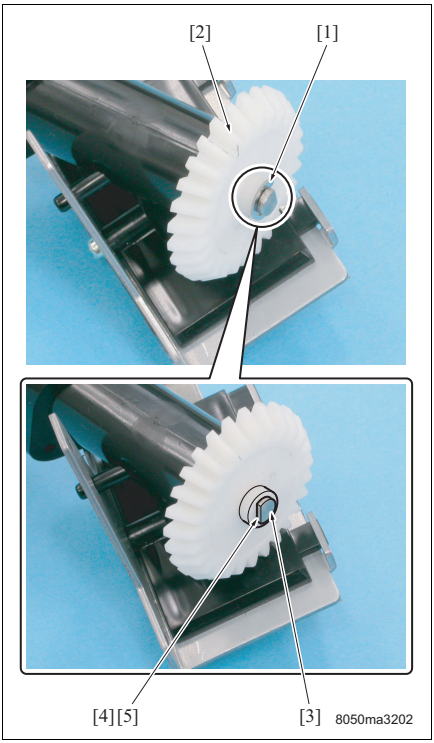


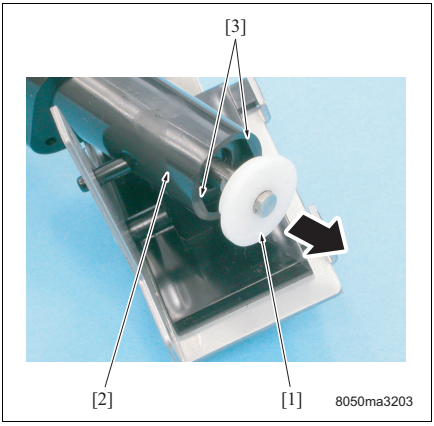
18. Remove the two screws [1] and pull out the horizontal conveyance pipe assy [3] from the horizontal conveyance pipe /1 [2].



19. Remove the E-ring [1] and the gear [2].

Note

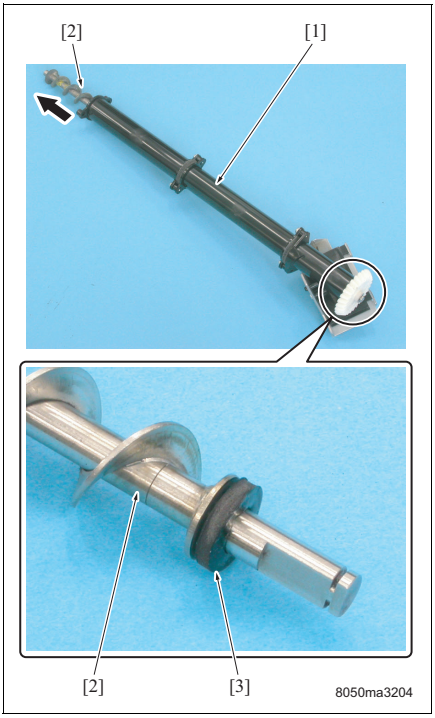
- **When installing the gear, insert the D-cut head [4] of the screw [3] into the D-shaped hole [5] of the gear.**



20. Remove the bearing [1].

Note

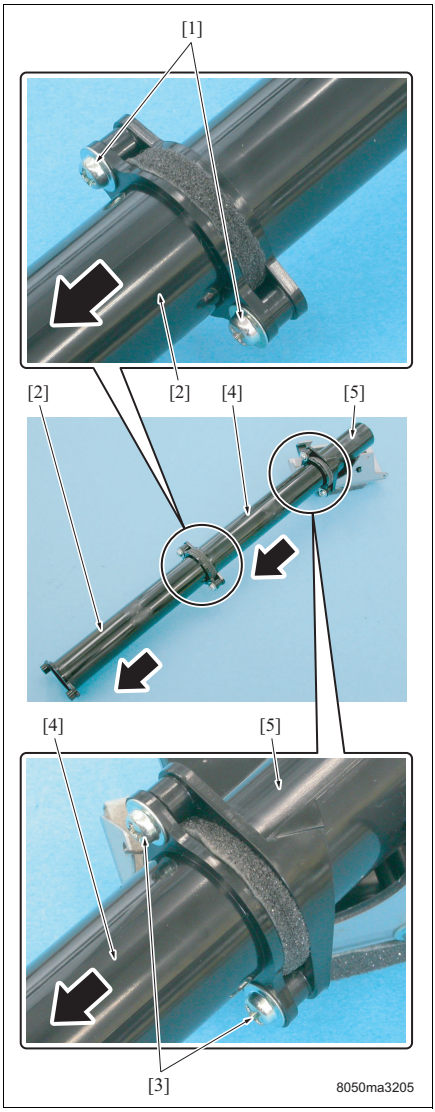
- **Insert the bearing into the hole of the horizontal conveyance pipe assy [2] checking their shapes [3].**



21. Pull out the screw [2] from the horizontal conveyance pipe assy [1].

Note

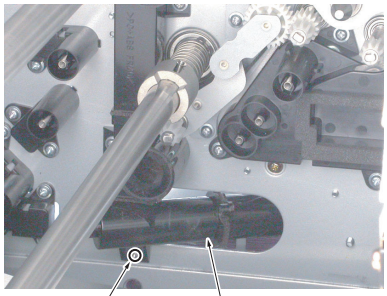
- **The spacer [3] is installed to the gear side of the screw. If the spacer come off or is removed, be sure to reattach it as shown.**



22. Remove the two screws [1] and remove the horizontal conveyance pipe/4 [2].

23. Remove the two screws [3] and remove the horizontal conveyance pipe/3 [4].

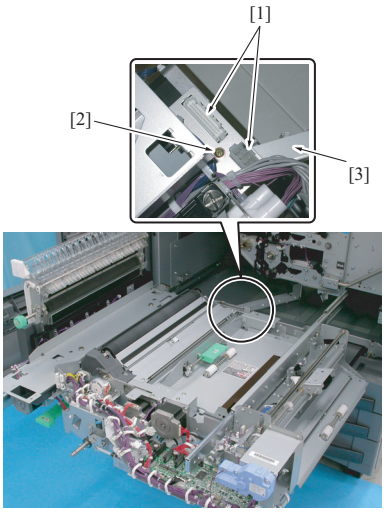
24. Clean off the waste toner in each horizontal conveyance pipe/2 [5], /3 [4] and /4 [2].



25. Remove the screw [1] and remove the horizontal conveyance pipe/1 [2].
26. Clean off the waste toner in the horizontal conveyance pipe/1.
27. Reinstall the above parts following the removal steps in reverse.

6.3.17 Removing/reinstalling ADU

A. Procedure



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1. Open the toner supply section.
   (See P.33)
2. Pull out the ADU.
   (See P.75)
3. Remove the fusing unit.
   (See P.85)
4. Remove the ADU cover/Rt, ADU release lever, and ADU cover/Lt.
   (See P.66)
5. Remove the paper feed solenoid cover.
   (See P.63)
6. Disconnect the two connectors [1].
7. Remove the screw [2] and release the ADU wire binding assy [3].

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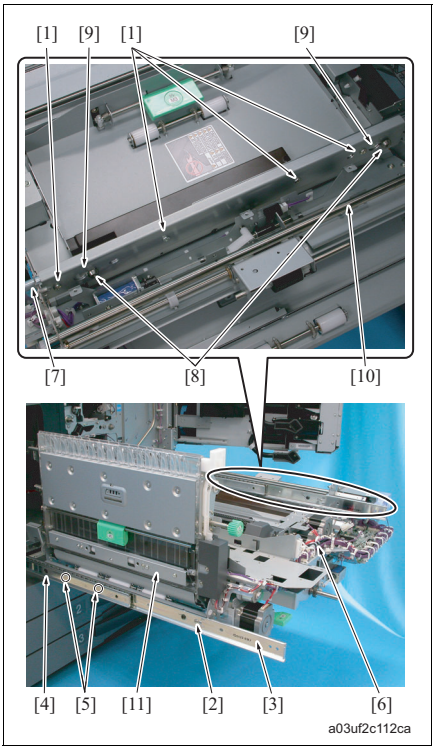

8. Remove the four screws [1].
9. Remove the screw [2].
10. Push back the ADU [6] until the screw [5] appears through each hole [4] of the guide rail/Lt [3], and remove the screws [5] one by one.

Note

- **Do not remove the black screws.**

11. Pull out the ADU [6] again and move the guide pins [8] of the guide rail/Rt [7] within the elongate hole so that the guide rail does not interfere with removal of the ADU.
12. Remove the ADU [6] from the guide rail/Lt [3] and /Rt [7].

Note

- **When removing the ADU [6], be sure to perform the work with two people, one is on the paper feed side, another is on the paper eject side.**
- **When removing the ADU [6], the person who performs on the paper feed side should hold the ADU handle/Rt [10].**
- **When removing the ADU [6], the person who performs on the paper eject side shold hold the stay [11].**

13. Reinstall the above parts following the removal steps in reverse.

6.3.18 Replaceing the lock lever/1, /2

Note

- **Do not pull out the process unit and the ADU at a time or the main body may topple over. In order to prevent rollover accidents, the lock lever/1 and /2 do not allow the process unit and the ADU to be pulled out at the same time.**
  If you cannot pull out the process unit or the ADU, the lock lever/1 and /2 may be deformed as a result of some operational error. Check the lock lever/1 and /2 for deformation and replace them as necessary.
- **Since the lock lever/1 and /2 are not the regular maintenance parts, they were located without considering the convenience of replacement. You must remove the levers without directly viewing them. Therefore, when replacing the lock lever/1 and /2, refer to the pictures for each steps to figure out their locations and how they are installed beforehand.**

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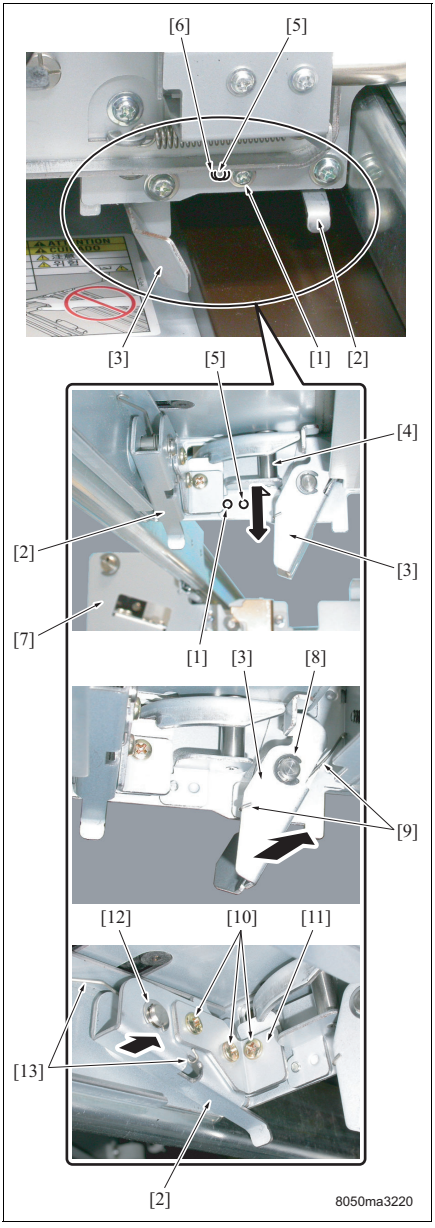
A. Procedure



1. Open the toner supply section.
(See P.33)
2. While releasing the lock of the ADU release lever, turn the lever counterclockwise, and pull out the ADU unit the screw [1] becomes accessible.

Note

- **The ADU may not be pulled out smoothly depending on deformation condition of the lock lever/1 [2] and /2 [3]. If so, pull it slightly harder to make space to access the screw [1].**

3. Remove the screw [1] and remove the stopper [4].

Note

- **When installing the stopper [4], match the projection [5] with the positioning hole [6].**

4. When the stopper [4] is removed, the force of the lock lever/1 [2] and /2 [3] disappears. Then pull only the ADU [7] further out.

⚠ WARNING

- **Never pull out the process unit or the main body may topple over.**

5. Remove the ring [8] and remove the lock lever/2 [3].
6. Remove the spring [9] from the lock lever/2 [3].

Note

- **When replacing the levers, be sure to check if the direction of the spring [9] and the position of the hook are correct.**

7. Remove the three screws [10] and remove the lever strengthening plate [11].
8. Remove the E-ring [12] and remove the lock lever/1 [2].
9. Remove the spring [13] from the lock lever/1 [2].

Note

- **When replacing the levers, be sure to check if the direction of the spring [13] and the position of the hook are correct.**

10. Reinstall the above parts following the removal steps in reverse.

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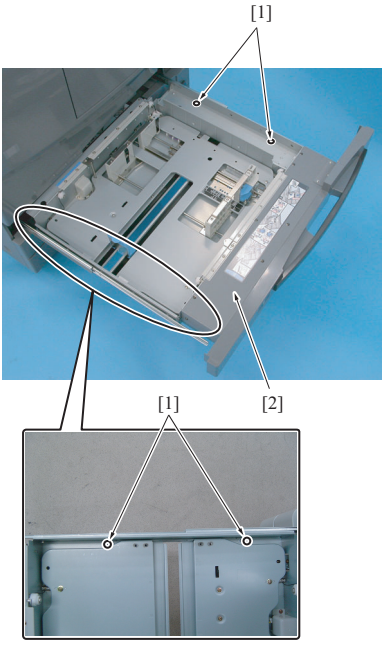
6.3.19 Removing/reinstalling paper feed tray/1, /2 and /3

A. Procedure

Note

- **Configuration of paper feed tray/1 is the same for those of paper feed trays /2 and /3. The explanation here is made by the example of paper feed tray/1.**



1. Pull out the paper feed tray/1.
2. Remove the paper feed unit.
(See P.58)
3. Remove the four screws [1] and lift the paper feed tray /1 [2] to remove it.
4. Reinstall the above parts following the removal steps in reverse.

6.3.20 Removing/reinstalling tray up/down wire

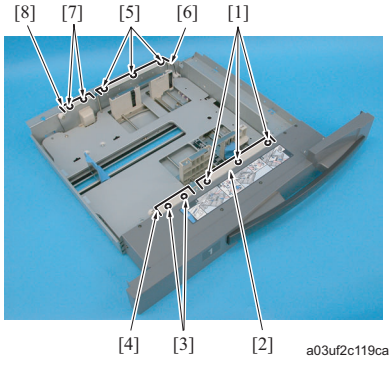
Wire length

- Tray up/down wire/A and /C: 531mm
- Tray up/down wire/B and /D: 160mm

A. Procedure for removing the tray up/down wires

Note

- **The tray/1 was used to illustrate the disassembly procedure. The procedure is the same for the tray/2 and tray/3.**



1. Pull out the paper feed tray/1.
2. Remove the paper feed unit.
3. Remove the paper feed tray/1.
4. Remove the three screws [1] and remove the wire cover/FR [2].
5. Remove the two screws [3] and remove the wire cover/FL [4].
6. Remove the three screws [5] and remove the wire cover/RR [6].
7. Remove the two screws [7] and remove the wire cover/RL [8].

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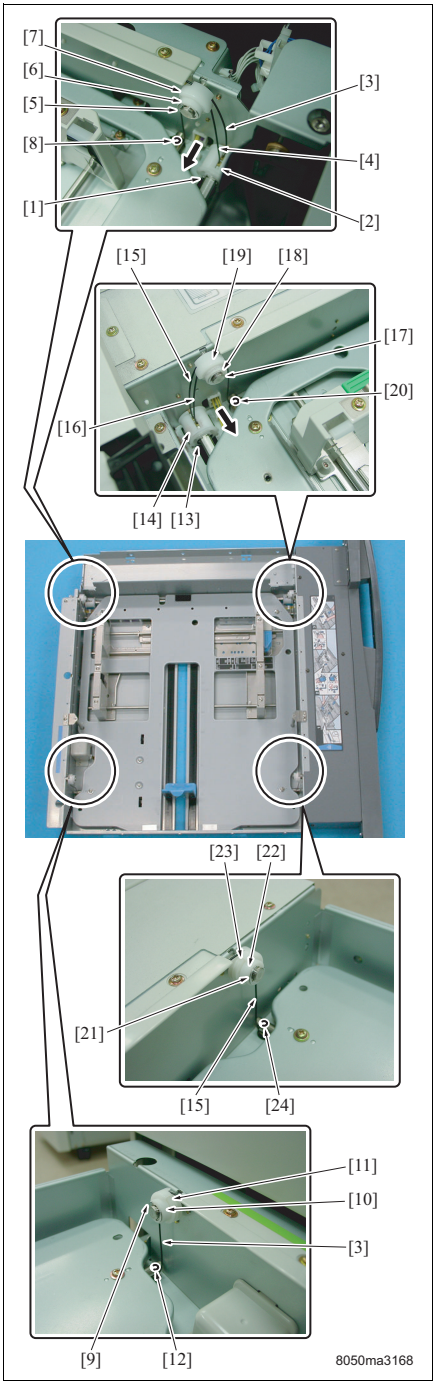
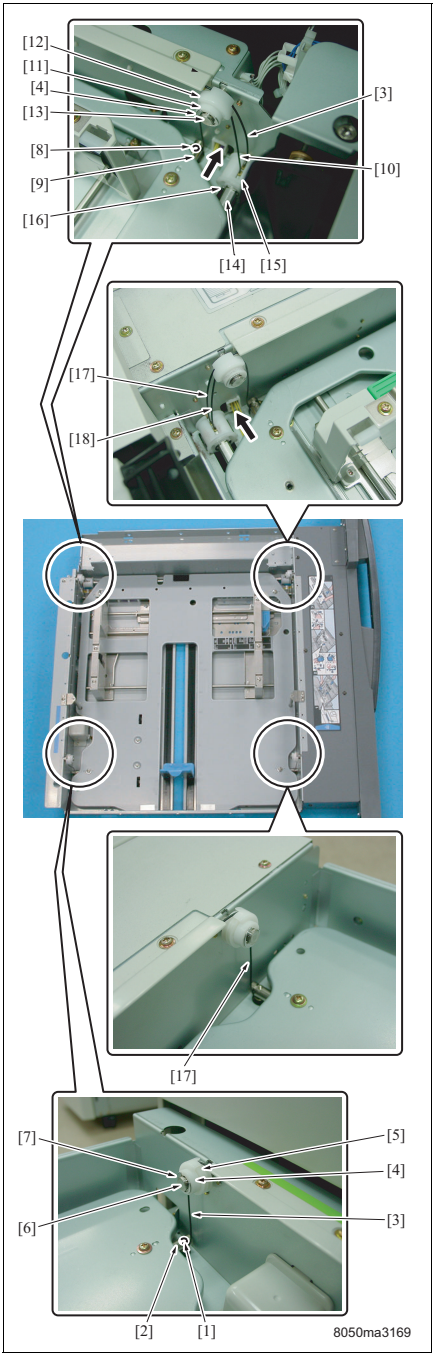


8. Remove the E-ring [1].
9. Slide the drive pulley [2] in the direction of the arrow and remove the wire/C [3] and /D [4].
10. After removing the E-ring [5], remove the pulley [6] and release the wire/C [3] and /D [4] from the wire cover [7].
11. Remove the screw [8] from the bottom of the paper feed tray/1 and remove the wire/D [4].
12. After removing the E-ring [9], remove the pulley [10] and release the wire/C [3] from the wire cover [11].
13. Remove the screw [12] from the bottom of the paper feed tray/1 and remove the wire/C [3].
14. Remove the E-ring [13].
15. Slide the drive pulley [14] in the direction of the arrow and remove the wire/A [15] and /B [16].
16. After removing the E-ring [17], remove the pulley [18] and release the wire/A [15] and /B [16] from the wire cover [19].
17. Remove the screw [20] from the bottom of the paper feed tray/1 and remove the wire/B [16].
18. After removing the E-ring [21], remove the pulley [22] and release the wire/A [15] from the wire cover [23].
19. Remove the screw [24] from the bottom of the paper feed tray/1 and remove the wire/A [15].

B. Wiring procedure



Note

- **The tray/1 was used to illustrate the following procedure. The procedure is the same for the tray/2 and tray/3.**

1. Secure the wire /C [3] to the fixing wire shaft [2] on the bottom of the paper feed tray with the screw [1].
2. After winding the wire /C [3] to the pulley [4], insert the wire/C over the shaft [6] and cover it with the wire cover [5]. Then secure them with the E-ring [7].
3. Secure the wire/D [10] to the fixing wire shaft [9] on the bottom of the paper feed tray with the screw [8].
4. After winding the wire/C [3] and /D [10] to the pulley [11], insert the wire/C and /D over the shaft [13] and cover it with the wire cover [12]. Then secure them with the E-ring [14].

Note

- **Place the wire/C [3] on the outer side while the wire/D [10] on the inner side to wind them to the pulley [11].**

5. Insert the wire/C [3] and /D [10] into the up/down drive shaft [14]. After sliding the drive pulley [15] in the direction of the arrow, secure it with the E-ring [16].

Note

- **Insert the wire/C [3] through the outer hole of the up/down drive shaft while the wire/D [10] through the inner hole.**

6. Follow the step1 to 5 to install the wire/A [17] and /B [18].

Note

- **After replacing the wires, manually turn the up/down drive shaft to check if the up/down ptate moves smoothly.**

7. Follow the removal steps in reverse from here.

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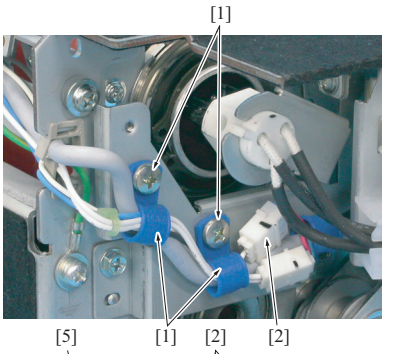
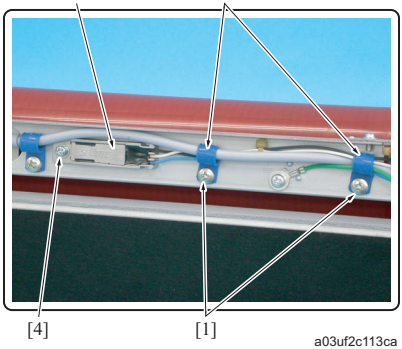
6.3.21 Removing/installing temperature sensor /1 (TEMS/1), thermostat /1 (TS1) and /2 (TS2)

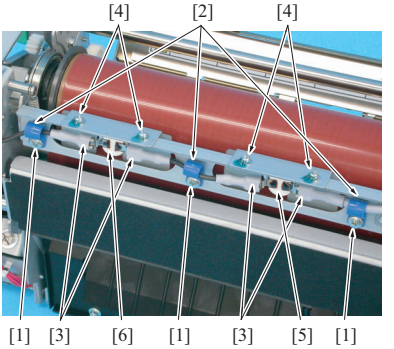
A. Disassembly procedure





a03uf2c113ca

1. Remove the fusing unit.
(See P.85)
2. Remove the fusing cover /Up assy.
(See P.92)
3. Remove the fusing cover /Rr.
(See P.87)
4. Remove the cover.
(See P.102)
5. Remove the screw [1] and the four cable clamps [2].
6. Disconnect the connector [3].
7. Remove the screw [4] and remove the temperature sensor /1 (TEMS/1) [5].



a03uf2c114ca

8. Remove the screw [1], 1 each, and the three cable clamps [2].
9. Disconnect fastons [3], two for each thermostat.

Note

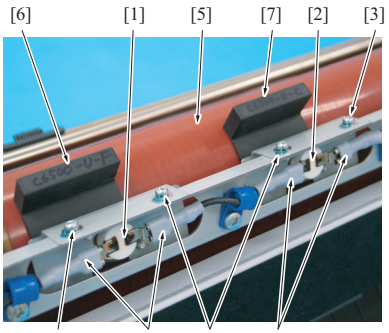
- **When disconnecting the fastons, be sure to hold the base of the faston to pull it out. Never hold the wire bindings to pull the faston out.**

10. Remove the four screws [4] and remove the thermostat/1 (TS1) and /2 (TS2) [6].

B. Reassembly procedure

Note

- **Be sure to adjust the positions of the thermostat/1 (TS1) and /2 (TS2) with a thermostat jig/UC /UF before securing them. Be sure to apply threadlocker to the fixing screws.**
- **Be sure to adjust the positions with the fixing belt cooled down.**



1. Secure the TS1 [1] and the TS2 [2] temporarily with the screws [3] 2 each.
2. Install four fastons [4] to the TS1 and TS2 (two for each).
3. Insert the thermostat jig /UF [6], /UC [7] in between the TS1 and the fusing belt [5].
4. Adjust the position of the TS1 so that the gap between the TS1 and the fusing belt becomes the same as the thickness of the thermostat jig /UC, /UF, and secure with the screws [3].
5. Follow the step3 to 4 to secure the TS2.

Note

- **Be sure to adjust the positions of the TS1 and TS2 so that the gap "a" between the TS1 or the TS2 and the fusing belt becomes the same as the thickness of the the thermostat jig/UC /UF.**
  Standard value (UC): a = 1.2 ± 0.2 mm
  Standard value (UF): a = 1.8 ± 0.2 mm

6. Apply the threadlocker to the four screws [3].
7. Follow the removal steps in reverse from here.

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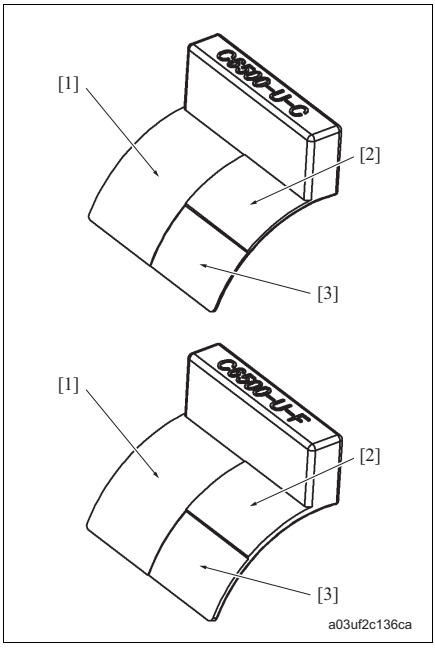
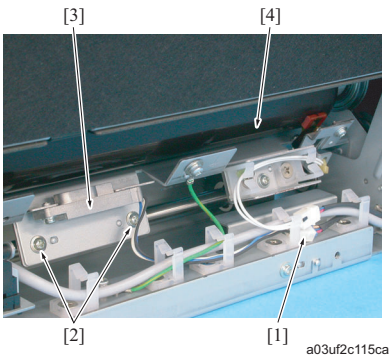


[1] Section to be adjusted
[2] Part that should not be in between the thermostat and the fusing belt
[3] Part that should be in between the thermostat and the fusing belt

6.3.22 Removing/installing temperature sensor /2 (TEMS/2) and thermostat /3 (TS3)

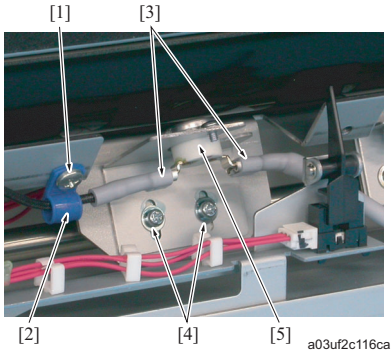
A. Disassembly procedure



1. Remove the fusing unit.
(See P.85)
2. Remove the fusing access guide plate.
(See P.101)
3. Disconnect the connector [1].
4. Remove the two screws [2] and remove the temperature sensor/2 (TEMS/2) [3].

Note

- **Before installing the TEMS/2, make sure that there is no contacts between the binding wire and the fusing roller/Lw [4].**



5. Remove the screw [1] and remove the cable clamp [2].
6. Disconnect the two fastons [3].

Note

- **When disconnecting the fastons, be sure to hold the base of the faston to pull it out. Never hold the wire bindings to pull the faston out.**

7. Remove the two screws [4] and remove the thermostat/3 (TS3) [5].

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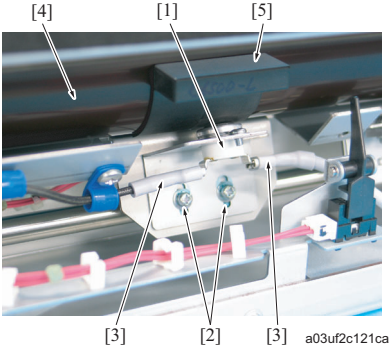
B. Reassembly procedure

Note

- **Be sure to adjust the position of the thermostat/3 (TS3) with a thermostat jig/L before securing it. Be sure to apply the threadlocker to the fixing screws.**
- **Be sure to adjust the position with the fusing belt cooled down.**

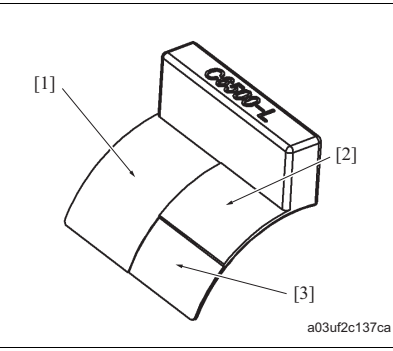


1. Secure the TS3 [1] temporarily with the two screws [2].
2. Connect the two fastons [3] to the TS3.
3. Insert the thermostat jig/L [5] in between the TS3 and the fusing roller/Lw [4].
4. Adjust the position of the TS3 so that the gap between the TS3 and the fusing roller/Lw becomes the same as the thickness of the jig, and secure with the screw [2].

Note

- **Be sure to adjust the position of the TS3 so that the gap "a" between the TS3 and the fusing roller/Lw becomes the same as the thickness of the thermostat jig/L.**
  Standard value : a = 3 ± 0.2 mm

5. Apply the threadlocker to the two screws [2].



[1] Section to be adjusted
[2] Part that should not be in between the thermostat and the fusing roller/Lw
[3] Part that should be in between the thermostat and the fusing roller/Lw

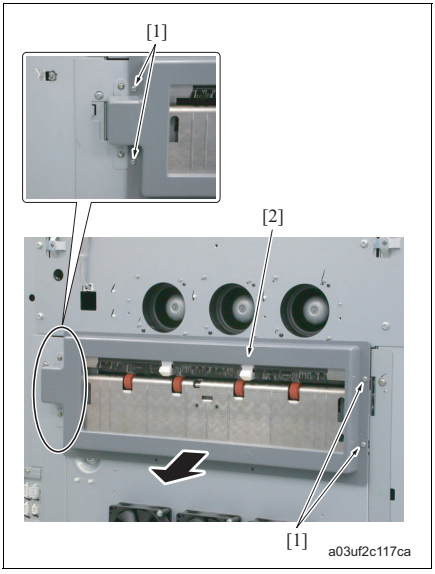
Note

- **Before installing the TS3, make sure that there is no contacts between the binding wire and the fusing roller/Lw.**

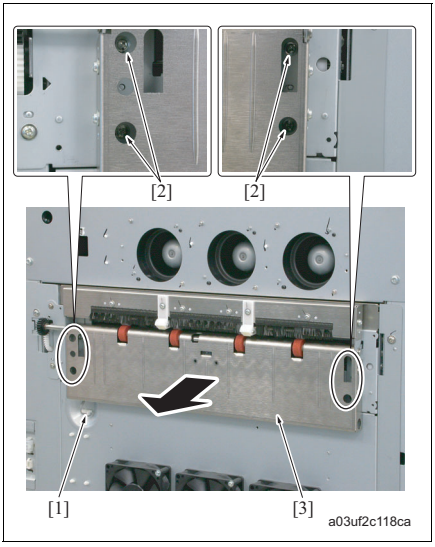
6. Follow the removal steps in reverse from here.

6.3.23 Removing/reinstalling OT

A. Procedure



1. Remove the left cover.
(See P.170)
2. Remove the four screws [1] and remove the OT cover.



3. Disconnect the connector [1].
4. Remove the four screws [2] and remove the OT [3].
5. Reinstall the above parts following the removal steps in reverse.

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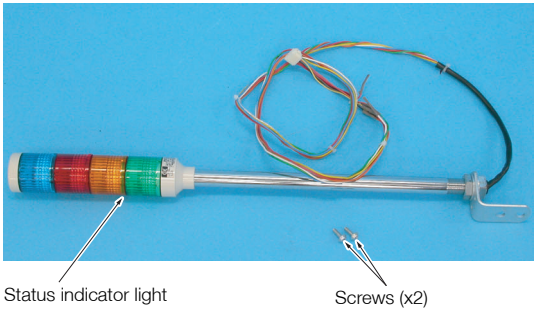
6.4 Commercially available parts

6.4.1 Installing the status indicator light

A. Configuration



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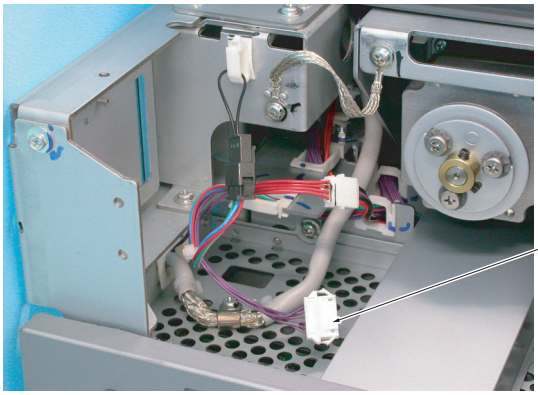
B. Connector

(1) Connector locations



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[1] CN495

(2) Connector specifications

Connector	Pin no.	Signal	Description	Output timing	Signal type
495	1	PAT1_DR	Light on signal	L signal output when printing is possible.	Open collector
	2	PAT2_DR		L signal output during scanning or printing.	
	3	PAT3_DR		L signal output when the product stops abnormally due to paper jam, malfunction code, no paper, no toner, etc.	
	4	PAT4_DR		L signal output when toner low message is displayed.	
	5	24V	DC24V power supply	At all times	24V, 500mA
	6	GND	Ground	—	—

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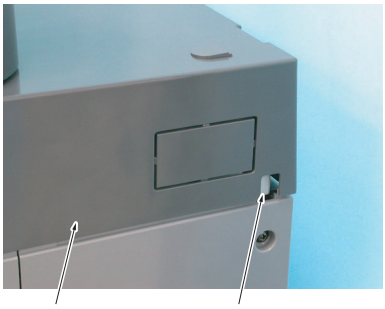
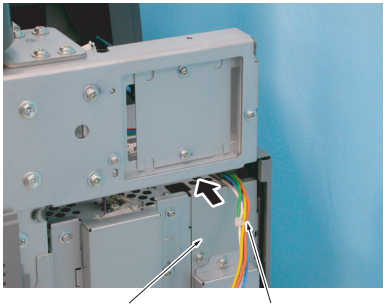
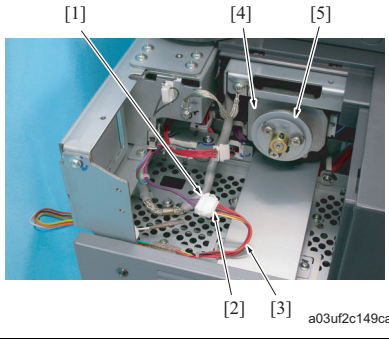
C. Procedure



1. Remove the upper cover /Rr2.
(See P.174)
2. Remove the cracked cover for pulling out the cables [2] from the upper cover /Rr2 [1].



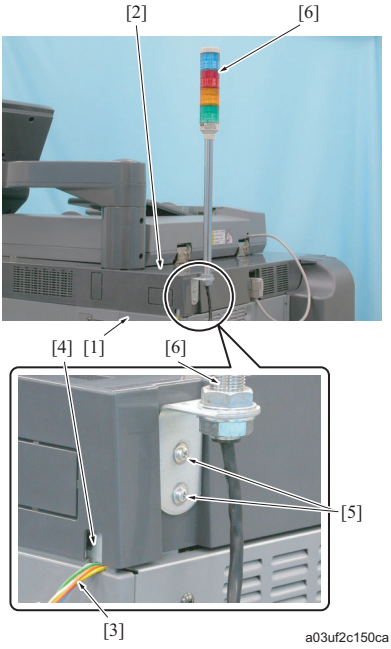
3. Remove the right cover /Up3.
(See P.171)
4. Insert the cables [2] of the status indicator light through the upper part of the main board unit [1].



5. Connect the connector [2] of the status indicator light to CN495 [1].

Note

- **Route the cables [3] so that they do not make contact with the flywheel [5] of the scanner motor (M1) [4].**



6. Install the right cover/Up3 [1] and the upper cover/Rr2 [2].

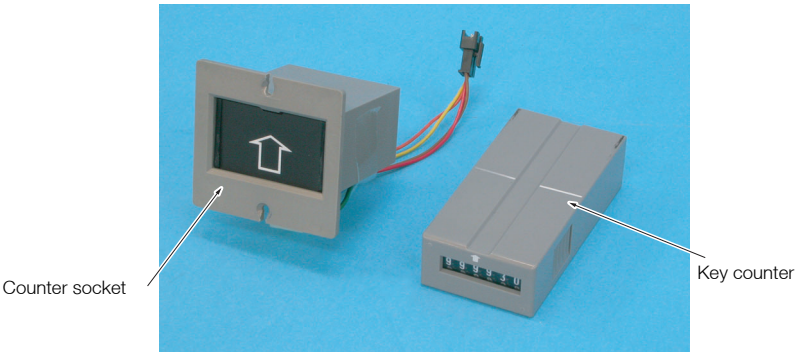
Note

- **Pull out the cables [3] of the status indicator light through the cracked cover for pulling out the cables [4] of the upper cover/Rr2.**

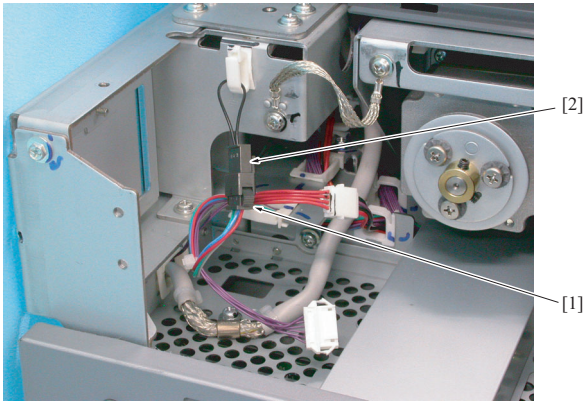
7. Install the status indicator light [6] with the two screws [5].
8. Reinstall the above parts following the removal steps in reverse.

6.4.2 Installing the key counter (KCT)

A. Configuration



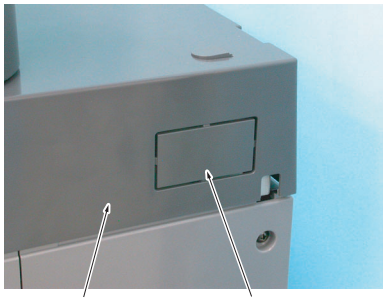
B. Connector locations



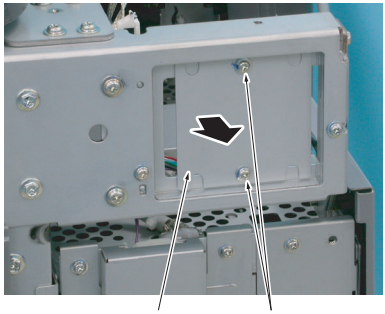
[1] CN493

[2] Jumper connector (CN494)

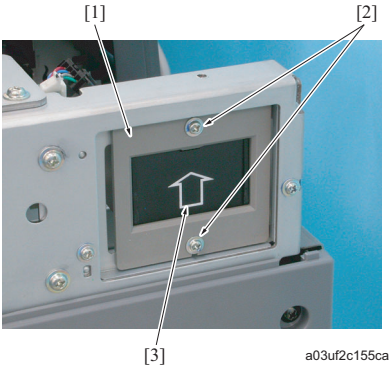
C. Procedure



1. Remove the upper cover/Rr2.
(See P.174)
2. Remove the cracked cover for key counter [2] of the upper cover/Rr2 [1].



3. Remove the two screws [1] and the shield plate [2].



4. Install the counter socket [1] with the two screws [2].

Note

- **Be sure to use the two screws removed in Step 3.**
- **Install the counter socket so that the arrow mark [3] is facing upward.**

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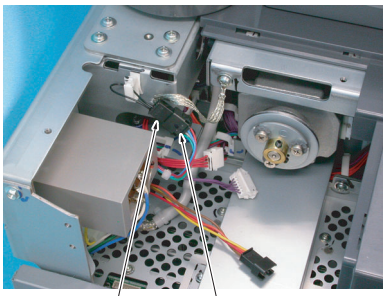
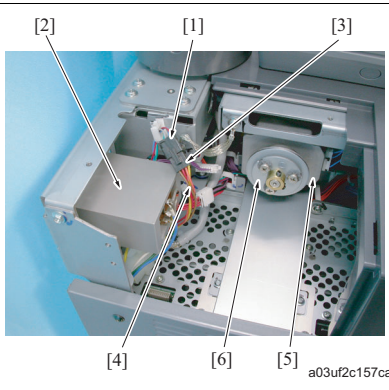


5. Disconnect the jumper connector (CN494) [2] from CN493 [1].

Note

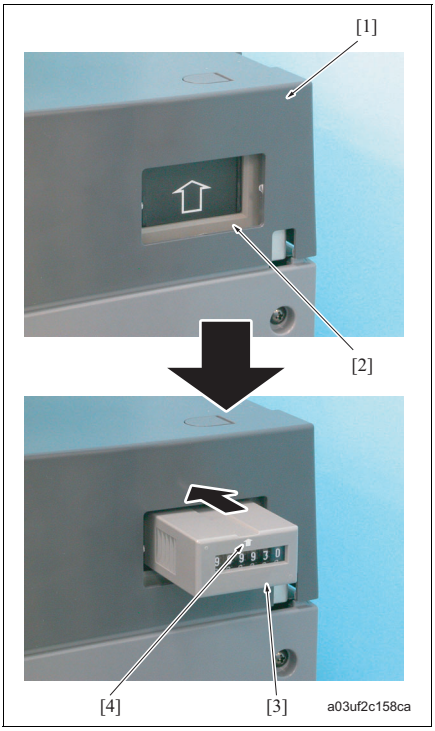
- **Be sure to keep the removed jumper connector (CN494).**



6. Connect the connector [3] of the counter box [2] to CN493 [1].

Note

- **Route the cables [4] so that they do not make contact with the flywheel [6] of the scanner motor (M1) [5].**



7. Install the upper cover /Rr2 [1].
8. Attach the key counter [3] to the counter socket [2].

Note

- **Install the key counter so that the arrow mark [4] is facing upward.**

9. Reinstall the above parts following the removal steps in reverse.

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■ ADJUSTMENT/SETTING

7. HOW TO USE THE ADJUSTMENT/SETTING SECTION

7.1 Composition

This part "ADJUSTMENT/SETTING" describes items to be adjusted and the method of adjustment that is required by this machine, it also gives detailed explanations.

A. Checking before starting work

When conducting claims in the field, it is necessary to check first the following:

1. Are the power supply and voltage secured in accordance with the specifications?
2. Is the power supply properly grounded?
3. Is any equipment that repeatedly consumes a lot of electricity connected to the same power supply? (e.g.: Electric noise sources such as elevator and air conditioner)
4. Are environmental conditions suitable for the machine?
   - High temperature and high humidity, direct sunlight, air ventilation, etc.
   - Levelness of the location on which the machine is installed.
5. Does the cause of poor images lie in the original itself?
6. Is density selected properly?
7. Is the original glass stained?
8. Is proper paper used for copy?
9. Are copy consumable replaced with new ones at their life? (e.g.: Developer, drum, cleaning blade, etc)
10. Is toner filled?

B. Checkpoints when conductions on-site service

Due attention should be paid to the following when repairing the machine.

1. Be sure to unplug the power cord from the power outlet. Also, when operating the machine with the power supplied, be careful of the scan of the exposure unit and be sure not to get caught by the gear.
2. The fusing section may be very hot. Be careful not to get burnt when handling it.
3. The developing unit is strongly magnetized. Be careful not to bring a watch and instrument near to the unit.
4. Be careful not to damage the drum with a tool.
5. Be careful not to touch IC directly with bare hands.

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8. UTILITY MENU

8.1 List of utility mode

01 Scan Send Address	01 Address Edit		
	02 E-mail Title Setting		
	03 E-Mail Text Setting		
02 User Setting	01 System Setting	01 Language Setting	
		02 Unit Setting	
		03 Feed Tray Setting	01 Paper Setting
			02 Feed Tray Auto Selection
			03 ATS Permit Setting
			04 Auto Paper Type
			05 Dehumidification Fan
		04 Reset Setting	01 Auto Reset Setting
			02 Mode Reset Setting
		05 Default Screen Setting	
		06 Preset Zoom Setting	
		07 Power Save Setting	
		08 Time and Date Setting	
		09 Buzzer Setting	01 Buzzer Volume Regulation
			02 Buzzer for Job Stop Set
		010 Key Response Time	
		011 Short cut Key Setting	01 Application
			02 Quality Adjust.(Copy)
			03 Quality Adjust.(Scanner)
			04 Quality Adjust. Area Set
		012 Service Port Device	
	02 Initial Setting	01 Copy Initial setting	
		02 Scan Initial setting	
	03 Common Setting		
	04 Copy Setting		
	05 Scan Setting		
	06 Printer Setting	01 Gray Text Outline Enhance	
		02 Thin Line Enhancement	
		03 Reversed Text Enhancement	
		04 Blur Prevention	

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02 User Setting	07 Image Quality Setting	01 Screen		
		02 Screen Initial setting		
		03 Original Density shift		
		04 ACS adjustment		
	08 Change Password			
03 Machine Admin. Setting	01 System Setting	01 Power Save Setting		
		02 Time and Date Setting		
		03 Weekly Timer Setting	01 Weekly Timer On/Off Set	
			02 Timer Setting	
			03 Timer Action On/Off Set	
			04 Lunch Hour Off Setting	
			05 Timer Interrupt Password Set	
		04 Operation Prohibit Set	01 Lock/Delete Mode Memory	01 Copy Mode Memory
				02 Scan Mode Memory
			02 Change Prohibit Setting	
			03 Scanner Prohibit Setting	
		05 Expert Adjustment	01 AES Level Adjustment	
			02 Erase Adjustment	01 Non-Image Area Erase
				02 Erase Operating Setting
				03 ADF Frame Erase
			03 Printer Adjustment	01 Restart Timing Adjustment
				02 Centering Adjustment
				03 FD-Mag. Adjustment
				04 CD-Mag. Adjustment
				05 Lead Edge Erase Adjustment
				06 Registration Loop Adj.
				07 Pre-registration Adj.
			04 Finisher Adjustment	01 Stapler Position Adj.
				02 Multi Folder (Punch) Adj.
				03 Multi Folder (Fold) Adj.
				04 Multi Folder (PI) Adj.
				05 Stacker Adjustment
				06 Saddle Stitcher Adj.
				07 RU Adjustment
			05 Scanner Adjustment	01 Restart Timing Adjustment
				02 Centering Adjustment
				03 FD-Mag. Adjustment

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03 Machine Admin. Setting	01 System Setting	05 Expert Adjustment	06 Process Adjustment	01 Front & Back Density
				02 Toner Density Sensor
				03 Toner Quantity/Exposure
			07 Quality Adjustment	01 Printer Gamma Offset Adj.
				02 Printer Gamma Offset Auto Adj
				03 Printer Gamma Sensor Adj.
				04 Image Quality Stability
				05 Custom Screen
			08 Execute Adjust Operation	
		06 List/Count		
		07 Size Setting	01 Orig. Glass Size Detect	
			02 ADF Original Size Detect	
			03 Orig. Glass Minimum Detect	
			04 K size	
			05 ADF/Orig. Glass Priority	
			06 PI Size Priority	
	02 Administrator Register			
	03 Scanner Send Address	01 Address Edit		
		02 E-Mail Title Setting		
		03 E-Mail Text Setting		
	04 User Auth./ Account Track	01 Authentication Method		
		02 User Authentication Set	01 Management Setting	
			02 User Register	
			03 User Counter	
		03 Account Track	01 Account Register	
			02 Account Counter	
		04 Without Authentication		
	05 Network Setting	01 Machine NIC Setting		
		02 E-Mail Initial Setting		
	06 Common Setting			
	07 Copy Setting			
	08 Scan Setting			
	09 System Connection	01 Administrator		
	10 Security Setting	01 Administrator Password		
		02 HDD Lock Password		
		03 Overwrite image data		
		04 Security Strengthen Set		
04 Touch Screen Adjustment				

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9. UTILITY MENU

Note

- **This table shows the list of adjustment items when replacing a part. Items are numbered in a circle by the priority if there is any.**
- **After replacing the developer, do NOT print until the toner density sensor initial automatic adjustment completes.**
- **When replacing the overall control board (OACB) due to damage of the board, be sure to remove the NVRAM board (NRB) on the current OACB and install it to the new OACB.**

Adjustment/setting items \ Replacement parts/Others			After maintenance implementation	Drum cartridge /Y,/M,/C,/K	Developer /Y,/M,/C,/K	Transfer belt	Belt cleaner blade	Drum cartridge, Developer, Transfer belt, Belt cleaner blade	CCD unit	Exposure of scanner/ V mirror unit
Machine Adjustment	Printer Adjustment	Restart Timing Adjustment								
		CD-Mag. Adjustment							①	
		Belt Line Speed Adjustment				⑤		⑦		
		Color Registration Adjustment		④		⑥		⑧	③	②
		Color Registration/Manual		⑤		⑦		⑨	④	③
		CD Skew Adjustment								
	Quality Adjustment	Scanner smooth tone/color							②	
		Printer Gamma Offset Auto Adjustment			⑥			⑪		
		Printer gamma sensor adjustment								
		Printer Screen Gradation Adjustment								
Process Adjustment	Drum Peculiarity Adjustment	Blade setting mode				④	②			
		Automatic gamma adjustment		⑥	⑤	⑧		⑩		
		LD bias adjustment								
		Automatic Developer Charge			②			④		
		TonerDensity Sensorunit			③			⑤		
		Initial drum rotation		②				③		
System Setting	Software SW Setting									
Counter/Data	Maintenance Counter		○							
	Parts Counter	Count of special parts (reset)		③	④			⑥		
State Confirmation	I/O Check Mode									
Finisher Adjustment	Stacker Adjustment	Paper Width Adjustment								
		Paper Length Adjustment								
	Punch Adjustment	Paper Edge Detect Sensor Adj.								
ISW	ISW									
Others	Mirror unit positioning (require the jigs)									①
	Dust-proof glass cleaning (Write unit)			①	①	③		①		
	Setting powder application					②	①	②		
	1st transfer roller installation direction (shaft groove comes front side)									
	Transfer belt installation direction (UPSIDE mark comes rear)					①				
	2nd transfer rollers/Up and /Lw installation direction (Concave at the shaft edge comes front)									
	Fusing belt installation direction (lot number comes rear)									
	Fusing heater lamp installation direction (colored wiring comes front)									
	Thermostat/UC, /UF, /L positioning (require the jigs)									
	NVRAM board (NRB) replacement									
	Main body NIC setting									
	Board DIPSW setting									
	Toggle switch setting									
	EEPROM remove and install									
	Stapler positioning (require the jigs)									
	Grip conveyance home sensor adjustment									

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	Exposure lamp (L1)	Original glass	Write unit /K	Write unit /Y,M,C	Dust-proof glass /Y,M,C,K	Charging corona /Y,M,C,K	1st transfer roller /Y,M,C,K	2nd transfer roller /Up, /Lw	Image correction unit	Fusing belt	Fusing heater lamp /4	Thermostat /1 (TS1)	Thermostat /2 (TS2)	Thermostat /3 (TS3)	Stapler unit <FS-607>	Trimmer board assembly	Overall control board (OAC/B)	Printer control board (PRC/B)	Image processingboard (IPB)	FNS control board (FNSC/B) <FS-503>	FNS control board (FNSC/B) <FS-607>	LS control board (LSC/B)	FD control board (FDC/B)	SD control board (SDC/B)	PI drive board (PI/DB)	Multi feed detection board <FD>	Multi feed detection board <PF>	Punch drive board (PDB) <PK>	Paper edge sensor (PESB) <PK>	Hard disk /Y,/M,/C,/K
			⑤																											
			⑥	④					②																					
			⑦	⑤					③																					
			④																											
	○																													
		○																												
									⑤																					
																			○											
			⑧	⑥	○	③	④		④																					
			②	②																										
																		②												
						②	③									○										○					○
																	②					④								
																						⑤								
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			①	①		①	②		①								②	①		②	①	②	②	②						
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																				③	②		③	③						
															○							③									

10. SERVICE MODE

10.1 List of service mode

Adjustment/Setting Item				Page
01 Machine Adjustment	01 Printer Adjustment	01 Restart Timing Adjustment		P.239
		02 Centering Adjustment		P.240
		03 FD-Mag. Adjustment		P.241
		04 CD-Mag. Adjustment		P.242
		05 Lead Edge Erase Adjustment		P.243
		06 Registration Loop Adj.		P.244
		07 Pre-registration Adj.		P.245
		08 Belt Line Speed Adj.		P.246
		09 Writing Init. Pos. Memory		P.246
		10 Color Registration Adj.		P.247
		11 Color Registration/Manual		P.248
		12 PFU Dfeed Detect Adj.		P.251
		13 CD Skew Adj.		P.251
		14 Recall Standard Data		P.252
	02 Scanner Adjustment	01 Restart Timing Adjustment		P.253
		02 Centering Adjustment		P.254
		03 FD-Mag. Adjustment		P.255
		04 Recall Standard Data		P.256
	03 Quality Adjustment	01 Scanner smooth tone/color		P.257
		02 Printer gamma adjustment	01 Printer Gamma Offset Adj.	P.258
			02 Printer Gamma Offset Auto Adj.	P.260
			03 Printer gamma sensor adj.	P.262
			04 Printer Screen Gradation Adj.	P.265
		03 Sharpness adjustment		P.266
		04 Contrast adjustment		P.266
		05 Image Distinction Level	01 Dot detect adjustment	P.267
			02 Color text adjustment	P.268
			03 Dot/Text area adjustment	P.269
		06 ACS adjustment		P.270
		07 Density adjustment	01 AES adjustment	P.271
			02 Copy density adjustment	P.272
			03 Adjust Background	P.273
			04 B-Side Prevent	P.274
		08 Tone adjustment	01 Red	P.275
			02 Green	P.276
			03 Blue	P.276
		09 Recall standard data		P.277
	04 Non-Image Area Erase Check			P.278

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Adjustment/Setting Item			Page
02 Process Adjustment	01 High Voltage Adjustment	01 1st transfer manual adj.	P.280
		02 2nd transfer manual adj.	P.280
		03 HV adj. (separation AC)	P.280
		04 HV adj. (separation DC)	P.280
		05 Pre-transfer Guide HV check	P.280
	02 Drum Peculiarity Adj.	01 Blade setting mode	P.280
		02 Automatic drum potential	P.281
		03 Auto gamma adjustment	P.281
		04 LD bias adjustment	P.282
		05 Automatic Developer Charge	P.284
		06 Toner Density SensorInit.	P.287
		07 Initial drum rotation	P.287
	03 Sensor output check	01 Surface potential sensor	P.288
		02 Maximum density sensor	P.288
		03 Gamma sensor output	P.288
		04 Toner Density Sensor	P.288
		05 Drum Surface potential	P.289
		06 Humidity/Temperature	P.289
		07 Toner Density Return Mode	P.290
	04 Process Fine Adjustment	01 Covered Margin Fine Adj.	P.291
		02 Develop Ac Bias Fine Adj.	P.292
		03 Develop AC Frequency	P.293
		04 Toner Density Fine Adj.	P.294
	05 Interval/Quantity Adj.	01 Drum TinyRotation Interval	P.295
		02 Auto. Refresh Interval	P.295
		03 Toner Dens. Sensor Interval	P.296
	06 Recall standard data		P.296
03 System Setting	01 Software SW Setting		P.297
	02 Telephone Number Setting		P.312
	03 M/C Serial Number Setting		P.312
	04 Setup Date Input		P.313
04 Counter/Data	01 Maintenance Counter		P.314
	02 Data Collection	01 Paper Size Counter(Total)	P.317
		02 Paper Size Counter(Copy)	P.317
		03 Paper Size Counter(Print)	P.317
		04 ADF Counter	P.318
		05 Coverage Data History	P.319
		06 Paper Jam History	P.320
		07 Jam Counter	P.320
		08 Copy Mode Counter(1)	P.322
		09 Copy Mode Counter(2)	P.326

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Adjustment/Setting Item				Page
04 Counter/ Data	02 Data Collection	10 SC Counter		P.331
		11 Paper Jam Sectional Counter		P.320
		12 Failure Sectional Counter		P.331
		13 SC data of time series		P.334
	03 Parts Counter	01 Count of special parts		P.335
		02 Count of each parts		P.345
05 State Confirmation	01 I/O Check Mode			P.348
06 ADF Adjustment	01 ADF Original Size Adj.			P.391
	02 ADF Orig.Stop Position Adj.			P.392
	03 ADF Sensor Adjustment			P.393
	04 ADF Registration Loop Adj			P.394
07 Finisher Adjustment *1	01 Stapler Position Adj.	01 Staple Center Position		P.395
		02 Paper Width (staple)		P.396
		03 Paper Width (straight)		P.397
	02 Multi Folder (Punch) Adj.	01 Paper Width Adjustment		P.398
		02 Hole-Punch Vertical Pos.	01 2-Hole Punch	P.399
			02 3-Hole Punch	P.399
			03 4-Hole Punch	P.399
	03 Multi Folder (Fold) Adj.	01 Half Fold Position Adj.		P.400
		02 Tri-Fold-in Pos. Adj.		P.401
		03 Tri-Fold-out Pos. adj.		P.402
		04 Double Parallel Pos. Adj.		P.403
		05 Z-Fold Position Adj.		P.404
		06 Gate Fold Position Adj.		P.405
		07 Fold Regist Loop Adj.		P.406
	04 Multi Folder (PI) Adj.			P.406
	05 Stacker Adjustment	01 Paper Width Adjustment		P.407
		02 Paper Length Adjustment		P.407
	06 Saddle Stitcher Adj.	01 Staple Center Adj.		P.408
		02 Staple Paper Width Adj.		P.409
		03 Staple Pitch Adjustment		P.410
		04 Half Fold Position Adj.		P.411
		05 Tri-Fold Position Adj.		P.412
		06 Fold Paper Width Adj.		P.413
		07 Trimming Adjustment		P.414
		08 Trimmer Receiver Adj.		P.415
	07 RU Adjustment	01 Curl Reform Direction		P.415
	08 Recall standard Data			P.416

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Adjustment/Setting Item			Page
07 Finisher Adjustment *2	01 Saddle Stitcher Stopper Adj.		P.417
	02 Half Fold Stopper Adj.		P.418
	03 Punch Adjustment	01 Vertical Position Adj.	P.419
		02 Horizontal Position Adj.	P.420
		03 Registration Adjustment	P.421
		04 Paper Edge Detect Sensor Adj.	P.421
	04 Tri-Fold Adjustment		P.422
	05 2 Pos. Staple Pitch Adj.		P.423
	06 Paper Inserter Tray Size Adj.		P.424
	07 Output quantity limit		P.424
	08 Recall Standard Data		P.416
08 Firmware Version	01 ROM Version		P.425
09 CS Remote Care	01 CS Remote Care	01 E-Mail	P.426
		02 Modem	P.426
10 List Output	Machine Management List		P.446
	Adjustment Data List		P.446
	Coverage Data List		P.446
	Font Pattern		P.446
	Communication Log List		P.446
	Memory Dump List		P.446
11 Test Mode	01 Running Test Mode		P.447
	02 Test Pattern Output Mode		P.448
12 ISW	01 ISW		P.458

*1 Depending on which options among the FS-503, FD, LS, SD and RU are installed, the enabled adjustment items changes.

*2 Depending on which option(s) among the FS-607, PK, and PI is (are) installed, the enabled adjustment items changes.

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10.2 Setting method

Service mode allows you to adjust/set various settings on the machine. Data adjusted/set in this mode are stored in NVRAM board (NRB).

10.2.1 Start and exit service mode

You can access the service mode while the power is both turned ON and OFF. In either way, the started service mode is the same. Since starting up the service mode with the machine turned OFF skips the user mode, it is preferred during machine setup before installing the consumables or when some malfunction code is occurring.

A. Starting and exiting service mode while the power is ON

1. Be sure that the ordinary copy screen is displayed.
2. Press [Utility/Counter] key.
3. "Utility Menu screen" Press the hard keys in the following order: Stop → 0 → 0 → Stop → 0 → 1 **Note** **• If a CE Authentication is set, input the password to enter the service mode.**
4. "Service Mode Menu screen" Service mode is started.
5. Select the item you want to set. A setting screen corresponding to each item appears.
6. Press [Exit] to exit the service mode.
7. The new settings will be effective after reboot.

B. Starting and exiting service mode while the power is OFF

1. While pressing [Utility/Counter] key turn the sub power switch (SW2) ON. **Note** **• If a CE Authentication is set, input the password to enter the service mode.**
2. "Service Mode Menu screen" Service mode is started.
3. Select the item you want to set. A setting screen corresponding to each item appears.
4. Press [Exit] to terminate the service mode.
5. The new settings will be effective after reboot.

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10.3 Machine adjustment

10.3.1 Restart Timing Adjustment (Printer Adjustment)

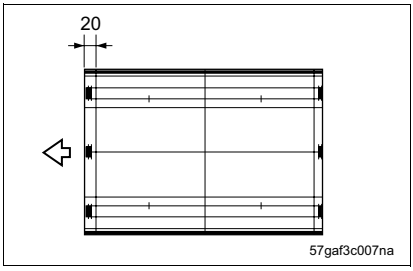
Adjust the image leading edge timing.

This adjustment changes the restart timing of the registration roller to adjust the image position in sub-scanning direction.

Note

- **Be sure the "FD-mag. Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.241)

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [01 Restart Timing Adjustment].
4. "Restart Timing Adjustment screen" Press [▼] or [▲] to select the item you want to adjust, and press [COPY].This adjustment can be performed for each feed tray (trays, ADU), paper size (large, small), and paper type (plain paper, thick paper). **Note** • **Large size: 300 mm and more (sub-scanning direction)** • **Small size: Less than 300 mm (sub-scanning direction)** • **Thick paper: Paper weight 106 g/m^2 and more**
5. "Copy screen" Set the copy according to the item that has been adjusted and press the Start key to output a test pattern (No. 16).
6. Check the leading edge timing. Standard value 20 ± 0.5mm 
7. When the value is not within the standard value, press the [SERVICE].
8. "Restart Timing Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -60 (shorter) to +60 (longer) 1 step = 0.1 mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.3.2 Centering Adjustment (Printer Adjustment)

Adjust the image mis-centering in main scanning direction on the printer.
This adjustment changes the laser writing start timing.

Note

- **Be sure the "CD-mag. Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.242)

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [02 Centering Adjustment].
4. "Centering Adjustment screen" Press [▼] or [▲] to select the item you want to adjust, and press [COPY]. This adjustment can be performed for each feed tray (trays, ADU), paper size (large, small, 8½ x 5½ (trays 1 to 5)), and paper type (plain paper, thick paper). **Note** • **Large size: 300 mm and more (sub-scanning direction)** • **Small size: Less than 300 mm (sub-scanning direction)** • **Thick paper: Paper weight 106 g/m^2 and more**
5. "Copy screen" Set the copy according to the item that has been adjusted and press the Start key to output a test pattern (No. 16).
6. Fold the output page in half in main scanning direction, and check the discrepancy from the center line of the print. Standard value 0 ± 1.5mm or less
7. When the value is not within the standard value, press [SERVICE].
8. "Centering Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -40 (image in back) to +40 (image in front) 1 step = 0.1 mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.3.3 FD-Mag. Adjustment (Printer Adjustment)

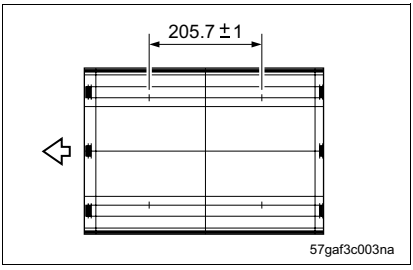
Adjust the magnification in sub-scanning direction.

This adjustment changes the speed of the polygon motor and adjusts the image magnification.

Note

- **There are the following two methods to adjust the magnification of the printer in sub-scanning direction.**
  (1)FD-Mag. Adjustment (Printer Adjustment)
  Perform this adjustment when the magnification in sub-scanning direction has changed because of the worn registration roller or paper shrinkage by heat.
  (2)Belt Line Speed Adj. (Printer Adjustment)
  Perform this adjustment under the conditions not mentioned above.
- **Magnification adjustment on back side in sub-scanning direction is not reflected to the image in default. WHEN ADJUSTING the magnification on back side, enter "User Setting - Common Setting" and turn the "Side 2 Lens Adjustment mode" [On]. However, since the polygon motor speed is switched for back side, the print speed is reduced up to 3/4.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [03 FD-Mag. Adjustment].
4. "FD-Mag. Adjustment screen" Select the item you want to adjust, and press [COPY]. This adjustment can be performed for both sides at a time (all trays) or for back side (each tray).
5. "Copy screen" Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16).
6. Check the magnification in sub-scanning direction. Standard value: 0.5% or less (when in life-size) 205.7 ± 1 mm or less    57gaf3c003na
7. When the value is not within the standard value, press [SERVICE].
8. "FD-Mag. Adjustment screen" Setting range • Printer FD-Mag. (both sides at a time): -100 (shorter) to +100 (longer) • Other than the above: -80 (shorter) to +20 (longer) 1 step = 0.01%
9. Enter a value through the numeric buttons and press [<<SET].
10. Repeat steps 4 to 9 until the standard value can be obtained.

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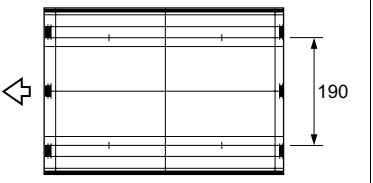
10.3.4 CD-Mag. Adjustment (Printer Adjustment)

Adjust the magnification in main scanning direction.

This adjustment changes the magnification in image processing prior to the laser exposure.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [04 CD-Mag. Adjustment].
4. "CD-Mag. Adjustment screen" Select the item you want to adjust, and press [COPY]. This adjustment can be performed for both sides at a time (all trays) or for back side (each tray).
5. "Copy screen" Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16).
6. Check the magnification in main scanning direction. Standard value: ± 0.5% or less (when in life-size) 190 ± 1 mm or less  57gaf3c004na
7. When the value is not within the standard value, press [SERVICE].
8. "FD-Mag. Adjustment screen" Setting range: -100 (shorter) to +100 (longer) 1 step = 0.01%
9. Enter a value through the numeric buttons and press [<<SET].
10. Repeat steps 4 to 9 until the standard value can be obtained.

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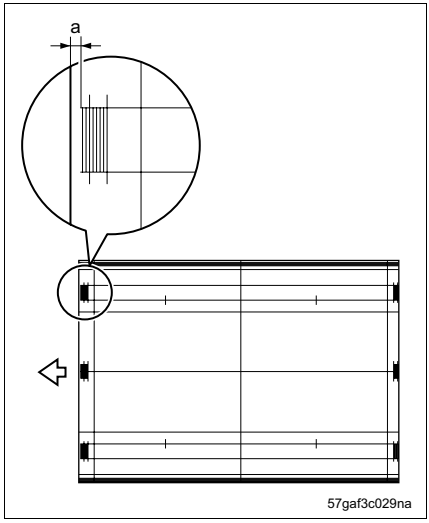
10.3.5 Lead Edge Erase Adjustmet (Printer Adjustment)

Adjust the image erasure amount of the leading edge.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [05 LeadEdge Erase Asjustment].
4. "Lead Edge Erase Adjustment screen" Press [COPY].
5. "Copy screen" Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16).
6. Check the leading edge erasure amount. Standard value a: 4 mm or less 
7. When the value is not within the standard value, press [SERVICE].
8. "Lead Edge Erase Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (narrower) to +40 (wider) 1 step = 0.1 mm
9. Repeat steps 5 to 8 until the standard value can be obtained.

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10.3.6 Registration Loop Adj. (Printer Adjustment)

Adjust the paper loop amount in the registration roller section to remove paper skew and wrinkle, or paper jamming in the registration section.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [06 Registration Loop Adj.].
4. "Registration Loop Adjustment screen" Press [▼] or [▲] to select the item you want to adjust, and press [COPY]. This adjustment can be performed for feed tray (trays, ADU), paper size (large, small, 150 mm or less of width), and paper type (plain paper, thick paper). **Note** • **Large size: 300 mm and more (sub-scanning direction)** • **Small size: Less than 300 mm (sub-scanning direction)** • **Thick paper: Paper weight 106 g/m^2 and more**
5. "Copy screen" Set the copy according to the item that has been adjusted and press the Start key to output a test pattern (No. 16).
6. If the problem is not solved, press [SERVICE].
7. "Registration Loop Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -99 (smaller) to +99 (larger) 1 step = 0.1 mm
8. Repeat steps 4 to 7 until the standard value can be obtained.

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10.3.7 Pre-registration Adj. (Printer Adjustment)

Adjust the paper loop amount in the pre-registration roller section to remove paper skew and wrinkle, or paper jamming in the pre-registration section.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [07 Pre-registration Adj.].
4. "Pre-registration Adjustment screen" Press [▼] or [▲] to select the item you want to adjust, and press [COPY]. This adjustment can be performed for feed tray (trays, ADU) and paper size (large, small). **Note** • **Large size: 300 mm and more (sub-scanning direction)** • **Small size: Less than 300 mm (sub-scanning direction)**
5. "Copy screen" Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16).
6. If the problem is not solved, press [SERVICE].
7. "Pre-registration Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -99 (smaller) to +99 (larger) 1 step = 0.1 mm
8. Repeat steps 4 to 7 until the standard value can be obtained.

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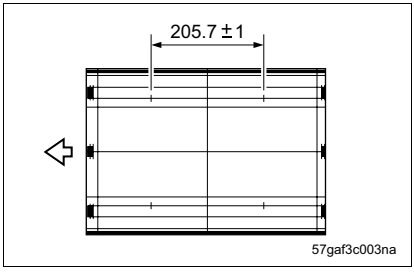
10.3.8 Belt Line Speed Adj. (Printer Adjustment)

Adjust the magnification in sub-scanning direction.
This adjustment charges line speed of the transfer belt.

Note

- **There are the following two methods to adjust the magnification of the printer in sub-scanning direction.**
  (1) FD-Mag. Adjustment (Printer Adjustment)
  Perform this adjustment when the magnification in sub-scanning direction has changed because of the worn registration roller or paper shrinkage by heat.
  (2) Belt Line Speed Adjustment (Printer Adjustment)
  Perform this adjustment under the conditions not mentioned above.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [08 Belt Line Speed Adj.].
4. "Belt Line Speed Adjustment screen" Press [COPY].
5. "Copy screen" Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16).
6. Check the magnification in sub-scanning direction. Standard value: ± 0.5% or less (when in life-size) 205.7 ± 1 mm or less 
7. When the value is not within the standard value, press [SERVICE].
8. "Belt Line Speed Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -100 (shorter) to +100 (longer) 1 step = 0.01%
9. Repeat steps 5 to 8 until the standard value can be obtained.

10.3.9 Writing Init. Pos. Memory (Printer Adjustment)

Note

- **Do not conduct this adjustment in the field.**

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10.3.10 Color Registration Adj. (Printer Adjustment)

Perform this adjustment when there is a color registration error. Main Scan, Sub Scan, Horizontal (main scanning direction magnification), and skew of color registration misalignment of Y, M, and C are automatically adjusted relative to K.

Note

- **This adjustment has a large correction area than that of the color registration adjustment in the user mode. If the malfunction code C-4520 appears, perform this adjustment.**
- **Be sure the image adjustment of black have been adjusted before performing this adjustment.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [10 Color Registration Adj.].
4. "Color Registration Adjustment screen" Press [Start].
5. The color registration adjustment starts and a message "Completed" is shown in about 2 minutes. If the error message appears, perform an error correction referring to the below. • Error 1: It does not converge within the standard value. The patch density may be too light. Check around the drum unit and perform the auto gamma 0. Then conduct this adjustment again. • Error 2: The difference of the color registration is too much. Check the installation position of the write unit. • Error 3: Other The other malfunction other than the auto color registration adjustment may occur. Restart the main body in the normal mode to check for malfunction code.
6. "Color Registration Adjustment screen" Misalignment amounts of Y, M, and C of "Main Scan", "Sub Scan", "Horizontal", and "Skew" relative to K are displayed on the panel. (unit: pixel)

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10.3.11 Color Registration/Manual (Printer Adjustment)

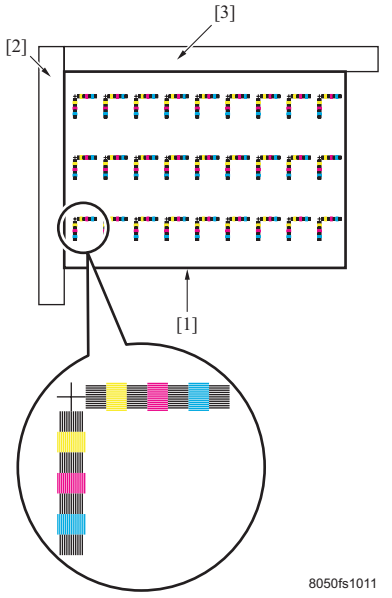
Measure the misalignment amount of Y, M, and C relative to K of "Main Scan", Mag.(ALL) (whole magnification in main scanning), "Mag.(PART)" (partial magnification in main scanning), "Sub Scan", "Incline" (skew), and "Scan Bend" (main scanning), and adjust Mag.(PART) manually.

Note

- **Be sure the "FD-Mag. Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.241)
- **Be sure the "CD-Mag. Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.242)
- **Complete the "Color Registration Adj. (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.247)

A. Procedure

1. "Service Mode Menu screen"
   Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen"
   Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen"
   Press [11 Color Registration/Manual].
4. "Color Registration Manual Adjustment screen"
   Press [COPY].
5. "Copy screen"
   Select A3 or 11 X 17 paper and press Start to output the test pattern. Place the outputted test pattern [1] on the original glass securely against the original positioning plate /Lt [2] and the original positioning plate /Rr [3], and close the DF or original cover.



Note

- **When placing the test pattern onto the original glass, be sure to take care of the setting direction (with printing face down) and position.**
- **Check that the settings for all colors (Y, M, C, K) in the [Test Pattern Output Mode] is set to 255. If not, it will cause an error.**

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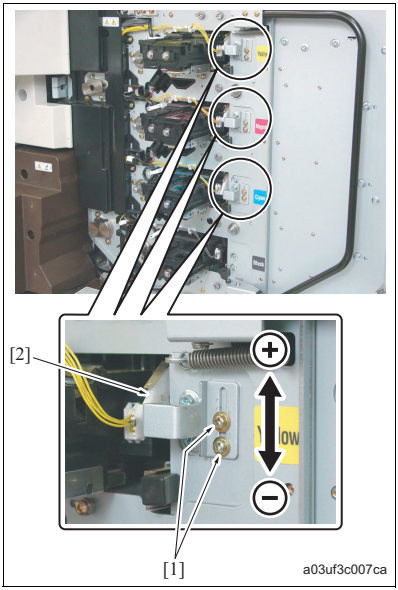
6. Press [SERVICE].
   Press [Start] to scan the test pattern using the scanner.

7. Shows the misalignment amount of Y, M, and C relative to K of "Main Scan", "Mag.(ALL)" (whole magnification in main scanning), "Mag.(PART)" (partial magnification in main scanning), Sub Scan, "Incline" (skew), and "Scan Bend" (main scanning) at "Rest" section on the touch panel. (unit: pixel).

8. Make sure that "OK" is displayed for all the items. If the value is out of standard, "NG" and an error code will appear.
   If "NG" appears for "Main Scan", "Mag.(ALL)", "Sub Scan", or "Incline", perform the Color registration adjustment again.

Error code	Descriptions	Causes
Error 1	Cannot detect the chart pattern	Chart misplacement
Error 2	The chart is placed upside down	Chart misplacement
Error 3	Cannot detect the chart pattern	Different chart is placed
Error 4	Adjustment impossible	Software bug
Error 5	Value is out of standard	Retry the adjustment
Error 6	Non-volatile data abnormality	Check the installation position of the NVRAM board
Error 7	Accessing to unassigned memory	Software bug
Error 8	Memory-related abnormality	Software bug
Error 9	Program error	Software bug
Error 10	Chart is skewed	Chart misplacement
Error 11	Image header information read error	Software bug
Error 12	Arguments setting error	Software bug
Error 13	Measurement error	Chart misplacement or chart failure

9. If "NG" appears for "Main Scan", "Mag.(ALL)", or "Mag.(PART)", open the toner supply section and loosen two screws [1] located beside the developing unit of a color from which an "NG" is displayed, and slide the adjusting plate [2] up and down to adjust the "Mag.(PART)" (partial magnification in main scanning).
   Moving the adjusting plate [2] upward reduces the "Rest" of the "Mag.(PART)" (negative) and moving the plate downward increases the "Rest" (positive).
   - Adjustment guideline
     Move the adjusting plate [2] by referring to the "Rest" of "Mag (PART)" (unit: pixel) displayed at the touch panel. The scale of the adjusting plate [2] changes the "Rest" approx. 0.5 pixel per notch.



10. Press [Return] to return to [Printer Adjustment Menu] screen.
11. Perform the Color registration adjustment (printer adjustment) with reference to "10.3.10 Color Registration Adj. (Printer Adjustment)".
12. Repeat steps 3 to 11 until "OK" is displayed.

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10.3.12 PFU DFeed Detect Adj. (Printer Adjustment)

Do not conduct this adjustment in the field.

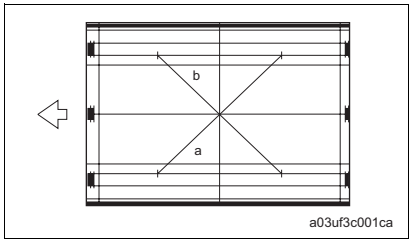
10.3.13 CD Skew Adj. (Printer Adjustment)

Adjust the CY2 lens in the write unit/K and corrects the image distortion of K in main scanning direction.

Note

- **Image distortion of K in main scanning direction cannot be corrected by the Color registration adjustment. (Adjusts YMC only.)**
- **Image distortion of K in main scanning direction can also be changed by conducting [Chart Adjustment] of [Both Side Adj.] in the user mode.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [13 CD Skew Adj.].
4. "Crosswise Direction Skew Adjustment screen" Press [COPY].
5. "Copy screen" Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16). **Note** • **When the Start key is pressed, CY2 lenses of YMCK are adjusted and the Color registration adjustment is automatically started. When the adjustment is complete (approx. two minutes), test pattern (No. 16) will be printed.**
6. Check the skew in main scanning direction. Standard value: ± 0.3% or less (difference between 280mm diagonal lines "a. b" is 0.84 mm or less) 
7. If the value is out of spec, press [SERVICE].
8. "Crosswise Direction Skew Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -30 to +30 1 step = 0.01 mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.3.14 Recall Standard Data (Printer Adjustment)

Restore the printer adjustment set values to factory initial data or installation initial data.

Note

- **Adjustment data of "Color Registration Adj.", "Color Registration/Manual", "PFU Dfeed detect Adj.", and "CD Skew Ad." are not restored.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [01 Printer Adjustment].
3. "Printer Adjustment Menu screen" Press [14 Recall Standard Data].
4. "Recall Standard Data screen" Press [Factory Initial Data] or [Installation Initial Data]. **Note** • **Selecting [Factory Default Data] restores various set values to factory initial data.** • **Selecting [Installation Initial Data] restores to the adjustment values stored when I/O check mode (code "91-00") was conducted.**
5. Press [Yes] to restore standard data. Press [No] to cancel the operation.

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10.3.15 Restart Timing Adjustment (Scanner Adjustment)

Adjust the image leading edge timing when scanning in platen mode.
This adjustment changes read start timing when scanning original in sub-scanning direction.

Note

- **Be sure the "Restart Timing Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.239)

A. Procedure

1.	"Service Mode Menu screen" Press [01 Machine Adjustment].
2.	"Machine Adjustment Menu screen" Press [02 Scanner Adjustment].
3.	"Scanner Adjustment Menu screen" Press [01 Restart Timing Adjustment].
4.	"Scanner Re-start Timing Adjustment screen" Press [COPY].
5.	"Copy screen" Select A3 or 11 x 17 paper. Set the test chart to the original glass and press Start key.
6.	Check the leading edge timing. Standard value: 0 ± 1.5mm
7.	When the value is not within the standard value, press [SERVICE].
8.	"Scanner Re-start Timing Adjustment screen" When the value is not within the standard value, press [SERVICE]. Setting range: -10 (image faster) to +20 (image slower) 1 step = 0.1 mm
9.	Repeat steps 4 to 8 until the standard value can be obtained.

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10.3.16 Centering Adjustment (Scanner Adjustment)

Adjust the image mis-centering of the main scan direction when scanning from the original glass and DF.

Note

- **Be sure the "Centering Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.240)

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [02 Scanner Adjustment].
3. "Scanner Adjustment Menu screen" Press [02 Centering Adjustment].
4. "Scanner Centering Adjustment screen" Select the item you want to adjust, and press [COPY].
5. "Copy screen" When you select [ADF Centering Adj-Front] or [ADF Centering Adj-Back], set the "Adjustment chart" on the DF, select A3 or 11 X 17 paper and press Start key. When you select [Orig. Glass Left Image], set the "Test chart" on the original glass, select A3 or 11 X 17 paper and press Start key.
6. Fold the output page in half in main scanning direction, and check the discrepancy from the center line of the print. Standard value (platen mode): 0 ± 1.5mm or less Standard value (DF mode): 0 ± 2.0mm or less
7. When the value is not within the standard value, press [SERVICE].
8. "Scanner Centering Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -30 (image in front) to +30 (image in back) 1 step = 0.1 mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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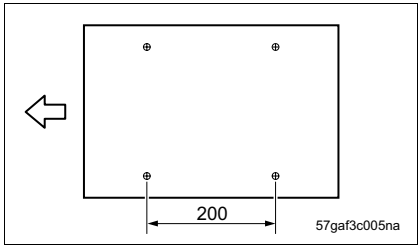
10.3.17 FD-Mag. Adjustment (Scanner Adjustment)

Adjust the magnification in sub-scanning direction in platen mode and DF mode.
This adjustment changes scan speed.

Note

- **Be sure the "FD-Mag. Adjustment (Printer Adjustment)" have been adjusted before performing this adjustment.**
  (See P.241)

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [02 Scanner Adjustment].
3. "Scanner Adjustment Menu screen" Press [03 FD-Mag. Adjustment].
4. "Scanner FD-Mag. Adjustment screen" Press [COPY].
5. "Copy screen" Place a test chart on the original glass, select A3 or 11 X 17 paper and press Start key.
6. Check the magnification in sub-scanning direction. Standard value: 0.5% or less (same size) 200 ± 1 mm or less 
7. When the value is not within the standard value, press [SERVICE].
8. "Scanner FD-Mag. Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -40 (shorter) to +40 (longer) 1 step = 0.05%
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.3.18 Recall Standard Data (Scanner Adjustment)

Restore the scanner adjustment set values to factory initial data or installation initial data.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [02 Scanner Adjustment].
3. "Scanner Adjustment Menu screen" Press [04 Recall Standard Data].
4. "Recall Standard Data screen" Press [Factory Initial Data] or [Installation Initial Data]. **Note** • **Selecting [Factory Default Data] restores various set values to factory initial data.** • **Selecting [Installation Initial Data] restores to the adjustment values stored when I/O check mode (code "91-00") was conducted.**
5. Press [Yes] to restore standard data. Press [No] to cancel the operation.

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10.3.19 Scanner smooth tone/color (Quality Adjustment)

Conduct the gradation correction of the scanner. When color reproduction is a poor condition, usually conduct the "Auto gamma adjustment" of the "Process Adjustment".
When changing the CCD unit, exposure lamp (L1), original glass or each scanner mirror, conduct this adjustment.

⚠Caution:
- **Scanner gradation (gamma) has been adjusted for each machine at factory. Please be noted that the scanner gradation data is overwritten to the average value if the [Adj. data reset] in the "Scanner Smooth Tone/Color Adjustment screen" is pressed.**
- **Once [Adj. data reset] is pressed, previous data cannot be restored.**

A. Procedure

1. After replacing the part(s), set a "Color chart" on the original glass, A3 or 11 X 17 paper and press Start key. **Note** • **Press the hard key on the operation panel, not the soft key on the touch panel.**
2. Check if there is no image background or problem in color balance.
3. If there is abnormality, enter Service mode.
4. "Service Mode Menu screen" Press [01 Machine Adjustment].
5. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
6. "Quality Adjustment Menu screen" Press [01 Scanner smooth tone/color].
7. "Scanner Smooth Tone/Color Adjustment screen" Press [Adj. data reset]. **⚠Caution:** • **Scanner gradation (gamma) has been adjusted for each machine at factory. Please be noted that the scanner gradation data is overwritten to the average value if the [Adj. data reset] in the "Scanner Smooth Tone/Color Adjustment screen" is pressed.** • **Once [Adj. data reset] is pressed, previous data cannot be restored.**
8. Press the [YES] key to overwrite the scanner gradation data to average value. Press [No] to cancel the operation.

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10.3.20 Printer gamma adjustment (Quality Adjustment)

When the color reproduction is in poor condition, conduct this adjustment to correct the gradation.

Note

- **Be sure the "Auto gamma adjustment" have been adjusted before performing this adjustment. (See P.281)**
- **This adjustment is not reflected on the output from the IC.**

(1) Printer Gamma Offset Adj.

Conduct this adjustment when the color reproduction varies with copy modes to adjust the gradation and the background density in a high light area.

Note

- **To adjust the printer gamma, perform the "Printer Gamma Offset Auto Adj." (See P.260). Only perform this adjustment when you want to make fine adjustments manually.**

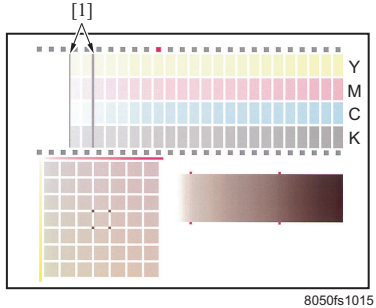
a. Procedure

1. "Service Mode Menu screen"
   Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen"
   Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen"
   Press [02 Printer gamma adjustment].
4. "Printer Gamma Adjustment Menu screen"
   Press [01 Printer Gamma Offset Adj.].
5. "Printer Gamma Offset Adjustment screen"
   Press [Next] or [Previous] to select the screen you want to adjust.

Note

- **Line1, Line2, Dot1 and Dot2 correspond to the screen names in user mode.**
- **Contone is a screen used in the character section of Line1, Line2, Dot1, and Dot2.**
- **ED is a screen used when "Compression" is selected in user mode.**
- **Contone does not require the adjustment.**

6. Press [COPY].
7. Select A4 or 8½ X 11 paper and press Start key to print a test pattern.
8. Check the printed test pattern.
   - Make sure that the high light density starting section of C and K is uniform, and even between the gray reference lines [1].

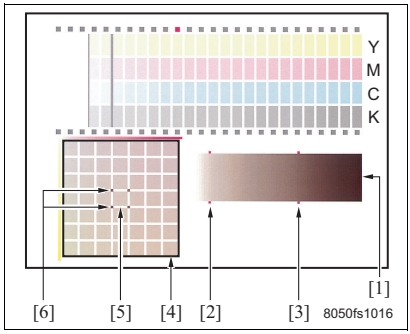


9. If they are not even, press [SERVICE].

10. "Printer Gamma Offset Adjustment screen"
Press the button of a color (C or K) you want to adjust, enter a value through the numeric button and press [<<SET].
Setting range: -128 (lighter) to +127 (darker)

11. Repeat steps 6 to 10 until the standard value can be obtained.

12. Take notice of the gray gradation pattern [1] created in C, M and Y, make sure that the gray balance at the square marks line [2] and [3] is the same.



13. If the gray balance is not the same, press the color (Y or M) you want to adjust, enter a value through the numeric buttons and press [<<SET].
Setting range: -128 (lighter) to +127 (darker)

- How to match the gray balance.
  Take notice of the gray block [4] made up of 49 patches created in C, M and Y. In the 49 patches, M gets darker toward right. And Y gets darker downward. C remains unchanged. The patch [5] at the center is the same color as the gray [2]. The patches [6] positioned at the four corners of the patch [5] is the same color as the gray [3]. Out of the 49 patches, select a gray of the same gray balance as the gray [6].
  e.g.) When a patch on the lower right side is more suitable than the patch [5] at the center: Adjust M and Y in the darker direction.
  e.g.) When a patch on the upper left side is more suitable than the patch [5] at the center: Adjust M and Y in the lighter direction.

14. Press [COPY].

15. Select A4 or 8½ X 11 paper and press Start key to print a test pattern.

16. Repeat steps 13 to 15 until the standard value can be obtained.

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(2) Printer Gamma Offset Auto Adj.

Conduct this adjustment when the color reproduction varies with copy modes to adjust the gradation and the background density in a high light area.

Note

- **To adjust the printer gamma, perform this adjustment. Perform "Printer Gamma Offset Adj." (See P.258) when you want make fine adjustments manually.**

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [02 Printer gamma adjustment].
4. "Printer Gamma Adjustment Menu screen" Press [02 PrinterGammaOffsetAutoAdj.]
5. "Printer Gamma Offset Automatic Adj. screen" Press [Next] or [Previous] to select the screen you want to adjust. **Note** • **The adjustable screens are the same as the ones in Printer Gamma Offset Adjustment.** • **The printer gamma offset value of each YMCK displayed are the current values, and they are linked with the "Printer Gamma Offset Adj." values.**
6. Press [Readjust]. To readjust press [Yes], and press [No] to cancel the operation. **Note** • **When the gradation in high light area is way off, press [Adj. data reset] and reset the printer gamma offset value to 0, then press [Readjust].**
7. Press [COPY].
8. "Copy" screen Select the A4 (for metric machine) or 8½ x 11 (for inch machine) paper and press START key to print a test pattern.

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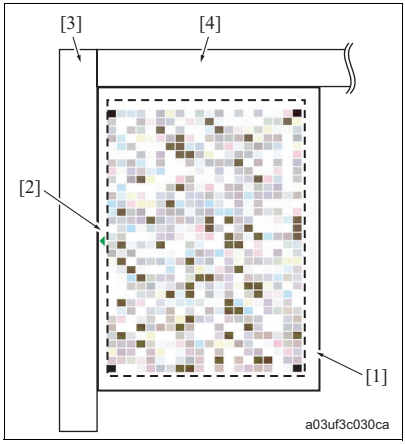
9. "Printer Gamma Offset Automatic Adj. screen"
Returns to the adjustment screen automatically when test pattern is printed.
Place the outputted test pattern [1] on the original glass securely against the original positioning plate/Lt [3] and the original positioning plate/Rr [4].



Note
- **Set the test pattern so that the green triangular mark [2] comes to the left side.**
  (printed side face down)

10. Place 10 sheets of copy paper (white) on top of the test pattern and close the DF or the original cover.

Note
- **Be sure to use white copy paper. Otherwise, the printer gamma cannot be corrected properly.**

11. Press [Start].

12. The test pattern is scanned and the current YMCK values are updated.

Note
- **Since the scanned result at the first scan is not examined, a "Completed" message does not appear after the first scan.**
- **The quality judgement is made from the second scan. Make sure to repeat step 8 to 11 until the "Completed" message appears.**

13. "Printer Gamma Offset Automatic Adj. screen"
Press [COPY].

14. Perform the steps 8 to 11.

15. Confirm that "Completed" is displayed. If message other than "Completed" is displayed, repeat steps 13 to 14.

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(3) Printer gamma sensor adj.

When a poor color reproduction results even after the "Auto gamma adjustment" of the "Process Adjustment", conduct this adjustment to correct gradation.

The printer gamma correction that is performed automatically on regular basis uses PGC sensor to read the pattern on the transfer belt and there is a possibility that due to characteristic changes of PGC sensor, correction may not be precise. This adjustment uses the scanner to correct the PGC sensor, enabling precise printer gamma correction.

Note

- **Normally, use white paper to carry out this adjustment. The color of test pattern changes according to the colored paper, therefore precise adjustment cannot be gained.**
- **If customer want to print to colored paper, carry out this adjustment using the paper customer wish to use and gain color reproduction supporting that colored paper.**
- **To reset the data to factory default, press [Adj. data reset]. Press [Yes] to reset the printer gamma sensor adjustment to the factory default data, and [No] to keep the current data.**

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [02 Printer gamma adjustment].
4. "Printer Gamma Adjustment Menu screen" Press [03 Printer gamma sensor adj.].
5. "Printer Gamma Sensor Adjustment screen" Select the screen you want to adjust. **Note** • **The adjustable screens are the same as the ones in Printer Gamma Offset Adjustment.** • **Whichever screen adjustment is carried out, perform the Contone adjustment together.**
6. Press [COPY].
7. Select the A4 (for metric machine) or 8½ x 11 (for inch machine) paper and press START key to print a test pattern.

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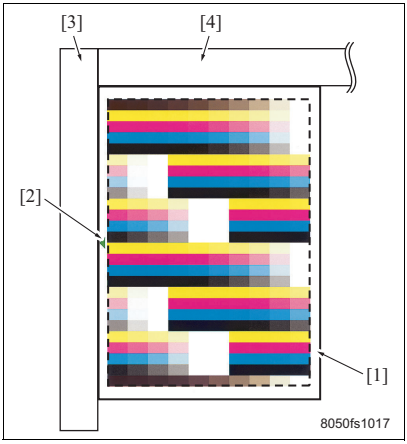
8. "Please load output paper..."screen"
Returns to the adjustment screen automatically when test pattern is printed.
Place the outputted test pattern [1] on the original glass securely against the original positioning plate / Lt [3] and the original positioning plate /Rr [4].

Note

- **Set the test pattern so that the green triangular mark [2] comes to the left side. (printed side face down)**



9. Place 10 sheets of copy paper (white) on top of the test pattern and close the DF or the original cover.

Note

- **Be sure to use white copy paper. Otherwise, the printer gamma cannot be corrected properly.**

10. Press [Start].

11. If the chart is scanned and it is normal, the gamma sensor adjustment will be carried out, printer gamma correction is executed and "Completed" message will be displayed.

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12. When an abnormality occurs, an error code is displayed for every cause. Correct the error referring to the following and repeat steps 6 to 11.

Error code	Descriptions	Causes
Error 1	A crossmark cannot be detected	Chart misplacement
Error 2	The chart is placed upside down	Chart misplacement
Error 3	Cannot detect the chart pattern	Different chart is placed
Error 4	Adjustment impossible	Software bug
Error 5	Value is out of standard	Retry the adjustment
Error 6	Non-volatile data abnormality	Check the installation position of the NVRAM board
Error 7	Accessing to unassigned memory	Software bug
Error 8	Memory-related error	Software bug
Error 9	Program error	Software bug
Error 10	Chart is skewed	Chart misplacement
Error 11	Image header information read error	Software bug
Error 12	RBG data error	Chart is different, or software bug
Error 13	Arguments setting error	Software bug
Error 31	Sensor value error	Retry the adjustment
Error 51	Regression calculation error	Retry the adjustment
Error 52	Sequential number overflow	Software bug
Error 53	Regression order error	Software bug
Error 54	Select screen information error	Software bug
Error 55	Color information error	Software bug

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(4) Printer Screen Gradation Adj

Adjust tone jump (in which gradation is not continuous).

Note

- **Perform this adjustment after replacing the image processing board (IPB).**

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [02 Printer gamma adjustment].
4. "Printer Gamma Adjustment Menu screen" Press [04 Printer Screen Gradation Adj.].
5. "Printer Screen Gradation Adjustment screen" Press [COPY].
6. Select A4 or 8½ X11 paper and press Start key to print a test pattern.
7. Five sheets will be printed automatically so check that there are no tone jumps on the test patterns.
8. If tone jump has occurred, press [SERVICE].
9. "Printer Screen Gradation Adjustment screen" Select the color that the tone jump has occurred in.
10. Enter the number subtracted one from the current value and press [<< SET]. Setting range: -3 to +1
11. Repeat steps 5 to 10 until there is no tone jump.

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10.3.21 Sharpness adjustment (Quality Adjustment)

Conduct the sharpness adjustment or, this is carried out when moire reproduced.
Perform this adjustment to change the center value of the sharpness adjustment in user mode.

Note

- **This adjustment is only effective for images scanned by the scanner.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [03 Sharpness adjustment].
4. "Sharpness Adjustment screen" Press [COPY].
5. "Copy screen" Place a "Color chart" on the original glass, select A3 or 11 X 17 paper, and press Start.
6. Press [SERVICE].
7. Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (soft/less moire) to +5 (sharp/more moire)
8. Repeat steps 4 to 7 until the appropriate value can be obtained.

10.3.22 Contrast adjustment (Quality Adjustment)

Adjust the contrast.
Perform this adjustment to change the center value of the contrast adjustment in user mode.

Note

- **This adjustment is only effective for images scanned by the scanner.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [04 Contrast adjustment].
4. "Contrast Adjustment screen" Press [COPY].
5. "Copy screen" Place a "Color chart" on the original glass, select A3 or 11 X 17 paper, and press Start.
6. Press [SERVICE].
7. Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (contrast increase) to +5 (contrast decrease)
8. Repeat steps 4 to 7 until the appropriate value can be obtained.

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10.3.23 Image Distinction Level (Quality Adjustment)

Adjust the threshold value of original image distinction.

Note

- **The scanned image is distinguished into text, photo, dot, and colored text areas in image processing, and a screen to be used is determined according to the distinction.**
- **This adjustment is used to increase the distinction accuracy of the original that the areas are incorrectly distinguished once.**
- **To increase the distinction range of photo, perform the adjustment in user mode.**
- **This adjustment is only effective for images scanned by the scanner.**

(1) Dot detect adjustment

Adjust the dot distinction threshold value of the original image.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [05 Image Distinction Level].
4. "Image Distinction Level Menu screen" Press [01 Dot detect adjustment].
5. "Dot Detect Adjustment screen" Press [COPY].
6. Place an original you want to adjust on the original glass, select A3 or 11 X 17 paper, and press Start key.
7. Dot detect pattern will be printed. By this output pattern, you can find out what this image was distinguished into. Cyan section: Distinguished as dot White section: Distinguished as photo Black section: Distinguished as black text Magenta section: Distinguished as colored text
8. Press [SERVICE].
9. "Dot Detect Adjustment screen" Select the color you wish to adjust, enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (dot area decrease) to +5 (dot area increase)
10. Repeat steps 5 to 9 until the appropriate value can be obtained.

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(2) Color text adjustment

Adjust the color text distinction threshold value of the original image.

Perform this adjustment to change the center value of the color text distinction function in user mode.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [05 Image Distinction Level].
4. "Image Distinction Level Menu screen" Press [02 Color text adjustment].
5. "Color Text Adjustment screen" Press [COPY].
6. Place an original you want to adjust on the original glass, select A3 or 11 X 17 paper, and press Start key.
7. Color text detect pattern will be printed. By this output pattern, you can find out what this image was distinguished into. Black section: Distinguished as black text Magenta section: Distinguished as colored test
8. Press [SERVICE].
9. "Color Text Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (color text area decrease) to +5 (color text area increase)
10. Repeat steps 5 to 9 until the appropriate value can be obtained.

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(3) Dot/Text area adjustment

Adjust the dot distinction and text distinction threshold values of the original image.

Perform this adjustment to change the center value of the text photo distinction function in user mode.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [05 Image Distinction Level].
4. "Image Distinction Level Menu screen" Press [03 Dot/Text area adjustment].
5. "Dot/Text Area Adjustment screen" Press [COPY].
6. Place an original you want to adjust on the original glass, select A3 or 11 X 17 paper, and press Start key.
7. Dot/text detect pattern will be printed. By this output pattern, you can find out what this image was distinguished into. Cyan section: Distinguished as dot White section: Distinguished as photo Black section: Distinguished as black text Magenta section: Distinguished as colored test
8. Press [SERVICE].
9. "Dot/Text Area Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (dot area increase/text area decrease) to +5 (dot area decrease/text area increase)
10. Repeat steps 5 to 9 until the appropriate value can be obtained.

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10.3.24 ACS adjustment (Quality Adjustment)

Perform this adjustment when ACS (Automatic color selection) function does not work properly.

Note

- **This adjustment is only effective for images scanned by the scanner.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [06 ACS adjustment].
4. "Place original and touch [SCAN] screen" Place an original that the ACS does not work properly on the original glass and press [Scan].
5. Next to the "JUDGE:", the result "COLOR" or "BLACK" will be displayed.
6. Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (black) to +5 (color)
7. Repeat steps 4 to 6 until the appropriate value can be obtained.

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10.3.25 Density adjustment (Quality Adjustment)

Adjust the AES density, copy density, background density, and B-side (see-through image) density.
This adjustment moves in parallel with shade direction without changing the printer gamma curve form and adjusts the copy density.

Note

- **This adjustment is only effective for images scanned by the scanner.**

(1) AES adjustment

Adjust to change the center value selected in automatic copy density function in user mode.

a. Procedure

1.	"Service Mode Menu screen" Press [01 Machine Adjustment].
2.	"Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3.	"Quality Adjustment Menu screen" Press [07 Density adjustment].
4.	"Density Adjustment Menu screen" Press [01 AES adjustment].
5.	"AES Adj. -Set value then touch [SCAN] screen" Place an original that you want to change the AES density on the original glass and press [Scan].
6.	Next to the "RESULT:", the numeric value will be displayed.
7.	If the "RESULT" is other than 0, enter a value through the numeric buttons and press [<<SET]. (e.g.: If the "RESULT" is 2, input -2). Setting range: -5 to +5
8.	Repeat steps 5 to 7 until the "RESULT" becomes 0.

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(2) Copy density adjustment

Adjust the density for copying.

Perform this adjustment to change the center value of the "Original Density Shift" in user mode.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [07 Density adjustment].
4. "Density Adjustment Menu screen" Press [02 Copy density adjustment].
5. "Copy Density Adjustment screen" Press [▼] or [▲] to select the item you want to adjust.
6. Press [COPY].
7. "Copy screen" Select the mode to adjust, select A3 or 11 X 17 paper, place a "Color chart" on the original glass, and press Start key.
8. Press [SERVICE].
9. "Copy Density Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (lighter) to 5 +(darker)
10. Repeat steps 6 to 9 until the appropriate value can be obtained.

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(3) Adjust Background

Adjust the background density (density of highlighted area) for copying.
In user mode only a batch adjustment is enabled. Therefore, it is impossible to perform individual adjustment for original settings or color modes.

a. Procedure

1.	"Service Mode Menu screen" Press [01 Machine Adjustment].
2.	"Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3.	"Quality Adjustment Menu screen" Press [07 Density adjustment].
4.	"Density Adjustment Menu screen" Press [03 Adjust Background].
5.	"Background Adjustment screen" Press [▼] or [▲] to select the item you want to adjust.
6.	Press [COPY].
7.	"Copy screen" Select the mode to adjust, select A3 or 11 X 17 paper, place a "Test chart" on the original glass, and press Start key.
8.	Press [SERVICE].
9.	"Background Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (lighter) to 5 +(darker)
10.	Repeat steps 6 to 9 until the appropriate value can be obtained.

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(4) B-side Prevent

Adjust the density of see-through image on back side of paper (density for shadow area) for copying.
In user mode only a batch adjustment is enabled. Therefore, it is impossible to perform individual adjustment for original settings or color modes.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [07 Density adjustment].
4. "Density Adjustment Menu screen" Press [04 B-Side Prevent].
5. "B-Side Prevent screen" Press [▼] or [▲] to select the item you want to adjust.
6. Press [COPY].
7. "Copy screen" Select the mode to adjust, select A3 or 11 X 17 paper, place a text chart on the original glass, and press Start key.
8. Press [SERVICE].
9. "B-Side Prevent screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (lighter) to 0
10. Repeat steps 6 to 9 until the appropriate value can be obtained.

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10.3.26 Tone adjustment (Quality Adjustment)

Conduct the tone adjustment of red, green or blue.
Perform this adjustment to change the center value for the "Hue-Fine Adjustment" in the user mode.

Note

- **This adjustment is only effective for images scanned by the scanner.**

(1) Red

Adjust the density of red.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [08 Tone Adjustment].
4. "Tone Adjustment Menu screen" Press [01 Red].
5. "Red screen" Press [COPY].
6. Select A3 or 11 X 17 paper, place a "Color chart" on the original glass, and press Start key.
7. Press [SERVICE].
8. Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (lighter) to 5 +(darker)
9. Repeat steps 5 to 8 until it is appropriate.

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(2) Green

Adjust the density of green.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [08 Tone Adjustment].
4. "Tone Adjustment Menu screen" Press [02 Green].
5. "Green screen" Press [COPY].
6. Select A3 or 11 X 17 paper, place a "Color chart" on the original glass, and press Start key.
7. Press [SERVICE].
8. Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (lighter) to 5 +(darker)
9. Repeat steps 5 to 8 until it is appropriate.

(3) Blue

Adjust the density of blue.

a. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [08 Tone Adjustment].
4. "Tone Adjustment Menu screen" Press [03 Blue].
5. "Blue screen" Press [COPY].
6. Select A3 or 11 X 17 paper, place a "Color chart" on the original glass, and press Start key.
7. Press [SERVICE].
8. Enter a value through the numeric buttons and press [<<SET]. Setting range: -5 (lighter) to 5 +(darker)
9. Repeat steps 5 to 8 until it is appropriate.

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10.3.27 Recall standard data (Quality Adjustment)

Restore the quality adjustment set values to factory initial data or installation initial data.

Note

- **Adjustment data of "Scanner smooth tone/color" is not restored.**

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [03 Quality Adjustment].
3. "Quality Adjustment Menu screen" Press [09 Recall standard data].
4. "Recall Standard Data screen" Press [Factory Initial Data] or [Installation Initial Data]. **Note** • **Selecting [Factory Default Data] restores various set values to factory initial data.** • **Selecting [Installation Initial Data] restores to the adjustment values stored when I/O check mode (code "91-00") was conducted.**
5. Press [Yes] to restore standard data. Press [No] to cancel the operation.

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10.3.28 Non-Image Area Erase Check

When installing the copier or moving its installation location, check to see if the "Non-Image Area Erase" of the application function works satisfactorily. This also automatically adjusts sensitivity to correctly detect the non-image area.

Preparation

- Open the DF or the original cover fully.
- Do not put anything on the original glass.
- Clean the original glass.

A. Procedure

1. "Service Mode Menu screen" Press [01 Machine Adjustment].
2. "Machine Adjustment Menu screen" Press [04 Non-Image Area Erase Check].
3. "Non-Image Area Erase check screen" Press [Start].
4. Check that the message below is displayed. **NORMAL adjustment selected.** **The machine is set to appropriate parameters for Non-image Area Erase.** If any other message appears, refer to "B. Error message and Handling", and perform the Non-limage Area Erase Check again.

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B. Error message and Handling

If an error is detected in the Non-Image Area Erase Check, error message as the following is displayed.

(1) Error message -1

Adjust for Moderate Brightness.
The Non-image area erase function may not operate correctly with dark (density) originals.

Handling 1

When the "Non-image area erase" function is not used very frequently, or when copy originals that have a dark background are not copied very frequently in non-image area erase, the copier can be used in the current installation location. However, when copy originals that have a dark background are frequently copied, install the copier in a location where less external light gets in (darker) than the present location, and check the non-image area erase check mode again.

(2) Error message -2

Adjust for Extreme Brightness.
In many case, the non-image area erase function will not operate correctly.

Handling 2

When the"Non-image area erase" function is not used very frequently, the copier can be used in the current installation location. However, if the "Non-image area erase" function is frequently used, install the copier in a location where less external light gets in (darker) than the present location, and check the non-image area erase check mode again. At this time, when there is a bright light source such as a fluorescent light installed directly above the copier, reconsider the installation location, or take some measures to shield the light source and check the mode again.

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10.4 Process Adjustment

10.4.1 1st transfer manual adj. (High Voltage Adjustment)

Do not conduct this adjustment in the field.

10.4.2 2nd transfer manual adj. (High Voltage Adjustment)

Do not conduct this adjustment in the field.

10.4.3 HV adj. (separation AC) (High Voltage Adjustment)

Must not be used during maintenance/repair.

10.4.4 HV adj. (sepration DC) (High Voltage Adjustment)

Do not conduct this adjustment in the field.

10.4.5 Pre-transfer Guide HV check (High Voltage Adjustment)

Do not use this adjustment in the field.

10.4.6 Blade setting mode (Drum Peculiarity Adj.)

Perform this adjustment when changing the belt cleaning blade or the transfer belt. In this mode, toner is applied onto the transfer belt then cleaned with the belt cleaning blade. This prevents the damages of the transfer belt and the belt cleaning blade.

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [02 Drum Peculiarity Adj.].
3. "Drum Peculiarity Adjustment Menu screen" Press [01 Blade setting mode].
4. "Blade Setting Mode screen" Press [Start]. This process completes in about 15 seconds and complete message is shown on the screen.

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10.4.7 Automatic drum potential (Drum Peculiarity Adj.)

Measure the charging potential of each drum of Y, M, C, and K to adjust the developing bias value and the charging voltage automatically. This adjustment is not necessary in the field. (Because this adjustment is included in the "Auto gamma adjustment 0".)

A. Procedure

1. "Service Mode Menu" screen Press [02 Process Adjustment].
2. "Process Adjustment Menu" screen Press [02 Drum Peculiarity Adj.].
3. "Drum Peculiarity Adjustment Menu" screen Press [02 Automatic drum potential].
4. "Automatic Drum Potential screen" Press [Start]. This process completes in about 10 seconds and the charging potential is displayed for each line speed (1/1 speed, 2/3 speed and 1/2 speed) and for each color (Y, M, C and K) on the screen, then a completion message will appear.

10.4.8 Auto gamma adjustment (Drum Peculiarity Adj.)

Adjust image stabilization automatically.

A. Procedure

1. "Service Mode Menu" screen Press [02 Process Adjustment].
2. "Process Adjustment Menu" screen Press [02 Drum Peculiarity Adj.].
3. "Drum Peculiarity Adjustment Menu" screen Press [03 Auto gamma adjustment]].
4. "Automatic Gamma Adjustment screen" Press [Start]. This process completes in about 3.5 minutes and the developing DC bias value is displayed for each line speed (1/1 speed, 2/3 speed and 1/2 speed) and for each color (Y, M, C and K) on the screen, then a completion message will appear. **Note** • **There are eight kinds of the "Auto gamma adjustment" (0 to 7), however, conduct "Auto gamma adjustment 0" only in the field.** **"Automatic gamma adjustment 0": Perform the Dmax density adjustment, dot diameter adjustment, automatic drum potential adjustment, and the gamma adjustment for all screens.** **"Automatic gamma adjustment 1 to 7": Performs the image stabilization adjustment by screen.** • **When an abnormality occurs, an error code is displayed. Correct the error referring to the following.** **Error 1: The gamma correction is unavailable due to the abnormal PGC sensor output. When an error occurs, machine is controlled by using a correction value used previously.**

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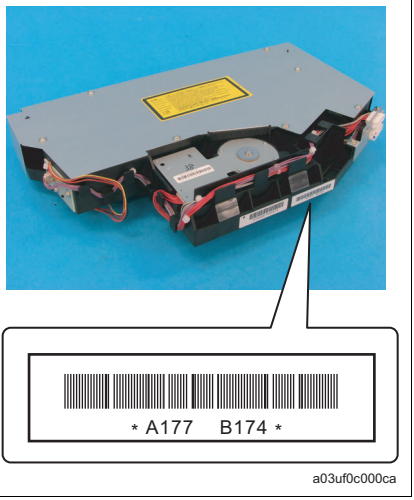
10.4.9 LD bias adjustment (Drum Peculiarity Adj.)

Perform this adjustment after replacing the write unit.

Note

- **Do not perform this adjustment except when replacing the write unit.**

A. Procedure

1. Check the number on the barcode [1] pasted on the new write unit and replace it.    a03uf0c000ca
2. Enter Service mode.
3. "Service Mode Menu screen" Press [02 Process Adjustment].
4. "Process Adjustment Menu screen" Press [02 Drum Peculiarity Adj.].
5. "Drum Peculiarity Adjustment Menu screen" Press [04 LD bias adjustment].
6. "LD Bias Adjustment screen" Press [▼] or [▲] and select the color of the replaced write unit. e.g.) After exchanging write unit/Y, press [Y1 Adjustment Data].
7. Input the number written on the barcode of the replaced write unit and press [<< SET] e.g.) Barcode shown in step 1 was attached to the write unit/Y, [Y1 Adjustment Data]: Input A value, 177 [Y2 Adjustment Data]: Input B value, 174
8. Press [Return] and press [SERVICE].
9. "Service Mode Menu screen" Press [05 State Confirmation] and press [01 I/O Check Mode].

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10. Execute LD1/2 alarm data clear of the color that corresponds the write unit you have replaced.
"Output check"
- 37-91: LD1/2 alarm data clear/Y
- 37-92: LD1/2 alarm data clear/M
- 37-93: LD1/2 alarm data clear/C
- 37-94: LD1/2 alarm data clear/K

11. Execute the LD alarm measurement in "Output check" 37-00.
- 37-00: LD alarm measurement

Note
- **LD alarm data (laser power of the laser diode) can be checked using "Adjustment Data List" in "List output".**
- **"Default" in "Adjustment Data List" shows first measurement data, which is the value obtained when executing 37-00 after clearing the LD alarm data by "37-9*".**
- **"Setting" in "!Adjustment data list normally shows "000". Measurement result of the LD alarm data obtained by executing 37-00 will appear in the section, and the result will be overwritten each time 37-00 is executed.**
- **The value of the LD alarm level will increase as the laser diode deteriorates.**
- **Steps 8 to 11 described above are the procedures to manage the history of the write unit replacement.**

12. Executing the LD1/2 Laser emission timing adjustment (main scanning) in "Output check" 46-00. (Adjustment time: Max. 1 minute)

Note
- **The adjustment is performed for all four colors at a time. "FIN" will appear in the "OUT" column displayed on the touch panel when the adjustment is completed successfully.**
- **If an abnormality is detected, an error code will be displayed**
  NG1 #: Deviation amount is larger than 70/100 pixel
  NG2 #: Deviation amount is larger than 15/100 pixel
  (Y, M, C, or K will appear at "#" to indicate which write unit is causing the error.)

13. Action when an error code displays
- When abnormality is found for two or more write units, only one error code of the color with a high priority (priority order is YMCK) is displayed. Therefore, replace a damaged write unit according to the error code and repeat 46-00 until "FIN" is displayed.
  e.g.) When write unit/Y and /K are damaged.
  "NG1Y" will displayed by the first execution of 46-00 → Replace the write unit/Y.
  "NG1K" will displayed by the second execution of 46-00 → Replace the write unit/K.
  "FIN" will displayed by the third execution of 46-00.

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10.4.10 Automatic Developer Charge (Drum Peculiarity Adj.)

In this mode, new developers are automatically charged after the current developers being discharged from the developing unit manually.

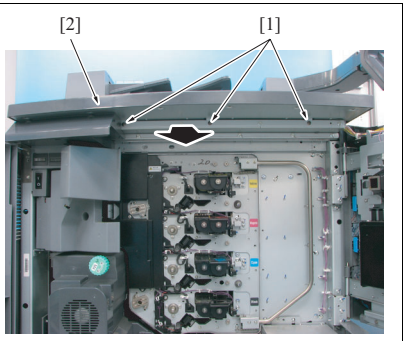
Note

- **Always carry out the "Toner density sensor initial auto. adjustment" after replacing the developer. If printing is started without performing the "Toner density sensor initial auto. adjustment", a proper image density cannot be obtained, and the developers need to be replaced.**
- **Do not open the cover of the developing unit. Otherwise, dust gets in the unit causing image failure.**

A. Procedure

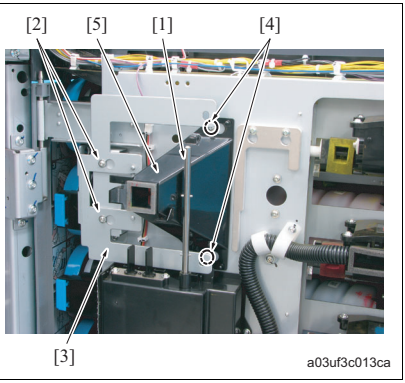
1. Open the toner supply section.(See P.33)

2. Remove the three screws [1] and remove the upper cover/Fr [2].



a03uf3c012ca

3. Pull out the supporting shaft [1].
4. Loosen the two screws [2] and remove the developer charging plate [3].
5. Loosen the two screws [4] and remove the developer charging funnel/Lw [5].



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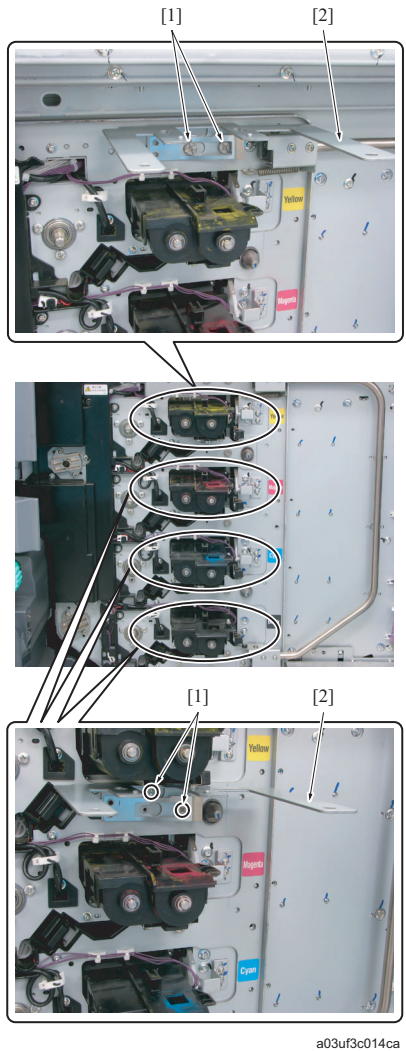
6. Set the developer charging plate [2] to the shoulder screws [1] provided above the developing unit of a color into which you are going to charge developers.



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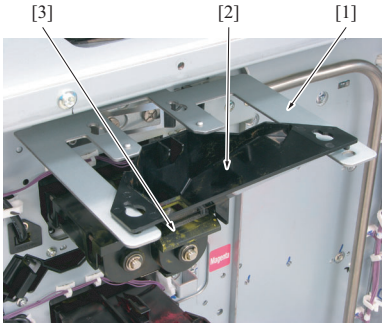
7. Set the developer charging funnel /Lw [2] to the developer charging plate [1].

Note

- **Be sure to attach the tip of the developer charging funnel/Lw [2] securely to the toner supply opening [3].**



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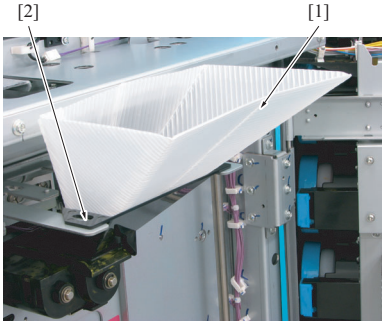
8. Set the developer charging funnel/Up [2] packaged together with developer to the developer charging funnel/Lw [1].

Note

- **The developer charge funnel/Up [2] is packaged together with each developer. Be sure not to reuse the funnel.**



a03uf3c016ca

9. Enter Service mode.

10. "Service Mode Menu screen"
Press [02 Process Adjustment].

11. "Process Adjustment Menu screen"
Press [02 Drum Peculiarity Adj.].

12. "Drum Peculiarity Adjustment Menu screen"
Press [05 Automatic Developer Charge].

13. "Automatic Developer Charge screen"
Select the color of developer.

14. Press the [Start], then pour a new developer into the developer charging funnel/Up.

15. Make sure that the developer has been charged successfully before pressing the [CANCEL].

16. When charging another developer, repeat steps 3 to 12.

17. Press [Return] to return to "Drum Peculiarity Adjustment Menu screen".

18. Put the installed parts back to their original positions.

19. Perform "Toner density sensor Init." adjustment.(See P.287)

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10.4.11 Toner density sensor Init. (Drum Peculiarity Adj.)

Carry out this adjustment after new developers are charged, and adjust the standard toner concentration of the developer.

Measure developer permeability in the developing unit with TCR sensor, memorize the input voltage obtained when the TCR sensor output voltage became the standard value to the NVRAM board (NRB).

Note

- **After replaceing developer, do not execute printing without carrying out this adjustment. Otherwise, a proper image density cannot be obtained, and the developers need to be replaced.**
- **The value displayed after the adjustment is a TCR sensor control voltage (input voltage) expressed in 8 bit.**

A. Procedure

1.	"Service Mode Menu screen" Press [02 Process Adjustment].
2.	"Process Adjustment Menu screen" Press [02 Drum Peculiarity Adj.].
3.	"Drum Peculiarity Adjustment Menu screen" Press [06 Toner Density Sensor Init.].
4.	"Toner Density Sensor Initial Auto. Adj. screen" Select the color of a developer that has been newly charged and then press the [Start].
5.	A message "Completed" is displayed.

10.4.12 Initial drum rotation (Drum Peculiarity Adj.)

Conduct this operation after replacing the drum cartridge. This operation rotates the drum at low speed to lubricate by the Lubricant applying roller it to protect the drum and the cleaning blade.

A. Procedure

1.	"Service Mode Menu screen" Press [02 Process Adjustment].
2.	"Process Adjustment Menu screen" Press [02 Drum Peculiarity Adj.].
3.	"Drum Peculiarity Adjustment Menu screen" Press [07 Initial drum rotation].
4.	"Initial Drum Rotation screen" Press [Start]. This process completes in about 10 seconds and complete message is shown on the screen.

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10.4.13 Surface potential sensor (Sensor output check)

Measure uncharged potential of the drum before charging by the drum potential sensor (PRPS). (8 bit output)
Do not conduct this adjustment in the field.

10.4.14 Maximum density sensor (Sensor output check)

Measure uncharged potential of the transfer belt by the PGC sensor (PS11) and checks the baseline controlled voltage for the maximum density correction. (8 bit output)
Do not conduct this adjustment in the field.

10.4.15 Gamma sensor output (Sensor output check)

Measure uncharged potential of the transfer belt by the PGC sensor (PS11) and checks the baseline controlled voltage for the gamma correction. (8 bit output)
Do not conduct this adjustment in the field.

10.4.16 Toner Density Sensor (Sensor output check)

Checks the output voltage of the TCR sensor. (8 bit output)

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [03 Sensor output check].
3. "Sensor Output Check Menu screen" Press [04 Toner Density Sensor].
4. "Toner Density Sensor Output screen" Press [Next] or [Previous] to select the process speed (Line Speed1: 1/1, Line Speed2: 2/3 and Line Speed3: 1/2) to be checked.
5. Select the color(S) to be checked.
6. Press [Start] to display the output value of the selected items.
7. Press [STOP] to end the check.
8. When checking another line speed, repeat steps 4 to 7.

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10.4.17 Drum Surfase potential (Sensor output check)

Check the V0 (charging potential) and the Vi (exposure potential) of drums (8 bits output).

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [03 Sensor output check].
3. "Sensor Output Check Menu screen" Press [05 Drum Surface potential].
4. "Drum Surface Potential screen" Press [Next] or [Previous] to select the process speed (Line Speed1: 1/1, Line Speed2: 2/3 and Line Speed3: 1/2) to be checked.
5. Select the color(S) to be checked.
6. Press [Start] to display the V0 and Vi potential output value of selected items.
7. Press [STOP] to end the check.
8. When checking another line speed, repeat steps 4 to 7.

10.4.18 Humidity/Temperature (Sensor output check)

Check the output of the temperature/humidity sensor.

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [03 Sensor output check].
3. "Sensor Output Check Menu screen" Press [06 Humidity/Temperature].
4. "Humidity/Temperature Output screen" Press [Start] to display the humidity and temperature value of the items below. Humidity/Temperature sensor 1: Temp/humidity sensor /1 (TEM/HUMS/1)*1 Humidity/Temperature sensor 2: Temp/humidity sensor /2 (TEM/HUMS/2) Fixing Heat Roller Temp. (center): Temperature sensor/1 (TEMS/1) Fixing Heat Roller Temp. (end): Temperature sensor/3 (TEMS/3) Fixing Press Roller Temp. (center): Temperature sensor/2 (TEMS/2) *1 When the PF is connected to: Temperature-humidity sensor (TEM/HUMS) of PF is used.
5. Press [STOP] to end the check.

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10.4.19 Toner Density Return Mode (Sensor output check)

Supply toner automatically up to the standard value for the developing unit, whose output value of the TCR sensor is below the standard value (low toner concentration).

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [03 Sensor output check].
3. "Sensor Output Check Menu screen" Press [07 Toner Density Return Mode].
4. "Toner Density Recovery Mode screen" Select the color(s) whose density needs to be recovered.
5. Press [Start] to supply toner to the developing unit with lower than the standard density value. When the toner concentration reaches to the standard value, the main body stops. **Note** • **The Output value and the State (ON/OFF) on the touch panel are corresponding to the TCR sensor output value (8bits) and the state (ON/OFF) of toner supply operation.**

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10.4.20 Covered Margin Fine Adj. (Process Fine Adjustment)

Change potential difference between the charging potential and the developing bias to prevent image background, white spots image, and carrier scattering.

Note

- **Do not perform this adjustment when there is no problem. Unnecessary adjustment may cause image failure (image background, white spot image) or damages to the drum and the cleaning blade.**
- **There are several adjustment to reduce the image background.**
  As a priority of adjustment, adjust in the following order.
  1)Develop AC Frequency
  2)Covered Margin Fine Adj.
  3)Toner Density Fine Adj.
- **After changing the set value, conduct the auto gamma adjustment.**
  (See P.281)

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [04 Process Fine Adjustment].
3. "Process Fine Adjustment Menu screen" Press [01 Covered Margin Fine Adj.].
4. "Covered Margin Fine Adjustment screen" Select the color(S) to be adjusted and enter the adjustment value with the numeric buttons, and press [<< SET]. Adjustment range: -5 (carrier scattering /white spot image caused by carrier prevention) to +5 (image background prevention) 1 step = 6V **Note** • **Take care that carrier scattering/white spot image caused by carrier prevention and image background prevention are trade off. When either of them is improved, the other is worsened.**
5. Press [default] to restore the default settings.

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10.4.21 Develop AC Bias Fine Adj. (Process Fine Adjustment)

Change the developing AC bias to reduce noisy image (roughness due to white spot), and improve developing ability (increase density in solid area).

Note

- **After changing the set value, conduct the auto gamma adjustment.** **(See P.281)**

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [04 Process Fine Adjustment].
3. "Process Fine Adjustment Menu screen" Press [02 Develop AC Bias Fine Adj.].
4. "Develop AC Bias Fine Adjustment screen" Select the color(S) to be adjusted and enter the adjustment value with the numeric buttons, and press [<< SET]. Adjustment range: -5 (noisy image prevention) to +5 (improve developing ability) 1 step = 0.1kV
5. Press [default] to restore the default settings.

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10.4.22 Develop AC Frequency (Process Fine Adjustment)

Change frequency of the developing AC bias to improve the image background and reproducibility of outline characters on a colored background.

Note

- **There are several adjustment to reduce the image background.**
  As a priority of adjustment, adjust in the following order.
  1)Develop AC Frequency
  2)Covered Margin Fine Adj.
  3)Toner Density Fine Adj.
- **After changing the set value, conduct the auto gamma adjustment.**
  (See P.281)

A. Procedure

1.	"Service Mode Menu screen" Press [02 Process Adjustment].
2.	"Process Adjustment Menu screen" Press [04 Process Fine Adjustment].
3.	"Process Fine Adjustment Menu screen" Press [03 Develop AC Frequency].
4.	"Develop AC Frequency Fine Adjustment screen" Select the color(S) to be adjusted and enter the adjustment value with the numeric buttons, and press [<< SET]. Adjustment range: -5 (improve reproducibility of outline characters on a colored background.) to +5 (image background prevention) 1 step = 0.3kHz
5.	Press [default] to restore the default settings.

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10.4.23 Toner Density Fine Adj. (Process Fine Adjustment)

Change the TCR sensor control voltage to prevent image background, toner scattering, carrier scattering, white spot caused by carrier.

Note

- **There are several adjustment to reduce the image background.**
  As a priority of adjustment, adjust in the following order.
  1)Develop AC Frequency
  2)Covered Margin Fine Adj.
  3)Toner Density Fine Adj.

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [04 Process Fine Adjustment].
3. "Process Fine Adjustment Menu screen" Press [04 Toner Density Fine Adj.].
4. "Toner Density Fine Adjustment screen" Select the colors to be adjusted and enter the adjustment value with the numeric buttons, and press [<< SET]. Adjustment range: -5 (image background, toner scattering prevention) to +5 (carrier scattering, white spot caused by carrier prevention) 1 step = 0.1%
5. Press [default] to restore the default settings.

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10.4.24 Drum Tiny Rotation Interval (Interval/Quantity Adj.)

Change interval of low humidity environment correction control (rotates drums periodically) to improve image failures caused by a uneven drum charging potential (that occurs easily with low humidity).

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [05 Interval/Quantity Adj.].
3. "Interval/Quantity Adjustment Menu screen" Press [01 Drum Tiny Rotation Interval].
4. "Drum Small Rotation Interval screen" Enter the adjustment value with the numeric buttons and press [<<SET]. Adjustment range: +1 to +5 1 step = One minute
5. Press [default] to restore the default settings.

10.4.25 Auto. Refresh Interval (Interval/Quantity Adj.)

Select the execution intervals and the toner consumption amount of the toner refresh mode. (Checks the average of print coverage for each color with each specific drive distance of the developing roller/K, and consumes a certain amount of toner for the color that the print coverage is lower than 5% converted in A4 size after completion of printing.)

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [05 Interval/Quantity Adj.].
3. "Interval/Quantity Adjustment Menu screen" Press [02 Auto. Refresh Interval].
"Automatic Refresh Interval screen" Specify the settings of each adjustment item, "Execution existence", "Execution frequency" and "Refresh quantity", and press [OK] to enable the new settings. • Execution existence: [OFF], [ON] • Execution frequency: [small] - Equivalent to A4 continuous 1,000 prints [middle] - Equivalent to A4 continuous 500 prints [large] - Equivalent to A4 continuous 330 prints • Refresh quantity: [small] - Equivalent to A3 solid 3 sheets [middle] - Equivalent to A3 solid 5 sheets [large] - Equivalent to A3 solid 8 sheets **Note** **• Execution frequency varies depending on environmental temperature and print modes.**
4. Press [Cancel] to cancel the operation.

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10.4.26 Toner Dens. Sensor Interval (Interval/Quantity Adj.)

Change correction interval of the TCR sensor control voltage at 2/3 speed and 1/2 speed.

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [05 Interval/Quantity Adj.].
3. "Interval/Quantity Adjustment Menu screen" Press [03 Toner Dens. Sensor Interval].
4. "Toner Density Sensor Line Speed screen" Select an interval and press [OK].
5. Press [Cancel] to cancel the operation.

10.4.27 Recall standard data

Restore the process adjustment set values to factory initial data or installation initial data.

Note

- **Adjustment data of "Automatic drum potential" and the "LD bias adjustment" can be restored.**

A. Procedure

1. "Service Mode Menu screen" Press [02 Process Adjustment].
2. "Process Adjustment Menu screen" Press [06 Recall standard data].
3. "Recall Standard Data screen" Press [Factory Initial Data] or [Installation Initial Data]. **Note** • **Selecting [Factory Default Data] restores various set values to factory initial data.** • **Select [Installation Initial Data] to retrieve the values from a backup in I/O check mode (code: "91-00").**
4. Press [Yes] to restore standard data. Press [No] to cancel the operation.

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10.5 System Setting

10.5.1 Software SW Setting

Set the software DIPSW.

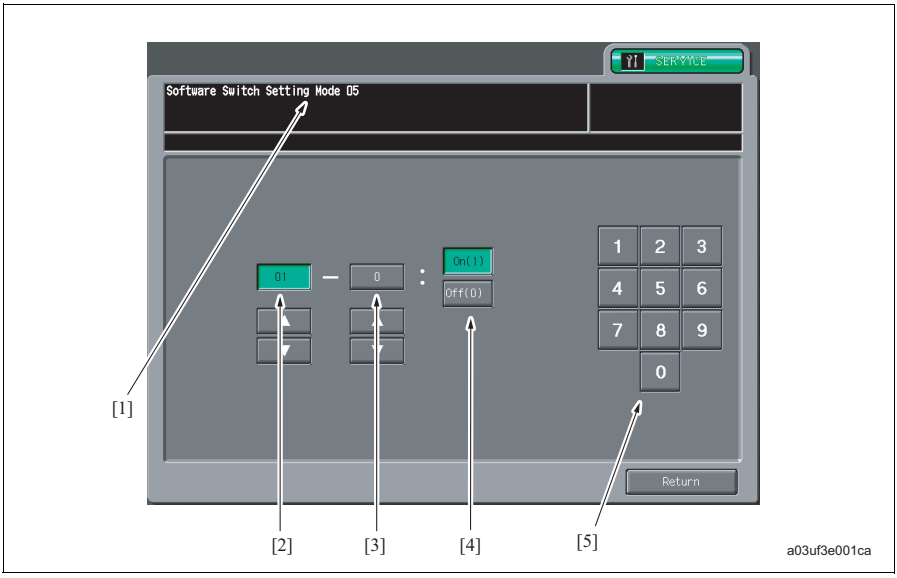
Note

- **Do not change any switch not described in the service manual.**

A. Procedure

1. "Service Mode Menu screen" Press [03 System Setting].
2. "System Setting Menu screen" Press [01 Software SW Setting].
3. "Software Switch Setting Mode screen" Press [▼] / [▲] or numeric buttons after pressing the "DIPSW number" and "Bit number" buttons.
4. Press [On(1)] or [Off(0)] to specify ON/OFF of the selected bit numbers.

B. Software Switch Setting Mode screen



[1] DIPSW data (indicates the 8bit values of the selected DIPSW numbers in hexadecimals from 00 to FF.)

[2] DIPSW number

[3] Bit number (0 to 7)

[4] Bit data: 1:ON, 0:OFF

[5] Numeric buttons

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C. Software DIPSW lists

DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
1	0	Display of process adjustment on user screen	Disabled	Enabled	0	0	0
	1	—	—	—	0	0	0
	2	Print stop method after displaying toner supply or waste toner full display	*1	*1	1	1	1
	3		*1	*1	0	0	0
	4	Print when the maintenance count is reached	Allowed	Prohibited	0	0	0
	5	Number of allowed print quantity after reaching the maintenance count	*2	*2	0	0	0
	6		*2	*2	0	0	0
	7		*2	*2	0	0	0
2	0	Hard disk drive connection recognition	Disabled	Enabled	0	0	0
	1	IC-408 connection recognition	Disabled	Enabled	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	Polygon motor rotation speed switchover	Speed when print operation is ended	2/3 speed	0	0	0
3	0	—	—	—	0	0	0
	1	Malfunction code latch (C35## to C39##)	Unlatched	Latched	0	0	0
	2	Reverse decurler roller preliminary rotation	Disabled	Enabled	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	I/O check mode output 15 memory clear	Disabled	Enabled	0	0	0
	7	—	—	—	0	0	0

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
4	0	Air assist shutter open/close control (PF)	Enabled	Disabled	0	0	0
	1	Paper exit decurler roller pressure setting/1	Normal	Moist paper support	0	0	0
	2	—	—	—	0	1	0
	3	—	—	—	0	0	1
	4	Paper exit decurler roller pressure setting/2	Normal	Prevention of wrinkle at lead edge of paper in duplex mode	0	0	0
	5	APS when magnification is changed	Enabled	Disabled	0	1	0
	6	Large size paper counting method - B&W (other than maintenance counter)	Count as 1 *3	Count as 2 *3	0	1	0
	7	Large size paper count method - Color (other than maintenance counter)	Count as 1 *3	Count as 2 *3	1	1	0
5	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	Fusing jam blank paper cleaning	Enabled	Disabled	0	0	0
	5	Change of the size of the large size paper (maintenance counter)	B4 / 8½ X14 (338mm) or larger	A3 / 11X17 (365mm) or larger	0	0	0
	6	Dust proof filter/1 life message display timing	180,000 prints: near life end 200,000 prints: life end	200,000 prints: near life end 220,000 prints: life end	0	0	0
	7	Print when the dust proof filter/1 life count is reached	Allowed	Prohibited	0	0	0
6	0	Faulty part isolation: FD fold and punch function	Normal	Unavailable	0	0	0
	1	Faulty part isolation: FD main tray paper exit	Normal	Unavailable	0	0	0
	2	Faulty part isolation: FD post insertion function	Normal	Unavailable	0	0	0
	3	Faulty part isolation: FS staple function	Normal	Unavailable	0	0	0
	4	Faulty part isolation: FS main tray paper exit	Normal	Unavailable	0	0	0
	5	Faulty part isolation: FS	Normal	Unavailable	0	0	0
	6	Faulty part isolation: LS main tray paper exit (1st unit)	Normal	Unavailable	0	0	0
	7	Faulty part isolation: LS main tray paper exit (2nd unit)	Normal	Unavailable	0	0	0

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
7	0	Faulty part isolation: SD saddle stitching	Normal	Unavailable	0	0	0
	1	Faulty part isolation: SD multi folding	Normal	Unavailable	0	0	0
	2	Faulty part isolation: SD multi letter	Normal	Unavailable	0	0	0
	3	Faulty part isolation: SD trimming	Normal	Unavailable	0	0	0
	4	Faulty part isolation: SD coupling conveyance, sub tray paper exit	Normal	Unavailable	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
8	0	Setting when printer control board is replaced/1	*4	*4	-	-	-
	1		*4	*4	-	-	-
	2		*4	*4	-	-	-
	3		*4	*4	-	-	-
	4	Setting when printer control board is replaced/2	+ (plus) *5	- (minus) *5	-	-	-
	5	—			0	0	0
	6	Large size paper count method (maintenance counter)	Count as 1	Count as 2	1	1	1
	7	—			0	0	0
9	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	Copy quantity limit	*6	*6	0	0	0
	5		*6	*6	0	0	0
	6		*6	*6	0	0	0
	7		*6	*6	0	0	0
10	0	—	—	—	0	0	0
	1	Hard disk image memory	Disabled	Enabled	1	1	1
	2	—	—	—	0	0	0
	3	Change of the size of the large size paper (other than maintenance counter)	*7	*7	0	0	0
	4		*7	*7	1	0	1
	5	Custom size tolerance setting	Only with ATS : tolerance is ± 2mm	Tray selection and ATS : tolerance is ± 10mm	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	1	1	1

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
11	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	Filter for jagged edges on slanting lines	Disabled	Enabled	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	Jam code display	Disabled	Enabled	0	0	0
12	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	Konica Minolta logo when power switch is turned ON	Enabled	Disabled	0	0	0
13	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
14	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
15	0	CSRC connection selection	Telephone line	E-mail	1	1	1
	1	CMS function screen display	Disabled	Enabled	0	0	0
	2	Charging corona life display	Enabled	Disabled	0	0	0
	3	FNS alarm stop method	*8	*8	0	0	0
	4		*8	*8	0	0	0
	5	CS Remote Care connection recognition	Disabled	Enabled	0	0	0
	6	—	—	—	0	0	0
	7	LDAP function	Disabled	Enabled	0	0	0

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
16	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	Coin vendor type	Parallel	Serial	0	0	0
	3	Counting of the key counter in the printer mode	Disabled	Enabled	0	0	0
	4	Display of machine install date in Utility menu mode	Enabled	Disabled	0	0	0
	5	Dehumidifier heater temperature control (LU/PF)	*9	*9	0	0	0
	6		*9	*9	0	0	0
	7	—	—	—	0	0	0
17	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	Density selection at scanning the tab paper	*10	*10	0	0	0
	5		*10	*10	0	0	0
	6		*10	*10	0	0	0
	7	—	—	—	0	0	0
18	0	Faulty part isolation: Tray 1	Normal	Unavailable	0	0	0
	1	Faulty part isolation: Tray 2	Normal	Unavailable	0	0	0
	2	Faulty part isolation: Tray 3	Normal	Unavailable	0	0	0
	3	Faulty part isolation: Tray 4 (LU)	Normal	Unavailable	0	0	0
	4	Print during temperature control by dehumidifier heater (LU/PF)	Prohibited	Allowed	0	0	0
	5	Faulty part isolation: FS center fold, saddle stitch	Normal	Unavailable	0	0	0
	6	Faulty part isolation: PI	Normal	Unavailable	0	0	0
	7	Faulty part isolation: HDD	Normal	Unavailable	0	0	0
19	0	—	—	—	0	0	0
	1	Fusing upper and lower roller temperature selection	*11	*11	1	1	1
	2		*11	*11	1	1	1
	3		*11	*11	0	0	0
	4	Multi feed detection (PF)	Enabled	Disabled	0	0	0
	5	Faulty part isolation: PF	Normal	Unavailable	0	0	0
	6	Developing motor stop control during printing	*12	*12	0	0	0
	7		*12	*12	0	0	0

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
20	0	Group stapling	Disabled	Enabled	0	0	0
	1	Image scanning area with “Page Margin“ mode	Normal	Original priority	0	0	0
	2	Total page number standard in "Stamp" mode	Based on original	Based on print paper	0	0	0
	3	Keyboard layout	ABC layout	QWERTY layout	0	0	0
	4	Periodical black toner band creation on the transfer belt	Normal	Increased at the edges	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
21	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	257-300g/m^2 paper exit with its face up	Not allowed	Allowed	0	0	0
	4	Faulty part isolation: Tray4 (PF)	Normal	Unavailable	0	0	0
	5	Faulty part isolation: Tray5 (PF)	Normal	Unavailable	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
22	0	Machine NIC setting	Disabled	Enabled	1	1	1
	1	Number of punch holes	*13	*13	1	1	0
	2		*13	*13	0	0	1
	3	Image position for the custom size original (when using DF)	Based on user selection	Based on APS at DF	0	0	0
	4	Function of the power save key	Enabled	Disabled	0	0	0
	5	SD trimming board adjustment display	Disabled	Enabled	0	0	0
	6	Operation when FS runs out of staple	Staple supply request	Selecting between staple supply or staple release	0	0	0
	7	—	—	—	0	0	0
23	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	Precision of the color registration automatic correction (during printing)	Normal *14	Fine *14	0	0	0
	3	Control of the color registration automatic correction (periodical correction)	Enabled *15	Disabled *15	0	0	0
	4	The color registration automatic correction in main scan direction (periodical correction)	Enabled *16	Disabled *16	0	0	0
	5	Gamma correction (IC)	Enabled	Disabled	0	0	0
	6	—	—	—	0	0	0
	7	Punch auto switching (PK/FD)	Disabled	Enabled	1	1	1

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
24	0	Simple-gamma correction counter reset	Reset when print job is started	Not reset when print job is started	0	0	0
	1	—	—	—	0	0	0
	2	Image stabilization control	Enabled	Disabled	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
25	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	Color registration automatic correction control	*17	*17	0	0	0
	4		*17	*17	0	0	0
	5	Precision of the color registration automatic correction	Normal *18	Speed preference *18	0	0	0
	6	—	—	—	0	0	0
	7	Dehumidifier heater (standard heater)	Enabled	Disabled	0	0	0
26	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	Multi feed detection (FD)	Enabled	Disabled	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
27	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
28	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
29	0	—	—	—	0	0	0
	1	—	—	—	0	0	0
	2	—	—	—	0	0	0
	3	Inclusion of proof copy to the set copy quantity	Disabled	Enabled	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0
30	0	—	—	—	0	0	0
	1	Restriction of the display of the service mode "List output"	Disabled	Enabled	0	0	0
	2	—	—	—	0	0	0
	3	—	—	—	1	1	1
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—			0	0	0
31	0	—	—	—	1	1	1
	1	—	—	—	0	0	0
	2	Z-fold max paper exit capacity: FS-503 main tray	*19	*19	0	0	0
	3	Z-fold, center-fold max paper exit capacity: FD main tray	*19	*19	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0

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DIPSW	Bit	Function	0	1	Default setting		
					Japan	Inch	Metric
32	0	—	—	—	0	0	0
	1	Contone output of solid text (IC)	Disabled	Enabled	1	1	1
	2	Internal trapping (IC)	Disabled	Enabled	1	1	1
	3	—	—	—	0	0	0
	4	—	—	—	0	0	0
	5	—	—	—	0	0	0
	6	—	—	—	0	0	0
	7	—	—	—	0	0	0

Note

- **Bold boxes show default settings.**

*1 Print stop method after displaying toner supply or waste toner full display

This switch is to select whether to display process adjustment button on the [Paper Setting] screen of [MACHINE] screen.

Mode	1-3	1-2
Stops after ejecting paper in the machine	0	0
Stops at a break between copy set	**0**	**1**
Stops at the end of the current job	1	0
Does not stop	1	1

*2 Number of allowed print quantity after reaching the maintenance count

Mode	1-7	1-6	1-5
1,000 prints	**0**	**0**	**0**
2,000 prints	0	0	1
3,000 prints	0	1	0
4,000 prints	0	1	1
5,000 prints	1	0	0
1,000 prints	1	0	1
1,000 prints	1	1	0
1,000 prints	1	1	1

*3 Large size paper counting method (other than maintenance counter)

This switch is used to set count of large size paper print as 1 or 2. It changes count method for other than maintenance counter.

The related switches are DIPSW5-5, 8-6 and 10-3 through 4.

Default differs depending on the main body destination.

Europe: count as 1

North America: 11x17 count as 2, 8½ x14 count as 1

Other: count as 2.

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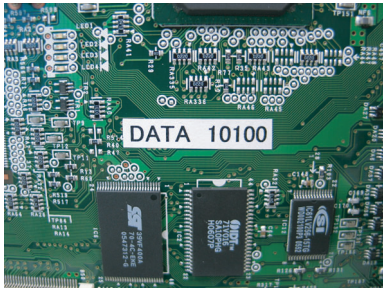
*4 Setting when printer control board is replaced/1

When the printer control board (PRCB) is replaced, it is necessary to input 5-digit number printed on the label on the PRCB using these dipswitches.

The fusing belt temperature control varies depending on PRCB, so, the difference has been measured during the manufacturing process and the correction value is printed on the label.

If the value is not input, the fusing temperature cannot be controlled properly.

e.g.) Temperature for this board is -4 °C. (The rightmost figure is bit 0 and the leftmost figure is bit 4.)



a03uf3c032ca

Mode	8-3	8-2	8-1	8-0
0 °C	0	0	0	0
1 °C	0	0	0	1
2 °C	0	0	1	0
3 °C	0	0	1	1
4 °C	0	1	0	0
5 °C	0	1	0	1
6 °C	0	1	1	0
7 °C	0	1	1	1
8 °C	1	0	0	0
9 °C	1	0	0	1
10 °C	1	0	1	0
0 °C	1	0	1	1
0 °C	1	1	0	0
0 °C	1	1	0	1
0 °C	1	1	1	0
0 °C	1	1	1	1

*5 Setting when printer control board is replaced/2

Input +/- sign of the temperature you have input using DIPSW8-0 through 3.

Mode	8-4
+ (plus)	0
- (minus)	1

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*6 Copy quantity limit

Mode	9-7	9-6	9-5	9-4
No limit	0	0	0	0
1 print	0	0	0	1
3 prints	0	0	1	0
5 prints	0	0	1	1
9 prints	0	1	0	0
10 prints	0	1	0	1
20 prints	0	1	1	0
30 prints	0	1	1	1
50 prints	1	0	0	0
99 prints	1	0	0	1
No limit	1	0	1	0
No limit	1	0	1	1
No limit	1	1	0	0
No limit	1	1	0	1
No limit	1	1	1	0
No limit	1	1	1	1

*7 Change of the size of the large size paper (other than maintenance counter)

This switch changes the standard of large size paper used for counter control other than maintenance counter.

Mode	10-4	10-3
Standard: A3 / 11X17 or larger Custom: 391mm or larger	0	0
All sizes are small	0	1
Standard: B4 / 8½ X 14 / 8K or larger Custom: 331mm or larger	1	0
Standard: 8½ X 13, 8¼ X 13, 8⅛ X 13¼, 8 X 13 or larger Custom: 298mm or larger	1	1

*8 FS alarm stop method

This switch is used to select alarm stop condition. Alarm stop means detection of the following states. FD/FS/LS tray lower limit, FD/FS/LS/SD tray paper full, FD/PK punch waste full, FS staple waste full, SD trimming waste full

Mode	15-4	15-3
Stop immediately after detection	0	0
Stops at a break between print set after detection	0	1
Does not stop while printing	1	0
Does not stop while printing	1	1

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*9 Dehumidifier heater temperature control (LU/PF)

With LU, PF option dehumidifier heater is connected, this switch is used to set control temperature when dehumidifier fan heater control is set to [On (compulsory)] in the Utility menu mode.

Mode	16-6	16-5
Environment temperature +6 °C	0	0
Environment temperature +8 °C	0	1
Environment temperature +10 °C	1	0
Environment temperature +6 °C	1	1

*10 Density selection at scanning tab paper

This switch is used to select background density when scanning tabed paper.

Mode	17-6	17-5	17-4
Brightness level 80	0	0	0
Brightness level 40 (Lightest)	0	0	1
Brightness level 60	0	1	0
Brightness level 100	0	1	1
Brightness level 120	1	0	0
Brightness level 160	1	0	1
Brightness level 200	1	1	0
Brightness level (Darkest)	1	1	1

*11 Fusing upper and lower roller temperature selection

This switch is used to change the fusing standard control temperature. Decrease temperature against paper curling or waving and increase temperature against insufficient fusing or fusing winding jam.

Mode	17-6	17-5	17-4
-30 °C	0	0	0
-20 °C	0	0	1
-10 °C	0	1	0
Standard	0	1	1
Upper roller: standard Lower roller: +10 °C	1	0	0
Standard	1	0	1
Standard	1	1	0
Standard	1	1	1

*12 Developing motor stop control during printing

Mode	19-7	19-6
Normal (automatic switchover)	0	0
Rotation at 1/4 speed when image is not developed	0	1
OFF when image is not developed	1	0
Normal (automatic switchover)	1	1

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*13 Number of punch holes

This switch changes prohibition control by paper size, which differs depending on the number of punch holes. It also changes the number of holes on the punch hole select screen of user mode.

Mode	22-2	22-1
2-hole	0	0
2/3-hole switchover	0	1
2/4-hole switchover Swedish 4-hole	1	0
—	1	1

*14 Precision of the color registration automatic correction (during printing)

This switch changes accuracy of color registration correction that is performed periodically during printing. If fine is selected, the registration accuracy improves by approx. 0.5 pixels, but the correction time takes 2 minutes longer.

Mode	23-2
Normal	0
Fine	1

*15 Control of the color registration automatic correction (periodical correction)

Down time while in the continuous printing is reduced by disable the color registration correction that is performed periodically. (Color registration correction when the fusing temperature is lower than the specified temperature at power ON is not omitted.)

Mode	23-3
Enabled	0
Disabled	1

*16 The color registration automatic correction in main scan direction (periodical correction)

The color registration correction that is performed periodically can be disabled in the main scan direction only. This is used temporarily when there is a registration error along the main scan as a result of a trouble around the transfer belt unit, or when isolating faulty part.

Mode	23-4
Enabled	0
Disabled	1

*17 Color registration automatic correction control

This switch is used to change the timing of periodical color registration correction control or disable the correction.

- Enable: Correction is performed by suspending print at specified print.
- Disable: Correction is omitted temporarily to reduce down time when the machine cannot be used with malfunction code related to the drum potential sensor or PGC sensor.
- No performed during printing: Correction that is performed by suspending print at every specified print is performed after the print job to reduce down time.

Mode	25-4	25-3
Enabled	0	0
Disabled	0	1
No performed during printing	1	0
—	1	1

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*18 Precision of the color registration automatic correction

This switch changes accuracy of color registration correction that is performed automatically. If speed preference is selected, the correction time can be shorten. Correction time of "speed preference" is approx. 30 seconds.

Mode	25-5
Normal	0
Speed preference	1

*19 Z-fold max paper exit capacity: FS-503 main tray
Z-fold,center-fold max paper exit capacity: FD main tray

This switch is used to select the max stacking capacity of paper which is Z-folded or center-folded by FD on the FS or FD main tray during continuous printing. If folding performance is poor and causing paper jam or dropping from tray, reduce the max stacking capacity of folded paper using this switch.

Mode	31-3	31-2
50 sheets	0	0
40 sheets	0	1
30 sheets	1	0
20 sheets	1	1

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10.5.2 Telephone Number Setting

Register telephone and fax numbers of a service center that will be displayed in help information or when a malfunction occurs.

A. Procedure

1. "Service Mode Menu screen" Press [03 System Setting].
2. "System Setting Menu screen" Press [02 Telephone Number Setting].
3. "Customer Support TEL/FAX Setting screen" Press either of [Service Center Tel (16)] or [Service Center Fax (16)] that you want to set.
4. Enter telephone number or fax number to be registered with the numeric buttons. **Note** **• When a number is less than 16 digits, be sure to use hyphens or etc to fill up the blanks.**
5. Press [OK] to register the data. Press [Cancel] to cancel the operation.

10.5.3 M/C Serial Number Setting

Set and display the serial numbers of the main body and options.

Note

• The serial number of the main body cannot be changed.

A. Procedure

1. "Service Mode Menu screen" Press [03 System Setting].
2. "System Setting Menu screen" Press [03 M/C Serial Number Setting].
3. "Serial Number Setting Mode screen" Select the option, then a keyboard screen appears. Enter a serial number using the alphanumeric buttons.
4. Press [OK] to register the data. Press [Cancel] to cancel the operation.

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10.5.4 Setup Date Input

Set the starting date of the total counter that is displayed on the screen in the utility menu mode.
When the DIPSW 16-4 is set to "1", the starting date of the total counter is not displayed.

A. Procedure

1. "Service Mode Menu screen" Press [03 System Setting].
2. "System Setting Menu screen" Press [04 Setup Date Input].
3. "Setup Date Input screen" Enter an installation date with the numeric buttons. Press [Set] to highlight the Year/Month/Date to be entered.
4. Press [OK] to update the data. Press [Cancel] to cancel the operation.

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10.6 Counter/data

10.6.1 Maintenance Counter

Set or reset the maintenance counter cycle.

Note

- **The maintenance cycle can be set either paper count (Quantity) or travel distance (m) of the developing roller/K (Distance). "Quantity" is selected by default.**
- **The count condition of the maintenance counter varies depending on the DIPSW8-6 settings.**
  0: 1 count for a single side of each paper exit, and 2 counts for a double side.
  1: 2 counts for a single side of each large size paper exit (the definition of large size paper is set by DIPSW10-3 and 4), and 4 counts for a double side. For those other than the large size, the count is same as when set to "0."

A. Counter reset

After the maintenance is completed, reset the maintenance count using this mode.

Note

- **Be sure to reset the maintenance counter after the periodic maintenance (every 200,000 prints). If it is not reset, the warning message and icon for periodic maintenance will not be disappeared.**

(1) Procedure

1.	"Service Mode Menu screen" Press [04 Counter/Data]
2.	"Counter/Data Menu screen" Press [01 Maintenance Counter].
3.	"Maintenance Counter screen" Press [Count Reset] to reset the maintenance counter.
4.	"Reset confirmation screen" Press [Yes] to reset. The count is reset and the starting date is automatically entered. Press [No] to cancel.

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B. Maintenance cycle setting

Set the maintenance cycle counter.

Note

- **The maintenance counter is predetermined. Be sure not to change the count value normally. Default setting is set to 200,000 prints and 126,000 m.**

(1) Procedure

1. "Service Mode Menu screen" Press [04 Counter/Data]
2. "Counter/Data Menu screen" Press [01 Maintenance Counter].
3. "Maintenance Counter screen" Enter high digits of the cycle with the numeric buttons.
4. "Maintenance Counter screen" Press [OK] to register the data.Press [Cancel] to cancel the opreration.

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10.6.2 Data Collection

Display the counter/data of the main body shown below on the touch panel.
Counter/data can also be checked in the CS Remote Care, List Output and Mail Remote Notification System.

- Paper Size Counter (Total)
- Paper Size Counter (Copy)
- Paper Size Counter (Print)
- ADF Counter
- Coverage Data History
- Paper Jam History
- Jam Counter
- Copy Mode Counter (1)
- Copy Mode Counter (2)
- SC Counter
- Paper Jam Sectional Counter
- Failure Sectional Counter
- SC data of time series

A. Procedure

1. "Service Mode Menu screen" Press [04 Counter/Data].
2. "Counter/Data Menu screen" Press [02 Data Collection].
3. "Parts Counter Menu screen" Press the counter/data item you want to check.
4. "Collecting Data screen" Press [Next] or [Previous] to scroll the pages. **Note** • **[Count Reset] is displayed on each screen of [Paper Jam Sectional Counter] and [SC data of time series]** **"Count Reset confirmation screen" appears when [Count Reset] is pressed. Press [Yes] to reset the sectional count. Press [No] to cancel the count reset.** **By resetting these data when you visit the customer of the maintenance implementation etc. you can check the jam and malfunction occurrence count after it was visited last time.**

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B. Paper Size Counter (Total/Copy/Print)

Confirm the number of print of each paper size.

Note

- **Maximum count number is 99,999,999.**
- **Count value is one count each for all kinds of paper size.**

No.	CSRC parameter (B1,B6,B8, BD,BE,BF)	Size	Remarks
01	00	Others	
02	01	A3	
03	02	A4	
04	03	A5	
05	04	A6	
06	05	B4	
07	06	B5	
08	07	B6	
09	08	12 x 18	
10	09	11 x 17	
11	0A	8.5 x 14	
12	0B	8.5 x 11	
13	0C	7.25 x 10.5	
14	0D	5.5 x 8.5	
15	0E	F4	
16	0F	Post card	
17	10	4 x 6	
18	11	8K	
19	12	16K	
20	13	Long paper	
21	14	A2	
22	15	SRA3	
23	16	SRA4	
24	17	13 x 19	
25	18	Infinite 1	Custom size: 196 mm or shorter in sub-scan direction.
26	19	Infinite 2	Custom size: 250 mm or shorter in sub-scan direction.
27	1A	Infinite 3	Custom size: 330 mm or shorter in sub-scan direction.
28	1B	Infinite 4	Custom size: 390 mm or shorter in sub-scan direction.
29	1C	Infinite 5	Custom size: 391 mm or longer in sub-scan direction.

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C. ADF Counter

Confirm the number of originals fed in each DF mode.

Note

- **Maximum count number is 99,999,999.**
- **No.01 and No.02 counter do not double count with other counters.**
- **One count for single-sided, two counts for double-sided.**

No.	CSRC parameter (F0)	Item	Remarks
01	00	N of originals fed in ADF mode/1 side	
02	01	N of originals fed in ADF mode/2 side	
03	02	N of originals fed in RDH mode	Reserved
04	03	N of originals fed in RRDH mode	Reserved
05	04	N of originals fed in LDF mode	Reserved
06	05	N of originals fed in CFF mode	Reserved
07	06	N of 1-sided SDF original fed	Reserved
08	07	N of mix originals fed in ADF/1 side	
09	08	N of mix originals fed in ADF/2 side	
10	09	N of originals fed in 2in1 mode	Reserved
11	0A	N of 1-sided Z-folded original fed	
12	0B	N of 2-sided Z-folded original fed	
13	0C	N of 2-sided SDF original fed	Reserved

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D. Coverage Data History

Confirm the average coverage of 5,000 print sheets of the latest 30 data for each of Y, M, C and K.

Note

- **The coverage data is a calculated value based on the colored area and the transfer paper area of the image data. Therefore, it is different from the toner consumption when actually printed.**
- **Up to 30 latest coverage data are maintained with the older ones deleted in sequence.**

No.	CSRC parameter (V0)	Print count	Coverage (%)
01	00	Total	(00.0 to 99.9)
02	01	Print count 1	
03	02	Print count 2	
04	03	Print count 3	
05	04	Print count 4	
06	05	Print count 5	
07	06	Print count 6	
08	07	Print count 7	
09	08	Print count 8	
10	09	Print count 9	
11	0A	Print count 10	
12	0B	Print count 11	
13	0C	Print count 12	
14	0D	Print count 13	
15	0E	Print count 14	
16	0F	Print count 15	
17	10	Print count 16	
18	11	Print count 17	
19	12	Print count 18	
20	13	Print count 19	
21	14	Print count 20	
22	15	Print count 21	
23	16	Print count 22	
24	17	Print count 23	
25	18	Print count 24	
26	19	Print count 25	
27	1A	Print count 26	
28	1B	Print count 27	
29	1C	Print count 28	
30	1D	Print count 29	
31	1E	Print count 30	

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E. Paper Jam History

Confirm the latest 100 jams, it is possible to confirm jam code, total count, date of occurrence, tray used, paper size, and magnification.

F. JAM/Paper Jam Sectional Counter

Confirm the number of jam occurrences for each jam code.

Note

- **Maximum count is 999,999.**
- **The stationary jam is not included in the count.**
- **Jam code is displayed on the user mode screen when changing the DIPSW11-7 to 1.**

No.	CSRC parameter (J0)	Item (Jam code)
001	00	J-1001
002	01	J-1002
003	02	J-1003
004	03	J-1051
005	04	J-1101
006	05	J-1151
007	06	J-1201
008	07	J-1251
009	08	J-1301
010	09	J-1351
011	0A	J-1501
012	0B	J-1502
013	0C	J-1551
014	0D	J-1552
015	0E	J-1601
016	0F	J-1602
017	10	J-1603
018	11	J-1604
019	12	J-1605
020	13	J-1606
021	14	J-1607
022	15	J-1608
023	16	J-1609
024	17	J-1610
025	18	J-1651
026	19	J-1652
027	1A	J-1653
028	1B	J-1654
029	1C	J-1655
030	1D	J-1656

No.	CSRC parameter (J0)	Item (Jam code)
031	1E	J-1657
032	1F	J-1658
033	20	J-1701
034	21	J-1702
035	22	J-1703
036	23	J-1704
037	24	J-1705
038	25	J-1706
039	26	J-1707
040	27	J-1708
041	28	J-1709
042	29	J-1710
043	2A	J-1751
044	2B	J-1752
045	2C	J-1753
046	2D	J-1754
047	2E	J-1901
048	2F	J-1902
049	30	J-1903
050	31	J-3201
051	32	J-3202
052	33	J-3203
053	34	J-3204
054	35	J-3205
055	36	J-3206
056	37	J-3207
057	38	J-3209
058	39	J-3251
059	3A	J-3252
060	3B	J-3253

No.	CSRC parameter (J0)	Item (Jam code)
061	3C	J-3254
062	3D	J-5101
063	3E	J-9201
064	3F	J-9202
065	40	J-9251
066	41	J-9252
067	42	J-9301
068	43	J-9351
069	44	J-9401
070	45	J-9451
071	46	J-6101
072	47	J-6102
073	48	J-6103
074	49	J-6201
075	4A	J-6203
076	4B	J-6206
077	4C	J-6209
078	4D	J-6301
079	4E	J-6304
080	4F	J-6305
081	50	J-6501
082	51	J-6502
083	52	J-6504
084	53	J-6508
085	54	J-7101
086	55	J-7103
087	56	J-7105
088	57	J-7106
089	58	J-7107
090	59	J-7216

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No.	CSRC parameter (J0)	Item (Jam code)
091	5A	J-7217
092	5B	J-7218
093	5C	J-7219
094	5D	J-7220
095	5E	J-7221
096	5F	J-7222
097	60	J-7223
098	61	J-7224
099	62	J-7225
100	63	J-7226
101	64	J-7228
102	65	J-7229
103	66	J-7230
104	67	J-7235
105	68	J-7243
106	69	J-7248
107	6A	J-7249
108	6B	J-7250
109	6C	J-7251
110	6D	J-7281
111	6E	J-7282
112	6F	J-7283
113	70	J-7290
114	92	J-7401
115	93	J-7402
116	94	J-7403
117	95	J-7404
118	96	J-7405
119	97	J-7406
120	98	J-7407
121	99	J-7408
122	9A	J-7409
123	9B	J-7410
124	9C	J-7411
125	9D	J-7412
126	9E	J-7460
127	9F	J-7461
128	A0	J-7462
129	A1	J-7463
130	A2	J-7464
131	A3	J-7465

No.	CSRC parameter (J0)	Item (Jam code)
132	A4	J-7466
133	A5	J-7467
134	A6	J-7468
135	A7	J-7469
136	A8	J-7470
137	A9	J-7471
138	AA	J-7472
139	AB	J-7473
140	AX	J-7474
141	AD	J-7475
142	AE	J-7476
143	AF	J-7477
144	B0	J-7478
145	B1	J-7479
146	B2	J-7480
147	B3	J-7481
148	B4	J-7482
149	B5	J-7483
150	B6	J-7484
151	B7	J-7485
152	B8	J-7486
153	B9	J-7487
154	BA	J-7488
155	BB	J-7489
156	BC	J-7490
157	BD	J-7491
158	BE	J-7492
159	BF	J-7493
160	C0	J-7496
161	C1	J-7497
162	C2	J-7498
163	C3	J-7499
164	C4	J-7501
165	C5	J-7502
166	C6	J-7503
167	C7	J-7504
168	C8	J-7505
169	C9	J-7506
170	CA	J-7507
171	CB	J-7508
172	CC	J-7509

No.	CSRC parameter (J0)	Item (Jam code)
173	CD	J-7510
174	CE	J-7511
175	CF	J-7512
176	D0	J-7513
177	D1	J-7514
178	D2	J-7515
179	D3	J-7516
180	D4	J-7517
181	D5	J-7518
182	D6	J-7519
183	D7	J-7520
184	D8	J-7521
185	D9	J-7522
186	DA	J-7523
187	DB	J-7524
188	DC	J-7540
189	DD	J-7541
190	DE	J-7542
191	DF	J-7543
192	E0	J-7561
193	E1	J-7562
194	E2	J-7563
195	E3	J-7564
196	E4	J-7565
197	E5	J-7566
198	E6	J-7567
199	E7	J-7568
200	E8	J-7569
201	E9	J-7570
202	EA	J-7571
203	EB	J-7572
204	EC	J-7573
205	ED	J-7574
206	EE	J-7575
207	EF	J-7576
208	F0	J-7577
209	F1	J-7578
210	F2	J-7579
211	F3	J-7580
212	F4	J-7581
213	F5	J-7582

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No.	CSRC parameter (J0)	Item (Jam code)
214	F6	J-7583
215	F7	J-7584
216	F8	J-7585

No.	CSRC parameter (J0)	Item (Jam code)
217	F9	J-3101
218	FA	J-3102

No.	CSRC parameter (J0)	Item (Jam code)
219	FB	J-3151
220	FC	J-3152

G. Copy Mode Counter (1)

Confirm the status of use of each copy mode.

Note

- **Maximum count is 99,999,999.**

No.	CSRC parameter (F1)	Item	Count condition
001	00	1 → 1mode	
002	01	1 → 2 mode	
003	02	2 → 1 mode	
004	03	2 → 2 mode	
005	04	ADF 1>1 mode	
006	05	ADF 2>2 mode	
007	06	Mixed original mode	
008	07	Tab original mode	
009	08	Z-Folded original mode	
010	09	LEF: Portrait/SEF: Landscape (Reg.)	
011	0A	LEF: Landscape/SEF: Portrait (Reg.)	
012	0B	LEF: Portrait/SEF: Landscape (Rev.)	
013	0C	LEF: Landscape/SEF: Portrait (Rev.)	
014	0D	Image: text/photo	
015	0E	Image: Text	
016	0F	Image: Photo	
017	10	Image: Map	
018	11	Custom Size	
019	12	Corner Staple (Top Left)	
020	13	Corner Staple (Top Right)	
021	14	2 Positions Staple (Left Bind)	
022	15	2 Positions Staple (Right Bind)	
023	16	Left Bind	
024	17	Right Bind	Counts when the right binding booklet is selected.
025	18	Top Bind	
026	19	Triple-Fold	
027	1A	Fold & Staple	

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No.	CSRC parameter (F1)	Item	Count condition
028	1B	Stacker 5000-sheets loading alarm	
029	1C	Uncollate	
030	1D	Offset uncollate	
031	1E	Collate	
032	1F	Offset Collate	
033	20	Face Down	
034	21	Face Up	
035	22	1 to N	
036	23	N to 1	
037	24	—	
038	25	Paper Inserter	
039	26	Trimmer	
040	27	Real size copy	
041	28	Preset magnification E4	
042	29	Preset magnification E3	
043	2A	Preset magnification E2	
044	2B	Preset magnification E1	
045	2C	Preset magnification R4	
046	2D	Preset magnification R3	
047	2E	Preset magnification R2	
048	2F	Preset magnification R1	
049	30	User lens mode 1	
050	31	User lens mode 2	
051	32	User lens mode 3	
052	33	Zoom	
053	34	Vertical/Horizontal zoom	
054	35	Maximum zoom	
055	36	Minimum zoom	
056	37	APS	
057	38	AMS	
058	39	AES	
059	3A	User density level 1	
060	3B	User density level 2	
061	3C	Interrupted copy	
062	3D	Auto image rotation cancellation	
063	3E	Insert Sheet	
064	3F	Chapters control	
065	40	Combine Originals	
066	41	Booklet Pagination	
067	42	Crest of character	
068	43	Annotation	

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No.	CSRC parameter (F1)	Item	Count condition
069	44	Insert Image	
070	45	Book Copy	
071	46	Program Job	
072	47	Non-image Area Erase	
073	48	Neg./Positive Reverse	
074	49	Auto repeat	
075	4A	Manual repeat	
076	4B	Standard Size repeat	
077	4C	Frame erase	
078	4D	Center erase	
079	4E	Image centering	
080	4F	All-image Area	
081	50	Shift	
082	51	Reduce & Shift	
083	52	Image Overlay	
084	53	Watermark	
085	54	Built-in Stamp	
086	55	Date/Time	
087	56	Page	
088	57	Numbering	
089	58	Set quantity 1	
090	59	Set quantity 2 - 5	
091	5A	Set quantity 6 - 10	
092	5B	Set quantity 11 or more	
093	5C	Time while power remote 1 is On	Accumulation of time during which the overall control board is powered (main power switch is ON). (unit: min.)
094	5D	Time while power remote 2 is On	Time during which the power control signal (REM2) is ON. (unit: min.)
095	5E	Time while power remote 3 is On	Time during which the power control signal (REM3) is ON. (unit: min.)
096	5F	Time while power remote 4 is On	Time during which the power control signal (REM4) is ON. (unit: min.)
097	60	Time during Low Power mode	Time in the LOW POWER mode. (unit: min.)
098	61	Time during warm up time	Time for warm-up, before ready to print status. (unit: min.)
099	62	Time during front door open	Time during which the front door is open. (unit: min.)
100	63	Ope. time in 1 side straight exit	Time from the start of print and the end of print. (unit: sec.) (Down time due to jam omitted)
101	64	Ope. time in 1 side reverse exit	
102	65	Operation time in 2 side print	

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No.	CSRC parameter (F1)	Item	Count condition
103	66	Operation time in ADF mode	Time during which DF operates.(unit: min.)
104	67	Morning Correction count	Counts 1 per image stabilization control.
105	68	Time during APS sensor On	Time during which the APS sensor is ON. (unit: min.)
106	69	—	
107	6A	—	
108	6B	N of Fold & Staple used jobs	
109	6C	Fold & Staple Tri-Fold Full	
110	6D	N of ADF NF occured	Number of DF no feed detection.
111	6E	N of ADF special error1 occurred	Number of original size miss-detection.
112	6F	N of ADF special error2 occurred	Number of next original information error.
113	70	N of ADF special error3 occurred	Number of mixed size mode error
114	71	N of scanner scanned	Counts 1 for pressing Start key in the platen mode.
115	72	N of electrode cleaned	
116	73	N of memory overflow	Total count of No.124, 125, 126 and the number of occurrences of HDD reading over flow.
117	74	N of fusing alarm occurred	
118	75	N of no toner stop occurred	Total count of the four colors.
119	76	N of AGC retry	
120	77	N of sub scan beam correct error	
121	78	N of mis-centering correct error	
122	79	N of ADF distortion adjust error	
123	7A	N of ADF distortion data error	
124	7B	Compression memory overflow	
125	7C	Page memory overflow (scan)	
126	7D	Page memory overflow (print)	
127	7E	FNS alarm (tray/trimming)	
128	7F	FNS alarm (staple)	
129	80	Scanner count	
130	81	N of ADF special error4 occurred	Ready time out error
131	82	—	
132	83	—	
133	84	—	
134	85	—	
135	86	—	
136	87	—	
137	88	Saddle Stitcher staple alarm	

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No.	CSRC parameter (F1)	Item	Count condition
138	89	—	
139	8A	—	
140	8B	—	
141	8C	—	
142	8D	—	
143	8E	Punch	
144	8F	Z-Folding	
145	90	Multi Folder Punch Waste Full	
146	91	—	
147	92	—	

H. Copy Mode Counter (2)

Confirm the status of use of each copy mode.

Note

- **Maximum count is 99,999,999.**

No.	CSRC parameter (F2)	Item	Count condition
001	00	ACS	
002	01	Full color	
003	02	Black	
004	03	Single Color (Y)	
005	04	Single Color (M)	
006	05	Single Color (C)	
007	06	Single Color (R)	
008	07	Single Color (G)	
009	08	Single Color (B)	
010	09	DF Thick paper	
011	0A	DF Thin paper	
012	0B	Type: Printed paper	
013	0C	Type: Photo paper	
014	0D	Type: Copied paper	
015	0E	Type: Inkjet paper	
016	0F	B-side Prevent	
017	10	Screen: Auto	
018	11	Screen: Line1	
019	12	Screen: Line2/Type1	
020	13	Screen: Dot1	
021	14	Screen: Dot2/Type1	

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No.	CSRC parameter (F2)	Item	Count condition
022	15	Screen: Compression	
023	16	Glossy	
024	17	Density shift	
025	18	Adjust Background	
026	19	Red	
027	1A	Green	
028	1B	Blue	
029	1C	Hue adjustment	
030	1D	Saturation adjustment	
031	1E	Brightness adjustment	
032	1F	Color balance adjustment	
033	20	Sharpness adjustment	
034	21	Contrast adjustment	
035	22	Image Distinction Level	
036	23	Paper type: Plain	
037	24	Paper type: Coated-ML	
038	25	Paper type: Color paper	
039	26	Paper type: High quality	
040	27	Paper type: Coated-GL	
041	28	Paper type: Tab paper	
042	29	Paper type: Color specific paper	
043	2A	Paper type: Coated-GO	
044	2B	Paper type: Coated-MO	
045	2C	Paper weight: 1	
046	2D	Paper weight: 2	
047	2E	Paper weight: 3	
048	2F	Paper weight: 4	
049	30	Paper weight: 5	
050	31	Paper weight: 6	
051	32	Paper weight: 7	
052	33	Paper weight: 8	
053	34	Multi-page enlargement	
054	35	Main tray: Face up	
055	36	N of no toner stop occurred (Y)	
056	37	N of no toner stop occurred (M)	
057	38	N of no toner stop occurred (C)	
058	39	N of no toner stop occurred (K)	
059	3A	N of toner recovery box is full	
060	3B	N of color registration adj.	
061	3C	N of auto stability control	
062	3D	—	

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No.	CSRC parameter (F2)	Item	Count condition
063	3E	—	
064	3F	—	
065	40	Off mode time	Time in OFF mode. (unit: min.)
066	41	—	
067	42	—	
068	43	Polygon motor ope. time	Time during which the polygon motor is ON. (unit: min.)
069	44	Develop motor ope. time (color)	Time during which the color developing motor is ON. (unit: min.)
070	45	Develop motor ope. time (black)	Time during which the black developing motor is ON. (unit: min.)
071	46	On time of PCL (color)	Time during which the color erase lamp is ON. (unit: min.)
072	47	On time of PCL (black)	Time during which the black erase lamp is ON. (unit: min.)
073	48	Operation time in Scanner mode	Time during which the scanner motor is ON. (unit: min.)
074	49	Time while power (ADF)	Time during which DF is energized at 24V. (unit: min.)
075	4A	—	
076	4B	—	
077	4C	—	
078	4D	Auto Y toner refresh mode count	Counts 1 per 1 operation.
079	4E	Auto M toner refresh mode count	
080	4F	Auto C toner refresh mode count	
081	50	Auto K toner refresh mode count	
082	51	N of 4 toner refresh performed	
083	52	N of MC toner refresh performed	
084	53	—	
085	54	—	
086	55	—	
087	56	—	
088	57	Right & Left bind (originals)	
089	58	Upper bind (originals)	
090	59	Inside Print Multi Triple-Fold	
091	5A	Outside Print Multi Triple-Fold	
092	5B	Inside Print Triple-Fold-in	
093	5C	Outside Print Triple-Fold-in	
094	5D	Inside Print Triple-Fold-out	
095	5E	Outside Print Tri-Fold-out	
096	5F	Inside Print Double Parallel	
097	60	Outside Print Double Parallel	

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No.	CSRC parameter (F2)	Item	Count condition
098	61	Inside Print Gate Fold	
099	62	Outside Print Gate Fold	
100	63	Multi Half Fold	
101	64	Inside Print Half Fold	
102	65	Outside Print Half Fold	
103	66	Main tray output	
104	67	Stacker tray output	
105	68	Stacker pile setting permit	
106	69	Fold & Staple tray output	
107	6A	Tri-Fold tray output	
108	6B	Fold sub tray output	
109	6C	Stacker sub tray output	
110	6D	Fold & Staple sub tray output	
111	6E	Staple sub tray output	
112	6F	Main tray output JOB	
113	70	Stacker tray output JOB	
114	71	Fold & Staple output JOB No.	
115	72	Tri-Fold tray output JOB No.	
116	73	Fold sub tray JOB	
117	74	Stacker sub tray JOB	
118	75	Fold & Staple sub tray JOB	
119	76	Staple sub tray JOB	
120	77	Multi Half Fold JOB	
121	78	Inside Print Half Fold JOB	
122	79	Outside Print Half Fold JOB	
123	7A	S.M.A.R.T (Y) Start/Stop Count	Rotation/Stop times of the HDD/Y spindle motor.
124	7B	S.M.A.R.T (Y) Load Cycle Count	Count of load/unload cycles of the magnetic head of HDD/Y into landing zone position.
125	7C	S.M.A.R.T (Y) Loaded Hours	Data reading time of the HDD/Y (unit: min.)
126	7D	S.M.A.R.T (M) Start/Stop Count	Rotation/Stop times of the HDD/M spindle motor.
127	7E	S.M.A.R.T (M) Load Cycle Count	Count of load/unload cycles of the magnetic head of HDD/M into landing zone position.
128	7F	S.M.A.R.T (M) Loaded Hours	Data reading time of the HDD/M (unit: min.)
129	80	S.M.A.R.T (C) Start/Stop Count	Rotation/Stop times of the HDD/C spindle motor.

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No.	CSRC parameter (F2)	Item	Count condition
130	81	S.M.A.R.T (C) Load Cycle Count	Count of load/unload cycles of the magnetic head of HDD/C into landing zone position.
131	82	S.M.A.R.T (C) Loaded Hours	Data reading time of the HDD/C (unit: min.)
132	83	S.M.A.R.T (K) Start/Stop Count	Rotation/Stop times of the HDD/K spindle motor.
133	84	S.M.A.R.T (K) Load Cycle Count	Count of load/unload cycles of the magnetic head of HDD/K into landing zone position.
134	85	S.M.A.R.T (K) Loaded Hours	Data reading time of the HDD/K (unit: min.)
135	86	Paper Inserter Count	

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I. SC Counter/Failure Sectional Counter

Note

- **Maximum count is 99,999,999.**
- **The malfunction codes, C-35## to C-39##, are not counted when the DIPSW3-1 in service mode is set to 1. (latched).**

No.	CSRC parameter (E0)	Item (Code)
001	00	C-0001
002	01	C-0002
003	02	C-0003
004	03	C-0101
005	04	C-0102
006	05	C-0103
007	06	C-0201
008	07	C-0202
009	08	C-0203
010	09	C-0204
011	0A	C-0205
012	0B	C-0208
013	0C	C-0209
014	0D	C-0211
015	0E	C-0212
016	0F	C-0213
017	10	C-0301
018	11	C-0302
019	12	C-0303
020	13	C-0304
021	14	C-0305
022	15	C-0306
023	16	C-0307
024	17	C-0308
025	18	C-0309
026	19	C-0310
027	1A	C-0311
028	1B	C-0312
029	1C	C-0313
030	1D	C-0314

No.	CSRC parameter (E0)	Item (Code)
031	1E	C-0315
032	1F	C-0316
033	20	C-0317
034	21	C-0318
035	22	C-0319
036	23	C-0320
037	24	C-0321
038	25	C-0401
039	26	C-0402
040	27	C-0403
041	28	C-0404
042	29	C-0405
043	2A	C-0406
044	2B	C-0407
045	2C	C-0408
046	2D	C-0409
047	2E	C-0410
048	2F	C-0411
049	30	C-0412
050	31	C-0413
051	32	C-0414
052	33	C-0415
053	34	C-0416
054	35	C-0417
055	36	C-0418
056	37	C-1005
057	38	C-1006
058	39	C-1007
059	3A	C-1008
060	3B	C-1101

No.	CSRC parameter (E0)	Item (Code)
061	3C	C-1102
062	3D	C-1103
063	3E	C-1104
064	3F	C-1105
065	40	C-1106
066	41	C-1107
067	42	C-1108
068	43	C-1109
069	44	C-1110
070	45	C-1111
071	46	C-1112
072	47	C-1113
073	48	C-1114
074	49	C-1115
075	4A	C-1116
076	4B	C-1124
077	4C	C-1125
078	4D	C-1126
079	4E	C-1127
080	4F	C-1132
081	50	C-1137
082	51	C-1138
083	52	C-1139
084	53	C-1140
085	54	C-1141
086	55	C-1142
087	56	C-1143
088	57	C-1201
089	58	C-1202
090	59	C-1203

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No.	CSRC parameter (E0)	Item (Code)
091	5A	C-1204
092	5B	C-1205
093	5C	C-1206
094	5D	C-1211
095	5E	C-1212
096	5F	C-1213
097	60	C-1214
098	61	C-1215
099	62	C-1216
100	63	C-1221
101	64	C-1222
102	65	C-1223
103	66	C-1224
104	67	C-1225
105	68	C-1226
106	69	C-1227
107	6A	C-1228
108	6B	C-1229
109	6C	C-1230
110	6D	C-1231
111	6E	C-1232
112	6F	C-1233
113	70	C-1234
114	71	C-1235
115	72	C-1241
116	73	C-1242
117	74	C-1243
118	75	C-1244
119	76	C-1245
120	77	C-1246
121	78	C-1247
122	79	C-1248
123	7A	C-1249
124	7B	C-1250
125	7C	C-1251
126	7D	C-1252
127	7E	C-1253
128	7F	C-1254
129	80	C-1255
130	81	C-1256
131	82	C-1257

No.	CSRC parameter (E0)	Item (Code)
132	83	C-1258
133	84	C-1259
134	85	C-1260
135	86	C-1261
136	87	C-1262
137	88	C-1263
138	89	C-1264
139	8A	C-1265
140	8B	C-1266
141	8C	C-1267
142	8D	C-1268
143	8E	C-1269
144	8F	C-1270
145	90	C-1271
146	91	C-1301
147	92	C-1302
148	93	C-1303
149	94	C-1304
150	95	C-1305
151	96	C-1306
152	97	C-1307
153	98	C-1308
154	99	C-1309
155	9A	C-1310
156	9B	C-1311
157	9C	C-1321
158	9D	C-1322
159	9E	C-1323
160	9F	C-1324
161	A0	C-1325
162	A1	C-1402
163	A2	C-1403
164	A3	C-1404
165	A4	C-1405
166	A5	C-1411
167	A6	C-1431
168	A7	C-1432
169	A8	C-1433
170	A9	C-1434
171	AA	C-1451
172	AB	C-1452

No.	CSRC parameter (E0)	Item (Code)
173	AX	C-1453
174	AD	C-2001
175	AE	C-2002
176	AF	C-2003
177	B0	C-2004
178	B1	C-2005
179	B2	C-2006
180	B3	C-2201
181	B4	C-2202
182	B5	C-2203
183	B6	C-2204
184	B7	C-2211
185	B8	C-2212
186	B9	C-2213
187	BA	C-2214
188	BB	C-2220
189	BC	C-2221
190	BD	C-2222
191	BE	C-2301
192	BF	C-2302
193	C0	C-2303
194	C1	C-2304
195	C2	C-2401
196	C3	C-2402
197	C4	C-2403
198	C5	C-2404
199	C6	C-2411
200	C7	C-2412
201	C8	C-2413
202	C9	C-2414
203	CA	C-2421
204	CB	C-2422
205	CC	C-2423
206	CD	C-2424
207	CE	C-2431
208	CF	C-2432
209	D0	C-2433
210	D1	C-2434
211	D2	C-2441
212	D3	C-2442
213	D4	C-2443

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No.	CSRC parameter (E0)	Item (Code)
214	D5	C-2444
215	D6	C-2451
216	D7	C-2452
217	D8	C-2453
218	D9	C-2454
219	DA	C-2461
220	DB	C-2462
221	DC	C-2463
222	DD	C-2464
223	DE	C-2470
224	DF	C-2701
225	E0	C-2702
226	E1	C-2703
227	E2	C-2704
228	E3	C-2711
229	E4	C-2712
230	E5	C-2713
231	E6	C-2714
232	E7	C-2720
233	E8	C-2721
234	E9	C-2801
235	EA	C-2802
236	EB	C-2803
237	EC	C-2804
238	ED	C-2811
239	EE	C-2812
240	EF	C-2813
241	F0	C-2814
242	F1	C-2821
243	F2	C-2822
244	F3	C-2823
245	F4	C-2824
246	F5	C-2831
247	F6	C-2832
248	F7	C-2833
249	F8	C-2834
250	F9	C-2840
251	FA	C-2841
252	FB	C-3101
253	FC	C-3102
254	FD	C-3103

No.	CSRC parameter (E0)	Item (Code)
255	FE	C-3104
256	FF	C-3301
257	00	C-3302
258	01	C-3303
259	02	C-3501
260	03	C-3502
261	04	C-3503
262	05	C-3504
263	06	C-3505
264	07	C-3506
265	08	C-3507
266	09	C-3508
267	0A	C-3801
268	0B	C-3802
269	0C	C-3803
270	0D	C-3804
271	0E	C-3805
272	0F	C-3806
273	10	C-3901
274	11	C-3902
275	12	C-3903
276	13	C-3904
277	14	C-3905
278	15	C-3906
279	16	C-3907
280	17	C-3908
281	18	C-3909
282	19	C-3910
283	1A	C-3911
284	1B	C-3912
285	1C	C-3913
286	1D	C-3914
287	1E	C-3915
288	1F	C-3916
289	20	C-4101
290	21	C-4102
291	22	C-4103
292	23	C-4104
293	24	C-4111
294	25	C-4112
295	26	C-4113

No.	CSRC parameter (E0)	Item (Code)
296	27	C-4114
297	28	C-4120
298	29	C-4301
299	2A	C-4501
300	2B	C-4502
301	2C	C-4503
302	2D	C-4504
303	2E	C-4511
304	2F	C-4512
305	30	C-4513
306	31	C-4514
307	32	C-4520
308	33	C-4521
309	34	C-4522
310	35	C-4701
311	36	C-4702
312	37	C-4703
313	38	C-4705
314	39	C-4706
315	3A	C-4708
316	3B	C-4709
317	3C	C-4711
318	3D	C-4712
319	3E	C-4713
320	3F	C-4714
321	40	C-4715
322	41	C-4716
323	42	C-4717
324	43	C-4718
325	44	C-4719
326	45	C-4720
327	46	C-4721
328	47	C-4722
329	48	C-4723
330	49	C-4724
331	4A	C-4725
332	4B	C-4840
333	4C	C-4850
334	4D	C-5001
335	4E	C-5002
336	4F	C-5003

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No.	CSRC parameter (E0)	Item (Code)
337	50	C-5004
338	51	C-5005
339	52	C-5010
340	53	C-5011
341	54	C-5301
342	55	C-5302
343	56	C-5303
344	57	C-6101
345	58	C-6202
346	59	C-6301
347	5A	C-6701
348	5B	C-6702
349	5C	C-6703
350	5D	C-6704
351	5E	C-6705
352	5F	C-6706
353	60	C-6707
354	61	C-6708
355	62	C-6709
356	63	C-6710
357	64	C-6711
358	65	C-6712
359	66	C-6713
360	67	C-6714
361	68	C-6715
362	69	C-6716
363	6A	C-6717
364	6B	C-6718
365	6C	C-6719
366	6D	C-6720
367	6E	C-6721
368	6F	C-6722

No.	CSRC parameter (E0)	Item (Code)
369	70	C-6723
370	71	C-6724
371	72	C-6725
372	73	C-6801
373	74	C-7001
374	75	C-8001
375	76	C-8101
376	77	C-8102
377	78	C-8103
378	79	C-8401
379	7A	C-8402
380	7B	C-8403
380	7C	C-8404
382	7D	C-8405
383	7E	C-8406
384	7F	C-8407
385	80	C-C101
386	81	C-C102
387	82	C-C103
388	83	C-C104
389	84	C-C106
390	85	C-C107
391	86	C-C108
392	87	C-C109
393	88	C-C111
394	89	C-C112
395	8A	C-C113
396	8B	C-C114
397	8C	C-C115
398	8D	C-C120
399	8E	C-D0E0
400	8F	C-D0E1

No.	CSRC parameter (E0)	Item (Code)
401	90	C-D0E2
402	91	C-D0E3
403	92	C-D0E4
404	93	C-D0E5
405	94	C-D0E6
406	95	C-D0E7
407	96	C-D0E8
408	97	C-D0E9
409	98	C-D0EA
410	99	C-D0EB
411	9A	C-D0EC
412	9B	C-D0ED
413	9C	C-D0EE
414	9D	C-D0EF
415	9E	C-D0F0
416	9F	C-E001
417	A0	C-E002
418	A1	C-E003
419	A2	C-E004
420	A3	C-E005
421	A4	C-E006
422	A5	C-E007
423	A6	C-0322
424	A7	C-2851
425	A8	C-2852
426	A9	C-2853
427	AA	C-2861
428	AB	C-2862
429	AX	C-2863
430	AD	C-2871
431	AE	C-2872
432	AF	C-2873

J. SC data of time series

Confirm the latest 20 malfunction code, it is possible to confirm SC code, total count, date of occurrence, time of occurrence and machine condition (00: Idling, 01: Scanner operating, 02: Printer operating, 03: Scanner and printer operating).

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10.6.3 Count of special parts (Parts Counter)

Confirm and reset the parts life counter.

When a part is replaced, reset the counter of the part that has been replaced to manage the service history.

A. Procedure for registration, confirmation and reset

1. "Service Mode Menu screen" Press [04 Counter/Data].
2. "Counter/Data Menu screen" Press [03 Parts Counter].a
3. "Parts Counter Menu screen" Press [01 Count of special parts].
4. "Special Parts Count/Touch screen" Press [Next] or [Previous] to scroll the pages and check the counts.
5. Press [▼] or [▲] to select the part name you want to reset.
6. Press [Count Reset].
7. "Reset confirmation screen" Press [Yes] to reset. Press [No] to cancel and return to "Special Parts Count/Touch screen".
8. To register the parts to CMS, press the buttons on the left side of the parts you want to register tick off. **Note** • **To display the CMS screen on the user screen, set 1 in the DIPSW15-1 setting.**

B. List of special parts counter

Note

- **Be sure to reset the parts counter after replacing any parts listed below. Otherwise, image failure or jam may occur.**
  - **1) Dust-proof filter /1 assy: No.002 Dust-proof filter /1 (Right side)**
  - **3) Charging coronas /Y, /M, /C, and /K: No. 006 to 013 Charging coronas /Y, /M, /C, and /K**
  - **4) Drum cartridges /Y, /M, /C, and /K: No. 014 to 021 Drum cartridges /Y, /M, /C, and /K**
  - **5) Developer /Y, /M, /C, and /K: No. 022 to 029 Enclosed developing /Y, /M, /C, and /K**
  - **6) Belt cleaner blade: No.037 and 038 Belt cleaning blade**
  - **7) 1st transfer rollers /Y, /M, /C, and /K: No. 039 to 042 1st transfer rollers /Y, /M, /C, and /K**
- **Maximum count is 99,999,999.**
- **When the counter exceeds the limit, the color of the character changes into red.**

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
001	00	Toner collection box	A03UA365	*1
002	01	Dust-proof filter/1 (Right side)	A03UA122	Counted with the combination of print coverage, drive distance of the developing roller, humidity, and so on. Shows the count in percentage with respect to the end of its parts life. Counter reset No.002 and 003 are linked to each other.
003	02	Dust-proof filter/2 (Rear side)	65AA-142	
004	03	—	—	
005	04	Charging dust proof filter	65AA-387	*1
006	05	Charging corona/Y (Page)	A03UA460	*2 Resetting this counter also resets No.007.
007	06	Charging corona/Y (Time %)	A03UA460	Counts the charging time and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.006.
008	07	Charging corona/M (Page)	A03UA460	*2 Resetting this counter also resets No.009.
009	08	Charging corona/M (Time %)	A03UA460	Counts the charging time and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.008.
010	09	Charging corona/C (Page)	A03UA460	*2 Resetting this counter also resets No.011.
011	0A	Charging corona/C (Time %)	A03UA460	Counts the charging time and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.010.
012	0B	Charging corona/K (Page)	A03UA460	*1 Resetting this counter also resets No.013.
013	0C	Charging corona/K (Time %)	A03UA460	Counts the charging time and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.012.
014	0D	Drum cartridge/Y (Page)	A03UA330	*2 Resetting this counter also resets No.015.

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
015	0E	Drum cartridge/Y (Distance %)	A03UA330	Compares the drive distance of the drum with that of the Lubricant applying roller and shows the larger count number in percentage with respect to the end of its parts life. Resetting this counter also resets No.014.
016	0F	Drum cartridge/M (Page)	A03UA330	*2 Resetting this counter also resets No.017.
017	10	Drum cartridge/M (Distance %)	A03UA330	Compares the drive distance of the drum with that of the Lubricant applying roller and shows the larger count number in percentage with respect to the end of its parts life. Resetting this counter also resets No.016.
018	11	Drum cartridge/C (Page)	A03UA330	*2 Resetting this counter also resets No.019.
019	12	Drum cartridge/C (Distance %)	A03UA330	Compares the drive distance of the drum with that of the Lubricant applying roller and shows the larger count number in percentage with respect to the end of its parts life. Resetting this counter also resets No.018.
020	13	Drum cartridge/K (Page)	A03UA330	*1 Resetting this counter also resets No.021.
021	14	Drum cartridge/K (Distance %)	A03UA330	Compares the drive distance of the drum with that of the Lubricant applying roller and shows the larger count number in percentage with respect to the end of its parts life. Resetting this counter also resets No.020.
022	15	Enclosed Developing /Y (Page)	A04PT700	*2 Resetting this counter also resets No.023.
023	16	Enclosed Developing /Y (Distance %)	A04PT700	Counts the drive distance of the developing roller and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.022.
024	17	Enclosed Developing /M (Page)	A04PT800	*2 Resetting this counter also resets No.025.

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
025	18	Enclosed Developing /M (Distance %)	A04PT800	Counts the drive distance of the developing roller and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.024.
026	19	Enclosed Developing /C (Page)	A04PT900	*2 Resetting this counter also resets No.027.
027	1A	Enclosed Developing /C (Distance %)	A04PT900	Counts the drive distance of the developing roller and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.026.
028	1B	Enclosed Developing /K (Page)	A04PT600	*1 Resetting this counter also resets No.029.
029	1C	Enclosed Developing /K (Distance %)	A04PT600	Counts the drive distance of the developing roller and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.028.
030	1D	Developing unit/Y	A03UA370	*2
031	1E	Developing unit/M	A03UA370	
032	1F	Developing unit/C	A03UA370	
033	20	Developing unit/K	A03UB390	*1
034	21	Transfer belt	A03U5042	
035	22	Transfer belt cleaning unit	A03UA515	*1 Resetting this counter also resets No.036 to No.038.
036	23	Toner collection sheet/1	65AA-293	*1
037	24	Belt cleaning blade (Page)	A03U5530	*1 Resetting this counter also resets No.038.
038	25	Belt cleaning blade (Distance %)	A03U5530	Counts the drive distance of the transfer belt and shows the count in percentage with respect to the end of its parts life. Resetting this counter also resets No.037.
039	26	1st transfer roller/Y	A03U5012	*2
040	27	1st transfer roller/M	A03U5012	
041	28	1st transfer roller/C	A03U5012	
042	29	1st transfer roller/K	A03U5004	*1
043	2A	2nd transfer roller/U	65AA2611	
044	2B	Transfer belt separation claw	65AA-287	

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
045	2C	—	—	
046	2D	—	—	
047	2E	Separation claw solenoid	26NA8251	1 count for each paper exit in the single side mode, 2 counts in the double side mode.
048	2F	2nd transfer roller/L	65AA4501	*1
049	30	Separation discharging unit	A03UA522	
050	31	Transfer earth plate unit	65AA-456	1 count for each paper exit in the single side mode, 2 counts in the double side mode.
051	32	Fusing roller/2	A03U7202	*1
052	33	Fusing roller/L	A03U7203	
053	34	Fusing belt	A03U7205	
054	35	Belt regulating sleeve	A03U7250	
055	36	Paper exit roller/Up	A03U7225	1 count for each paper exit in the single side mode, 2 counts in the double side mode.
056	37	Fusing limiter	65AA5365	*1
057	38	Insulating sleeve/U	A03U7295	
058	39	Fusing bearing/L	26NA5371	
059	3A	Insulating sleeve/L	A03U7227	
060	3B	Fusing roller/1	A03U7201	
061	3C	Fusing drive gear/B	A03U8082	
062	3D	Fusing bearing/1	A03U8078	
063	3E	Fusing drive gear/O	A03U8095	
064	3F	Fusing regulating gear	65AA7747	
065	40	Fusing duct assy	A03UA780	
066	41	Fusing bearing/2	56UA7507	
067	42	Fusing drive gear/M	A03U8093	
068	43	Fusing lamp/U	A03UM31 (A) (E) (F)	
069	44	Fusing lamp/L	A03UM32 (A) (E) (F)	
070	45	Fusing temp sensor assy/U	A03UA768	
071	46	Fusing temp sensor assy/L	A03UA737	
072	47	Center fusing temp. sensor/U	65AA8801	
073	48	Center fusing temp. sensor/L	65AA8802	
074	49	Feed-reverse rubber (Tray-1)	25SA4096	1 count for each paper exit from tray 1.
075	4A	Feed-reverse rubber (Tray-2)	25SA4096	1 count for each paper exit from tray 2.
076	4B	Feed/reverse rubber (Tray-3)	25SA4096	1 count for each paper exit from tray 3.
077	4C	Feed/reverse rubber (By-pass)	25SA4096	1 count for each paper exit from by-pass.

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
078	4D	Paper feed roller (Tray-1)	56AA-458	1 count for each paper exit from tray1.
079	4E	Paper feed roller (Tray-2)	56AA-458	1 count for each paper exit from tray 2.
080	4F	Paper feed roller (Tray-3)	56AA-458	1 count for each paper exit from tray 3.
081	50	Paper feed roller (By-pass)	65AA-520	1 count for each paper exit from by-pass.
082	51	Paper feed clutch (Tray-1)	56AA8201	1 count for each paper exit from tray1.
083	52	Paper feed clutch (Tray-2)	56AA8201	1 count for each paper exit from tray 2.
084	53	Paper feed clutch (Tray-3)	56AA8201	1 count for each paper exit from tray 3.
085	54	Paper feed clutch (By-pass)	56AA8201	1 count for each paper exit from by-pass.
086	55	Pre-regist. clutch (Tray-1)	56AA8201	1 count for each paper exit from tray1.
087	56	Pre-regist. clutch (Tray-2)	56AA8201	1 count for each paper exit from tray 2.
088	57	Pre-regist. clutch (Tray-3)	56AA8201	1 count for each paper exit from tray 3.
089	58	Intermediate convey. clutch/1	56AA8201	1 count for each paper exit from tray 2 and 3.
090	59	Intermediate convey. clutch/2	56AA8201	1 count for each paper exit in the single side mode, 2 counts in the double side mode.
091	5A	Intermediate convey. clutch/3	56AA8201	
092	5B	Registration cleaning sheet	65AA-462	1 count for each paper exit in the single side mode, 2 counts in the double side mode.
093	5C	Registration roller	65LA-464	
094	5D	Decurler roller	A03U8605	
095	5E	Paper exit decurler roller	A03U8926	1 count for each paper exit.
096	5F	ADU conveyance clutch/1	A03UM201	0 count for each paper exit in the single side mode, 1 counts in the double side mode.
097	60	ADU conveyance clutch/2	A03UM201	
098	61	ADU conveyance clutch/3	A03UM201	
099	62	ADU pre-registration clutch	A03UM201	
100	63	Exposure ON time	A03UM301	Accumulation of time lamp is on. (unit: min.)
101	64	Main power switch	55GA8601	1 count each time the main power switch turns ON the power.
102	65	Sub power switch	A03UM601	1 count each time the sub power switch turns ON the power.
103	66	Door switch	40AA8501	1 count each time the front door is opened.
104	67	Toner supply door switch	13GG-802	
105	68	—	—	
106	69	—	—	
107	6A	—	—	
108	6B	—	—	
109	6C	—	—	
110	6D	—	—	

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
111	6E	Paper exit roller	A0438907	1 count for each paper exit. (with 0T-502 installed).
112	6F	Paper exit guide roller/2	65AA4818	
113	70	Paper holding roller	65AA4849	
114	71	—	—	
115	72	—	—	
116	73	—	—	
117	74	—	—	
118	75	LCT paper feed roller	55VA-484	1 count for each paper exit from tray 4 (LU).
119	76	LCT feed/reverse roller	55VA-483	
120	77	LCT feed clutch	56AA8201	
121	78	LCT pre-registration clutch	56AA8201	
122	79	—	—	
123	7A	—	—	
124	7B	—	—	
125	7C	—	—	
126	7D	PFU paper feed rubber (Tray 4)	55VA4111	1 count for each paper exit from tray 4 (PF).
127	7E	PFU feed/reverse roller (Tray 4)	55VA-483	
128	7F	PFU feed clutch (Tray 4)	56AA8201	
129	80	PFU reverse clutch (Tray 4)	56AA8201	
130	81	PFU paper feed rubber (Tray 5)	55VA4111	1 count for each paper exit from tray 5 (PF).
131	82	PFU feed/reverse roller (Tray 5)	55VA-483	
132	83	PFU feed/reverse roller (Tray 5)	56AA8201	
133	84	PFU reverse clutch (Tray 5)	56AA8201	
134	85	PFU Intermediate Convery. clutch/1	56AA8201	1 count for each paper exit from tray 4 (PF).
135	86	PFU Intermediate Convery. clutch/2	56AA8201	
136	87	PFU Intermediate Convery. clutch/3	56AA8201	1 count for each paper exit from tray 5 (PF).
137	88	PFU Pre-registration clutch	56AA8201	
138	89	PFU Horizontal convery. clutch/1	56AA8201	
139	8A	PFU Horizontal convery. clutch/2	56AA8201	
140	8B	—	—	
141	8C	—	—	
142	8D	—	—	
143	8E	—	—	
144	8F	Staple/Front	15AA4222	1 count for each paper exit in the staple mode. (FS-503)
145	90	Staple/Back	15AA-540	

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
146	91	Solenoid/A	56QA8251	1 count for each paper exit in the sort, non-sort or staple mode. (FS-503)
147	92	Paper exit roller/A	122H4825	
148	93	—	—	
149	94	—	—	
150	95	—	—	
151	96	—	—	
152	97	Feed roller/A Top	50BA-574	1 count for each PI /Up paper feed.
153	98	Reverse rubber/Top	13QN-443	
154	99	Feed roller/B Top	56BA-575	
155	9A	Feed roller/A Low	50BA-574	1 count for each PI /Lw paper feed.
156	9B	Reverse rubber/Low	13QN-443	
157	9C	Feed roller/B Low	56BA-575	
158	9D	Punch motor assy	15AG-573	1 count for each paper exit in the punch mode. (FD)
159	9E	Solenoid/A (release 1)	56QA8251	1 count for each paper exit in the punch or the folding mode for all size. (FD)
160	9F	Solenoid/A (release 2)	56QA8251	1.1 count for each paper exit in the folding mode for all size. (FD) 2. 1 count for each paper exit in the punch mode with 220mm or longer size. (FD)
161	A0	Motor assy	129U-108	1 count for each paper exit to the main tray. (FD)
162	A1	—	—	
163	A2	—	—	
164	A3	—	—	
165	A4	—	—	
166	A5	Solenoid (Lead)	15AV8252	1 count for each paper exit in the sort and the non-sort mode of all size. (LS)
167	A6	Solenoid (ReSr)	15AV8253	1 count for each paper exit in the sort and the non-sort mode of all size. (LS)
168	A7	Solenoid (Center)	15AV8251	1 count for each paper exit in the sort and the non-sort mode with 226 (W) X 295 (L) mm or larger size. (LS)
169	A8	Solenoid (Curl)	15AV8255	1 count for each paper exit in the sort and the non-sort mode of all size. (LS)

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
170	A9	Up/Down motor	15AV8003	Count operation times of the stacker tray operate up/down. (LS)
171	AA	—	—	
172	AB	—	—	
173	AC	—	—	
174	AD	—	—	
175	AE	—	—	
176	AF	Staple/Right	15AN-550	1 count for each paper set exit in the saddle stitch mode. (SD)
177	B0	Staple/Left	15AN-550	
178	B1	Trimmer edge	15AN-570	1 count for each paper set exit in the trimmer mode. (SD)
179	B2	Trimmer receiver	15AN5282	
180	B3	Trimmer edge drive motor	15AN8002	
181	B4	Convey solenoid	15AN8251	1 count for each paper conveyance to the folding section. (SD)
182	B5	Solenoid	13QE8251	
183	B6	FNS solenoid	12QR8252	1 count for each paper conveyance to the right angle conveyance section. (SD)
184	B7	Gear/B	15AN7719	1 count for each paper set exit to the bundle exit tray. (SD)
185	B8	Paper adjusting unit	15AN5092	1 count for each paper set exit in the trimmer mode. (SD)
186	B9	—	—	
187	BA	—	—	
188	BB	Paper exit roller /A	122H4825	1 count for each paper exit to the main tray. (FS-607)
189	BC	Conveyance roller /4	13QE4531	1 count for each paper exit in the staple, folding and tri-folding mode. (FS-607)
190	BD	Paper conveyance roller /A	20AK4210	
191	BE	FNS exit opening motor	12QR-361	1 count for each starting job for the size A4S and 8½ x 11S, and 1count at exiting these size in staple mode. 1 count at starting the fold and saddle stitch mode. (FS-607).
192	BF	FNS shift motor	12QR-361	1 count each time an even number of print is exited in the sort mode. (FS-607)
193	C0	By-pass gate solenoid	12QR-263	1 count for each paper exit for the A4, B5, 8½ x 11 and 16K sizes in the staple mode. (FS-607).
194	C1	FNS tray up/down motor	56AA8001	1 count for each paper exit to the main tray. 1 count for each paper exit in staple mode. (FS-607)

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No.	CSRC parameter (Z1)	Part name	Part number	Count condition
195	C2	FNS stapler /F	20AK-501	1 count for each paper exit in staple mode. (FS-607)
196	C3	FNS stapler /R	20AK-501	
197	C4	FNS folding knife motor	120H8001	1 count for each paper exit in the folding, saddle stitching and tri-folding mode. (FS-607)
198	C5	Tri-folding gate SD	12QR-263	1 count for each paper exit in the tri-folding mode. (FS-607)
199	C6	PI conveyance clutch/U	13QN8201	1 count for each PI/Up paper feed. (PI)
200	C7	PI feed roller /A/U	50BA-574	
201	C8	PI feed roller /B/U	13QN-446	
202	C9	PI reverse roller /U	13QN-443	
203	CA	PI torque limiter /U	13QN4073	
204	CB	PI conveyance clutch/L	13QN8201	1 count for each PI/Lw paper feed. (PI)
205	CC	PI feed roller /A/L	50BA-574	
206	CD	PI feed roller /B/L	13QN-446	
207	CE	PI reverse roller /L	13QN-443	
208	CF	PI torque limiter /L	13QN4073	
209	D0	PI regist clutch	13QN8201	1 count for each paper exit from PI. (PI)
210	D1	—	—	
211	D2	—	—	
212	D3	PK punching unit (2 hole)	*****	1 count for each punch operation. (PK)
213	D4	PK punching unit (3 hole)	*****	
214	D5	PK punching unit (4 hole)	*****	
215	D6	PK punching unit (4 hole)	*****	
216	D7	—	—	
217	D7	ADF paper feed roller	13YH4064	Original feed count in all modes. (DF)
218	D9	ADF feed roller	13YH4039	Original feed count in all modes. (DF)
219	DA	ADF Dfeed prevention roller	20AJ4015	
220	DB	ADF paper exit solenoid	20AJ8251	1 count for one original in double side and mixed original mode. (DF)
221	DC	ADF registration clutch	13YH8059	1 count for 1 original in single side mode. (DF)
222	DD	ADF reverse solenoid	20AJ8251	3 count for 1 original in double side mode. (DF)

*1 Count in all color modes

DIPSW 8-6 = 0: 1 count for each paper exit in the single side mode, 2 counts in the double side mode.

= 1: For large size, 2 counts for each paper exit in the single side mode, 4 counts for double.

*2 Count only in the full color or mono color mode

DIPSW 8-6 = 0: 1 count for each paper exit in the single side mode, 2 counts in the double side mode.

= 1: For large size, 2 counts for each paper exit in the single side mode, 4 counts for double.

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10.6.4 Count of each parts (Parts Counter)

This is used when you want to manage the service history of parts that are not registered in the "Count of special parts".

For 30 data from No. 01 up to 30, confirm and reset of the name, P/N (parts number), limit value and print count.

- 1 count for each paper exit exits of all sizes.
- When the counter exceeds the limit, the color of the character changes into red.

A. Procedure for registration and confirmation

(1) Procedure

1. "Sservice Mode Menu screen" Press [04 Counter/Data].
2. "Ccounter/Data Menu screen" Press [03 Parts Counter].
3. "Parts Counter Menu screen" Press [02 Count of each parts].
4. "Each Part Count/Touch screen" Press [Next] or [Previous] to scroll the pages, and press [▼] or [▲] to select the data number.
5. Select either [Name Setting], [P/N Setting], or [Limit Setting].
6. Enter the data you want to set or change. [Parts Name]: Enter the part name. (8 digits) [P/N] Enter the part number. (9 digits) [Limit]: Enter the limit value. (8 digits)
7. Press [OK] to update the data. Press [Cancel] to cancel updating.
8. To register the parts to CMS, press the buttons on the left side of the parts you want to register to tick off. **Note** • **To display the CMS screen on the user screen, set 1 in the DIPSW15-1 setting.**

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B. Procedure of reset

(1) Procedure

1. "Service Mode Menu screen" Press [04 Counter/Data].
2. "Counter/Data Menu screen" Press [03 Parts Counter].
3. "Parts Counter Menu screen" Press [02 Count of each parts].
4. "Each Part Count/Touch screen" Press [Next] or [Previous] to scroll the pages, and press [▼] or [▲] to select the items you want to set or check.
5. Press [Count Reset].
6. "Reset confirmation screen" Press [Yes] to reset. Press [No] to cancel and return to "Each Part Count/Touch screen".

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C. The relation ship between the data No. and the CSRC parameter

No.	Part name	P/N	Count	Limit	Start date
	CSRC parameter (Z4)	CSRC parameter (Z3)	CSRC parameter (G0)	CSRC parameter (H0)	CSRC parameter (H3)
001	00	00	00	00	00
002	01	01	01	01	01
003	02	02	02	02	02
004	03	03	03	03	03
005	04	04	04	04	04
006	05	05	05	05	05
007	06	06	06	06	06
008	07	07	07	07	07
009	08	08	08	08	08
010	09	09	09	09	09
011	0A	0A	0A	0A	0A
012	0B	0B	0B	0B	0B
013	0C	0C	0C	0C	0C
014	0D	0D	0D	0D	0D
015	0E	0E	0E	0E	0E
016	0F	0F	0F	0F	0F
017	10	10	10	10	10
018	11	11	11	11	11
019	12	12	12	12	12
020	13	13	13	13	13
021	14	14	14	14	14
022	15	15	15	15	15
023	16	16	16	16	16
024	17	17	17	17	17
025	18	18	18	18	18
026	19	19	19	19	19
027	1A	1A	1A	1A	1A
028	1B	1B	1B	1B	1B
029	1C	1C	1C	1C	1C
030	1D	1D	1D	1D	1D

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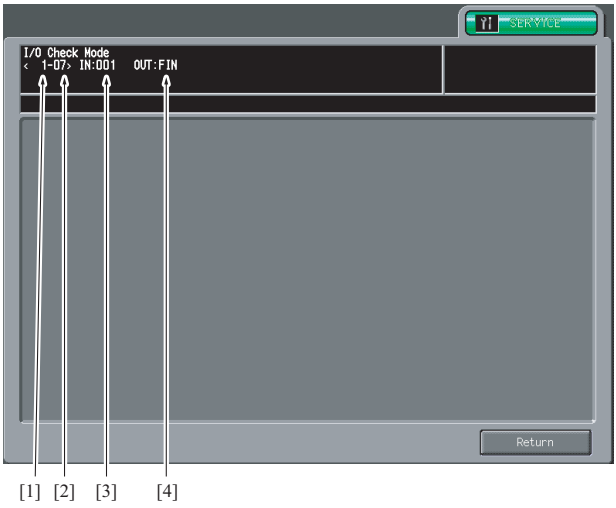
10.7 State Confirmation

10.7.1 I/O Check Mode

This mode provide self-diagnostic functions (input/output check function) to check the condition of input (checking the each signal to sensors) and output (checking and adjustment of the load operation).

A. I/O Check Mode screen



a03uf3e002ca

[1] I/O Check code
[2] Multi code
[3] Input check
[4] Output check

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10.7.2 Input check

Check input condition of each signal to the sensors.

A. Procedure

1. "Service Mode Menu screen" Press [05 State Confirmation].
2. "State Confirmation Menu screen" Press [01 I/O Check Mode].
3. "I/O Check Mode screen" Enter an input check code with the numeric buttons.
4. Press Access key to switch to the multi mode.
5. Enter the multi code with the numeric buttons.
6. The condition of the sensor (000/001 etc.) is displayed in the message box "IN".
7. When executing another input check, repeat steps 3 to 6.

B. List of sensors

Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
High voltage, analog signal	0	0	TEM/ HUMS	Temperature-humidity sensor (machine inner humidity)	Display of humidity (%)	
		1	TEM/ HUMS	Temperature-humidity sensor (machine inner temperature)	Display of temperature (°C)	
		3	TEMSB	Temperature sensor board	Display of temperature (°C)	
		5	TEM/ HUMS/2	Temp/humidity sensor /2 (machine inner humidity)	Display of humidity (%)	
		6	TEM/ HUMS/2	Temp/humidity sensor /2 (machine inner temperature)	Display of temperature (°C)	
		7	TEMS1	Registration temperature sensor		
	1	4	PZS/Y	Piezoelectric sensor /Y	Toner	No toner
		5	PZS/M	Piezoelectric sensor /M		
		6	PZS/C	Piezoelectric sensor /C		
		7	PZS/K	Piezoelectric sensor /K		
		8	PS60	Waste toner door sensor	Box	No box
		9	PS52	Waste toner full sensor	Full	Empty
Paper feed conveyance	11	0	PS31	Paper empty sensor /1	Paper	No paper
		1	PS37	Paper empty sensor /2		
		2	PS43	Paper empty sensor /3		
		3	PS47	Paper empty sensor /PB		
		4	PS108	Paper empty sensor (LU)		
		5	PS3	Paper empty sensor /1 (PF)		
		6	PS11	Paper empty sensor /2 (PF)		
	12	0	PS32	Paper near empty sensor /1		

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
Paper feed conveyance	12	1	PS38	Paper near empty sensor /2	Paper	No paper
		2	PS44	Paper near empty sensor /3		
		3	PS102/ PS103/ PS104/ PS105	Remaining paper sensor /1 to 4 (LU)	Paper level indication (0 to 100 (%)	
		4	VR2	Remaining paper VR/1 (PF)		
		5	VR4	Remaining paper VR/2 (PF)		
	13	0	PS33	Paper size sensor /Fr1	Paper	No paper
		1	PS34	Paper size sensor /Rr1		
		2	PS39	Paper size sensor /Fr2		
		3	PS40	Paper size sensor /Rr2		
		4	PS45	Paper size sensor /Fr3		
		5	PS46	Paper size sensor /Rr3		
		6	PS48	Paper size sensor /BP1		
		7	PS49	Paper size sensor /BP2		
		8	PS6	Paper size sensor /Lt1 (PF)		
		9	PS5	Paper size sensor /Rt1 (PF)		
		10	PS14	Paper size sensor /Lt2 (PF)		
		11	PS13	Paper size sensor /Rt2 (PF)		
	14	0	VR1	Paper size VR/1	Display of AD value	
		1	VR2	Paper size VR/2		
		2	VR3	Paper size VR/3		
		3	VR4	Paper size VR/BP		
		4	VR1	Paper size VR/1 (PF)		
		5	VR3	Paper size VR/2 (PF)		
		6	VR1	Paper size VR (LU)		
	16	0	PS30	Upper limit sensor /1	Upper limit	Not at upper limit
		1	PS36	Upper limit sensor /2		
		2	PS42	Upper limit sensor /3		
		3	PS25	Upper limit sensor /BP		
		4	PS109/ PS101	Upper limit sensor/Lower limit sensor (LU)		
		5	PS1	Upper limit sensor /1 (PF)		
		6	PS9	Upper limit sensor /2 (PF)		
	18	1	PS65	ADU centering sensor	Display top 8 bit out of 16bit	
		2	PS1	Centering sensor (LU)		
		3	PS25	Centering sensor (PF)	Multi feed	Other than multi feed
	19	0	PS29	Paper feed sensor /1	Paper	No paper
		1	PS35	Paper feed sensor /2		

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
Paper feed conveyance	19	2	PS41	Paper feed sensor /3	Paper	No paper
		3	PS26	Paper feed sensor /BP		
		4	PS106	Pre-registration sensor (LU)		
		5	PS2	Paper feed sensor /1		
		6	PS10	Paper feed sensor /2		
	20	0	PS107	LU exit sensor (LU)		
		1	PS23	ADU pre-registration sensor		
		2	PS61	ADU conveyance sensor		
		3	PS27	Intermediate conveyance sensor /1		
		4	PS28	Intermediate conveyance sensor /2		
		6	PS22	Registration sensor		
		7	PS50	Vertical conveyance sensor		
		8	PS13	Paper exit sensor		
		9	PS9	Reverse/exit sensor		
		10	PS21	ADU reverse sensor		
		11	PS12	Paper exit full sensor	Full	Other than full
		12	PS20	ADU stop sensor	Paper	No paper
		13	PS62	Decurler sensor		
	23	5	PS109/ PS101	Upper limit sensor/Lower limit sensor (LU)	Upper limit	Not at upper limit
		6				
		7	PS1	Upper limit sensor /1		
		8	PS9	Upper limit sensor /2		
	24	0	PS24	2nd transfer HP sensor	Home position	Other than home position
	25	0	PS18	Front door open/close sensor	Open	Close
		1	PS51	Vertical conveyance door sensor		
		2	PS54	Toner supply door open/close sensor		
		3	PS14	Toner supply unit open/close sensor		
		5	MS2	Interlock switch /2 (LU)	ON	OFF
		6	MS1	Interlock switch /1 (LU)		
		7	SW100	Tray down switch (LU)		
		8	PS22	Registration sensor	Paper	No paper
		9	PS23	Front door open/close sensor	Open	Close
		10	PS21	Horizontal conveyance door sensor /1 (PF)		
		11	PS24	Vertical door sensor (PF)		
		12	PS22	Horizontal conveyance door sensor /2 (PF)		

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
Paper feed conveyance	27	25	PS10	Paper exit pressure home sensor	Home position	Other than home position
	29	3	SD1	Belt separation claw solenoid	Set	Not set
		11	PS20	Pre-registration sensor (PF)	Paper	No paper
		12	PS18	Horizontal conveyance sensor/1		
		13	PS17	Vertical conveyance sensor/1 (PF)		
		14	PS16	Vertical conveyance sensor/2 (PF)		
		15	PS15	Vertical conveyance sensor/3 (PF)		
		16	PS18	Horizontal conveyance sensor/1 (PF)		
		26	TEMS/1	Temperature sensor /1 (in tray)	Display of temperature (°C)	
		28	TEMS/2	Temperature sensor /2 (in tray)		
		30	TEMS1	Temperature sensor /1 (in tray) (LU)		
Optical device	30	0	PS1	Scanner HP sensor	Home position	Other than home position
		1	PS3	APS sensor /1	Paper	No paper
		2	PS4	APS sensor /2		
		3	PS2	APS timing sensor	Open	Close
	33	0	INDEXB/C	INDEVB/C	Abnormal	Normal
		1	INDEXB/M	INDEVB/M		
		2	INDEXB/Y	INDEVB/Y		
		3	INDEXB/K	INDEVB/K		
		4	INDEXB /C, /M, /Y, /K	INDEVB /C, /M, /Y, /K	It is abnormal if there is any of one or more color.	
	38	5	PS1	Scanner HP sensor	Home position	Other than home position

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
Main body	45	0	TEMS/1	Temperature sensor /1 (Fusing upper heating roller center)	Display of temperature (°C)	
		1	TEMS/3	Temperature sensor /3 (Fusing upper heating roller edge)		
		2	TEMS/2	Temperature sensor /2 (Fusing lower pressure roller center)		
		3	TEMS/4	Temperature sensor /4 (Fusing lower pressure roller edge)		
		4	TEMS/1	Temperature sensor /1 (Fusing upper roller non-contact sensor correction)		
		5	TEMS/2	Temperature sensor /2 (Fusing lower roller non-contact sensor correction)		
		8	TEMS/1	Fusing upper heating roller center detection temperature (idling)		
		11	TEMS/1	Fusing upper heating roller center detection temperature (when pressure release operation is powered ON)		
		12	TEMS/3	Fusing upper heating roller edge detection temperature (when pressure release operation is powered ON)		
		14	TEMS/2	Fusing lower pressure roller center detection temperature (when pressure release operation is powered ON)		
	47	3	PS16	Fusing release home sensor (when pressure release operation is powered ON)	Home position	Other than home position
		4		Fusing release home sensor (at pressure position move)	Home position	Other than home position
		5		Fusing release home sensor (at release position move)		
		6	PS64	Fusing loop sensor	Paper	No paper
	48	0	PS15	1st transfer HP sensor	Home position	Other than home position
Specific function	50	12	TCRS/Y	TCR sensor /Y output value (1/1 speed)	0 to 255	
		13	TCRS/M	TCR sensor /M output value (1/1 speed)		
		14	TCRS/C	TCR sensor /C output value (1/1 speed)		
		15	TCRS/K	TCR sensor /K output value (1/1 speed)		
	58	0	TCRS/Y	TCR sensor /Y control voltage (1/1 speed)		
		1	TCRS/M	TCR sensor /M control voltage (1/1 speed)		
		2	TCRS/C	TCR sensor /C control voltage (1/1 speed)		
		3	TCRS/K	TCR sensor /K control voltage (1/1 speed)		
	59	3	PS17	Fusing paper exit detection sensor	Paper	No paper

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
DF	60	1	PS304	Original empty sensor	Original	No original
		2	PS301	Original registration sensor		
		3	PS302	Timing sensor		
		4	PS305	Original reverse sensor		
		5	PS306	Original exit sensor		
		6	PS303	Original paper feed cover sensor	Open	Close
		7	PS308	Conveyance cover sensor	Close	Open
		8	PS307	Paper exit cover sensor	Open	Close
		9	RS	Tray open/close sensor		
FD	70	1	PS1	FD entrance sensor	No paper	Paper
		2	PS4	PI exit sensor	Paper	No paper
		3	PS5	Punch conveyance sensor	No paper	Paper
		4	PS7	Main tray folding paper full sensor	Other than full	Full
		5	PS8	2 holes punch home sensor	Other than home position	Home position
		6	PS9	3 holes/4 holes home sensor		
		7	PS10	Alignment plate home sensor	Home position	Other than home position
		8	PS11	Punch registration home sensor		
		9	PS12	Punch scraps box set sensor	Set	Not set
		10	PS13	Intermediate conveyance detection 1	Paper	No paper
		11	PS16	Sub tray paper exit sensor		
		12	PS17	Sub tray paper full sensor	Other than full	Full
		13	PS18	Main tray paper exit sensor	Paper	No paper
		14	PS20	Main tray upper limit sensor	Upper limit	Not at upper limit
		15	PS22	Main tray lower limit sensor	Lower limit	Not at lower limit
		16	PS23	Main tray empty sensor	No paper	Paper
		17	PS26	Punch scraps full sensor	Other than full	Full
		22	PS2	Folding exit sensor	Paper	No paper
		23	CN90	Main tray connection recognition (CN90 connection)	Non-connection	Connection
		24	PS51	1st folding conveyance sensor	No paper	Paper
		25	PS52	Folding entrance sensor		
		26	PS53	2nd folding conveyance sensor		
		27	PS54	3rd folding conveyance sensor		
		28	PS55	1st folding cam home sensor	No pressure	pressure
		29	PS56	2nd folding cam home sensor		
		30	PS57	3rd folding cam home sensor		
		31	PS58	S size conveyance sensor	Paper	No paper

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
FD	70	32	PS6	Punch registration sensor	Paper	No paper
		33	FDOB	Staple selection switch	OFF	ON
		34		Punch selection switch		
		35		Folding selection switch		
		36		START/STOP switch		
		37		Multi feed function select switch		
		39	PS46	Sub tray fold paper full sensor	Full	Other than full
		40	PS31	PI conveyance sensor /Up	Paper	No paper
		41	PS37	PI conveyance sensor /Lw		
		42	PS32	PI upper limit sensor /Up	Upper limit	Not at upper limit
		43	PS33	PI paper empty sensor /Up	Other than full	Full
		44	PS34	PI lift plate home sensor /Up	Home position	Other than home position
		45	PS35	L size sensor /Up	No paper	Paper
		46	PS36	S size sensor /Up		
		48	PS38	PI upper limit sensor /Lw	Upper limit	Not at upper limit
		49	PS39	PI paper empty sensor /Lw	Other than full	Full
		50	PS40	PI lift plate home sensor /Lw	Home position	Other than home position
		51	PS41	L size sensor /Lw	No paper	Paper
		52	PS42	S size sensor /Lw		
		53	PS43	PI cover open/close sensor	close	open
		54	PS44	PI paper set sensor /Up	No paper	Paper
		55	PS45	PI paper set sensor /Lw		
		61	PS47	PI max paper size sensor /Up		
		62	PS48	PI max paper size sensor /Lw		
SD	71	1	PS1	Entrance sensor	Paper	No paper
		2	PS2	Horizontal conveyance sensor /1		
		3	PS3	Horizontal conveyance sensor /2		
		4	PS4	Horizontal conveyance exit sensor		
		5	PS5	Right angle conveyance sensor /1	No paper	Paper
		6	PS6	Right angle conveyance sensor /2		
		7	PS7	Folding sensor /1	No paper	Paper
		8	PS8	Folding passage sensor	Paper	No paper
		9	PS17	Overlap home sensor	Home position	Other than home position

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
SD	71	10	PS18	Folding main scan alignment home sensor / Fr1	Other than home position	Home position
		11	PS49	Folding main scan alignment home sensor / Fr2		
		12	PS20	1st folding blade home sensor /1		
		13	PS21	1st folding blade home sensor /2	Home position	Other than home position
		14	PS22	2nd folding blade home sensor/1	Other than home position	Home position
		15	PS23	2nd folding blade home sensor /2	Home position	Other than home position
		16	PS24	Folding exit home sensor		
		17	PS9	Tri-folding exit sensor	Paper	No paper
		18	PS10	Tri-folding paper full sensor	Other than full	Full
		19	PS11	Sub tray exit sensor	Paper	No paper
		20	PS12	Sub tray paper full sensor	Other than full	Full
		21	PS44	Folding sensor /2	No paper	Paper
		22	PS19	Folding main scan alignment home sensor / Rr	Home position	Other than home position
		23	PS46	Guide shaft home sensor		
		24	HS2/ HS4	Clincher start sensors /Rt and /Lt	No clinch	Clinch
		33	PS13	Saddle stitching paper sensor	No paper	Paper
		34	PS14	Bundle sensor /1		
		35	PS15	Bundle sensor /2	No paper	Paper
		36	PS16	Bundle registration plate home sensor	Other than home position	Home position
		37	PS25	Stapler movement home sensor	Home position	Other than home position
		38	PS26	Clincher up down home sensor	Other than home position	Home position
		39	PS27	Saddle stitching press home sensor	Home position	Other than home position
		40	PS28	Saddle stitching alignment home sensor /Rt		
		41	PS29	Saddle stitching alignment home sensor /Lt		
		42	PS33	Bundle clip upper limit sensor	Upper limit	Not at upper limit
		43	PS30	Bundle clip lower limit sensor	Lower limit	Not at lower limit

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
SD	71	44	PS32	Bundle arm home sensor	Home position	Other than home position
		45	PS31	Bundle arm rotation home sensor		
		46	PS34	Bundle registration home sensor		
		47	PS35	Bundle press stage up down home sensor		
		48	PS45	Bundle press stage up down upper limit sensor	Upper limit	Not at upper limit
		49	PS37	Bundle press home sensors	Other than home position	Home position
		50	PS47	Bundle press lower limit sensor	Not at lower limit	Lower limit
		51	PS48	Scraps press home sensor	Other than home position	Home position
		52	PS40	Scraps box set sensor	Set	Not set
		53	PS41	Trimmer scraps full sensor	Other than full	Full
		54	PS36	Bundle press movement home sensor	Home position	Other than home position
		55	PS38	Bundle arm assist home sensor		
		56	PS39	Bundle arm assist upper limit sensor	Not at upper limit	Upper limit
		57	SW1	Stapler empty switch /Rt	No staple	Staple
		58	SW2	Stapler empty switch /Lt		
		59	HS1	Stapler home sensor /Rt	Other than home position	Home position
		60	HS3	Stapler home sensor /Lt		
		61	PS50	Trimmer blade home sensor	Home position	Other than home position
		62	PS51	Trimmer blade upper limit sensor	Not at upper limit	Upper limit
		63	PS52	Trimmer press upper limit sensor		
		64	PS53	Trimmer press home sensor	Lower limit	Not at lower limit
		65	PS42	Front door sensor /Rt	Open	Close
		66	PS43	Front door sensor /Lt		
		67	PS54	Bundle sensor /4	Paper	No paper
		68	PS55	Trimmer registration sensor	Registration position	Other than registration position
		69	PS56	Folding sub scan alignment home sensor	Home position	Other than home position

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
SD	71	70	PS57	Bundle exit sensor /2	No paper	Paper
		71	PS58	Bundle tray set sensor	Not set	Set
		72	PS59	Trimmer board replacement sensor	Replace	Not replace
		75	PS61	Bundle tray paper full sensor	Full	Other than full
		77	PS60	Folding entrance sensor	No paper	Paper
FS-503	72	1	PS35	Rear stopper home sensor	Home position	Other than home position
		2	PS33	Intermediate roller home sensor		
		3	PS32	Stack assist home sensor		
		4	PS14	Stapler rotation home sensor	Other than home position	Home position
		5	PS11	Stapler movement home sensor	Home position	Other than home position
		6	PS34	Staple scraps box set sensor	Set	Not set
		7	PS30	Sub tray paper full sensor	Other than full	Full
		8	PS1	Sub tray paper exit sensor	Paper	No paper
		9	PS5	Stacker entrance sensor		
		10	PS4	FNS entrance sensor	No paper	Paper
		11	PS15	Counter reset sensor	Reset position	Other than reset position
		12	PS12	Paper exit opening sensor	Other than home position	Home position
		13	PS10	Main tray paper exit sensor	Paper	No paper
		14	PS3	Tray lower limit sensor	Lower limit	Not at lower limit
		15	PS7	Stapler paper exit upper limit sensor	Not at upper limit	Upper limit
		16	PS2	Tray upper limit sensor	Upper limit	Not at upper limit
		21	PS47	Staple ready sensor /Fr	Other than ready	Ready
		22	PS43	Cartridge set sensor /Fr	No cartridge	Cartridge
		23	PS45	Staple empty sensor /Fr	No staple	No staple
		24	PS41	Stapler home sensor /Fr	Other than home position	Home position
		25	PS46	Staple ready sensor /Rr	Other than ready	Ready
		26	PS42	Cartridge set sensor /Rr	No cartridge	Cartridge
		27	PS44	Staple empty sensor /Rr	No staple	Staple

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
FS-503	72	28	PS40	Stapler home sensor /Rr	Other than home position	Home position
		30	PS20	Stacker empty sensor	No paper	Paper
		31	PS9	Paper exit arm home sensor	Other than home position	Home position
		32	MS1	Door switch	Open	Close
		33	PS31	Alignment home sensor /Fr	Home position	Other than home position
		34	PS8	Alignment home sensor /Rr		
FS-607	72	1	PS1	Sub tray paper exit sensor	Paper	No paper
		2	PS4	FNS Entrance sensor	No paper	Paper
		3	PS19	Sub tray full sensor	Full	Other than full
		4	PS12	Paper exit opening home sensor	Other than the closed position	Closed position
		5	PS16	Gate home sensor	Other than home position	Home position
		6	PS6	Main tray paper exit sensor	Paper	No paper
		7	PS18	Shift roller home sensor	Other than home position	Home position
		10	PS3	Main tray lower limit sensor	Lower limit	Not at lower limit
		12	PS2	Main tray upper limit sensor	Upper limit	Not at upper limit
		13	PS7	Stapler paper exit upper limit sensor	Other than the stand-by position	Stand-by position
		14	PS15	Counter reset sensor	Paper	No paper
		17	PS5	Stacker entrance sensor		
		18	PS8	Alignment home sensor /Up	Home position	Other than home position
		19	PS9	Paper exit belt home sensor		
		20	PS11	Stapler movement home sensor		
		21	PS13	Stapler rotation home sensor		
		22	PS14	Clincher rotation home sensor		
		23	PS20	Stacker empty sensor	Paper	No paper
		24	MS1	Door switch	Open	Close
		25	PS31	Stapler motor home sensor /Fr	Other than home position	Home position
		26	PS30	Stapler motor home sensor /Rr		

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
FS-607	72	27	SW4	Staple empty switch /Fr	No staple	Staple
		28	SW2	Staple empty switch /Rr		
		29	SW4	Staple empty switch /Fr (crown staple)		
		30	SW2	Staple empty switch /Rr (crown staple)		
		31	SW3	Cartridge switch /Fr	No cartridge	Cartridge
		32	SW1	Cartridge switch /Rr		
		35	PS33	Clincher motor home sensor /Fr	Other than home position	Home position
		36	PS32	Clincher motor home sensor /Rr		
		41	PS22	Folding knife home sensor	Other than home position	Home position
		42	PS23	Saddle stitching stopper home sensor	Home position	Other than home position
		43	PS24	Alignment home sensor /Lw		
		44	PS25	Folding paper exit sensor	Paper	No paper
		45	PS26	Folding pass-through sensor		
		46	PS29	Folding full sensor	Full	Other than full
		49	PS201	Paper pass-through sensor /Up (PI)	Paper	No paper
		50	PS206	Paper pass-through sensor /Lw (PI)		
		57	PS301	Punch home sensor (PK)	Other than home position	Home position
		58	PS306	Punch encoder sensor (PK)	Light blocking	Exposure
		59	PS302	Punch scraps box full sensor (PK)	Other than full	Full
		60	PS304	Punch scraps box set sensor (PK)	set	Not set
		61	PS303	Punch shift home sensor (PK)	Home position	Other than home position
		62	PS305	Swing edge face detection 5 (PK)	Paper	No paper
		63		Swing edge face detection 4 (PK)		
		64		Swing edge face detection 3 (PK)		
		65		Swing edge face detection 2 (PK)		
		66		Swing edge face detection 1 (PK)		
		73	PS202	Paper empty sensor /Up (PI)	No paper	Paper
		74	PS203	Paper set sensor /Up (PI)		
		75	PS205	Tray upper limit sensor /Up (Upper stage) (PI)	Not at upper limit	Upper limit
		76	PS204	Tray lower limit sensor /Up (Upper stage) (PI)	Not at lower limit	Lower limit

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
FS-607	72	77	PIOB	Sheet feeder manual start/clear SW (PI)	OFF	ON
		78		Sheet feeder manual punch button SW (PI)		
		79		Sheet feeder manual function selection button SW (PI)		
		80	MS201	Cover sheet open/close detection (PI)	Open	Close
		81	PS207	Paper empty sensor /Lw (PI)	No paper	Paper
		82	PS212	Paper set sensor /Lw (PI)		
		83	PS209	Tray upper limit sensor /Lw (lower stage tray) (PI)	Upper limit	Not at upper limit
		84	PS210	Tray lower limit sensor /Lw (lower stage tray) (PI)	Lower limit	Not at lower limit
		86	PS208	L sizesensor /Lw (PI)	No paper	Paper
LS	73	1	PS4	Entrance sensor	Paper	No paper
		2	PS11	Sub tray paper exit sensor		
		3	PS7	Conveyance sensor /1		
		4	PS16	Conveyance sensor /2 (LS-501 only)		
		5	PS17	Conveyance sensor /3 (LS-501 only)	Paper	No paper
		6	PS18	Tandem exit sensor (LS-501 only)		
		7	PS3	Stacker tray upper limit sensor	Upper limit	Not at upper limit
		8	PS6	Paper empty sensor	Full	Other than full
		9	PS13	2000 sheets stacked sensor	ON	OFF
		10	PS19	Paper detection sensor		
		11	PS14	5000 sheets stacked sensor		
		12	PS9	Sub tray full sensor	Full	Other than full
		13	PS1	Stacker tray set sensor	Set	Not set
		14	RS1	Hand cart reset switch		
		15	PS15	Stacker tray arm release sensor	ON	OFF
		16	TOB	Paper exit switch		
		17	MS1	Door switch	Open	Close
		18	RS2	JAM door switch		
		19	PS8	Sub tray door sensor		
		20	MS2	Stacker tray upper limit switch	Upper limit	Not at upper limit
		21	MS3	Stacker tray lower limit switch	Lower limit	Not at lower limit
		22	PS12	Alignment home sensor	Home position	Other than home position
		23	PS11	Shift unit home sensor		
		24	PS5	Grip conveyance home sensor		

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Classification	Code	Multi code	Symbol	Name	Display and signal source	
					001 (High)	000 (Low)
RU	75	41	PS2	Intermediate sensor	Paper	No paper
		42	MS1	Interlock switch	ON	OFF
		46	PS1	Entrance sensor	Paper	No paper
		48	PS3	Paper exit sensor		

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10.7.3 Output check

Load operations can be checked and adjusted (output check) using this output check.

A. Procedure

1. "Service Mode Menu screen" Press [05 State Confirmation].
2. "State Confirmation Menu screen" Press [01 I/O Check Mode].
3. "I/O Check Mode screen" Enter an output check code with the fine numeric keys.
4. Press [Access] key to switch to the multi mode.
5. Enter the multi code with the fine numeric buttons.
6. Press the Start key. The specified loading operates.
7. Press the Stop key. The specified loading stops.
8. When executing another output check of the signal or loading operation, repeat steps 3 to 7.

B. List of loads

Classification	Code	Multi code	Symbol	Name	Restrictive conditions
High voltage, analog signal	0	0	L1	Exposure lamp	
	1	0	M53, MC14	Toner bottle motor, toner bottle clutch /Y	
		3	M53, MC15	Toner bottle motor, toner bottle clutch /M	
		6	M53, MC16	Toner bottle motor, toner bottle clutch /C	
		9	M53, MC17	Toner bottle motor, toner bottle clutch /K	
	2	0	HV/1	High voltage unit /1 (charging/Y)	No use allowed in the field.
		1		High voltage unit /1 (charging/M)	
		2		High voltage unit /1(charging/C)	
		3		High voltage unit /1 (charging/K)	
	3	0	HV/2	High voltage unit /2 (1st transfer/Y)	
		1		High voltage unit /2 (1st transfer/M)	
		2		High voltage unit /2 (1st transfer/C)	
		3		High voltage unit /2 (1st transfer/K)	
		4		High voltage unit /2 (1st transfer/Y, /M, /C, /K)	
		7		High voltage unit /2 (1st transfer/K)	
	4	0	HV/2	High voltage unit /2 (separation)	
		1		High voltage unit /2 (separation: for measurement)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
High voltage, analog signal	5	0	PS11	PGC sensor output voltage	Number between 0 and 255 is displayed on [IN] area of the screen
		2	PS8, PS9	Color registration sensor output voltage	
		5	PS11	PGC sensor output voltage	
		6	PS8, PS9	Color registration sensor	
	15	1	—	CSRC data collection counter	
		2		Mode memory clear	
		98		CS Remote Care memory initialization	
	18	1	PS65	ADU centering sensor	
		2	PS1	Centering sensor (LU)	Number between 0 and 255 is displayed on [IN] area of the screen
		3	PS25	Centering sensor (PF)	
		4	MFDT B/S, / R	Multi feed detection board /S, /R (PF)	
Paper feed conveyance	20	0	SD7	Pick-up solenoid /1	
		1	SD8	Pick-up solenoid /2	
		2	SD9	Pick-up solenoid /3	
		4	SD5	Pick-up solenoid /BP	
		5	SD100	Pick-up solenoid (LU)	
		6	SD1	Pick-up solenoid /1 (PF)	
		7	SD5	Pick-up solenoid /1 (PF)	
	21	0	MC7	Paper feed clutch /1	
		1	MC9	Paper feed clutch /2	
		2	MC11	Paper feed clutch /3	
		4	MC6	Paper feed clutch /BP	
		5	MC101	Paper feed clutch (LU)	
		6	MC1	Paper feed clutch /1 (PF)	
		7	MC4	Paper feed clutch /1 (PF)	
	22	0	MC8	Pre-registration clutch /1	
		1	MC10	Pre-registration clutch /2	
		2	MC12	Pre-registration clutch /3	
		5	MC102	Pre-registration clutch (LU)	
	23	0	M38	Paper lift motor /1	
		1	M39	Paper lift motor /2	
		2	M40	Paper lift motor /3	
		3	M35	Paper lift motor /BP (down)	
		4	M35	Paper lift motor /BP (up)	
		5	M100	Paper lift motor (LU: down)	
		6		Paper lift motor (LU: up)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Paper feed conveyance	23	7	M2	Paper lift motor /1 (PF)	
		8	M3	Paper lift motor /2 (PF)	
	24	0	M34	2nd transfer pressure/release motor	
		1		2nd transfer pressure (pressure position 1)	
		2		2nd transfer pressure (pressure position 2)	
		3		2nd transfer release	
	25	0	M30	Registration motor (1/2 speed)	
		1		Registration motor (2/3 speed)	
		2		Registration motor (1/1 speed)	
		3		Registration motor (paper feed line speed)	
		4		Registration motor (Hard timer ON: 1/1 speed)	
	26	0	M31	Loop motor (1/2 speed)	
		1		Loop motor (2/3 speed)	
		2		Loop motor (1/1 speed)	
		3		Loop motor (paper feed line speed)	
	27	0	M33	Reverse/exit motor (Forward rotation: 1/2 speed)	
		1		Reverse/exit motor (Forward rotation: 2/3 speed)	
		2		Reverse/exit motor (Forward rotation: 1/1 speed)	
		3		Reverse/exit motor (Forward rotation: Max. speed)	
		4		Reverse/exit motor (Reverse rotation: 1/2 speed)	
		5		Reverse/exit motor (Reverse rotation: 2/3 speed)	
		6		Reverse/exit motor (Reverse rotation: 1/1 speed)	
		7		Reverse/exit motor (Reverse rotation: Max. speed)	
		10	M55	Decurler motor (Forward rotation: 1/2 speed)	
		11		Decurler motor (Forward rotation: 2/3 speed)	
		12		Decurler motor (Forward rotation: 1/1 speed)	
		13		Decurler motor (Forward rotation: Max. speed)	
		14		Decurler motor (Reverse rotation: 1/2 speed)	
		15		Decurler motor (Reverse rotation: 2/3 speed)	
		16		Decurler motor (Reverse rotation: 1/1 speed)	
		17		Decurler motor (Reverse rotation: Max. speed)	
		20	M54	Paper exit motor (Forward rotation: 1/2 speed)	
		21		Paper exit motor (Forward rotation: 2/3 speed)	
		22		Paper exit motor (Forward rotation: 1/1 speed)	
		23		Paper exit motor (Forward rotation: Max. speed)	
		25		Paper exit motor (Reverse rotation: continuous)	
		26		Paper exit motor (Reverse rotation: HP position)	
		27		Paper exit motor (Reverse rotation: high pressure amount)	
		28		Paper exit motor (Reverse rotation: medium pressure amount)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Paper feed conveyance	27	29	M54	Paper exit motor (Reverse rotation: low pressure amount)	
	28	0	M41	Paper feed motor	
		1	M1	Paper feed motor (LU)	
		2	M1	Paper feed motor (PF)	
	29	0	MC13	Intermediate conveyance clutch /1	
		1	MC4	Intermediate conveyance clutch /2	
		2	MC5	Intermediate conveyance clutch /3	
		3	SD1	Belt separation claw solenoid	
		5	FM1, FM2	Paper feed assist fan /Fr, /Rr (LU)	
		6	SD4	Tray lock solenoid /1 (PF)	
		7	FM3, FM4	Paper feed assist fan /Fr12, /Rr12 (Tray 4) (PF)	
		8	FM1, FM2	Paper feed assist fan /Fr11, /Rr11 (Tray 4) (PF)	
		9	FM7, FM8	Paper feed assist fan /Fr22, /Rr22 (Tray 5) (PF)	
		10	FM5, FM6	Paper feed assist fan /Fr21, /Rr21 (Tray 5) (PF)	
		11	MC12	Pre-registration clutch (PF)	
		12	MC7	Vertical conveyance clutch /1 (PF)	
		13	MC8	Vertical conveyance clutch /2 (PF)	
		14	MC9	Vertical conveyance clutch /3 (PF)	
		15	MC10	Horizontal conveyance clutch /1 (PF)	
		16	MC11	Horizontal conveyance clutch /2 (PF)	
		17	SD2, SD3	Shutter solenoid /Fr1, /Rr1 (PF)	
		19	SD6, SD7	Shutter solenoid /Fr2, /Rr2 (PF)	
		21	SD4	Tray lock solenoid /1 (PF)	
		22	SD8	Tray lock solenoid /2 (PF)	
		23	MC2	Separation clutch /1 (PF)	
		24	MC5	Separation clutch /2 (PF)	
		25	FM9, FM10	Ventilation fan/1, /2 (PF)	
		26	HTR3, FM11, FM12	Fan heater /Up, Dehumidifier fan /1, /2 (HT)	
		28	HTR4, FM13, FM14	Fan heater, Dehumidifier fan /3, /4 (HT)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Paper feed conveyance	29	30	HTR1	Temperature adjustment tray 33°C, Heat pipe 70°C (tray 4) (LU)	
	32	0	M3	Polygon motor /Y (1/1 rotation)	
		1	M4	Polygon motor /M (1/1 rotation)	
		2	M5	Polygon motor /C (1/1 rotation)	
		3	M6	Polygon motor /K (1/1 rotation)	
		4	M3, M4, M5, M6	Polygon motor /Y, /M, /C, /K (1/1 rotation)	
		5	M3	Polygon motor /Y (rotates at adjustment value)	
		6	M4	Polygon motor /M (rotates at adjustment value)	
		7	M5	Polygon motor /C (rotates at adjustment value)	
		8	M6	Polygon motor /K (rotates at adjustment value)	
		9	M3, M4, M5, M6	Polygon motor /Y, /M, /C, /K (rotates at adjustment value)	
	33	0	INDEX B/Y	INDEVB /Y	
		1	INDEX B/M	INDEVB /M	
		2	INDEX B/C	INDEVB /C	
		3	INDEX B/K	INDEVB /K	
		4	INDEX B/Y, /M, /C, /K	INDEVB /Y, /M, /C, /K	
	34	0	—	Shading correction operation	
	36	3	PS8	Color registration sensor /Fr	Number between 0 and 255 is displayed on [IN] area of the screen
		4	PS9	Color registration sensor /Rr	
	37	0	—	LD alarm measurement	LD alarm value can be checked on the adjustment list of list output.
		91		LD1 /2 alarm data clear /Y	
		92		LD1 /2 alarm data clear /M	
		93		LD1 /2 alarm data clear /C	
		94		LD1 /2 alarm data clear /K	
		99		LD1/2 alarm data clear /Y, /M, /C, /K	
	38	0	M1	Scanner motor (reciprocating driver 1)	11x17, magnification 100%, one scanning

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Paper feed conveyance	38	1	M1	Scanner motor (reciprocating driver 2)	11x17, magnification 100%, continuous scanning
		2		Scanner motor (reciprocating driver 3)	11x17, magnification 400%, continuous scanning
		3		Scanner motor (reciprocating driver 4)	11x17, magnification 50%, continuous scanning
		4		Scanner motor (reciprocating driver 5)	8½ x11, magnification 100%, continuous scanning
		5		Scanner motor (home position search)	
		6		Scanner motor (back scan position move)	
		7		Scanner motor (back scan ACS operation + scan operation)	
Main body	41	0	M14	Drum motor /Y (1/2 speed)	
		1		Drum motor /Y (2/3 speed)	
		2		Drum motor /Y (1/1 speed)	
		3	M15	Drum motor /M (1/2 speed)	
		4		Drum motor /M (2/3 speed)	
		5		Drum motor /M (1/1 speed)	
		6	M16	Drum motor /C (2/3 speed)	
		7		Drum motor /C (1/2 speed)	
		8		Drum motor /C (1/1 speed)	
		9	M17	Drum motor /K (2/3 speed)	
		10		Drum motor /K (1/2 speed)	
		11		Drum motor /K (1/1 speed)	
		12	M18	Transfer belt motor (2/3 speed)	
		13		Transfer belt motor (1/2 speed)	
		14		Transfer belt motor (1/1 speed)	
	42	0	M2	Scanner fan	
		1	M25	IPB fan/2	
		2	M42	DCPS fan	
		3	M37	Fusing ventilation fan	
		4	M48	Charge intake fan	
		5	M47	Main body fan	
		6	M43, M44	Writing intake fan /1, /2	
		7	M45, M46	Developing fan /1, /2	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Main body	42	8	M26, M27, M28	Tucking fan /1, /2, /3	
		9	M12	Drum fan /1	
		10	M13	Drum fan /2	
		11	M61, 62, 63	Paper exit fan /1, /2, /3	
		12	M66	ADU fan /1	
		13	M36	Deodorization fan	
		14	M10	Fusing belt ventilation fan	
		15	M65	Fusing fan /Lw	
		16	FM3	Dehumidifier fan /1, /2 (LU)	
		17	FM4	Dehumidifier fan /3, /4 (LU)	
		18	FM11, FM12	Dehumidifier fan /1, /2 (PF)	
		19	FM13, FM14	Dehumidifier fan /3, /4 (PF)	
		20	M67	ADU fan /2	
	43	1	TCT/1	Total counter /1	
		2	TCT/2	Total counter /2	
		6	KCT	Key counter	
	45	0	L2, L3, L4, L5	Fusing heater lamp /1, /2, /3, /4 (powered ON simultaneously)	Temperature detection of fusing upper heating roller center
		1			Temperature detection of fusing upper heating roller edge
		2			Temperature detection of fusing lower pressure roller center
		3			Temperature detection of fusing lower pressure roller edge
		4	L2, L3, L4, L5	Fusing heater lamp/1, /2, /3, /4 (powered ON simultaneously)	Non-contact sensor on fusing lower roller
		5			Non-contact sensor on fusing lower roller
		8			Proper temperature at idle (at warming up)

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Main body	45	11	L2, TEMS/1	Fusing heater lamp/1 temperature control	Number between 0 and 255 is displayed on [IN] area of the screen
		12	L3, TEMS/3	Fusing heater lamp/2 temperature control	
		13	L4, TEMS/1	Fusing heater lamp/3 temperature control	
		14	L5, TEMS/2	Fusing heater lamp/4 temperature control	
	46	0	—	LD1/2 Laser emission timing adjustment (main scanning)	
	47	0	M29	Fusing motor (Forward rotation: 1/2 speed)	
		1		Fusing motor (Forward rotation: 2/3 speed)	
		2		Fusing motor (Forward rotation: 1/1 speed)	
		3		Fusing motor (Reverse rotation: pressure release operation ON, normal rotation)	
		4		Fusing motor (Reverse rotation: pressure position move)	
		5		Fusing motor (Reverse rotation: release position move)	
		9		Fusing roller press (continuous rotation 1/2 speed)	
		10		Fusing roller press (continuous rotation 2/3 speed)	
		11		Fusing roller press (continuous rotation 1/1 speed)	
		13	M29, L2, L3, L4, L5	Fusing roller press (ON all heaters at the same time)	
	48	0	M19	1st transfer pressure/release motor (rotate constantly)	
		1		1st transfer pressure/release motor (stop at release position)	
		2		1st transfer pressure/release motor (stop at B&W mode fusing position)	
		3		1st transfer pressure/release motor (stop at color mode pressure position)	
Specific function	50	0	M20	Developing motor/Y (1/1 speed)	
		1		Developing motor/Y (1/2 speed)	
		2		Developing motor/Y (1/3 speed)	
		3	M21	Developing motor/M (1/1 speed)	
		4		Developing motor/M (1/2 speed)	
		5		Developing motor/M (1/3 speed)	
		6	M22	Developing motor/C (1/1 speed)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Specific function	50	7	M22	Developing motor/C (1/2 speed)	
		8		Developing motor/C (1/3 speed)	
		9	M23	Developing motor/K (1/1 speed)	
		10		Developing motor/K (1/2 speed)	
		11		Developing motor/K (1/3 speed)	
		12	M20	Y color developing unit rotation	
		13	M21	M color developing unit rotation	
		14	M22	C color developing unit rotation	
		15	M23	BK color developing unit rotation	
		16	M20, M21, M22	YMC color developing unit rotation	
		17	M20, M21, M22, M23	All colors developing unit rotation	
	51	0	EL/Y	Eraser lamp/Y	
		1	EL/M	Erasure lamp/M	
		2	EL/C	Erasure lamp/C	
		3	EL/K	Erasure lamp/K	
	54	0	M49	Toner supply motor /Y	
		3	M50	Toner supply motor /M	
		6	M51	Toner supply motor /C	
		9	M52	Toner supply motor /K	
		12	MC14	Toner bottle clutch /Y	
		13	MC15	Toner bottle clutch /M	
		14	MC16	Toner bottle clutch /C	
		15	MC17	Toner bottle clutch /K	
	55	0	SD2	Color registration shutter solenoid	
		1	SD3	PGC shutter solenoid	
	56	0	—	Status indicator lamp (PAT1 lighting)	
		1		Status indicator lamp (PAT2 lighting)	
		2		Status indicator lamp (PAT3 lighting)	
		3		Status indicator lamp (PAT4 lighting)	
	58	0	TCRS/Y	TCR sensor /Y	
		1	TCRS/M	TCR sensor /M	
		2	TCRS/C	TCR sensor /C	
		3	TCRS/K	TCR sensor /K	
DF	60	1	M301	Original feed motor (Forward rotation: 300mm/sec)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
DF	60	2	M301	Original feed motor (Forward rotation: 400mm/sec)	
		3		Original feed motor (Forward rotation: 900mm/sec)	
		4		Original feed motor (Reverse rotation: 300mm/sec)	
		5		Original feed motor (Reverse rotation: 400mm/sec)	
		6		Original feed motor (Reverse rotation: 900mm/sec)	
		7	M302	Original feed motor (Forward rotation: 300mm/sec)	
		8		Original feed motor (Forward rotation: 400mm/sec)	
		9		Original feed motor (Forward rotation: 900mm/sec)	
		10		Original feed motor (Reverse rotation: 300mm/sec)	
		11		Original feed motor (Reverse rotation: 400mm/sec)	
		12		Original feed motor (Reverse rotation: 900mm/sec)	
		13	M303	Original reverse/exit motor (Forward rotation: 300mm/sec)	
		14		Original reverse/exit motor (Forward rotation: 400mm/sec)	
		15		Original reverse/exit motor (Forward rotation: 900mm/sec)	
		16		Original reverse/exit motor (Reverse rotation: 300mm/sec)	
		17		Original reverse/exit motor (Reverse rotation: 400mm/sec)	
		18		Original reverse/exit motor (Reverse rotation: 900mm/sec)	
		19	SD302	Original reverse solenoid	
		20	SD301	Original paper exit solenoid	
		21	MC301	Original registration clutch	
FD	70	1	M1	Entrance conveyance motor	
		2	M2	Punch conveyance motor	
		3	M3	Intermediate conveyance motor	
		4	M4	1st folding motor (Forward rotation)	
		5		1st folding motor (Reverse rotation)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
FD	70	6	M5	2nd folding motor (Forward rotation)	
		7		2nd folding motor (Reverse rotation)	
		8	M6	3rd folding motor (Forward rotation)	
		9		3rd folding motor (Reverse rotation)	
		10	M7	PI conveyance motor	
		11	M8	Paper lift motor /Up (down)	
		12		Paper lift motor /Up (up)	
		13	M9	Paper lift motor /Lw (down)	
		14		Paper lift motor /Lw (up)	
		15	M17	Main tray paper exit motor	
		21	M10	Punch motor (3 holes/4 holes)	
		22		Punch motor (2 holes)	
		23	M11	Tray up/down motor (home position search)	
		24	M12	Alignment plate (home position search)	
		26	M13	Punch registration motor	
		27	M14	1st folding release motor (conveyance position move)	
		28		1st folding release motor (folding position move)	ON: Fold position OFF: Conveyance position
		29	M15	2nd folding release motor (conveyance position move)	
		30		2nd folding release motor (folding position move)	ON: Fold position OFF: Conveyance position
		31	M16	3rd folding release motor (conveyance position move)	
		32		3rd folding release motor (folding position move)	ON: Fold position OFF: Conveyance position
		61	SD1	Entrance gate solenoid	
		62	SD3	S size gate solenoid	
		63	SD4	L size gate solenoid	
		64	SD5	Roller solenoid /1	
		65	SD6	Roller solenoid /2	
		66	SD7	Roller solenoid /3	
		67	SD8	Roller solenoid /4	
		68	SD9	Sub tray gate solenoid	
		69	SD12	Paper exit solenoid	
		70	SD13	PI Pick-up solenoid /Up	
		71	SD14	PI Pick-up solenoid /Lw	
		72	SD15	Folding gate solenoid	
		74	SD18	2nd folding roller solenoid	
		75	CL1	PI registration clutch /Up	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
FD	70	76	CL2	PI registration clutch /Lw	
		82	MFDB1	Multi feed detection board /1 (CLK output)	
		89	FDOB	FD operation board (illuminate all LEDs)	
		90	JAMIB	Jam indicator board (illuminate all LEDs)	
SD	71	1	M1	Entrance conveyance motor	
		2	M2	Horizontal conveyance motor	
		3	M3	Folding entrance motor	
		4	M4	Folding conveyance motor (Forward rotation)	
		5		Folding conveyance motor (Reverse rotation)	
		6	M6	Right angle conveyance motor	
		7	M29	Stapler motor /Rt (stapling once)	
		8	M30	Stapler motor /Lt (stapling once)	
		9	M5	Bundle paper exit motor	
		10	M8	Folding sub scan alignment exit motor	
		21	M5	Bundle paper exit motor (home position search)	
		24	M7	Folding main scan alignment motor /Fr (home position search)	
		25		Folding main scan alignment motor /Fr (alignment)	Available after home position search (71-24)
		27	M8	Folding main scan alignment exit motor (home position search)	
		29	M9	Saddle stitching alignment motor /Rt (home position search)	
		30		Saddle stitching alignment motor /Rt (forward movement)	Available after home position search (71-29)
		31	M10	Bundle arm motor (home position search)	
		32		Bundle arm motor (forward movement)	Available after home position search (71-32)
		33	M11	Bundle clip motor (home position search)	
		34	M12	Bundle registration motor (home position search)	
		35	M13	Overlap motor (home position search)	
		36	M14	Folding main scan alignment motor/Rr (home position search)	
		37		Folding main scan alignment motor/Rr (forward movement)	
		39	M15	Stapler movement motor (home position search)	
		40		Stapler movement motor	
		41	M16	Saddle stitching alignment motor/Lt (home position search)	
		42	M16	Saddle stitching alignment motor/Lt (inward movement)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
SD	71	43	M17	Bundle press movement motor (home position search)	
		44	M18	1st folding blade motor (home position search)	
		45	M19	2nd folding blade motor (home position search)	
		46	M20	Clincher up down motor (home position search)	
		47		Clincher up down motor (stapling)	
		48	M21	Saddle stitching press motor (home position search)	
		49	M22	Bundle arm rotation motor (home position search)	
		50	M23	Bundle press motor (home position search)	
		51	M24	Bundle press stage up down motor (home position search)	
		52	M25	Guide shaft motor (home position search)	
		53	M31	Trimmer blade motor (home position search)	
		54		Trimmer blade motor (trimming position)	
		55	M32	Trimmer press motor (home position search)	
		56		Trimmer press motor (upper limit search)	
		57		Trimmer press motor (pressing)	Available after home position search (71-55)
		58		Trimmer press motor (movement to trimmer board release position)	
		59	M10	Bundle arm motor (inward movement)	
		60	M23	Bundle press motor (press)	
		61	M24	Bundle press stage up down motor (up)	
		62		Bundle press stage up down motor (home position search for the bundle registration plate)	
		63	M32	Trimmer board forced move	
		65	M33	Trimmer paddle motor (Forward rotation)	
		66		Trimmer paddle motor (Reverse rotation)	
		71	SD1	Entrance gate solenoid	
		72	SD2	Right angle conveyance gate solenoid	
		73	SD3	Horizontal conveyance gate solenoid	
		74	SD4	Roller release solenoid /4	
		75	SD5	Roller release solenoid /1 (roller press)	
		76		Roller release solenoid /1 (roller release)	
		77	SD6	Roller release solenoid /2	
		78	SD7	Roller release solenoid /3 (roller press)	
		79		Roller release solenoid /3 (roller release)	
		80	SD8	Folding unit lock solenoid (lock)	
		81		Folding unit lock solenoid (release)	
		82	SD11	Trimmer board solenoid (ON once)	
		83		Trimming board solenoid (ON twice)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
SD	71	86	CL1	Tri-folding exit clutch	
		87	FM1	Scraps removal fan motor	
		90	JAMIB /2	Jam indicator board /2 (LED lighting)	
		95	—	Trimmer board solenoid operation counter clear	Perform after replacing the trimmer board.
		98	M26	Bundle arm assist motor	
FS-503	72	1	M1	Conveyance motor (1000mm/sec)	
		6	M3	Tray up down motor (home position search)	
		7		Tray up down motor (lower limit move)	
		8		Tray up down motor (staple mode up down)	
		11	M22	Alignment motor /Fr (home position search)	
		12		Alignment motor /Fr (A4S standby position move)	
		13		Alignment motor /Fr (A4S position move)	
		14		Alignment motor /Fr (A4S standby position move)	
		16	M7	Main tray Paper exit motor (800mm/sec)	
		17		Main tray Paper exit motor (205mm/sec)	
		21	M8	Paper exit opening motor (home position search)	
		22		Paper exit opening motor (full opening: approx. 55°C)	
		23		Paper exit opening motor (half opening: approx. 44°C)	
		24	M8	Paper exit opening motor (small opening: approx. 27°C)	
		26	M31	Stapler motor /Fr (needles out, empty staple)	
		27		Stapler motor /Fr (staple)	
		28	M30	Stapler motor /Rr (needles out, empty staple)	
		29		Stapler motor /Rr (staple)	
		31	M11	Stapler movement motor (home position search)	
		32		Stapler movement motor (A4 1 staple position move)	
		36	M13	Stacker entrance motor (1000mm/sec)	
		41	M26	Rear stopper motor (home position search)	
		42		Rear stopper motor (stopper release)	
		46	SD5	Bypass solenoid	
		47	SD2	Gate solenoid	
		48	SD9	Paper exit opening solenoid (ON/OFF)	
		49	SD7	Intermediate roller release solenoid	
		51	M24	Stack assist motor (home position search)	
		52		Stack assist motor (assist position move)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
FS-607	72	56	M25	Intermediate roller open/close motor (home position search)	
		57		Intermediate roller open/close motor (reverse position move)	
		61	M23	Paper exit arm motor (home position search)	
		62		Paper exit arm motor (800mm/sec)	
		63		Paper exit arm motor (400mm/sec)	
		66	M6	Sub tray paper exit motor (1000mm/sec)	
		71	M5	Alignment motor /Rr (home position search)	
		72		Alignment motor /Rr (A4S standby position move)	
		73		Alignment motor /Rr (A4S position move)	
		74		Alignment motor /Rr (A4S standby position move)	
		76	M2	Paddle motor (ON/OFF)	
		78	M5, M22	Alignment motor /Rr, /Fr (home position search)	
		79		Alignment motor /Rr, /Fr (A4 standby position move)	
		80		Alignment motor /Rr, /Fr (A4 position move)	
		90	JAMIB	Jam indicator board (illuminate all LEDs)	
		99	—	No paper running mode	20 sheets of A3 with 2 staples
		1	M1	FNS conveyance motor (667mm/sec)	
		3	M2	Shift roller motor (home position search)	
		6	M3	Main tray up down motor (home position search)	
		7		Main tray up down motor (lower limit movement)	
		8		Main tray up down motor (peration in the main tray up/down motor staple mode)	
		10	M4	Clincher rotation motor (home position search)	
		11	M5	Alignment motor /Up (home position search)	
		12		Alignment motor /Up (A4S standby position move)	Available after home position search
		13	M5	Alignment motor /Up (Alignment operation)	Available from the A4 position
		14		Alignment motor /Up (standby position move)	Available after alignment operation
		16	M7	Paper exit roller motor (staple mode)	
		17		Paper exit roller motor (folding mode)	
		21	M8	Paper exit roller motor (home position search)	
		22		Paper exit roller motor (open angle: A4S in staple mode)	Available after home position search
		26	M14	Stapler motor /Fr (initial operation conduct)	
		27		Stapler motor /Fr (staple operation conduct)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
FS-607	72	28	M9	Stapler motor /Rr (initial operation conduct)	
		29		Stapler motor /Rr (staple operation conduct)	
		31	M11, M4	Stapler movement motor, Clincher rotation motor (home position search)	
		32		Stapler movement motor, Clincher rotation motor (A4, 1-stapling position)	
		36	M13	Stacker entrance motor (670mm/sec)	
		38	M6	Stapler rotation motor (home position search)	
		39	M16	Alignment motor /Lw (home position search)	
		41	M18	Saddle stitching stopper motor (home position search)	
		42		Saddle stitching stopper motor (release A4S stopper)	Available after home position search
		43	M19	Folding knife motor (1 cycle)	
		44	M20	Folding conveyance motor (Hi-speed)	
		45	SD4	Paper exit opening solenoid	
		46	SD5	Bypass gate solenoid	
		47	SD6	Tri-folding gate solenoid	
		48	SD51	Paper assist solenoid	
		49	SD7, SD8	Flat stitching stopper release solenoid /Fr, /Rr	
		53	M21	Sub tray exit motor (667mm/sec)	
		55	M12	Gate motor (home position search)	
		58	M51	Paper assist motor (Forward rotation)	
		65	M302	Punch shift motor (home position search) (PK)	
		66		Punch shift motor (PK)	
		69	M301	Punch motor (home position search) (PK)	
		70		Punch motor (punching) (PK)	
		83	M203	Conveyance motor (667mm/sec) (PI)	
		84	MC201	Conveyance clutch /Up (PI)	
		85	MC202	Conveyance clutch /Lw (PI)	
		86	M201	Tray lift motor /Up (down: home position search) (PI)	
		87		Tray lift motor /Up (up) (PI)	
		88	M202	Tray lift motor /Lw (down: home position search) (PI)	
		89		Tray lift motor /Lw (up) (PI)	
		90	SD201	Pick-up solenoid /Up (PI)	
		91	SD202	Pick-up solenoid /Lw (PI)	
		92	MC203	Registration clutch (PI)	
		99	—	No paper running mode	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
LS	73	1	M2	Conveyance motor	
		2		Conveyance motor	
		3	M3	Sub tray paper exit motor	
		4		Sub tray paper exit motor	
		5	M6	Tandem conveyance motor	
		6		Tandem conveyance motor	
		7	M4	Grip conveyance motor	
		8		Grip conveyance motor	
		9	M7	Alignment motor (initial operation)	
		10		Alignment motor	
		11	M5	Shift unit motor (home position search)	
		12		Shift unit motor	
		13	M1	Stacker tray up down motor (down)	
		14		Stacker tray up down motor (up)	
		15	SD1	1st gate solenoid	
		16	SD10	2nd gate solenoid	
		17	SD9	Front stopper solenoid	
		18	SD3	Rear stopper solenoid	
		19	SD8	Paper press arm solenoid /3	
		20	SD6	Paper press arm solenoid /1	
		21	SD4	Front door lock solenoid	
			SD5	Entrance conveyance lock solenoid	
		22	SD11	Tandem conveyance lock solenoid	
		23	SD2	Job partition solenoid	
		24	SD7	Paper press arm solenoid /2	
			FM1, FM3	Paper cooling fan motor /Fr, /Mi	
		25	FM2, FM6	Paper cooling fan motor /1, /2	
		26	FM5	Paper cooling fan motor /Rr	
RU	75	1	M1	Entrance conveyance motor	
		2	M5	Paper exit motor	
		7	M2, M3, M4	Paper fan /1, /2, /3	
		31	SD2	Decurler gate solenoid /1 (SD2)	
		32	SD3	Decurler gate solenoid /2 (SD3)	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
ADU	80	0	SD4	Paper exit solenoid	
	81	0	MC1	ADU conveyance clutch /1	
		1	MC2	ADU conveyance clutch /2	
		2	MC18	ADU Pre-registration clutch	
		3	MC3	ADU conveyance clutch /3	
	82	0	SD10	ADU gate solenoid	
	84	0	M32	ADU reverse motor (1/2 speed) (Forward rotation)	
		1		ADU reverse motor (2/3 speed) (Forward rotation)	
		2		ADU reverse motor (1/1 speed) (Forward rotation)	
		3		ADU reverse motor (470mm/s) (Forward rotation)	
		4		ADU reverse motor (1000mm/s) (Forward rotation)	
		5		ADU reverse motor (1/2 speed) (Reverse rotation)	
		6		ADU reverse motor (2/3 speed) (Reverse rotation)	
		7		ADU reverse motor (1/1 speed) (Reverse rotation)	
		8		ADU reverse motor (470mm/s) (Reverse rotation)	
		9		ADU reverse motor (1000mm/s) (Reverse rotation)	
	85	0	M57	ADU Loop motor (1/2 speed) (Forward rotation)	
		1		ADU Loop motor (2/3 speed) (Forward rotation)	
		2		ADU Loop motor (1/1 speed) (Forward rotation)	
		3		ADU Loop motor (470mm/s) (Forward rotation)	
		4		ADU Loop motor (1000mm/s) (Forward rotation)	
		5		ADU Loop motor (1/2 speed) (Reverse rotation)	
		6		ADU Loop motor (2/3 speed) (Reverse rotation)	
		7	M57	ADU Loop motor (1/1 speed) (Reverse rotation)	
		8		ADU Loop motor (470mm/s) (Reverse rotation)	
		9		ADU Loop motor (1000mm/s) (Reverse rotation)	
Adjustment/special mode	90	0	—	Finishing option adjustment data EEPROM storage	Perform after adjustment FD/SD/FS (FS-503)
	91	0	—	Main body adjustment data NVRAM board storage	Perform after adjustment
	92	0	—	NVRAM board data reset	Does not work in the field
	93	0	—	Finishing option adjustment data EEPROM storage (factory default)	Does not work in the field FD/SD/FS (FS-503)
	94	0	—	Display of adjustment data	
		1	—	Operation panel all lighting (LED)	
	96	0	—	Main body adjustment data NVRAM board storage (factory default)	Does not work in the field
	97	0	—	Image memory (DRAM) capacity check (1 color)	
	98	0	—	Image memory (DRAM) /Y check	
		1	—	Image memory (DRAM) /M check	

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Classification	Code	Multi code	Symbol	Name	Restrictive conditions
Adjustment/special mode	98	2	—	Image memory (DRAM) /C check	
		3	—	Image memory (DRAM) /K check	
		4	—	Image processing board line memory (SDRAM) /Y check	
		5	—	Image processing board line memory (SDRAM) /M check	
		6	—	Image processing board line memory (SDRAM) /C check	
		7	—	Image processing board line memory (SDRAM) /K check	
	99	1	HDD/ Y, /M, / C, /K	HDD capacity check (1 color)	
		2		HDD remaining capacity check	
		3		HDD bad sectors check and recovery	
		4		HDD data copy	Perform after replacing the HDD.

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10.7.4 Adjustment when replacing multi feed detection board (PF)

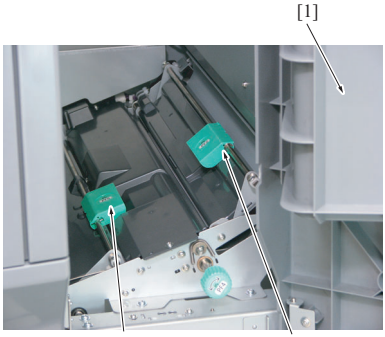
Perform this adjustment when replacing the PF multi feed detection board (MFDTB) or the PF drive board (PFDB), as well as when multi feeding is not detected properly for special papers (thin paper, thin coated paper, thick paper, etc.).

Note

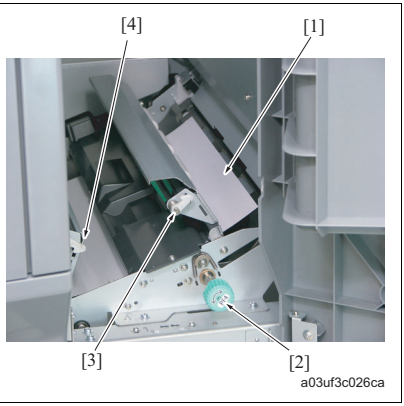
- **The multi feed detection board/S and /R are adjusted in the manufacturing process as a pair of upper and lower. Be sure to replace them as a pair.**
- **Be sure to perform the adjustment under normal room temperature (20 to 30 °C) that is similar to the real environment where the machine is operated because the temperature sensor output level varies with its surface temperature.(When you bring in a replacement part from a place under a different temperature, leave the part and wait for the sensor surface temperature to reach the room temperature before performing the adjustment.)**

A. Procedure

1. Turn off the sub power switch.
2. Open the front door [1] of the PF, and open the jam processing guides PF2 [2] and PF5 [3] in the horizontal conveyance section.



3. Insert a sheet of paper [1] (part no. 65AA-991#, fusing adjustment paper, 16 sheets/A3) while turning the nkob PF4 [2], and close the jam processing guides PF2 [3] and PF5 [4].

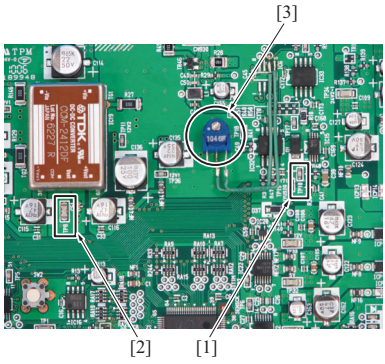


4. Turn on the sub power switch and enter the I/O check mode.
5. Enter "18" with the numeric buttons. Confirm that "18-00" is displayed in the message display area.

6. Press [Access] key.

7. Enter "04" with the numeric buttons. Confirm that "18-04" is displayed in the message display area.

8. Press Start button to enter the output check mode, and connect the tester (voltmeter) to the following pins on the PFDB.
   Positive terminal: Test pin No. TP10 (sensor output) [1]
   Negative terminal: Test pin No. TP8 (SGND) [2]
   Range: DC 20 V



Note

- **Do not allow the tester pin to touch or connect to metal parts on the board nor irrelevant terminals as the PF is energized. It may cause short-circuit and damage the board.**

9. Turn the PFDB volume (VR) [3] so that the voltage falls within the standard value.
   Standard value: 8.0 ± 0.2 V

10. Press Stop key and remove the paper inserted in Step 2.

11. Insert a sheet of paper that the customer uses mainly (paper weight: 50 to 300 g/m^2), and make sure that "0" is displayed on the panel.

12. Insert one more sheet of paper (total: two sheets) that the customer uses mainly, and make sure that "1" is displayed on the panel.

13. If the detection does not work properly, return to Step 3 and perform the adjustment again and redo the adjustment from Step 3, setting a voltage 1.0 V lower than the previously set one at Step 9.

14. Repeat steps 3 to 12 until the detection functions correctly.

15. Remove the papers and install the removed parts.

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10.7.5 Adjustment when replacing multi feed detection board (PI)

Perform this adjustment when replacing the PI multi feed detection board (MFDB) or the PI drive board (PIDB), as well as when multi feeding is not detected properly for special papers (thin paper, thin coated paper, thick paper, etc.).

Note

- **The multi feed detection board/S and /R are adjusted in the manufacturing process as a pair of upper and lower. Be sure to replace them as a pair.**
- **Be sure to perform the adjustment under normal room temperature (20 to 30 °C) that is similar to the real environment where the machine is operated because the temperature sensor output varies with its surface temperature. (When you bring in a replacement part from a place under a different temperature, leave the part and wait for the sensor surface temperature to reach the room temperature before performing the adjustment.)**

A. Procedure

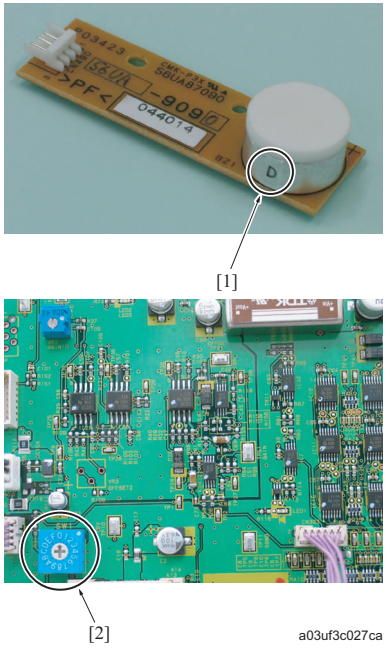
1. Replace the multi feed detection boards /1 and /2.(FD-501 Field Service "(See P.45))

2. Check the alphabets on the multi feed detection boards /1 and /2 [1] (Same alphabet should be printed.), and turn the rotary switch [2] on the PI drive board (PIDB) so that it points to the numbers described in the following chart.

Alphabet	Rotary switch
A	1
B	2
C	3
D	4
E	6
F	7

Note

- **Rotary switch 5 is not used.**



3. Enter the I/O check mode.
4. Enter "70" with the setting buttons. Confirm that "70-00" is displayed in the message display area.
5. Press [Access] key.
6. Enter "82" with the numeric buttons. Confirm that "70-82" is displayed in the message display area.

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7. Open the upper door and the front door of the FD, turn the jam processing knob [1], and insert a sheet of paper [2] (part no. 65AA-991#, fusing adjustment paper, 16 sheets/A3) into between the multi feed detection boards /1 and /2 [3]. (If the paper is unavailable, use 200 to 300 g/m^2 paper).

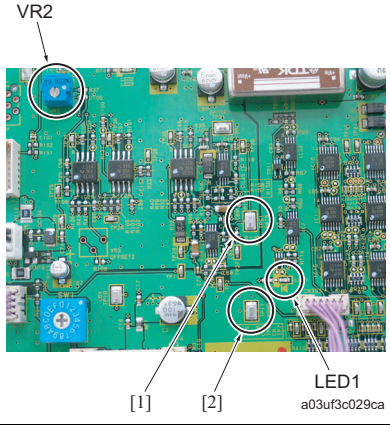
Note

- **Turn the jam processing knob until the paper hits the roller [4], and confirm that the paper is inserted in between the multi feed detection boards /1 and /2.**

8. Press Start button to enter the output check mode, and connect the tester to the following pins on the PIDB.
Positive terminal: Test pin No. TP51 (GAIN) [1]
Negative terminal: Test pin No. TP11 (SGND) [2]
Range: DC 20 V

Note

- **Do not allow the tester pin to touch or connect to metal parts on the board nor irrelevant terminals as the FD is energized. It may cause short-circuit and damage the board.**



9. Turn the PIDB volume (VR2) so that the voltage falls within the standard value.
Standard value: 8.0 ± 0.2 V

10. Press Stop and remove the paper inserted in Step 4.

11. Insert a sheet of paper that the customer uses mainly (paper weight: 50 to 300 g/m^2), and make sure that the LED (LED1) of the PIDB turns on.
LED on: Multi feed not occurred (Number of paper: 0 or 1)
LED off: Multi feed occurred (Number of paper: 2)

12. Insert one more sheet of paper (total: two sheets) that the customer uses mainly, and make sure that the LED turns off.

13. If the detection does not work properly, return to Step 7 and perform the adjustment again. Then, turn the PIDB volume (VR2) so that the voltage becomes 1.0 V lower than that of acquired in Step 9.

14. Repeat steps 10 to 13 until the detection functions correctly.

15. Remove the papers and install the removed parts.

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10.7.6 Storing FD, SD, FS adjustment data into EEPROM

Backup adjustment data of the FD, SD and FS which are adjusted in the field are stored in the non-volatile memory (EEPROM) of the FD control board (FDCB), SD control board (SDCD) and the FNCB (FNS control board). When necessary, it can be recalled with "Installation Initial Data" of "Recall Standard Data" (Finisher Adjustment) in the service mode.

Note

- **Only one data can be backed up. When back up again, data will be overwritten.**
- **The data is stored into the control boards of all the connected optional units; FS, SD and FD. Connect the optional units one-by-one if you want to save the data independently.**

A. Procedure

1.	Enter the I/O check mode.
2.	Enter "90" with the setting buttons. Confirm that "90-00" is displayed in the message display area.
3.	Press Start key.
4.	“NOW” is displayed while backing up, and “FIN” appears when completed. The current finisher adjustment data are saved into the EEPROM.

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10.7.7 Storing main body adjustment data into NVRAM board

Backup adjustment data of the main body which are adjusted in the field are stored in the NVRAM board (NRB), it can be recalled with "Installation Initial Data" of "Recall Standard Data" (Machine adjustment, Process adjustment) in the service mode.

Note

- **Only one data can be backed up. When back up again, data will be overwritten.**

A. Procedure

1.	Enter the I/O check mode.
2.	Enter "91" with the setting buttons. Confirm that "91-00" is displayed in the message display area.
3.	Press Start key.
4.	"NOW" is displayed while backing up, and "FIN" appears when completed. The current machine adjustment data and process adjustment data are saved into the NRB.

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10.7.8 Line memory check on image processing board

Perform this check to see if abnormality has occurred at line memory on the image processing board (IPB) when significant image trouble (irregular image in sub-scanning direction of the specific color) occurred.

A. Procedure

1. Enter the I/O check mode.
2. Enter "98" with the setting buttons. Confirm that "98-00" is displayed in the message display area.
3. Press [Access] key.
4. Enter one of the followings with the numeric buttons. Confirm that “98-##” (## is a multi-code number) is displayed in the message display area. Multi code 04: Image processing board line memory (SDRAM) /Y check Multi code 05: Image processing board line memory (SDRAM) /M check Multi code 06: Image processing board line memory (SDRAM) /C check Multi code 07: Image processing board line memory (SDRAM) /K check
5. Press Start key. During execution:—"NOW" appears. When completed normally—"OK" appears. When completed abnormally—"NG" appears. If "NG" appears, replace the IPB.

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10.7.9 Hard disk check

Perform this operation if you want to check the capacity and remaining capacity of the image memory area on the copier hard disk /K (HDD/K).

A. Procedure

1. Enter the I/O check mode.
2. Enter "99" with the setting buttons. Confirm that "99-00" is displayed in the message display area.
3. Press [Access] key.
4. Enter one of the followings with the numeric buttons. Confirm that “99-##” (## is a multi-code number) is displayed in the message display area. Multi code 01: HDD capacity check (1 color) Multi code 02: HDD remaining capacity check
5. Press Start key. • Capacity check: Displays the capacity of the image memory area on the HDD/K. • Remaining capacity: Displays the remaining space of image memory area on the HDD/K.

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10.7.10 Replacement of the hard disks

Perform this operation if a copier hard disk-related malfunction code (C-D0E0 to D0F0) appears.

A. Procedure

1. Enter the I/O check mode.
2. Enter "99" with the setting buttons. Confirm that "99-00" is displayed in the message display area.
3. Press [Access] key.
4. Enter "03" with the numeric buttons. Confirm that "99-03" is displayed in the message display area.
5. Press Start key. Check and recovery of defective sectors on the hard disk /Y, /M, /C and /K (HDD /Y, /M, /C and /K) are carried out. When completed normally: "OK" appears. When completed abnormally: "NG" appears. When "NG" appears, press [Start] key to run the check and recovery again.
6. If "NG" appears again, replace the defective hard disk(s) following the steps below.
7. Enter "04" with the numeric buttons. Confirm that "99-04" is displayed in the message display area.
8. Press Start key. The result (o: okay, x: no good, -: not HDD) of the HDD check appears in the input check field in the order of Y, M, C and K. Ex) oxox = The HDD/M and /K are defective. Replace the defective HDDs with new ones. **Note** • **If malfunction occur related to HDD under the Security Strengthen Mode, all of the four HDDs must be replaced.** **Replacement steps: Remove the four HDDs → deactivate the Security Strengthen Mode → install the four HDDs.**
9. After replacing the HDD, copy the HDD data. **Note** • **Up to three HDDs can be copied at a time.** • **Data copy takes about one hour at the maximum.**
10. Enter the I/O check mode.
11. Enter "99" with the setting buttons. Confirm that "99-00" is displayed in the message display area.
12. Press [Access] key.
13. Enter "04" with the numeric buttons. Confirm that "99-04" is displayed in the message display area.
14. Press Start. During execution: The "x" displayed in the HDD input check field changes to "N". When completed normally: The "N" displayed in the HDD input check field changes to "o", and "FIN" appears in the output check field.

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10.8 ADF adjustment

Adjust the DF operations; original size detection, original stop position, sensors sensibility, registration loop amount.

10.8.1 ADF Original Size Adj.

Adjust when the DF does not detect an original size correctly.

A. Procedure

1. "Service Mode Menu screen" Press [06 ADF Adjustment].
2. "ADF Adjustment Menu screen" Press [01 ADF Original Size Adj.]
3. "ADF Original Size Adjustment screen" Press [A4] (for metric destination) or [8½ x 11] (for inch destination).
4. Load A4 (for metric destination) or 8½ x 11 (for inch destination) paper on the DF and press [Start].
5. A message "Completed" is displayed.
6. "ADF Original Size Adjustment screen" Press [B6S] (for metric destination) or [5½ x 8½S] (for inch destination).
7. Load B6S (for metric destination) or 5½ x 8½S (for inch destination) paper on the DF and press [Start].
8. A message "Completed" is displayed.
9. "ADF Original Size Adjustment screen" Press [A4S] (for metric destination) or [8½ x 11S] (for inch destination).
10. Load A4S (for metric destination) or 8½ x 11S (for inch destination) paper on the DF and press [Start].
11. After a message "Completed" is displayed, press [COPY].
12. Check if the original size is correctly detected by the DF.

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10.8.2 ADF Orig. Stop Position Adj.

Adjust the image leading edge timing when scanning in DF mode.
This adjusts the scanning start posiiton (in sub scanning direction).

Note

- **Be sure the Restart Timing Adjustment (Printer Adjustment) have been adjusted before performing this adjustment.**
  (See P.239)
- **Be sure the Restart Timing Adjustment (Scanner Adjustment) have been adjusted before performing this adjustment.**
  (See P.253)

A. Procedure

1. "Service Mode Menu screen" Press [06 ADF Adjustment].
2. "ADF Adjustment Menu screen" Press [02 ADF Orig.Stop Position Adj.].
3. "ADF Original Stopper Adjustment screen" Select an item to be adjusted, and press [COPY].
4. "Copy screen" Set the copy settings (original setting and mode) according to the item you selected, load an "Adjustment chart" on the DF, select A3 or 11 X 17 paper, and press the Start key.
5. Check the leading edge timing. Standard value: 0 ± 2.0mm or less
6. When the value is not within the standard value, press [SERVICE].
7. "ADF Original Stopper Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -14 (image faster) to +14 (image slower), 1step = 0.5 mm
8. Repeat steps 5 to 9 until the standard value can be obtained.

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10.8.3 ADF Sensor Adjustment

Conduct this adjustment when a malfunction (JAM display does not disappear despite no paper JAM) occurs in the reflective type sensors.

Preparation

- Clean each of the DF reflective sensors.

A. Procedure

1.	"Service Mode Menu screen" Press [06 ADF Adjustment].
2.	"ADF Adjustment Menu screen" Press [03 ADF Sensor Adjustment].
3.	"ADF Sensor Adjustment screen" Close the DF cover and press [Start]. Completion message appears after the DF sensor sensitivity is automatically adjusted.
4.	Press [Copy] and check if the sensor is operating properly.
5.	If the sensor still malfunctions, press [SERVICE] and repeat steps 3 to 5.

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10.8.4 ADF Registration Loop Adj.

Adjust the original loop amount at the DF registration roller section to correct paper skew and wrinkle, or original jamming in the registration section.

A. Procedure

1. "Service Mode Menu screen" Press [06 ADF Adjustment].
2. "ADF Adjustment Menu screen" Press [04 ADF Registration Loop Adj.].
3. "ADF Regist Loop Adjustment screen" Press [COPY].
4. "Copy screen" Set an "Adjustment chart" in the DF, select A3 or 11 X17 paper, and press the Start key.
5. If the problem is not solved, press [SERVICE].
6. "ADF Regist Loop Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -7 (smaller) to +7 (larger), 1 step = 0.5 mm
7. Repeat steps 3 to 6 until an appropriate value is obtained.

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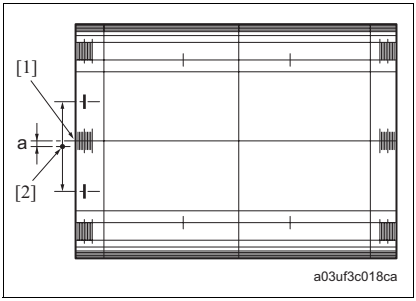
10.9 Finisher Adjustment

10.9.1 Staple Center Position (Stapler Position Adj.)

Adjust the staple position of the main scanning direction made by the FS-503.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [01 Stapler Position Adj.].
3. "Staple Finisher Adjustment Menu screen" Press [01 Staple Center Position].
4. "Staple Center Position Adjustment screen" Press [COPY].
5. Select A3 or 11 X 17 paper and press Start key to output the test pattern (No. 16).
6. Fold the output page in half in main-scanning direction, and measure the gap "a" between the center line of the print and the staple center. Standard value: "a" = ± 3 mm  [1] Paper center [2] Staple center
7. When the value is not within the standard value, press [SERVICE].
8. "Staple Center Position Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (in front) to +20 (in back), 1 step = 0.1mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.9.2 Paper Width (staple) (Stapler Position Adjustment)

Adjust an uneven binding (main scanning direction) in a bundle of paper in staple mode by the FS-503.
This adjustment adjusts the position of the alignment plate while in alignment.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [01 Stapler Position Adj.].
3. "Staple Finisher Adjustment Menu screen" Press [02 Paper Width (staple)].
4. "Paper Width Adjustment (staple) screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Open the front door of the FS and pull out the stacker. **Note** • **If the length of the paper is longer than 239 mm in sub-scanning direction, the paper edge will hanging out of the stacker. In that case, remove the paper through the paper opening section before pulling out the stacker, and reload the paper in the stacker.**
8. Measure the gap between the paper in the stacker and the alignment plate. Standard value: 0 ± 0.5mm
9. When the value is not within the standard value, press [SERVICE].
10. "Paper Width Adjustment (staple) screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (wider) to +20 (narrower), 1 step = 0.1 mm
11. Repeat steps 5 to 10 until the standard value can be obtained.

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10.9.3 Paper Width (straight) (Stapler Position Adj.)

Adjust an uneven paper stack (main scanning direction) on the main tray in non-sort and sort mode by the FS-503.

This adjustment adjusts the position of the alignment plate while in alignment.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [01 Stapler Position Adj.].
3. "Staple Finisher Adjustment Menu screen" Press [03 Paper Width (straight)].
4. "Paper Width Adjustment (straight) screen" Press [▼] or [▲] o select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Open the front door of the FS and pull out the stacker. **Note** • **If the length of the paper is longer than 239 mm in sub-scanning direction, the paper edge will hanging out of the stacker. In that case, remove the paper through the paper opening section before pulling out the stacker, and reload the paper in the stacker.**
8. Measure the gap between the paper in the stacker and the alignment plate. Standard value: 0.1 to 1 mm
9. When the value is not within the standard value, press [SERVICE].
10. "Paper Width Adjustment (straight) screen" Enter the adjustment value with the setting buttons and press [<<SET]. Setting range: -20 (wider) to +20 (narrower), 1 step = 0.1 mm
11. Repeat steps 5 to 10 until the standard value can be obtained.
12. To continue the adjustment for other sizes of paper, repeat steps from 4 to 11.

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10.9.4 Paper Width Adjustment (Multi Folder (Punch) Adj.)

Adjust the position of the punch holes made by the FD in main scanning direction.
This adjustment adjusts the position of the alignment plate while in alignment.

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [02 Multi Folder (Punch) Adj.].
3. "Multi Folder (Punch) Adjustment Menu screen"
   Press [01 Paper Width Adjustment].
4. "Paper Width adjustment screen"
   Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted, set the 10 sets of copies and press the Start key to output a test pattern (No. 16).
7. Align the edges of the 10 sheets of the exited paper, and measure the diameter of the holes punched through them.

Number of holes	Standard value (mm)
2 & 4 holes	ϕ 5.0 or more
3 holes	ϕ 6.5 or more

8. When the value is not within the standard value, press [SERVICE].
9. "Paper Width adjustment screen"
   When the value is not within the standard value, press [SERVICE].
   Setting range: -20 (narrower) to +20 (wider), 1 step = 0.1 mm

Note

- **If the alignment plate is wider than an appropriate position, the punch centering is displaced, and when too narrow, the punch holes are apt to disperse. On the other hand, the punch holes may be misaligned if the alignment plate is positioned too narrow.**

10. Repeat steps 5 to 9 until the standard value can be obtained.
11. To continue the adjustment for other sizes of paper, repeat steps from 4 to 10.

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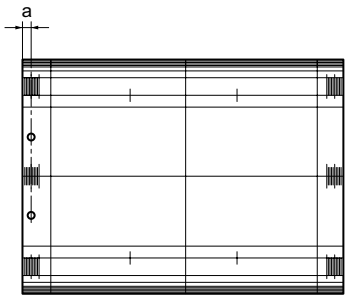
10.9.5 Hole-Punch Vertical Pos. (Multi Folder (Punch) Adj.)

Adjust the position of the punch holes made by the FD in main scanning direction.

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [02 Multi Folder (Punch) Adj.].
3. "Multi Folder (Punch) Adjustment Menu screen"
   Press [02 Hole-Punch Vertical Pos.].
4. "Punch hole select Menu screen"
   Select [01 2-Hole Punch] , [02 3-Hole Punch] or [02 4-Hole Punch].
5. "Punch Vertical Position Adjustment screen"
   Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the distance "a" from the leading edge to the center of the punch holes.

Number of holes	Standard value "a" (mm)
2 & 4 holes	10.5 ± 4.0
3 holes	9.5 ± 4



fs503fs3013c

8. When the value is not within the standard value, press [SERVICE].
9. "Punch Vertical Position Adjustment screen"
   Press [▼] or [▲] o select the paper size you want to adjust.
10. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -40 (wider) to +40 (narrower), 1 step = 0.1 mm
11. Repeat steps 5 to 10 until the standard value can be obtained.
12. To continue the adjustment for other sizes of paper or the other number of holes, repeat steps from 4 to 11.

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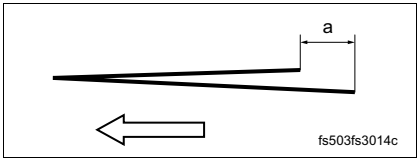
10.9.6 Half Fold Position Adj. (Multi Folder (Fold) Adj.)

Adjust the fold position on the half fold mode by the FD.
This adjustment changes the paper stop position when folding papers.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [03 Multi Folder (Fold) Adj.].
3. "Multi Folder (Fold) Adjustment Menu screen" Press [01 Half Fold Position Adj.].
4. "Half Fold Position Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the misalignment "a" on the edge of the outputted paper. Standard value "a": = ± 1.5 mm 
8. When the value is not within the standard value, press [SERVICE].
9. "Half Fold Position Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -50 to +50, 1 step = 0.1 mm • In the case of the mis-alignment given in the step 7, enter a set value on the positive side.
10. Repeat steps 5 to 9 until the standard value can be obtained.
11. To continue the adjustment for other sizes of paper, repeat steps from 4 to 10.

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10.9.7 Tri-Fold-in Pos. Adj. (Multi Folder (Fold) Adj.)

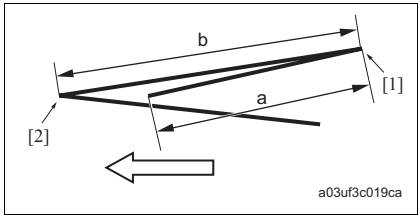
Adjust the fold positions on the tri-fold-in mode by the FD.

This adjustment changes the paper stop position when folding papers.

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [03 Multi Folder (Fold) Adj.].
3. "Multi Folder (Fold) Adjustment Menu screen"
   Press [02 Tri-Fold-in Pos. Adj.].
4. "Tri-Fold-in Position Adjustment screen"
   Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the length of the two places indicated with "a" and "b."

Paper size	Standard value (mm)	
	a ± 1.5	b ± 1.5
A3	139.0	142.0
B4	120.3	123.3
A4S	98.0	101.0
12 x 18	151.4	154.4
11 x 17	142.9	145.9
8½ x 14	117.5	120.5
8½ x 11S	92.1	95.1
8K	129.0	132.0



[1] Single fold [2] Double fold

8. When the value is not within the standard value, press [SERVICE].
9. "Tri-Fold-in Position Adjustment screen"
   Press [Single Fold].
10. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -50 to +50, 1 step = 0.1 mm
    - The dimension "a" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.
11. Press [Double Fold].
12. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -50 to +50, 1 step = 0.1 mm
    - The dimension "b" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.
13. Repeat steps 5 to 12 until the standard value can be obtained.
14. To continue the adjustment for other sizes of paper, repeat steps from 4 to 13.

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10.9.8 Tri-Fold-out Pos. adj. (Multi Folder (Fold) Adjustment)

Adjusts the fold positions on the tri-fold-out mode by the FD.
This adjustment changes the paper stop position when folding papers.

A. Procedure

1. "Service Mode Menu screen"
Press [07 Finisher Adjustment].

2. "Finisher Adjustment Menu screen"
Press [03 Multi Folder (Fold) Adj.].

3. "Multi Folder (Fold) Adjustment Menu screen"
Press [03 Tri-Fold-out Pos. Adj.].

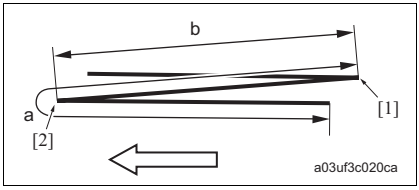
4. "Tri-Fold-out Position Adjustment screen"
Press [▼] or [▲] to select the paper size you want to adjust.

5. Press [COPY].

6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).

7. Check the length of the two places indicated with "a" and "b".

Paper size	Standard value (mm)	
	a ± 1.5	b ± 1.5
A3	282.0	144.0
B4	243.7	123.3
A4S	199.0	101.0
12 x 18	306.8	156.4
11 x 17	289.9	147.9
8½ x 14	238.1	120.5
8½ x 11S	187.3	95.1
8K	262.0	134.0



[1] Single fold [2] Double fold

8. When the value is not within the standard value, press [SERVICE].

9. "Tri-Fold-out Position Adjustment screen"
Press [Single Fold].

10. Enter a value through the numeric buttons and press [<<SET].
Setting range: -50 to +50, 1 step = 0.1 mm
- The dimension "a" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.

11. Press [Double Fold].

12. Enter a value through the numeric buttons and press [<<SET].
Setting range: -50 to +50, 1 step = 0.1 mm
- The dimension "b" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.

13. Repeat steps 5 to 12 until the standard value can be obtained.

14. To continue the adjustment for other sizes of paper, repeat steps from 4 to 13.

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10.9.9 Double Parallel Folds Pos. Adj. (Multi Folder (Fold) Adj.)

Adjust the fold positions on the double parallel mode by the FD.
This adjustment changes the paper stop position when folding papers.

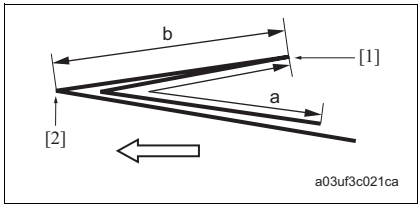
Note

- **When adjusting both the single and the double folds, be sure to adjust the single fold first.**

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [03 Multi Folder (Fold) Adj.].
3. "Multi Folder (Fold) Adjustment Menu screen"
   Press [04 Double Parallel Pos. Adj.].
4. "Double Parallel Position Adjustment screen"
   Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the length of the two places indicated with "a" and "b".

Paper size	Standard value (mm)	
	a ± 1.5	b ± 1.5
A3	208.5	103.8
B4	180.5	89.8
A4S	147.0	73.0
12 x 18	227.1	113.1
11 x 17	214.4	106.7
8½ x 14	176.3	87.7
8½ x 11S	138.2	68.6
8K	193.5	96.3



[1] Single fold [2] Double fold

8. When the value is not within the standard value, press [SERVICE].
9. "Double Parallel Position Adjustment screen"
   Press [Single Fold].
10. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -50 to +50, 1 step = 0.1 mm
    - The dimension "a" in the step 6 gets larger the set value is moved to the positive side and gets smaller when moved to the negative side.
11. Press [Double Fold].
12. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -50 to +50, 1 step = 0.1 mm
    - The dimension "b" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.
13. Repeat steps 4 to 12 until the standard value can be obtained.
14. To continue the adjustment for other sizes of paper, repeat steps from 4 to 13.

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10.9.10 Z-Fold Position Adj. (Multi Folder (Fold) Adj.)

Adjust the fold positions on the z-fold mode by the FD.
This adjustment changes the paper stop position when folding papers.

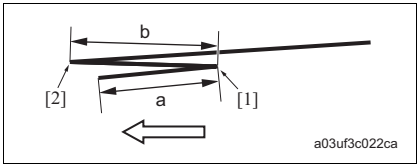
Note

- **When adjusting both the single and the double folds, be sure to adjust the first fold first.**

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [03 Multi Folder (Fold) Adj.].
3. "Multi Folder (Fold) Adjustment Menu screen"
   Press [05 Z-Fold Position Adj.].
4. "Z-Fold Position Adjustment screen"
   Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the length of the two places indicated with "a" and "b."

Paper size	Standard value (mm)	
	a ± 1.5	b ± 1.5
A3	105.5	108.5
B4	91.5	94.5
A4S	74.8	77.8
12 x 18	114.8	117.8
11 x 17	108.5	111.5
8½ x 14	94.0	—
8½ x 14	70.4	73.4
8K	98.0	101.0



[1] Single fold [2] Double fold

8. When the value is not within the standard value, press [SERVICE].
9. "Double Parallel Position Adjustment screen"
   Press [Single Fold].
10. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -50 to +50, 1 step = 0.1 mm
    - The dimension "a" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.
11. Press [Double Fold].
12. Enter a value through the numeric buttons and press [<<SET].
    Setting range: -50 to +50, 1 step = 0.1 mm
    - The dimension "b" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.
13. Repeat steps 5 to 12 until the standard value can be obtained.
14. To continue the adjustment for other sizes of paper, repeat steps from 4 to 13.

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10.9.11 Gate Fold Position Adj. (Multi Folder (Fold) Adj.)

Adjusts the fold position on the gate fold mode by the FD.
This adjustment changes the paper stop position when folding papers.

Note

- **When adjusting the single, the double, and the triple folds, be sure to perform the adjustment in the order of first, second, and third.**

A. Procedure

1. "Service Mode Menu screen"
Press [07 Finisher Adjustment].

2. "Finisher Adjustment Menu screen"
Press [03 Multi Folder (Fold) Adj.].

3. "Multi Folder (Fold) Adjustment Menu screen"
Press [06 Gate Fold Position Adj.].

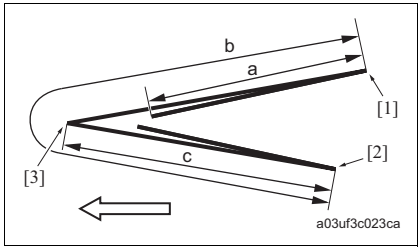
4. "Gate Fold Position Adjustment screen"
Press [▼] or [▲] to select the paper size you want to adjust.

5. Press [COPY].

6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).

7. Check the length of the two places indicated with "a", "b" and "c".

Paper size	Standard value (mm)		
	a ± 1.5	b ± 1.5	c ± 1.5
A3	103.5	213.0	106.5
B4	89.5	185.0	92.5
A4S	72.8	15	75.8
12 x 18	112.8	231.6	115.8
11x 17	106.5	218.9	109.5
8½ x 14	87.4	180.8	90.4
8½ x 11S	68.4	142.7	71.4
8K	96.0	198.0	99.0



[1] Single fold
[2] Double fold
[3] Triple fold

8. When the value is not within the standard value, press [SERVICE].

9. "Gate Fold Position Adjustment screen"
Press [Single Fold].

10. Enter a value through the numeric buttons and press [<<SET].
Setting range: -50 to +50, 1 step = 0.1 mm
- The dimension "a" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.

11. Press [Double Fold].

12. Enter a value through the numeric buttons and press [<<SET].
Setting range: -50 to +50, 1 step = 0.1 mm
- The dimension "b" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.

13. Press [Triple Fold].

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14. Enter a value through the numeric buttons and press [<<SET]. Setting range: -50 to +50, 1 step = 0.1 mm • The dimension "c" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.
15. Repeat steps 5 to 14 until the standard value can be obtained.
16. To continue the adjustment for other sizes of paper, repeat steps from 4 to 15.

10.9.12 Fold Regist Loop Adj. (Multi Folder (Fold) Adj.)

Adjust paper loop amount at the FD registration roller to correct paper skew, wrinkle, or paper jam at the roller.

A. Procedure

1. "Service Mode Menu" screen Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu" screen Press [03 Multi Folder (Fold) Adj.].
3. "Multi Folder (Fold) Adjustment Menu" screen Press [07 Fold Regist Loop Adj.].
4. "Fold Resist Loop Adjustment" screen Press [COPY].
5. Select A3 or 11 X 17 paper and press Start key to output the test pattern (No.16).
6. If the problem is not solved, press [SERVICE].
7. "Fold Resist Loop Adjustment" screen Enter a value through the numeric buttons and press [<<SET]. Setting range: -50 (smaller) to +50 (larger), 1 step = 0.1mm
8. Repeat steps 4 to 7 until an appropriate value is obtained.

10.9.13 Multi Folder (PI) Adj.

Do not conduct this adjustment in the field.

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10.9.14 Stacker Adjustment

Ajust the various adjustments concerning the LS.

(1) Paper Width Adjustment

Adjust an uneven paper stack (main scanning direction) on the stacker tray.
This adjustment adjusts the position of the alignment plate while in alignment.

a. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [05 Stacker Adjustment].
3. "Stacker Adjustment Menu screen" Press [01 Paper Width Adjustment].
4. "Paper Width Adjustment screen" Press [COPY].
5. Select A3 or 11 X 17 paper and press Start key to output the test pattern (No.16).
6. If the paper edges are not aligned, press [SERVICE].
7. Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (narrower) to +20 (wider), 1 step = 0.1 mm
8. Repeat steps 4 to 7 until an appropriate value is obtained.

(2) Paper Length Adjustment

Adjust an uneven paper stack (sub- scanning direction) on the stacker tray.
This adjustment adjusts the position of the leading edge stopper while in alignment.

a. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [05 Stacker Adjustment].
3. "Stacker Adjustment Menu screen" Press [02 Paper Length Adjustment].
4. "Paper Length Adjustment screen" Press [COPY].
5. Select A3 or 11 X 17 paper and press Start key to output the test pattern (No.16).
6. If the paper edges are not aligned, press [SERVICE].
7. Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (narrower) to +20 (wider), 1 step = 0.1 mm
8. Repeat steps 4 to 7 until an appropriate value is obtained.

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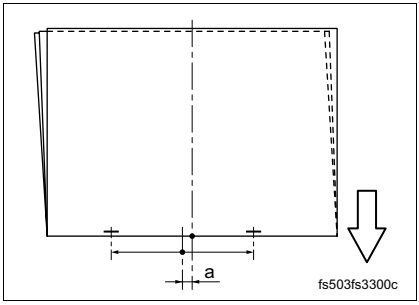
10.9.15 Staple Center Adj. (Saddle Stitcher Adj.)

Adjust the center position of the staple on the saddle stitching mode by the SD.
This adjustment changes the position of the alignment plate while in alignment.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3. "Saddle Stitcher Adjustment Menu screen" Press [01 Staple Center Adj.].
4. "Staple Center Position Adjustment screen" Press [COPY].
5. Select A3 or 11 X 17 paper and press Start key to output the test pattern (No.16).
6. Fold the output page in half in main scanning direction, and measure the gap "a" between the center line of the print. Standard value "a": = ± 2mm 
7. If the value is out of spec, press [SERVICE].
8. "Staple Center Position Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (right) to +20 (left), 1 step = 0.1mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

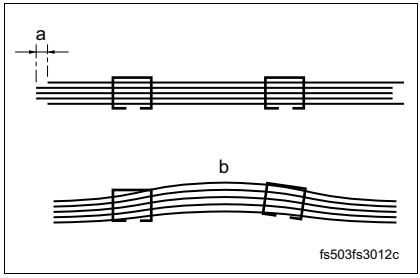
10.9.16 Staple Paper Width Adj. (Saddle Stitcher Adj.)

Adjust an uneven binding (main scanning direction) in a bundle of paper in saddle stitch mode by the SD.
This adjustment adjusts the position of the saddle stitching alignment plate while in alignment.

Note

- **Be sure the folding skew adjustment (mechanical adjustment) have been adjusted before performing this adjustment.**

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3. "Saddle Stitcher Adjustment Menu screen" Press [02 Staple Paper Width Adj.].
4. "Staple Paper Width Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the bundle of papers is misaligned (a: a misalignment occurs when the paper width setting is larger than the paper width) and if the bundle is curved (b: the curve occurs when the paper width setting is smaller than the paper width). Standard value "a": 1.0mm or less 
8. When the value is not within the standard value, press [SERVICE].
9. "Staple Paper Width Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (narrower) to +20 (wider), 1 step = 0.1 mm
10. Repeat steps 5 to 9 until the standard value can be obtained.
11. To continue the adjustment for other sizes of paper, repeat steps from 4 to10.

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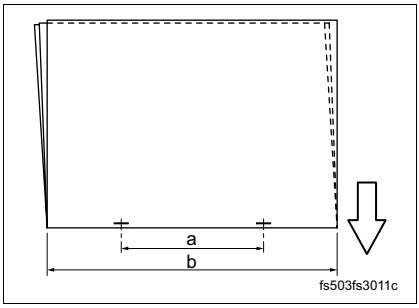
10.9.17 Staple Pitch Adjustment (Saddle Stitcher Adj.)

Adjust the staple intervals for the saddle stitch mode by the SD.

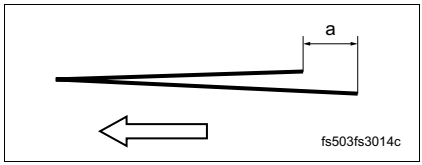
A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3. "Saddle Stitcher Adjustment Menu screen" Press [03 Staple Pitch Adjustment].
4. "Staple Pitch Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the interval "a" between the staples against the paper size "b." Standard value: a = (b/2) ± 2 mm 
8. When the value is not within the standard value, press [SERVICE].
9. "Staple Pitch Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (narrower) to +20 (wider), 1 step = 0.1 mm • Setting range is restricted by the paper size. Minimum value is determined based on the stapler movable range and the maximum value is determined so that the saddle stitching alignment plate and stapler do not interfere with each other. B5S: Setting is not possible (fixed to 91 mm) B4: -20 to +20 mm (108.5 to 148.5 mm) A4S: -14 to +14 mm (91 to 119 mm) A3: -20 to +16.5 mm (128.5 to 165 mm) 8½ x 14, 8½ x 11S: -16.95 to +16.95 mm (91 to 124.9 mm) 11 x 17, 8½ x 11: -20 to +20 mm (119.7 to 159.7 mm)
10. Repeat steps 5 to 9 until the standard value can be obtained.
11. To continue the adjustment for other sizes of paper, repeat steps from 4 to10.

10.9.18 Half Fold Position Adj. (Saddle Stitcher Adj.)

Adjust the fold position on the multi half fold mode by the SD.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3. "Saddle Stitcher Adjustment Menu screen" Press [04 Half Fold Position Adj.].
4. "Half Fold Position Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the misalignment "a" on the edge of the outputted paper. Standard value "a": 1.5 mm or less 
8. When the value is not within the standard value, press [SERVICE].
9. "Half Fold Position Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -50 to +50, 1 step = 0.1 mm • In the case of the mis-alignment given in the step 7, enter a set value on the positive side.
10. Repeat steps 5 to 9 until the standard value can be obtained.
11. To continue the adjustment for other sizes of paper, repeat steps from 4 to 10.

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10.9.19 Tri-Fold Position Adj. (Saddle Stitcher Adj.)

Adjust the fold positions on the multi tri-fold-in mode by SD.

Note

- **When adjusting both the single and the double folds, be sure to adjust the double fold first.**
- **The position of the single fold is based on the leading edge of paper and the position of the double fold is based on the position of the single fold. So, the dimension "b" in the step 6 varies when either position of the single fold and the double fold is changed.**

A. Procedure

1. "Service Mode Menu screen"
Press [07 Finisher Adjustment].

2. "Finisher Adjustment Menu screen"
Press [06 Saddle Stitcher Adj.].

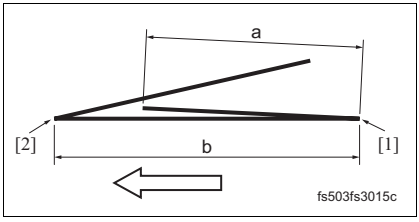
3. "Saddle Stitcher Adjustment Menu screen"
Press [05 Tri-Fold Position Adj.].

4. "Tri-Fold Position Adjustment screen"
Press [COPY].

5. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).

6. Check the length of the two places indicated with "a" and "b".

Paper size	Standard value (mm)	
	a ± 2.0	b ± 2.0
A4S	97.5	102.0
8½ x 11S	91.6	96.1



[1] Single fold [2] Double fold

7. When the value is not within the standard value, press [SERVICE].

8. "Tri-Fold Position Adjustment screen"
Select the paper size you want to adjust.

9. Press [Double Fold]. (the second fold)

10. Enter a value through the numeric buttons and press [<<SET].
Setting range: -50 to +50, 1 step = 0.1 mm
- The dimension "a" in the step 6 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.

11. Press [Single Fold]. (the first fold)

12. Enter a value through the numeric buttons and press [<<SET].
Setting range: -50 to +50, 1 step = 0.1 mm
- The dimension "b" in the step 7 gets larger when the set value is moved to the positive side and gets smaller when moved to the negative side.

13. Repeat steps 4 to 12 until the standard value can be obtained.

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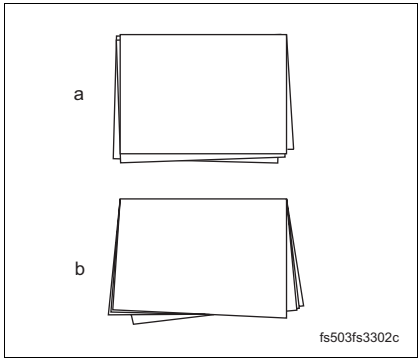
10.9.20 Fold Paper Width Adj. (Saddle Stitcher Adj.)

Adjust an uneven edge with the bundle paper at the multi half folding or multi tri-folding mode, conduct this adjustment.

This adjustment changes the alignment width when aligning in sub-scanning direction.

A. Procedure

1.	"Service Mode Menu screen" Press [07 Finisher Adjustment].
2.	"Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3.	"Saddle Stitcher Adjustment Menu screen" Press [06 Fold Paper Width Adj.].
4.	"Fold Paper Width Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5.	Press [COPY].
6.	Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7.	Check to if the bundle of papers is misaligned. a: If the set value is wider than the paper width, fold line skewed various direction. b: If the set value is narrower than the paper width, fold line skewed same direction. 
8.	When the value is not within the standard value, press [SERVICE].
9.	"Fold Paper Width Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -50 (narrower) to +50 (wider), 1 step = 0.1 mm
10.	Repeat steps 5 to 9 until the standard value can be obtained.
11.	To continue the adjustment for other sizes of paper, repeat steps from 4 to 10.

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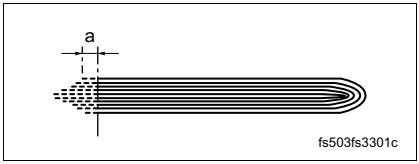
10.9.21 Trimming Adjustment (Saddle Stitcher Adj.)

When there is misalignment in the trimmed fore-edge or the trimming is too much by the SD, conduct this adjustment.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3. "Saddle Stitcher Adjustment Menu screen" Press [07 Trimming Adjustment].
4. "Trimming Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
7. Check the trimmed length "a" of the cover paper. Standard value "a" : 2 mm or more **Note** **• When the trimmed length less than 2mm may cause trimming fault.** 
8. When the value is not within the standard value, press [SERVICE].
9. "Trimming Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -400 (smaller) to +400 (larger), 1 step = 0.1mm
10. Repeat steps 5 to 9 until the standard value can be obtained.
11. To continue the adjustment for other sizes of paper, repeat steps from 4 to 10.

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10.9.22 Trimmer Receiver Adj. (Saddle Stitcher Adj.)

Perform this adjustment when poor trimming (e.g. fluff on the cut end) occurs at the trimming by the SD. This adjustment changes the shift interval and the move pitch of the trimmer board.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Saddle Stitcher Adj.].
3. "Saddle Stitcher Adjustment Menu screen" Press [08 Trimmer Receiver Adj.].
4. "Trimmer Receiver Adjustment screen" Select the options for "Trimmer Count" (number of cuts counted until the trimmer board moves) and "Move Pitch" (travel distance of the trimmer board when it moves).
5. Press [Execute Compulsive Movement] to move the trimmer board manually.

10.9.23 Curl Reform Direction (RU Adjustment)

Perform this adjustment if paper jam or other problems occur when feeding curled papers.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [07 RU Adjustment].
3. "RU Adjustment Menu screen" Press [01 Curl Reform Direction].
4. "Curl Reform Direction screen" Select the option from [OFF], [Upper], or [Lower]. **Note** • **[Upper]: Corrects the convex curl.** • **[Lower]: Corrects the concave curl.** • **[Off]: Deactivates curl correction.** • **Select [Upper] or [Lower] to correct paper curl at all times.**

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10.9.24 Recall Standard Data (Finisher Adjustment)

Restore the finisher adjustment set values to factory initial data or installation initial data.

Note

- **Adjustment data of "Stacker Adjustment (LS)", "Trimmer Receiver Adj. (SD)", "Curl Reform Direction (RU)", "Paper Edge Detect Sensor Adj. (PK)", and "Paper Inserter Tray Size Adj. (PI)" are not restored.**

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [08 Recall Standard Data].
3. "Recall Standard Data screen" Press [Factory Initial Data] or [Installation Initial Data]. **Note** • **Selecting [Factory Default Data] restores various set values to factory initial data.** • **Selecting [Installation Initial Data] restores to the adjustment values stored when I/O check mode (code "90-00") was conducted.**

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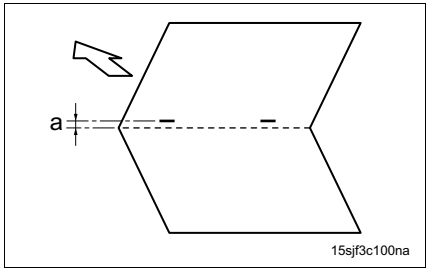
10.9.25 Saddle Stitcher Stopper Adj.

Adjust the staple position in the sub scan direction while in the saddle stitching by the FS-607.
This adjustment changes the position of the saddle stitching stopper.

Note

- **Be sure the " Half Fold Stopper Adj. " have been adjusted before performing this adjustment.**

A. Procedure

1.	"Service Mode Menu screen" Press [07 Finisher Adjustment].
2.	"Finisher Adjustment Menu screen" Press [01 Saddle Stitcher Stopper Adj.].
3.	"Fold & Staple Stopper Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
4.	Press [COPY].
5.	Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
6.	Check the saddle stitching staple position of the outputted paper. Standard value "a": ± 1 mm 
7.	When the value is not within the standard value, press [SERVICE].
8.	"Fold & Staple Stopper Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -128 (lower) to +127 (upper), 1 step = 0.1 mm
9.	Repeat steps 4 to 8 until the standard value can be obtained.

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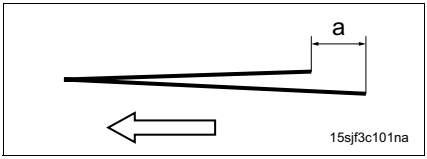
10.9.26 Half Fold Stopper Adj.

Adjust the folding position while in the multi center folding and saddle stitching by the FS-607.
This adjustment changes the position of the saddle stitching stopper.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [02 Half Fold Stopper Adj.].
3. "Half Fold Stopper Adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
4. Press [COPY].
5. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
6. Check the misalignment "a" on the edge of the outputted paper. Standard value "a": ± 1 mm 
7. When the value is not within the standard value, press [SERVICE].
8. "Half Fold Stopper Adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -128 to +127, 1 step = 0.1 mm • In the case of the misalignment given in the step 6, enter a set value to the negative side.
9. Repeat steps 4 to 8 until the standard value can be obtained.

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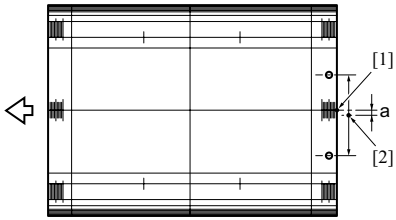
10.9.27 Vertical Position Adj. (Punch Adjustment)

Adjust the punch position of the punch kit (PK) in the main scan direction.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [03 Punch Adjustment].
3. "Punch Adjustment Menu screen" Press [01 Vertical Position Adj.].
4. "Vertical position adjustment screen" Press [▼] or [▲] to select the paper size you want to adjust.
5. Press [COPY].
6. Select the paper size according to the item you want to adjusted, set the 10 sets of copies and press the Start key to output a test pattern (No. 16).
7. Fold the output paper in half in the main scan direction, and measure the gap "a" between the center line of the print and the center of the punch hole. Standard value "a": ± 1 mm  [1] Center of the paper [2] Center of the punch hole
8. When the value is not within the standard value, press [SERVICE].
9. "Vertical position adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -50 (in front) to +50 (in back), 1 step = 0.1 mm
10. Repeat steps 5 to 9 until the standard value can be obtained.

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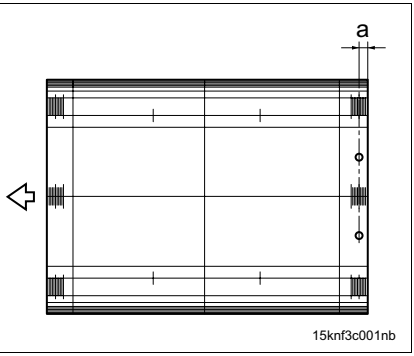
10.9.28 Horizontal Position Adj. (Punch Adjustment)

Adjust the punch position of the punch kit (PK) in the sub scan direction.

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [03 Punch Adjustment].
3. "Punch Adjustment Menu screen"
   Press [02 Horizontal Position Adj.].
4. "Horizontal position adjustment screen"
   Select [PI tray] or [Main tray], and press [COPY].
5. Set paper in the tray or PI, and press Start to print the test pattern (No. 16).
6. Check the punch position "a" of the output paper in the sub scan direction.

Paper size	Standard value "a" (mm)
metric area	10.5 ± 5.0
inch area	9.5 ± 5.0



7. When the value is not within the standard value, press the [Service].
8. "Horizontal position adjustment screen"
   Enter a value through the numeric buttons and press [<<SET].
   Setting range: -50 (shorter) to +50 (longer), 1 step = 0.1 mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.9.29 Registration Adjustment (Punch Adjustment)

Adjust the registration loop amount of the punch kit (PK) while in the punch to remove punch skew, paper wrinkles, or a jam at the punch registration section.

A. Procedure

1.	"Service Mode Menu screen" Press [07 Finisher Adjustment].
2.	"Finisher Adjustment Menu screen" Press [03 Punch Adjustment].
3.	"Punch Adjustment Menu screen" Press [03 Registration Adjustment].
4.	"Registration adjustment screen" Select the item you want to adjust, and press [COPY].
5.	Set paper in the tray or PI, and press Start to print the test pattern (No. 16).
6.	If the problem is not solved, press [SERVICE].
7.	"Registration adjustment screen" Enter a value through the numeric buttons and press [<<SET]. Setting range: -20 (larger) to +20 (smaller), 1 step = 0.8 mm
8.	Repeat steps 4 to 7 until an appropriate value is obtained.

10.9.30 Paper Edge Detect Sensor Adj. (Punch Adjustment)

Adjust the sensitivity of the sensor after replacing the punch drive board (PKDB) or the paper edge detect sensor board (PESB) of PK.

A. Procedure

1.	"Service Mode Menu screen" Press [07 Finisher Adjustment].
2.	"Finisher Adjustment Menu screen" Press [03 Punch Adjustment].
3.	"Punch Adjustment Menu screen" Press [04 Paper Edge Detect Sensor Adj.].
4.	"Paper Edge Detect Sensor Adjustment screen" Press [Start].
5.	A message "Completed" is displayed when the adjustment is finished successfully.

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10.9.31 Tri-Fold Adjustment

Adjust the 1st folding position of the multi tri-folding mode by the FS-607.

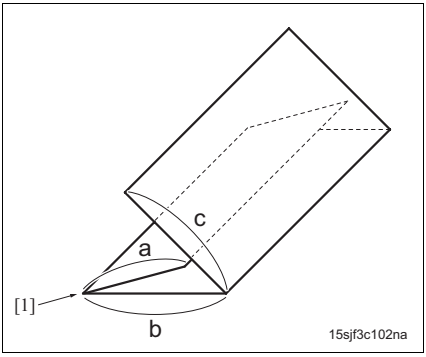
Note

- **The 2nd folding position (dimension "b") is mechanically adjusted. (See "4.12 Adjusting the tri-folding position" in FS-607 Field service.)**

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [04 Tri-Fold Adjustment].
3. "Tri-Fold Adjustment screen"
   Select the paper size you want to adjust, and press [COPY].
4. Select the paper size according to the item you want to adjusted and press the Start key to output a test pattern (No. 16).
5. Check "a" on the outputted paper.

Paper size	Standard value (mm)		
	a	b	c
A4S	95 ± 2	101 ± 2	101 ± 2
8½ x 11S	89 ± 2	95 ± 2	95 ± 2



[1] First fold

6. When the value is not within the standard value, press the [Service].
7. "Tri-Fold Adjustment screen"
   Enter a value through the numeric buttons and press [<<SET].
   Setting range: -128 (larger) to +127 (smaller), 1 step = 0.1 mm
8. Repeat steps 3 to 7 until the standard value can be obtained.

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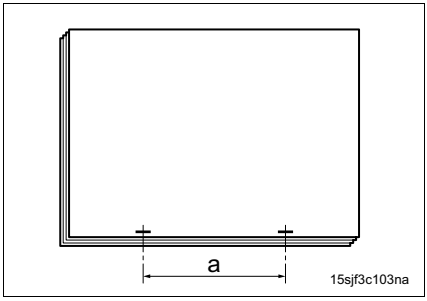
10.9.32 2 Pos. Staple Pitch Adj.

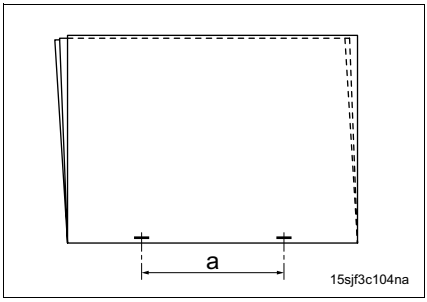
Adjust the staple intervals for the staple or saddle stitch mode by the FS-607.

A. Procedure

1. "Service Mode Menu screen"
   Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen"
   Press [05 2 Pos. Staple Pitch Adj.].
3. "2 Position Staple Pitch Adjustment screen"
   Press [Fold & Staple] or [Staple].
4. Press [COPY].
5. Select A3 or 11 X 17 paper and press Start key to output the test pattern (No.16).
6. Press Start to print the test pattern (No. 16).
   Standard value "a": 128 ± 6 mm



[1]



[2]

[1] Staple
[2] Fold & Staple

7. When the value is not within the standard value, press [SERVICE].
8. "2 Position Staple Pitch Adjustment screen"
   Enter a value through the numeric buttons and press [<<SET].
   Setting range: +128 (narrower) to +160 (wider), 1 step = 1 mm
9. Repeat steps 4 to 8 until the standard value can be obtained.

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10.9.33 Paper Inserter Tray Size Adj.

This adjustment should be performed when the paper size is not correctly detected at the cover sheet tray of the PI.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [06 Paper Inserter Tray Size Adj].
3. "PI1/PI2 Tray Size Adjustment screen" Press [Next] or [Previous] and select the upper or lower tray, and press [A4S] or [8.5 x 11S].
4. Load A4S paper in the selected tray of PI and press [Start]. (When you selected [8.5 x 11S] in step 3, load 8½ x 11S paper in the tray.)
5. A message "Completed" is displayed.
6. When another tray needs to be adjusted, repeat steps 3 to 5.
7. Exit out of the service mode, and check if paper size set in the PI is correctly detected.

10.9.34 Output quantity limit

Set the maximum number of sheets for stapling, saddle stitching, multi half fold, and multi tri-fold of the FS-607. Change the max. setting when the staples are buckled or paper folded is not enough.

A. Procedure

1. "Service Mode Menu screen" Press [07 Finisher Adjustment].
2. "Finisher Adjustment Menu screen" Press [07 Output quantity limit].
3. "Finisher Output Limit Setting screen" Enter the maximum number of sheets for each item with the numeric buttons and press [<<SET].

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10.10 Firmware version

Display the firmware version of the main body and options.

Note

- **The [Image control] that is displayed on the screen represents the firmware version of the overall control board (OACB).**

A. Procedure

1. "Service Mode Menu screen" Press [08 Firmware Version].
2. "Firmware Version Menu screen" Press [01 ROM Version].
3. "ROM Version Indication screen" Each firmware version is displayed.

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10.11 CS Remote Care

10.11.1 Outline

The CS Remote Care is a system that manages the main body by sending and receiving various kinds of the management data of the main body between the main body and the CS Remote Care center computer through the phone line or E-mail.

It enables the main body to call the center computer, and the center computer to inquire regularly the main body for various data.

The data handled by the CS Remote Care can be classified into the 3 following groups.

a. Data that allow you to grasp the use conditions of the main body, such as the total count and the maintenance count.

b. Data that give us the general information of when and how often an abnormality occurred with the main body.

c. All sorts of adjustment data

Note

- **When Security Strengthen Set is set to ON, the use of the main body NIC is not allowed.**

10.11.2 Setup procedure of the CS Remote Care

When using the E-mail CS Remote Care together with the mail remote communication system, it is necessary to take note of the mail account and the DIPS setting. For particulars, see "10.11.3 List of combinations of E-Mail CS Remote Care and Mail remote notification system."

In case you setup again the once setup main body, clear the RAM for CS Remote Care and set it up again.

About how to clear the RAM for CS Remote Care, see "10.11.13 Initialization of RAM for CS Remote Care."

Step	Operation	
	When using the phone line modem	When using the E-mail (Main body NIC)
0	Registered the machine ID in the application on the CS Remote Care center side. When the machine ID is not registered, no initial connection cannot be made.	
1	Modem connection Turn off the power of the modem, connect the main body and the modem with a modem cable, and the modem and the wall outlet with a modular cable. * For the connection of a modular cable, see the instructions of the modem to be used.	When using the E-mail, remove the modem for the phone line.
2	CS Remote Care function ON (Tech. Rep. mode → System Input → Software Switch Setting → Set 15-5 to "On (1)")	
3	CS Remote Care function selection (Tech. Rep. mode → CS Remote Care → CS Remote Care → Set Modem)	CS Remote Care function selection (Tech. Rep. mode → CS Remote Care → CS Remote Care → Set E-mail)
4	No. code entry (Tech. Rep. mode → CS Remote Care → CS Remote Care → Press No. Code → Enter the No. code* → Press No. Code) * For the No. code, enter a specified code.	
5	Date and time setting for the CS Remote Care (Enter the No. code → Detail setting → Date/Time setting → Press Setting Time → Enter the current time → Press Set → Press Time Zone → Enter the time zone)	

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Step	Operation	
	When using the phone line modem	When using the E-mail (Main body NIC)
6	Center ID setting (Enter the No. code → Detail setting → Basic setting → Press the Center No. → Enter the center No.*) * Enter the center No. in five digits.	
7	Center telephone Number setting (Enter the No. code → Detail setting → Basic setting → Press Center Telephone Number → Enter the center telephone Number*) * Make an entry using "T" and "P" as required.	Response time out setting: Optional (Enter the No. code → Detail setting → Response time out setting → Enter the response time out time) (This is usually left as default.)
8	Machine telephone Number setting (Enter the No. code → Detail setting → Basic setting → Press Machine Telephone Number → Enter the machine telephone Number *) * Make an entry using "T" and "P" as required.	Proceed to the step 9.
9	Modem initialization AT command entry (Enter the No. code → Detail setting → AT command → Press First command → Enter the initialization command *) * For particulars of the initialization command, see the instructions of the modem to be used.	Main body mail address setting This is set from the Web utility on the browser of the PC connected to the main body NIC by the network. Be sure to conduct the sending and receiving test.
10	Software SW setting for the CS Remote Care (Enter the No. code → Detail setting → Software SW setting) (Baud rate setting: Select the baud rate at the software SW setting 01-4 to 7.)	Proceed to the step 11.
11	Turn on and off the power switch (SW2) of the main body.	
12	First call execution (Tech. Rep. mode → CS Remote Care → CS Remote Care → Press No. Code twice → Detail setting → Basic setting → First call*) * When the connection to the center completes successfully, the CS Remote Care setting screen is displayed.	Initial connection mail reception The initial connection mail is sent to the mail address of the main body NIC from the center. * When the CS Remote Care related screen is opened while receiving the initial connection mail from the center, the information being created is destroyed and the CS Remote Care setting screen is displayed.

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10.11.3 List of combinations of E-Mail CS Remote Care and Mail remote notification system

To change a combination of E-Mail CS Remote Care and Mail remote notification system, refer to this table to configure the software switch setting or the mail account setting.

Case	Mail remote notification system	E-Mail CS Remote Care using the main body NIC	Setting item	Value	Remark
1	O	O	"Use the mail remote notification system" of the main body NIC's Web utility	Use	(*2)
			"Tech. Rep. mode - Software Switch Setting": 15-5 (*1)	1	
2	O	—	"Use the mail remote notification system" of the main body NIC Web utility	Use	—
			"Tech. Rep. mode - Software Switch Setting": 15-5 (*1)	0	
3	—	O	"Use the mail remote notification system" of the main body NIC Web utility	Do not use	—
			"Tech. Rep. mode - Software Switch Setting": 15-5 (*1)	1	

*1 Tech. Rep. mode - Software Switch Setting: 15-5 (CS Remote Care function ON, 0=OFF, 1=ON)

*2 Mail remote notification system and CS Remote Care using the main body NIC share the same mail account

10.11.4 Detailed setup procedure

A. CS Remote Care function ON

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [System Input].
3. "Sub menu screen" Press [Software Switch Setting].
4. "Software switch setting mode screen" Set "16" with the DIPSW number. Set "7" with the DIPSW bit number.
5. Set the bit data to the NIC you use. On (1): Use the main body NIC Off (0): Use the IP NIC (default)
6. Press [Return] to finish the configuration.

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B. CS Remote Care function selection (E-Mail/Phone line modem)

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care].
4. "CS Remote Care setting screen" Select the key for the function you use. 01 E-Mail: Use the E-Mail CS Remote Care 02 Modem: Use the Modem CS Remote Care
5. Press [No. Code].
6. Enter the No. code* with the numeric keys.
7. Press [No. Code].
8. Press [Detail setting].
9. "Setting menu screen" Press [Date/Time Setting].
10. "Date and Time setting screen" Enter the date with the numeric keys, and press the [Set] key.
11. Enter the month with the numeric keys, and press [Set].
12. Enter the year in 2 digits with the numeric keys, and press [Set].
13. Enter time with the numeric keys, and press [Set].
14. Press [Time Zone].
15. Enter the time zone with the numeric keys, and press [Set].
16. Press [OK] to return to the "Setting menu screen."

* Enter the No. code that is assigned in advance.

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C. Modem initial setting

1. "Modem setting menu screen" Press [Basic setting].
2. "Basic setting screen" Press [Center No.].
3. Enter the center ID with the keyboard, and press [OK].
4. Press [Center Telephone Number].
5. Enter the center telephone number with the numeric and symbolic keys. Use [T]s and [P]s depending on the modem and the phone line. *1
6. Press [Machine Telephone Number].
7. Enter the machine telephone number with the numeric and symbolic keys. Use [T]s and [P]s depending on the modem and the phone line. *1
8. Press [OK] to return to the "Modem setting menu screen."
9. "Modem setting menu screen" Press [AT command].
10. "AT command setting screen" Press the [First command] key.
11. Enter the modem initialization command with the keyboard, and press [OK]. *2
12. Press [OK] to return to the "Modem setting menu screen."

*1 When entering the telephone number, keys on the screen other than numeric keys represent the followings.

[,] Pause: holds the self-dial delivery for some time

[W] Wait: detects the destination dial tone

[T] Tone dial: tone dialing

[P] Pulse dial: pulse dialing

[—] Number delimiter: ignored when actually dialed

[*] [#] [•]: use as necessary

*2 Change the modem initialization command if necessary (Usually, there is no need to change). For details, refer to the manual of the modem.

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D. Baud rate setting

Note

- **In case you changed bit data by accident, be sure to restore the previous state.**

1. "Modem setting menu screen" Press [Software SW Setting].
2. "Software SW Setting screen" Set "01" with the DIPSW number. Set the modem baud rate using the DIPSW bit number "4 to 7".*
3. Press [Return] to return to the "Modem setting menu screen."

* Modem baud rate

Baud rate	01-7	01-6	01-5	01-4
1200 bps	0	0	1	1
2400 bps	0	1	0	0
4800 bps	0	1	0	1
9600 bps	0	1	1	0
19200 bps	0	1	1	1
38400 bps	1	0	0	0
57600 bps	1	0	0	1

E. E-Mail initial setting

1. "E-Mail Setting Menu screen" Press [Basic setting].
2. "Basic setting screen" Press [Center No.].
3. Enter the center ID with the keyboard, and press [OK].
4. Press [OK] to return to the "E-Mail Setting Menu screen."
5. "E-Mail Setting Menu screen" Press the [Response time out setting] key. *
6. Enter the response time out time with the numeric keys. (in minutes)
7. Press [OK] to return to the "E-Mail Setting Menu screen."

Note

- **The response time out setting is automatically set on receiving the initial connection mail. Change the setting if necessary.**

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10.11.5 Software SW setting for CS Remote Care

Note

- **Software SW bits data are written into the Parameter board (PB) every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**

A. Input procedure

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care].
4. "CS Remote Care setting screen" Press [No. Code].
5. Use the sheet setting keys to enter the No. code. *1
6. Press [No. Code].
7. Press [Detail setting].
8. "Setting menu screen" Press [Software SW Setting].
9. "Software SW Setting screen" Select the DIPSW number. Use the left arrow key or the numeric keys.
10. Select the DIPSW bit number. Use the right arrow key or the numeric keys.
11. Select DIPSW On (1), Off (0). Use the [On (1)], [Off (0)] key.
12. Press [Return] to return to the "Setting menu screen."

*1 If the No. code is already entered, confirm that No. code.

Note

- **About functions of each switch, see to "B. List of software SW for CS Remote Care."**

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B. List of software SW for CS Remote Care

Note

- **Do not change any bit not described on this table**

DIPSW		Functions	Bit Data		Default
No.	Bit		0	1	
1	0	Dial mode	Pulse dial	Tone dial	1
	1	Modem reception	Receive*1	Do not receive*1	0
	2	—	—	—	0
	3	—	—	—	0
	4	Baud rate	*2	*2	0
	5		*2	*2	0
	6		*2	*2	0
	7		*2	*2	1
2	0	Auto call on malfunction code occurrence	Do not call	Call	1
	1	Auto call on date specification	Do not call	Call	1
	2	Auto call on the part replacement	Do not call	Call	1
	3	Auto call on the drum replacement	Do not call	Call	1
	4	Auto call on the periodic maintenance (PM)	Do not call	Call	1
	5	—	—	—	0
	6	—	—	—	0
	7	Auto call when resetting the fixed replacement parts	Do not call	Call	0
3	0	—	—	—	0
	1	Auto call on the toner supply	Do not call	Call	1
	2	Auto call on frequent JAM occurrence	Do not call	Call	1
	3	Report on the waste toner box full	Do not call	Call	1
	4 to 7	—	—	—	0
4	0	CS Remote Care communication mode	*3	*3	0
	1		*3	*3	1
	2 to 7	—	—	—	0
5	0	Modem redial interval	*4	*4	1
	1		*4	*4	1
	2		*4	*4	0
	3		*4	*4	0
	4 to 7	—	—	—	0
6	0	Modem redial times	*5	*5	0
	1		*5	*5	1
	2		*5	*5	0
	3		*5	*5	1
	4		*5	*5	0
	5		*5	*5	0
	6		*5	*5	0
	7	—	—	—	0

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DIPSW		Functions	Bit Data		Default
No.	Bit		0	1	
7	0	Redial for response time out	Do not redial	Redial	1
	1 to 7	—	—	—	0
8	0	Retransmission interval on E-Mail delivery error	*6	*6	0
	1		*6	*6	1
	2		*6	*6	1
	3		*6	*6	0
	4 to 7	—	—	—	0
9	0	Retransmission times on E-Mail delivery error	*7	*7	0
	1		*7	*7	1
	2		*7	*7	0
	3		*7	*7	1
	4		*7	*7	0
	5		*7	*7	0
	6		*7	*7	0
	7	—	—	—	0
10	0	Time zone setting	*8	*8	0
	1		*8	*8	0
	2		*8	*8	0
	3		*8	*8	0
	4		*8	*8	0
	5		*8	*8	0
	6		*8	*8	0
	7		*8	*8	0
11	0	Timer 1 RING reception → CONNECT reception	*9	*9	0
	1		*9	*9	0
	2		*9	*9	0
	3		*9	*9	0
	4		*9	*9	0
	5		*9	*9	1
	6		*9	*9	0
	7		*9	*9	0
12	0	Timer 2 Dial request completed → CONNECT reception	*10	*10	0
	1		*10	*10	0
	2		*10	*10	0
	3		*10	*10	0
	4		*10	*10	0
	5		*10	*10	0
	6		*10	*10	1
	7		*10	*10	0
13	0	Timer 3	—	—	0
	1	Not used	—	—	1

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DIPSW		Functions	Bit Data		Default
No.	Bit		0	1	
13	2	Timer 3	—	—	0
	3	Not used	—	—	1
	4		—	—	0
	5		—	—	0
	6		—	—	0
	7		—	—	0
14	0	Timer 4	*11	*11	0
	1	Line connection → Start request telegram delivery	*11	*11	0
	2		*11	*11	0
	3		*11	*11	0
	4		*11	*11	0
	5		*11	*11	1
	6		*11	*11	0
	7		*11	*11	0
15	0	Timer 5	*12	*12	0
	1	Wait time for other side's response	*12	*12	1
	2		*12	*12	1
	3		*12	*12	1
	4		*12	*12	1
	5		*12	*12	0
	6		*12	*12	0
	7		*12	*12	0
16	0	Retry data, timer 6	*13	*13	1
	1	Initialization OK → Dial request	*13	*13	1
	2		*13	*13	1
	3		*13	*13	1
	4		*13	*13	1
	5		*13	*13	1
	6		*13	*13	1
	7		*13	*13	1
17	0	Call JAM date (main body)	*14	*14	1
	1	Valid copy quantity	*14	*14	0
	2	Call ADF JAM date	*15	*15	1
	3	Valid original feed quantity	*15	*15	0
	4	Call JAM date	*16	*16	1
	5	MCBJ setting	*16	*16	0
	6	Call ADF JAM date	*17	*17	1
	7	MOBJ setting	*17	*17	0
18	0	Attention display	Do not call	Call	1
	1 to 7	—	—	—	0
19 to 40	0 to 7	—	—	—	0

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*1 Modem reception

Mode	DIPSW No.1
	1
Receive Issue ATA by RING delivery	0
Do not receive Do not issue ATA by RING delivery	1

*2 Baud rate

Mode	DIPSW No.1			
	7	6	5	4
1200 bps	0	0	1	1
2400 bps	0	1	0	0
4800 bps	0	1	0	1
9600 bps	0	1	1	0
19200 bps	0	1	1	1
38400 bps	1	0	0	0
57600 bps	1	0	0	1

*3 CS Remote Care communication mode

Mode	DIPSW No.4	
	1	0
Data modem	0	0
FAX (not used)	0	1
E-Mail	1	0
Reservation	1	1

*4 Modem redial interval

Mode	DIPSW No.5			
	3	2	1	0
1 minute	0	0	0	1
2 minutes	0	0	1	0
3 minutes	0	0	1	1
4 minutes	0	1	0	0
5 minutes	0	1	0	1
6 minutes	0	1	1	0
7 minutes	0	1	1	1
8 minutes	1	0	0	0
9 minutes	1	0	0	1
10 minutes	1	0	1	0

*5 Modem redial times

Mode	DIPSW No.06						
	6	5	4	3	2	1	0
0 to 9 times	000 0000 to 000 1001						
10 times	0	0	0	1	0	1	0
11 to 99 times	000 1011 to 110 0011						

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*6 Retransmission interval on E-Mail delivery error

Mode	DIPSW No.08			
	3	2	1	0
0 minute	0	0	0	0
10 minutes	0	0	0	1
20 minutes	0	0	1	0
30 minutes	0	0	1	1
40 minutes	0	1	0	0
50 minutes	0	1	0	1
60 minutes	**0**	**1**	**1**	**0**
70 minutes	0	1	1	1
80 minutes	1	0	0	0
90 minutes	1	0	0	1
100 minutes	1	0	1	0
110 minutes	1	0	1	1
120 minutes	1	1	0	0

*7 Retransmission times on E-Mail delivery error

Mode	DIPSW No.09						
	6	5	4	3	2	1	0
0 to 9 times	000 0000 to 000 1001						
10 times	**0**	**0**	**0**	**1**	**0**	**1**	**0**
11 to 99 times	000 1011 to 110 0011						

*8 Time zone setting

Mode	DIPSW No.10							
	7	6	5	4	3	2	1	0
-12 to -1	1111 0100 to 1111 1111							
0	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
1 to 12	0000 0001 to 0001100							

*9 Timer 1 (RING reception → CONNECT reception)

Mode	DIPSW No.11							
	7	6	5	4	3	2	1	0
0 to 31 sec	0000 0000 to 0001 1111							
32 sec	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
33 to 255 sec	0010 0001 to 1111 1111							

*10 Timer 2 (Dial request completed → CONNECT reception)

Mode	DIPSW No.12							
	7	6	5	4	3	2	1	0
0 to 63 sec	0000 0000 to 0011 1111							
64 sec	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
65 to 255 sec	0100 0001 to 1111 1111							

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*11 Timer 4 (Line connection → Start request telegram delivery)

Mode	DIPSW No.14							
	7	6	5	4	3	2	1	0
0 to 31 (x 100 msec)	0000 0000 to 0001 1111							
32 (x 100 msec)	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
33 to 255 (x 100 msec)	0010 0001 to 1111 1111							

*12 Timer 5 (Wait time for other side's response)

Mode	DIPSW No.15							
	7	6	5	4	3	2	1	0
0 to 29 sec	0000 0000 to 0001 1101							
30 sec	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**0**
31 to 255 sec	0001 1111 to 1111 1111							

*13 Retry data, timer 6 (Initialization OK → Dial request)

Mode	DIPSW No.16							
	7	6	5	4	3	2	1	0
0 to 254 (x 5 msec)	0000 0000 to 1111 1110							
255 (x 5 msec)	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

*14 Call JAM date (main body) Valid copy quantity

Mode	DIPSW No.17	
	1	0
3000 copies	0	0
6000 copies	**0**	**1**
9000 copies	1	0
12000 copies	1	1

*15 Call ADF JAM date Valid original feed quantity

Mode	DIPSW No.17	
	3	2
600 sheets	0	0
1200 sheets	**0**	**1**
1800 sheets	1	0
2400 sheets	1	1

*16 Call JAM date MCBJ setting

Mode	DIPSW No.17	
	5	4
500	0	0
1000	**0**	**1**
2000	1	0
3000	1	1

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*17 Call ADF JAM date MOBJ setting

Mode	DIPSW No.17	
	7	6
100	0	0
200	0	1
400	1	0
600	1	1

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10.11.6 Mail address setting

A. Procedure for setting the main body NIC

For the main body NIC setting, see "4.3.4 Initial setting.

10.11.7 Modem First Call

Send the machine ID and telephone number to the CS Remote Care center computer to establish connection with the center.

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care]
4. "CS Remote Care setting screen" Press [No. Code].
5. Enter the No. code with the numeric keys. *1
6. Press [No. Code].
7. Press [Detail setting].
8. "Setting menu screen" Press [Basic setting].
9. "Basic setting screen" Press [First Call].
10. Confirm that the connection with the center is properly completed. *2 When properly completed, the "CS Remote Care setting screen" appears.

*1 If the No. code is already entered, confirm that No. code.

*2 In case an error occurred in the communication with the center, check the displayed code. For details on malfunction code, see "10.11.14 Malfunction code list."

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10.11.8 Receiving the initial connection mail

In case E-Mails are used, after settings are done on the main body, the center needs to send an initial connection mail to the mail address of the main body, thus enabling mail transmission between the center and the main body.

MEMO:

- About how to send the initial connection mail, refer to the CS Remote Care center's manual.
- Mail transmission are possible only between the center and the main body that the initial connection has been established.
- The initial connection mail is sent from the center. The mail address of the center used then is stored in the main body.
- To check the center's mail address on the main body, output "Machine Management List."
  Procedure: Tech. Rep. mode → List Output → Machine Management List. Press the [COPY] key at upper left of the screen to output the list from the basic screen.

10.11.9 Setup confirmation

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care].
4. "CS Remote Care setting screen" Make sure that only selected items for "Modem" or "E-Mail" are displayed.

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10.11.10 Maintenance call

As the CE starts the maintenance, enter the ID code of CE (7-digit number with which each CE is identified, managed by a distributor.) to notify the center the start of maintenance. After the maintenance, pressing the maintenance completion key notifies the center the completion of maintenance.

<At the start of maintenance>

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care].
4. "CS Remote Care setting screen" Press [No. Code].
5. Enter the No. code with the numeric keys.
6. Press [No. Code].

During the maintenance, the [Start] key blinks until the completion of the maintenance.

<At the end of maintenance>

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care].
4. "CS Remote Care setting screen" Press [Maintenance comp].

10.11.11 Center call from manager

If the setup of CS Remote Care is completed, the manager can call the center of CS Remote Care.

1. Enter the utility mode.
2. "Utility Menu screen" Press [Administrator Setting].
3. "Administrator Setting screen" Press [System Connection].
4. "System Connection screen" Press [Call Service Center].
5. "User Call screen" Press [Start]. If the setup is not completed, or if other call is made, the [Start] key is grayed out, disabling to make a call.

About how to call the center and send various data of the main body on the specified date and time, refer to the CS Remote Care center's manual.

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10.11.12 Confirm communication log

You can output and confirm the communication log.

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [List Output].
3. "Sub menu screen" Press [List Output].
4. "List output mode menu screen" Press [Communication Log List].
5. Press [Copy] to output the list from the basic screen.

For details of logs, see "10.7 State Confirmation".

10.11.13 Initialization of RAM for CS Remote Care

Initializing the RAM for CS Remote Care enables you to perform the setup again.

1. Enter the Tech. Rep. mode.
2. "Tech. Rep. mode menu screen" Press [CS Remote Care].
3. "Sub menu screen" Press [CS Remote Care].
4. "CS Remote Care setting screen" Press [No. Code].
5. Enter the No. code with the numeric keys. *1
6. Press [No. Code].
7. Press [Detail setting].
8. "Setting menu screen" Press [RAM Clear].
9. "RAM Clear setting screen"
10. The confirmation screen appears. Press [OK].
11. The RAM is cleared, and the "CS Remote Care setting screen" appears.
12. Perform the setup again if necessary.

*1 If the No. code is already entered, confirm that No. code.

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10.11.14 Malfunction code list

In case of modem

Error code	Error	Solution
K00_00	Connection NG (Cannot connect from the modem, timed out).	Redial and wait for re-reception.
K00_01	No response (After connection, no start telegram from the center detected).	Redial and wait for re-reception.
K00_02	Copying. Could not be written in non-volatile memory, and line disconnected.	
K00_03	Center ID mismatch.	Confirm the center ID.
K00_04	Serial number mismatch.	Confirm the serial number.
K00_05	Syntax error (when receiving undefined commands or parameters).	Redial.
K00_06	Received a write order for an unwritable item.	
K00_07	Unread item error.	
K00_08	Signal reception time out after a response detection (after the start telegram shuttled).	Redial.
K00_09	Already registered serial number.	
K00_10	Communication error occurred because of the carrier OFF (NO CARRIER detected in the modem).	Redial.
K00_11	Dialtone (NO DIALTONE) detected in the modem.	Redial.
K00_12	Busy signal (BUSY) detected in the modem.	Redial.
K00_13	NO ANSWER detected in the modem.	Redial.
K00_14	Telegram error (irregular telegram received in response to the telegram you sent).	Retry standard times, and redial.
K00_15	Serial number not registered in the center (4 x 40 telegrams received).	
K00_16	Errors not defined in the above -00 to 15 (last 2 digits).	Redial.
K00_17	Telephone number you must call was not registered.	
K01_00	DSR turned OFF or remains turned OFF.	
K01_01	Error on creating a message queue.	
K01_02	Error on generating a task.	
K01_03	Error on sending a message.	
K01_04	Error on receiving a message.	
K01_05	Received an error (NG) from the timer task.	
K02_01	Modem initialization NG.	
K03_00	Center call evacuation buffer is full. Cannot evacuate any more.	

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In case of E-mail

Error code	Error	Solution
K05_90	Because of memory shortage, unable to secure enough area for sending a mail.	
K05_92	Controller in operation: unable to send a mail because the controller is in operation.	In the manual transmission, retry when the controller is idling. In the auto transmission, an automatic retry is performed after 1 minute.
K05_93	Mail sending error: an error was returned on sending a mail.	In the auto transmission, an automatic retry is performed after the specified time. Check if there is no fault in the network environment and the network settings.
K05_94	Machine in operation: unable to send a mail because the machine is in operation.	In the manual transmission, retry when the machine is idling. In the auto transmission, an automatic retry is performed after 1 minute.
K05_95	Controller not connected: unable to send a mail because the controller is not connected.	Check the connection between the controller and the main body.
K05_96	Controller-driven malfunction code: unable to send a mail because of a controller-driven (C-49**).	In case of the controller-driven malfunction code, a mail cannot be sent through the controller. Use a telephone. This error do not occur in the main body NIC.

* The shaded error codes are the ones that may occur when a transmission is made from the main body to the center.

10.11.15 Troubleshooting

Check the followings when the main body neither receives the initial connection mail nor returns a response.

1) The center ID or the machine ID are not set in the main body.

2) The center ID or the machine ID are different (A machine ID error is not returned at the initial connection).

3) CS Remote Care function is disabled, or the phone line is selected in the CS Remote Care function selection.

4) Communication between the main body and the mail server is not proper (Check this with a transmission test).

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10.12 List output

10.12.1 List Output

Outputs various lists.

A. Procedure

1. "Service Mode Menu screen" Press [10 List Output].
2. "List Output screen" The following lists can be printed from the list output menu: • Machine Management List • Adjustment Data List • Coverage Data List • Font Pattern • Communication Log List *1 • Memory Dump List **Note** **• If you set DIPSW30-1 to 1, the font pattern and after are displayed.** **• Memory Dump List is for development use only. Must not be used during maintenance/repair.**
3. Press [COPY].
4. Press the Start key to output the selected list.
5. Press [SERVICE].
6. "List Output" screen To print another list, repeat steps 2 to 5.

*1 Prints out the latest 30 items of the sending and receiving history of the CS Remote Care. The start time of communications, the time period of communications (modem only), the communication modes, the results of communications, and the senders (mail only) are printed. The communication modes and the results of communications are displayed in the numbers of 4 digit number. For the meaning of them, refer to the following table.

	Communication mode	Communication result
0000	—	Transmitted successfully
0001	Initial transmission	Connection time out when transmitting
0002	Emergency transmission	—
0004	Emergency recovery transmission	Received successfully
0005	—	Reception failed
0008	Transmission for warning	—
0010	Warning recovery transmission	—
0020	Maintenance start transmission	—

	Communication mode	Communication result
0040	Maintenance completion transmission	—
0080	Administrator transmission	—
0100	Fixed date transmission	—
0200	Response transmission	—
0***	—	Transmission failed
1000	Enquiry	—
2000	Data rewrite	—
4000	Response reception	—
8000	Test mail	—

The SMTP reply codes (200 to 554) prescribed in the RFC1846, 2554 and 2821 are displayed in this place of ***.

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10.13 Test Mode

10.13.1 Running Test Mode

Performs continuous print operation test.

The following tests can be selected from this mode.

- Intermittent copy mode
  After completion of the printing operation for the set print count, the machine changes into the ready state and waits for 0.5 sec. before resuming the same operation.
- Paperless running mode
  Without detecting paper or jam, the printing operation is made nearly at the same timing as the normal operation. In the same manner as the intermittent mode, after completion of the printing operation for the set print count, the machine changes into the ready state and waits for 0.5 sec. before resuming the same operation.
- Paperless mode
  Without detecting paper or jam, the printing operation is made nearly at the same timing as the normal operation.
- Paperless endless mode
  The machine operates with the print count infinitely set automatically. In the same manner as the paperless mode, without detecting paper or jam, the printing operation is made nearly at the same timing as the normal operation.
- Running mode
  The printing operation is made in the paperless endless mode plus the scanning operation and the auto paper feed tray switching.
- Measurement mode
  Idles for 6 sec, keeps the fusing heater turned on (standby) for 9 sec, keeps the fusing heater turned on (copy) for 9 sec, and performs scanning without feeding papers. The sequence is repeated 10 times and stops.

A. Procedure

1.	"Service Mode Menu screen" Press [11 Test Mode].
2.	"Test Mode Menu screen" Press [01 Running Test Mode]
3.	"Running Test Mode screen" Select the mode and press [COPY].
4.	Press the Start key to start the running test.
5.	Press the STOP key to stop the running test.
6.	To exit the running test mode, turn the sub power switch (SW2) off and then on again.

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10.13.2 Test Pattern Output Mode

Prints various test patterns to be used for troubleshooting.

Note

- **Do not attempt to print the test pattern not described in this manual.**

A. Procedure

1.	"Service Mode Menu screen" Press [11 Test Mode].
2.	"Test Mode Menu screen" Press [02 Test Pattern Output Mode].
3.	"Test Pattern Output Mode screen" Press [Test Pattern], then enter the test pattern number through the numeric buttons and press [<<SET]. To select a screen, press one of the followings; [Line1], [Line2], [Dot1], [Dot2], [Compression], and [Contone].To specify image density, select the color, enter adjustment value (0: lighter - 255: darker) using the numeric buttons, and press [<<SET].
4.	Press [COPY].
5.	Select A3 or 11 X 17 paper and press Start key to output the test pattern (No.16).
6.	To print another test pattern, press [SERVICE] and repeat steps 3 to 5.

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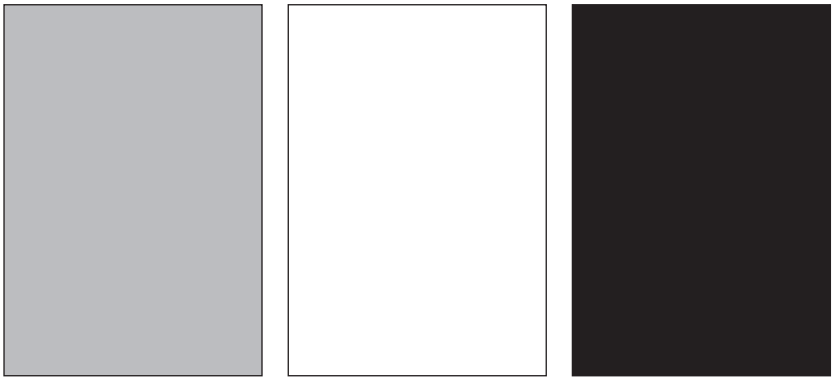
No.1 Overall halftone

[Check Items]

- When the density is set to 70 (halftone)
  If there are image stripes, determine whether the fault is with the scanner system or the process system.
  [Recommended checkpoints]: Developing unit, cleaning unit, transfer belt unit, charging corona, 2nd transfer unit, and dust-proof glass
- When the density is set to 0 (white)
  If the test pattern is image foggy background image, determine whether the fault is with the process system.
  [Recommended checkpoints]: Charging corona, and high voltage contact point.
- When the density is set to 255 (Y, M, C, K)
  If the density is light, determine whether the fault is with the process system.
  [Recommended checkpoints]: Write unit
  * See "10.13.2 Test Pattern Output Mode" for adjusting density.

Test Pattern

When the density is set to 70 | When the density is set to 0 | When the density is set to 255



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No.11 Beam check

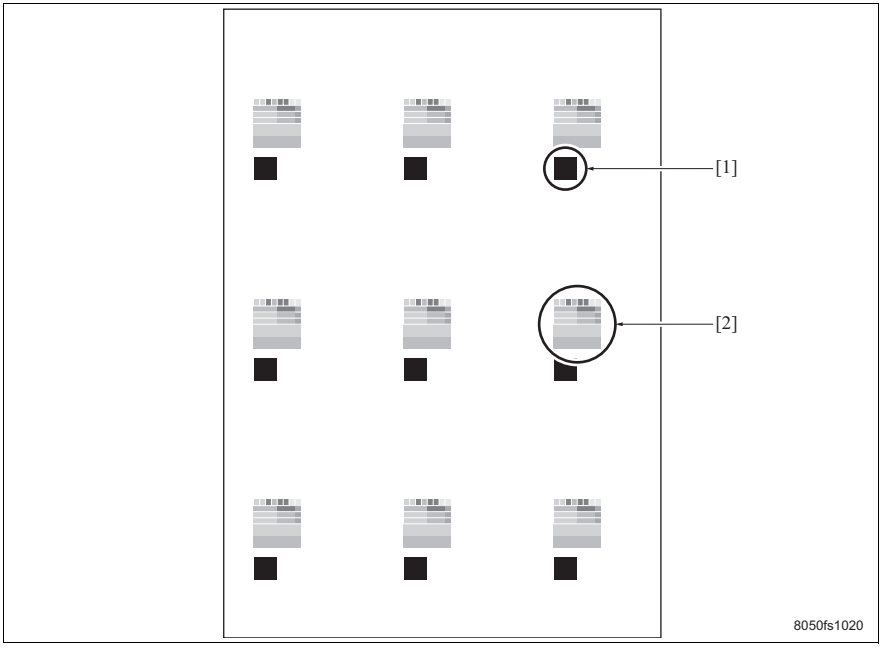
[Check Item 1]

- Check the solid black pattern [1] to see if there is uneven density found in the main scanning and sub-scanning directions.
  [Recommended checkpoints]: Charging corona, developing unit, transfer belt unit, 2nd transfer unit, and dust-proof glass

[Check Item 2]

- Check if there is any image repelling in the gradation pattern [2] at the leading/trailing edge of the test pattern in sub-scanning direction.
  [Recommended checkpoints]: 2nd transfer unit

Test Pattern

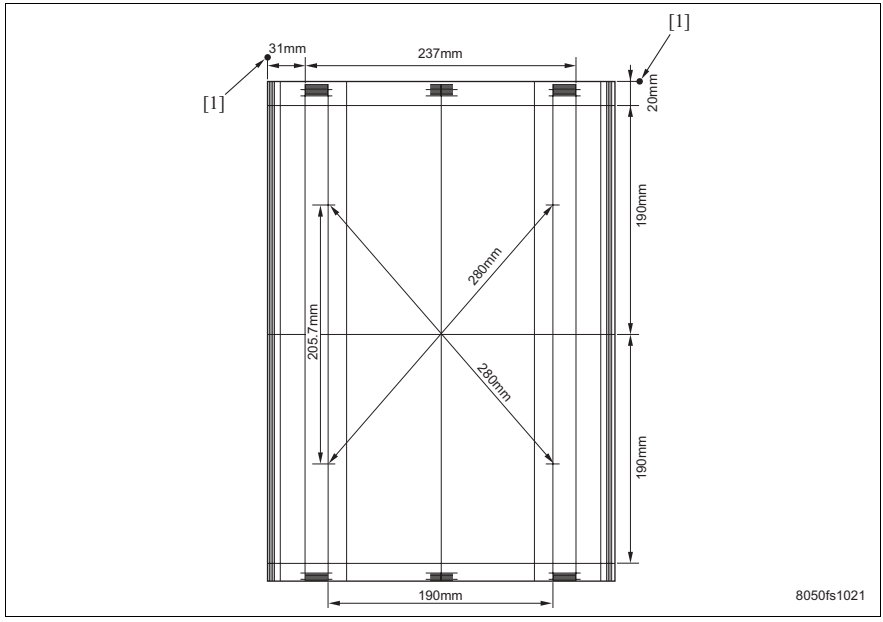


[1] Solid black pattern [2] Gradation pattern

No.16 Linearity evaluation pattern

[Check Items]
This pattern is used to identify which of scanner system or printer system is causing the problem.
Items that can be checked include main scan magnification, sub scan magnification, image skew, and leading edge timing, etc. of the printer system. If the copy image is defective despite no abnormality being visible on the test pattern, the scanner system is defective.

Test Pattern



[1] Edges of the image data

No.51 Gradation evaluation pattern (main scan)

[Check Items]

- If there are image stripes or the uneven density, check if the write system or the process system operates normally.
  [Recommended checkpoints]: Developing unit, cleaning unit, charging corona, 2nd transfer unit, and dust-proof glass

Test Pattern

a03uf3c002ca

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No.52 Gradation evaluation pattern (sub scan)

[Check Items]

- If there are image stripes or the uneven density, check if the write system or the process system operates normally.
  [Recommended checkpoints]: Developing unit, cleaning unit, charging corona, 2nd transfer unit, and dust-proof glass

Test Pattern

a03uf3c003ca

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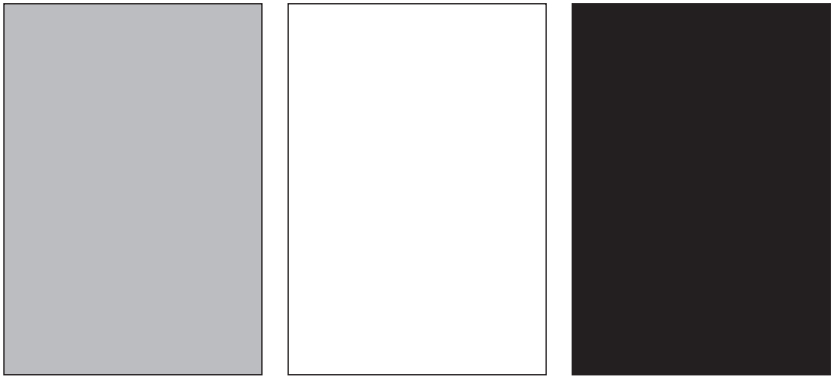
No.53 Overall halftone

[Check Items]

- When the density is set to 70 (halftone)
  If there are image stripes, determine whether the fault is with the scanner system or the process system.
  [Recommended checkpoints]: Developing unit, cleaning unit, transfer belt unit, charging corona, 2nd transfer unit, and dust-proof glass
- When the density is set to 0 (white)
  If the test pattern is image foggy background image, determine whether the fault is with the process system.
  [Recommended checkpoints]: Charging corona, and high voltage contact.
- When the density is set to 255 (Y, M, C, K)
  If the density is light, determine whether the fault is with the process system.
  [Recommended checkpoints]: Write unit
  *See "10.13.2 Test Pattern Output Mode" for adjusting density.

Test Pattern

When the density is set to 70 | When the density is set to 0 | When the density is set to 255



8050fs1019

No.54 Gradation evaluation pattern

Check gradation reproducibility of each screen.
See "10.13.2 Test Pattern Output Mode" for selecting screen.

Screen	Purposes	[Check Items]
Line1	Check the gradation reproducibility of each screen used by the copier from primary color to secondary color.	Make sure that the gradation of each color is smooth and even with no tone jump. [Recommended checkpoint]: Conduct the adjustment of the printer gamma sensor and the printer gamma offset.
Line2		
Dot1		
Dot2		
Compression(ED)		
Contone	Check the gradation reproducibility of the screen used in the character area when the screen mentioned above is selected by the copier.	Make sure that the density increases in incremental step from the high light side, and the density in the shadow section of each color is dark enough. [Recommended checkpoint]: Conduct the adjustment of the printer gamma sensor.

Test Pattern

[1] Primary color [2] Secondary color

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No.55 5% Coverage

[Purpose]
When you need to make test prints continuously in order to check paper feed operation or etc., use this 5% coverage test pattern to protect developer, drums, cleaners etc. from burden.

Test Pattern

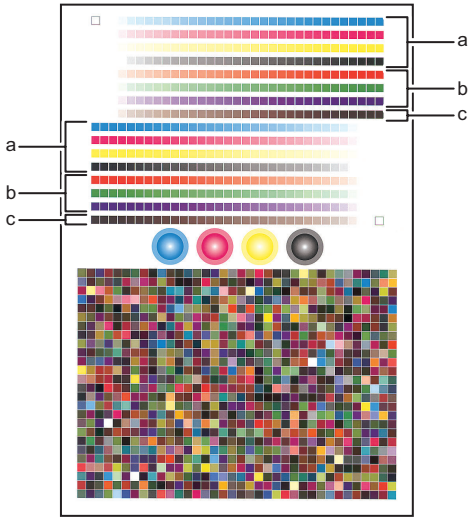
a03uf3c005ca

No.80 Print characteristic evaluation pattern

Check gradation reproducibility of each screen.
See "10.13.2 Test Pattern Output Mode" for selecting screen.

Screen	Purposes	[Check Item]
Line1	Check the gradation reproducibility of each screen used by the copier from primary color to tertiary color.	Make sure that the gradation of each color is smooth and even with no tone jump. [Recommended checkpoint]: Conduct the adjustment of the printer gamma sensor and the printer gamma offset.
Line2		
Dot1		
Dot2		
Compression (ED)		
Contone	Check the gradation reproducibility of the screen used in the character area when the screen mentioned above is selected by the copier.	Make sure that the density increases in incremental step from the high light side, and the density in the shadow section of each color is dark enough. [Recommended checkpoint]: Conduct the adjustment of the printer gamma sensor.

Test Pattern



a03uf3c024ca

a: Primary color b: Secondary color c: Tertiary color

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10.14 ISW

Refer to "5. FIRMWARE VERSION UP" for details. (See P.123)

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10.15 CE/Administrator Security Setting

10.15.1 List of CE/Administrator Security Setting

Adjustment/Setting Item		Page
CE/Administrator Security Setting	01 CE Authentication	P.460
	02 CE Auth. Password	P.460
	03 Admini. Authentication	P.461
	04 Administrator Password	P.461

Important

- **The use of the [Security Strengthen Set] in the [Machine Admin. Setting] in the utility mode is limited only when the [CE Authentication Setting] and [Admini. Authentication] are set to ON.**

10.15.2 Start and exit CE/Administrator Security Mode

Set up the various settings concerning CE/Administrator security setting from the "CE/Administrator Security Setting Menu screen".

A. Procedure

1.	"Service Mode Menu screen" Before selecting any item in the service mode, press the hard keys in the order shown below. Stop → 0 → C
2.	"CE/Administrator Security Setting Menu screen" CE/Administrator security mode is activated. And making CE/Administrator setting is enabled.
3.	"CE/Administrator Security Setting Menu screen" Press the item you want to set up, the setting screen of each item will be displayed.
4.	"CE/Administrator Security Setting Menu screen" Press [Close] to return to the "Service Mode Menu screen".

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Important

- **The use of the [Security Strengthen Set] in the [Machine Admin. Setting] in the utility mode is limited only when the [CE Authentication Setting] and [Admini. Authentication] are set to ON.**

10.15.3 CE Authentication

To enhance security of the service mode, configure the setting so that a password is required to enter the service mode.

A. Procedure

1. "CE/Administrator Security Setting Menu screen" Press [01 CE Authentication].
2. "CE Authentication On/Off Set screen" Press [On] or [Off].
3. Press [OK] to activate the setting, and the "CE/Administrator Security Setting Menu screen" will be displayed. Press [Cancel] to deactivate the new settings.

10.15.4 CE Auth. Password

Set a password for entering the service mode.

Note

- **Do not use anything easily guessed by others such as your name, birthday.**
- **CE should not inform other people of the password.**
- **The selection of the [CE Auth. Password] is limited only when the [CE Authentication] is set to [On].**

A. Procedure

1. "CE/Administrator Security Setting Menu screen" Press [02 CE Auth. Password].
2. "CE Authentication Password screen" Press [Current Password] to display a keyboard, enter the current eight-digit password, and press [OK]. Default password: "92729272". "Incorrect password" appears when a wrong password is entered.
3. Press [New Password] to display a keyboard, enter new alphanumeric eight-digit password, and press [OK].
4. Press [Check Input] to display a keyboard, enter new eight-digit password again, and press [OK].
5. "CE Authentication Password screen" Press [OK] to activate the setting, and the "CE/Administrator Security Setting Menu screen" will be displayed. Press [Cancel] to deactivate the new settings.

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10.15.5 Admin. Authentication

To enhance the security of the [Machine Admin. Setting] mode, configure the setting so that a password is required to enter the [Machine Admin. Setting] mode.

A. Procedure

1. "CE/Administrator Security Setting Menu screen" Press [03 Admin. Authentication].
2. "Administrator Authentication On/Off set screen" Press [On] or [Off].
3. Press [OK] to activate the setting, and the "CE/Administrator Security Setting Menu screen" will be displayed. Press [Cancel] to deactivate the new settings.

10.15.6 Administrator Password

Set a password to enter the [Machine Admin. Setting] mode.
Administrator password can also be set from the [Machine Admin. Setting] mode.

Note

- **When the CE set or changed the [Administrator Password], CE must inform the user administrator of that and ask for changing [Administrator Password].**
- **Do not use anything easily guessed by others such as your name, birthday.**
- **The selection of the [Administrator Password] is limited only when the [Admin. Authentication] is set to [On].**

A. Procedure

1. "CE/Administrator Security Setting Menu screen" Press [04 Administrator Password].
2. "Administrator Password screen"
3. Press [New Password] to display a keyboard, enter new alphanumeric eight-digit password, and press [OK].
4. Press [Check Input] to display a keyboard, enter new eight-digit password again, and press [OK].
5. "Administrator Password screen" Press [OK] to activate the setting, and the "CE/Administrator Security Setting Menu screen" will be displayed. Press [Cancel] to deactivate the new settings.

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10.16 Fee Collection Setting

10.16.1 List of Fee Collection Setting

Adjustment/Setting Item	
Fee Collection Setting	01 Coin Vendor
	02 Management Function

10.16.2 Start and exit Fee Collection Setting Mode

Set up the various settings concerning Fee collection setting from the "Fee Collection Menu" screen.

A. Procedure

1. "Service Mode Menu screen" Before selecting any item in the service mode, press the hard keys in the order shown below. Stop → 9
2. "Fee Collection Menu screen" Fee collection setting mode is activated. Set the various settings concerning fee collection setting.
3. "Fee Collection Menu screen" Press the item you want to set up, the setting screen of each item will be displayed.
4. "Fee Collection Menu screen" Press [Close] to return to the "Service Mode Menu screen".

10.16.3 Coin Vendor

The installation existence of the coin vendor is set.

A. Procedure

1. "Fee Collection Menu screen" Press [01 Coin Vendor].
2. "Coin Vendor screen" Press [Equip] or [Not Equip].
3. Press [OK] to activate the setting, and the "Fee Collection Menu screen" will be displayed. Press [Cancel] to deactivate the new settings.

10.16.4 Management Function

Set the various settings concerning management equipment of the main body.

A. Procedure

1. "Fee Collection Menu screen" Press [02 Management Function].
2. "Management Setting screen" Select the options for each item of the management setting.
3. Press [OK] to activate the setting, and the "Fee Collection Menu screen" will be displayed. Press [Cancel] to deactivate the new settings.

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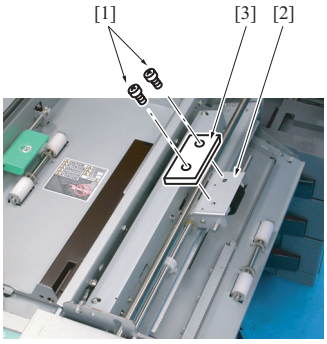
11. MECHANICAL ADJUSTMENT

11.1 Adjusting the paper feed roller/BP pressure

Perform this adjustment when no feed occurs in bypass feed.

A. Procedure



a052f3c001ca

1. Pull out the ADU.
   (See P.204)
2. Install a weight plate [3] to the paper feed roller/BP upper part [2] with the two screws [1].
3. Put the ADU back in.
4. Make a print to confirm the paper feed.
5. If the no feed problem is not solved, increase the number of weight plates and repeat steps 1 to 4.

Note

- **Weight plate (P/N: 13FG4062*) is a supply part. Purchase separately for use.**
- **The number of the weight plates to be installed should be four or less.**
- **When weight plate is added, "11.3 Pick-up movement amount adjustment (bypass)" should be carried out.**
  (See P.465)

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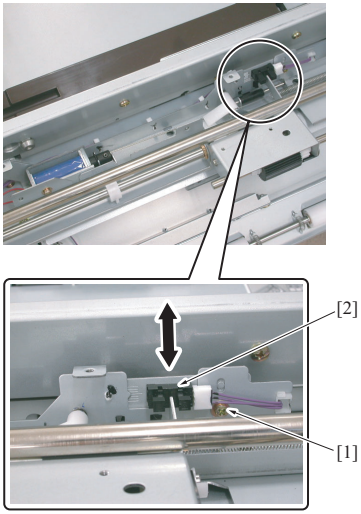
11.2 (Maximum) paper feed (bypass) height adjustment

Conduct this adjustment when a no feed condition occurs or the paper edge is folded, or when feeding paper with a large amount of curl.

Note

- **As this adjustment effects the pick-up movement amount, carry out "11.3 Pick-up movement amount adjustment (bypass)" after performing the adjustment. (See P.465)**

A. Procedure



8050fs1052

1. Pull out the ADU.
   (See P.79)
2. Remove the paper feed solenoid cover.
   (See P.68)
3. Loosen the screw [1], and adjust the installation position of the tray limit sensor/BP (PS25) [2].

Note

- **Keep a note of the primary value.**

(1) If the value is out of spec

Adjust the up/down position of the sensor installation plate, so that the upper side height of the opening guide and the up/down plate neutralize and become within the standard value.

- When making the up/down plate higher: lower the sensor installation plate.
- When making the up/down plate lower: higher the sensor installation plate.

(2) If some sort of error is occurring

- When the paper edge is folded: higher the sensor installation plate.
- When feeding concave-curled paper: higher the sensor installation plate.
- When feeding convex-curled paper: lower the sensor installation plate.

4. Install the paper feed solenoid cover.
5. Put the ADU back in.
6. Make a print to confirm the paper feed.
7. If there is no improvement, repeat steps 1 to 6 and readjust the installation of PS25.

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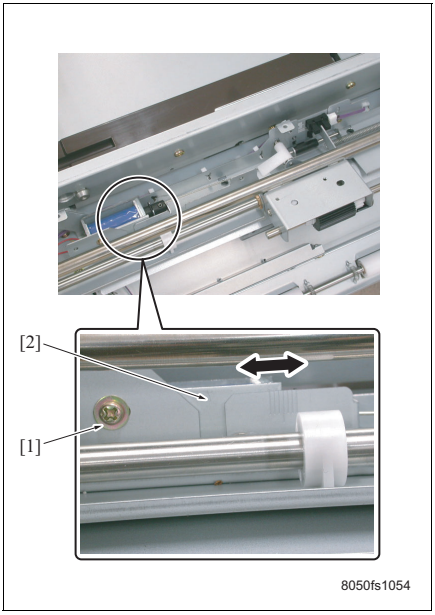
11.3 Pick-up movement amount adjustment (bypass)

Perform this adjustment when no feed jam occurs frequently.

A. Procedure



1. Pull out the ADU.
(See P.79)
2. Remove the paper feed solenoid cover.
(See P.68)
3. Loosen the screw [1], and adjust the installation position of the pick-up solenoid/BP (SD5) [2].

Note

- **Keep a note of the primary value.**

4. Install the paper feed solenoid cover.
5. Put the ADU back in.
6. Make a print to confirm the paper feed.
7. If there is no improvement in the no feed, repeat steps 1 to 6 for readjustment of the installation position of PS25.

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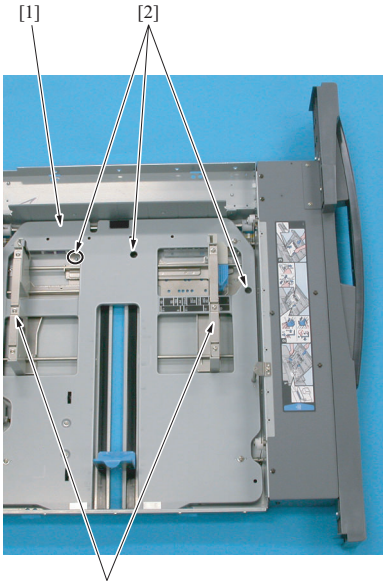
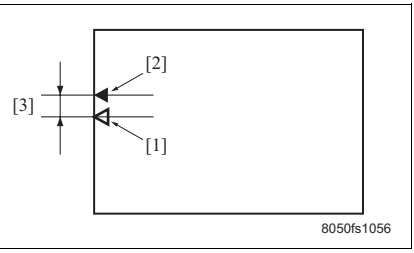
11.4 Mis-centering adjustment of the paper feed tray /1, /2 and /3

Conduct this adjustment when a mis-centering occurs and cannot be adjusted in service mode.

A. Procedure



1. Pull out the paper supply tray.
2. Loosen the three screws [2] located under the up/down plate [1].
3. Move the guide plate [3], and adjust the center position.
4. Tighten the three screws [2].
5. Print out the test pattern (No.16).



6. Fold the shorter side of the printed paper in half, and check if the length between the center [3] of the image [2] and the center of the paper [1] is within the standard value.
   Standard value: ± 3 mm or less
7. Repeat steps 1 to 6 until the mis-centering value is within the standard.

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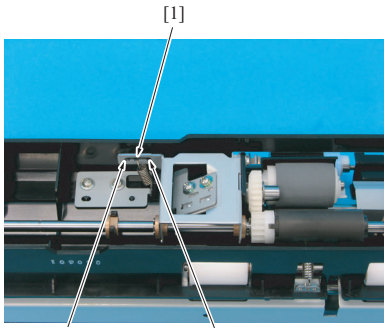
11.5 Separation pressure adjustment of the paper feed tray/1, /2 and /3

Conduct this adjustment when a no feed or a double feed condition occurs. Separation pressure is susceptible to paper type or operating environment. No feed tends to occur in low temperature environment, whereas high temperature environment results in a higher rate of double feed. Do not make an excessive adjustment. Doing so may reverse the respective symptoms.

A. Procedure



1. Pull out the paper supply tray.
2. Remove the paper feed unit.
(See P.208)
3. Change the position of the hook of the Spring [1] on the bottom part of the paper supply unit.
Reduced tension [2]:
Double feed jam condition improves.
Increased tension [3]:
No feed jam condition improves.
4. Install the paper supply unit, and set the paper supply tray.

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■ TROUBLESHOOTING

12. JAM CODE

12.1 Jam code list

Classification	Jam code	Cause		Resulting operation	Correction
Bypass feed	J-1001	During operation	After the pick-up solenoid/BP (SD5) turns ON, paper supply sensor /BP (PS26) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Remove the paper from the bypass feed tray, and remove jammed paper, if any.
	J-1002		After paper empty sensor /BP (PS47) turns ON, paper lift motor /BP (M35) is not turned ON within specified time.		Remove paper from the bypass feed tray, decrease the number of stacked sheets and set again.
	J-1003		After paper lift motor /BP (M35) turns ON, upper limit sensor /BP (PS25) is not turned ON within specified time.		
	J-1051	When idling	Paper feed sensor /BP (PS26) is turned ON in the idling condition.	—	Remove the paper from the bypass feed tray, and remove jammed paper, if any.
Paper feed Tray /1	J-1101	During operation	After the pick-up solenoid /1 (SD7) turns ON, paper feed sensor /1 (PS29) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out the paper feed tray/1 and remove jammed paper, if any.
	J-1151	When idling	Paper feed sensor /1 (PS29) is turned ON in the idling condition.	—	
Paper feed Tray /2	J-1201	During operation	After the pick-up solenoid /2 (SD8) turns ON, paper feed sensor /2 (PS35) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out the paper feed tray /2 and remove jammed paper, if any.
	J-1251	When idling	Paper feed sensor /2 (PS35) is turned ON in the idling condition.	—	
Paper feed Tray /3	J-1301	During operation	After the pick-up solenoid /3 (SD9) turns ON, paper feed sensor /3 (PS41) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out the paper feed tray /3 and remove jammed paper, if any.

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Classification	Jam code	Cause		Resulting operation	Correction
Paper feed Tray /3	J-1351	When idling	Paper feed sensor /3 (PS41) is turned ON in the idling condition.	—	Pull out the paper feed tray /3 and remove jammed paper, if any.
LU	J-1501	During operation	After the pick-up solenoid (SD100) turns ON, pre-registration sensor (PS106) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the LU upper door and remove jammed paper, if any.
	J-1502	During operation	After the pre-registration clutch (MC102) is turned ON, LU exit sensor (PS107) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the LU upper door and remove jammed paper, if any.
	J-1551	When idling	Pre-registration sensor (PS106) is turned ON in the idling condition.	—	Open the LU upper door and remove jammed paper, if any.
	J-1552	When idling	LU exit sensor (PS107) is turned ON in the idling condition.	—	Open the LU upper door and remove jammed paper, if any.
PF	J-1601	During operation	After the pick-up solenoid /1 (SD1) turns ON, paper feed sensor /1 (PS2) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out the paper feed tray /4 and remove jammed paper, if any.
	J-1602	During operation	After the pick-up solenoid /2 (SD5) turns ON, paper feed sensor /2 (PS10) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out the paper feed tray /5 and remove jammed paper, if any.
	J-1603	During operation	After the paper feed sensor /1 (PS2) turns ON, vertical conveyance sensor /1 (PS17) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the PF front door and the PF vertical conveyance door and remove jammed paper, if any.
	J-1604	During operation	After the vertical conveyance sensor / 1 (PS17) turns ON, vertical conveyance sensor /2 (PS27) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the PF front door and the PF vertical conveyance door and remove jammed paper, if any.
	J-1605	During operation	After the vertical conveyance sensor / 2 (PS27) turns ON, vertical conveyance sensor /3 (PS26) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the PF front door and the PF vertical conveyance door and remove jammed paper, if any.
	J-1606	During operation	After the vertical conveyance sensor / 3 (PS26) turns ON, horizontal conveyance sensor /1 (PS18) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the PF front door and the PF vertical conveyance door and remove jammed paper, if any.
	J-1607	During operation	After the paper feed sensor /2 (PS10) turns ON, horizontal conveyance sensor /1 (PS18) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out the paper feed tray /5 and remove jammed paper, if any.

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Classification	Jam code		Cause	Resulting operation	Correction
PF	J-1608	During operation	After the horizontal conveyance sensor /1 (PS18) turns ON, pre-registration (PS20) is not turned ON within the specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the PF front door, PF vertical conveyance door, horizontal conveyance door /Rt, horizontal conveyance door /Lt and remove jammed paper, if any.
	J-1609		After the pre-registrations sensor (PS20) is turned ON, horizontal conveyance sensor /2 (PS19) is not turned ON within the specified time.		
	J-1610		Multi feed detection board /R (MFDTB/R) detected multifeed.	Stops immediately.	
	J-1651	When idling	Paper feed sensor /1 (PS2) is turned ON in the idling condition.	—	Pull out the paper feed tray /4 and remove jammed paper, if any.
	J-1652		Paper feed sensor /2 (PS10) is turned ON in the idling condition.		Pull out the paper feed tray /5 and remove jammed paper, if any.
	J-1653		Vertical conveyance sensor /1 (PS17) is turned ON in the idling condition.	—	Open the PF front door and the PF vertical conveyance door and remove jammed paper, if any.
	J-1654		Vertical conveyance sensor /2 (PS27) is turned ON in the idling condition.		
	J-1655		Vertical conveyance sensor /3 (PS26) is turned ON in the idling condition.		
	J-1656		Horizontal conveyance sensor /1 (PS18) is turned ON in the idling condition.		Open the PF front door, PF vertical conveyance door, horizontal conveyance door /Rt, horizontal conveyance door /Lt and remove jammed paper, if any.
	J-1657		Horizontal conveyance sensor /2 (PS19) is turned ON in the idling condition.		
	J-1658		Pre-registration sensor (PS20) is ON in the idling condition.		
Paper feed	J-1701	During operation	After starting print of the front side, registration sensor (PS22) is not turned ON within specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Pull out ADU and remove jammed paper, if any.
	J-1702		After starting print of the back side, registration sensor (PS22) is not turned ON within specified time.	Stops immediately.	

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Classification	Jam code	Cause		Resulting operation	Correction
Paper feed	J-1703	During operation	After the pre-registration clutch /3 (MC12) is turned ON, vertical conveyance sensor (PS50) is not turned ON within specified time.	If paper jam occurs during printing process, main body stops after paper exit.	Open the vertical conveyance door and remove jammed paper, if any.
	J-1704		After the pre-registration clutch /2 (MC10) is turned ON, vertical conveyance sensor (PS50) is not turned ON within specified time.		Pull out the paper feed tray /2 and remove jammed paper, if any.
	J-1705		After the vertical conveyance sensor (PS50) turns ON, intermediate conveyance sensor /1 (PS27) is not turned ON within the specified time.		Open the vertical conveyance door and remove jammed paper, if any.
	J-1706		After the pre-registration clutch /1 (MC8) is turned ON, intermediate conveyance sensor /1 (PS27) is not turned ON within the specified time.		
	J-1707		After the LU pre-registration clutch (MC102) is turned ON, intermediate conveyance sensor /1 (PS27) is not turned ON within the specified time.		Open the LU front door and remove jammed paper, if any.
	J-1708		After the intermediate conveyance sensor /1 (PS27) is turned ON, intermediate conveyance sensor /2 (PS28) is not turned ON within specified time.		Pull out ADU and remove jammed paper, if any.
	J-1709		After the paper feed sensor /BP (PS26) is turned ON, intermediate conveyance sensor /2 (PS28) is not turned ON within specified time.		Remove the paper from the bypass feed tray, and remove jammed paper, if any.
	J-1710		After the PF horizontal conveyance sensor /2 (PS19) turns ON, intermediate conveyance sensor /1 (PS27) is not turned ON within the specified time.		Open the PF front door, PF vertical conveyance door, horizontal conveyance door /Rt, horizontal conveyance door /Lt and remove jammed paper, if any.
	J-1751	When idling	Vertical conveyance sensor (PS50) is turned ON in the idling condition.	—	Open the vertical conveyance door and remove jammed paper, if any.
	J-1752		Intermediate conveyance sensor /1 (PS27) is turned ON in the idling condition.		Pull out ADU and remove jammed paper, if any.
	J-1753		Intermediate conveyance sensor /2 (PS28) is turned ON in the idling condition.		

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Classification	Jam code	Cause		Resulting operation	Correction
Paper feed	J-1754	When idling	Registration sensor (PS22) is turned in the idling condition.	—	Pull out ADU and remove jammed paper, if any.
OTHERS	J-1901	During operation	Vertical conveyance door open jam. Vertical conveyance door sensor (PS51) was turned OFF when printing.	If paper jam occurs during printing process, main body stops after paper exit.	Close the vertical conveyance door.
LU	J-1902		LU upper door open jam or LU front door open jam. During printing, upper door sensor (PS100) or front door sensor (PS115) turned OFF.	In case of LU paper feed, main body stops after completion of paper exit. In case of paper feed other than LCT, main body does not stop.	Close the LU upper door or the LU front door.
PF	J-1903		Any one of the PF front door open jam, PF vertical conveyance door open jam, horizontal conveyance door /Rt open jam or the horizontal conveyance door /Lt open jam. Any one of the front door open/close sensor (PS23), vertical conveyance door sensor (PS24), horizontal conveyance door sensor /1 (PS21) or the horizontal conveyance door sensor /2 (PS22) turned OFF during printing.	In case of PF paper feed, main body stops after completion of paper exit. In case of paper feed other than PF, main body does not stop.	Close any one of the PF front door, PF vertical conveyance door, horizontal conveyance door /Rt or the horizontal conveyance door / Lt.
Registration	J-3101		After the registration motor (M30) is turned ON, leading edge sensor (PS63) is not turned ON.	Stops immediately.	Pull out ADU and remove jammed paper, if any.
	J-3102		After the registration motor (M30) is turned ON, Fusing paper exit sensor (PS17) is not turned ON.		
	J-3151	When idling	Leading edge sensor (PS63) is ON in the idling condition.	—	
	J-3152		Fusing loop sensor (PS64) is turned on in the idling condition.		
Paper exit	J-3201	During operation	After the fusing paper exit sensor (PS17) is turned ON, paper exit sensor (PS13) is not turned ON within the specified time.	Stops immediately.	Pull out ADU and remove jammed paper, if any.

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Classification	Jam code	Cause		Resulting operation	Correction
Paper exit	J-3202	During operation	After the fusing paper exit sensor (PS17) is turned ON, reverse/exit sensor (PS19) is not turned ON within the specified time.	Stops immediately.	Pull out ADU and remove jammed paper, if any.
	J-3203		In the reverse paper exit mode, after the reverse/exit sensor (PS19) is turned ON, paper exit sensor (PS13) is not turned ON within the specified time.		
	J-3204		After the fusing paper exit sensor (PS17) is turned ON, it is not turned OFF within the specified time.		
	J-3205		After the paper exit sensor (PS13) is turned ON, it is not turned OFF within the specified time.		
	J-3206		After the fusing paper exit sensor (PS17) is turned OFF, reverse/exit sensor (PS19) is not turned ON within the specified time.		
	J-3207		In reverse paper exit mode, after the paper exit sensor (PS13) is turned ON, it is not turned OFF within the specified time.		
	J-3209		After the decurler sensor (PS62) is turned ON, it is not turned OFF within the specified time.		
	J-3251	When idling	Fusing paper exit sensor (PS17) is turned ON in the idling condition.	—	
	J-3252		Paper exit sensor (PS13) is ON in the idling condition.		
	J-3253		Reverse/exit sensor (PS19) is ON in the idling condition.		
	J-3254		Decurler sensor (PS62) is On in the idling condition.		
OTHERS	J-5101	During operation	Front door open jam. Front door sensor (PS18) was turned OFF when printing.	Stops immediately.	Close the front door.

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Classification	Jam code		Cause	Resulting operation	Correction
DF	J-6101	During operation	Paper feed section cover open jam. Paper feed cover sensor (PS303) was turned OFF when printing.	DF stops immediately. If paper jam occurs during printing process, main body stops after paper exit.	Close the paper feed section cover.
	J-6102		Paper feed tray open jam. Tray open/close sensor (PS308) was turned OFF when printing.		Close the paper feed tray.
	J-6103		Paper exit section cover open jam. Paper exit cover sensor (PS307) was turned OFF when printing.		Close the paper exit section cover.
	J-6201		Registration sensor (PS301) is not turned OFF within specified time after paper feed is started.		Open the paper feed section cover and remove jammed paper, if any. Remove jammed paper in the main body conveyance section, if any.
	J-6203		After reversal of paper feed motor (M301) is started, timing sensor (PS302) is not turned ON within the specified time.		
	J-6206		After the timing sensor (PS302) is turned ON, it is not turned OFF within the specified time.		
	J-6209		After the reverse/paper exit motor (M303) is turned ON, reverse sensor (PS305) is not turned ON within the specified time.		Open the paper exit section cover and remove jammed paper, if any. Remove jammed paper in the main body conveyance section, if any.
	J-6301		After the reverse sensor (PS305) is turned ON, it is not turned OFF within the specified time.		
	J-6304		In the one-sided original exit mode, paper exit sensor (PS306) is not turned ON within the specified time after the start of paper exit. In the double-sided original exit mode, paper exit sensor (PS306) is not turned ON within the specified time after the reverse sensor (PS305) is turned ON.		
	J-6305		After the paper exit sensor (PS306) is turned ON, it is not turned OFF within the specified time.		
	J-6501	When idling	Registration sensor (PS301) is ON in the idling condition.	—	Open the paper feed section cover and remove jammed paper, if any.
	J-6502		Reverse sensor (PS305) is ON in the idling condition.		Open the paper exit section cover and remove jammed paper, if any.
	J-6504		Paper exit sensor (PS306) is ON in the idling condition.		

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Classification	Jam code	Cause		Resulting operation	Correction
DF	J-6508	When idling	Timing sensor (PS302) is ON in the idling condition.	—	Open the paper feed section cover and remove jammed paper, if any.
FS	J-7101	During operation	FS Front door open jam. Door switch (MS1) was turned OFF when printing.	FS/main body stop immediately.	Remove jammed paper in the FS/main body, if any.
LS	J-7103		LS Front door open jam. Front door switch (MS1) was turned OFF when printing.	LS/main body stop immediately.	Remove jammed paper in the LS/main body, if any.
FD	J-7105		FD front door open jam. Door switch (MS1) was turned OFF when printing.	FD/main body stop immediately.	Remove jammed paper in the FD/main body, if any.
RU	J-7106		RU front door open jam. Interlock switch (MS1) was turned OFF when printing.	RU/main body stop immediately.	Remove jammed paper in the RU/main body, if any.
SD	J-7107		SD front door /Rt open jam or SD front door /Lt open jam. Either one of the front door switch /Rt (MS1) or the front door switch /Lt (MS2) of the SD was turned OFF when printing.	SD/main body stop immediately.	Remove jammed paper in the SD/main body, if any.
FS	J-7217		The main tray paper exit sensor (PS10) does not turn OFF within a specified period of time after the stacker entrance sensor (PS5) turns OFF.	FS/main body stop immediately.	Remove jammed paper in the FS/main body, if any.
	J-7218		The stacker entrance sensor (PS5) does not turn ON within a specified period of time after the FNS entrance sensor (PS4) turns ON.		
	J-7219		While in stapling, the stacker entrancesensor (PS5) does not turn OFF within a specified period of time after the stacker entrance motor (M13) turns ON. While in any other operations than stapling, the PS5 does not turn OFF within a specified period of time after it turns ON.		
	J-7220		While in stapling a small size paper, the main tray paper exit sensor (PS10) does not turn ON within a specified period of time after the paper exit arm motor (M23) turns ON.		

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Classification	Jam code	Cause		Resulting operation	Correction
FS	J-7221	During operation	While in stapling a large size paper, the main tray exit sensor (PS10) does not turn OFF within a specified period of time after the paper exit arm motor (M23) turns ON.	FS/main body stop immedi-ately.	Remove jammed paper in the FS/main body, if any.
	J-7222		While in exiting paper in the sub tray, the sub tray paper exit sensor (PS1) does not turn ON within a specified period of time after the FNS entrance sensor (PS4) turns ON.		
	J-7223		While in exiting paper in the sub tray, the sub tray paper exit sensor (PS1) does not turn OFF within a specified period of time after the PS1 turns ON.		
	J-7224		While in staple of the small size paper (smaller than A4S), the stacker empty sensor (PS20) does not turn OFF within a specified period of time after the paper exit arm motor (M23) turns ON.		
	J-7228		While in the straight/shift of the small size paper, the main tray paper exit sensor (PS10) does not turn OFF within a specified period of time after the PS10 turns ON.		
	J-7230		While in stapling a small size paper, the main tray paper exit sensor (PS10) does not turn OFF within a specified period of time after the PS10 turns ON.		
	J-7238		The FNS operation did not complete when the operation is completed.		
	J-7302	When idling	The stacker entrance sensor (PS5) turns ON while in idling.	—	Remove jammed paper in the FS/main body, if any.
	J-7303		The stack empty sensor (PS20) turns ON while turning ON the power source.		
	J-7305		The FNS entrance sensor (PS4) turns ON while in idling.		
	J-7307		The sub tray paper exit sensor (PS1) turns ON while in idling.		
	J-7318		The main tray paper exit sensor (PS10) turns ON while in idling.		

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Classification	Jam code	Cause		Resulting operation	Correction
RU	J-7362	When idling	Entrance sensor (PS1) is ON in the idling condition.	—	Open the front door and remove jammed paper, if any.
	J-7363		Intermediate sensor (PS2) is ON in the idling condition.		
	J-7364		Paper exit sensor (PS3) is ON in the idling condition.		
LS	J-7350		Entrance sensor (PS4) is ON in the idling condition.	—	Open the LS front door, then the entrance conveyance jam lever and remove jammed paper, if any.
	J-7351		Sub-tray paper exit sensor (PS10) is ON in the idling condition.		Open the LS sub-tray cover and remove jammed paper, if any.
	J-7352		Any one of the conveyance sensor /1 (PS7), /2 (PS16), /3 (PS17) is ON in the idling condition.		Open the LS jam door and remove jammed paper, if any.
	J-7353		Coupling exit sensor (PS18) is turned ON in the idling condition.		Open the LS front door, then the coupling paper exit jam lever and remove jammed paper, if any.
FD	J-7358		Any one of the FD entrance sensor (PS1), punch conveyance sensor (PS5) or the punch registration sensor (PS6) is turned ON in the idling condition.	—	Open the FD front door, then the entrance conveyance jam lever /1, /2, punch conveyance jam lever /1, /2 and remove jammed paper, if any.
	J-7359		Any one of the intermediate conveyance sensor (PS13), sub-tray paper exit sensor (PS16) or the main tray paper exit sensor (PS18) is ON in the idling condition.		Open the FD front door, then the intermediate conveyance jam lever and remove jammed paper, if any.
	J-7360		Any one of the 1st folding conveyance sensor (PS51), 2nd folding conveyance sensor (PS53), 3rd folding conveyance sensor (PS54), S size conveyance sensor (PS58), folding entrance sensor (PS52) or the folding exit sensor (PS2) is ON in the idling condition.		Open the FD front door, pull out the fold conveyance section, then open the fold conveyance jam lever /1 to /5 and remove jammed paper, if any.

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Classification	Jam code		Cause	Resulting operation	Correction
FD	J-7361	When idling	Any one of the PI conveyance sensor /Up (PS31), PI conveyance sensor / Lw (PS37) or the PI exit sensor (PS4) is ON in the idling condition.	—	Open the FD upper door and remove jammed paper, if any. Open the entrance conveyance jam lever / 1 and remove jammed paper, if jammed paper is in the PI exit.
SD	J-7368		Entrance sensor (PS1) is ON in the idling condition.	—	Open the SD front door /Rt and remove jammed paper, if any.
	J-7369		Any one of the horizontal conveyance sensor /1 (PS2), horizontal conveyance sensor /2 (PS3) or the subtray paper exit sensor (PS11) is ON in the idling condition.		
	J-7370		Horizontal conveyance exit sensor (PS4) is ON in the idling condition.		Open the SD front door /Lt and remove jammed paper, if any.
	J-7371		Either one of the right angle conveyance sensor /1 (PS5) or the right angle conveyance sensor /2 (PS6) is ON in the idling condition.		Open the SD front door /Rt and remove jammed paper, if any.
	J-7372		Any one of the folding sensor /1 (PS7), foling passage sensor (PS8), tri-folding exit sensor (PS9) or the folding sensor /2 (PS44) is ON in the idling condition.		
	J-7373		Saddle stitching paper sensor (PS13) is ON in the idling condition.		Open the SD front door /Lt and remove jammed paper, if any.
	J-7374		Any one of the bundle sensor /1 (PS14), bundle sensor /2 (PS15), bundle sensor /4(PS54) or the bundle exit sensor /2 (PS57) is ON in the idling condition.		
LS	J-7401	During operation	After the main body paper exit sensor (PS13) is turned ON, entrance sensor (PS4) is not turned ON within the specified time.	LS/main body stop immediately.	Remove jammed paper in the LS/main body, if any.
	J-7402		After the entrance sensor (PS4) is turned ON, it is not turned OFF within the specified time.		

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Classification	Jam code	Cause		Resulting operation	Correction
LS	J-7403	During operation	After the entrance sensor (PS4) is turned ON, sub tray paper exit sensor (PS10) is not turned ON within the specified time.	LS/main body stop immediately.	Remove jammed paper in the LS/main body, if any.
	J-7404		After the sub tray paper exit sensor (PS10) is turned ON, it is not turned OFF within the specified time.		
	J-7405		After the entrance sensor /1 (PS4) turns ON, conveyance sensor /1 (PS7) is not turned ON within the specified time.		
	J-7406		After the conveyance sensor (PS7) is turned ON, it is not turned OFF within the specified time.		
	J-7407		After the conveyance sensor /1 (PS7) turns ON, conveyance sensor /2 (PS16) is not turned ON within the specified time.		
	J-7408		After the conveyance sensor /2 (PS16) is turned ON, it is not turned OFF within the specified time.		
	J-7409		After the conveyance sensor /2 (PS16) turns ON, conveyance sensor /3 (PS17) is not turned ON within the specified time.		
	J-7410		After the conveyance sensor /3 (PS17) is turned ON, it is not turned OFF within the specified time.		
	J-7411		After the conveyance sensor /3 (PS17) turns ON, coupling exit sensor (PS18) is not turned ON within the specified time.		
	J-7412		After the coupling exit sensor (PS18) is turned ON, it is not turned OFF within the specified time.		
FD	J-7501		After the main body paper exit sensor (PS13) is turned ON, FD entrance sensor (PS1) is not turned ON within the specified time.	FD/main body stop immediately.	Remove jammed paper in the FD/main body, if any.
	J-7502		After the FD entrance sensor (PS1) turns ON, intermediate conveyance sensor (PS13) is not turned ON within the specified time.		

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Classification	Jam code		Cause	Resulting operation	Correction
FD	J-7503	During operation	After the intermediate conveyance sensor (PS13) is turned ON, main tray paper exit sensor (PS18) is not turned ON within the specified time.	FD/main body stop immediately.	Remove jammed paper in the FD/main body, if any.
	J-7504		After the main tray paper exit sensor (PS18) is turned ON, it is not turned OFF within the specified time.		
	J-7505		After the intermediate conveyance sensor (PS13) is turned ON, sub tray paper exit sensor (PS16) is not turned ON within the specified time.		
	J-7506		After the sub tray paper exit sensor (PS16) is turned ON, it is not turned OFF within the specified time.		
	J-7507		After the FD entrance sensor (PS1) turns ON, punch conveyance sensor (PS5) is not turned ON within the specified time.		
	J-7508		After the punch conveyance sensor (PS5) turns ON, 3rd foling conveyance sensor (PS54) is not turned ON within the specified time.		
	J-7509		After the punch conveyance sensor (PS5) turns ON, punch registration sensor (PS6) is not turned ON within the specified time.		
	J-7510		After the punch registration sensor (PS6) turns ON, 1st folding conveyance sensor (PS51) is not turned ON within the specified time.		
	J-7511		After the first fold conveyance sensor (PS51) turns ON, 3rd folding conveyance sensor (PS54) is not turned ON within the specified time.		
	J-7512		After the 3rd folding conveyance sensor (PS54) turns ON, intermediate conveyance sensor (PS13) is not turned ON within the specified time.		
	J-7513		During fold operation, after the 1st folding motor (M4) starts accelerating, 2nd folding conveyance sensor (PS53) is not turned ON within the specified time.		

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Classification	Jam code	Cause		Resulting operation	Correction
FD	J-7514	During operation	During fold operation, after the 1st folding motor (M4) starts accelerating, 3rd folding conveyance sensor (PS54) is not turned ON within the specified time.	FD/main body stop immediately.	Remove jammed paper in the FD/main body, if any.
	J-7515		During fold operation, after the 2nd folding motor (M5) starts accelerating, 3rd folding conveyance sensor (PS54) is not turned ON within the specified time.		
	J-7516		During fold operation, after the 3rd folding motor (M6) starts accelerating, intermediate conveyance sensor (PS13) is not turned ON within the specified time.		
	J-7517		During fold operation, after the 2nd folding conveyance sensor (PS53) turns ON, third fold conveyance sensor (PS54) is not turned ON within the specified time.		
	J-7518		During fold operation, after the 3rd folding conveyance sensor (PS54) turns ON, intermediate conveyance sensor (PS13) is not turned ON within the specified time.		
	J-7519		After the PI pick-up solenoid /Up (SD13) turns ON, PI conveyance sensor /Up (PS31) is not turned ON within the specified time.		
	J-7520		After PI conveyance sensor /Up (PS31) is turned ON, PI exit sensor (PS4) is not turned ON within the specified time.		
	J-7521		After the PI pick-up solenoid /Lw (SD14) turns ON, PI conveyance sensor /Lw (PS37) is not turned ON within the specified time.		
	J-7522		After PI conveyance sensor /Lw (PS37) is turned ON, PI exit sensor (PS4) is not turned ON within the specified time.		
	J-7523		After PI exit sensor (PS4) is turned ON, FD entrance sensor (PS1) is not turned ON within the specified time.		
	J-7524		PI double feed was detected.		

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Classification	Jam code		Cause	Resulting operation	Correction
RU	J-7540	During operation	After the main body paper exit sensor (PS13) is turned ON, RU entrance sensor (PS1) is not turned ON within the specified time.	RU/main body stop immediately.	Remove jammed paper in the RU/main body, if any.
	J-7541		After the RU entrance sensor (PS1) turns ON, RU intermediate sensor (PS2) is not turned ON within the specified time.		
	J-7542		After the RU intermediate sensor (PS2) turns ON, RU paper exit sensor (PS3) is not turned ON within the specified time.		
	J-7543		After the RU paper exit sensor (PS3) is turned ON, it is not turned OFF within the specified time.		
SD	J-7561		After the main body paper exit sensor (PS13) is turned ON, entrance sensor (PS1) is not turned ON within the specified time.	SD/main body stop immediately.	Remove jammed paper in the SD/main body, if any.
	J-7562		After the entrance sensor (PS1) turns ON, horizontal conveyance sensor /1 (PS2) is not turned ON within the specified time.		
	J-7563		After the horizontal conveyance sensor /1 (PS2) turns ON, horizontal conveyance sensor/2 (PS3) is not turned ON within the specified time.		
	J-7564		After the horizontal conveyance sensor/2 (PS3) turns ON, horizontal conveyance exit sensor (PS4) is not turned ON within the specified time.		
	J-7565		After the horizontal conveyance exit sensor (PS4) is turned ON, it is not turned OFF within the specified time.		
	J-7566		After the horizontal conveyance sensor/1 (PS2) turns ON, subtray sensor (PS11) is not turned ON within the specified time.		
	J-7567		After the subtray paper exit sensor (PS11) turns ON, subtray paper exit sensor (PS11) is not turned OFF within the specified time.		

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Classification	Jam code	Cause		Resulting operation	Correction
SD	J-7568	During operation	After the right angle conveyance motor (M6) turns ON, right angle conveyance sensor/2 (PS6) is not turned ON within the specified time.	SD/main body stop immediately.	Remove jammed paper in the SD/main body, if any.
	J-7569		After the folding entrance motor (M3) turns ON, folding sensor /1 (PS7) is not turned ON within the specified time.		
	J-7570		After the folding sub scan alignment exit motor (M8) turns ON, saddle stitching paper sensor (PS13) is not turned ON within the specified time.		
	J-7571		After the bundle arm rotation motor (M22) turns ON, bundle sensor /1 (PS14) is not turned ON within the specified time.		
	J-7572		After the bundle clip motor (M11) turns ON, bundle sensor /2 (PS15) is not turned ON within the specified time.		
	J-7573		After the bunch sensor /2 (PS15) turns ON, bunch sensor /4 (PS54) is not turned ON within the specified time.		
	J-7574		After the entrance sensor (PS1) is turned ON, it is not turned OFF within the specified time.		
	J-7575		After the right angle conveyance sensor /2 (PS6) is turned ON, it is not turned OFF within the specified time.		
	J-7576		After the folding sensor /2 (PS44) is turned ON, it is not turned OFF within the specified time.		
	J-7577		After the bundle sensor /1 (PS14) is turned ON, it is not turned OFF within the specified time.		
	J-7578		After the bundle sensor /2 (PS15) is turned ON, it is not turned OFF within the specified time.		
	J-7579		After the folding conveyance motor (M4) turns ON, folding passage sensor (PS8) is not turned ON within the specified time.		
	J-7580		After the folding conveyance motor (M4) turns ON, tri-folding paper exit sensor (PS9) is not turned ON within the specified time.		

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Classification	Jam code	Cause		Resulting operation	Correction
SD	J-7581	During operation	After the folding sub scan alignment exit motor (M8) is turned ON, it is not turned OFF within the specified time.	SD/main body stop immediately.	Remove jammed paper in the SD/main body, if any.
	J-7582		After the folding passage sensor (PS8) is turned ON, it is not turned OFF within the specified time.		
	J-7583		After the tri-folding paper exit sensor (PS9) is turned ON, it is not turned OFF within the specified time.		
	J-7584		After the bundle press movement motor (M17) is turned ON, trimmer registration sensor (PS55) is not turned OFF within the specified time.		
	J-7585		After the bundle registration motor (M12) turns ON, trimmer registration sensor (PS55) is not turned ON within the specified time.		
ADU	J-9201		After the reverse/exit sensor (PS19) is turned ON, ADU reverse sensor (PS21) is not turned ON within the specified time.	Stops immediately.	Pull out ADU and remove jammed paper, if any.
	J-9202		After the ADU stop sensor (PS20) is turned ON, it is not turned OFF within the specified time.		
	J-9251	When idling	ADU reverse sensor (PS21) is ON in the idling condition.	—	
	J-9252		ADU stop sensor (PS20) is ON in the idling condition.		
	J-9301	During operation	After reversal of ADU reverse motor (M32) is turned ON, ADU conveyance sensor (PS61) is not turned ON within the specified time.	Stops immediately.	
	J-9351	When idling	ADU conveyance sensor (PS61) is ON in the idling condition.	—	
	J-9401	During operation	After the ADU conveyance sensor (PS61) is turned ON, ADU pre-registration sensor (PS23) is not turned ON within the specified time.	Stops immediately.	

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Classification	Jam code	Cause		Resulting operation	Correction
ADU	J-9451	When idling	ADU pre-registration sensor (PS23) is ON in the idling condition.	—	Pull out ADU and remove jammed paper, if any.

13. MALFUNCTION CODE

13.1 Malfunction code list

A. Usage conditions

Error conditions are cleared by turning OFF/ON the sub power switch (SW2) of the main body.

B. Code List

NOTE

- **Where there is "*" in the malfunction code field, "Turn ON the power switch again" is indicated on the touch panel.**
- **Where there is no "*" in the malfunction code field, "Contact the Service Section" is indicated on the operation panel.**

Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Communication abnormality	C-0001*	Communication abnormality between printer control board (PRCB) and PF drive board (PFDB) or LU drive board (LUDB).	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) PF drive board (PFDB) LU drive board (LUDB)
		C-0002*	Communication abnormality between printer control board (PRCB) and conveyance drive board (CDB).		Printer control board (PRCB) Conveyance drive board (CDB)
		C-0003*	Communication abnormality between printer control board (PRCB) and conveyance drive board (CDB).		Printer control board (PRCB) Conveyance drive board (CDB)
	Paper feed motor abnormality	C-0101	M41 abnormality detection signal was continuously detected for the specified time when the paper feed motor (M41) was ON.		Printer control board (PRCB) Paper feed motor (M41)
LU	LU paper feed motor abnormality	C-0102	M101 abnormality detection signal was continuously detected for the specified time when the paper feed motor (M1) was ON.		LU drive board (LUDB) Paper feed motor (M1)
PF	Paper feed motor abnormality	C-0103	M101 abnormality detection signal was continuously detected for the specified time when the paper feed motor (M1) was ON.		PF drive board (PFDB) Paper feed motor (M1)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Paper feed tray abnormality	C-0201	After paper lift motor/1 (M38) turns ON, upper limit sensor/1 (PS30) is not turned ON within specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Paper lift motor/1 (M38) Upper limit sensor/1 (PS30)
		C-0202	After paper lift motor/2 (M39) turns ON, upper limit sensor/2 (PS36) is not turned ON within specified time.		Printer control board (PRCB) Paper lift motor/2 (M39) Upper limit sensor/2 (PS36)
		C-0203	After paper lift motor/3 (M40) turns ON, upper limit sensor/3 (PS42) is not turned ON within specified time.		Printer control board (PRCB) Paper lift motor/3 (M40) Upper limit sensor/3 (PS42)
LU	LU paper lift motor abnormality	C-0204	M100 lock signal detected when the paper lift motor (M100) was ON.		LU drive board (LUDB) Paper lift motor (M100)
		C-0205	When the upper limit sensor (PS109) or lower limit sensor (PS101) is ON, PS101 or PS109 is not turned ON within the specified time after the paper lift motor (M100) is turned ON.		LU drive board (LUDB) Paper lift motor (M100) Upper limit sensor (PS109) Lower limit sensor (PS101)
PF	PF paper lift motor abnormality	C-0208	After paper lift motor/1 (M2) turns ON, upper limit sensor/1 (PS1) is not turned ON within specified time.		PF drive board (PFDB) Paper lift motor/1 (M2) Upper limit sensor/1 (PS1)
		C-0209	Power line fuse for paper lift motor/1 (M2) out.		PF drive board (PFDB)
		C-0211	After paper lift motor/2 (M3) turns ON, upper limit sensor/2 (PS9) is not turned ON within specified time.		PF drive board (PFDB) Paper lift motor/2 (M3) Upper limit sensor/2 (PS9)
		C-0212	Power line fuse for paper lift motor/2 (M3) out.		PF drive board (PFDB)
Main body	Paper exit abnormality	C-0213	After the paper exit pressure sensor (PS10) turns OFF, it is not turned ON within the specified time.		AC drive board (ACDB) Printer control board (PRCB) Paper exit motor (M54) Paper exit pressure sensor (PS10)
	Fan abnormality	C-0301	M47 abnormality detection signal was continuously detected for the specified time when the main body fan (M47) was ON.		Printer control board (PRCB) main body fan (M47)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fan abnormality	C-0302	Any one of the M26, M27, M28 abnormality detection signal was continuously detected for the specified time when the tucking fan/1 (M26), /2(M27) or /3 (M28) was ON.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Tucking fan/1 (M26) Tucking fan/2 (M27) Tucking fan/3 (M28)
		C-0303	Either one of the M66 abnormality detection signal was continuously detected for the specified time when the ADU fan/1 (M66) was ON.		Conveyance drive board (CDB) ADU fan/1 (M66)
		C-0304	While the paper exit fans/1, /2 and /3 (M61, M62 and M63) are turned ON, an error detection signal of either M61, M62 or M63 is detected for the specified period of time in succession.		Printer control board (PRCB) Paper exit fan/1 (M61) Paper exit fan/2 (M62) Paper exit fan/3 (M63)
		C-0305	M36 abnormality detection signal was continuously detected for the specified time when the deodorization fan (M36) was ON.		Printer control board (PRCB) Deodorization fan (M36)
LU	LU fan abnormality	C-0306	When the paper feed assist fan/Rr (M137) was ON, M137 abnormality detection signal was continuously detected for the specified time.		LU drive board (LUDB) Paper feed assist fan/Rr (M137)
		C-0307	When the paper feed assist fan/Fr (FM1) was ON, FM1 abnormality detection signal was continuously detected for the specified time.		LU drive board (LUDB) Paper feed assist fan/Fr (FM1)
PF	PF fan abnormality	C-0308	When the paper feed assist fan/Fr11 (FM1) was ON, FM1 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Fr11 (FM1)
		C-0309	When the paper feed assist fan/Fr12 (FM3) was ON, FM3 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Fr12 (FM3)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
PF	PF fan abnormality	C-0310	When the paper feed assist fan/Rr11 (FM2) was ON, FM2 abnormality detection signal was continuously detected for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	PF drive board (PFDB) Paper feed assist fan/Rr11 (FM2)
		C-0311	When the paper feed assist fan/Rr12 (FM4) was ON, FM4 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Rr12 (FM4)
		C-0312	When the paper feed assist fan/Fr21 (FM5) was ON, FM1 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Fr21 (FM5)
		C-0313	When the paper feed assist fan/Fr22 (FM7) was ON, FM7 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Fr22 (FM7)
		C-0314	When the paper feed assist fan/Rr21 (FM6) was ON, FM6 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Rr21 (FM6)
		C-0315	When the paper feed assist fan/Rr22 (FM8) was ON, FM8 abnormality detection signal was continuously detected for the specified time.		PF drive board (PFDB) Paper feed assist fan/Rr22 (FM8)
		C-0316	Either one of the FM11 or FM12 abnormality detection signal was continuously detected for the specified time when the dehumidifier fan/1 (FM11), /2 (FM12) was ON.		PF drive board (PFDB) Dehumidifier fan/1 (FM11) Dehumidifier fan/2 (FM12)
		C-0317	Either one of the FM13 or FM14 abnormality detection signal was continuously detected for the specified time when the dehumidifier fan/3 (FM13), /4 (FM14) was ON.		PF drive board (PFDB) Dehumidifier fan/3 (FM13) Dehumidifier fan/4 (FM14)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
PF	PF fan abnormality	C-0318	Either one of the FM10 or FM9 abnormality detection signal was continuously detected for the specified time when the ventilation fan/1 (FM10), /2 (FM9) was ON.	Main body stops immediately and main relay (RY1) is turned OFF.	PF drive board (PFDB) Ventilation fan/1 (FM10) Ventilation fan/2 (FM9)
LU	LU fan abnormality	C-0320	FM3 abnormality detection signal was continuously detected for the specified time when the dehumidifier fan/1 (FM3) was ON.		LU drive board (LUDB) Dehumidifier fan/1 (FM3)
		C-0321	FM4 abnormality detection signal was continuously detected for the specified time when the dehumidifier fan/2 (FM4) was ON.		LU drive board (LUDB) Dehumidifier fan/2 (FM4)
Main body	Fan abnormality	C-0322	M67 abnormality detection signal was continuously detected for the specified time when the ADU fan /2 (M67) was ON.		Conveyance drive board (CDB) ADU fan /2 (M67)
LU	LU power abnormality	C-0401	24VDC is not supplied to LU.		LU drive board (LUDB) DC power unit/1 (DCPS/1) DC power unit/2 (DCPS/2)
		C-0402	12VDC is not supplied to LU.		LU drive board (LUDB) DC power unit/1 (DCPS/1)
PF	PF power abnormality	C-0403	24VDC is not supplied to PF.		PF drive board (PFDB) DC power unit/1 (DCPS/1)
		C-0404	24VDC is not supplied to PF.		PF drive board (PFDB) DC power unit/2 (DCPS/2)
		C-0405	12VDC is not supplied to PF.		PF drive board (PFDB) DC power unit/1 (DCPS/1)
		C-0406	24VDC is not supplied to PF.		PF drive board (PFDB) AC drive board in PF (ACDB)
	PF temperature sensor abnormality	C-0407	Temperature sensor/3 (TEMS/3) detected abnormality signal continuously for the specified time.		PF drive board (PFDB) Temperature sensor/3 (TEMS/3)
		C-0408	Temperature sensor/4 (TEMS/4) detected abnormality signal continuously for the specified time.		PF drive board (PFDB) Temperature sensor/4 (TEMS/4)
	PF fan heater abnormality	C-0409	Fan heater/Up (HTR3) overheat abnormality. Temperature sensor/3 (TEMS/3) detected temperature abnormality signal continuously for the specified time.		PF drive board (PFDB) AC drive board in PF (ACDB) Fan heater/Up (HTR3) Temperature sensor/3 (TEMS/3)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
PF	PF fan heater abnormality	C-0410	Fan heater/Lw (HTR4) overheat abnormality. Temperature sensor/4 (TEMS/4) detected temperature abnormality signal continuously for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	PF drive board (PFDB) AC drive board in PF (ACDB) Fan heater /Lw (HTR4) Temperature sensor/4 (TEMS/4)
		C-0411	Fan heater/Up (HTR3) low-temperature abnormality. Temperature sensor/3 (TEMS/3) detected temperature abnormality signal continuously for the specified time.		PF drive board (PFDB) AC drive board in PF (ACDB) Fan heater /Up (HTR3) Temperature sensor/3 (TEMS/3)
		C-0412	Fan heater/Lw (HTR4) Low-temperature abnormality. Temperature sensor/4 (TEMS/4) detected temperature abnormality signal continuously for the specified time.		PF drive board (PFDB) AC drive board in PF (ACDB) Fan heater/Lw (HTR4) Temperature sensor /4 (TEMS/4)
		C-0413	Fan heater/Up (HTR3) rising temperature abnormality. Temperature sensor/3 (TEMS/3) detected temperature does not reach the specified temperature within the specified time.		PF drive board (PFDB) AC drive board in PF (ACDB) Fan heater /Up (HTR3) Temperature sensor/3 (TEMS/3)
		C-0414	Fan heater/Lw (HTR4) rising temperature abnormality. Temperature sensor/4 (TEMS/4) detected temperature does not reach the specified temperature within the specified time.		PF drive board (PFDB) AC drive board in PF (ACDB) Fan heater/Lw (HTR4) Temperature sensor/4 (TEMS/4)
LU	LU temperature sensor abnormality	C-0415	Temperature sensor (TEMS) detected abnormality signal continuously for the specified time.		LU drive board (LUDB) Temperature sensor (TEMS)
	LU dehumidifier heater abnormality	C-0416	Dehumidifier heater/3 (HTR2) overheat abnormality. Temperature sensor (TEMS) detected temperature abnormality signal continuously for the specified time.		LU drive board (LUDB) LUAC drive board (ACDB) Dehumidifier heater /3 (HTR2) Temperature sensor (TEMS)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
LU	LU dehumidifier heater abnormality	C-0417	Dehumidifier heater /3 (HTR2) low-temperature abnormality. Temperature sensor (TEMS) detected temperature abnormality signal continuously for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	LU drive board (LUDB) LUAC drive board (ACDB) Dehumidifier heater /3 (HTR2) Temperature sensor (TEMS)
		C-0418	Dehumidifier heater /3 (HTR2) rising temperature abnormality. Temperature sensor (TEMS) detected temperature does not reach the specified temperature within the specified time.		
FS	FS abnormality	C-1005	Communication abnormality.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) FNS control board (FNSCB)
FD	FD abnormality	C-1006	Communication abnormality.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) FD control board (FDCB)
SD	SD abnormality	C-1007	Communication abnormality.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) SD control board (SDCB)
RU	RU abnormality	C-1008	Communication abnormality.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) RU control board (RUCB)
FS	FS-607 abnormality	C-1101	Shift unit does not reach the shift position or the home position within the specified time.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) Shift roller Motor (M2) Shift roller home sensor (PS18)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FS	FS-503 abnormality	C-1102	The tray up down motor (M3) does not turn OFF after the specified time has passed. Or, the motor was rotating at a speed out of the specified range for over the permitted operating time.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) FNS drive board (FNSDB) Tray up down motor (M3) Tray upper limit sensor (PS2) Tray lower limit sensor (PS3)
	FS-607 abnormality		After the main tray up down motor (M3) operation is started, the main tray upper limit sensor (PS2) is not turned ON within the specified time.		FNS control board (FNSCB) Tray up down motor (M3) Tray upper limit sensor (PS2)
	FS-503 abnormality	C-1103	After the alignment motors/Rr (M5), /Fr (M22) home position search operation started, the alignment home sensors/Rr (PS8) and /Fr (PS31) are not turned ON within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Alignment motor /Rr (M5) Alignment motor /Fr (M22) Alignment Home Sensor /Rr (PS8) Alignment Home Sensor /Fr (PS31)
	FS-607 abnormality		After the alignment motor/Up (M5) operation is started, the alignment home sensor/Up (PS8) is not turned ON/OFF within the specified time.		FNS control board (FNSCB) Alignment motor /Up (M5) Alignment home Sensor /Up (PS8)
	FS-503 abnormality	C-1104	Main tray exit motor (M7) was rotating at a speed out of the specified range for over the permitted operating time.		FNS control board (FNSCB) FNS drive board (FNSDB) Main tray exit motor (M7)
	FS-607 abnormality		After the paper exit roller motor (M7) operation is started, the motor speed does not reach the prescribed speed within the specified time.		FNS control board (FNSCB) Paper exit roller motor (M7)
	FS-503 abnormality	C-1105	After the paper exit opening motor (M8) operation is started, the paper exit opening unit does not reach the specified opening position within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Paper exit opening motor (M8) Paper exit opening sensor (PS12)
	FS-607 abnormality		After the paper exit opening motor (M8) operation is started, the paper exit home sensor (PS12) is not turned ON/OFF within the specified time.		FNS control board (FNSCB) Paper exit opening motor (M8) Paper exit home sensor (PS12)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FS	FS-503 abnormality	C-1106	After stapler movement motor (M11) home position search operation started, the stapler movement home sensor (PS11) are not turned ON within the specified time.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) FNS drive board (FNSDB) Stapler movement motor (M11) Stapler movement home sensor (PS11)
	FS-607 abnormality	C-1106	After the stapler movement motor (M11) operation is started, the Stapler movement home sensor (PS11) is not turned ON/OFF within the specified time.		FNS control board (FNSCB) Stapler movement motor (M11) Stapler movement home sensor (PS11)
	FS-503 abnormality	C-1107	After the stapler rotation motor (M4) home position search operation started, the stapler rotation home sensor (PS14) are not turned ON within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Stapler rotation motor (M4) Stapler rotation home sensor (PS14)
	FS-607 abnormality		After the clincher rotation motor (M4) operation is started, the clincher rotation home sensor (PS14) is not turned ON/OFF within the specified time.		FNS control board (FNSCB) Clincher rotation motor (M4) Clincher rotation home sensor (PS14)
	FS-503 abnormality	C-1108	After the stapler rotation motor (M4) home position search operation started, the stapler rotation home sensor (PS14) are not turned ON within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Stapler rotation motor (M4) Stapler rotation home sensor (PS14)
	FS-607 abnormality		After stapler rotation motor (M6) operation is started, the stapler rotation home sensor (PS13) are not turned ON/OFF within the specified time.		FNS control board (FNSCB) Stapler rotation motor (M6) Stapler rotation home sensor (PS13)
	FS-503 abnormality	C-1109	After the stapler motor/Fr (M31) operation is started, the stapler home sensor/Fr (PS41) is not turned ON within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Stapler board (STB) Stapler motor/Fr (M31) Stapler home sensor /Fr (PS41)
	FS-607 abnormality		After the stapler motor/Fr (M14) operation is started, the stapler motor home sensor /Fr (PS31) is not turned ON within the specified time.		FNS control board (FNSCB) Stapler motor/Fr (M14) Stapler motor home sensor / Fr (PS31)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FS	FS-503 abnormality	C-1110	After the stapler motor/Rr (M30) operation is started, the operation is not completed within the specified time and the stapler home sensor/Rr (PS40) is not turned ON .	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) FNS drive board (FNSDB) Stapler board (STB) Stapler motor /Rr (M30) Stapler home sensor /Rr (PS40)
	FS-607 abnormality		After the stapler motor /Rr (M9) operation is started, the stapler motor home sensor /Rr (PS30) is not turned ON within the specified time.		FNS control board (FNSCB) Stapler motor /Rr (M9) Stapler motor home sensor / Rr (PS30)
	FS-607 abnormality	C-1111	After the clincher motor /Fr (M15) operation is started, the clincher motor home sensor /Fr (PS33) is not turned ON within the specified time.		FNS control board (FNSCB) Clincher motor /Fr (M15) Clincher motor home sensor /Fr (PS33)
		C-1112	After the clincher motor /Rr (M10) operation is started, the clincher motor home sensor /Rr (PS32) is not turned ON within the specified time.		FNS control board (FNSCB) Clincher motor /Rr (M10) Clincher motor home sensor /Rr (PS32)
	FS-503 abnormality	C-1113	After the rear stopper motor (M26) home position search operation started, the rear stopper home sensor (PS35) are not turned ON within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Rear stopper motor (M26) Rear stopper home sensor (PS35)
	FS-607 abnormality		After the saddle stitching stopper motor (M18) operation is started, the saddle stitching stopper home sensor (PS23) is not turned ON within the specified time.		FNS control board (FNSCB) Saddle stitching stopper motor (M18) Saddle stitching stopper home sensor (PS23)
		C-1114	After the alignment motor /Lw (M16) operation is started, the alignment home sensor /Lw (PS24) is not turned ON within the specified time.		FNS control board (FNSCB) Alignment motor /Lw (M16) Alignment home sensor /Lw (PS24)
		C-1115	After the folding knife motor (M19) operation is started, the Folding knife home sensor (PS22) is not turned ON within the specified time.		FNS control board (FNSCB) Folding knife motor (M19) Folding knife home sensor (PS22)
		C-1116	After the folding transfer motor (M20) operation is started, the motor speed does not reach the prescribed speed within the specified time.		FNS control board (FNSCB) Folding transfer motor (M20)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
PI	PI abnormality	C-1124	After the tray lift motor /Lw (M202) operation is started, the tray upper limit sensor /Lw (PS209) or tray lower limit sensor /Lw (PS210) is not turned ON within the specified time.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) PI drive board (PIDB) Tray lift motor /Lw (M202) Tray upper limit sensor /Lw (PS209) Tray lower limit sensor /Lw (PS210)
		C-1125	After tray lift motor /Up (M201) operation is started, the tray upper limit sensor /Up (PS204) or tray lower limit sensor /Up (PS205) is not turned ON within the specified time.		FNS control board (FNSCB) PI drive board (PIDB) Tray lift motor /Up (M201) Tray upper limit sensor /Up (PS204) Tray lower limit sensor /Up (PS205)
		C-1126	After the PI conveyance motor (M203) operation is started, the motor speed does not reach the prescribed speed within the specified time.		FNS control board (FNSCB) PI drive board (PIDB) PI conveyance motor (M203)
PK	PK abnormality	C-1127	After punch shift motor (M302) operation is started, the punch shift home sensor (PS303) is not turned ON within the specified time.		FNS control board (FNSCB) Punch drive board (PDB) Punch shift motor (M302) Punch shift home sensor (PS303)
		C-1132	After punch motor (M301) operation is started, the punch home sensor (PS301) is not turned ON within the specified time.		FNS control board (FNSCB) Punch drive boar (PDB) Punch motor (M301) Punch home sensor (PS301)
FS	FS-607 abnormality	C-1137	After gate motor (M12) operation is started, the Gate home sensor (PS16) is not turned ON within the specified time.		FNS control board (FNSCB) Gate motor (M12) Gate home sensor (PS16)
		C-1138	After the paper exit roller motor (M7) operation is started, the operation is not completed within the specified time and the paper exit belt home sensor (PS9) is not turned ON . Or the motor was rotating at a speed out of specified range for over the permitted operating time.		FNS control board (FNSCB) Paper exit roller motor (M7) Paper exit belt home sensor (PS9)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FS	FS-503 abnormality	C-1140	After the Paper exit arm motor (M23) operation is started, the operation is not completed within the specified time and the paper exit arm home sensor (PS9) is not turned ON . Or the motor was rotating at a speed out of specified range for over the permitted operating time.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) FNS drive board (FNSDB) Paper exit arm motor (M23) Paper exit arm home sensor (PS9)
		C-1141	After the stacker entrance sensor (PS5) operation is started, paddle motor (M2) is not turned ON within the specified time. Or the stapler motor /Fr (M31), / Rr (M30) operation is started, M2 is not turned OFF within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Paddle motor (M2)
		C-1142	The Intermediate roller release solenoid (SD7) operation is not started after pressing start button. After the alignment motors / Fr (M22), /Rr (M5) are turned OFF, SD7 is not turned OFF within the specified time. Or after SD7 is turned OFF, it is not s not turned ON within the specified time.		FNS control board (FNSCB) FNS drive board (FNSDB) Intermediate roller release solenoid (SD7)
	FS-607 abnormality	C-1143	The FNS conveyance motor (M1) operation is not started after pressing start button. Or the FNS conveyance motor (M1) does not shift the speed for each processing.		FNS control board (FNSCB) FNS conveyance motor (M1) Main body paper exit sensor (PS37) FNS entrance sensor (PS4)
LS	LS abnormality (first coupling)	C-1201	After stacker tray up down motor (M1) turns ON, stacker tray encoder sensor (PS2) is not turned ON within the specified time. Otherwise the initial operation or the stacker tray up/down operation is not complete within the specified time.	Main body and LS stop immediately and main relay (RY1) is turned OFF.	Stacker tray up down motor (M1) LS control board (LSCB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
LS	LS abnormality (first coupling)	C-1202	After shift unit motor (M5) turns ON, shift unit home sensor (PS11) is not turned OFF within the specified time. Otherwise PS11 is not turned ON within the specified time.	Main body and LS stop immediately and main relay (RY1) is turned OFF.	Shift unit motor (M5) LS control board (LSCB)
		C-1203	After alignment motor (M7) turns ON, alignment plate home sensor (PS12) is not turned OFF within the specified time. Otherwise PS12 is not turned ON within the specified time.		Alignment motor (M7) LS control board (LSCB)
		C-1204	After the grip conveyance motor (M4) turns ON, grip conveyance sensor (PS5) is not turned ON within the specified time.		Grip conveyance motor (M4)
		C-1205	When the stacker tray up down motor (M1) up is ON, stacker tray upper limit switch (MS2) is ON.		Stacker tray up down motor (M1) Stacker tray upper limit switch (MS2)
		C-1206	When the stacker tray up down motor (M1) down is ON, stacker tray lower limit switch (MS3) is ON.		Stacker tray up down motor (M1) Stacker tray lower limit switch (MS3)
	LS abnormality (second coupling)	C-1211	After stacker tray up down motor (M1) turns ON, stacker tray encoder sensor (PS2) is not turned ON within the specified time. Otherwise the initial operation or the stacker tray up/down operation is not complete within the specified time.		Stacker tray up down motor (M1) LS control board (LSCB)
		C-1212	After shift unit motor (M5) turns ON, shift unit home sensor (PS11) is not turned OFF within the specified time. Otherwise PS11 is not turned ON within the specified time.		Shift unit motor (M5) LS control board (LSCB)
		C-1213	After alignment motor (M7) turns ON, alignment plate home sensor (PS12) is not turned OFF within the specified time. Otherwise PS12 is not turned ON within the specified time.		Alignment motor (M7) LS control board (LSCB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
LS	LS abnormality (second coupling)	C-1214	After the grip conveyance motor (M4) turns ON, grip conveyance sensor (PS5) is not turned ON within the specified time.	Main body and LS stop immediately and main relay (RY1) is turned OFF.	Grip conveyance motor (M4)
		C-1215	When the stacker tray up down motor (M1) up is ON, stacker tray upper limit switch (MS2) is ON.		Stacker tray up down motor (M1) Stacker tray upper limit switch (MS2)
		C-1216	When the stacker tray up down motor (M1) down is ON, stacker tray lower limit switch (MS3) is ON.		Stacker tray up down motor (M1) Stacker tray lower limit switch (MS3)
FD	FD abnormality	C-1221	After the 1st folding release motor (M14) turns ON, 1st folding cam home sensor (PS55) is not turned ON within the specified time.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	1st folding release motor (M14) Fold drive board (FDB) 1st folding cam home sensor (PS55)
		C-1222	After the 2nd folding release motor (M15) turns ON, 2nd folding cam home sensor (PS56) is not turned ON within the specified time.		2nd folding release motor (M15) Fold drive board (FDB) 2nd folding cam home sensor (PS56)
		C-1223	After the 3rd folding releasie motor (M16) turns ON, 3rd folding cam home sensor (PS57) is not turned ON within the specified time.		3rd folding release motor (M16) Folding drive board (FDB) 3rd folding cam home sensor (PS57)
		C-1224	After two holes punch home position recovery operation started, 2 holes punch home sensor (PS8) is not turned OFF within the specified time. Otherwise, after punch motor (M10) turns ON, 2 holes punch home sensor (PS8) is not turned OFF.		Punch motor (M10) Punch drive board (PDB) 2 holes punch home sensor (PS8)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FD	FD abnormality	C-1225	After 3 holes/4 holes punch home position recovery operation started, 3 holes/4 holes punch home sensor (PS9) is not turned OFF within the specified time. Otherwise, after punch motor (M10) turns ON, 3 holes/4 holes punch home sensor (PS9) is not turned OFF.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	Punch motor (M10) Punch drive board (PDB) 3 holes/4 holes punch home sensor (PS9)
		C-1226	After the alignment home position recovery operation started, alignment plate home sensor (PS10) is not turned ON within the specified time. Otherwise, after alignment motor (M12) turns ON, alignment plate home sensor (PS10) is not turned OFF.		Alignment motor (M12) Punch drive board (PDB) Alignment plate home sensor (PS10)
		C-1227	After the punch registration tab home position recovery operation started, punch registration home sensor (PS11) is not turned ON within the specified time. Otherwise, after punch registration motor (M13) turns ON, punch registration home sensor (PS11) is not turned OFF.		Punch registration motor (M13) Punch drive board (PDB) Punch registration home sensor (PS11)
		C-1228	After main tray home position search started, main tray upper limit sensor (PS20) is not turned ON within the specified time. Otherwise, after tray up down motor (M11) turns ON, main tray upper limit sensor (PS20) is not turned OFF.		Tray up down motor (M11) Main tray upper limit sensor (PS20) Punch drive board (PDB)
		C-1229	After the tray up down motor (M11) was turned ON, main tray lower limit sensor (PS22) is not turned ON within the specified time.		Tray up down motor (M11) Punch drive board (PDB) Main tray lower limit sensor (PS22)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FD	FD abnormality	C-1230	After lowering FD paper lift motor/Up (M8) turns ON, PI lift plate home sensor/Up (PS34) is not turned ON within the specified time. Otherwise, after rising paper lift motor/Up (M8) turns ON, PI tray upper limit sensor/Up (PS32) is not turned ON within the specified time.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	Paper lift motor/Up (M8) PI drive board (PIDB) PI lift plate home sensor/Up (PS34) PI tray upper limit sensor/Up (PS32)
		C-1231	After lowering FD paper lift motor/Lw (M9) turns ON, PI lift plate home sensor/Lw (PS40) is not turned ON within the specified time. Otherwise, after rising paper lift motor/Lw (M9) turns ON, PI tray upper limit sensor/Lw (PS38) is not turned ON within the specified time.		Paper lift motor/Lw (M9) PI drive board (PIDB) PI lift plate home sensor/Lw (PS40) PI tray upper limit sensor/Lw (PS38)
		C-1232	M1 abnormality detection signal was continuously detected for the specified time when the entrance conveyance motor (M1) was ON.		Entrance conveyance motor (M1) Punch drive board (PDB)
		C-1233	M3 abnormality detection signal was continuously detected for the specified time when the intermediate conveyance motor (M3) was ON.		Intermediate conveyance motor (M3) Punch drive board (PDB)
		C-1234	M7 abnormality detection signal was continuously detected for the specified time when the PI conveyance motor (M7) was ON.		PI Conveyance motor (M7) PI drive board (PIDB)
		C-1235	M17 abnormality detection signal was continuously detected for the specified time when the main tray paper exit motor (M17) was ON.		Main tray paper exit motor (M17) Punch drive board (PDB)
SD	SD abnormality	C-1241	After budle exit drive motor (M5) home position search operation started, scraps press home sensor (PS48) is not turned ON after specified time passed.	Main body and SD stops immediately and main relay (RY1) is turned OFF.	Bundle exit motor (M5) Scraps press home sensor (PS48) SD control board (SDCB) SD drive board (SDDB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
SD	SD abnormality	C-1242	After folding main scan alignment motor/Fr (M7) home position search operation started, folding main scan alignment home sensor/Fr1 (PS18) is not turned ON within the specified time. Otherwise, operation not complete after M7 operation started and specified time has passed.	Main body and SD stops immediately and main relay (RY1) is turned OFF.	Folding main scan alignment motor/Fr (M7) Folding main scan alignment home sensor /Fr1 (PS18) SD control board (SDCB) SD drive board (SDDB)
		C-1243	After folding sub scan alignment motor (M8) home position search operation started, folding exit home sensor (PS24) is not turned ON after the specified time has passed. Otherwise, operation not complete after M8 speed down operation started and specified time has passed.		Folding sub scan alignment exit motor (M8) Folding exit home sensor (PS24) SD control board (SDCB) SD drive board (SDDB)
		C-1244	After saddle stitching alignment motor/Rt (M9) home position search operation started, saddle stitching alignment home sensor/Rt (PS28) is not turned ON after specified time has passed. Otherwise, operation not complete after M9 operation started and specified time has passed.		Saddle stitching alignment motor/Rt (M9) Saddle stitching alignment home sensor/Rt (PS28) SD control board (SDCB) SD drive board (SDDB)
		C-1245	After bundle arm motor (M10) home position search operation started, bundle arm home sensor (PS32) is not turned ON after the specified time has passed. Otherwise, operation not complete after M10 operation started and specified time has passed.		Bundle arm motor (M10) Bundle arm home sensor (PS32) SD control board (SDCB) SD drive board (SDDB)
		C-1246	After bundle clip motor (M11) home position search operation started, bundle clip upper limit sensor (PS33) is not turned ON after the specified time has passed. Otherwise, operation not complete after M11 operation started and specified time has passed.		Bundle clip motor (M11) Bundle clip upper limit sensor (PS33) Bundle clip lower limit sensor (PS30) SD control board (SDCB) SD drive board (SDDB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
SD	SD abnormality	C-1247	After bundle registration motor (M12) home position search operation started, bundle registration home sensor (PS34) is not turned ON after the specified time has passed. Otherwise, operation not complete after M12 operation started and specified time has passed.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Bundle registration motor (M12) Bundle registration home sensor (PS34) SD control board (SDCB) SD drive board (SDDB)
		C-1248	After overlap motor (M13) home position search operation started, overlap home sensor (PS17) is not turned ON after the specified time has passed. Otherwise, operation not complete after M13 operation started and specified time has passed.		Overlap motor (M13) Overlap home sensor (PS17) SD control board (SDCB) SD drive board (SDDB)
		C-1249	After folding main scan alignment motor/Rr (M14) home position search operation started, folding main scan alignment home sensor/Rr (PS19) is not turned ON after the specified time has passed. Otherwise, operation not complete after M14 operation started and specified time has passed.		Folding main scan alignment motor/Rr (M14) Folding main scan alignment home sensor/Rr (PS19) SD control board (SDCB) SD drive board (SDDB)
		C-1250	After the stapler movement motor (M15) home position search operation started, the stapler movement home sensor (PS25) is not turned ON after the specified time has passed. Otherwise, operation not complete after M15 operation started and specified time has passed.		Stapler movement motor (M15) Stapler movement home sensor (PS25) SD control board (SDCB) SD drive board (SDDB)
		C-1251	After saddle stitching alignment motor/Lt (M16) home position search operation started, saddle stitching alignment home sensor/Lt (PS29) is not turned ON after specified time has passed. Otherwise, operation not complete after M16 operation started and specified time has passed.		Saddle stitching alignment motor/Lt (M16) Saddle stitching alignment home sensor/Lt (PS29) SD control board (SDCB) SD drive board (SDDB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
SD	SD abnormality	C-1252	After the bundle press movement motor (M17) home position search operation started, the bundle press movement home sensor (PS36) is not turned ON after the specified time has passed. Otherwise, operation not complete after M17 operation started and specified time has passed.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Bundle press movement motor (M17) Bundle press movement home sensor (PS36) SD control board (SDCB) SD drive board (SDDB)
		C-1253	After 1st folding blade motor (M18) home position search operation started, 1st folding blade home sensor/2 (PS21) is not turned ON after the specified time has passed. Otherwise, operation not complete after M18 operation started and specified time has passed. PS20 is not turned ON.		1st folding blade motor (M18) 1st folding blade home sensor/1 (PS20), /2 (PS21) SD control board (SDCB) SD drive board (SDDB)
		C-1254	After 2nd folding blade motor (M19) home position search operation started, 2nd folding blade home sensor/2 (PS23) is not turned ON after the specified time has passed. Otherwise, operation not complete after M19 operation started and specified time has passed. PS22 is not turned ON.		2nd folding blade motor (M19) 2nd folding blade home sensor/2 (PS22), /2 (PS23) SD control board (SDCB) SD drive board (SDDB)
		C-1255	After the clincher up down motor (M20) home position search operation started, the clincher up down home sensor (PS26) is not turned ON after the specified time has passed. Otherwise, operation not complete after M20 operation started and specified time has passed.		Clincher up down motor (M20) Clincher up down home sensor (PS26) SD control board (SDCB) SD drive board (SDDB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
SD	SD abnormality	C-1256	After saddle stitching press motor (M21) home position search operation started, saddle stitching press home sensor (PS27) is not turned ON after specified time has passed. Otherwise, operation not complete after M21 operation started and specified time has passed.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Saddle stitching press motor (M21) Saddle stitching press home sensor (PS27) SD control board (SDCB) SD drive board (SDDB)
		C-1257	After the bundle arm rotation motor (M22) home position search operation started, the bundle arm rotation home sensor (PS31) is not turned ON after the specified time has passed. Otherwise, operation not complete after M22 operation started and specified time has passed.		Bundle arm rotation motor (M22) Bundle arm rotation home sensor (PS31) SD control board (SDCB) SD drive board (SDDB)
		C-1258	After bundle press motor (M23) home position search operation started, bundle press home sensor (PS37) is not turned ON after the specified time has passed. Otherwise, operation not complete after M23 operation started and specified time has passed.		Bundle press motor (M23) Bundle press home sensor (PS37) Bundle press lower limit sensor (PS47) SD control board (SDCB) SD drive board (SDDB)
		C-1259	After the bundle press stage up down motor (M24) home position search operation started, the bundle stage up down home sensor (PS35) is not turned ON after the specified time has passed. Otherwise, after M24 operation started, PS35 or bundle press stage up down upper limit sensor (PS45) is not turned ON after the specified time has passed.		Bundle press stage up down motor (M24) Bundle press stage up down home sensor (PS35) Bundle press stage up down upper limit sensor (PS45) SD control board (SDCB) SD drive board (SDDB)
		C-1260	After the guide shaft motor (M25) home position search operation started, the guide shaft home sensor (PS46) is not turned ON after the specified time has passed. Otherwise, operation not complete after M25 operation started and specified time has passed.		Guide shaft motor (M25) Guide shaft home sensor (PS46) SD control board (SDCB) SD drive board (SDDB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
SD	SD abnormality	C-1261	After stapler motor/Rt (M29) operation started, stapler home sensor/Rt (HS1) or clincher start sensor/Rt (HS2) is not turned ON after specified time has passed.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Stapler section/Rt SD control board (SDCB) SD drive board (SDDB)
		C-1262	After stapler motor/Lt (M30) operation started, stapler home sensor/Lt (HS3) or clincher start sensor/Lt (HS4) is not turned ON after specified time has passed.		Stapler section/Lt SD control board (SDCB) SD drive board (SDDB)
		C-1263	Operation not complete after trimmer blade motor (M31) operation started and specified time has passed.		Trimmer blade motor (M31) Trimmer blade home sensor (PS50) Trimmer blade upper limit sensor (PS51) SD control board (SDCB) SD drive board (SDDB)
		C-1264	Operation not complete after trimmer press motor (M32) operation started and specified time has passed.		Trimmer press motor (M32) Trimmer press home sensor (PS53) Trimmer press upper limit sensor (PS52) SD control board (SDCB) SD drive board (SDDB)
		C-1265	Operation not complete after bundle arm assist motor (M26) operation started and specified time has passed.		Bundle arm assist motor (M26) Bundle arm assist home sensor (PS38) Bundle arm assist upper limit sensor (PS39) SD control board (SDCB) SD drive board (SDDB)
		C-1266	Rotation abnormality detected continuously for the specified time during entrance conveyance motor (M1) operation.		Entrance conveyance motor (M1) SD control board (SDCB) SD drive board (SDDB)
		C-1267	Rotation abnormality detected continuously for the specified time during horizontal conveyance motor (M2) operation.		Horizontal conveyance motor (M2) SD control board (SDCB) SD drive board (SDDB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
SD	SD abnormality	C-1268	Rotation abnormality detected continuously for the specified time during folding entrance motor (M3) operation.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Folding entrance motor (M3) SD control board (SDCB) SD drive board (SDDB)
		C-1269	Rotation abnormality detected continuously for the specified time during folding conveyance motor (M4) operation.		Folding conveyance motor (M4) SD control board (SDCB) SD drive board (SDDB)
		C-1270	Rotation abnormality detected continuously for the specified time during bundle exit motor (M5) operation.		Bundle exit motor (M5) SD control board (SDCB) SD drive board (SDDB)
		C-1271	Rotation abnormality detected continuously for the specified time during folding sub scan alignment exit motor (M8) operation.		Folding sub scan alignment exit motor (M8) SD control board (SDCB) SD drive board (SDDB)
LS	LS abnormality (first coupling)	C-1301	FM1 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/Fr (FM1) was ON.	Main body and LS stop immediately and main relay (RY1) is turned OFF.	Paper cooling fan motor/Fr (FM1) LS control board (LSCB)
		C-1302	FM2 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/1 (FM2) was ON.		Paper cooling fan motor/1 (FM2) LS control board (LSCB)
		C-1303	FM3 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/Mi (FM3) was ON.		Paper cooling fan motor/Mi (FM3) LS control board (LSCB)
		C-1304	FM4 abnormality detection signal was continuously detected for the specified time when the motor cooling fan motor (FM4) was ON.		Motor cooling fan motor (FM4) LS control board (LSCB)
		C-1305	FM5 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/Rr (FM5) was ON.		Paper cooling fan motor/Rr (FM5) LS control board (LSCB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
LS	LS abnormality (second coupling)	C-1306	FM1 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/Fr (FM1) was ON.	Main body and LS stop immediately and main relay (RY1) is turned OFF	Paper cooling fan motor/Fr (FM1) LS control board (LSCB)
		C-1307	FM2 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/1 (FM2) was ON.		Paper cooling fan motor/1 (FM2) LS control board (LSCB)
		C-1308	FM3 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/Mi (FM3) was ON.		Paper cooling fan motor/Mi (FM3) LS control board (LSCB)
		C-1309	FM4 abnormality detection signal was continuously detected for the specified time when the motor cooling fan motor (FM4) was ON.		Motor cooling fan motor (FM4) LS control board (LSCB)
		C-1310	FM5 abnormality detection signal was continuously detected for the specified time when the paper cooling fan motor/Rr (FM5) was ON.		Paper cooling fan motor/Rr (FM5) LS control board (LSCB)
SD	SD abnormality	C-1311	Rotation abnormality detected continuously for the specified time during starting operation of scrap removal fan motor (FM1), even after restarting (retry) it will not detect correctly (starting it number of times specified will still not detect correctly). Otherwise, rotation abnormality detected during start up, even after restarting (retry) it will not detect correctly (starting it number of times after the abnormality detected will still not detect correctly).	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Scrap removal fan motor (FM1) SD control board (SDCB) SD drive board (SDDB)
RU	RU abnormality	C-1321	M2 abnormality detection signal was continuously detected for the specified time when the paper fan/1 (M2) was ON.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	RU control board (RUCB) Paper fan /1 (M2)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
RU	RU abnormality	C-1322	M3 abnormality detection signal was continuously detected for the specified time when the paper fan/2 (M3) was ON.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	RU control board (RUCB) Paper fan /2 (M3)
		C-1323	M4 abnormality detection signal was continuously detected for the specified time when the paper fan/3 (M4) was ON.		RU control board (RUCB) Paper fan /3 (M4)
		C-1324	M6 abnormality detection signal was continuously detected for the specified time when the ventilation assist fan/1 (M6) was ON.		RU control board (RUCB) Ventilation assist fan /1 (M6)
		C-1325	M7 abnormality detection signal was continuously detected for the specified time when the ventilation assist fan/2 (M7) was ON.		RU control board (RUCB) Ventilation assist fan /2 (M7)
FS-607	FS abnormality	C-1402	Non-volatile memory error.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	FNS control board (FNSCB) FNS control board (FNSCB)
FD	FD abnormality	C-1403	Non-volatile memory error.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	FD control board (FDCB)
SD	SD abnormality	C-1404	Non-volatile memory error.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	SD control board (SDCB)
RU	RU abnormality	C-1405	Non-volatile memory error.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	RU control board (RUCB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
FS-607	FS abnormality	C-1431	FS received operation start from the main body when unready.	Main body and FS stop immediately and main relay (RY1) is turned OFF.	Software bug.
FD	FD abnormality	C-1432	FD received operation start from the main body when unready.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	Software bug.
SD	SD abnormality	C-1433	SD received operation start from the main body when unready.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Software bug.
RU	RU abnormality	C-1434	RU received operation start from the main body when unready.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	Software bug.
FD	FD abnormality	C-1451	Communication abnormality in the FD.	Main body and FD stop immediately and main relay (RY1) is turned OFF.	Software bug.
SD	SD abnormality	C-1452	Communication abnormality in the SD.	Main body and SD stop immediately and main relay (RY1) is turned OFF.	Software bug.
RU	RU abnormality	C-1453	Communication abnormality in the RU.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	Software bug.

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Communication abnormality	C-2001	Communication abnormality between printer control board (PRCB) and the drum motor/Y (M14) or /M (M15).	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Drum motor /Y (M14) Drum motor /M (M15)
		C-2002	Communication abnormality between printer control board (PRCB) and the drum motor/C (M16) or /K (M17).		Printer control board (PRCB) Drum motor /C (M16) Drum motor /K (M17)
		C-2003	Communication abnormality between printer control board (PRCB) and transfer belt motor (M18).		Printer control board (PRCB) Transfer belt motor (M18)
		C-2004	Communication abnormality between printer control board (PRCB) and the drum motor/Y (M14) or /M (M15).		Printer control board (PRCB) Drum motor /Y (M14) Drum motor /M (M15)
		C-2005	Communication abnormality between printer control board (PRCB) and the drum motor/C (M16) or /K (M17).		Printer control board (PRCB) Drum motor /C (M16) Drum motor /K (M17)
		C-2006	Communication abnormality between printer control board (PRCB) and transfer belt motor (M18).		Printer control board (PRCB) Transfer belt motor (M18)
	Developing motor abnormality	C-2201	When the developing motor/Y (M20) was ON, M20 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Developing motor /Y (M20)
		C-2202	When the developing motor/M (M21) was ON, M201 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Developing motor /M (M21)
		C-2203	When developing motor/C (M22) was ON, M22 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Developing motor /C (M22)
		C-2204	When the developing motor/K (M23) was ON, M23 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Developing motor /K (M23)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Drum motor abnormality	C-2211	When the drum motor/Y (M14) was ON, M14 abnormality detection signal was continuously detected for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Drum motor /Y (M14)
		C-2212	When the drum motor/M (M15) was ON, M15 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Drum motor /M (M15)
		C-2213	When the drum motor/C (M16) was ON, M16 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Drum motor /C (M16)
		C-2214	When drum motor /K (M17) was ON, M17 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Drum motor /K (M17)
	Transfer belt unit abnormality	C-2220	When the transfer belt motor (M18) was ON, M18 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Transfer belt motor (M18)
	Transfer belt unit abnormality	C-2221	When the 1st transfer HP sensor (PS15) is ON, PS15 is not turned OFF within the specified time after the 1st transfer pressing/releasing motor (M19) is turned ON. When PS15 is OFF, PS15 is not turned ON within the specified time after M19 is turned ON.		Printer control board (PRCB) 1st transfer pressing/releasing motor (M19) 1st transfer HP sensor (PS15)
	Toner supply abnormality	C-2222	When either of the toner supply motor/Y, /M, /C, /K (M49, M50, M51, or M52), toner bottle motor (M53), or toner bottle clutch /Y, /M, /C, /K (MC14, MC15, MC16, or MC17) was ON, either abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Toner supply drive board (TSDB) Toner supply motor/Y (M49) Toner supply motor/M (M50) Toner supply motor/C (M51) Toner supply motor/K (M52) Toner bottle motor (M53) Toner bottle clutch/Y (MC14) Toner bottle clutch/M (MC15) Toner bottle clutch/C (MC16) Toner bottle clutch/K (MC17)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fan abnormality	C-2301	When charge intake fan (M48) was ON, M48 abnormality detection signal was continuously detected for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Toner supply drive board (TSDB) Charge intake fan (M48)
		C-2302	Either one of the M12 or M13 abnormality detection signal was continuously detected for the specified time when the drum fan/1 (M12), /2 (M13) was ON.		Printer control board (PRCB) Drum fan/1 (M12) Drum fan/2 (M13)
		C-2303	When the transfer belt fan (M11) was ON, M11 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Transfer belt fan (M11)
		C-2304	While the developing fans/1, /2 and /3 (M45, M46 and M64) are turned ON, an error detection signal of either M45, M46 or M64 is detected for the specified period of time in succession.		Printer control board (PRCB) Developing fan/1 (M45) Developing fan/2 (M46) Developing fan/3 (M64)
	Eraser lamp abnormality	C-2401	Erase lamp/Y (EL/Y) set cannot be detected.		Printer control board (PRCB) Erase lamp/Y (EL/Y)
		C-2402	Erase lamp/M (EL/M) set cannot be detected.		Printer control board (PRCB) Erase lamp/M (EL/M)
		C-2403	Erase lamp/C (EL/C) set cannot be detected.		Printer control board (PRCB) Erase lamp/C (EL/C)
		C-2404	Erase lamp/K (EL/K) set cannot be detected.		Printer control board (PRCB) Erase lamp/K (EL/K)
	TCR sensor abnormality	C-2411	TCR sensor/Y (TCRS/Y) output cannot be controlled.		Printer control board (PRCB) TCR sensor/Y (TCRS/Y)
		C-2412	TCR sensor/M (TCRS/M) output cannot be controlled.		Printer control board (PRCB) TCR sensor/M (TCRS/M)
		C-2413	TCR sensor/C (TCRS/C) output cannot be controlled.		Printer control board (PRCB) TCR sensor/C (TCRS/C)
		C-2414	TCR sensor/K (TCRS/K) output cannot be controlled.		Printer control board (PRCB) TCR sensor/K (TCRS/K)
	Developing drive abnormality	C-2421	After the developing motor/Y (M20) is ON, or TCR sensor/Y (TCRS/Y) initial adjustment started, TCRS/Y detected lower than the specified value after the specified time passed.		Printer control board (PRCB) Developing motor/Y (M20) TCR sensor/Y (TCRS/Y)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Developing drive abnormality	C-2422	After the developing motor/M (M21) is ON, or TCR sensor/M (TCRS/M) initial adjustment started, TCRS/Y detected lower than the specified value after the specified time passed.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Developing motor/M (M21) TCR sensor/M (TCRS/M)
		C-2423	After the developing motor/C (M22) is ON, or TCR sensor/C (TCRS/C) initial adjustment started, TCRS/C detected lower than the specified value after the specified time passed.		Printer control board (PRCB) Developing motor/C (M22) TCR sensor/C (TCRS/C)
		C-2424	After the developing motor/K (M23) is ON, or TCR sensor/K (TCRS/K) initial adjustment started, TCRS/K detected lower than the specified value after the specified time passed.		Printer control board (PRCB) Developing motor/K (M23) TCR sensor/K (TCRS/K)
	TCR sensor initial adjustment abnormality (low density)	C-2431	On initial adjustment of the TCR sensor/Y, when the control voltage was minimal, TCRS/Y detected over specified value.		Printer control board (PRCB) Developing motor/Y (M20) TCR sensor/Y (TCRS/Y)
		C-2432	On initial adjustment of the TCR sensor/M, when the control voltage was minimal, TCRS/M detected over specified value.		Printer control board (PRCB) Developing motor/M (M21) TCR sensor/M (TCRS/M)
		C-2433	On initial adjustment of the TCR sensor/C, when the control voltage was minimal, TCRS/C detected over specified value.		Printer control board (PRCB) Developing motor/C (M22) TCR sensor/C (TCRS/C)
		C-2434	On initial adjustment of the TCR sensor/K, when the control voltage was minimal, TCRS/K detected over specified value.		Printer control board (PRCB) Developing motor/K (M23) TCR sensor/K (TCRS/K)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	TCR sensor initial adjustment abnormality (high density)	C-2441	On initial adjustment of the TCR sensor/Y, when the control voltage was maximum, TCRS/Y detected under the specified value.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Developing motor/Y (M20) TCR sensor/Y (TCRS/Y)
		C-2442	On initial adjustment of the TCR sensor/M, when the control voltage was maximum, TCRS/M detected over specified value.		Printer control board (PRCB) Developing motor/M (M21) TCR sensor/M (TCRS/M)
		C-2443	On initial adjustment of the TCR sensor/C, when the control voltage was maximum, TCRS/C detected over specified value.		Printer control board (PRCB) Developing motor/C (M22) TCR sensor/C (TCRS/C)
		C-2444	On initial adjustment of the TCR sensor/K, when the control voltage was maximum, TCRS/K detected over specified value.		Printer control board (PRCB) Developing motor/K (M23) TCR sensor/K (TCRS/K)
	Toner low density abnormality	C-2451	When the developing motor/Y (M20) is ON, the maximum detection value of TCR sensor/Y (TCRS/Y) is the specified value and the difference between the maximum detection value and the minimum detection value is over the specified value.		Printer control board (PRCB) Developing motor/Y (M20) TCR sensor/Y (TCRS/Y)
		C-2452	When the developing motor/M (M21) is ON, the maximum detection value of TCR sensor/M (TCRS/M) is the specified value and the difference between the maximum detection value and the minimum detection value is over the specified value.		Printer control board (PRCB) Developing motor/M (M21) TCR sensor/M (TCRS/M)
		C-2453	When the developing motor/C (M22) is ON, the maximum detection value of TCR sensor/C (TCRS/C) is the specified value and the difference between the maximum detection value and the minimum detection value is over the specified value.		Printer control board (PRCB) Developing motor/C (M22) TCR sensor/C (TCRS/C)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Toner low density abnormality	C-2454	When the developing motor/K (M23) is ON, the maximum detection value of TCR sensor/K (TCRS/K) is the specified value and the difference between the maximum detection value and the minimum detection value is over the specified value.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Developing motor/K (M23) TCR sensor/K (TCRS/K)
	Charging corona connection abnormality Drum potential abnormality	C-2461	Charging coronas is not connected. Otherwise, drum potential sensor/Y (DPRS/Y) detection value does not reach the specified value.		Printer control board (PRCB) High voltage unit/1 (HV/1) Drum potential sensor board/Y (DRPSB/Y) Drum potential sensor/Y (DRPS/Y)
		C-2462	Charging coronas/M is not connected. Otherwise, drum potential sensor/M (DPRS/M) detection value does not reach the specified value.		Printer control board (PRCB) High voltage unit/1 (HV/1) Drum potential sensor board/M (DRPSB/M) Drum potential sensor/M (DRPS/M)
		C-2463	Charging coronas/C is not connected. Otherwise, drum potential sensor/C (DPRS/C) detection value does not reach the specified value.		Printer control board (PRCB) High voltage unit/1 (HV/1) Drum potential sensor board/C (DRPSB/C) Drum potential sensor/C (DRPS/C)
		C-2464	Charging coronas/K is not connected. Otherwise, drum potential sensor/K (DPRS/K) detection value does not reach the specified value.		Printer control board (PRCB) High voltage unit/1 (HV/1) Drum potential sensor board/K (DRPSB/K) Drum potential sensor/K (DRPS/K)
	Process unit connection abnormality	C-2470	Process unit is not connected.		Printer control board (PRCB) Process unit
	High pressure unit/1 abnormality	C-2701	When the charging coronas/Y was ON, charging coronas/Y abnormality detection signal was continuously detected for the specified time.		High voltage unit/1 (HV/1) Charging coronas/Y

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	High pressure unit/1 abnormality	C-2702	When the charging coronas/M was ON, charging coronas/M abnormality detection signal was continuously detected for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	High voltage unit/1 (HV/1) Charging coronas/M
		C-2703	When the charging coronas/C was ON, charging coronas/C abnormality detection signal was continuously detected for the specified time.		High voltage unit/1 (HV/1) Charging coronas/C
		C-2704	When the charging coronas/K was ON, charging coronas/K abnormality detection signal was continuously detected for the specified time.		High voltage unit/1 (HV/1) Charging coronas/K
	High pressure unit/2 abnormality	C-2711	When the primary transfer/Y was ON, primary transfer/Y abnormality detection signal was continuously detected for the specified time.		High voltage unit/2 (HV/2) First transfer roller/Y
		C-2712	When the primary transfer/M was ON, primary transfer/M abnormality detection signal was continuously detected for the specified time.		High voltage unit/2 (HV/2) First transfer roller /M
		C-2713	When the primary transfer/C was ON, primary transfer/C abnormality detection signal was continuously detected for the specified time.		High voltage unit/2 (HV/2) First transfer roller /C
		C-2714	When the primary transfer/K was ON, primary transfer/K abnormality detection signal was continuously detected for the specified time.		High voltage unit/2 (HV/2) First transfer roller/K
		C-2720	When the second transfer was ON, second transfer abnormality detection signal was continuously detected for the specified time.		High voltage unit/2 (HV/2) Second transfer roller
		C-2721	When the separation pole was ON, separation abnormality detection signal was continuously detected for the specified time.		High voltage unit /2 (HV/2) Separation pole

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Gamma correction abnormality	C-2801	Gamma correction /Y aborted. Patch output voltage is low. (Error 1)	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Developing unit /Y PGC sensor (PS11)
		C-2802	Gamma correction /M aborted. Patch output voltage is low. (Error 1)		Printer control board (PRCB) Developing unit /M PGC sensor (PS11)
		C-2803	Gamma correction /C aborted. Patch output voltage is low. (Error 1)		Printer control board (PRCB) Developing unit /C PGC sensor (PS11)
		C-2804	Gamma correction /K aborted.		Printer control board (PRCB) Developing unit /K PGC sensor (PS11)
	Drum surface potential abnormality	C-2811	In charging potential control, drum surface potential /Y was out of specification.		Printer control board (PRCB) Drum potential sensor board /Y (DRPSB/Y) Drum potential sensor /Y (DRPS/Y)
		C-2812	In charging potential control, drum surface potential/M was out of specification.		Printer control board (PRCB) Drum potential sensor board /M (DRPSB/M) Drum potential sensor /M (DRPS/M)
		C-2813	In charging potential control, drum surface potential/C was out of specification.		Printer control board (PRCB) Drum potential sensor board /C (DRPSB/C) Drum potential sensor /C (DRPS/C)
		C-2814	In charging potential control, drum surface potential/K was out of specification.		Printer control board (PRCB) Drum potential sensor board /K (DRPSB/K) Drum potential sensor /K (DRPS/K)
	Charging potential correction abnormality	C-2821	Charging potential correction Vh/Y aborted.		Printer control board (PRCB) Drum potential sensor board /Y (DRPSB/Y) Drum potential sensor /Y (DRPS/Y)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Charging potential correction abnormality	C-2822	Charging potential correction Vh/M aborted.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Drum potential sensor board /M (DRPSB/M) Drum potential sensor /M (DRPS/M)
		C-2823	Charging potential correction Vh/C aborted.		Printer control board (PRCB) Drum potential sensor board /C (DRPSB/C) Drum potential sensor /C (DRPS/C)
		C-2824	Charging potential correction Vh/K aborted.		Printer control board (PRCB) Drum potential sensor board /K (DRPSB/K) Drum potential sensor /K (DRPS/K)
		C-2831	Charging potential correction Vm/Y aborted.		Printer control board (PRCB) Drum potential sensor board/Y (DRPSB/Y) Drum potential sensor/Y (DRPS/Y)
		C-2832	Charging potential correction Vm/M aborted.		Printer control board (PRCB) Drum potential sensor board/M (DRPSB/M) Drum potential sensor/M (DRPS/M)
		C-2833	Charging potential correction Vm/C aborted.		Printer control board (PRCB) Drum potential sensor board/C (DRPSB/C) Drum potential sensor/C (DRPS/C)
		C-2834	Charging potential correction Vm/K aborted.		Printer control board (PRCB) Drum potential sensor board/K (DRPSB/K) Drum potential sensor/K (DRPS/K)
	Gamma correction abnormality	C-2840	PGC sensor correction failure during Maximum density control.		Printer control board (PRCB) PGC sensor (PS11)
		C-2841	PGC sensor correction failure during Gamma control.		Printer control board (PRCB) PGC sensor (PS11)
		C-2851	Gamma correction/Y aborted. Patch output voltage is high. (Error 2)		Printer control board (PRCB) Developing unit/Y PGC sensor (PS11)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Gamma correction abnormality	C-2852	Gamma correction/M aborted. Patch output voltage is high. (Error 2)	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Developing unit/M PGC sensor (PS11)
		C-2853	Gamma correction/C aborted. Patch output voltage is high. (Error 2)		Printer control board (PRCB) Developing unit/C PGC sensor (PS11)
		C-2861	Gamma correction/Y aborted. Patch output voltage is high. (Error 3)		Printer control board (PRCB) Developing unit/Y PGC sensor (PS11)
		C-2862	Gamma correction/M aborted. Patch output voltage is high. (Error 3)		Printer control board (PRCB) Developing unit/M PGC sensor (PS11)
		C-2863	Gamma correction/C aborted. Patch output voltage is high. (Error 3)		Printer control board (PRCB) Developing unit/C PGC sensor (PS11)
		C-2871	Gamma correction/Y aborted. Patch output voltage is high. (Error 4)		Printer control board (PRCB) Developing unit/Y PGC sensor (PS11)
		C-2872	Gamma correction/M aborted. Patch output voltage is high. (Error 4)		Printer control board (PRCB) Developing unit/M PGC sensor (PS11)
		C-2873	Gamma correction/C aborted. Patch output voltage is high. (Error 4)		Printer control board (PRCB) Developing unit/C PGC sensor (PS11)
	Motor abnormality	C-3101	When the fusing motor (M29) was ON, M29 abnormality detection signal was continuously detected for the specified time.		Conveyance drive board (CDB) Fusing motor (M29)
		C-3102	When the fusing release home sensor (PS16) is ON, PS16 is not turned OFF within the specified time after the fusing motor (M29) is turned ON. When PS16 is OFF, PS16 is not turned ON within the specified time after M29 is turned ON.		Conveyance drive board (CDB) Fusing motor (M29) Fusing release home sensor (PS16)
		C-3103	After the 2nd transfer pressure/ release motor (M34) is turned ON, it is not turned OFF within the specified time.		Conveyance drive board (CDB) 2nd transfer pressure/ release motor (M34)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fan abnormality	C-3301	M37 abnormality detection signal was continuously detected for the specified time when the fusing ventilation fan (M37) was ON.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Fusing ventilation fan (M37)
		C-3302	When the fusing belt ventilation fan (M10) was ON, M10 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) Fusing belt ventilation fan (M10)
		C-3303	When the fusing fan/Lw (M65) was ON, M65 abnormality detection signal was continuously detected for the specified time.		Conveyance drive board (CDB) Fusing fan/Lw (M65)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fusing high temperature abnormality	C-3501	Fusing high temperature abnormality. Temperature sensor/1 (TEMS/1) was continuously detected at over 250 °C for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) AC drive board (ACDB) Fusing heater lamp1/ (L2) Fusing heater lamp2/ (L3) Fusing heater lamp3/ (L4) Fusing heater lamp4/ (L5) Temperature sensor/1 (TEMS/1) Temperature sensor/2 (TEMS/2) Temperature sensor/3 (TEMS/3) Temperature sensor/4 (TEMS/4) ⚠ **WARNING** • **When C35**, C38** or C39** (Fusing temperature related abnormality) occurs, be sure to repair a defective part before setting the service mode software DipSW3-1 to 0.** • **If the software DipSW 3-1 is set to 0 without repairing a defective part, this may cause a fire.**
		C-3502	Fusing high temperature abnormality. Temperature sensor/3 (TEMS/3) was continuously detected at over 250 °C for the specified time.		
		C-3503	Fusing high temperature abnormality. Temperature sensor/2 (TEMS/2) was continuously detected at over 250 °C for the specified time.		
		C-3504	Fusing high temperature abnormality. Temperature sensor/4 (TEMS/4) was continuously detected at over 250 °C for the specified time.		
		C-3505	Fusing high temperature abnormality. Temperature sensor/1 (TEMS/1) was continuously detected at over 150 °C for the specified time.		
		C-3506	Fusing high temperature abnormality. Temperature sensor/2 (TEMS/2) was continuously detected at over 150 °C for the specified time.		
		C-3507	Fusing roller paper winding abnormality. Temperature sensor/3 (TEMS/3) detected temperature was more than 25 °C higher than the detected temperature of temperature sensor/1 (TEMS/1).		

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fusing high temperature abnormality	C-3508	Fusing roller paper winding abnormality. J31-02 occurred four continuous times.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) AC drive board (ACDB) Fusing heater lamp1/ (L2) Fusing heater lamp2/ (L3) Fusing heater lamp3/ (L4) Fusing heater lamp4/ (L5) Temperature sensor/1 (TEMS/1) Temperature sensor/2 (TEMS/2) Temperature sensor/3 (TEMS/3) Temperature sensor/4 (TEMS/4) ⚠ **WARNING** • **When C35**, C38** or C39** (Fusing temperature related abnormality) occurs, be sure to repair a defective part before setting the service mode software DipSW3-1 to 0.** • **If the software DipSW 3-1 is set to 0 without repairing a defective part, this may cause a fire.**
	Fusing low temperature abnormality	C-3801	Fusing low temperature abnormality. Temperature sensor/1 (TEMS/1) was continuously detected at under 150 °C for the specified time.		
		C-3802	Fusing low temperature abnormality. Temperature sensor/3 (TEMS/3) was continuously detected at under 150 °C for the specified time.		
		C-3803	Fusing low temperature abnormality. Temperature sensor/2 (TEMS/2) was continuously detected at under 150 °C for the specified time.		
		C-3804	Fusing low temperature abnormality. Temperature sensor/4 (TEMS/4) was continuously detected at under 150 °C for the specified time.		
		C-3805	Fusing low temperature abnormality. Temperature sensor/1 (TEMS/1) was continuously detected at under 20 °C for the specified time.		
		C-3806	Fusing high temperature abnormality. Temperature sensor/2 (TEMS/2) was continuously detected at under 20 °C for the specified time.		

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fusing sensor abnormality	C-3901	Fusing high temperature hardware detection abnormality Temperature sensor/3 (TEMS/3) detected abnormality signal continuously for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) AC drive board (ACDB) Fusing heater lamp1/ (L2) Fusing heater lamp2/ (L3) Fusing heater lamp3/ (L4) Fusing heater lamp4/ (L5) Temperature sensor/1 (TEMS/1) Temperature sensor/2 (TEMS/2) Temperature sensor/3 (TEMS/3) Temperature sensor/4 (TEMS/4) ⚠ **WARNING** • **When C35**, C38** or C39** (Fusing temperature related abnormality) occurs, be sure to repair a defective part before setting the service mode software DipSW3-1 to 0.** • **If the software DipSW 3-1 is set to 0 without repairing a defective part, this may cause a fire.**
		C-3902	Fusing high temperature hardware detection abnormality. Temperature sensor/4 (TEMS/4) detected abnormality signal continuously for the specified time.		
		C-3903	Fusing high temperature hardware detection abnormality. Temperature sensor/1 (TEMS/1) detected abnormality signal continuously for the specified time.		
		C-3904	Fusing high temperature hardware detection abnormality. Temperature sensor/3 (TEMS/3) detected abnormality signal continuously for the specified time.		
		C-3905	Fusing low temperature hardware detection abnormality. Temperature sensor/2 (TEMS/2) detected abnormality signal continuously for the specified time.		
		C-3906	Fusing low temperature hardware detection abnormality. Temperature sensor/4 (TEMS/4) detected abnormality signal continuously for the specified time.		
		C-3907	Fusing high temperature hardware detection abnormality. Temperature sensor/1 (TEMS/1) detected abnormality signal continuously for the specified time.		
		C-3908	Fusing low temperature hardware detection abnormality. Temperature sensor/1 (TEMS/1) detected abnormality signal continuously for the specified time.		

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Fusing sensor abnormality	C-3909	Fusing high temperature hardware detection abnormality. Temperature sensor/2 (TEMS/2) detected abnormality signal continuously for the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) AC drive board (ACDB) Fusing heater lamp1/ (L2) Fusing heater lamp2/ (L3) Fusing heater lamp3/ (L4) Fusing heater lamp4/ (L5) Temperature sensor/1 (TEMS/1) Temperature sensor/2 (TEMS/2) Temperature sensor/3 (TEMS/3) Temperature sensor/4 (TEMS/4) ⚠ **WARNING** • **When C35**, C38** or C39** (Fusing temperature related abnormality) occurs, be sure to repair a defective part before setting the service mode software DipSW3-1 to 0.** • **If the software DipSW 3-1 is set to 0 without repairing a defective part, this may cause a fire.**
		C-3910	Fusing low temperature hardware detection abnormality. Temperature sensor/2 (TEMS/2) detected abnormality signal continuously for the specified time.		
		C-3911	After the sub power switch (SW2) is turned ON, temperature sensor/1 (TEMS/1) detection temperature does not reach 100 °C within the specified time.		
		C-3912	After the sub power switch (SW2) is turned ON, temperature sensor/3 (TH3) detection temperatures does not reach 100 °C within the specified time.		
		C-3913	Fusing unit has not been set.		
		C-3914	Fusing high temperature hardware detection abnormality. Temperature sensor/1 (TEMS/1) detected abnormality signal continuously for the specified time.		
		C-3915	Fusing high temperature hardware detection abnormality. Temperature sensor/2 (TEMS/2) detected abnormality signal continuously for the specified time.		
		C-3916	After the sub power switch (SW2) is turned ON, temperature sensor/4 (TEMS/4) detection temperatures does not reach 100 °C within the specified time.		
	Polygon motor abnormality	C-4101	When the polygon motor/Y (M3) is started or when the speed is switched, M3 lock signal is not detected within the specified time.		Printer control board (PRCB) Polygon motor/Y (M3)
		C-4102	When the polygon motor/M (M4) is started or when the speed is switched, M4 lock signal is not detected within the specified time.		Printer control board (PRCB) Polygon motor/M (M4)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Polygon motor abnormality	C-4103	When the polygon motor/C (M5) is started or when the speed is switched, M5 lock signal is not detected within the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Polygon motor/C (M5)
		C-4104	When the polygon motor/K (M6) is started or when the speed is switched, M6 lock signal is not detected within the specified time.		Printer control board (PRCB) Polygon motor/K (M6)
		C-4111	Abnormal temperature of polygon motor/Y (M3) was detected.		Printer control board (PRCB) Polygon motor/Y (M3)
		C-4112	Abnormal temperature of polygon motor/M (M4) was detected.		Printer control board (PRCB) Polygon motor/M (M4)
		C-4113	Abnormal temperature of polygon motor/C (M5) was detected.		Printer control board (PRCB) Polygon motor/C (M5)
		C-4114	Abnormal temperature of polygon motor/K (M6) was detected.		Printer control board (PRCB) Polygon motor/K (M6)
		C-4120	Temperature sensor board (TEMSB) detected temperature abnormality inside the writing unit/K.		Printer control board (PRCB) Temperature sensor board (TEMSB)
	Fan abnormality	C-4301	While the writing intake fans/1, /2, (M43, M44), developing fans/1, /2 and /3 (M45, M46 and M64) are turned ON, an error detection signal of either M43, M44, M45, M46 or M64 is detected for the specified period of time in succession.		Printer control board (PRCB) Writing intake fan/1 (M43) Writing intake fan/2 (M44) Developing fan/1 (M45) Developing fan/2 (M46) Developing fan/3 (M64)
	Color registration abnormality	C-4501	When laser correction motor/Y (M7) was ON, laser correction sensor/Y (PS5) was turned OFF.		Printer control board (PRCB) Laser correction motor/Y (M7) Laser correction sensor/Y (PS5)
		C-4502	When laser correction motor/M (M8) was ON, laser correction sensor/M (PS6) was turned OFF.		Printer control board (PRCB) Laser correction motor/M (M8) Laser correction sensor/M (PS6)
		C-4503	When laser correction motor/C (M9) was ON, laser correction sensor/C (PS7) was turned OFF.		Printer control board (PRCB) Laser correction motor/C (M9) Laser correction sensor/C (PS7)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Color registration abnormality	C-4504	When laser correction motor/K (M58) was ON, laser correction sensor/K (PS59) was turned OFF.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) Laser correction motor/K (M58) Laser correction sensor/K (PS59)
		C-4511	After the laser correction motor/Y (M7) is turned ON, it is not turned OFF within the specified time. Or, laser correction sensor/Y (PS5) installing position is abnormal.		Printer control board (PRCB) Laser correction motor/Y (M7) Laser correction sensor/Y (PS5)
		C-4512	Laser correction motor/M (M8) is not turned OFF within the specified time after it is turned ON. Or, laser correction sensor/M (PS6) installing position is abnormal.		Printer control board (PRCB) Laser correction motor/M (M8) Laser correction sensor/M (PS6)
		C-4513	Laser correction motor/C (M9) is not turned OFF within the specified time after it is turned ON. Or, laser correction sensor/C (PS7) installing position is abnormal.		Printer control board (PRCB) Laser correction motor/C (M9) Laser correction sensor/C (PS7)
		C-4514	After the laser correction motor/K (M58) is turned ON, it is not turned OFF within the specified time. Or, laser correction sensor/K (PS59) installing position is abnormal.		Printer control board (PRCB) Laser correction motor/K (M58) Laser correction sensor/K (PS59)
		C-4520	Color registration correction aborted.		Printer control board (PRCB) Color registration sensor/Fr (PS8) Color registration sensor/Rr (PS9)
		C-4521	Color registration base line correction/Fr aborted.		Printer control board (PRCB) Color registration sensor/Fr (PS8)
		C-4522	Color registration base line correction/Rr aborted.		Printer control board (PRCB) Color registration sensor/Rr (PS9)
	Image processing abnormality	C-4701*	Address abnormality of FIFO for printer. Expansion of scanned image data is not correctly completed.		Printer control board (PRCB) Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Image processing abnormality	C-4702*	FIFO interrupt error of compression/expansion chip occurred.	Main body stops immediately and main relay (RY1) is turned OFF.	Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB)
		C-4703*	Image data expansion abnormality		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB)
		C-4705*	When scanning an image, expansion process from memory to printer is not completed within the specified time. Output from page memory to printer is not completed within the specified time. PVV is not detected within the specified time.		Printer control board (PRCB) Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Write unit/Y Write unit/M Write unit/C Write unit/K
		C-4706*	When scanning an image, access to expansion device or some other improper process took place even though there was no resource.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Program of overall control board (OACB)
		C-4708*	When accessing the memory device, software fault was detected.		
		C-4709*	Expansion process from memory to page memory is not completed within the specified time. Compression process from page memory to memory is not completed within the specified time. Evolution from memory to page memory is not completed within the specified time. Compressed data transfer from memory to memory is not completed within the specified time.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Program of overall control board (OACB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Image processing abnormality	C-4711* C-4712*	Software failure. CCD board was replaced but IROM version is not compliant. CCD board (CCDB) bunch or connector is damaged.	Main body stops immediately and main relay (RY1) is turned OFF.	Image processing board (IPB) IROM program CCD board (CCDB) Connection cable between IPB and CCDB
		C-4713*	Page memory cannot be secured for printing.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB) NVRAM board (NRB)
		C-4714* C-4715* C-4716* C-4717*	Index sensor output does not change by the execution of APC. Index sensor cannot detect the laser because the polygon mirror does not rotate, or because of the index sensor out of position or defective index sensor.		Printer control board (PRCB) Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Write unit/Y Write unit/M Write unit/C Write unit/K
		C-4718* C-4719* C-4720* C-4721*	APC failure. Laser does not light up because 12VDC power to drive the beam is not supplied, MPC is not correct, or because of fault laser.		Image processing board (IPB) Write unit/Y Write unit/M Write unit/C Write unit/K
		C-4722* C-4723* C-4724* C-4725*	Connection abnormality between index board/Y, /M, /C, /K (INDEXB/Y, /M, /C, /K) or the laser drive board/Y, /M, /C, /K (LASDB/Y, /M, /C, /K) and the image process board (IPB).		Image processing board (IPB) Write unit/Y Write unit/M Write unit/C Write unit/K
		C-4840	Engine continued operation without preparing image or process patch for the specified time.		Printer control program
		C-4850	Overall control software accessed an invalid address.		Overall control board (OACB)
	Communication abnormality	C-5001	12VDC abnormality. Abnormality signal was continuously detected for the specified time.		DC power unit/1 (DCPS/1)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Communication abnormality	C-5002	24VDC abnormality. Abnormality signal was continuously detected for the specified time after the specified time from REN/2 ON.	Main body stops immediately and main relay (RY1) is turned OFF.	DC power unit/2 (DCPS/2)
		C-5003	Conveyance drive board (CDB) 24VDC abnormality. Abnormality signal of 24VDC for CVD was detected.		DC power unit/2 (DCPS/2) Conveyance drive board (CDB)
		C-5004	Laser correction motor 5VDC abnormality. Abnormal 5VDC for laser correction motor/Y, /M, /C, /K (M7, M8, M9 and M58) was detected.		DC power unit/1 (DCPS/1)
		C-5005	Conveyance drive board (CDB) 12VDC abnormality.		DC power unit/1 (DCPS/1) Conveyance drive board (CDB)
		C-5010	Line status error and check sum error was detected between the overall control board (OACB) and image processing board (IPB) and demand for re-transmission was sent but recovery could not be attained. Re-transmission was demanded and answered but recovery could not be attained. Space is not obtained in the transmission ring buffer within the specified time.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-5011	Communication with the coin vendor cannot be performed.		Overall control board (OACB) Coin vendor/1
	Fan abnormality	C-5301	M42 abnormality detection signal was continuously detected for the specified time when the DCPS fan (M42) was ON.		Printer control board (PRCB) DCPS fan (M42)
		C-5302	When the IPB fan/1 (M24) was ON, M24 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) IPB fan/1 (M24)
		C-5303	When the IPB fan/2 (M25) was ON, M25 abnormality detection signal was continuously detected for the specified time.		Printer control board (PRCB) IPB fan/2 (M25)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Scanner abnormality	C-6101	At the home position search, scanner HP sensor (PS1) is not turned ON within the specified time after the scanner motor (M1) is turned ON.	Main body stops immediately and main relay (RY1) is turned OFF.	Scanner drive board (SCDB) Scanner motor (M1) Scanner HP sensor (PS1)
		C-6102*	When the optical scanning returns, scanner HP sensor (PS1) is not turned ON within the specified time after the scanner motor (M1) is turned ON.		Scanner drive board (SCDB) Scanner motor (M1) Scanner HP sensor (PS1)
	Fan abnormality	C-6301*	M42 abnormality detection signal was continuously detected for the specified time when the scanner fan (M2) was ON.		Scanner drive board (SCDB) Scanner fan (M2)
	Image processing	C-6701*	When processing the image, filter coefficient cannot be properly prepared.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB)
		C-6702*	Address abnormality of FIFO for scanner. When scanning an image, compression of scanned image data is not correctly completed.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB)
		C-6703*	After negation of SVV, compression of scanned image and evolution to page memory are not completed.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-6704*	When scanning an image, compression process from scanner to memory is not completed within the specified time. Evolution from scanner to page memory is not completed within the specified time. SVV is not detected within the specified time.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-6705*	When scanning an image, access to compression device or some other improper process took place even though there was no resource.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Image processing	C-6706*	When scanning an image, scanning the next page cannot be started due to SVV not turning OFF within the specified time.	Main body stops immediately and main relay (RY1) is turned OFF.	Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-6707*	Shading correction abnormality (GA abnormality)		Image processing board (IPB) I/F board (IFB)
		C-6708*	AOC/AGC adjustment abnormality • Blocking cover and lens cover of scanner section are out of place. • CCD board (CCDB) connector is disconnected. • CCDB power cable is disconnected. • CCDB IC protector is broken. • Quantity of light of exposure lamp (L1) is excess. • L1 does not light up.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB) Scanner drive board (SCDB) Printer control board (PRCB) Inverter board/1 (INVB1)
		C-6709	There is no correction data which has been reserved by resolution.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Program of overall control board (OACB)
		C-6710	Density gamma curve can not be prepared properly.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Program of overall control board (OACB)
		C-6711*	Starting error of calibration of the pulse-length modulation IC.		mage processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-6712*	End error of calibration of the pulse-length modulation IC.		
		C-6713*	Even though MPC was not finished, execution of APC initial sampling was attempted.		Image processing board (IPB)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Image processing	C-6714*	Execution of MPC was attempted during execution of APC.	Main body stops immediately and main relay (RY1) is turned OFF.	Image processing board (IPB)
		C-6715*	Execution of sub scan beam correction was attempted before completion of APC or MPC.		
		C-6716*	Execution of sub scan beam pitch correction was attempted, when clock for writing was in abnormal state due to incomplete AD9561 initialization.		
		C-6717*	Continuous page imaging range abnormality. Image cannot be evolved on memory due to abnormal image range on memory.		
		C-6718	Within the specified numbers of adjustments, the sub scan beam pitch does not fit the specified value.		
		C-6719	The scan operation was started before the tilt adjustment was complete.		Printer control board (PRCB) Image processing board (IPB) I/F board (IFB) Scanner drive board (SCDB)
		C-6720	The scan operation was started before the centering adjustment was complete.		
		C-6721	Since the quantity of light of exposure lamp (L1) decreased, AGC was retried. Though no error occurred.		CCD board (CCDB) Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-6722	PWM gamma curve was not properly prepared.		Printer control board (PRCB) Image processing board (IPB) TCR sensor/Y (TCRS/Y) TCR sensor/M (TCRS/M) TCR sensor/C (TCRS/C) TCR sensor/K (TCRS/K)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Image processing	C-6723*	Connection abnormality between CCD board (CCDB) and image processing board (IPB).	Main body stops immediately and main relay (RY1) is turned OFF.	Image processing board (IPB) CCD board (CCDB) CCD wiring harness
		C-6724*	Failed to check the connection of scanning boards, when turned ON the sub power switch (SW2).		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB) Scanner drive board (SCDB) Printer control board (PRCB)
		C-6725*	Parameter settings could not be attained during scan preparation.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
	Communication abnormality	C-6801*	After the sub power switch (SW2) is turned ON, communication between the printer control board (PRCB), overall control board (OACB), and operation board/1 (OB/1) is not started.		Printer control board (PRCB) Overall control board (OACB) Operation board/1 (OB/1)
RU	Communication abnormality	C-7001*	Communication error.	Main body and RU stop immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) RU control board (RUCB)
DF	DF abnormality	C-8001*	Communication error.	Main body stops immediately and main relay (RY1) is turned OFF.	Printer control board (PRCB) DF control board (DFCB)
		C-8101	Paper feed motor (M301) error.		DF control board (DFCB) Paper feed motor (M301)
		C-8102	Conveyance motor (M302) error.		DF control board (DFCB) Conveyance motor (M302)
		C-8103	Reverse/paper exit motor (M303) error.		DF control board (DFCB) Reverse/paper exit motor (M303)
		C-8401	Registration sensor (PS301) error.		DF control board (DFCB) Registration sensor (PS301)
		C-8402	Timing sensor (PS302) error.		DF control board (DFCB) Timing sensor (PS302)
		C-8403	Reverse sensor (PS305) error.		DF control board (DFCB) Reverse sensor (PS305)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
DF	DF abnormality	C-8404	Paper exit sensor (PS306) error.	Main body stops immediately and main relay (RY1) is turned OFF.	DF control board (DFCB) Paper exit sensor (PS306)
		C-8405	Size VR (VR301) error.		DF control board (DFCB) Size VR (VR301)
		C-8406	Non-volatile memory error.		DF control board (DFCB)
		C-8407	When the sub power switch (SW2) was ON, unwritten control program of DF control board (DFCB) was detected.		DF control board (DFCB)
Main body	Communication abnormality	C-C101*	When the sub power switch (SW2) is ON, no response is received from the printer control board (PRCB) within the specified time.		Printer control board (PRCB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-C102*	Printer control board (PRCB) communication abnormality.		Printer control board (PRCB)
		C-C103*	Operation panel communication abnormality.		Operation board/1 (OB/1)
	ISW abnormality	C-C104	When the sub power switch (SW2) was ON, unwritten range of ISW was detected in the printer control program or the VIF control program.		Printer control program VIF control program
		C-C106	In the data transfer by ISW, regular header information cannot be received within the specified time.		Printer cable UBS cable PC parallel port PC USB port
		C-C107	In the data transfer by ISW, check sum error or header error was detected in the downloaded data.		Printer cable UBS cable Program file abnormality
		C-C108	When transferring data by ISW, data cannot be correctly written to flash ROM.		Printer cable UBS cable Program transferred board
		C-C109	When turning the sub power switch (SW2) ON, ISW unwritten area in the FS program was detected.		FS control firmware
		C-C111	When turning the sub power switch (SW2) ON, ISW unwritten area in the LS program was detected.		LS control firmware
		C-C112	When turning the sub power switch (SW2) ON, ISW unwritten area in the LS program was detected.		LS control firmware

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	ISW abnormality	C-C113	When turning the sub power switch (SW2) ON, ISW unwritten area in the FD program was detected.	Main body stops immediately and main relay (RY1) is turned OFF.	FD control firmware
		C-C114	When turning the sub power switch (SW2) ON, ISW unwritten area in the SD program was detected.		SD control firmware
		C-C115	When turning the sub power switch (SW2) ON, ISW unwritten area in the RU program was detected.		RU control firmware
		C-C120	Firmware abnormality of the printer control board (PRCB)		Printer control firmware
	HDD abnormality	C-D0E0	Hard disk initialization abnormality. Hard disk failure or improper connector connection.		Overall control board (OACB) Image memory control board (IMCB) Hard disk/C (HDD/C) Hard disk/M (HDD/M) Hard disk/Y (HDD/Y) Hard disk/K (HDD/K)
		C-D0E1	Hard disk/K (HDD/K) disconnected. Otherwise, either broken or during initialization.		Hard disk/K (HDD/K)
		C-D0E2	Hard disk/C (HDD/C) disconnected. Otherwise, either broken or during initialization.		Hard disk/C (HDD/C)
		C-D0E3	Hard disk/K (HDD/K), /C (HDD/C) disconnected. Otherwise, either broken or during initialization.		Hard disk/K (HDD/K) Hard disk/C (HDD/C)
		C-D0E4	Hard disk/M (HDD/M) disconnected. Otherwise, either broken or during initialization.		Hard disk/M (HDD/M)
		C-D0E5	Hard disk/K (HDD/K), /M (HDD/M) disconnected. Otherwise, either broken or during initialization.		Hard disk/K (HDD/K) Hard disk/M (HDD/M)
		C-D0E6	Hard disk/C (HDD/C), /M (HDD/M) disconnected. Otherwise, either broken or during initialization.		Hard disk/C (HDD/C) Hard disk/M (HDD/M)

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	HDD abnormality	C-D0E7	Hard disk/K (HDD/K), /C (HDD/C), /M (HDD/M) disconnected. Otherwise, either broken or during initialization.	Main body stops immediately and main relay (RY1) is turned OFF.	Hard disk/K (HDD/K) Hard disk/C (HDD/C) Hard disk/M (HDD/M)
		C-D0E8	Hard disk/Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/Y (HDD/Y)
		C-D0E9	Hard disk/K (HDD/K), /Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/K (HDD/K) Hard disk/Y (HDD/Y)
		C-D0EA	Hard disk/C (HDD/C), /Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/C (HDD/C) Hard disk/Y (HDD/Y)
		C-D0EB	Hard disk/K (HDD/K), /C (HDD/C), /Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/K (HDD/K) Hard disk/C (HDD/C) Hard disk/Y (HDD/Y)
		C-D0EC	Hard disk/Y (HDD/Y), /M (HDD/M) disconnected. Otherwise, either broken or during initialization.		Hard disk/Y (HDD/Y) Hard disk/M (HDD/M)
		C-D0ED	Hard disk/K (HDD/K), /M (HDD/M), /Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/K (HDD/K) Hard disk/M (HDD/M) Hard disk/Y (HDD/Y)
		C-D0EE	Hard disk/C (HDD/C), /M (HDD/M), /Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/C (HDD/C) Hard disk/M (HDD/M) Hard disk/Y (HDD/Y)
		C-D0EF	Hard disk/K (HDD/K), /C (HDD/C), /M (HDD/M), /Y (HDD/Y) disconnected. Otherwise, either broken or during initialization.		Hard disk/C (HDD/C) Hard disk/M (HDD/M) Hard disk/Y (HDD/Y) Hard disk/K (HDD/K)
		C-D0F0	HDD password abnormality in security reinforcement mode. Password incorrect, password unset, or the security is OFF.		
	Security abnormality	C-DC##	Trouble related to Security	—	Contact the responsible person of the KONICA MINOLTA before taking some countermeasure.

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Classification		Code	Causes	Resulting operation	Estimated abnormal parts
Main body	Image processing abnormality	C-E001*	Message cue was not enough or destructed.	Main body stops immediately and main relay (RY1) is turned OFF.	Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Program of overall control board (OACB)
		C-E002*	Parameter value exceeds allowable range.		
		C-E003*	Message cue sender task has an undefined ID.		
		C-E004*	Message receiving event is undefined.		
		C-E005*	Abnormal access to memory.		Image processing board (IPB) I/F board (IFB) Image memory control board (IMCB) Overall control board (OACB)
		C-E006*	Header address scanning abnormality.		
		C-E007*	Image memory (DRAM) initialization abnormality.		

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C. Function to detach defective sections

For those abnormalities listed in the table below, defective units can be detached temporarily to use other control units manually. While detached, an error detection is not carried out on these detached units.
There are 2 methods of detaching defective sections.

(1) User operation

When a malfunction code occurs, press the HELP key following the message on the touch panel and then turn the power switch (SW2) OFF and ON. This allows you to use it temporarily until the main power switch (SW1) is OFF and ON (including an OFF/ON operation by the weekly timer) next time.

(2) DIPSW setting

Turning the main switch (SW1) OFF and ON after setting the specified software DIPSW bit allows you to make a limited use of it until the bit setting is released next time.

Classification	code	Causes	Control during separation	DipSW
LU	C-0102	Paper feed motor (M1) abnormality	Paper feed in LU cannot be used.	DIPSW18-3
PF	C-0103	Paper feed motor (M1) abnormality	Paper feed in PF cannot be used. Paper feed in tray 1 cannot be used.	DIPSW21-4 DIPSW21-5
Main body	C-0201	Paper lift motor /1 (M38) abnormality	Paper feed in tray 1 i cannot be used.	DIPSW18-0
	C-0202	Paper lift motor /2 (M39) abnormality	Paper feed in tray 2 cannot be used.	DIPSW18-1
	C-0203	Paper lift motor /3 (M40) abnormality	Paper feed in tray 3 cannot be used.	DIPSW18-2
LU	C-0204	Paper lift motor (M100) abnormality	Paper feed in LU cannot be used.	DIPSW18-3
PF	C-0208	Paper lift motor /1 (M2) abnormality	Paper feed in PF upper tray cannot be used.	DIPSW21-4
	C-0209	Power supply line fuse for the paper lift motor/1 (M2) blow out.		
	C-0211	Paper lift motor /2 (M3) abnormality	Paper feed in PF lower tray cannot be used.	DIPSW21-5
	C-0212	Power supply line fuse for the paper lift motor/2 (M3) blow out.		
FS	C-1102	Tray up down motor (M3) abnormality Tray up down motor (M3) abnormality	The FS main tray, staple cannot be used.	DIPSW6-4
	C-1103	Alignment motor /Rr (M5), /Fr (M22) abnormality Alignment motor /Up (M5) abnormality		

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Classification	code	Causes	Control during separation	DipSW
FS	C-1104	Main tray paper exit motor (M7) abnormality Paper exit roller motor (M7) abnormality	The FS main tray, staple cannot be used.(the staple key and FS main tray options on the touch panel are grayed out.)	DIPSW6-4
	C-1105	Paper exit opening motor (M8) abnormality		
	C-1106	Stapler movement motor (M11) abnormality	Staple cannot be used.	DIPSW6-3
	C-1107	Stapler rotation motor (M4) abnormality Clincher rotation motor (M4) abnormality		
	C-1108	Stapler rotation motor (M4) abnormality Stapler rotation motor (M6) abnormality		
	C-1109	Stapler motor /Fr (M31) abnormality Stapler motor /Fr (M14) abnormality		
	C-1110	Stapler motor /Rr (M30) abnormality Stapler motor /Rr (M9) abnormality		
	C-1113	Rear stopper motor (M26) abnormality (FS-503)	The FS main tray, staple cannot be used.(the staple key and FS main tray options on the touch panel are grayed out.)	DIPSW6-4
		Saddle stitching stopper motor (M18) abnormality (FS-607)	the saddle stitching, multi center folding, multi letter folding cannot be used.	DIPSW18-5
	C-1114	Alignment motor /Lw (M16) abnormality		
	C-1115	Folding knife motor (M19) abnormality	the saddle stitching, multi center folding, multi letter folding cannot be used. (FS is not connected)	
	C-1116	Folding transfer motor (M20) abnormality		
PI	C-1124	Tray lift motor /Lw (M202) abnormality	PI cannot be used. (PI is not connected)	DIPSW18-6
	C-1125	Tray lift motor /Up (M201) abnormality		
	C-1126	PI conveyance motor (M203) abnormality		DIPSW18-6
PK	C-1127	Punch shift motor (M302) abnormality	PK cannot be used. (PK is not connected)	DIPSW19-5
	C-1132	Punch motor (M301) abnormality		
FS	C-1140	Paper exit arm motor (M23) abnormality	The FS main tray, sstaple cannot be used.(the staple key and FS main tray options on the touch panel are grayed out.)	DIPSW6-4
	C-1141	Paddle motor (M2) abnormality		
	C-1142	Intermediate roller release solenoid (SD7) abnormality		
	C-1143	FNS control board (FNSCB) abnormality	FS cannot be used. (FS is not connected)	DIPSW6-5

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Classification	code	Causes	Control during separation	DipSW
LS	C-1201 to 1206	LS abnormality (first coupling)	The first coupled LS cannot be used.	DIPSW6-6
	C-1211 to 1216	LS abnormality (second coupling)	The 2nd coupled LS cannot be used.	DIPSW6-7
FD	C-1221	1st folding abnormality	Folding/punching section cannot be used.	DIPSW6-0
	C-1222	2nd folding abnormality		
	C-1223	3rd folding abnormality		
	C-1224	2 holes punch drive abnormality		
	C-1225	3 holes/4 holesdrive abnormality		
	C-1226	Alignment motor (M12) abnormality		
	C-1227	Punch registration motor (M13) abnormality		
	C-1228	Tray up down motor (M11) abnormality	The main tray cannot be used.	DIPSW6-1
	C-1229	Tray up down motor (M11) abnormality		
	C-1230	Paper lift motor /Up (M8) abnormality	PI section cannot be used.	DIPSW6-2
	C-1231	Paper lift motor /Lw (M9) abnormality		
	C-1234	PI conveyance motor (M7) abnormality		
SD	C-1241	Bundle exit drive motor (M5) abnormality	The saddle stitching, multi center folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-3
	C-1242	Folding main scan alignment motor /Fr (M7) abnormality.	The saddle stitching, multi center folding, multi letter folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-2 DIPSW7-3
	C-1243	Folding sub scan alignment exit motor (M8) abnormality.		
	C-1244	Saddle stitching alignment motor /Rt (M9) abnormality.	The saddle stitching, multi center folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-3
	C-1245	Bundle arm motor (M10) abnormality.		
	C-1246	Bundle clip motor (M11) abnormality.		
	C-1247	Bundle registration motor (M12) abnormality.		
	C-1248	Overlap motor (M13) abnormality.	The saddle stitching, multi center folding, multi letter folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-2 DIPSW7-3
	C-1249	Folding main scan alignment motor /Rr (M14) abnormality.		
SD	C-1250	Stapler movement motor (M15) abnormality.	The saddle stitching, multi center folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-3
	C-1251	Saddle stitching alignment motor /Lt (M16) abnormality.		
	C-1252	Bundle press movement motor (M17) abnormality.		
	C-1253	1st folding blade motor (M18) abnormality.	The saddle stitching, multi center folding, multi letter folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-2 DIPSW7-3

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Classification	code	Causes	Control during separation	DipSW
SD	C-1254	2nd folding blade motor (M19) abnormality.	The multi letter folding cannot be used.	DIPSW7-2
	C-1255	Clincher up down motor (M20) abnormality.	The saddle stitching, multi center folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-3
	C-1256	Saddle stitching press motor (M21) abnormality.		
	C-1257	Bundle arm rotation motor (M22) abnormality.		
	C-1258	Bundle press motor (M23) abnormality.		
	C-1259	Bundle press stage up down motor (M24) abnormality.		
	C-1260	Guide shaft motor (M25) abnormality.		
	C-1261	Stapler motor /Rt (M29) abnormality.	The Saddle stitching and trimmer cannot be used.	DIPSW7-0 DIPSW7-3
	C-1262	Stapler motor /Lt (M30) abnormality.		
	C-1263	Trimmer blade motor (M31) abnormality.	The trimmer cannot be used.	DIPSW7-3
	C-1264	Trimmer press motor (M32) abnormality.	The saddle stitching, multi center folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-3
	C-1265	Bundle arm assist motor (M26) abnormality.		
	C-1267	Horizontal conveyance motor (M2) abnormality.	Sub tray, rear paper exit and FS cannot be used.	DIPSW7-4
	C-1268	Folding entrance motor (M3) abnormality.	The saddle stitching, multi center folding, multi letter folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-2 DIPSW7-3
	C-1269	Folding conveyance motor (M4) abnormality.		
	C-1270	Bundle exit motor (M5) abnormality.	The saddle stitching, multi center folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-3
	C-1271	Folding sub scan alignment exit motor (M8) abnormality.	the saddle stitching, multi center folding, multi letter folding and trimmer cannot be used.	DIPSW7-0 DIPSW7-1 DIPSW7-2 DIPSW7-3
LS	C-1301 to 302	LS abnormality (first coupling)	The first coupled LS cannot be used.	DIPSW6-6
	C-1306 to 307	LS abnormality (second coupling)	The 2nd coupled LS cannot be used.	DIPSW6-7
SD	C-1311	Scraps removal fan motor (FM1) abnormality.	The trimmer cannot be used.	DIPSW7-3
Main body	C-D0E0	Hard disk initialization abnormality.	HDD cannot be used. (HDD is not connected)	DIPSW18-7

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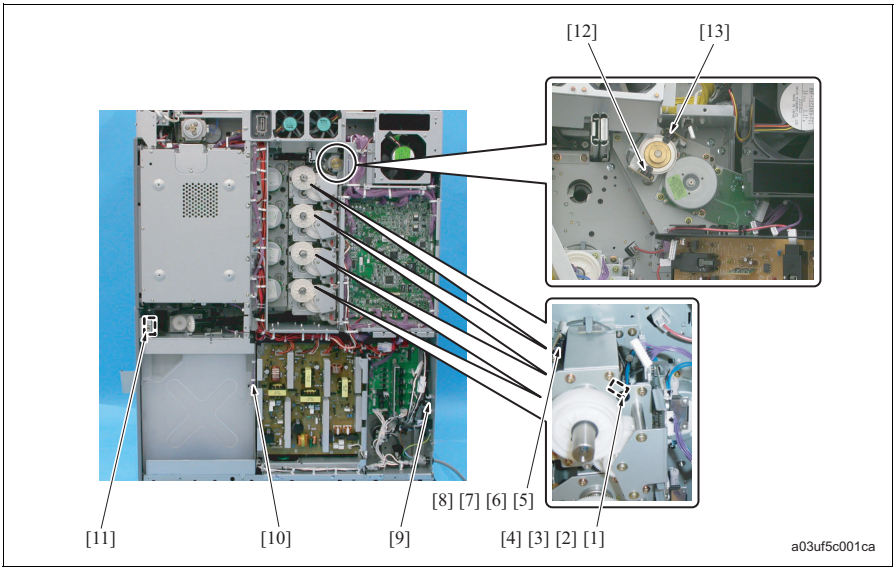
■ APPENDIX

14. PARTS LAYOUT DRAWING

14.1 Main body

14.1.1 Switch/sensor

A. Main body rear side



[1] Encoder sensor /Y1 (PS66)
[2] Encoder sensor /M1 (PS68)
[3] Encoder sensor /C1 (PS70)
[4] Encoder sensor /K1 (PS72)
[5] Encoder sensor /Y2 (PS67)
[6] Encoder sensor /M2 (PS69)
[7] Encoder sensor /C2 (PS71)
[8] Encoder sensor /K2 (PS73)
[9] Dehumidifier heater switch (SW3)
[10] Waste toner full sensor (PS52)
[11] Waste toner door sensor (PS60)
[12] Encoder sensor / belt 2 (PS75)
[13] Encoder sensor / belt 1 (PS74)

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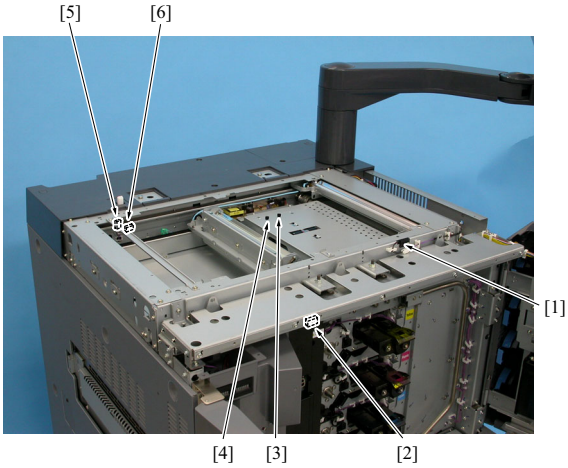
B. Main body upper surface



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[1] Read switch (RS)
[2] Toner supply unit open/close sensor (PS14)
[3] APS sensor /2 (PS4)
[4] APS sensor /1 (PS3)
[5] Scanner HP sensor (PS1)
[6] APS timing sensor (PS2)

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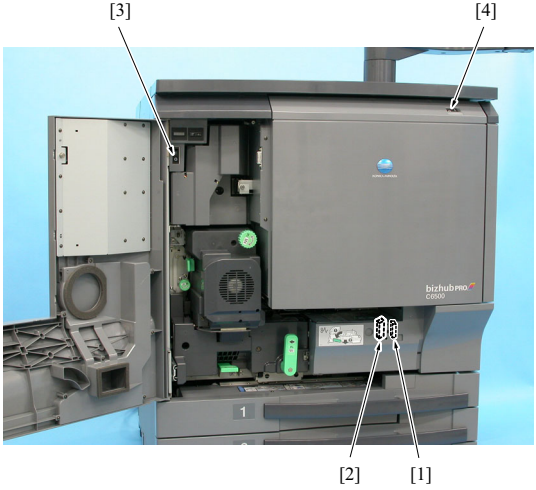
C. Main body front side



[1] Front door sensor (PS18)
[2] Interlock switch /1 (MS1)
[3] Main power switch (SW1)
[4] Sub power switch (SW2)

D. Main body right side

[1] Temp/humidity sensor /1 (TEM/HUMS/1)

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E. Inside of the front of the main body

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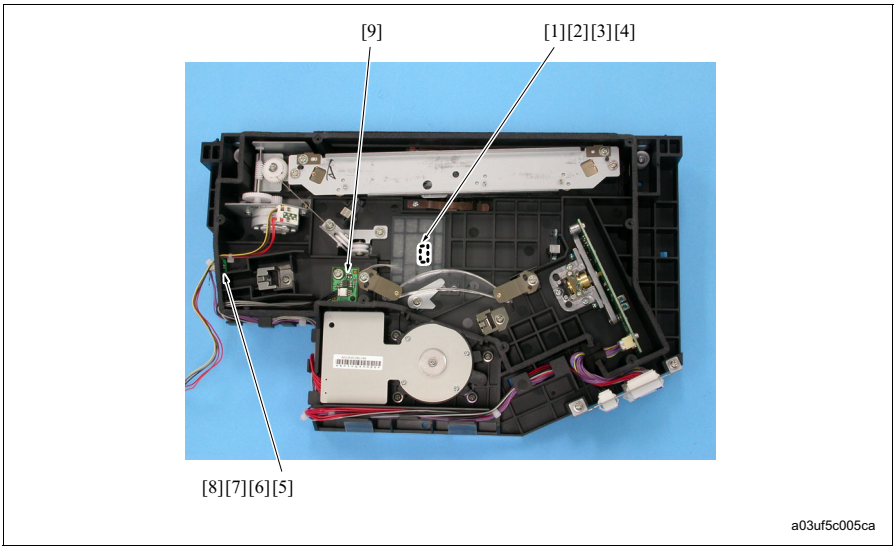
[1] 1st transfer HP sensor (PS15)

F. Write section



[1] Laser correction sensor /Y (PS5)
[2] Laser correction sensor /M (PS6)
[3] Laser correction sensor /C (PS7)
[4] Laser correction sensor /K (PS59)
[5] Index board /Y (INDEXB/Y)
[6] Index board /M (INDEXB/M)
[7] Index board /C (INDEXB/C)
[8] Index board /K (INDEXB/K)
[9] Temperature sensor board (TEMSB)

NOTE

- **Only the write unit/K equips the TEMSB.**

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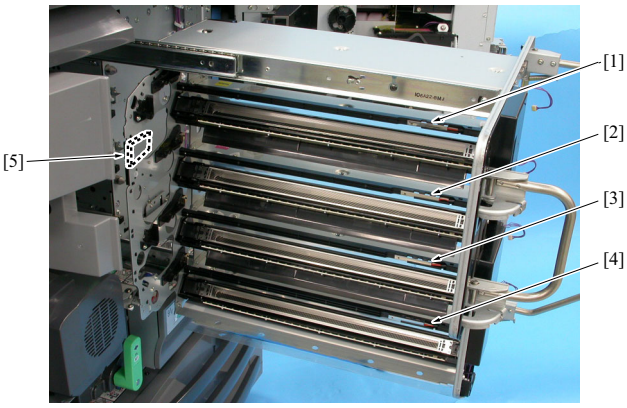
G. Process section



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[1] Drum potential sensor /Y (DRPS/Y)
[2] Drum potential sensor /M (DRPS/M)
[3] Drum potential sensor /C (DRPS/C)
[4] Drum potential sensor /K (DRPS/K)
[5] Temp/humidity sensor /2 (TEM/HUMS/2)

H. Developing section

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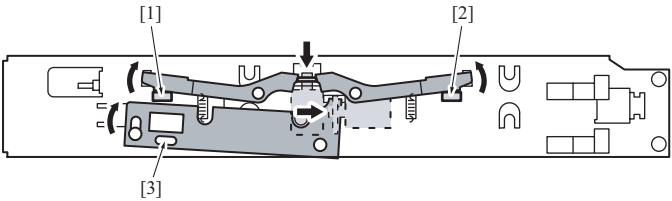
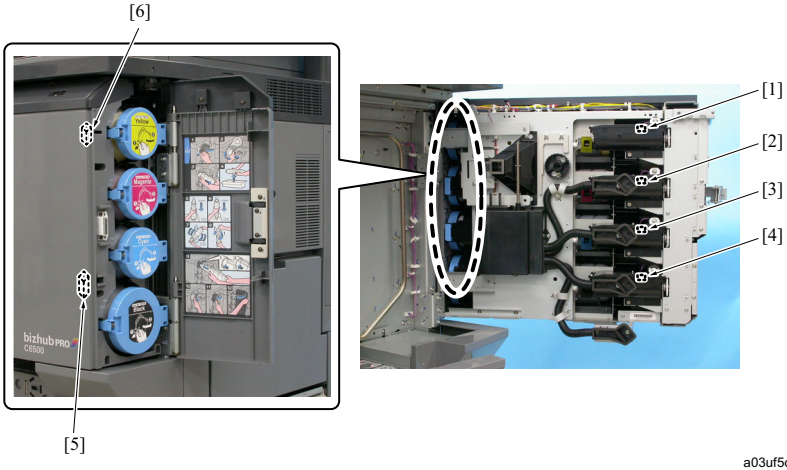
[1] TCR sensor /C (TCRS/C)
[2] TCR sensor /M (TCRS/M)
[3] TCR sensor /Y (TCRS/Y)
[4] TCR sensor /K (TCRS/K)

I. Image correction unit



[1] Color registration sensor /Fr (PS8)
[2] Color registration sensor /Rr (PS9)
[3] PGC sensor (PS11)

J. Toner supply section



[1] Piezoelectric sensor /C (PZS/C)
[2] Piezoelectric sensor /M (PZS/M)
[3] Piezoelectric sensor /Y (PZS/Y)
[4] Piezoelectric sensor /K (PZS/K)
[5] Interlock switch /2 (MS2)
[6] Toner supply door open/close sensor (PS54)

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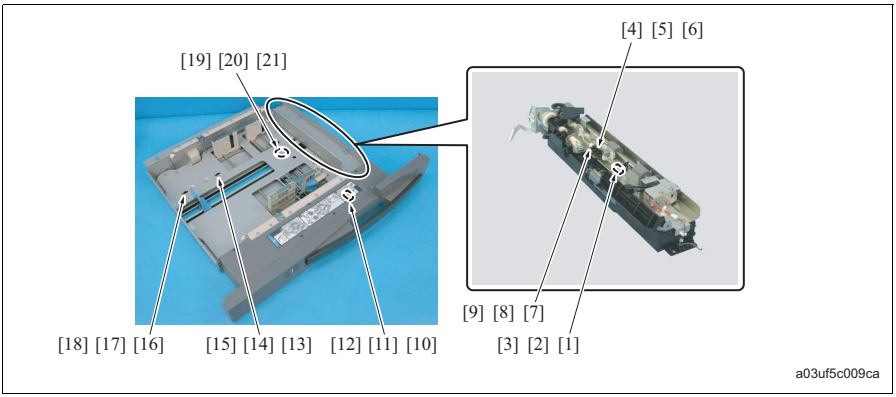
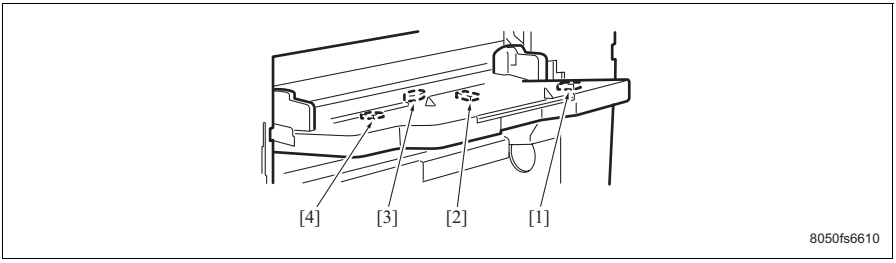
K. Tray 1, 2, 3



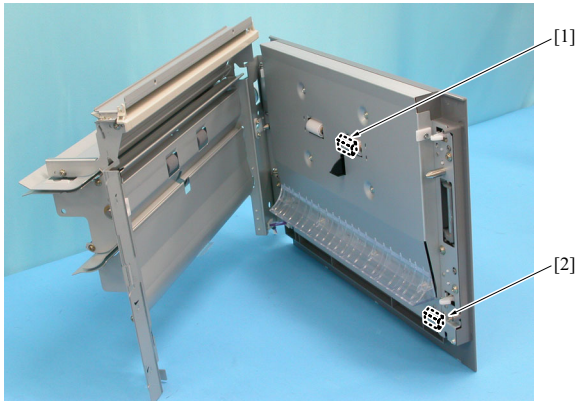
[1] Paper feed sensor /1 (PS29)
[2] Paper feed sensor /2 (PS35)
[3] Paper feed sensor /3 (PS41)
[4] Paper empty sensor /1 (PS31)
[5] Paper empty sensor /2 (PS37)
[6] Paper empty sensor /3 (PS43)
[7] Upper limit sensor /1 (PS30)
[8] Upper limit sensor /2 (PS36)
[9] Upper limit sensor /3 (PS42)
[10] Paper near empty sensor /1 (PS32)
[11] Paper near empty sensor /2 (PS38)
[12] Paper near empty sensor /3 (PS44)
[13] Paper size sensor /Fr1 (PS33)
[14] Paper size sensor /Fr2 (PS39)
[15] Paper size sensor /Fr3 (PS45)
[16] Paper size sensor /Rr1 (PS34)
[17] Paper size sensor /Rr2 (PS40)
[18] Paper size sensor /Rr3 (PS46)
[19] Paper size VR /1 (VR1)
[20] Paper size VR /2 (VR2)
[21] Paper size VR /3 (VR3)

L. Bypass tray



[1] Paper size sensor /BP2 (PS49)
[2] Paper empty sensor /BP (PS47)
[3] Paper size VR /BP (VR4)
[4] Paper size sensor /BP1 (PS48)

M. Vertical conveyance section



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[1] Vertical conveyance sensor (PS50)

[2] Vertical conveyance door sensor (PS51)

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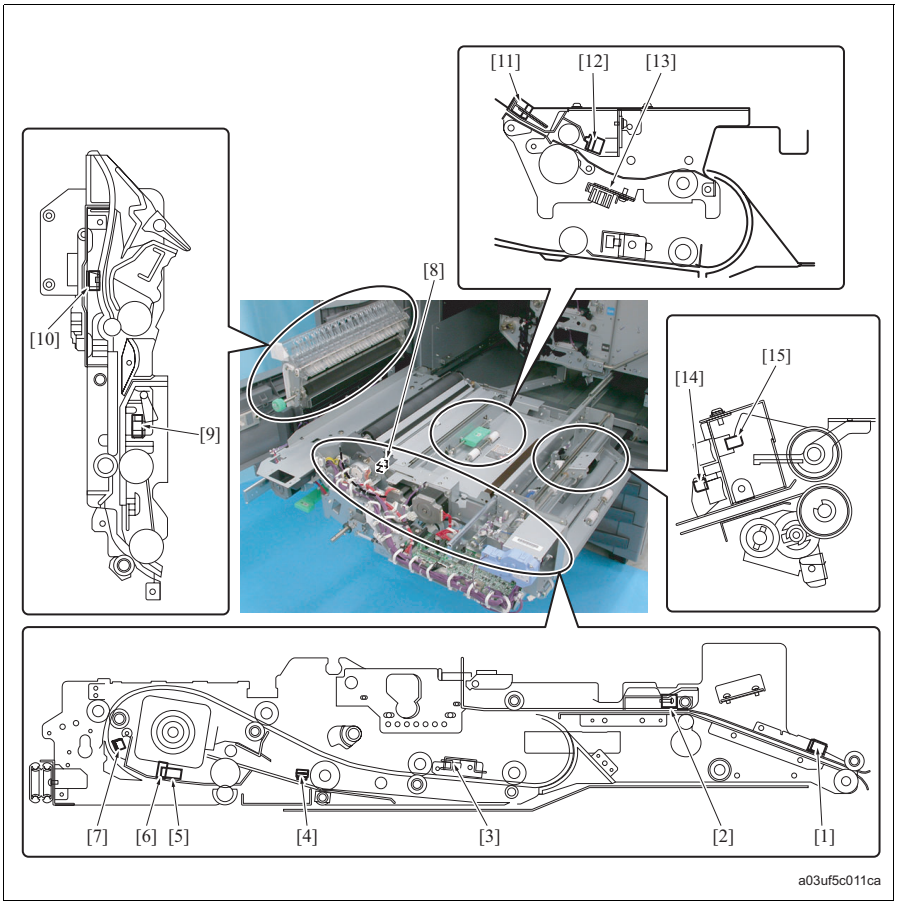
N. ADU section



[1] Intermediate conveyance sensor /1 (PS27)
[2] Intermediate conveyance sensor /2 (PS28)
[3] ADU pre-registration sensor (PS23)
[4] ADU reverse sensor (PS21)
[5] ADU centering sensor (PS65)
[6] ADU stop sensor (PS20)
[7] ADU conveyance sensor (PS61)
[8] 2nd transfer HP sensor (PS24)
[9] Reverse/exit sensor (PS19)
[10] Decurler sensor (PS62)
[11] Leading edge sensor (PS63)
[12] Registration sensor (PS22)
[13] Registration temperature sensor (TEMS1)
[14] Paper feed sensor /BP (PS26)
[15] Upper limit sensor /BP (PS25)

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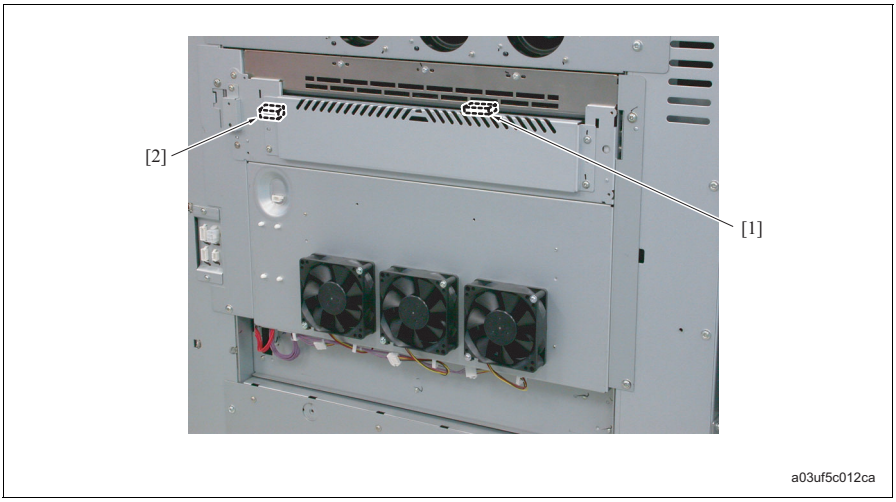
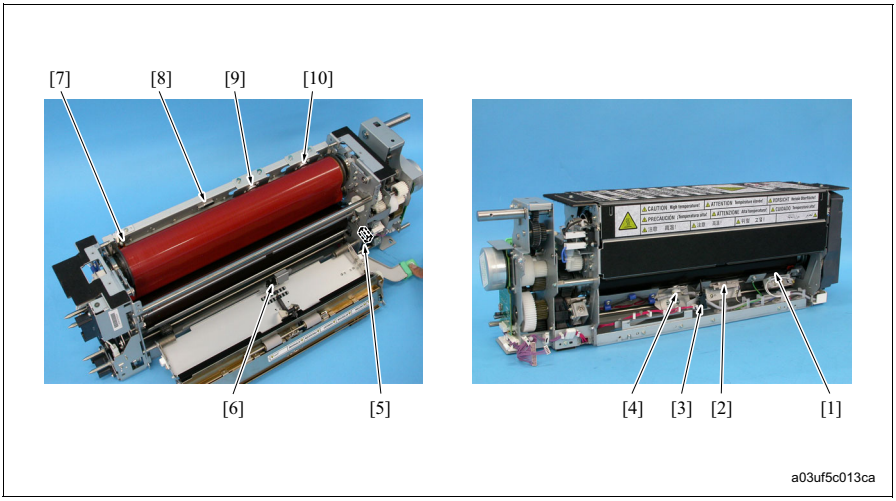
O. Paper exit section (Main body left side)



[1] Paper exit sensor (PS13)

[2] Paper exit pressure sensor (PS10)

P. Fusing section



[1] Temperature sensor /4 (TEMS/4)

[2] Temperature sensor /2 (TEMS/2)

[3] Fusing loop sensor (PS64)

[4] Thermostat /3 (TS3)

[5] Fusing release home sensor (PS16)

[6] Fusing paper exit sensor (PS17)

[7] Temperature sensor /3 (TEMS/3)

[8] Temperature sensor /1 (TEMS/1)

[9] Thermostat /1 (TS1)

[10] Thermostat /2 (TS2)

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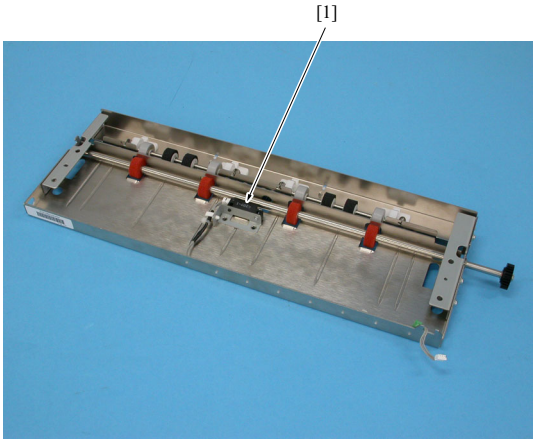
Q. OT



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[1] Paper exit full sensor (PS12)

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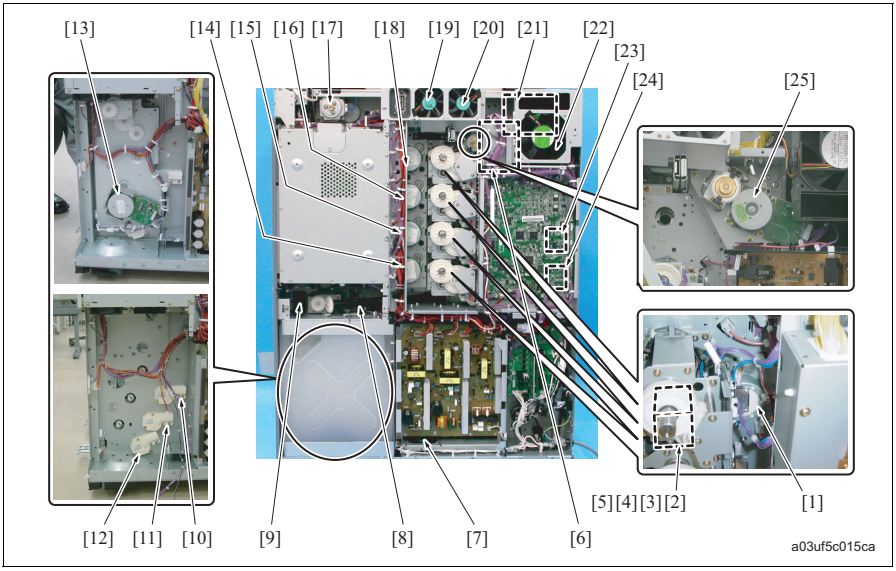
14.1.2 Load

A. Main body rear side



[1] 1st transfer pressure/release motor (M19)
[2] Drum motor /Y (M14)
[3] Drum motor /M (M15)
[4] Drum motor /C (M16)
[5] Drum motor /K (M17)
[6] Fusing belt ventilation fan (M10)
[7] DCPS fan (M42)
[8] IPB fan /1 (M24)
[9] IPB fan /2 (M25)
[10] Paper lift motor /1 (M38)
[11] Paper lift motor /2 (M39)
[12] Paper lift motor /3 (M40)
[13] Paper feed motor (M41)
[14] Developing motor /K (M23)
[15] Developing motor /C (M22)
[16] Developing motor /M (M21)
[17] Scanner motor (M1)
[18] Developing motor /Y (M20)
[19] Drum fan /2 (M13)
[20] Drum fan /1 (M12)
[21] Fusing ventilation fan (M37)
[22] Deodorization fan (M36)
[23] Paper exit motor (M54)
[24] Decurler motor (M55)
[25] Transfer belt motor (M18)

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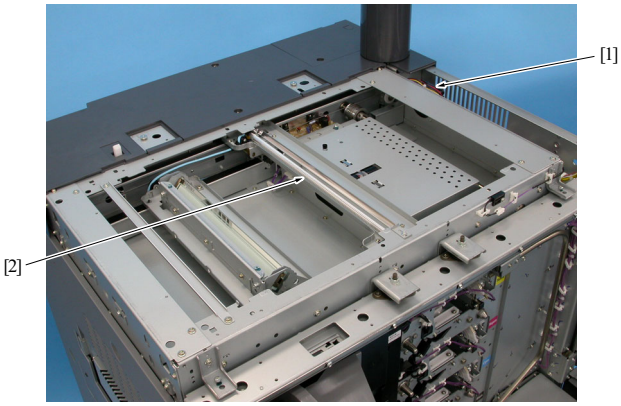
B. Main body upper surface



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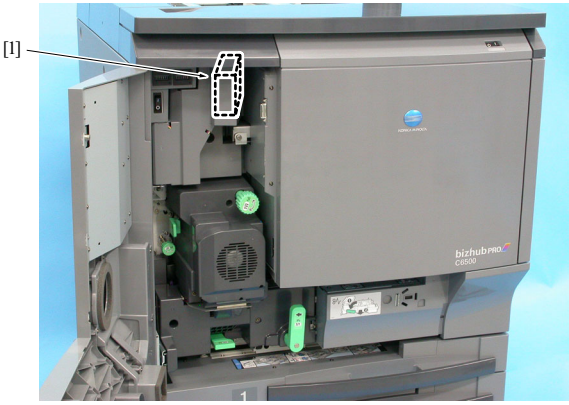
[1] Scanner fan (M2)

[2] Exposure lamp (L1)

C. Main body front side



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[1] Transfer belt fan (M11)

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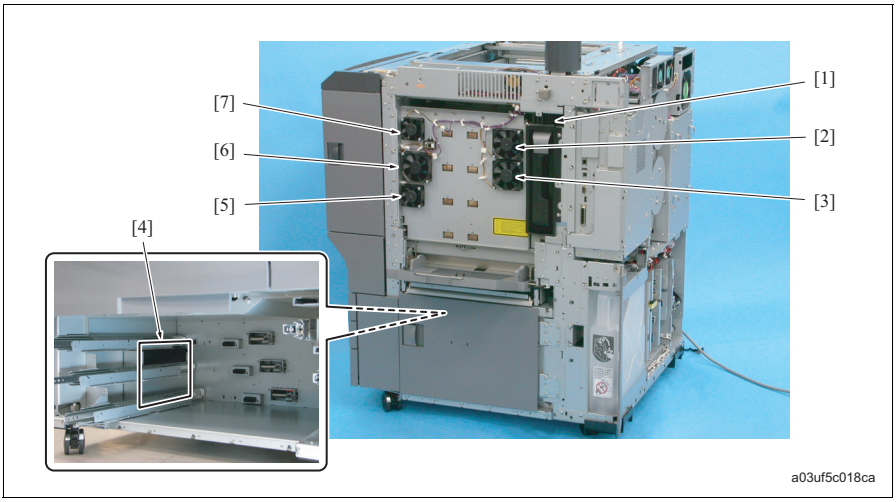
D. Main body right side



[1] Main body fan (M47)
[2] Developing fan /1 (M45)
[3] Developing fan /2 (M46)
[4] Dehumidifier heater (HTR)
[5] Writing intake fan /2 (M44)
[6] Developoing fan /3 (M64)
[7] Writing intake fan /1 (M43)

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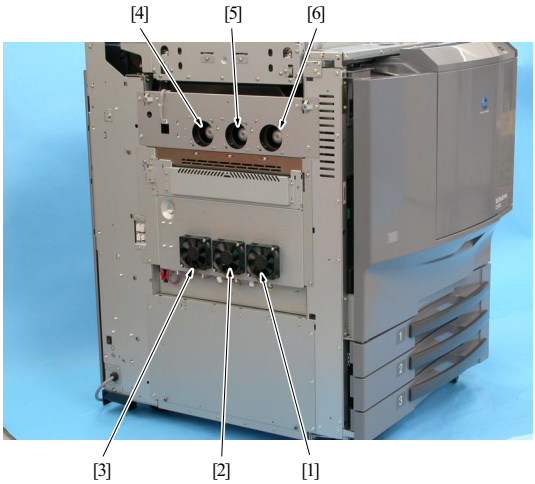
E. Main body left side



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[1] Tucking fan /3 (M28)
[2] Tucking fan /2 (M27)
[3] Tucking fan /1 (M26)
[4] Paper exit fan /3 (M63)
[5] Paper exit fan /2 (M62)
[6] Paper exit fan /1 (M61)

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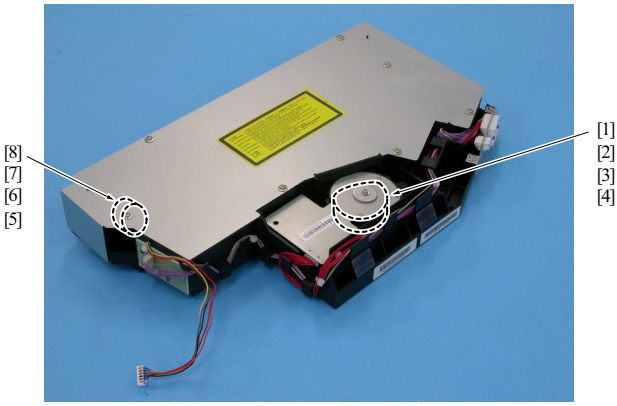
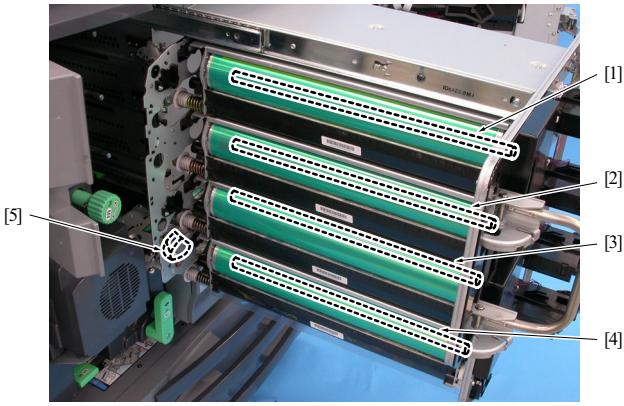
F. Write section



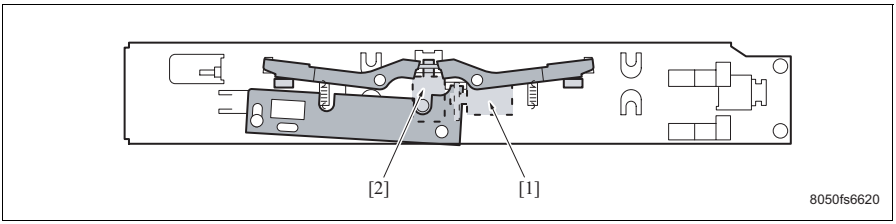
[1] Polygon motor /Y (M3)
[2] Polygon motor /M (M4)
[3] Polygon motor /C (M5)
[4] Polygon motor /K (M6)
[5] Laser correction motor /Y (M7)
[6] Laser correction motor /M (M8)
[7] Laser correction motor /C (M9)
[8] Laser correction motor /K (M58)

G. Process section



[1] Erase lamp /Y (EL/Y)
[2] Erase lamp /M (EL/M)
[3] Erase lamp /C (EL/C)
[4] Erase lamp /K (EL/K)
[5] Belt separation claw solenoid (SD1)

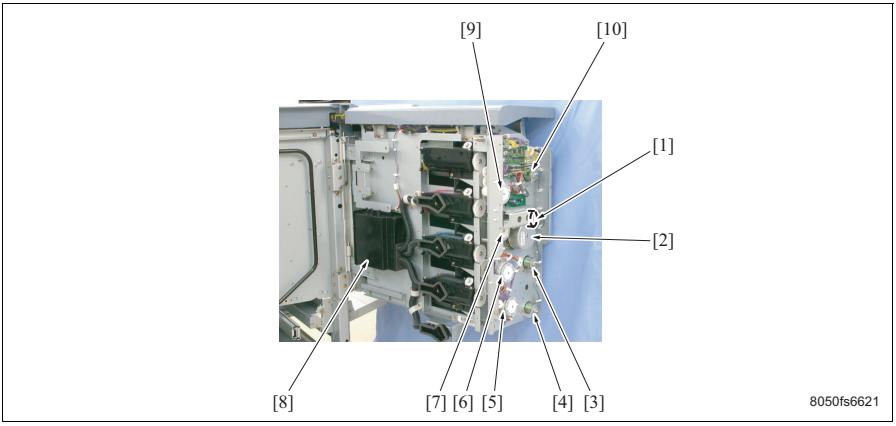
H. Image correction unit



[1] PGC shutter solenoid (SD3)

[2] Color registration shutter solenoid (SD2)

I. Toner supply section



[1] Toner bottle clutch /M (MC15)

[2] Toner bottle motor (M53)

[3] Toner bottle clutch /C (MC16)

[4] Toner bottle clutch /K (MC17)

[5] Toner supply motor /K (M52)

[6] Toner supply motor /C (M51)

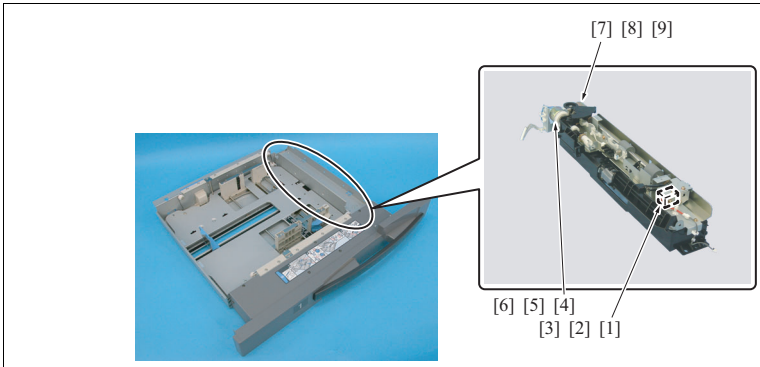
[7] Toner supply motor /M (M50)

[8] Charge intake fan (M48)

[9] Toner supply motor /Y (M49)

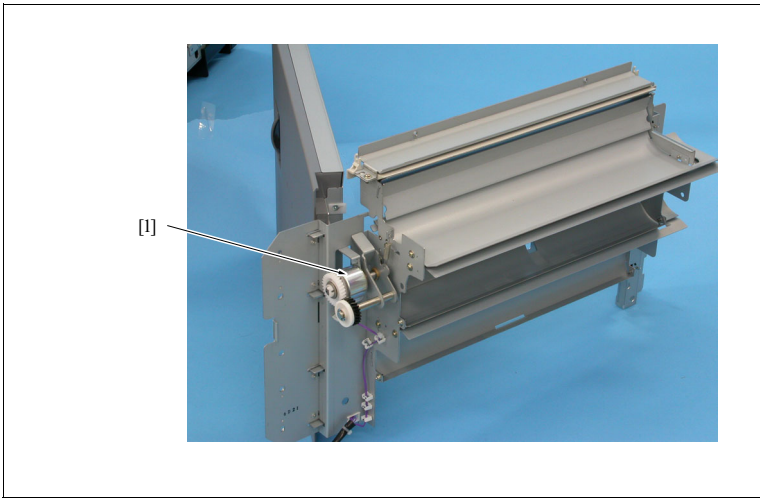
[10] Toner bottle clutch /Y (MC14)

J. Tray 1, 2, 3



[1] Pick-up solenoid /1 (SD7)
[2] Pick-up solenoid /2 (SD8)
[3] Pick-up solenoid /3 (SD9)
[4] Paper feed clutch /1 (MC7)
[5] Paper feed clutch /2 (MC9)
[6] Paper feed clutch /3 (MC11)
[7] Pre-registration clutch /1 (MC8)
[8] Pre-registration clutch /2 (MC10)
[9] Pre-registration clutch /3 (MC12)

K. Vertical conveyance section



[1] Intermediate conveyance clutch /1 (MC13)

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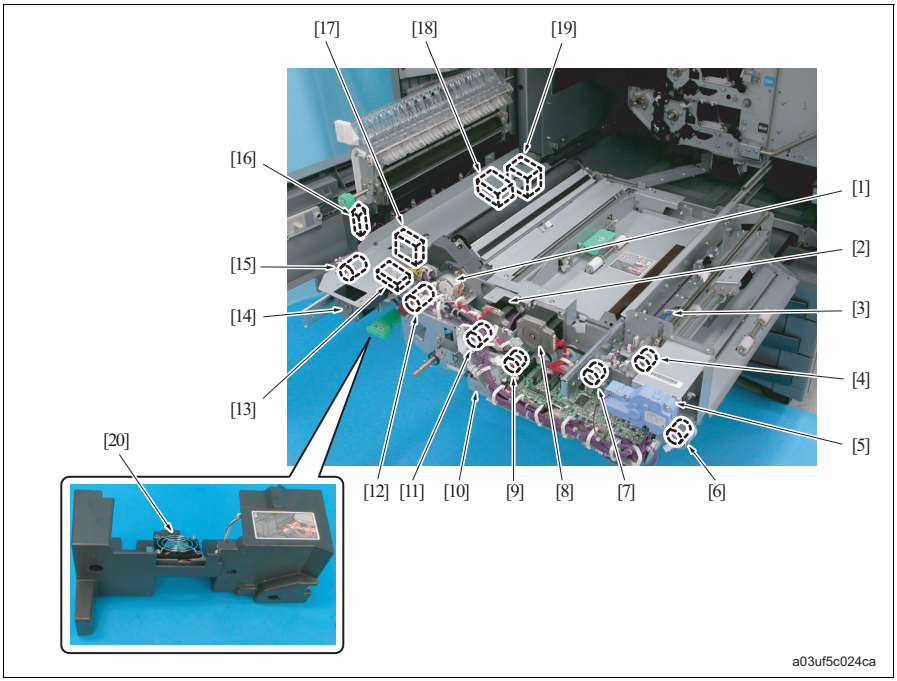
L. ADU section



[1] 2nd transfer pressure/release motor (M34)
[2] Registration motor (M30)
[3] Pick-up solenoid /BP (SD5)
[4] Paper feed clutch /BP (MC6)
[5] Paper lift motor /BP (M35)
[6] Intermediate conveyance clutch /2 (MC4)
[7] Intermediate conveyance clutch /3 (MC5)
[8] Loop motor (M31)
[9] ADU pre-registration clutch (MC18)
[10] ADU lock solenoid (SD6)
[11] ADU conveyance clutch /3 (MC3)
[12] ADU conveyance clutch /2 (MC2)
[13] ADU gate solenoid (SD10)
[14] Reverse/exit motor (M33)
[15] ADU conveyance clutch /1 (MC1)
[16] Paper exit solenoid (SD4)
[17] ADU fan /1 (M66)
[18] ADU reverse motor (M32)
[19] ADU loop motor (M57)
[20] ADU fan /2 (M67)

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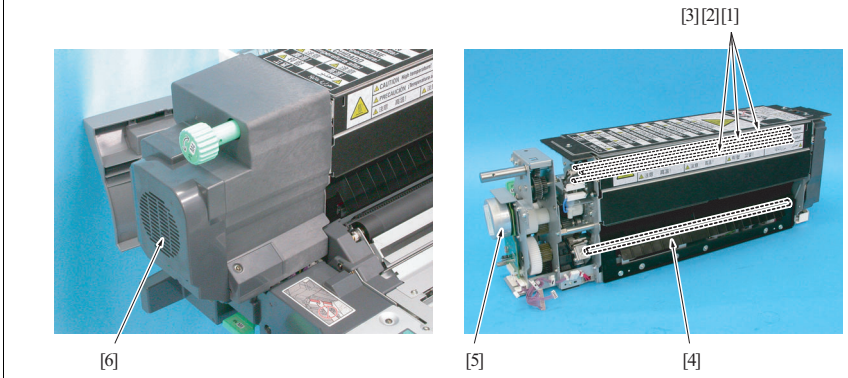
M. Fusing section



[1] Fusing heater lamp /1 (L2)
[2] Fusing heater lamp /2 (L3)
[3] Fusing heater lamp /3 (L4)
[4] Fusing heater lamp /4 (L5)
[5] Fusing motor (M29)
[6] Fusing fan /Lw (M65)

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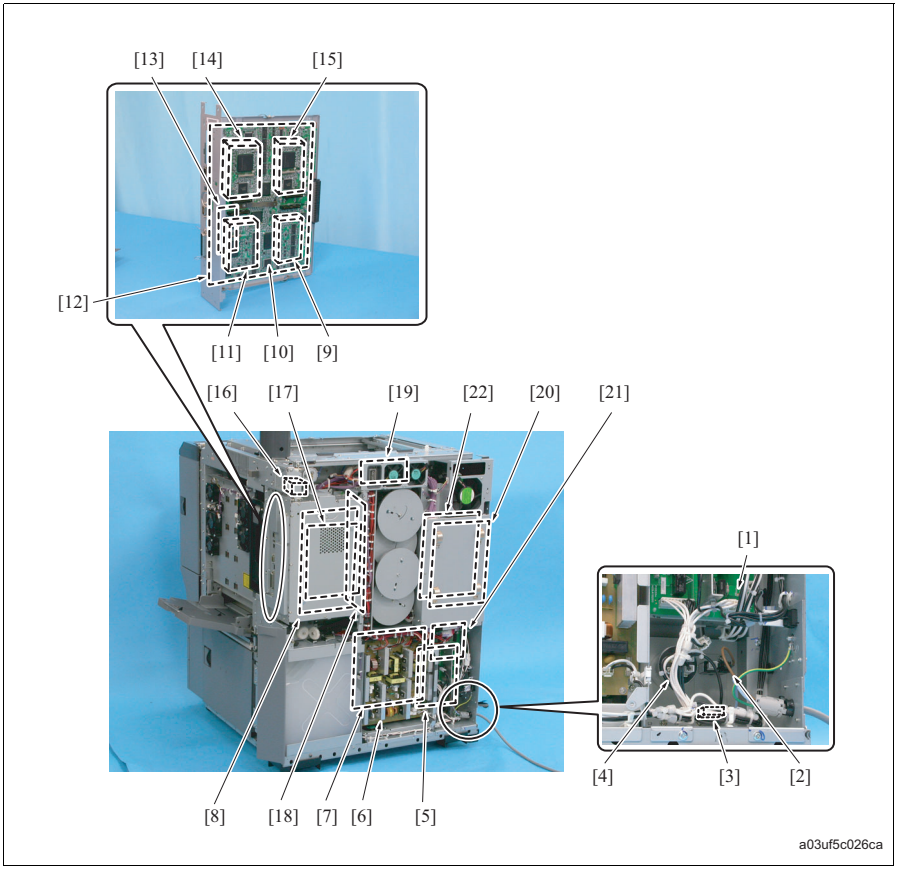
14.1.3 Boards and others

A. Main body rear side



[1] AC drive board (ACDB)
[2] Circuit breaker /1 (CBR/1)
[3] Circuit breaker /2 (CBR/2)
[4] Noise filter (NF)
[5] Fusing control board /1 (FUSCB/1)*1
[6] DC power supply /2 (DCPS/2)
[7] DC power supply /1 (DCPS/1)
[8] Image processing board (IPB)
[9] HDD /C (HDD/C)
[10] Image memory control board (IMCB)
[11] HDD /K (HDD/K)
[12] Overall control board (OACB)
[13] NVRAM board (NRB)
[14] HDD /M (HDD/M)
[15] HDD /Y (HDD/Y)
[16] Key counter (KCT)
[17] High voltage unit /1 (HV/1)
[18] I/F board (IFB)
[19] Scanner drive board (SCDB)
[20] Printer control board (PRCB)
[21] Fusing control board /2 (FUSCB/2)*1
[22] High voltage unit /2 (HV/2)

*1 Only for Europe spec.

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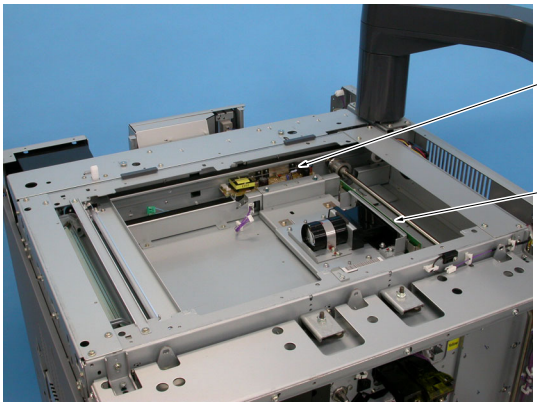
B. Main body upper surface



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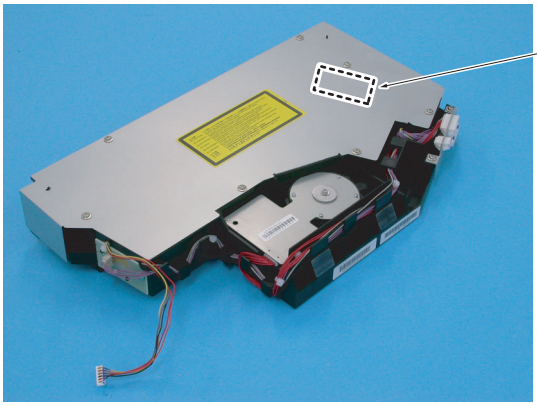
[1] Inverter board /1 (INVB/1) [2] CCD board (CCDB)

C. Main body front side

a03uf5c028ca

[1] Total counter /1 (TCT/1) [2] Total counter /2 (TCT/2)

D. Write section



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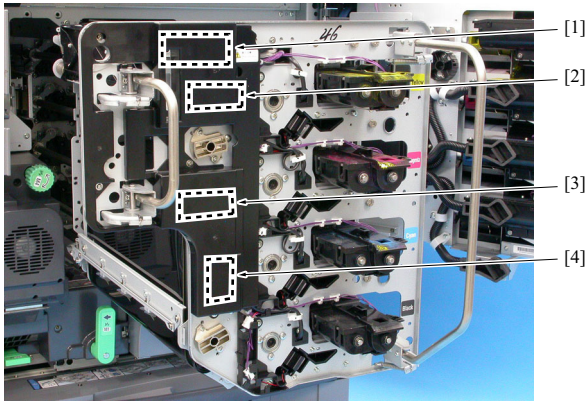
[1] Laser drive board /Y (LASDB/Y)
[2] Laser drive board /M (LASDB/M)
[3] Laser drive board /C (LASDB/C)
[4] Laser drive board /K (LASDB/K)

E. Process section



a03uf5c030ca

[1] Drum potential sensor board /Y (DRPSB/Y)
[2] Drum potential sensor board /M (DRPSB/M)
[3] Drum potential sensor board /C (DRPSB/C)
[4] Drum potential sensor board /K (DRPSB/K)

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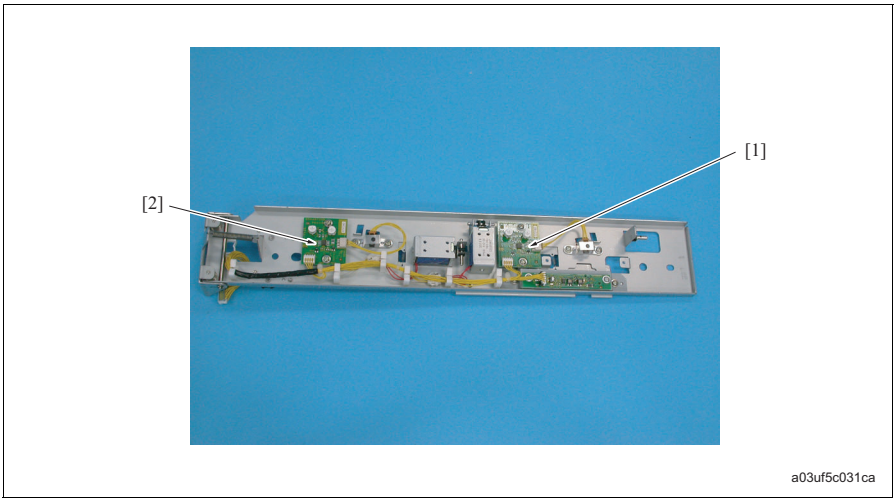
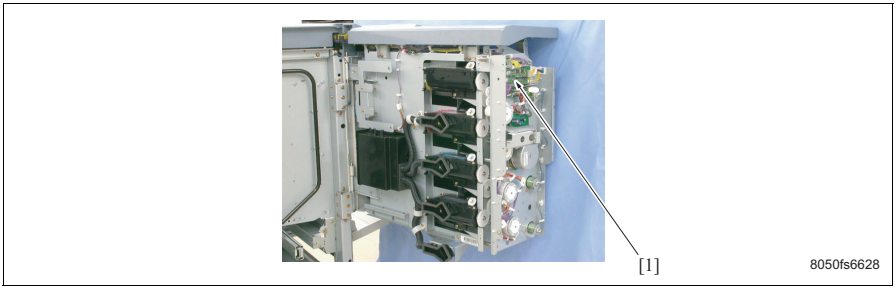
F. Image correction unit



[1] Color registration board /Fr (CRB/Fr)

[2] Color registration board /Rr (CRB/Rr)

G. Toner supply section



[1] Toner supply drive board (TSDB)

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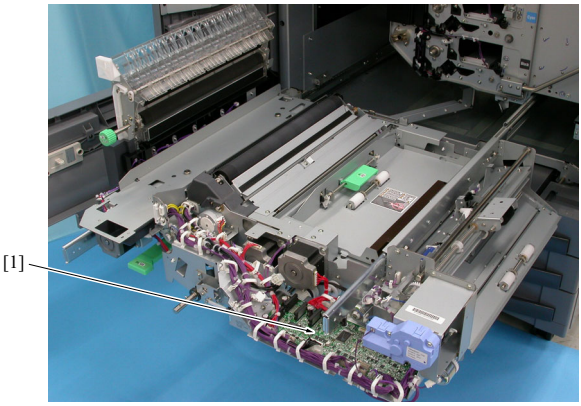
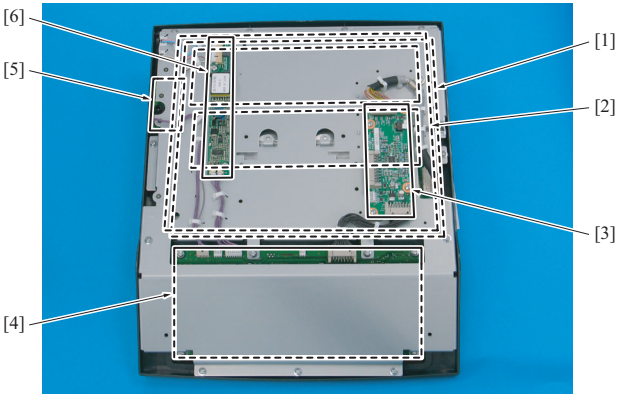
H. ADU section



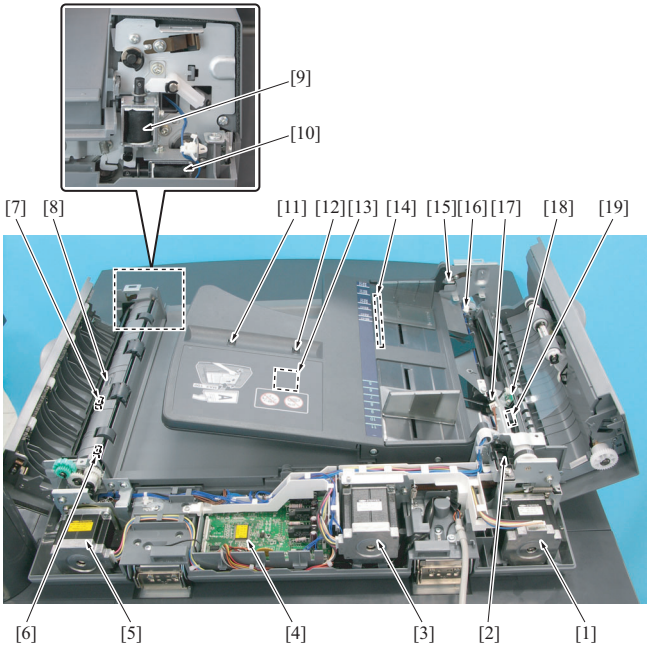
[1] Conveyance drive board (CDB)

I. Operation section



[1] LCD board (LCDB)
[2] Operation key board (OKB)
[3] Operation board /3 (OB/3)
[4] Operation board /1 (OB/1)
[5] Operation board /2 (OB/2)
[6] Inverter board /2 (INVB/1)

14.2 DF



[1] Paper feed motor (M301)
[2] Paper feed cover sensor (PS303)
[3] Conveyance motor (M302)
[4] DF control board (DFCB)
[5] Reverse/paper exit motor (M303)
[6] Tray open/close sensor (PS308)
[7] Reverse sensor (PS305)
[8] Paper exit sensor (PS306)
[9] Paper exit solenoid (SD301)
[10] Reverse solenoid (SD302)
[11] Size sensor /Rt (PS310)
[12] Size sensor /Lt (PS309)
[13] Size sensor board (SSB)
[14] Size VR (VR301)
[15] Paper exit cover sensor (PS307)
[16] Registration clutch (MC301)
[17] No paper sensor (PS304)
[18] Registration sensor (PS301)
[19] Timing sensor (PS302)

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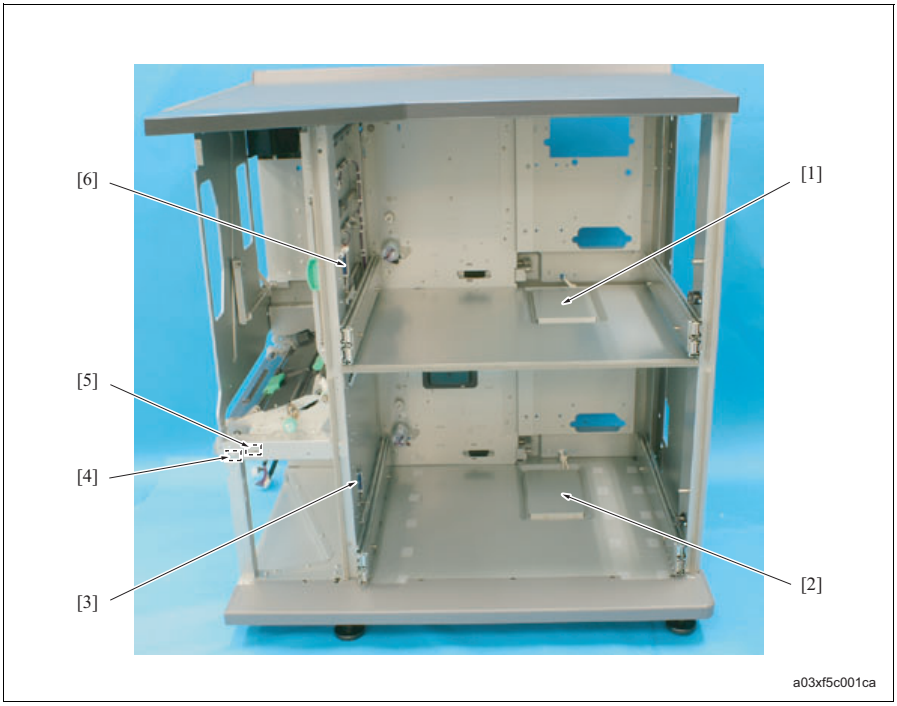
14.3 PF

A. Configuration front side



[1] Dehumidifier heater /1 (HTR1)
[2] Dehumidifier heater /2 (HTR2)
[3] Tray lock solenoid /2 (SD8)
[4] Front door open/close sensor (PS23)
[5] Front door open/close switch (SW1)
[6] Tray lock solenoid /1 (SD4)

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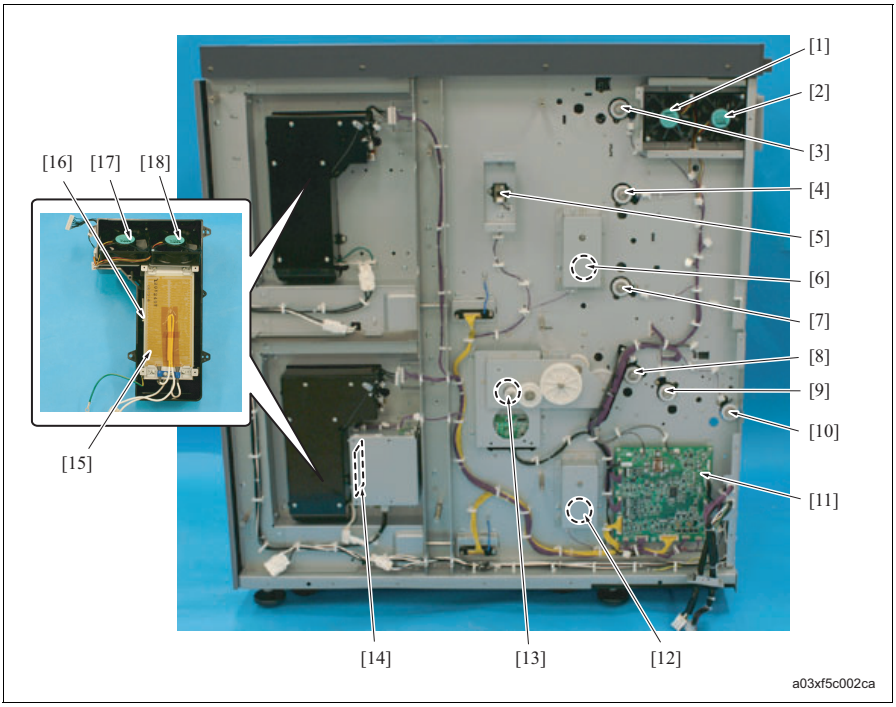
B. Configuration rear side



[1] Ventilation fan /1 (FM10)
[2] Ventilation fan /2 (FM9)
[3] Vertical conveyance clutch /1 (MC7)
[4] Vertical conveyance clutch /2 (MC8)
[5] Temperature-humidity sensor (TEM/HUMS)
[6] Paper lift motor /1 (M2)
[7] Vertical conveyance clutch /3 (MC9)
[8] Horizontal conveyance clutch /1 (MC10)
[9] Pre-registration clutch (MC12)
[10] Horizontal conveyance clutch /2 (MC11)
[11] PF drive board (PFDB)
[12] Paper lift motor /2 (M3)
[13] Paper feed motor (M1)
[14] AC drive board (ACDB)
[15] Fan heater /Up (HTR3)
Fan heater /Lw (HTR4)
[16] Temperature sensor /3 (TEMS/3)
Temperature sensor /4 (TEMS/4)
[17] Dehumidifier fan /1 (FM11)
Dehumidifier fan /3 (FM13)
[18] Dehumidifier fan /2 (FM12)
Dehumidifier fan /4 (FM14)

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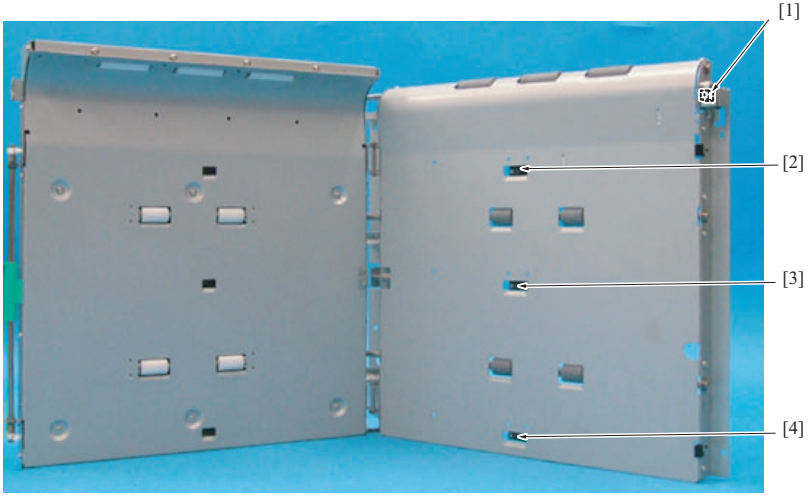
C. Vertical conveyance section



[1] Vertical conveyance door sensor (PS24)
[2] Vertical conveyance sensor /1 (PS17)
[3] Vertical conveyance sensor /2 (PS16)
[4] Vertical conveyance sensor /3 (PS15)

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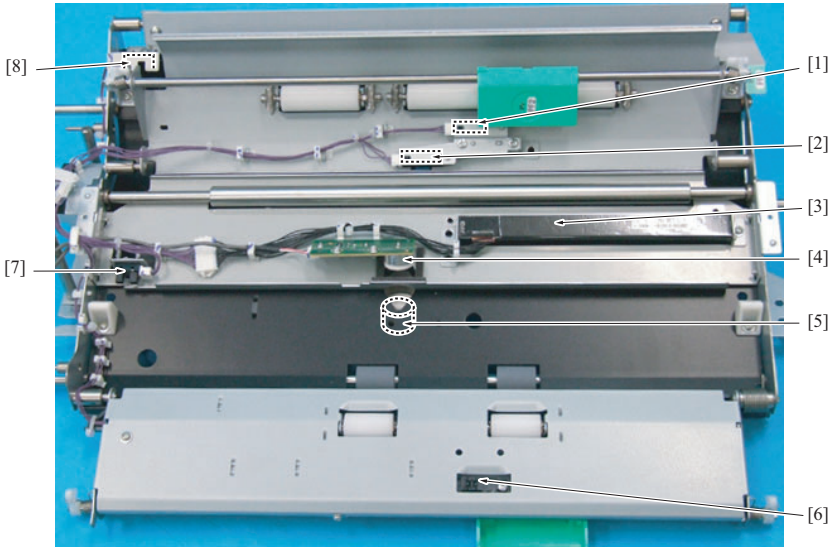
D. Horizontal conveyance section



[1] Horizontal conveyance sensor /1 (PS18)
[2] Pre-registration sensor (PS20)
[3] Centering sensor (PS25)
[4] Multi feed detection board /R (MFDTB/R)
[5] Multi feed detection board /S (MFDTB/S)
[6] Horizontal conveyance sensor /2 (PS19)
[7] Horizontal conveyance door sensor /1 (PS21)
[8] Horizontal conveyance door sensor /2 (PS22)

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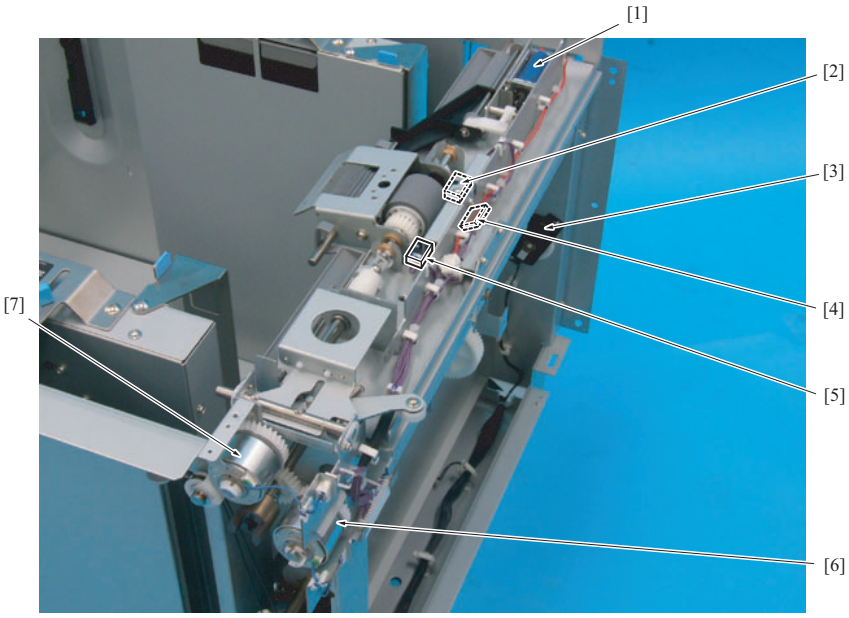
E. Tray section 1



[1] Pick-up solenoid /1 (SD1)
Pick-up solenoid /2 (SD5)

[2] Paper empty sensor /1 (PS3)
Paper empty sensor /2 (PS11)

[3] Remaining paper VR/1 (VR2)
Remaining paper VR/2 (VR4)

[4] Paper feed sensor /1 (PS2)
Paper feed sensor /2 (PS10)

[5] Upper limit sensor /1 (PS1)
Upper limit sensor /2 (PS9)

[6] Separation clutch /1 (MC2)
Separation clutch /2 (MC5)

[7] Paper feed clutch /1 (MC1)
Paper feed clutch /2 (MC4)

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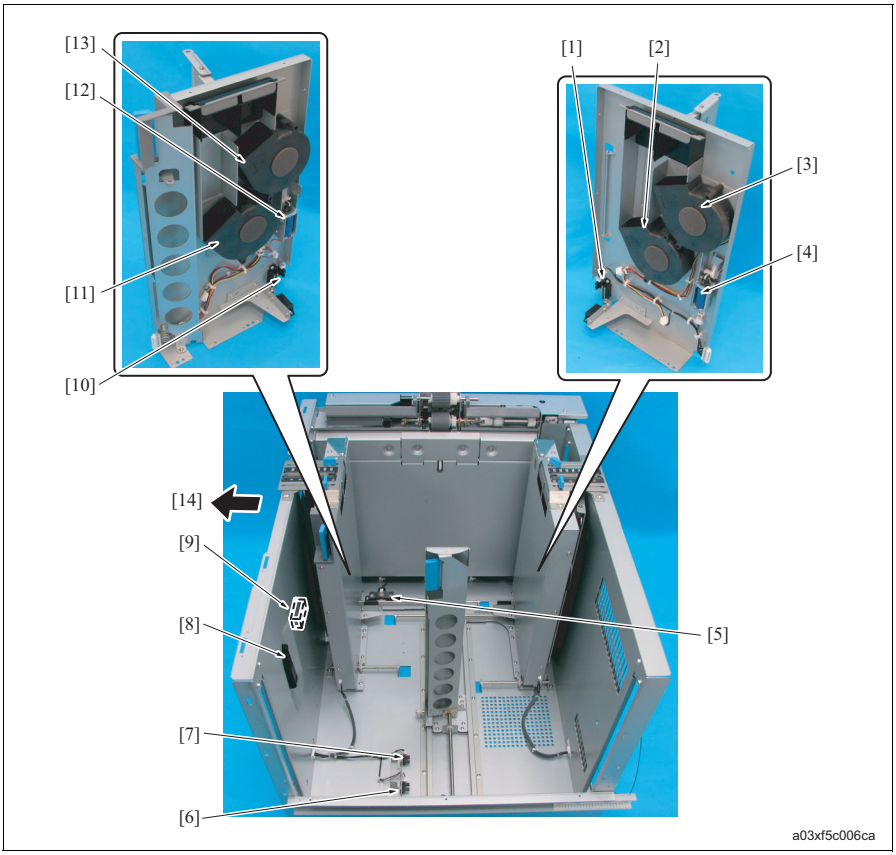
F. Tray section 2



[1] Paper size sensor /Rr1 (PS8)
Paper size sensor /Rr2 (PS16)

[2] Paper feed assist fan /Rr12 (FM4)
Paper feed assist fan /Rr22 (FM8)

[3] Paper feed assist fan /Rr11 (FM2)
Paper feed assist fan /Rr21 (FM6)

[4] Shutter solenoid /Rr1 (SD3)
Shutter solenoid /Rr2 (SD7)

[5] Paper size VR /1 (VR1)
Paper size VR /2 (VR3)

[6] Paper size sensor /Rt1 (PS5)
Paper size sensor /Rt2 (PS13)

[7] Paper size sensor /Lt1 (PS6)
Paper size sensor /Lt2 (PS14)

[8] Temperature sensor /1 (TEMS/1)
Temperature sensor /2 (TEMS/2)

[9] Tray lock release sensor /1 (PS4)
Tray lock release sensor /2 (PS12)

[10] Paper size sensor /Fr1 (PS7)
Paper size sensor /Fr2 (PS15)

[11] Paper feed assist fan /Fr12 (FM3)
Paper feed assist fan /Fr22 (FM7)

[12] Shutter solenoid /Fr1 (SD2)
Shutter solenoid /Fr2 (SD6)

[13] Paper feed assist fan /Fr11 (FM1)
Paper feed assist fan /Fr21 (FM5)

[14] Front side direction

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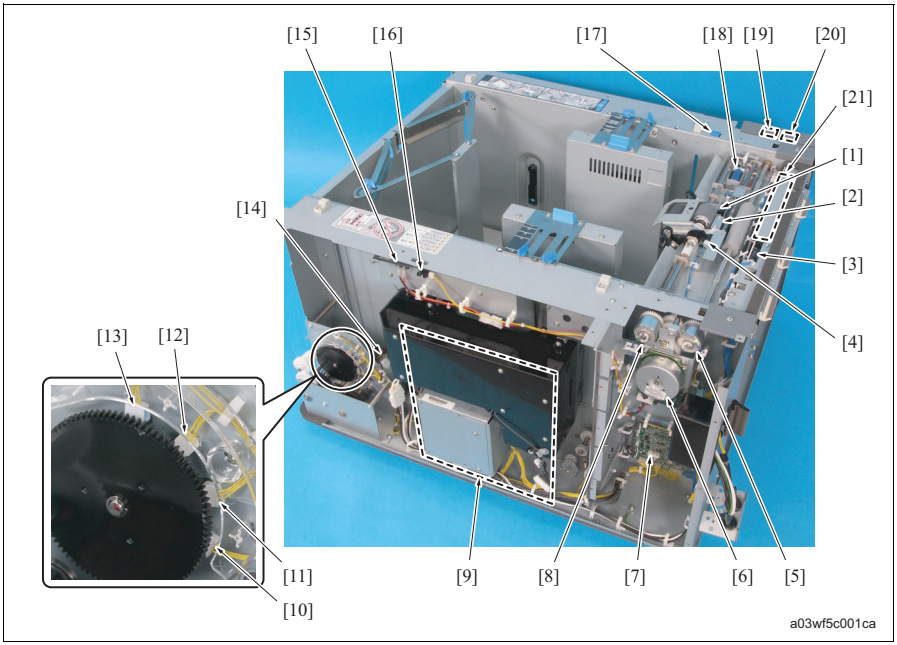
14.4 LU

A. Paper feed / up/down section



[1] Upper limit sensor (PS109)
[2] Pre-registration sensor (PS106)
[3] LU exit sensor (PS107)
[4] Paper empty sensor (PS108)
[5] Pre-registration clutch (MC102)
[6] Paper feed motor (M1)
[7] LU drive board (LUDB)
[8] Paper feed clutch (MC101)
[9] HT-503
[10] Remaining paper sensor /4 (PS105)
[11] Remaining paper sensor /3 (PS104)
[12] Remaining paper sensor /2 (PS103)
[13] Remaining paper sensor /1 (PS102)
[14] Paper lift motor (M100)
[15] Interlock switch /2 (MS2)
[16] Upper door sensor (PS100)
[17] Tray down switch (SW100)
[18] Pick-up solenoid (SD100)
[19] Interlock switch /1 (MS1)
[20] Front door sensor (PS115)
[21] Centering sensor (PS1)

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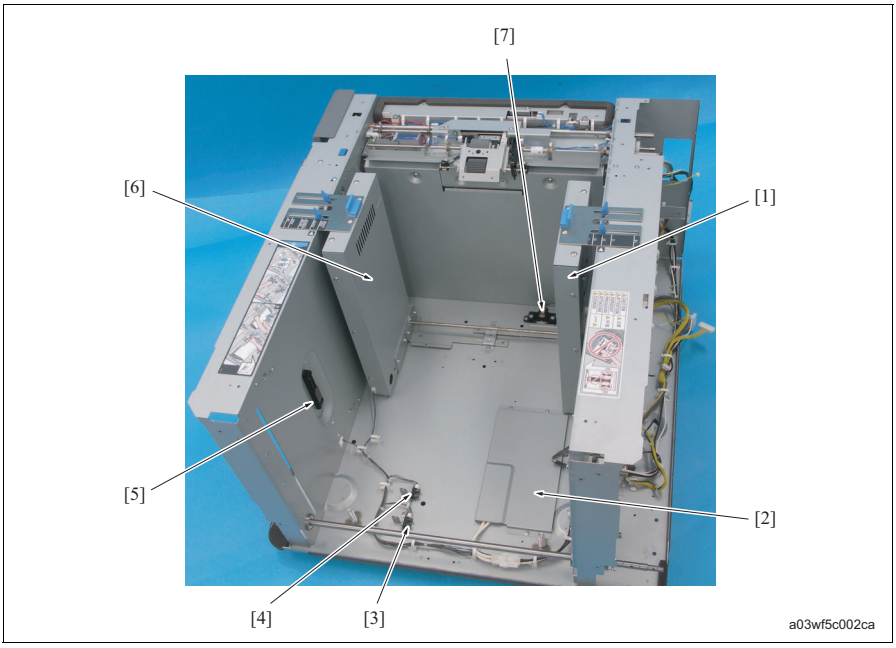
B. Inside



[1] Paper feed assist fan /Rr (FM2)
[2] Dehumidifier heater /1 (HTR1)
[3] Paper size sensor /Rr (PS110)
[4] Paper size sensor Fr (PS111)
[5] Temperature sensor /1 (TEMS1)
[6] Paper feed assist fan /Fr (FM1)
[7] Paper size VR (VR1)

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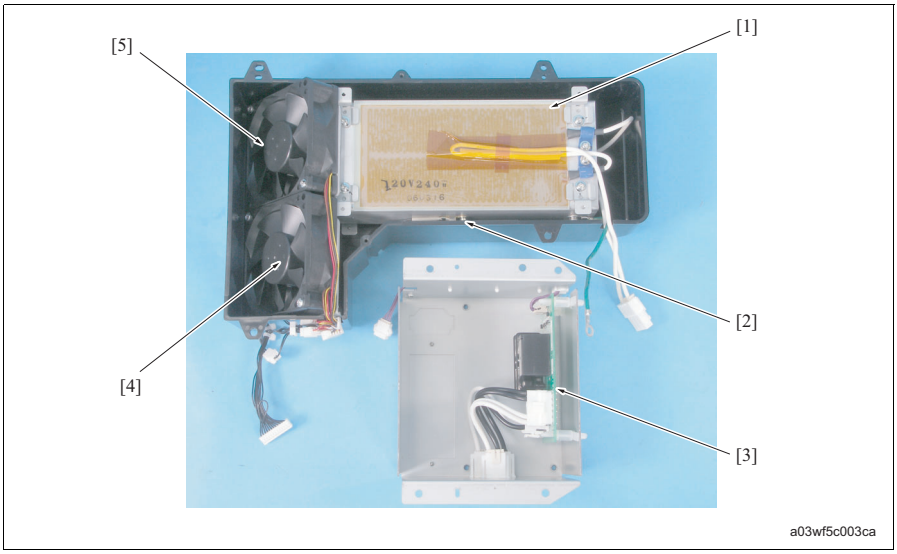
C. HT-503



[1] Dehumidifier heater /3 (HTR2)
[2] Temperature sensor /2 (TEMS2)
[3] AC drive board (ACDB)
[4] Dehumidifier fan /1 (FM3)
[5] Dehumidifier fan /2 (FM4)

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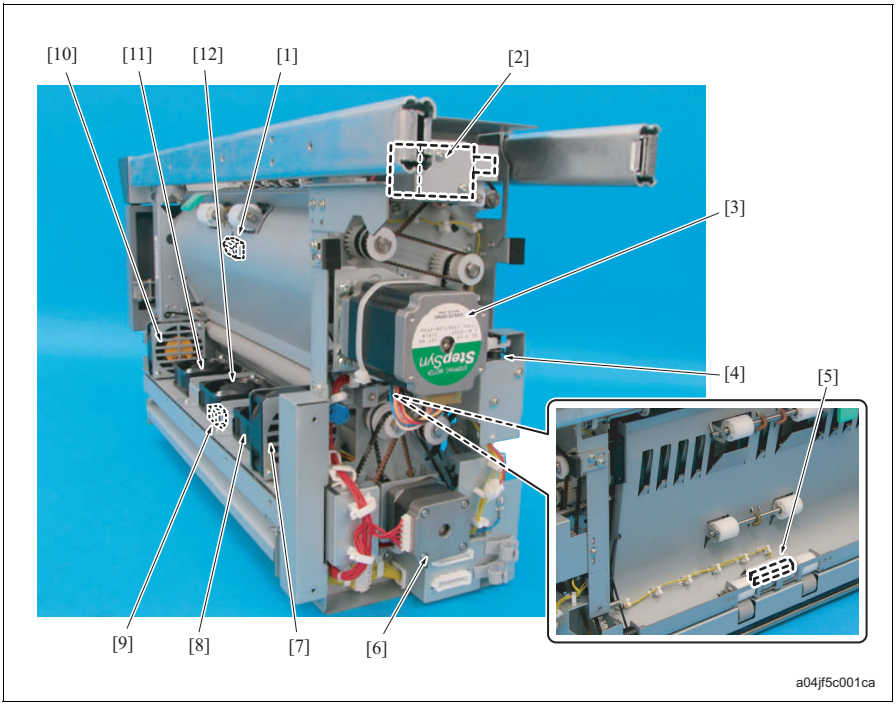
14.5 RU

A. Conveyance section



[1]	Intermediate sensor (PS2)	[7]	Ventilation assist fan /2 (M7)
[2]	Decurler gate solenoid /1 (SD2)	[8]	Paper fan /3 (M4)
[3]	Paper exit motor (M5)	[9]	Entrance sensor (PS1)
[4]	Decurler gate solenoid /2 (SD3)	[10]	Ventilation assist fan /1 (M6)
[5]	Paper exit sensor (PS3)	[11]	Paper fan /1 (M2)
[6]	Entrance conveyance motor (M1)	[12]	Paper fan /2 (M3)

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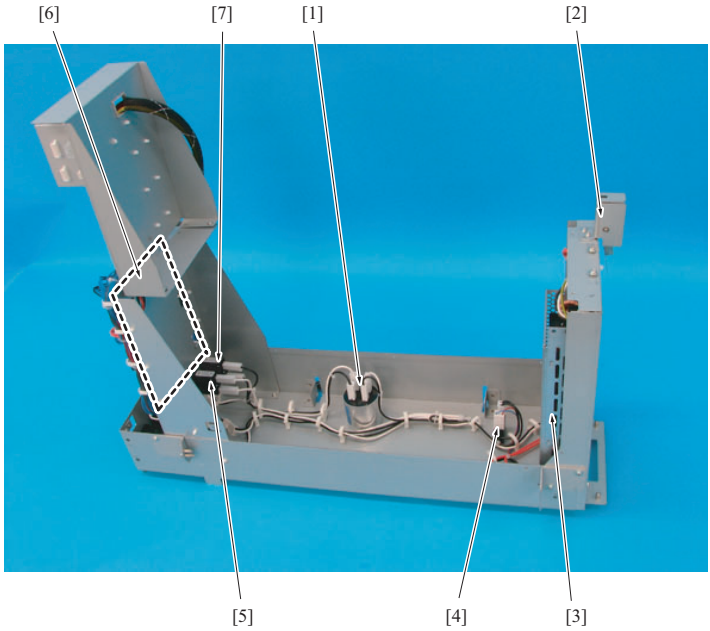
B. Power source section



[1] Noise filter (NF1) (RU-504 only)
[2] Interlock switch (MS1)
[3] DC power supply (DCPS) (RU-504 only)
[4] Relay (RL1) (RU-504 only)
[5] Circuit breaker /1 (CBR1) (RU-504 only)
[6] RU control board (RUCB)
[7] Circuit breaker /2 (CBR2) (RU-504 only)

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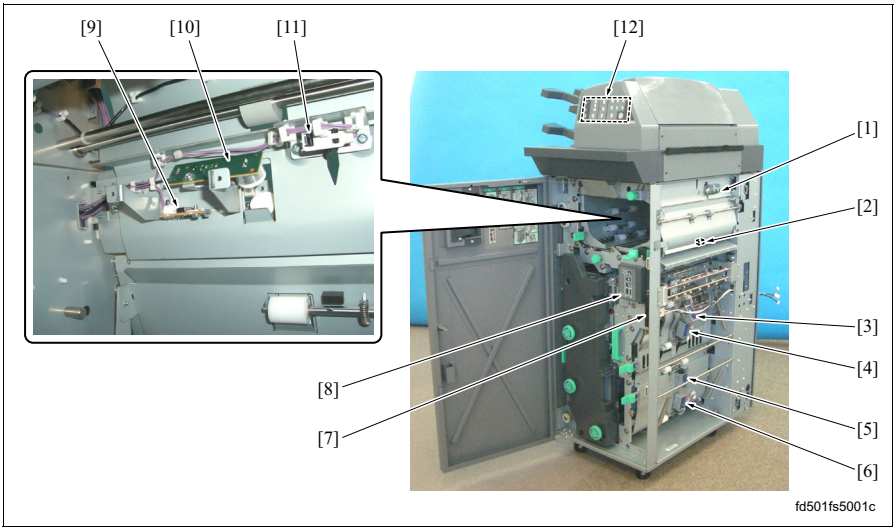
14.6 FD

A. Conveyance section front side/right side



[1] Multi feed detection board /1 (MFDB1)
[2] FD entrance sensor (PS1)
[3] Roller solenoid /1 (SD5)
[4] Roller solenoid /2 (SD6)
[5] Roller solenoid /3 (SD7)
[6] Roller solenoid /4 (SD8)
[7] Door switch (MS1)
[8] Jam indicator board (JAMIB)
[9] Temperature sensor board (TSB)
[10] Multi feed detection board /2 (MFDB2)
[11] PI exit sensor (PS4)
[12] FD operation board (FDOB)

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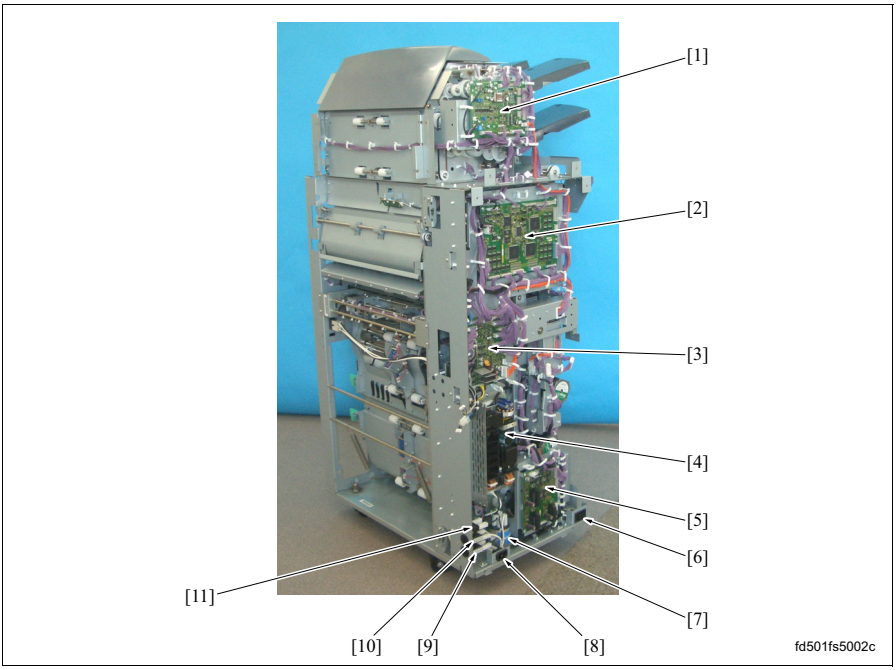
B. Major boards in the power source section



[1] PI drive board (PIDB)
[2] FD control board (FDCB)
[3] Punch drive board (PDB)
[4] DC power supply (DCPS)
[5] Folding drive board (FDB)
[6] Outlet
[7] Noise filter (NF1)
[8] Inlet
[9] Circuit breaker /1 (CBR1)
[10] Circuit breaker /2 (CBR2)
[11] Relay (RL1)

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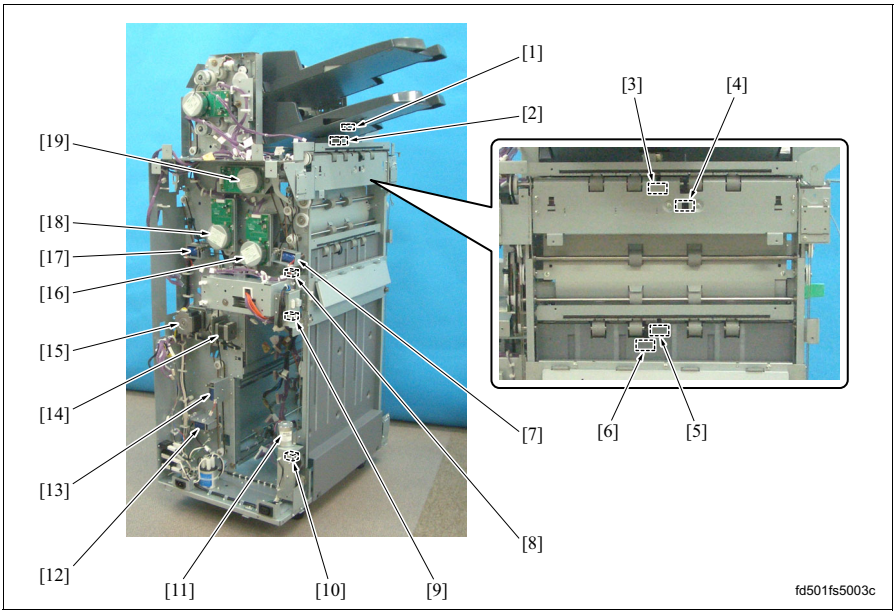
C. Conveyance section rear side/left side



[1] Sub tray paper full sensor (PS46)
[2] Paper exit solenoid (SD12)
[3] Sub tray paper exit sensor (PS16)
[4] Sub tray paper full sensor (PS17)
[5] Main tray paper exit sensor (PS18)
[6] Main tray upper limit sensor (PS20)
[7] Sub tray gate solenoid (SD9)
[8] Main tray empty sensor (PS23)
[9] Main tray folding paper full sensor (PS7)
[10] Main tray lower limit sensor (PS22)
[11] Tray up down motor (M11)
[12] L size gate solenoid (SD4)
[13] S size gate solenoid (SD3)
[14] Alignment motor (M12)
[15] Punch conveyance motor (M2)
[16] Intermediate conveyance motor (M3)
[17] Entrance gate solenoid (SD1)
[18] Entrance conveyance motor (M1)
[19] Main tray paper exit motor (M17)

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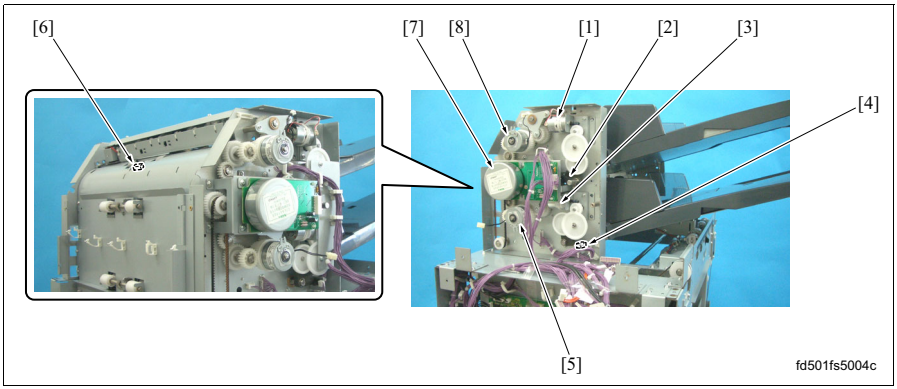
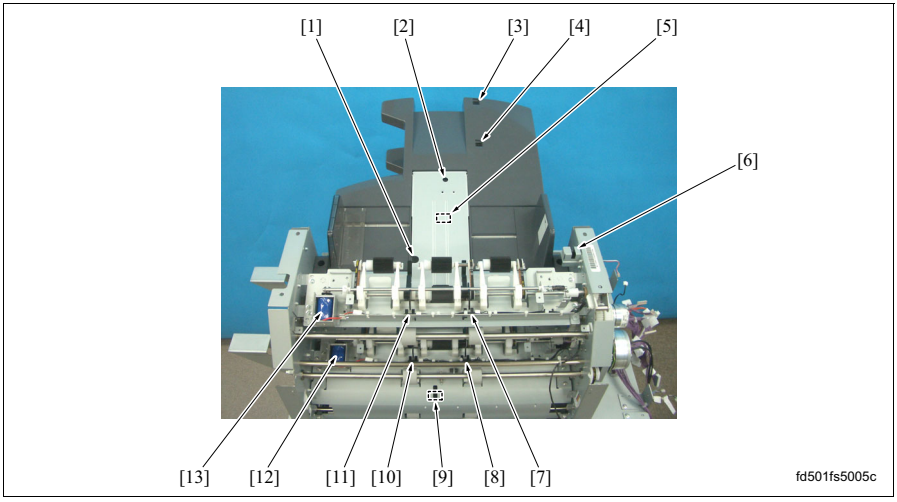
D. PI rear side



[1] Paper lift motor /Up (M8)
[2] PI lift plate home sensor /Up (PS34)
[3] Paper lift motor /Lw (M9)
[4] PI lift plate home sensor /Lw (PS40)
[5] PI registration clutch /Lw (CL2)
[6] PI conveyance sensor /Up (PS31)
[7] PI conveyance motor (M7)
[8] PI registration clutch /Up (CL1)

E. PI upper surface



[1] PI paper set sensor /Up (PS44)
[2] S size sensor /Up (PS36)
[3] PI max paper size sensor /Up (PS47)
[4] L size sensor /Up (PS35)
[5] Paper size VR /Up (VR31)
[6] PI cover open/close sensor (PS43)
[7] PI paper empty sensor /Up (PS33)
[8] PI paper empty sensor /Lw (PS39)
[9] PI conveyance sensor /Lw (PS37)
[10] PI upper limit sensor /Lw (PS38)
[11] PI upper limit sensor /Up (PS32)
[12] PI pick-up solenoid /Lw (SD14)
[13] PI pick-up solenoid /Up (SD13)

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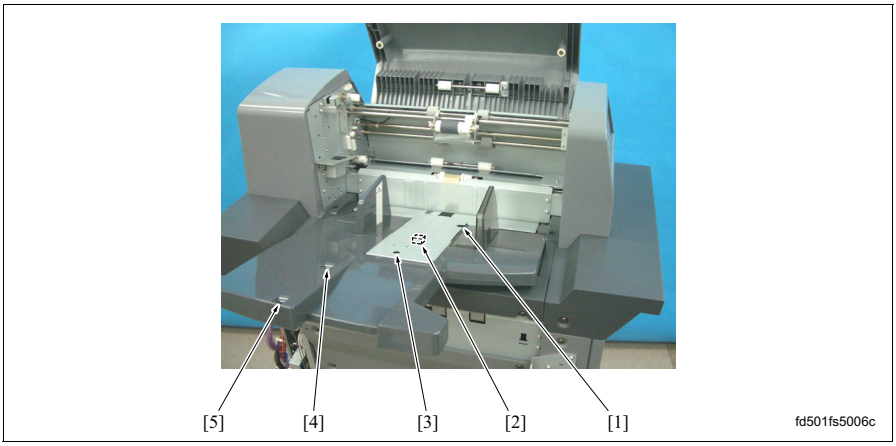
F. PI lower tray



[1] PI paper set sensor /Lw (PS45)
[2] Paper size VR /Lw (VR32)
[3] S size sensor /Lw (PS42)
[4] L size sensor /Lw (PS41)
[5] PI max paper size sensor /Lw (PS48)

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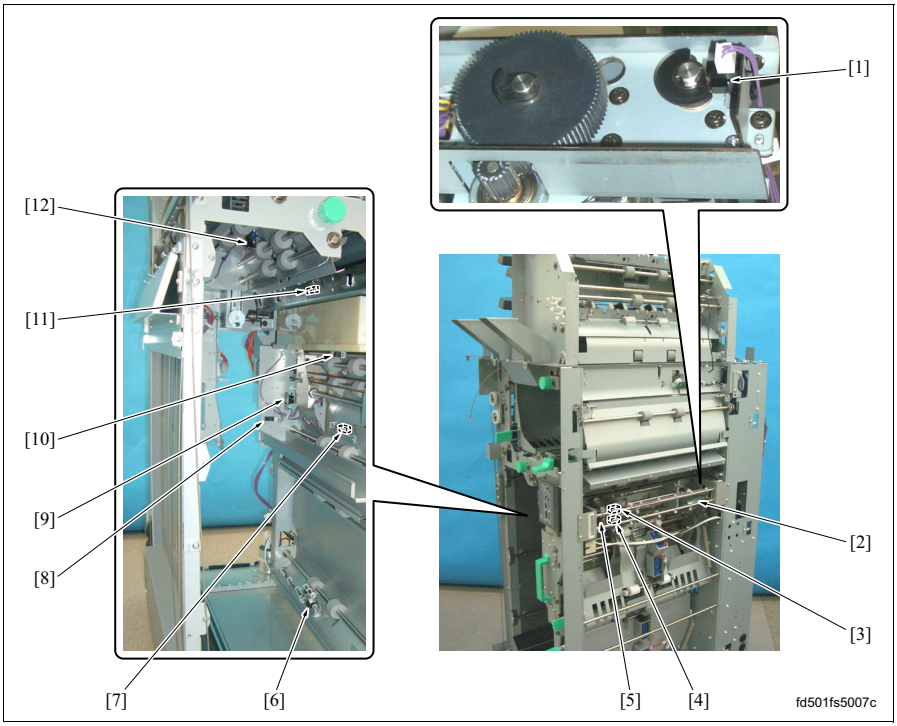
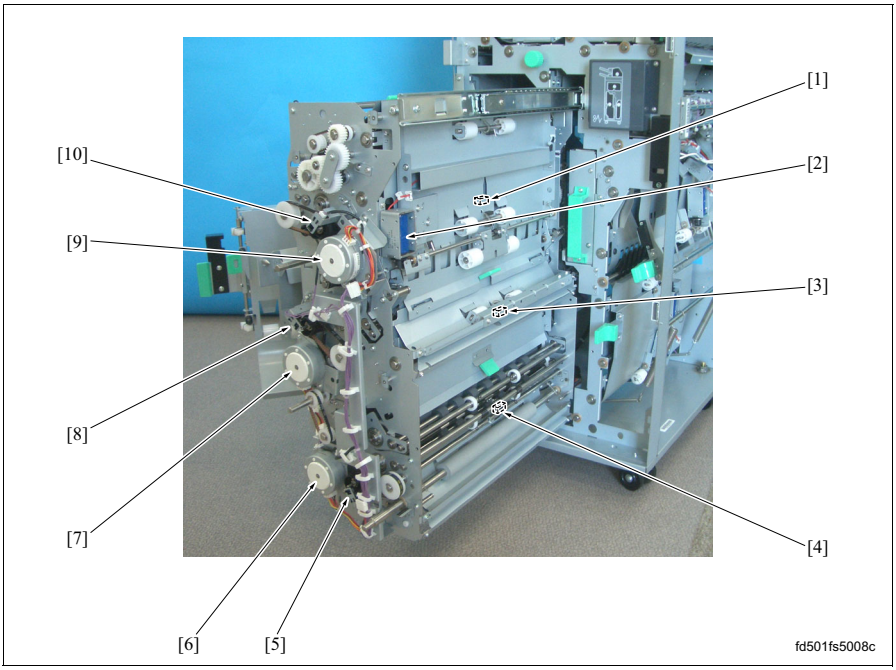
G. Punch section



[1] Punch registration home sensor (PS11)
[2] Punch motor (M10)
[3] 3 holes/4 holes home sensor (PS9)
[4] 2 holes punch home sensor (PS8)
[5] Punch registration motor (M13)
[6] Punch registration sensor (PS6)
[7] Punch conveyance sensor (PS5)
[8] Punch scraps box set sensor (PS12)
[9] Alignment plate home sensor (PS10)
[10] Punch scraps full sensor (PS26)
[11] Folding exit sensor (PS2)
[12] Intermediate conveyance sensor (PS13)

H. Folding unit front side/right side



[1] S size conveyance sensor (PS58)
[2] 2nd folding roller solenoid (SD18)
[3] Folding entrance sensor (PS52)
[4] 1st folding conveyance sensor (PS51)
[5] 1st folding cam home sensor (PS55)
[6] 1st folding release motor (M14)
[7] 2nd folding release motor (M15)
[8] 2nd folding cam home sensor (PS56)
[9] 3rd folding release motor (M16)
[10] 3rd folding cam home sensor (PS57)

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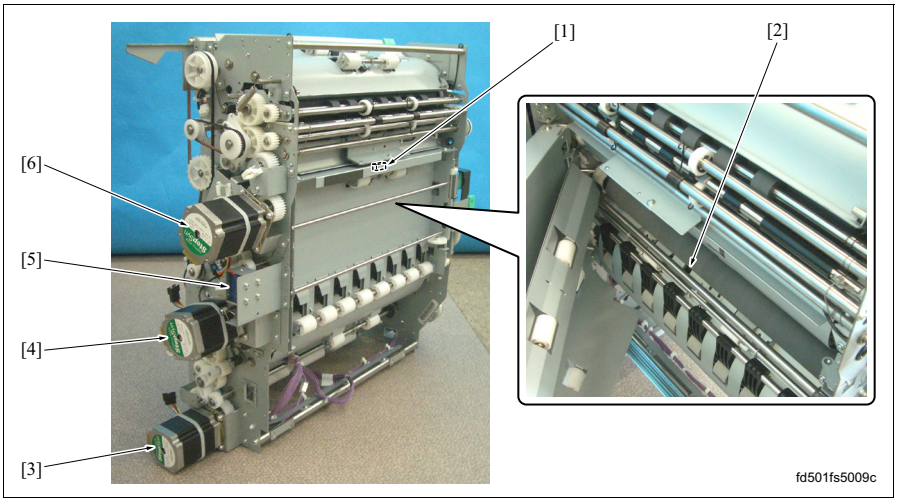
I. Folding unit rear side/left side



[1] 3rd folding conveyance sensor (PS54)
[2] 2nd folding conveyance sensor (PS53)
[3] 1st folding motor (M4)
[4] 2nd folding motor (M5)
[5] Folding gate solenoid (SD15)
[6] 3rd folding motor (M6)

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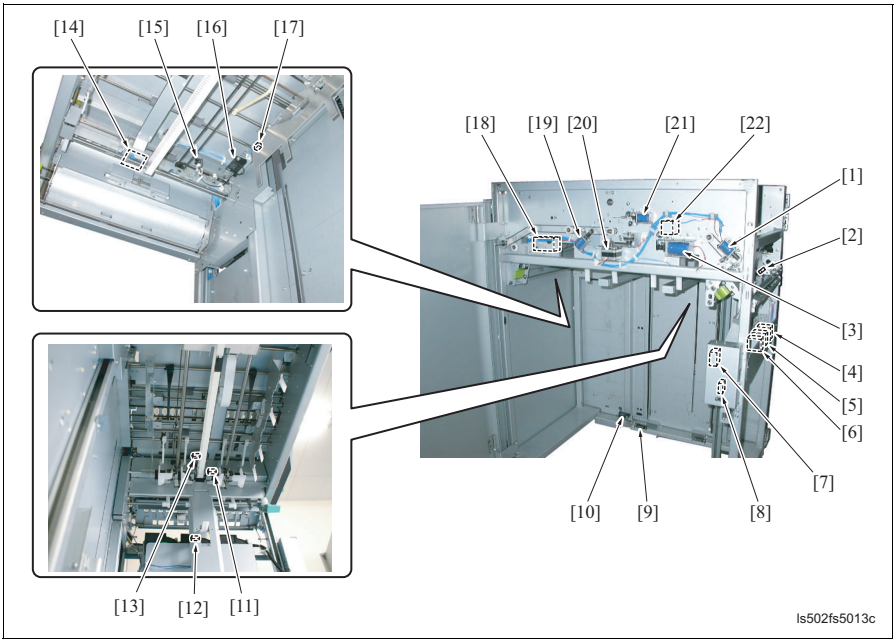
14.7 LS

A. Front side



[1] Entrance conveyance lock solenoid (SD5)
[2] Entrance sensor (PS4)
[3] Paper press solenoid /1 (SD6)
[4] Paper cooling fan motor /Rr (FM5)
[5] Paper cooling fan motor /Mi (FM3)
[6] Paper cooling fan motor /Fr (FM1)
[7] Front door lock solenoid (SD4)
[8] Front door switch (MS1)
[9] Hand cart set switch (RS1)
[10] Stacker tray set sensor (PS1)
[11] Stacker tray upper limit sensor (PS3)
[12] Paper detection sensor (PS19)
[13] Grip conveyance home sensor (PS5)
[14] Relay board /1 (RLB/1)
[15] Shift unit home sensor (PS11)
[16] Stacker tray set LED (LED1)
[17] Alignment plate home sensor (PS12)
[18] Coupling conveyance lock solenoid (SD11) (LS-501 only)
[19] Paper press solenoid /2 (SD7)
[20] Alignment motor (M7)
[21] 2nd gate solenoid (SD10) (LS-501 only)
[22] Coupling conveyance motor (M6) (LS-502 only)

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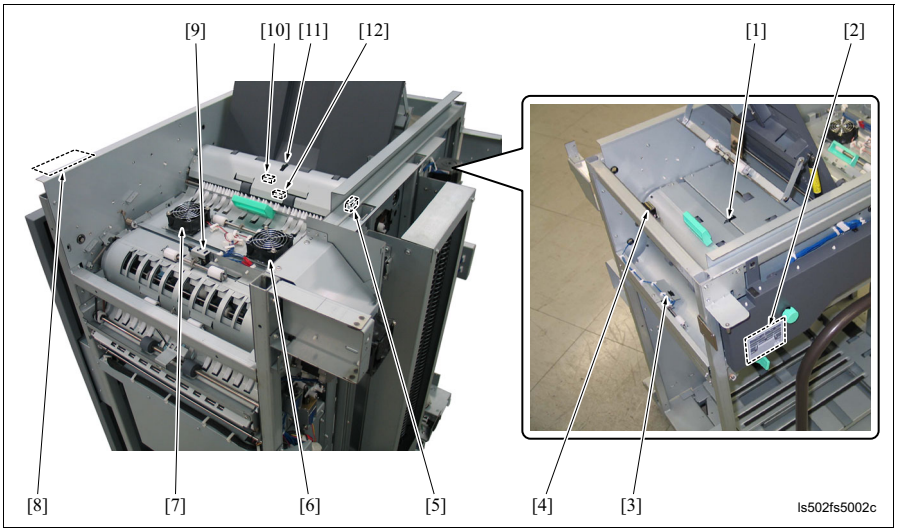
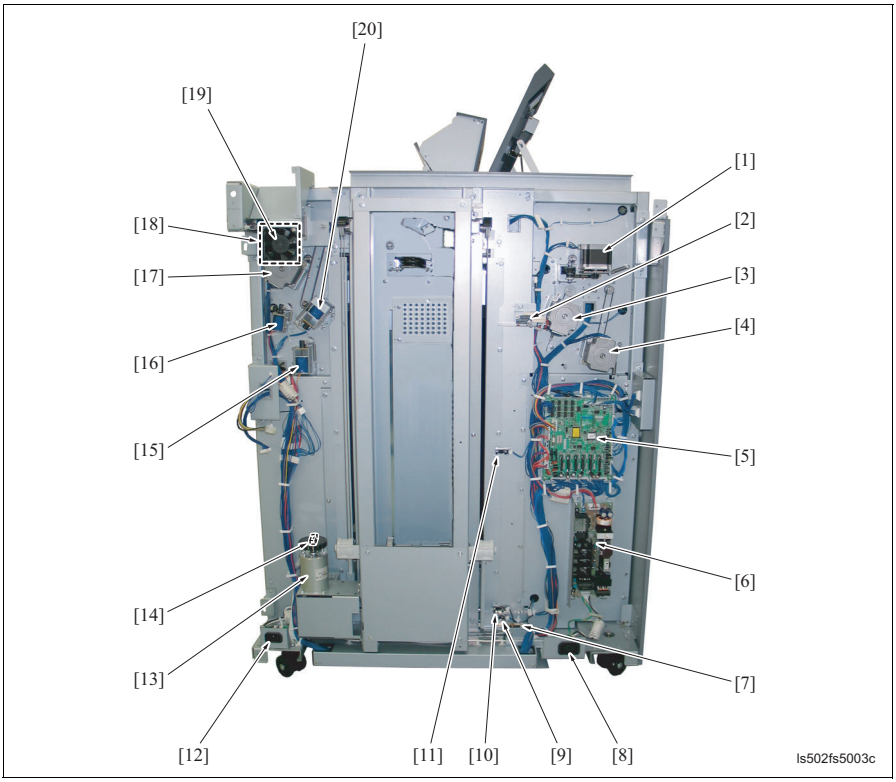
B. Upper surface



[1] Conveyance sensor /3 (PS17) (LS-501 only)
[2] Jam indication board (JAMIB)
[3] Coupling exit sensor (PS18) (LS-501 only)
[4] JAM door switch (RS2) (LS-501 only)
[5] Sub tray door sensor (PS8)
[6] Paper cooling fan motor /2 (FM6)
[7] Paper cooling fan motor /1 (FM2)
[8] Stacker tray operation board (TOB)
[9] Conveyance sensor /1 (PS7)
[10] Sub tray full sensor (PS9)
[11] Sub tray exit sensor (PS10)
[12] Conveyance sensor /2 (PS16) (LS-501 only)

C. Rear side



[1] Shift unit motor (M5)
[2] Stacker tray upper limit switch (MS2)
[3] Grip conveyance motor (M4)
[4] Coupling conveyance motor (M6) (LS-501 only)
[5] LS control board (LSCB)
[6] DC power supply (DCPS) (LS-501 only)
[7] Stacker tray lower limit switch (MS3)
[8] Outlet (LS-501 only)
[9] Stacker tray arm release sensor (PS15)
[10] 5,000 sheets stacked sensor (PS14)
[11] 2,000 sheets stacked sensor (PS13)
[12] Inlet (LS-501 only)
[13] Stacker tray up down motor (M1)
[14] Stacker tray encoder sensor (PS2)
[15] Job partition solenoid (SD2)
[16] 1st gate solenoid (SD1)
[17] Conveyance motor (M2)
[18] Sub tray exit motor (M3)
[19] Motor cooling fan motor (FM4)
[20] Rear stopper solenoid (SD3)

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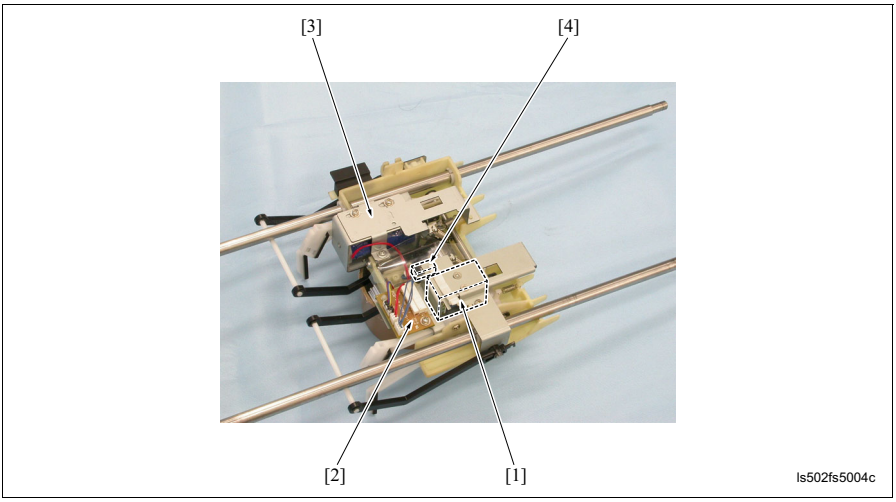
D. Shift unit



[1] Front stopper solenoid (SD9)
[2] Relay board /2 (RLB/2)
[3] Paper press solenoid /3 (SD8)
[4] Paper empty sensor (PS6)

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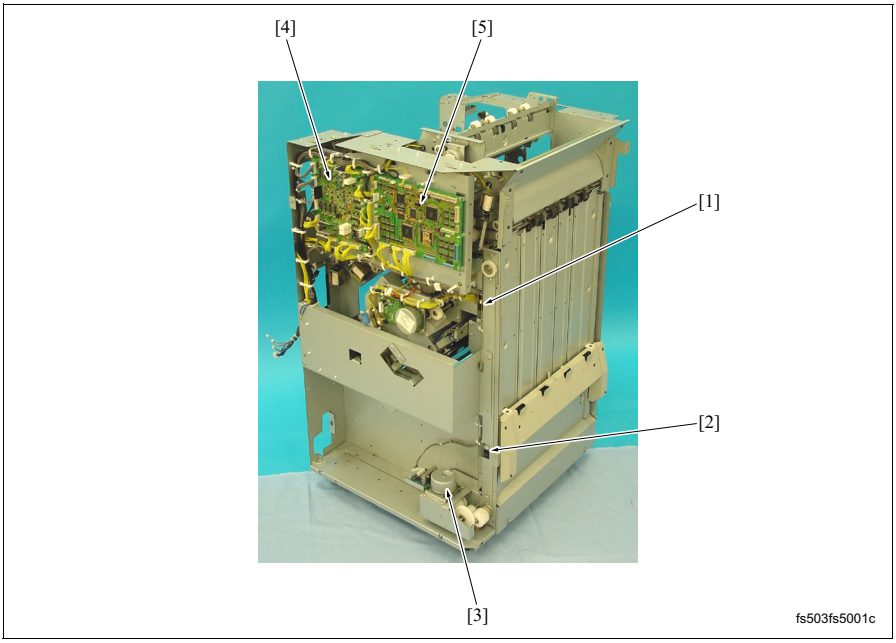
14.8 FS

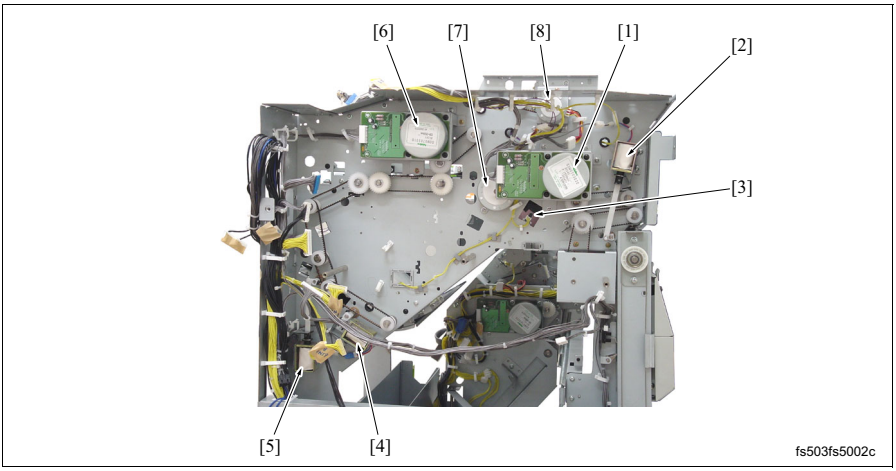
14.8.1 FS-503

A. Rear side 1



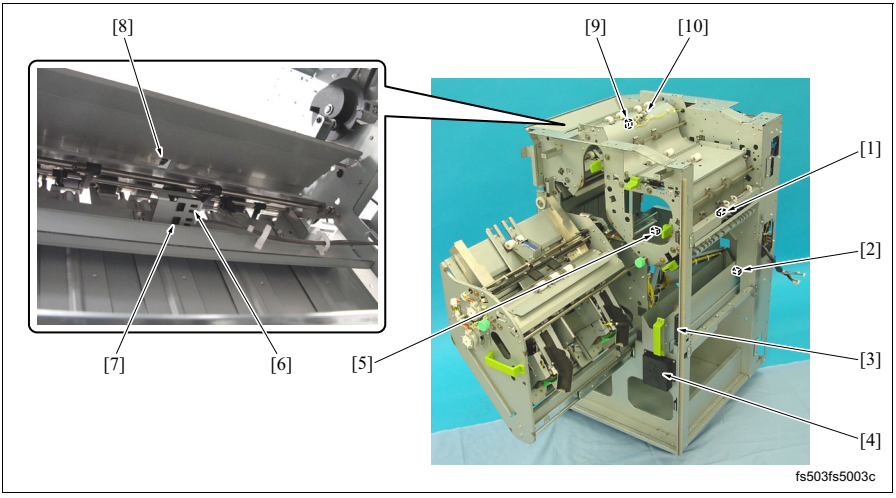
[1] Counter reset sensor (PS15)
[2] Tray lower limit sensor (PS3)
[3] Tray up down motor (M3)
[4] FNS drive board (FNSDB)
[5] FNS control board (FNSCB)

B. Rear side 2



[1] Main tray exit motor (M7)
[2] Paper exit opening solenoid (SD9)
[3] Paper exit opening sensor (PS12)
[4] Bypass solenoid (SD5)
[5] Gate solenoid (SD2)
[6] Conveyance motor (M1)
[7] Paper exit opening motor (M8)
[8] Sub tray exit motor (M6)

C. Front side



[1] FNS entrance sensor (PS4)
[2] Staple scraps box set sensor (PS34)
[3] Door switch (MS1)
[4] Jam indication board (JAMIB)
[5] Stacker entrance sensor (PS5)
[6] Staple exit upper limit sensor (PS7)
[7] Tray upper limit sensor (PS2)
[8] Main tray exit sensor (PS10)
[9] Sub tray paper full sensor (PS30)
[10] Sub tray paper exit sensor (PS1)

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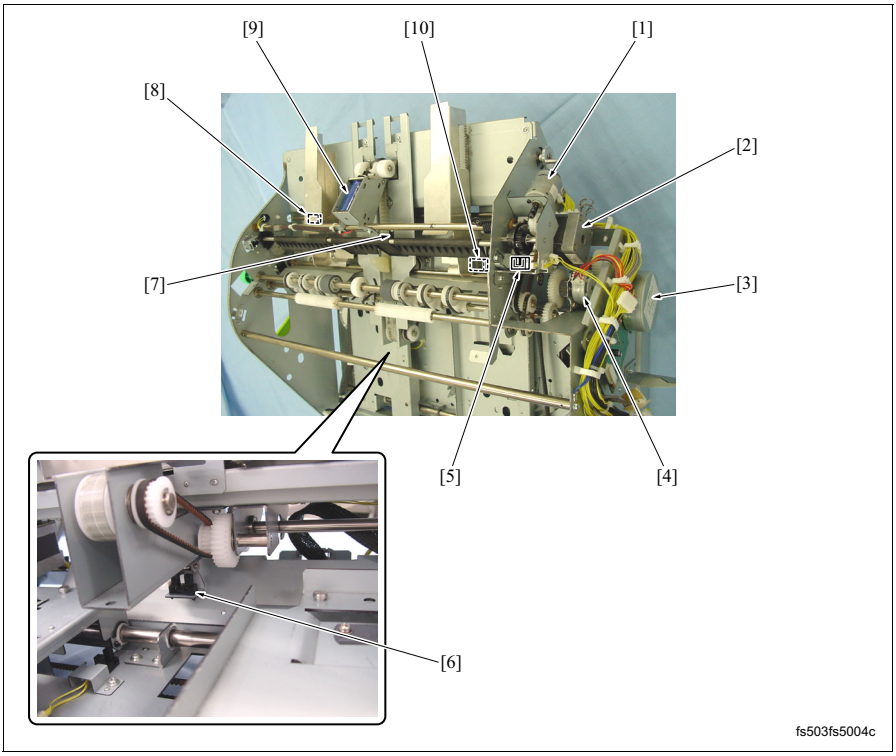
D. Stacker inside 1



[1] Intermediate roller open close motor (M25)
[2] Stacker entrance motor (M13)
[3] Paper exit arm motor (M23)
[4] Paddle motor (M2)
[5] Intermediate roller home sensor (PS33)
[6] Paper exit arm home sensor (PS9)
[7] Stacker empty sensor (PS20)
[8] Alignment home sensor /Fr (PS31)
[9] Intermediate roller release solenoid (SD7)
[10] Alignment home sensor /Rr (PS8)

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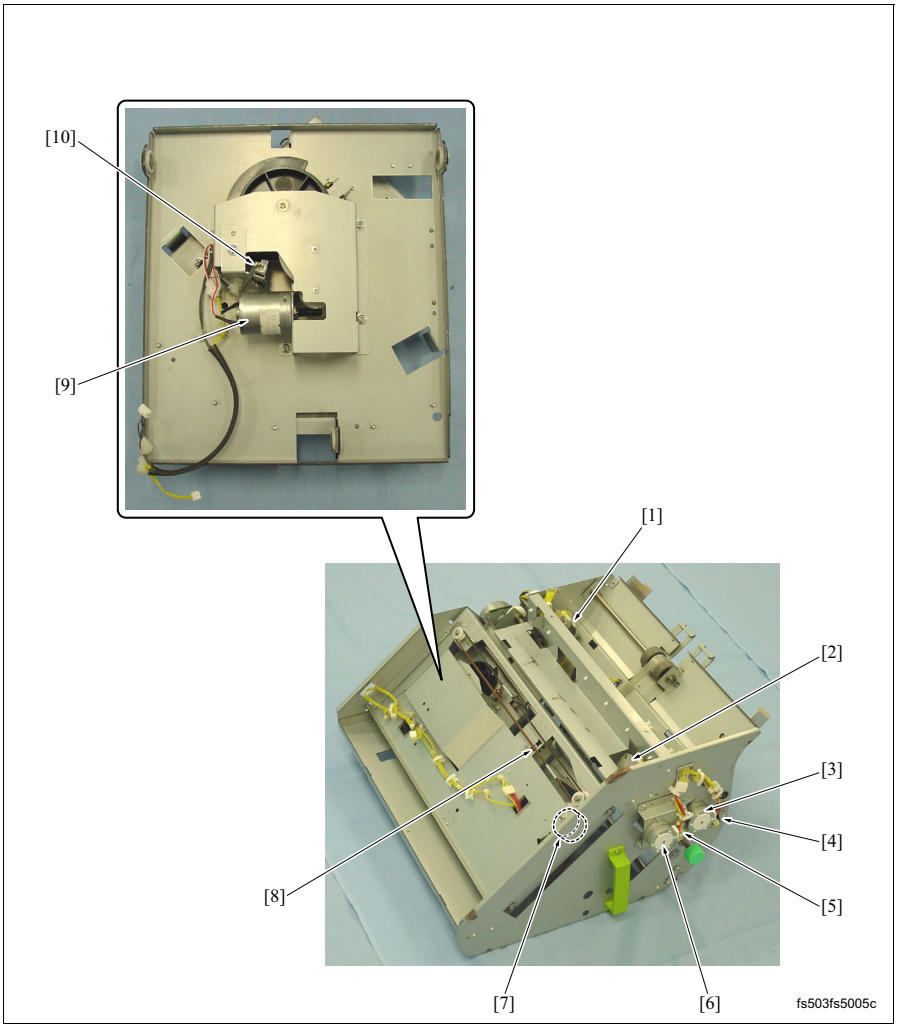
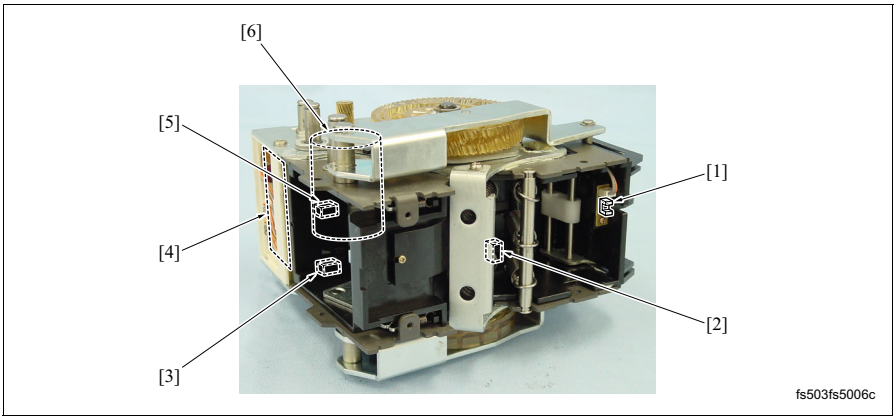
E. Stacker inside 2



[1] Alignment motor /Rr (M5)
[2] Alignment motor /Fr (M22)
[3] Stack assist guide motor (M24)
[4] Stack assist home sensor (PS32)
[5] Rear stopper home sensor (PS35)
[6] Rear stopper motor (M26)
[7] Stapler movement motor (M11)
[8] Stapler movement home sensor (PS11)
[9] Stapler rotation motor (M4)
[10] Stapler rotation home sensor (PS14)

F. Stapler



[1] Stapler ready sensor /Rr (PS46)
Stapler ready sensor /Fr (PS47)
[2] Stapler home sensor /Rr (PS40)
Stapler home sensor /Fr (PS41)
[3] Cartridge set sensor /Rr (PS42)
Cartridge set sensor /Fr (PS43)
[4] Stapler board (STB)
[5] Staple empty sensor /Rr (PS44)
Staple empty sensor /Fr (PS45)
[6] Stapler motor /Rr (M30)
Stapler motor /Fr (M31)

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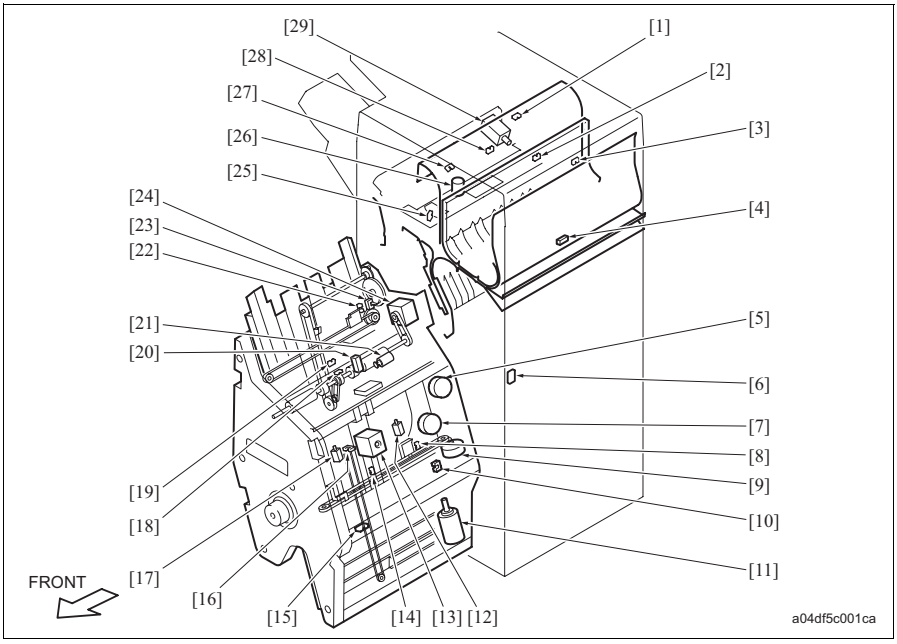
14.8.2 FS-607

A. Front side



[1] Sub tray paper exit sensor (PS1)
[2] Paper exit home sensor (PS12)
[3] Gate home sensor (PS16)
[4] FNS entrance sensor (PS4)
[5] Stapler movement motor (M11)
[6] Door switch (MS1)
[7] Clincher rotation motor (M4)
[8] Alignment home sensor /Lw (PS24)
[9] Alignment motor /Lw (M16)
[10] Folding knife home sensor (PS22)
[11] Folding knife motor (M19)
[12] Flat stitching stopper release solenoid /Rr (SD8)
[13] Saddle stitching stopper motor (M18)
[14] Clincher rotation home sensor (PS14)
[15] Folding pass-through sensor (PS26)
[16] Saddle stitching stopper home sensor (PS23)
[17] Flat stitching stopper release solenoid /Fr (SD7)
[18] Stacker entrance sensor (PS5)
[19] Stacker empty sensor (PS20)
[20] Paper assist solenoid (SD51)
[21] Paper assist motor (M51)
[22] Alignment home sensor /Up (PS8)
[23] Paper exit belt home sensor (PS9)
[24] Stacker entrance motor (M13)
[25] Shift roller home sensor (PS18)
[26] Shift roller motor (M2)
[27] Main tray paper exit sensor (PS6)
[28] Sub tray paper full sensor (PS19)
[29] Paper exit opening solenoid (SD4)

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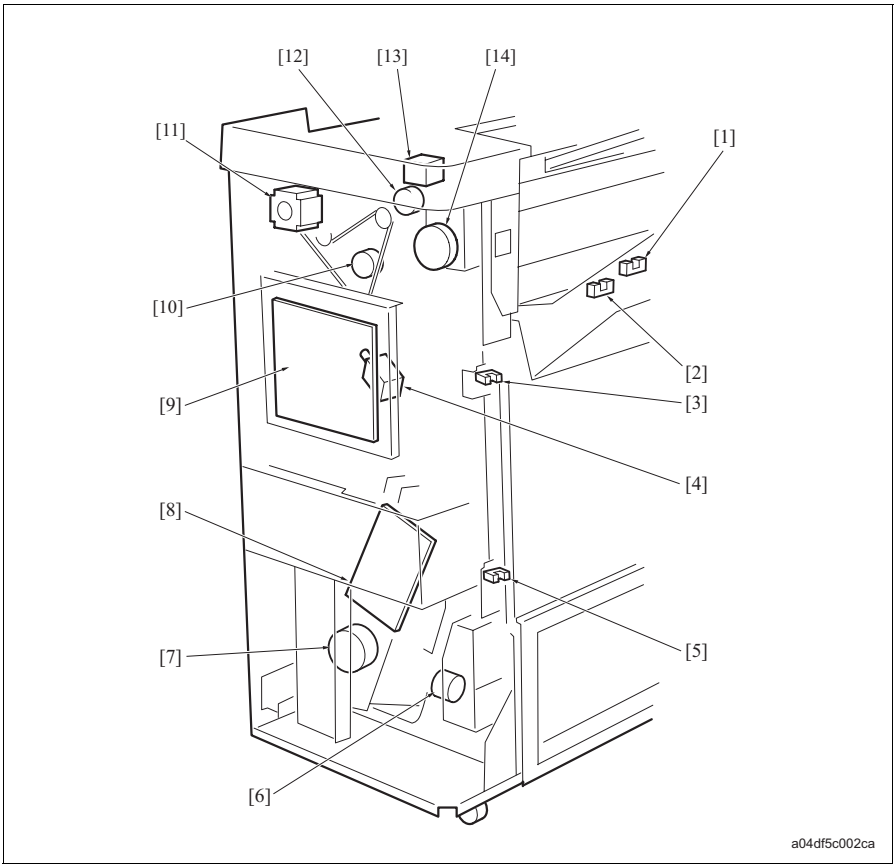
B. Rear side



[1] Stapler paper exit upper limit sensor (PS7)
[2] Main tray upper limit sensor (PS2)
[3] Counter reset sensor (PS15)
[4] Bypass gate solenoid (SD5)
[5] Main tray lower limit sensor (PS3)
[6] Main tray up down motor (M3)
[7] Folding transfer motor (M20)
[8] Relay board (RB)
[9] FNS control board (FNSCB)
[10] Gate motor (M12)
[11] FNS conveyance motor (M1)
[12] Paper exit opening motor (M8)
[13] Sub tray exit motor (M21)
[14] Paper exit roller motor (M7)

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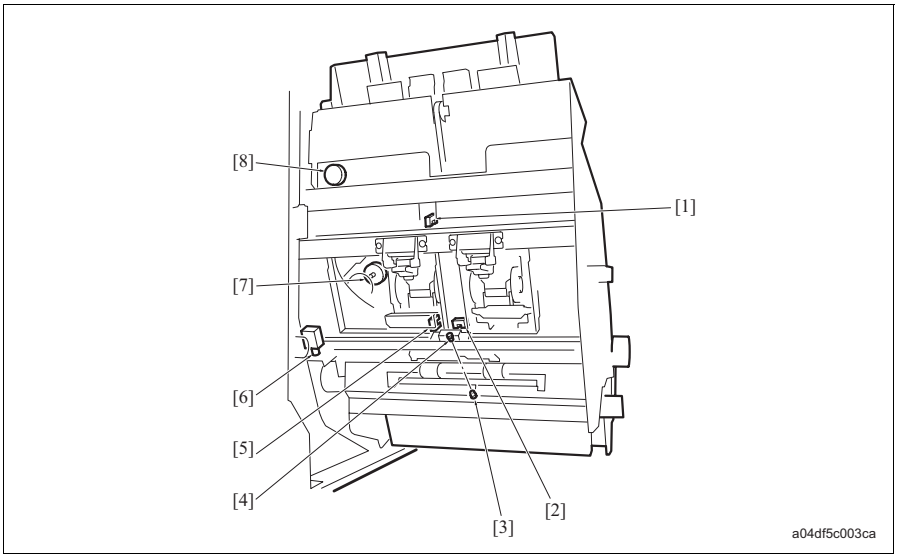
C. Folding section



[1] Stapler movement home sensor (PS11)
[2] Folding paper exit sensor (PS25)
[3] Folding full LED (PS29)
[4] Folding full sensor (PS29)
[5] Stapler rotation home sensor (PS13)
[6] Tri-folding gate solenoid (SD6)
[7] Stapler rotation motor (M6)
[8] Alignment motor /Up (M5)

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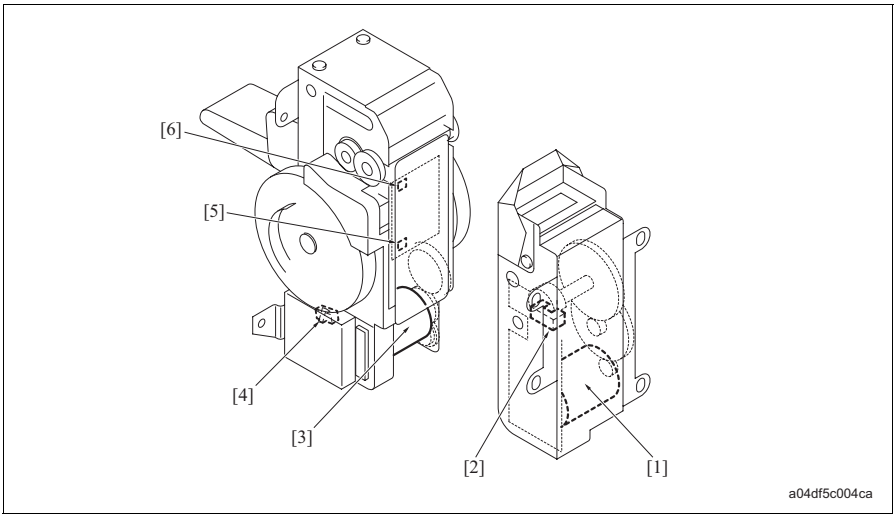
D. Stapler section



[1] Clincher motor /Rr (M10) / Clincher motor /Fr (M15)

[2] Clincher motor home sensor /Rr (PS32) / Clincher motor home sensor /Fr (PS33)

[3] Stapler motor /Rr (M9) / Stapler motor /Fr (M14)

[4] Stapler motor home sensor /Rr (PS30) / Stapler motor home sensor /Fr (PS31)

[5] Cartridge set switch /Rr (SW1) / Cartridge set switch /Fr (SW3)

[6] Staple empty switch /Rr (SW2) / Staple empty switch /Fr (SW4)

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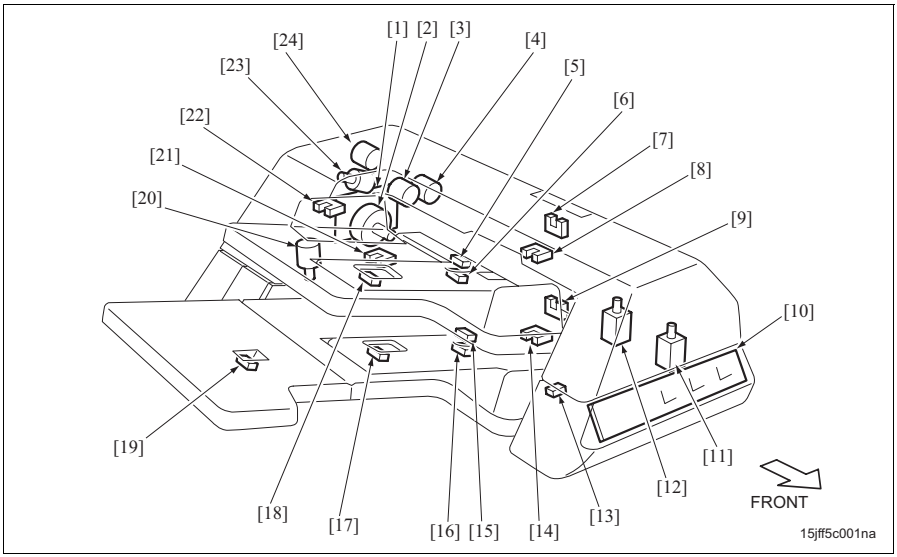
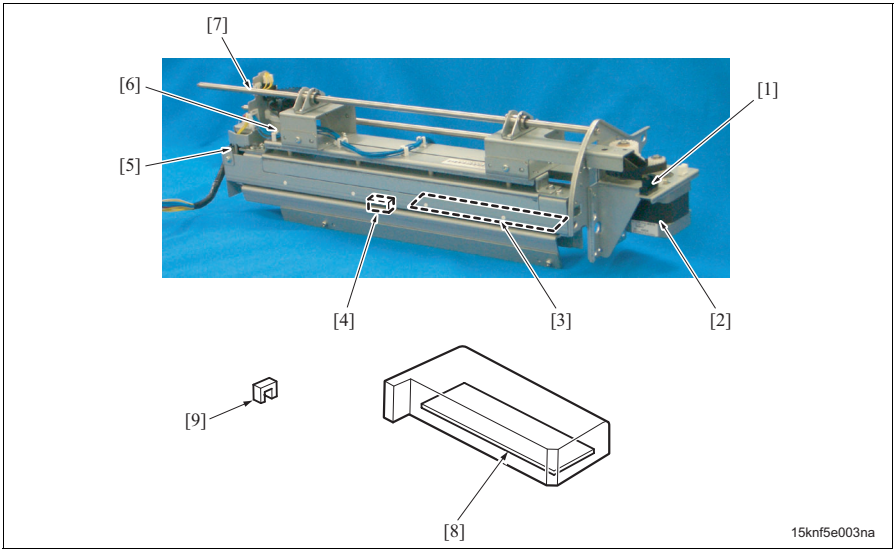
14.9 PI



[1] PI drive board (PIDB)
[2] Conveyance motor (M203)
[3] Transfer clutch /Lw (MC202)
[4] Registration clutch (MC203)
[5] Paper empty sensor /Up (PS202)
[6] Paper size VR /Up (VR201)
[7] Paper entrance sensor /Up (PS201)
[8] Tray upper limit sensor /Up (PS205)
[9] Paper entrance sensor /Lw (PS206)
[10] PI operation board (PIOB)
[11] Pick-up solenoid /Lw (SD202)
[12] Pick-up solenoid /Up (SD201)
[13] Upper door open/close switch (MS201)
[14] Tray upper limit sensor /Lw (PS209)
[15] Paper empty sensor /Lw (PS207)
[16] Paper size VR /Lw (VR202)
[17] Paper set sensor /Lw (PS212)
[18] Paper set sensor /Up (PS203)
[19] L size sensor /Lw (PS208)
[20] Tray lift motor /Lw (M202)
[21] Tray lower limit sensor /Lw (PS210)
[22] Tray lower limit sensor /Up (PS204)
[23] Tray lift motor /Up (M201)
[24] Transfer clutch /Up (MC201)

14.10 PK

14.10.1 PK-512



[1] Punch shift home sensor (PS303)
[2] Punch shift motor (M302)
[3] Paper size sensor (PS305)
[4] Punch scraps box full sensor (PS302)
[5] Punch home sensor (PS301)
[6] Punch motor (M301)
[7] Punch encorder sensor (PS306)
[8] Punch drive board (PDB)
[9] Punch scraps box set sensor (PS304)

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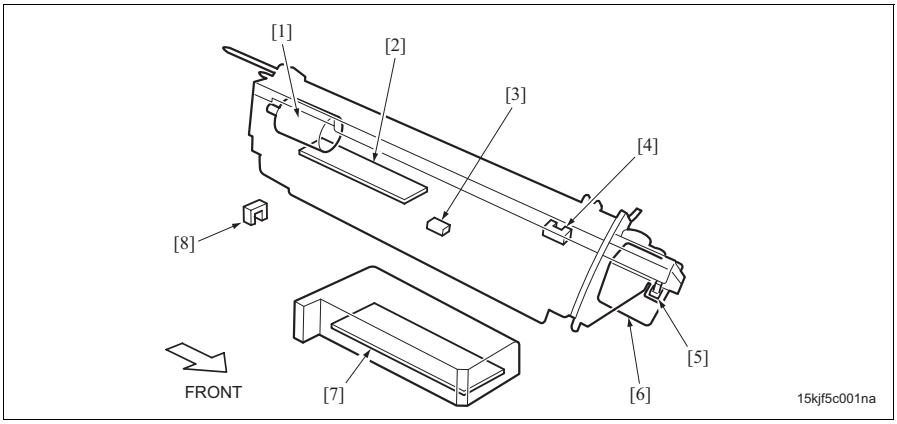
14.10.2 PK-513



[1] Punch motor (M301)
[2] Paper size sensor (PS305)
[3] Punch scraps box full sensor (PS302)
[4] Punch home sensor (PS301)
[5] Punch shift home sensor (PS303)
[6] Punch shift motor (M302)
[7] Punch drive board (PDB)
[8] Punch scraps box set sensor (PS304)

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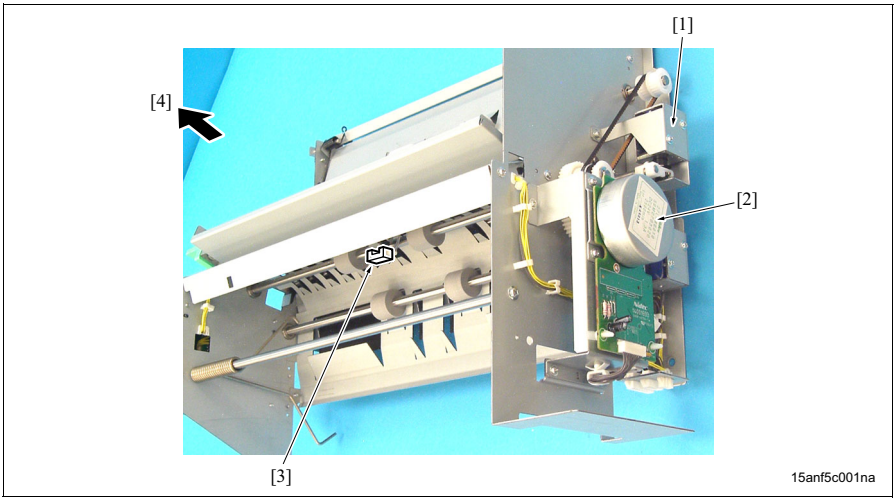
14.11 SD

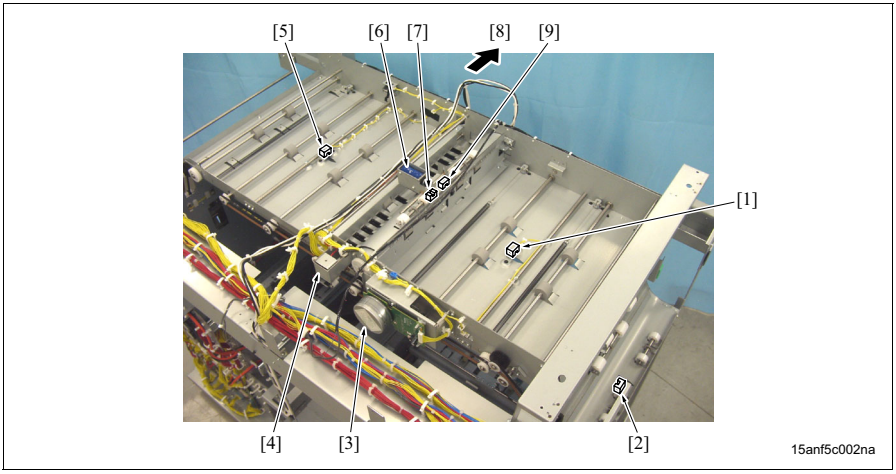
A. Horizontal conveyance section

(1) Entrance conveyance



[1] Entrance gate solenoid (SD1)
[2] Entrance conveyance motor (M1)
[3] Entrance sensor (PS1)
[4] Right side direction

(2) Horizontal conveyance



[1] Horizontal conveyance sensor /2 (PS3)
[2] Horizontal conveyance exit sensor (PS4)
[3] Horizontal conveyance motor (M2)
[4] Horizontal conveyance gate solenoid (SD3)
[5] Horizontal conveyance sensor /1 (PS2)
[6] Roller release solenoid /4 (SD4)
[7] Subtray exit sensor (PS11)
[8] Front side direction
[9] Subtray paper full sensor (PS12)

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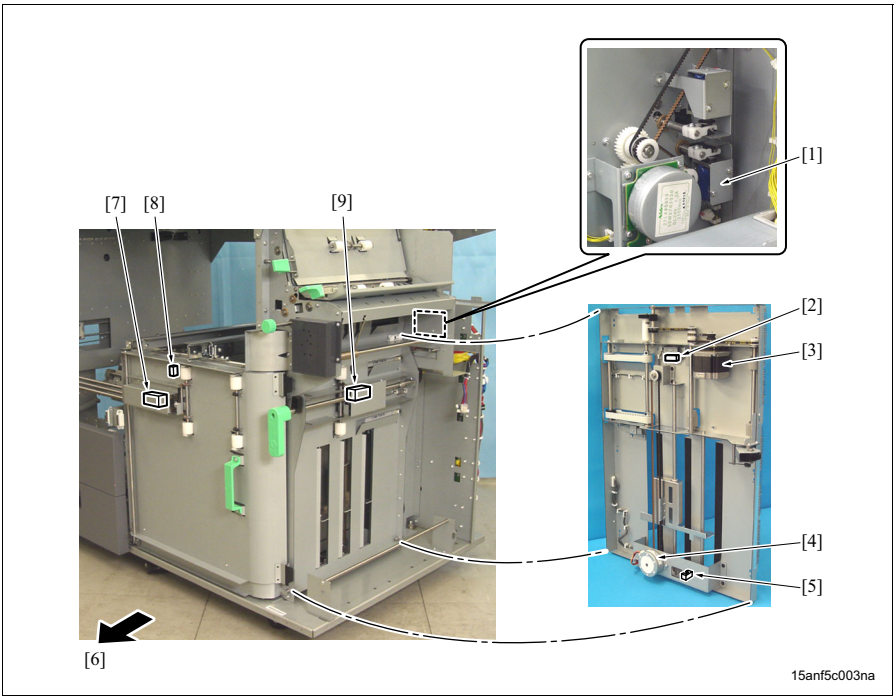
B. Right angle conveyance section



[1] Right angle conveyance gate solenoid (SD2)
[2] Right angle conveyance sensor /1 (PS5)
[3] Right angle conveyance motor (M6)
[4] Overlap motor (M13)
[5] Overlap home sensor (PS17)
[6] Front side direction
[7] Roller release solenoid /2 (SD6)
[8] Right angle conveyance sensor /2 (PS6)
[9] Roller release solenoid /1 (SD5)

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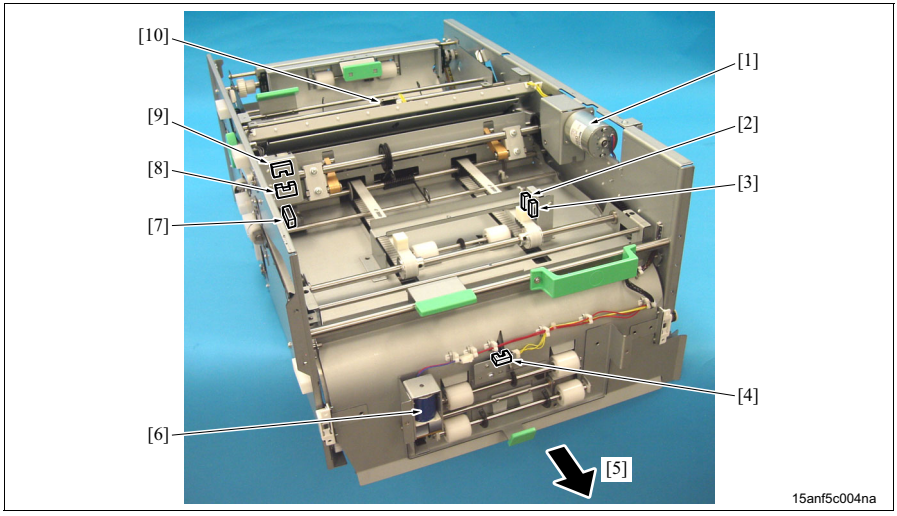
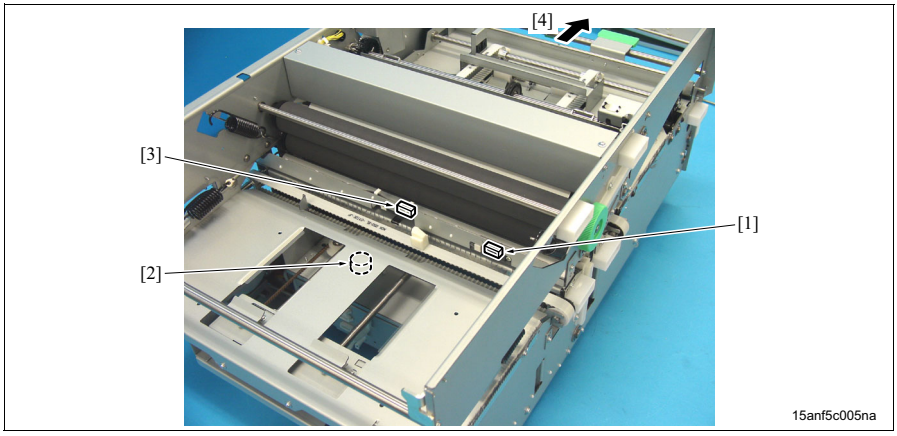
C. Folding section

(1) Top side /1



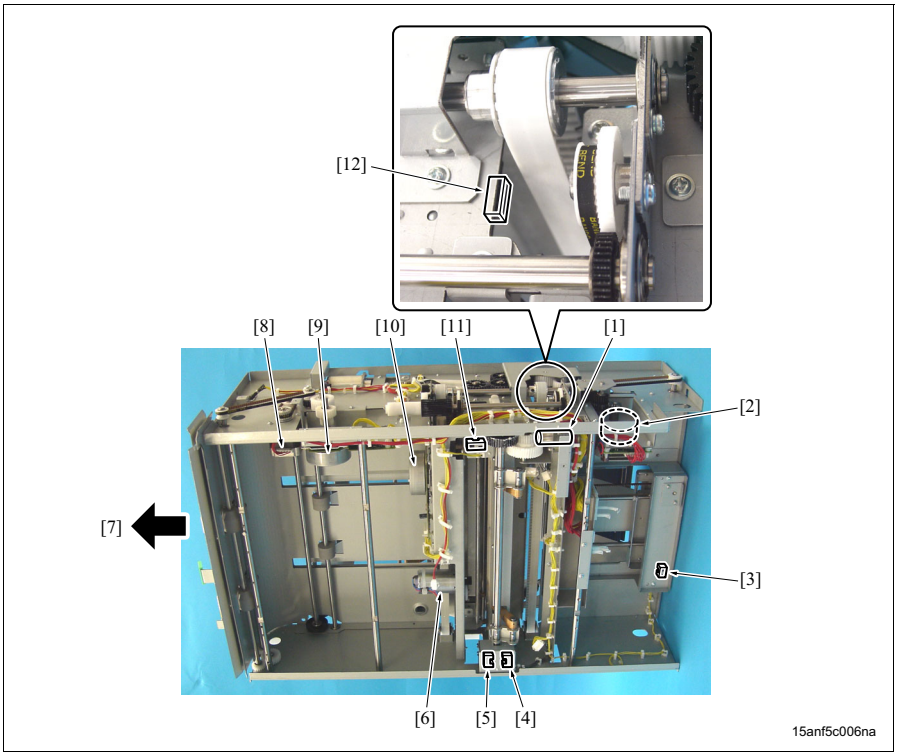
[1] 2nd folding blade motor (M19)
[2] Folding main scan alignment home sensor /Fr2 (PS49)
[3] Folding main scan alignment home sensor /Fr1 (PS18)
[4] Folding entrance sensor (PS60)
[5] Front side direction
[6] Roller release solenoid /3 (SD7)
[7] Folding sensor /2 (PS44)
[8] 2nd folding blade home sensor /2 (PS23)
[9] 2nd folding blade home sensor /1 (PS22)
[10] Folding passage sensor (PS8)

(2) Top side /2



[1] Folding sub scan alignment home sensor (PS56)
[2] Folding main scan alignment motor /Rr (M14)
[3] Folding sensor /1 (PS7)
[4] Front side direction

(3) Bottom side view



[1] 1st folding blade motor (M18)
[2] Folding conveyance motor (M4)
[3] Folding main scan alignment home sensor /Rr (PS19)
[4] 1st folding blade home sensor /2 (PS21)
[5] 1st folding blade home sensor /1 (PS20)
[6] Guide shaft motor (M25)
[7] Front side direction
[8] Folding main scan alignment motor /Fr (M7)
[9] Folding entrance motor (M3)
[10] Folding sub scan alignment exit motor (M8)
[11] Guide shaft home sensor (PS46)
[12] Folding exit home sensor (PS24)

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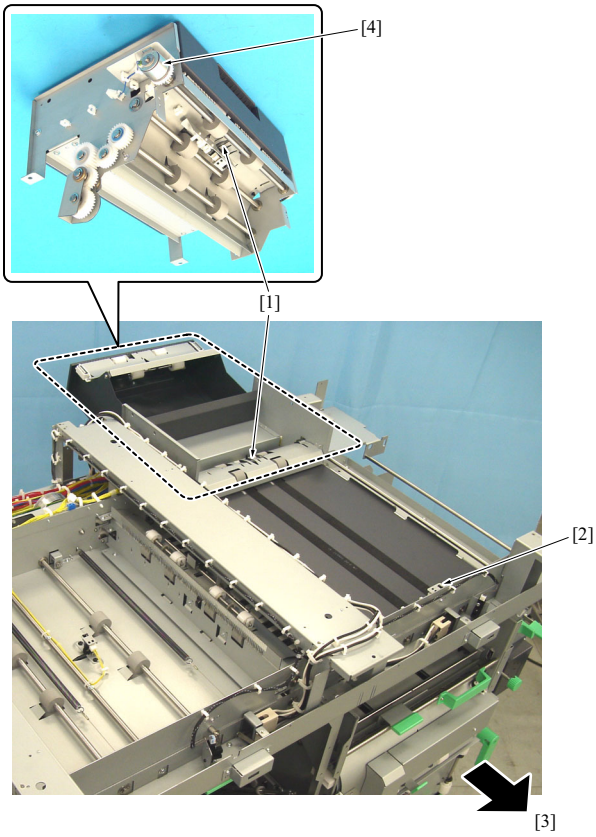
(4) Tri-folding exit



[1] Tri-folding exit sensor (PS9)
[2] Tri-folding paper full sensor (PS10)
[3] Front side direction
[4] Tri-folding exit clutch (CL1)

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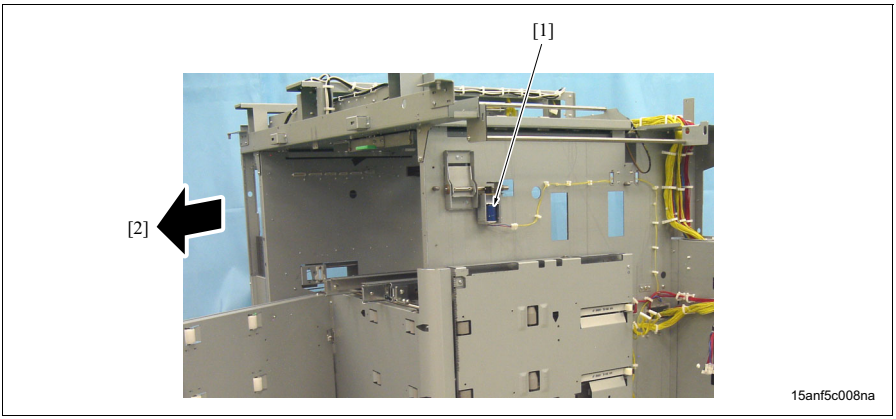
(5) Others

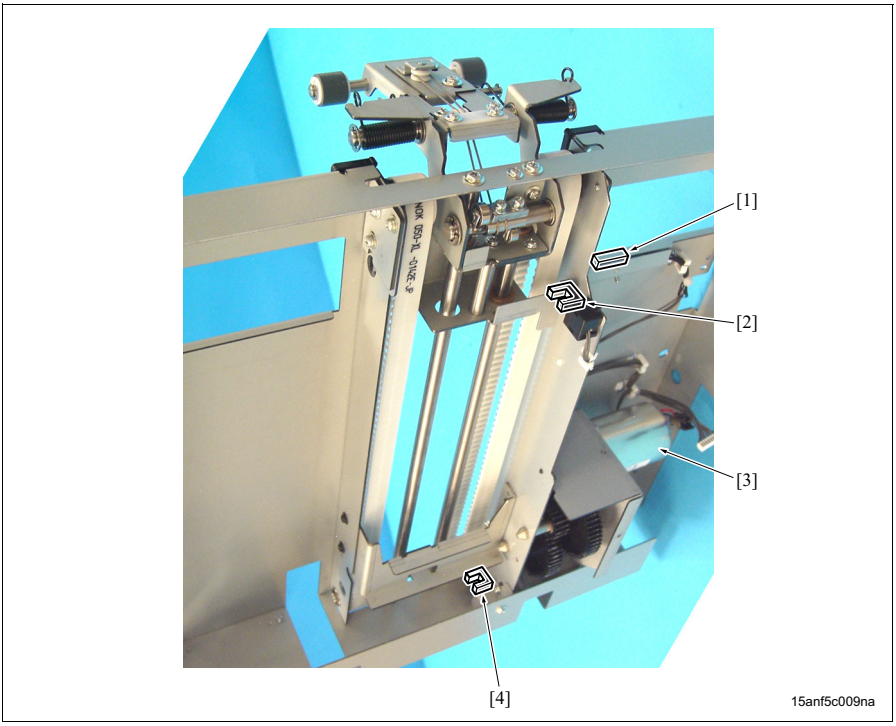


[1] Folding unit lock solenoid (SD8)

[2] Front side direction

D. Saddle stitching section

(1) Bundle clip



[1] Bundle sensor /1 (PS14)

[2] Bundle clip upper limit sensor (PS33)

[3] Bundle clip motor (M11)

[4] Bundle clip lower limit sensor (PS30)

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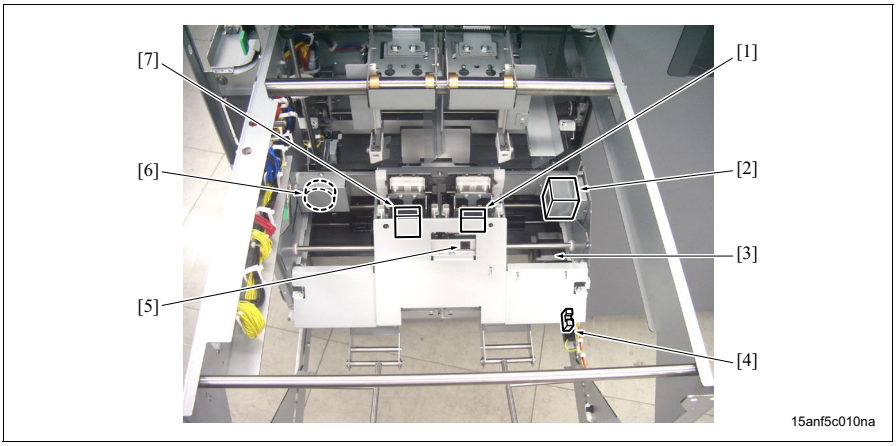
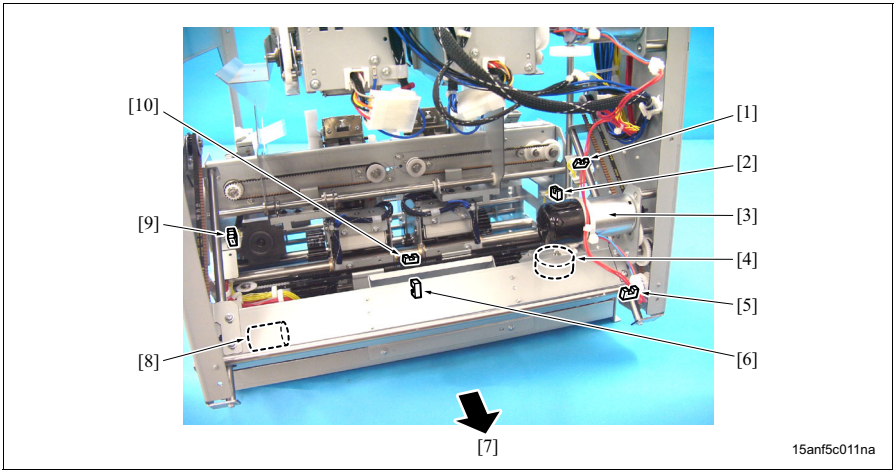
(2) Front side



[1] Clincher solenoid /Rt (SD9)
[2] Saddle stitching alignment motor /Rt (M9)
[3] Bundle arm motor (M10)
[4] Bundle arm home sensor (PS32)
[5] Saddle stitching paper sensor (PS13)
[6] Saddle stitching alignment motor /Lt (M16)
[7] Clincher solenoid /Lt (SD10)

(3) Rear side /1



[1] Bundle arm assist upper limit sensor (PS39)
[2] Saddle stitching alignment home sensor /Lt (PS29)
[3] Bundle arm assist motor (M26)
[4] Stapler movement motor (M15)
[5] Bundle arm assist home sensor (PS38)
[6] Stapler movement home sensor (PS25)
[7] Back side direction
[8] Clincher up down motor (M20)
[9] Saddle stitching alignment home sensor /Rt (PS28)
[10] Clincher up down home sensor (PS26)

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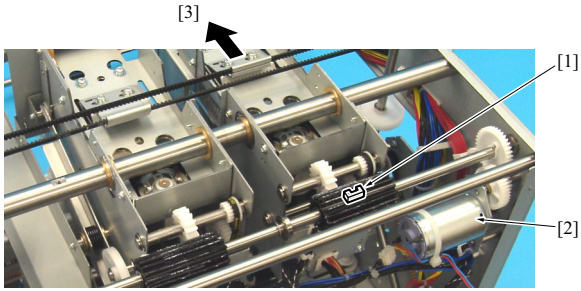
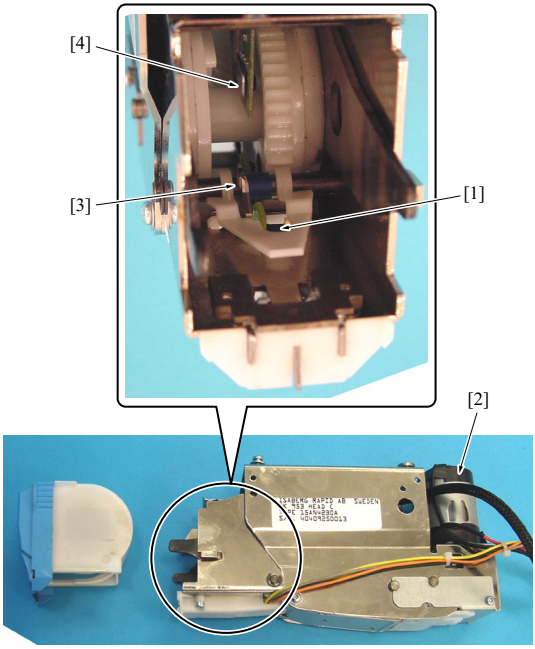
(4) Rear side /2



[1] Saddle stitching press home sensor (PS27)
[2] Saddle stitching press motor (M21)
[3] Front side direction

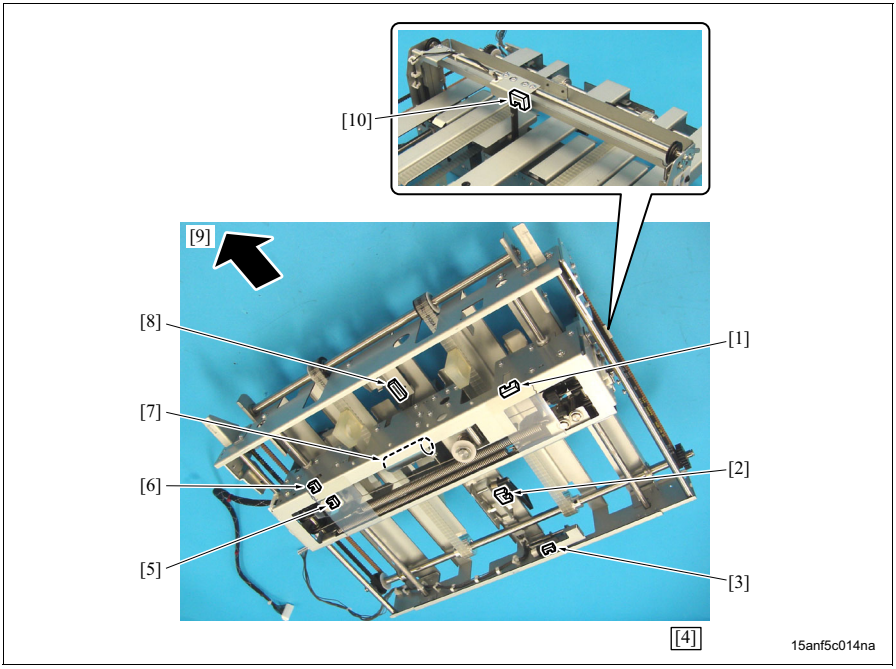
(5) Stapler



[1] Stapler empty switches /Rt (SW1) and /Lt (SW2)
[2] Stapler motors /Rt (M29) and /Lt (M30)
[3] Stapler home sensors /Rt (HS1) and /Lt (HS3)
[4] Clincher start sensor /Rt (HS2) and /Lt (HS4)

E. Bundle processing section

(1) Bundle press stage/bundle press bottom side



[1] Bundle press movement home sensor (PS36)
[2] Bundle sensor /4 (PS54)
[3] Bundle registration home sensor (PS34)
[4] Bottom side view
[5] Bundle press lower limit sensor (PS47)
[6] Bundle press home sensor (PS37)
[7] Bundle press motor (M23)
[8] Bundle sensor /2 (PS15)
[9] Front side direction
[10] Trimmer registration sensor (PS55)

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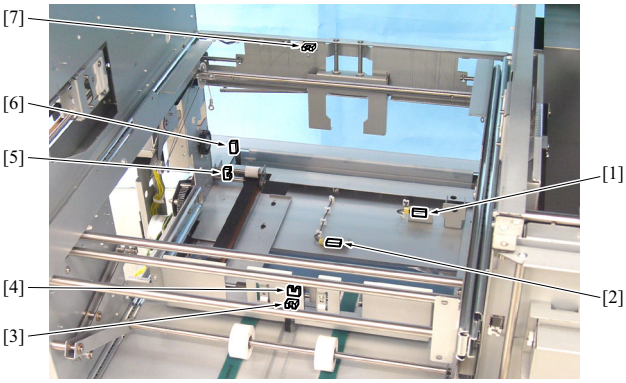
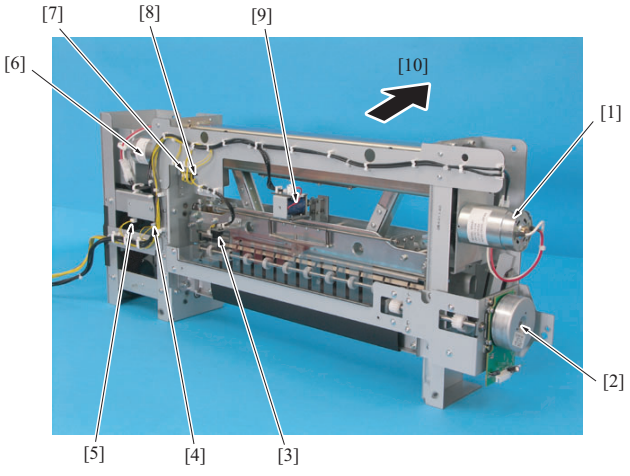
(2) Bundle exit



[1] Bundle tray set sensor (PS58)
[2] Trimmer scraps full sensor (PS41)
[3] Bundle tray paper full sensor (PS61)
[4] Bundle exit sensor /2 (PS57)
[5] Scraps box set sensor (PS40)
[6] Scraps press home sensor (PS48)
[7] Bundle registration plate home sensor (PS16)

F. Trimmer section



[1] Trimmer press motor (M32)
[2] Trimmer paddle motor (M33)
[3] Trimmer board replacement sensor (PS59)
[4] Trimmer blade home sensor (PS50)
[5] Trimmer blade upper limit sensor (PS51)
[6] Trimmer blade motor (M31)
[7] Trimmer press upper limit sensor (PS52)
[8] Trimmer press home sensor (PS53)
[9] Trimmer board solenoid (SD11)
[10] Front side direction

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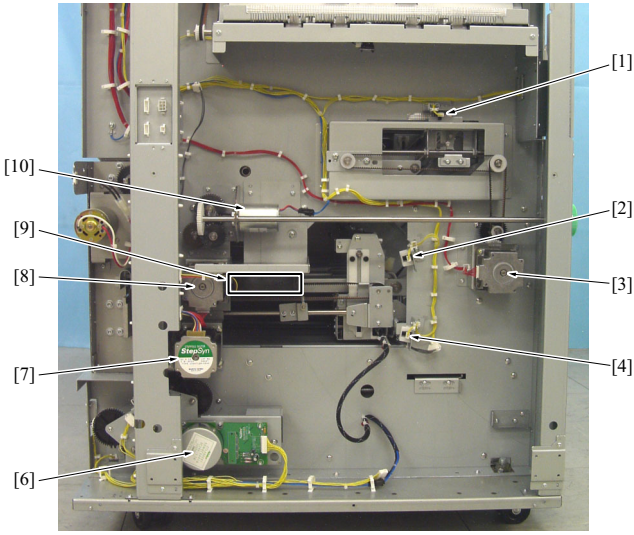
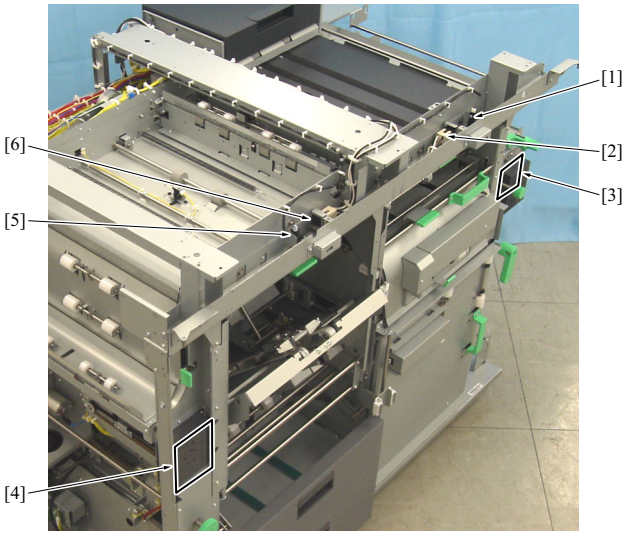
G. Left side



[1] Bundle arm rotation home sensor (PS31)
[2] Bundle press stage up down limit sensor (PS45)
[3] Bundle arm rotation motor (M22)
[4] Bundle press stage up down home sensor (PS35)
[5] Left side view
[6] Bundle exit motor (M5)
[7] Bundle press movement motor (M17)
[8] Bundle registration motor (M12)
[9] Scraps removal fan motor (FM1)
[10] Bundle press stage up down motor (M24)

H. Front side



[1] Front door sensor /Rt (PS42)
[2] Front door switch /Rt (MS1)
[3] Jam indication board /1 (JAMIB/1)
[4] Jam indication board /2 (JAMIB/2)
[5] Front door sensor /Lt (PS43)
[6] Front door switch /Lt (MS2)

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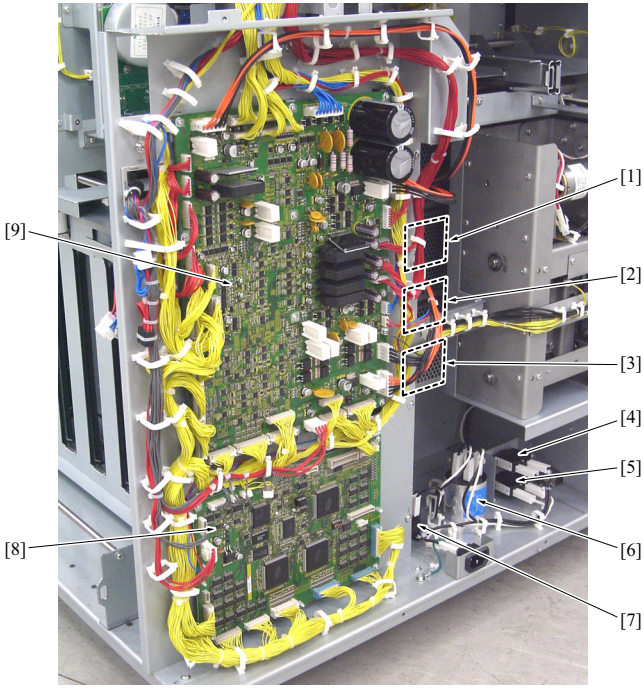
I. Rear side



[1] DC power supply /1 (DCPS1)
[2] DC power supply /2 (DCPS2)
[3] DC power supply /3 (DCPS3)
[4] Circuit breaker /1 (CBR1)
[5] Circuit breaker /2 (CBR2)
[6] Noise filter (NF1)
[7] Power relay (RL1)
[8] SD control board (SDCB)
[9] SD drive board (SDDB)

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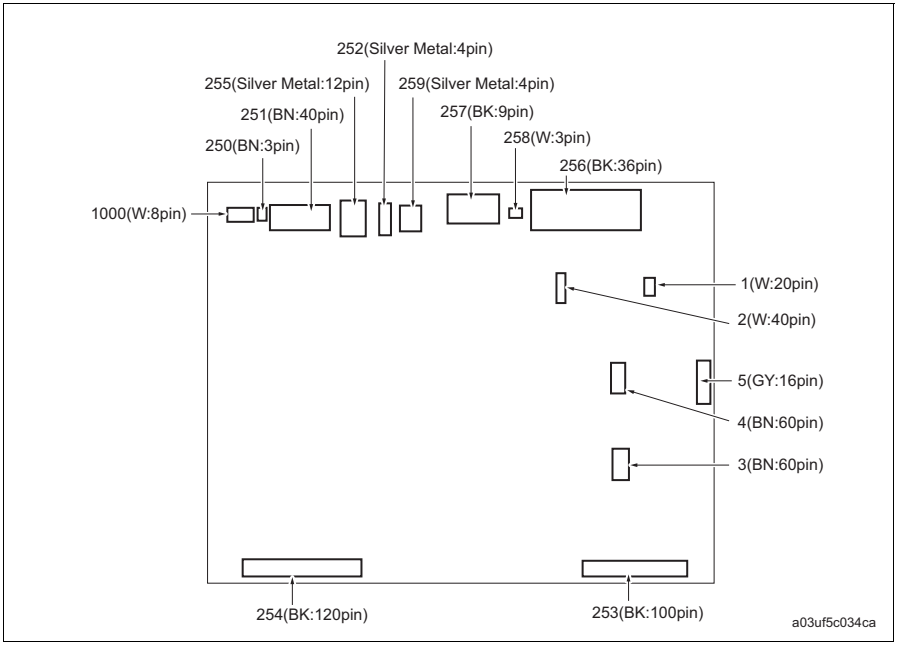
15. CONNECTOR LAYOUT DRAWING

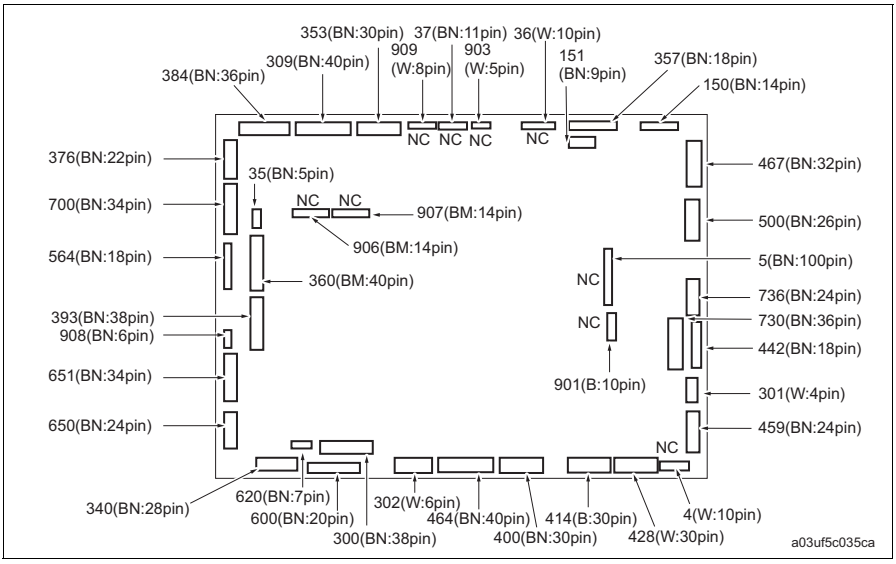
15.1 Main body

15.1.1 Connector in the board

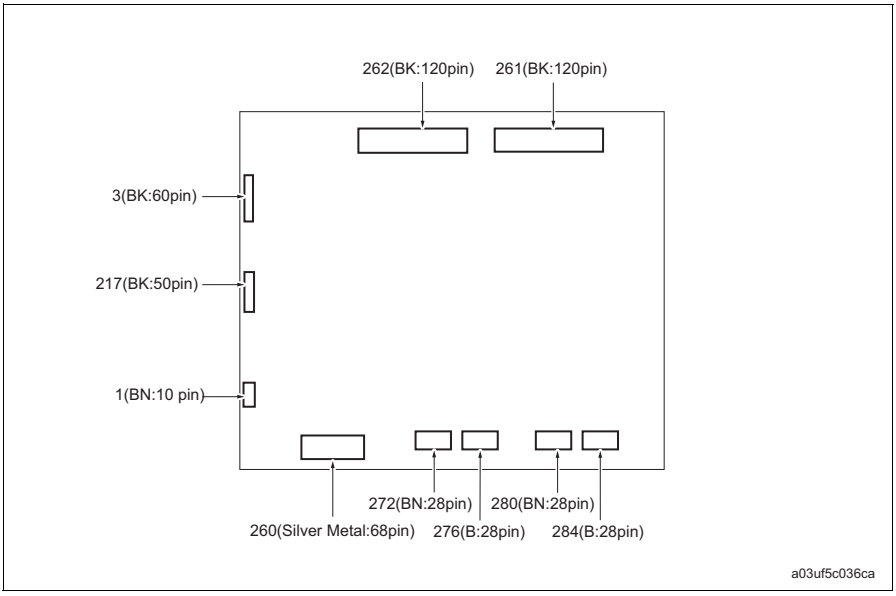
A. Overall control board



B. Printer control board



C. Image processing board



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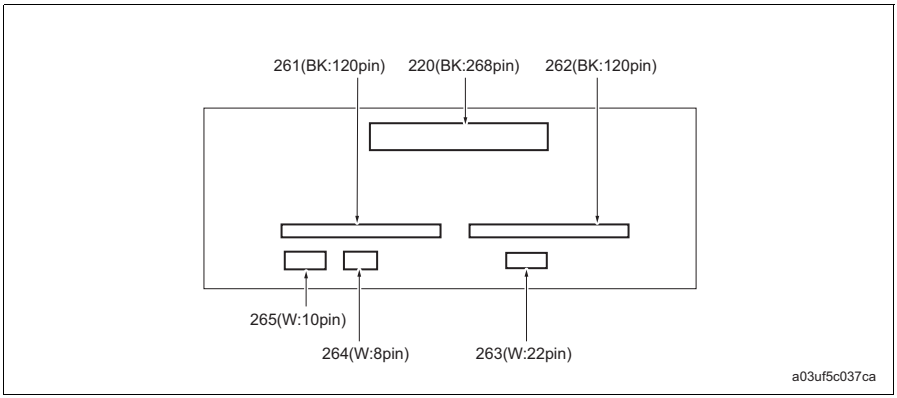
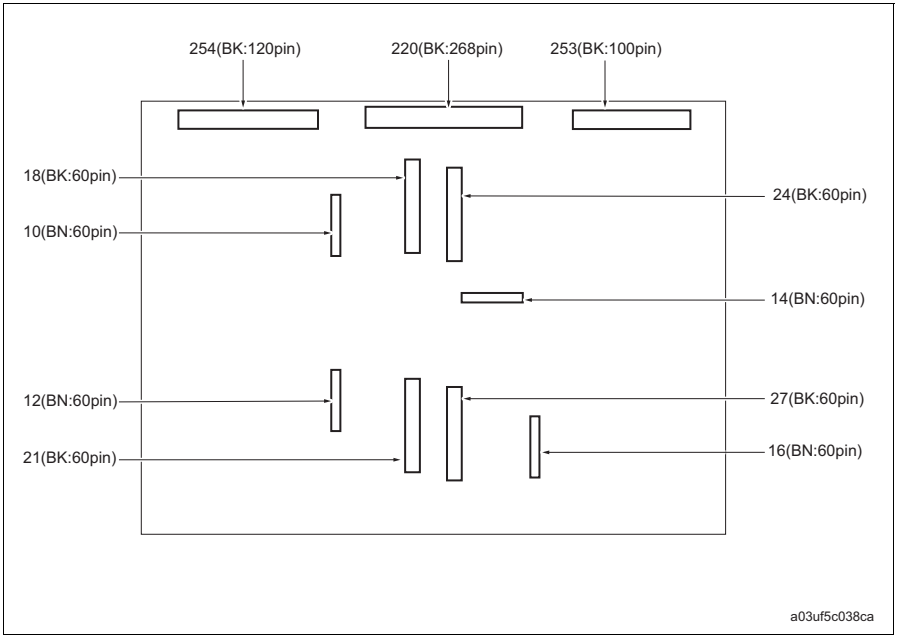
D. I/F board



E. image memory control board



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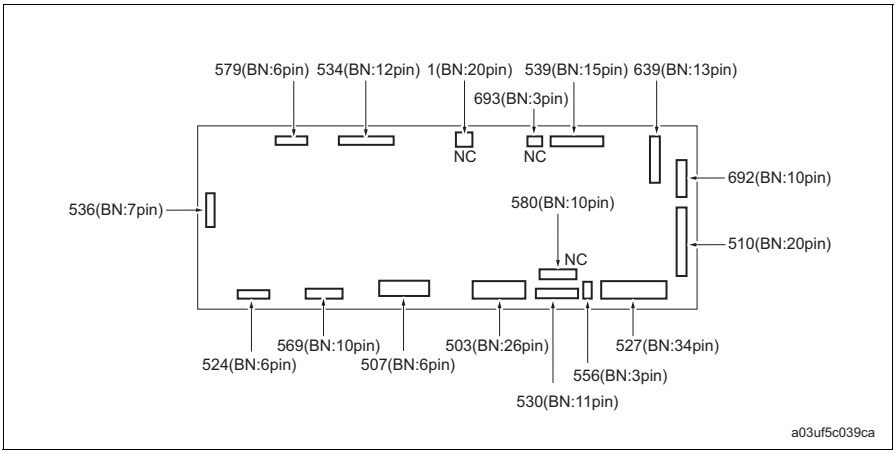
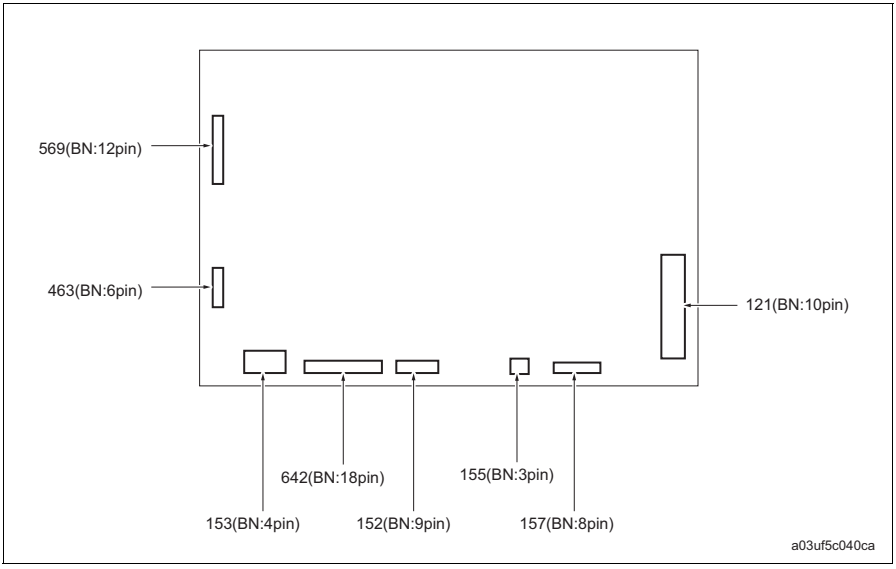
F. Conveyance drive board



G. AC drive board



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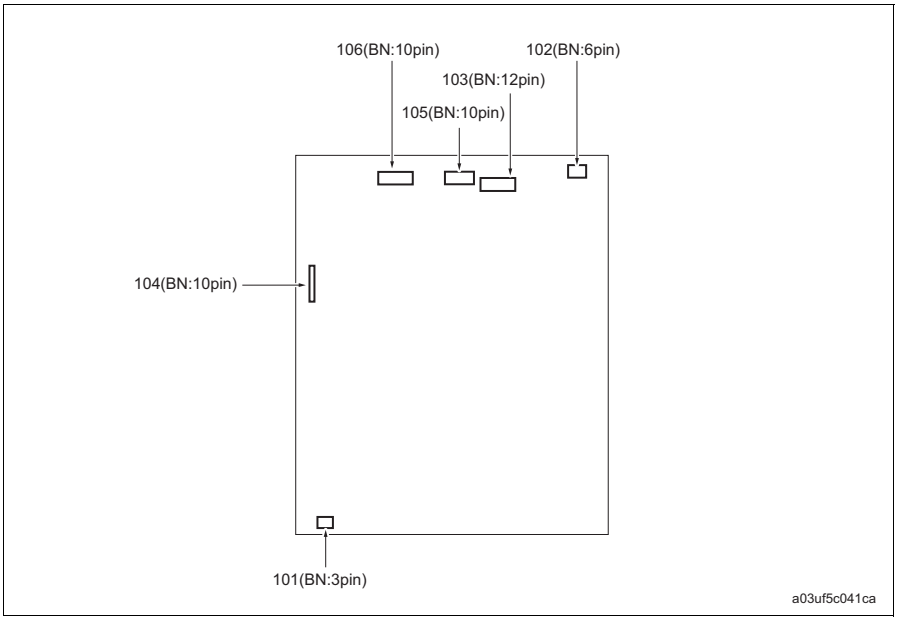
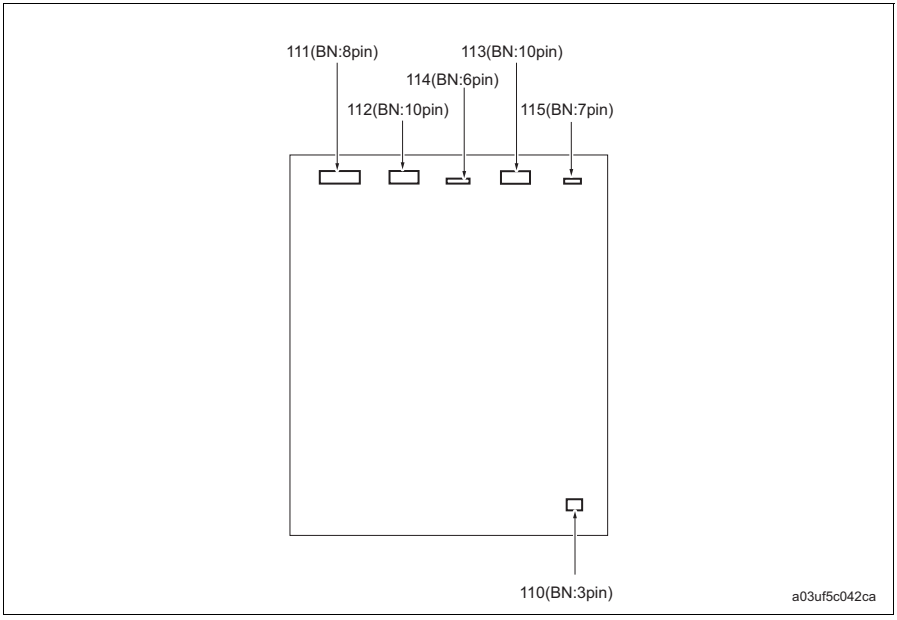
H. DC power supply /1



I. DC power supply /2



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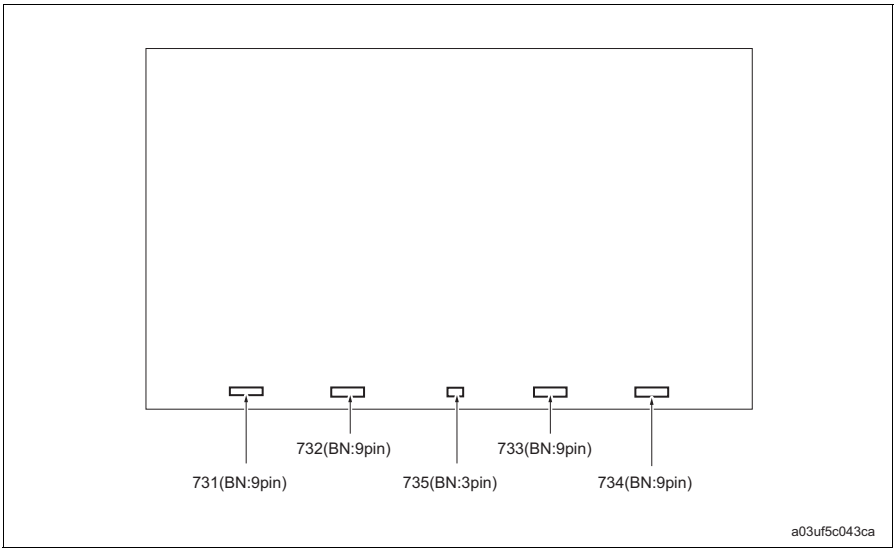
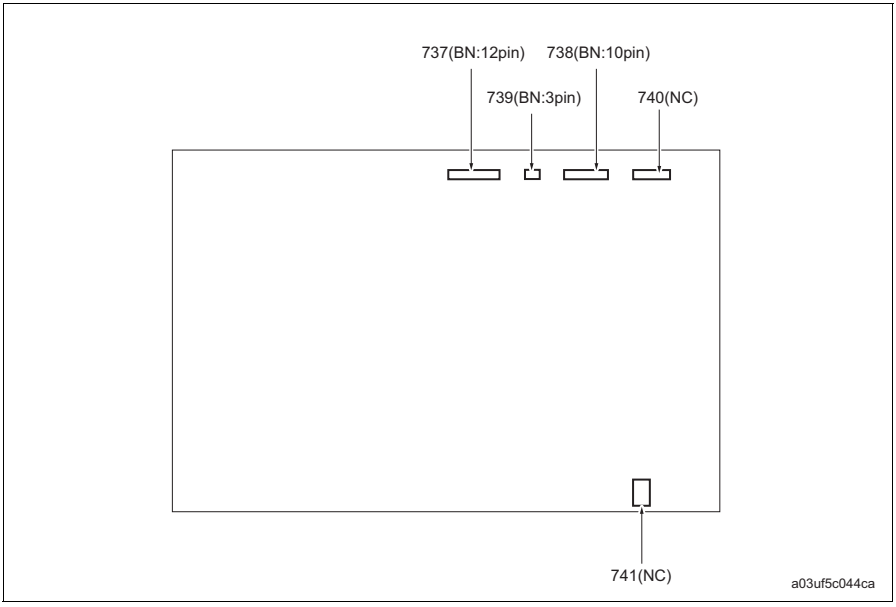
J. High voltage unit /1



K. High voltage unit /2



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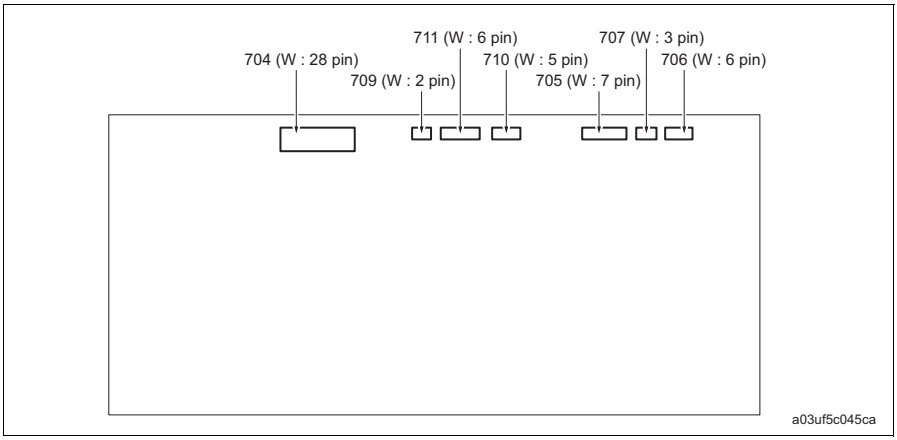
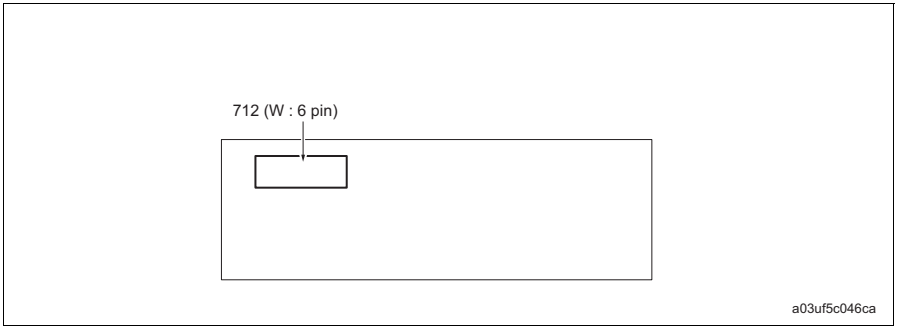
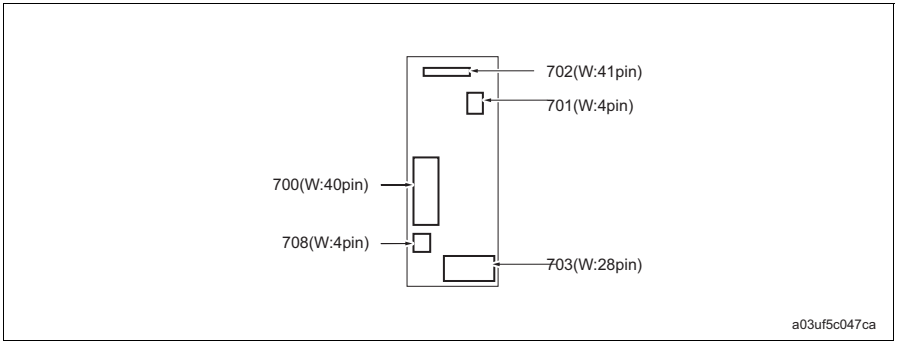
L. Operation board /1



M. Operation board /2



N. Operation board /3



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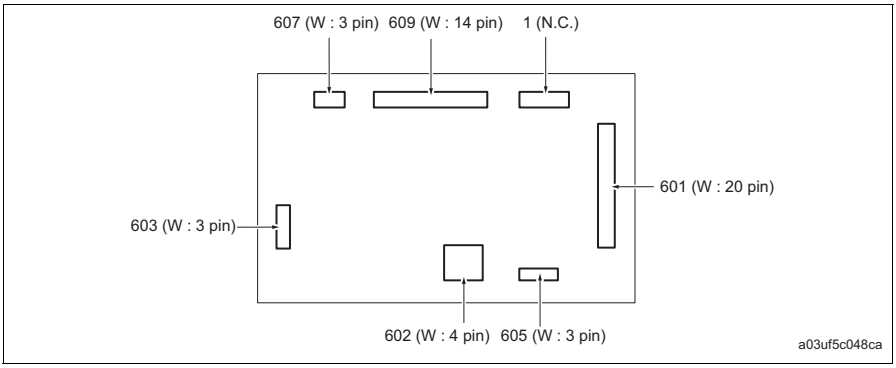
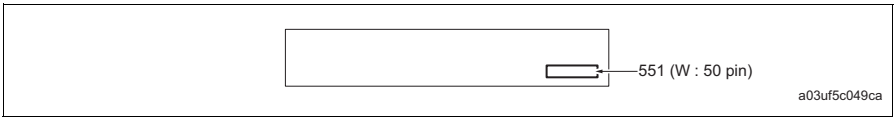
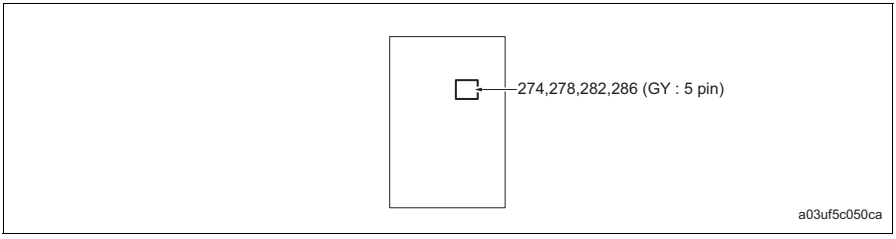
O. Scanner drive board



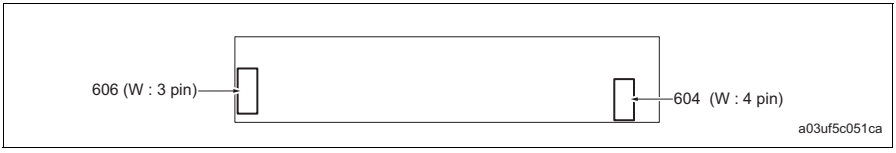
P. CCD board



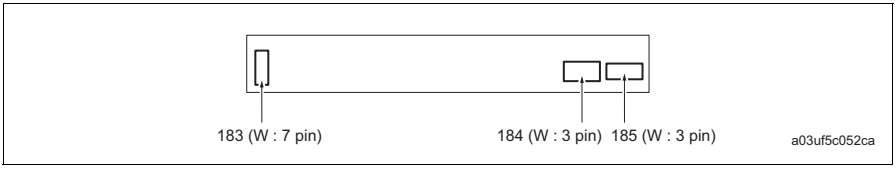
Q. Index board /Y, /M, /C, /K



R. Inverter board /1



S. Inverter board /2



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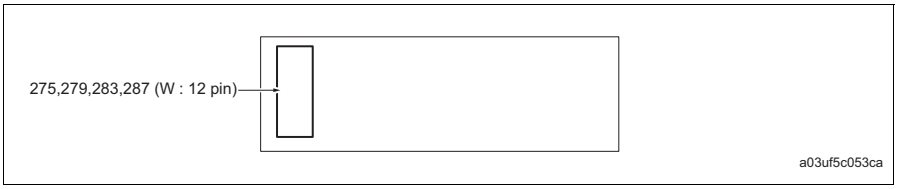
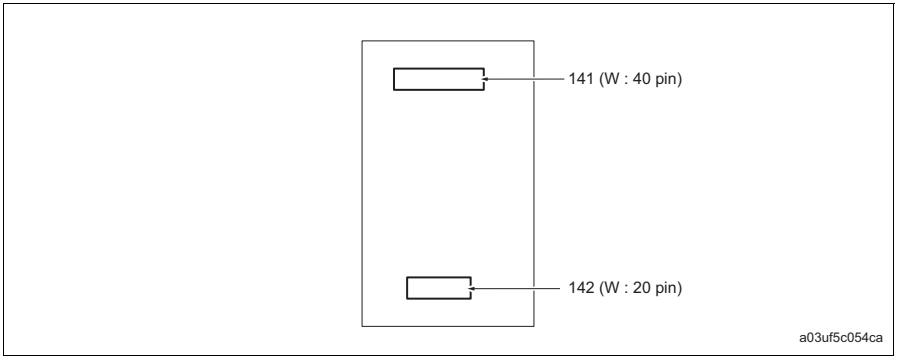
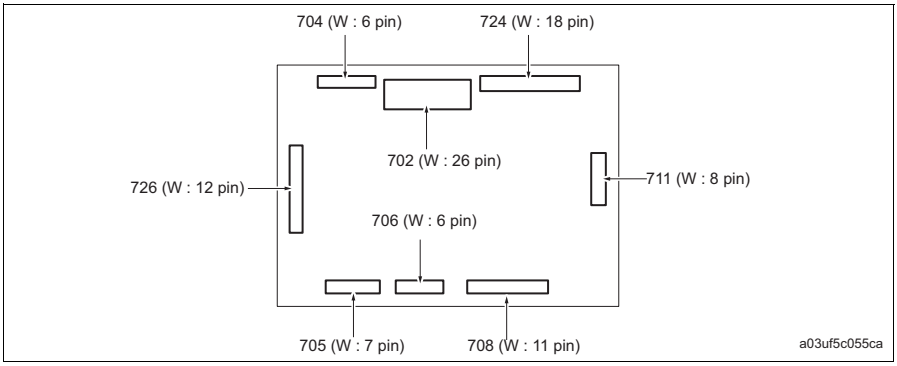
T. Laser drive board /Y, /M, /C, /K



U. NVRAM board



V. Toner supply drive board



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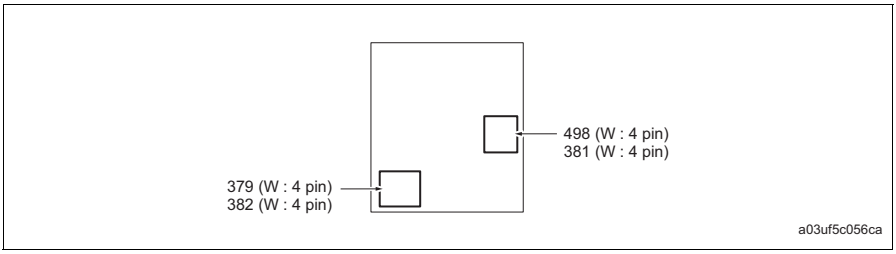
W. Color registration board /Fr, Rr



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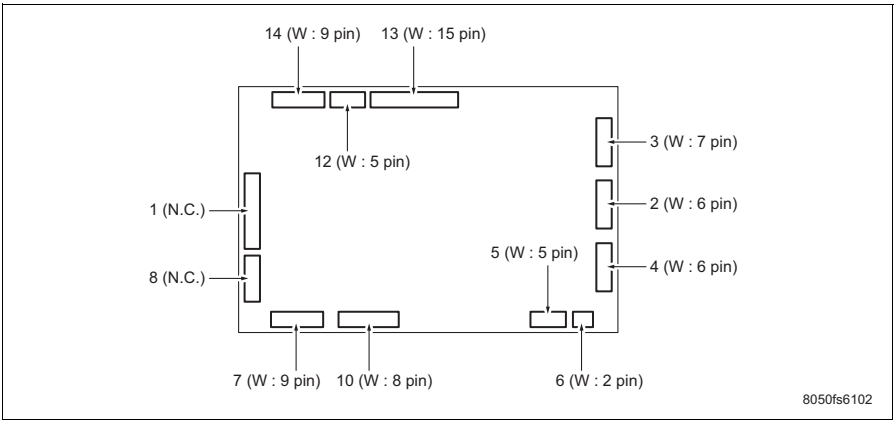
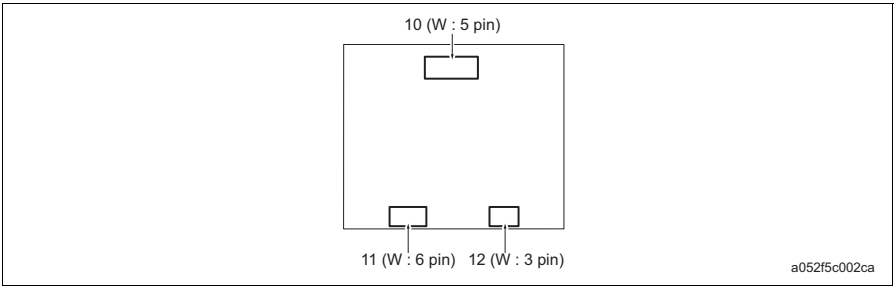
15.2 DF

15.2.1 Connector in the board

A. DF control board (DFCB)



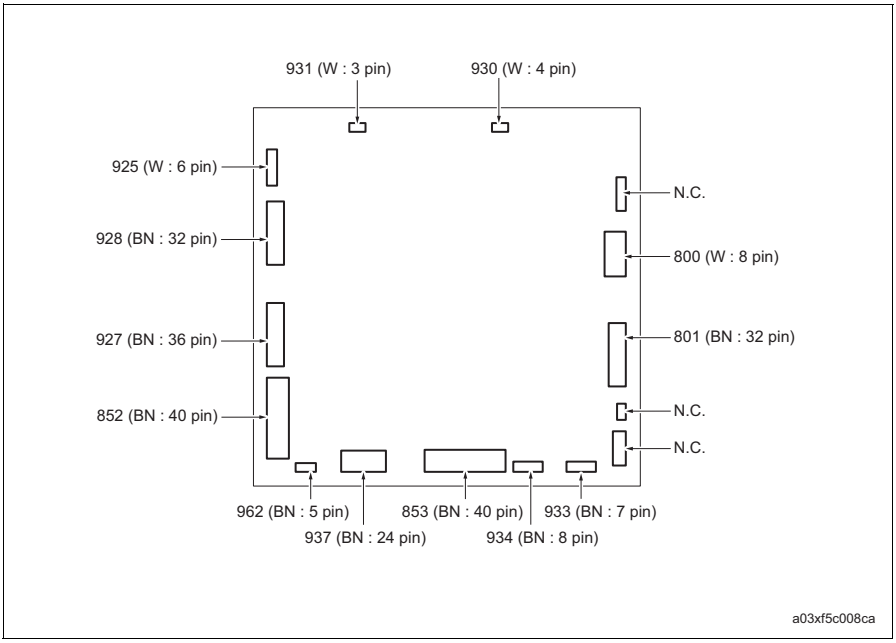
B. Size sensor board (SSB)



15.3 PF

15.3.1 Connector in the board

A. PF control board



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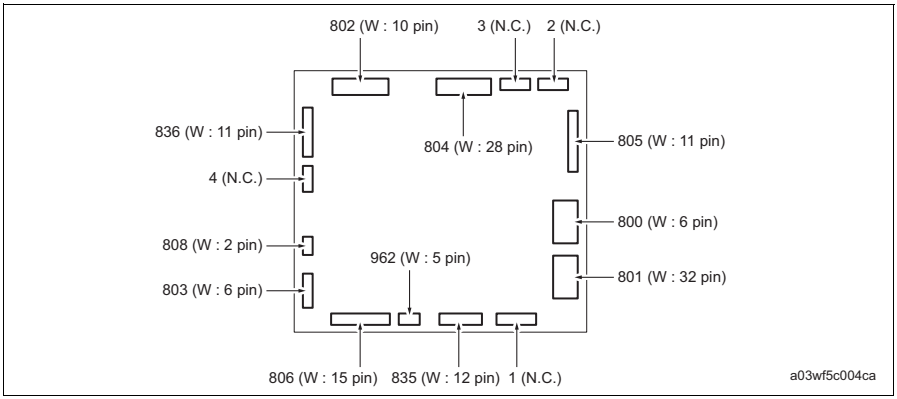
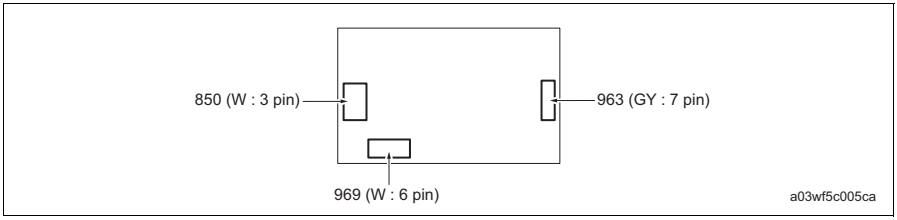
15.4 LU

15.4.1 Connector in the board

A. LU control board



B. AC drive board (HT-503)



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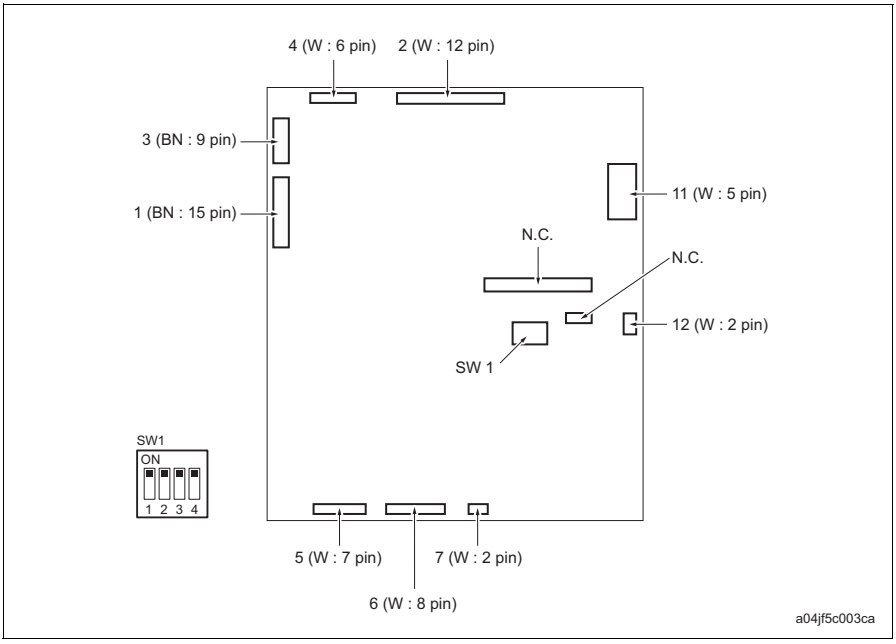
15.5 RU

15.5.1 Connector in the board

A. RU control board



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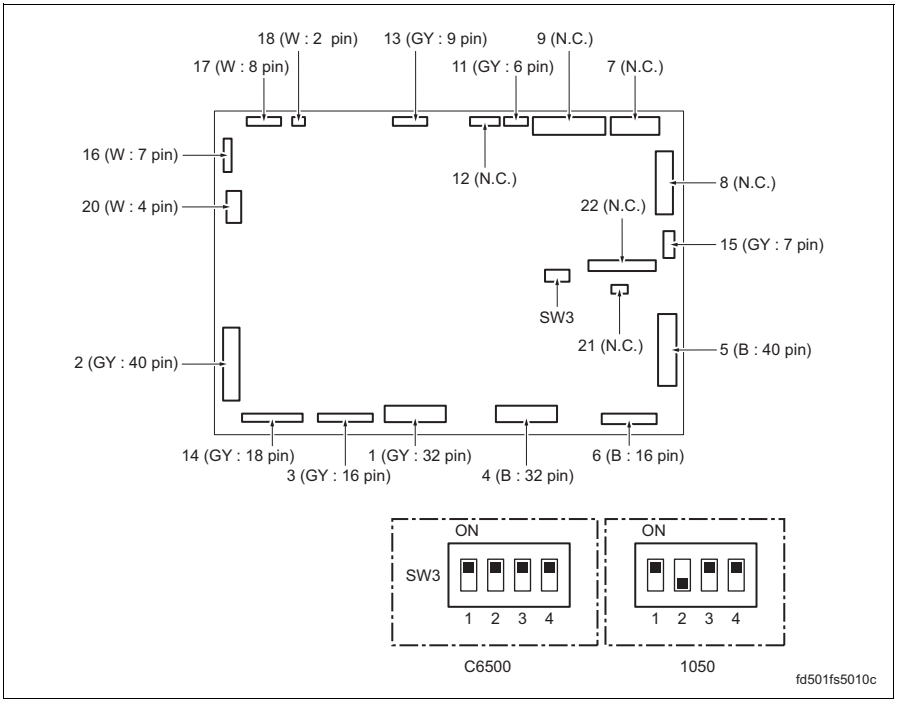
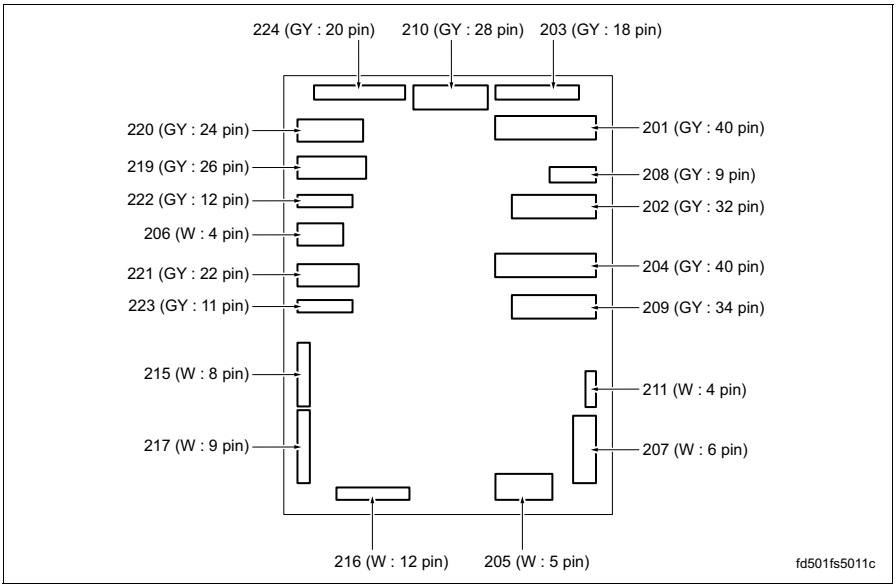
15.6 FD

15.6.1 Connector in the board

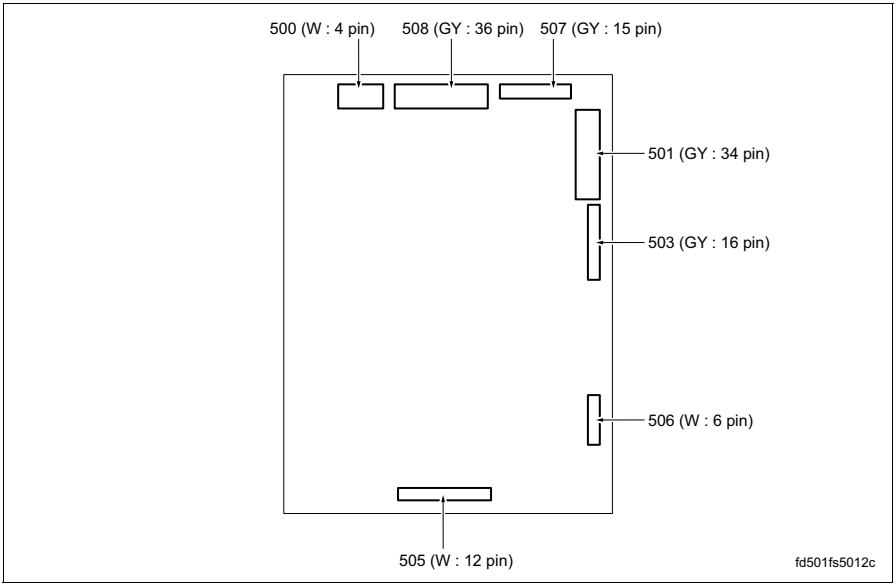
A. FD control board



B. Punch drive board



C. Folding drive board



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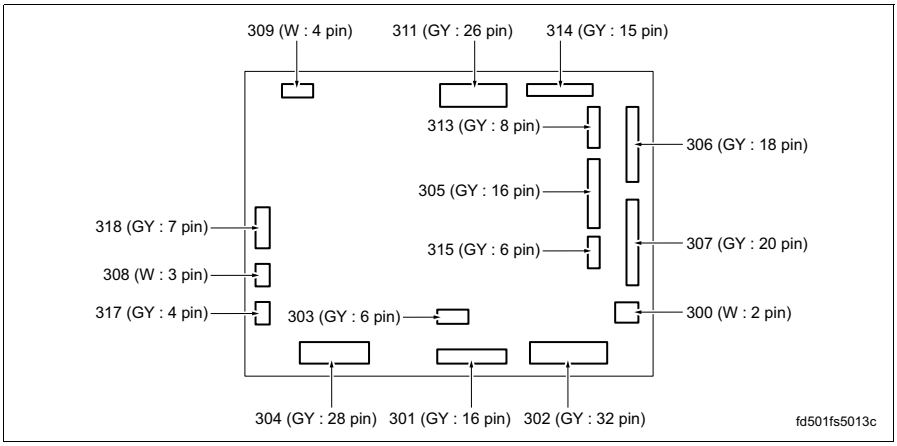
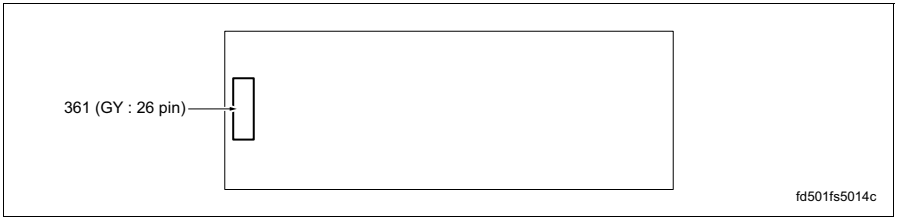
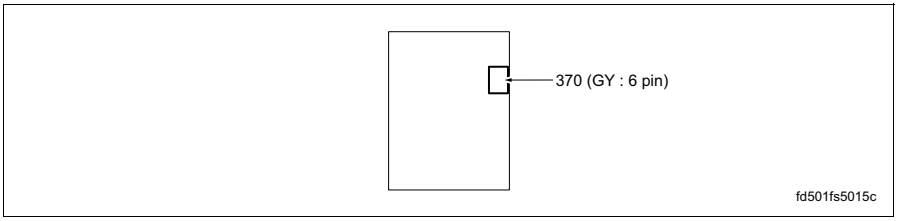
D. PI drive board



E. FD operation board



F. Jam indicator board



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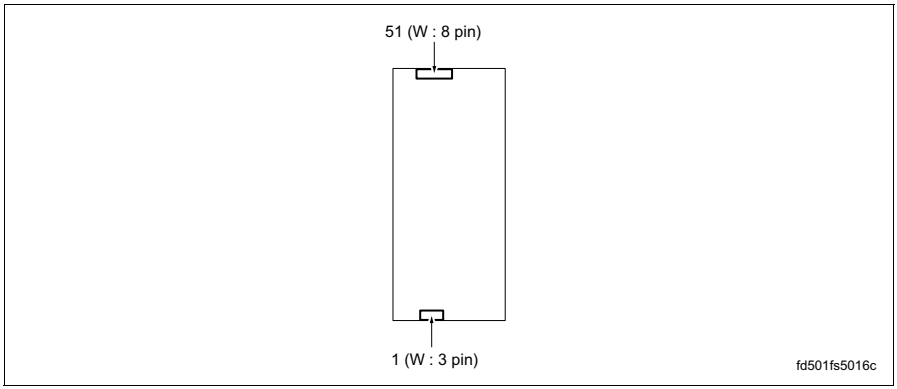
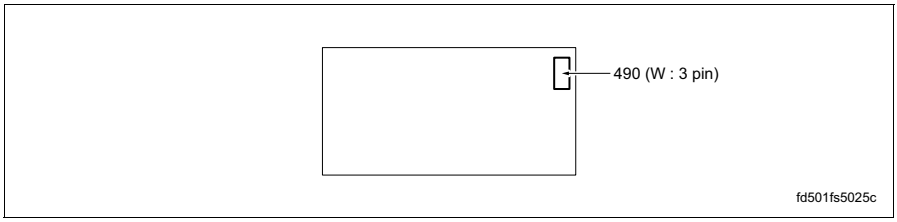
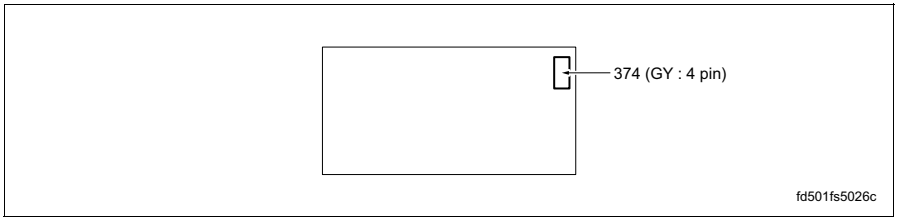
G. DC power supply board



H. Multi feed detection board /1, /2



I. Temperature sensor board



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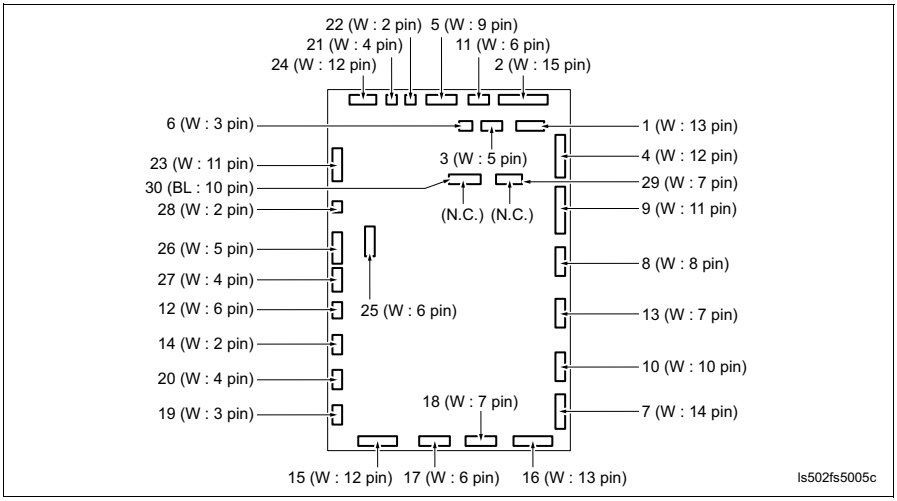
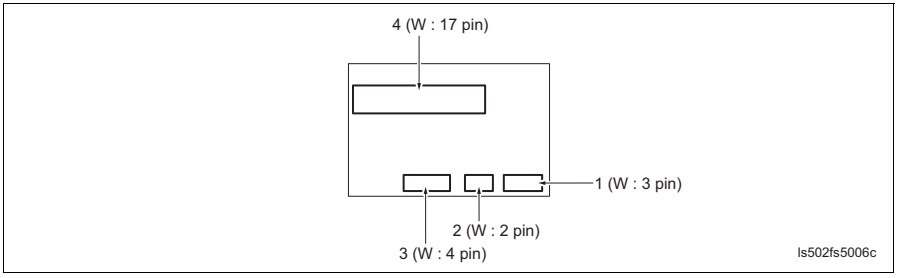
15.7 LS

15.7.1 Connector in the board

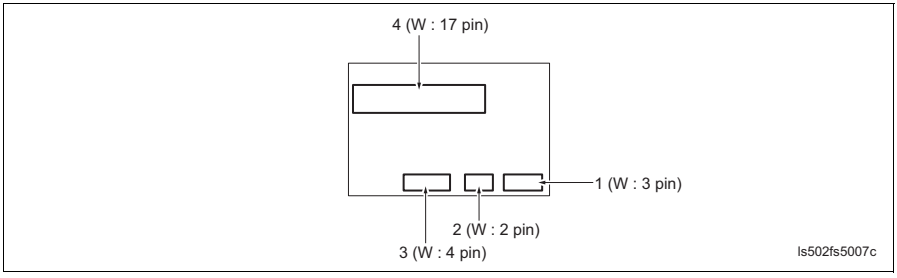
A. LS control board



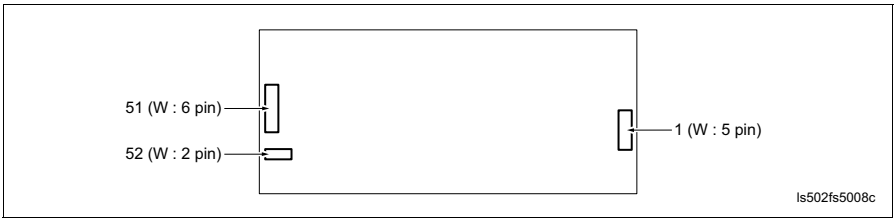
B. Relay board /1



C. Relay board /2



D. DC power supply



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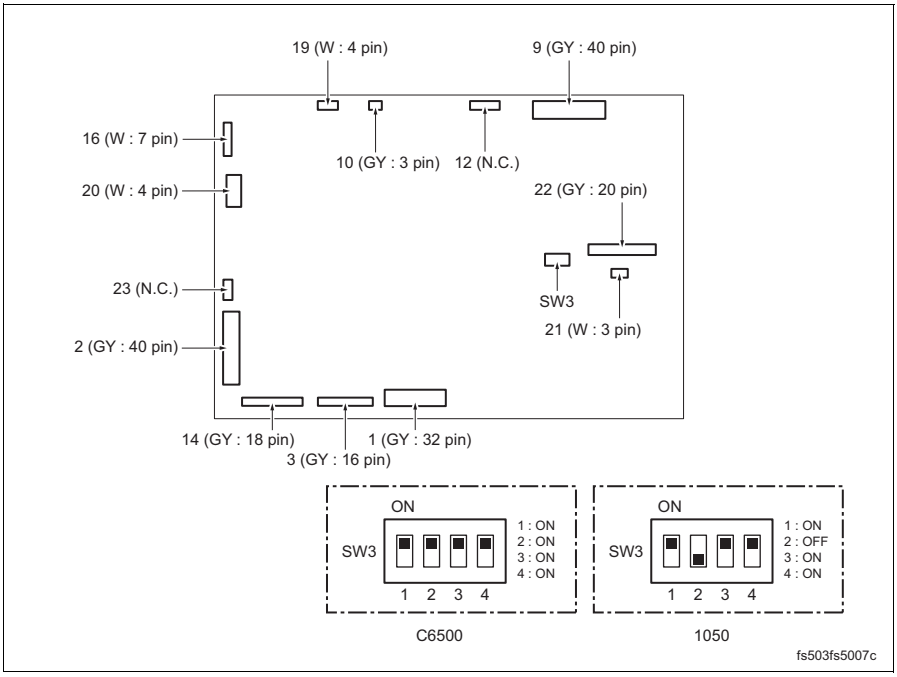
15.8 FS

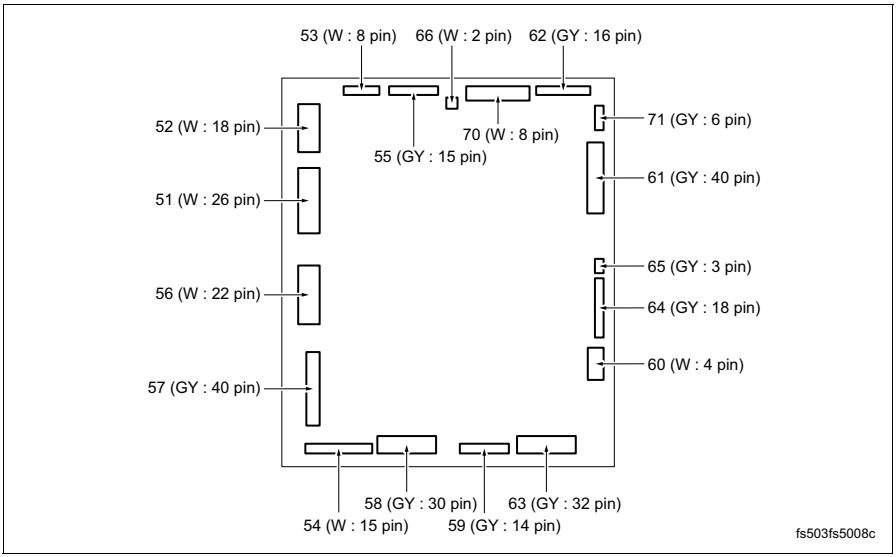
15.8.1 Connector in the board

A. FS-503

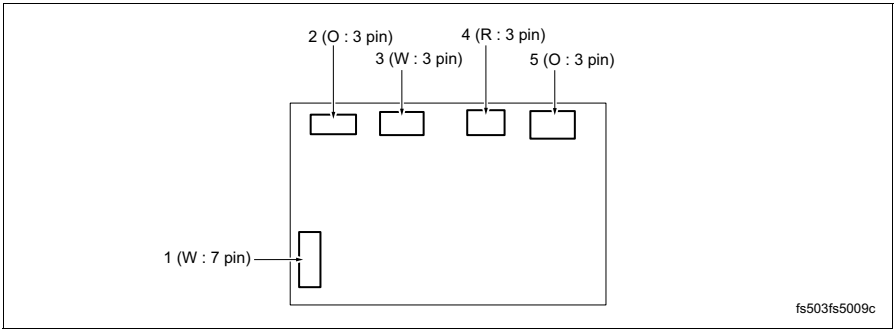
(1) FNS control board



(2) FNS drive board



(3) Stapler board



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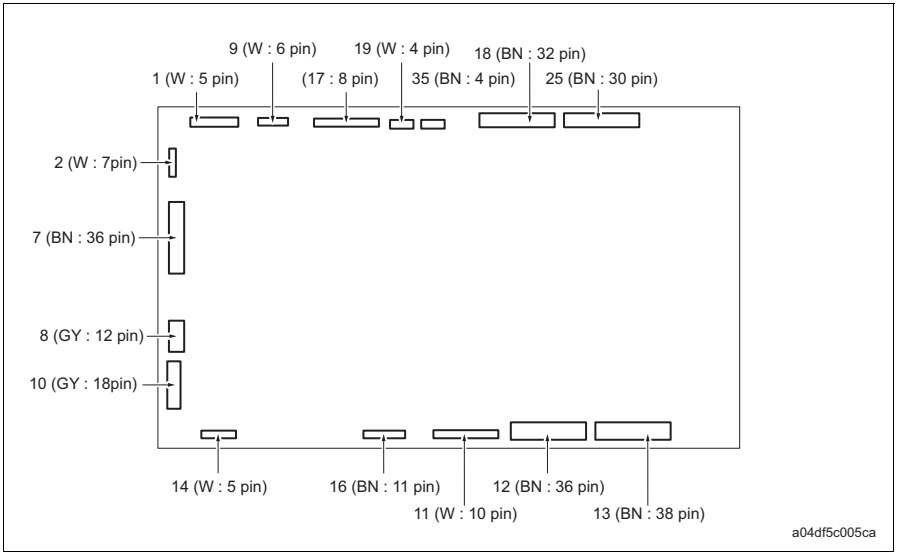
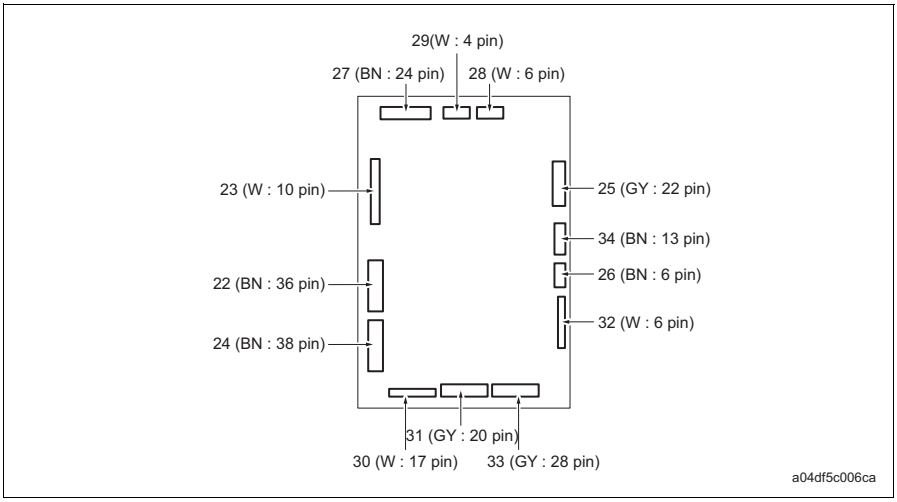
B. FS-607

(1) FNS control board



(2) Relay drive board



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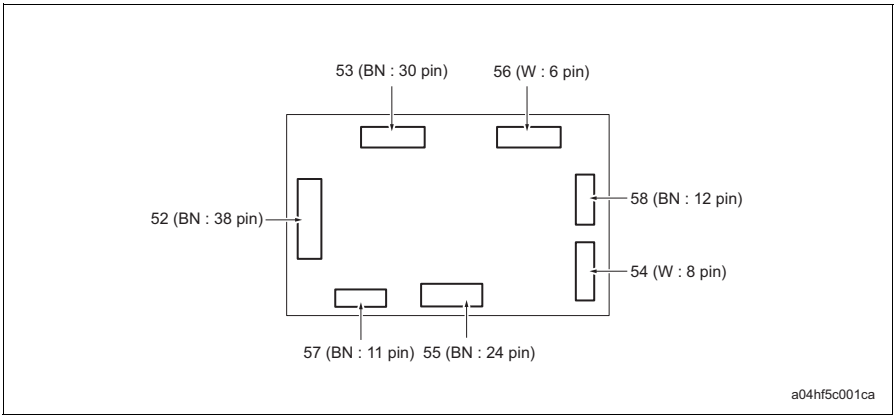
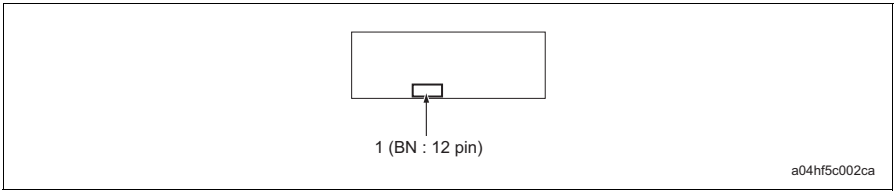
15.9 PI

15.9.1 Connector in the board

A. PI drive board



B. PI control board



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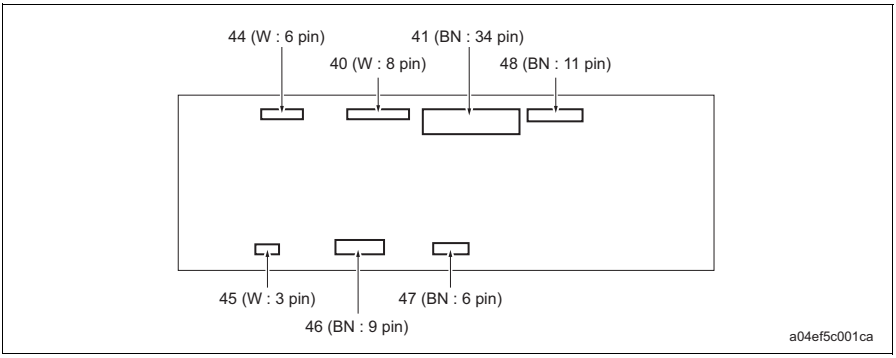
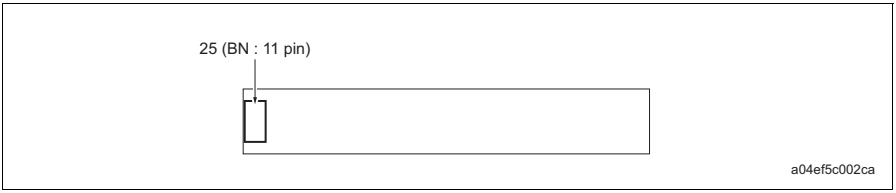
15.10 PK

15.10.1 Connector in the board

A. Punch drive board



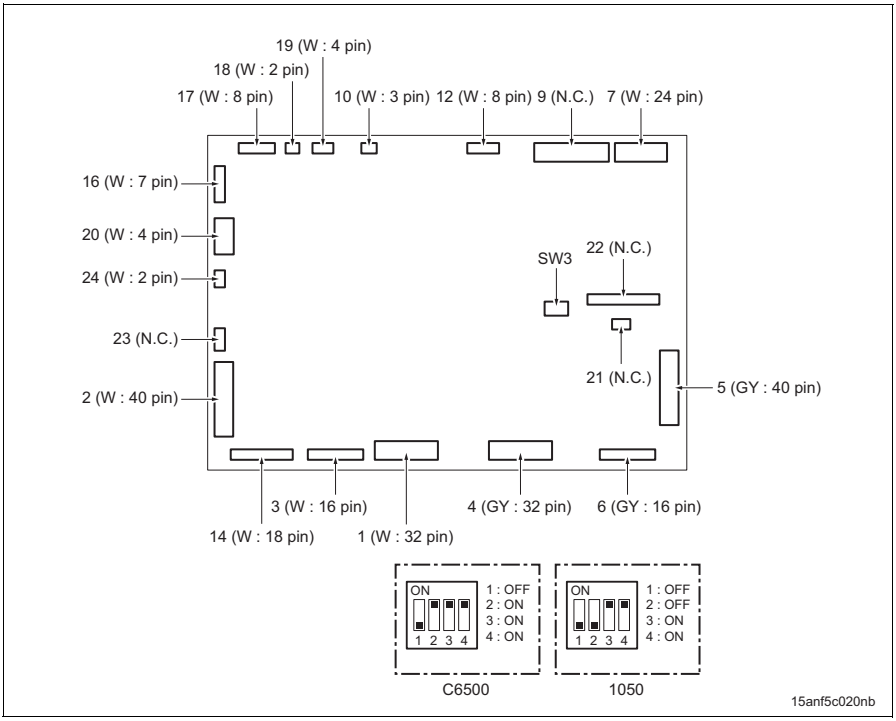
B. Paper edge sensor



15.11 SD

15.11.1 Connector in the board

A. SD control board



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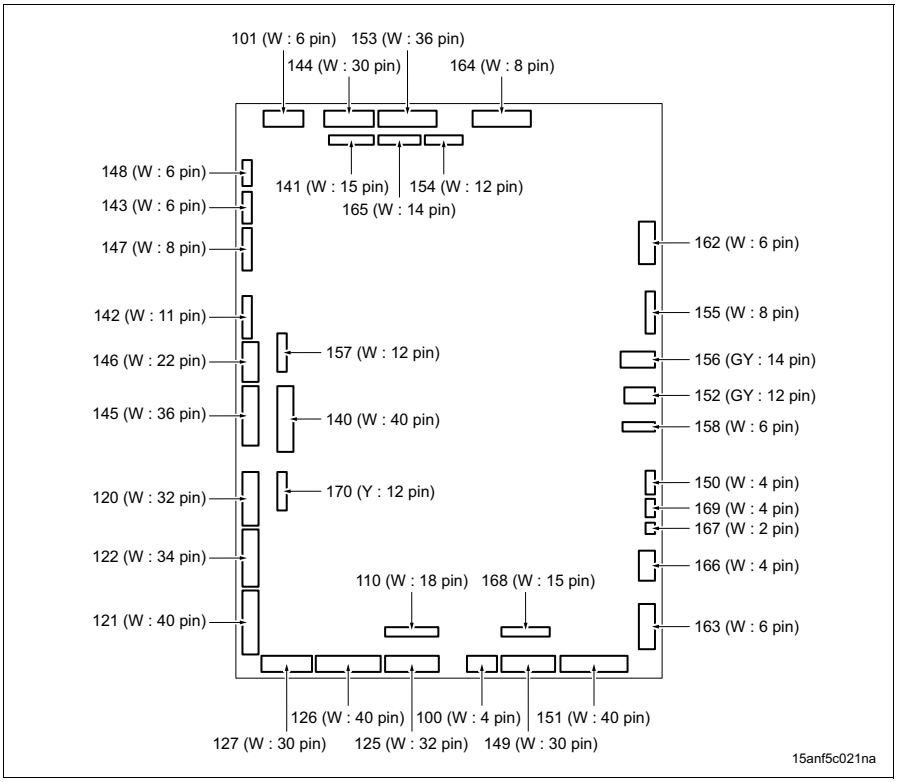
B. SD drive board



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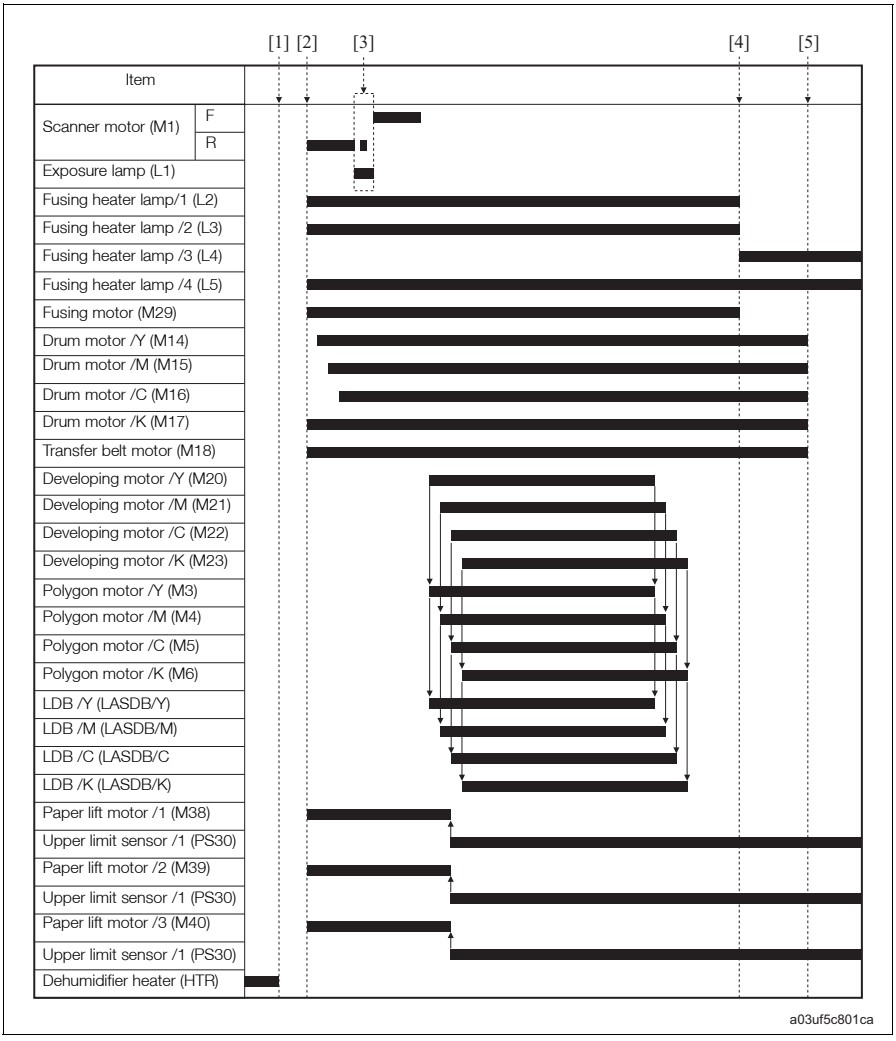
16. TIMING CHART

16.1 Main body

A. Time chart when turning the power on



[1] Sub power switch (SW2) ON

[2] Initial communication between overall control board (OACB) and printer control board (PRCB)

[3] Shading correction

[4] Fusing temperature reaches the predetermined level

[5] End of warm-up

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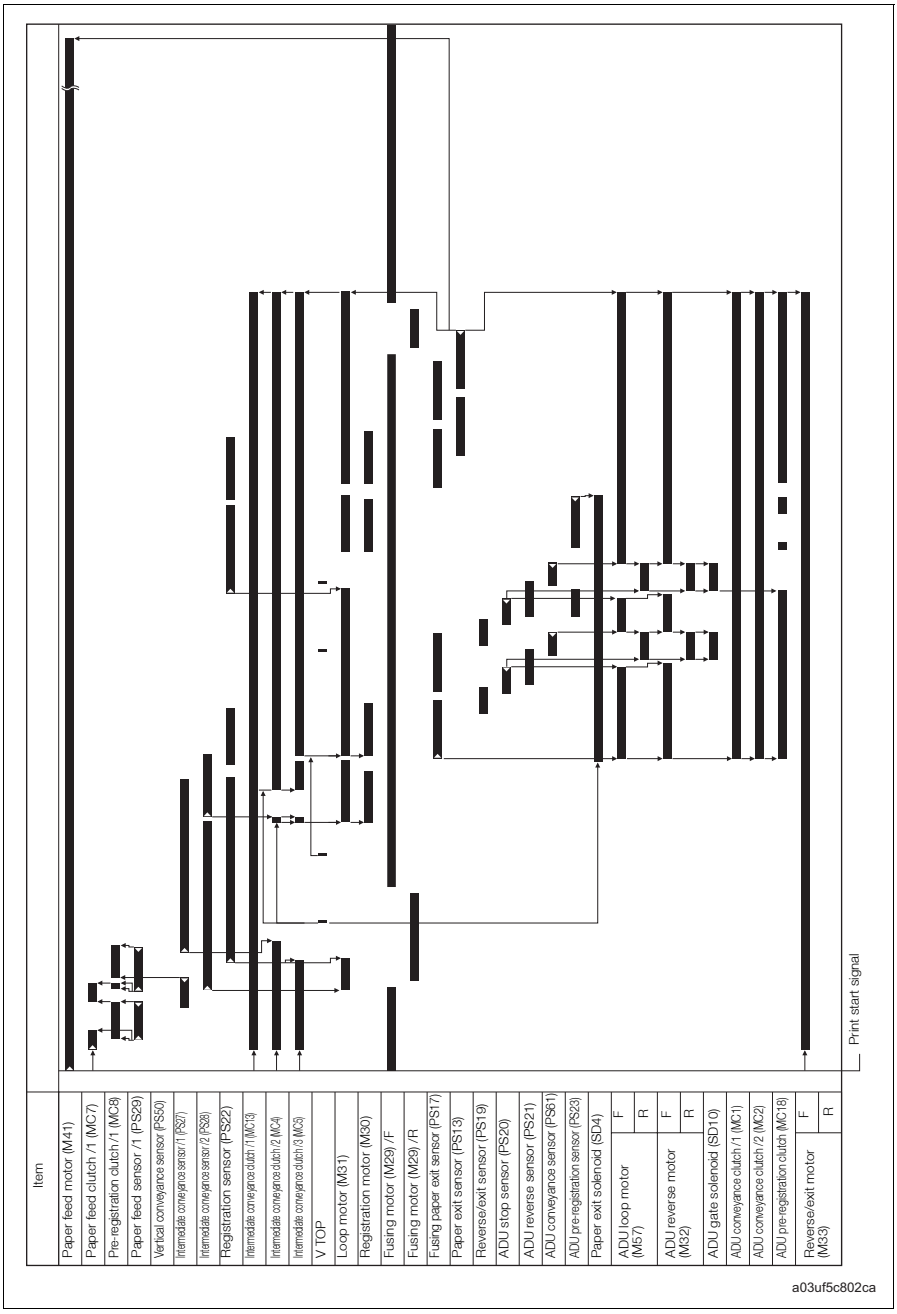
B. Full color, life size, DF two single sided originals, duplex printing, feeding from paper feed tray/1



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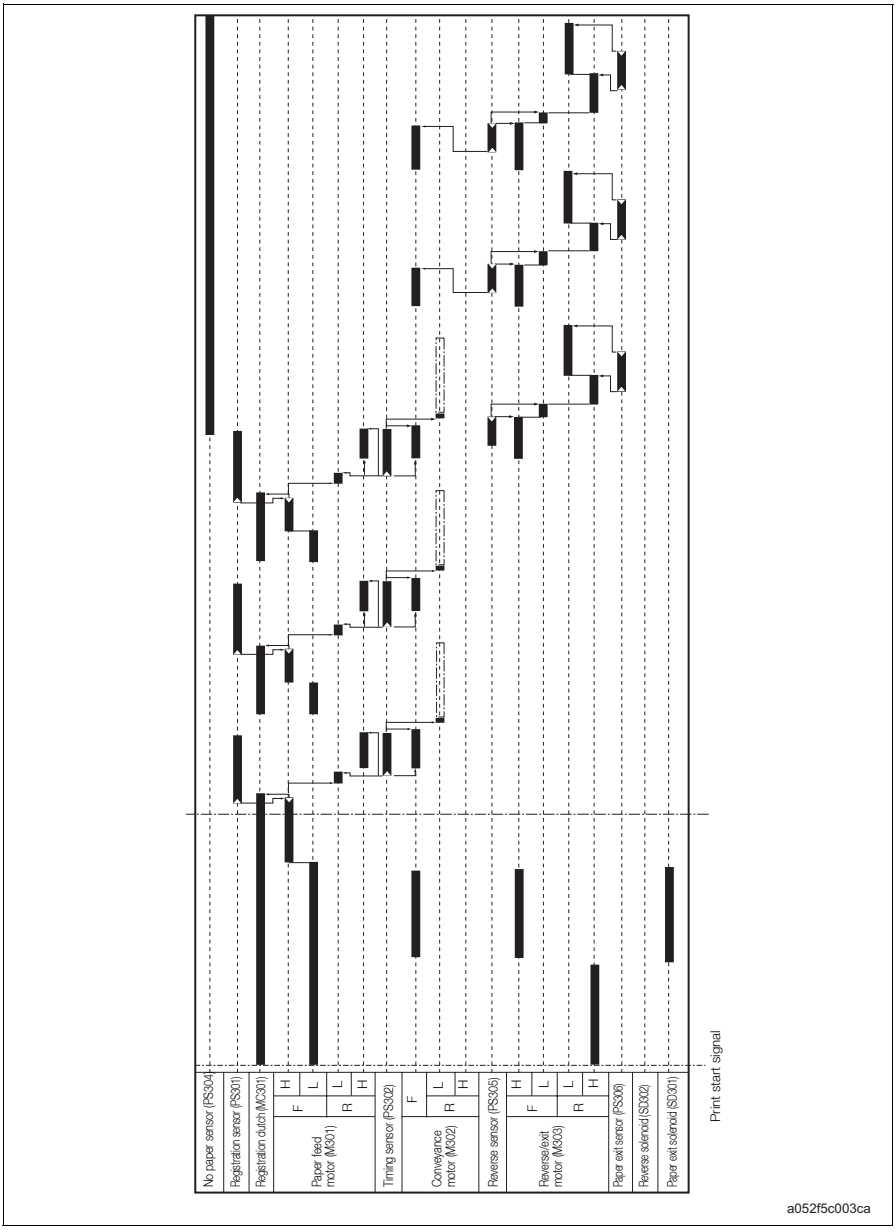
16.2 DF

A. A4, life size, single sided original, reversed paper exit



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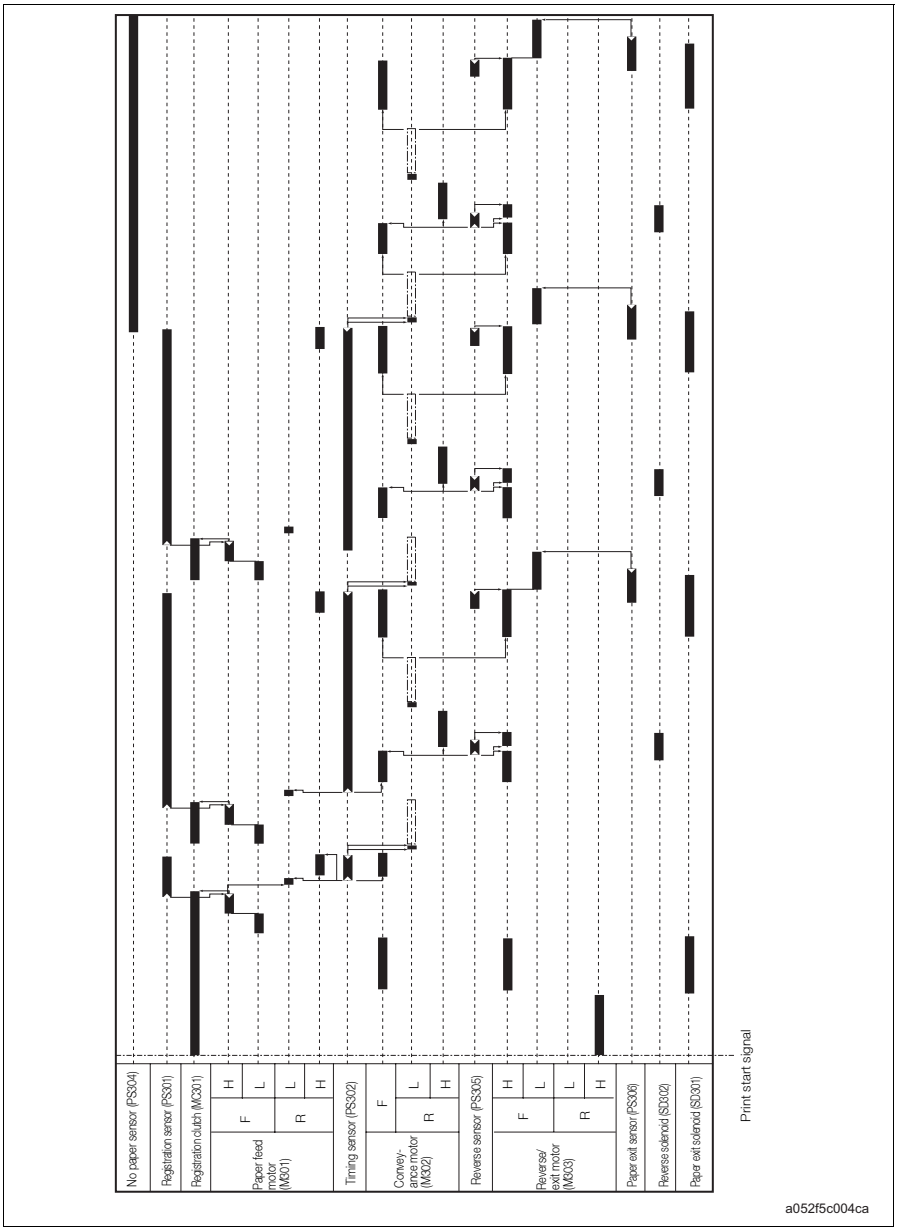
B. A4, life size, double sided original, 3 originals



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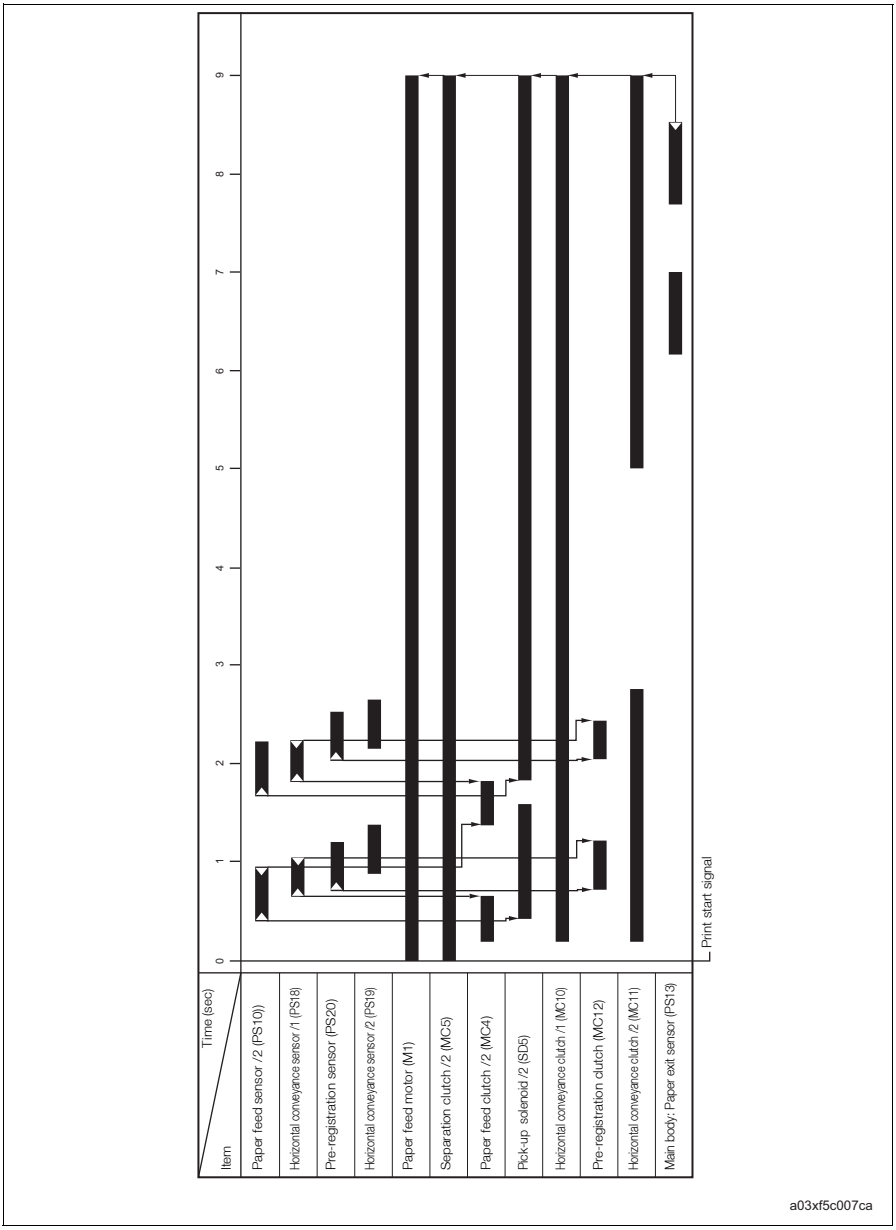
16.3 PF

A. Tray 5, A4, 2 originals



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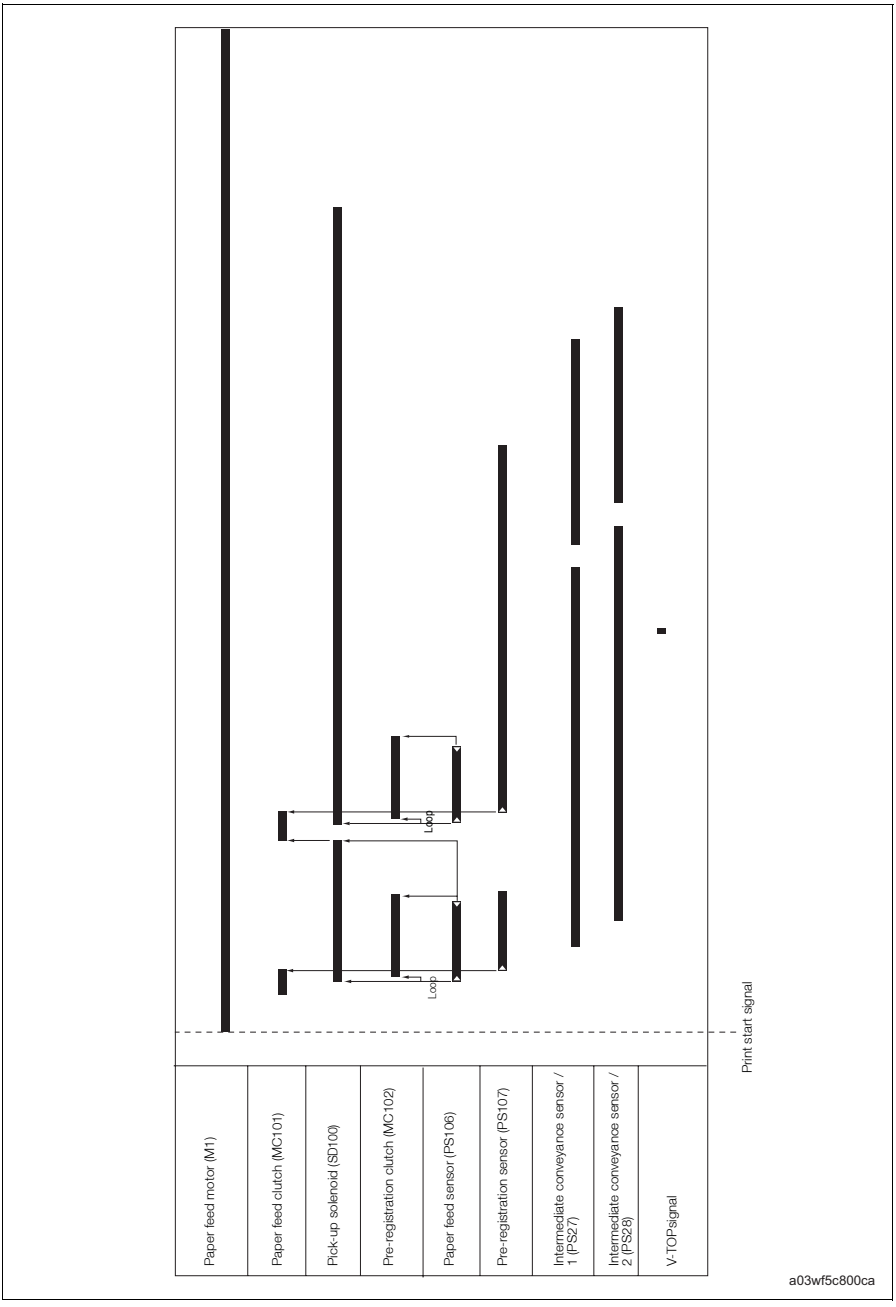
16.4 LU

A. A4, single sided, feeding two originals



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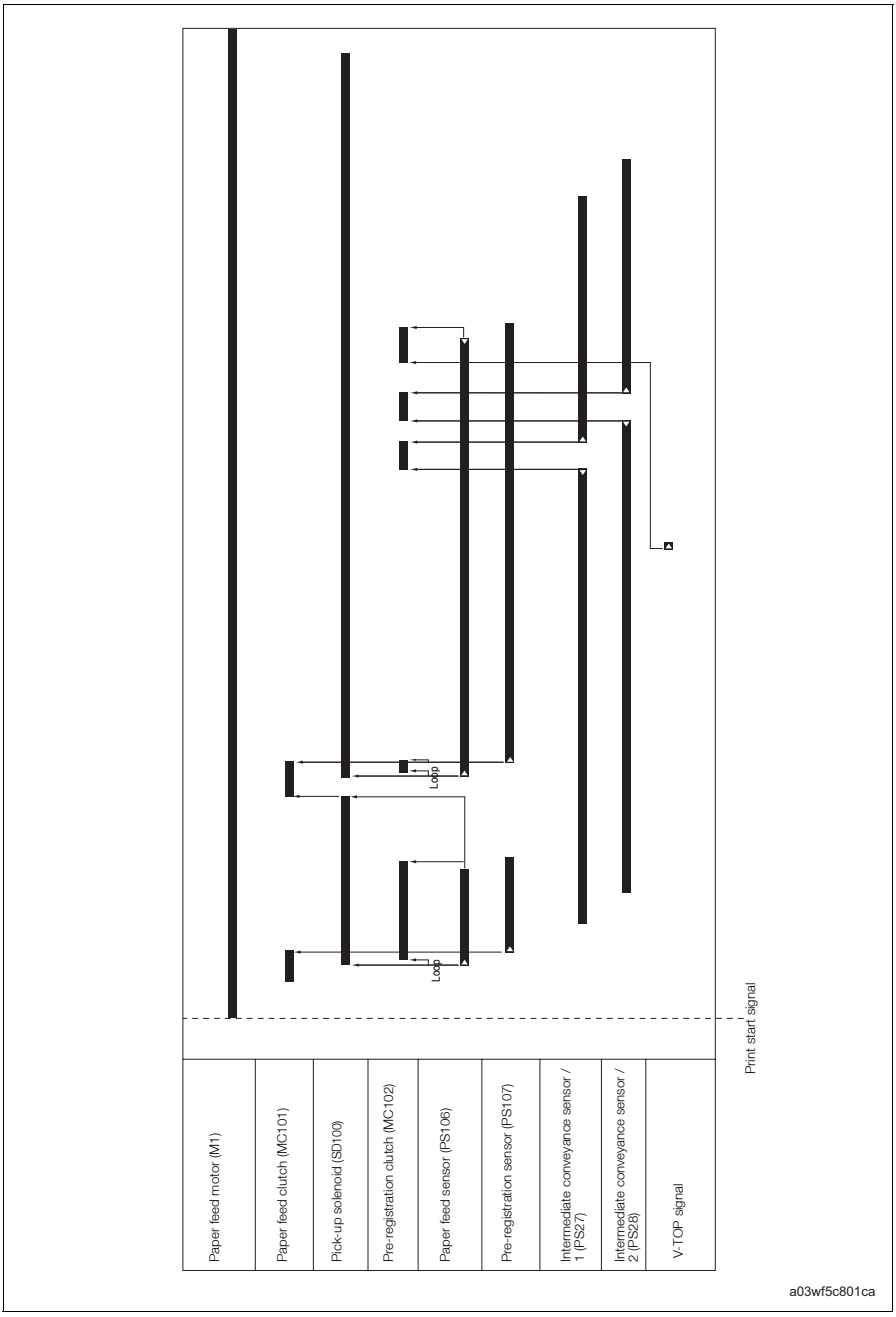
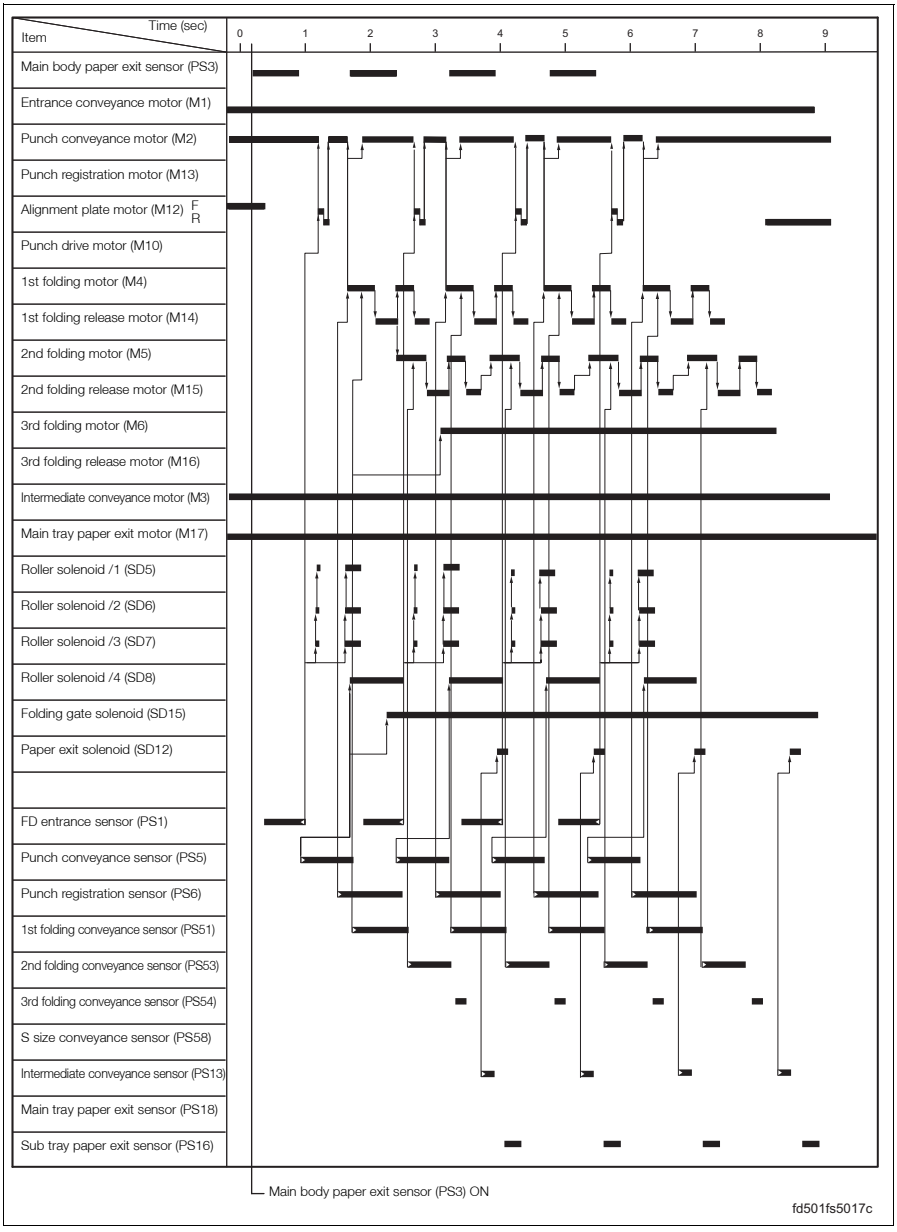
B. A3, single sided, feeding two originals



16.5 FD

A. Letter fold-in, A3, 2 originals, 2 copies, sub tray paper exit



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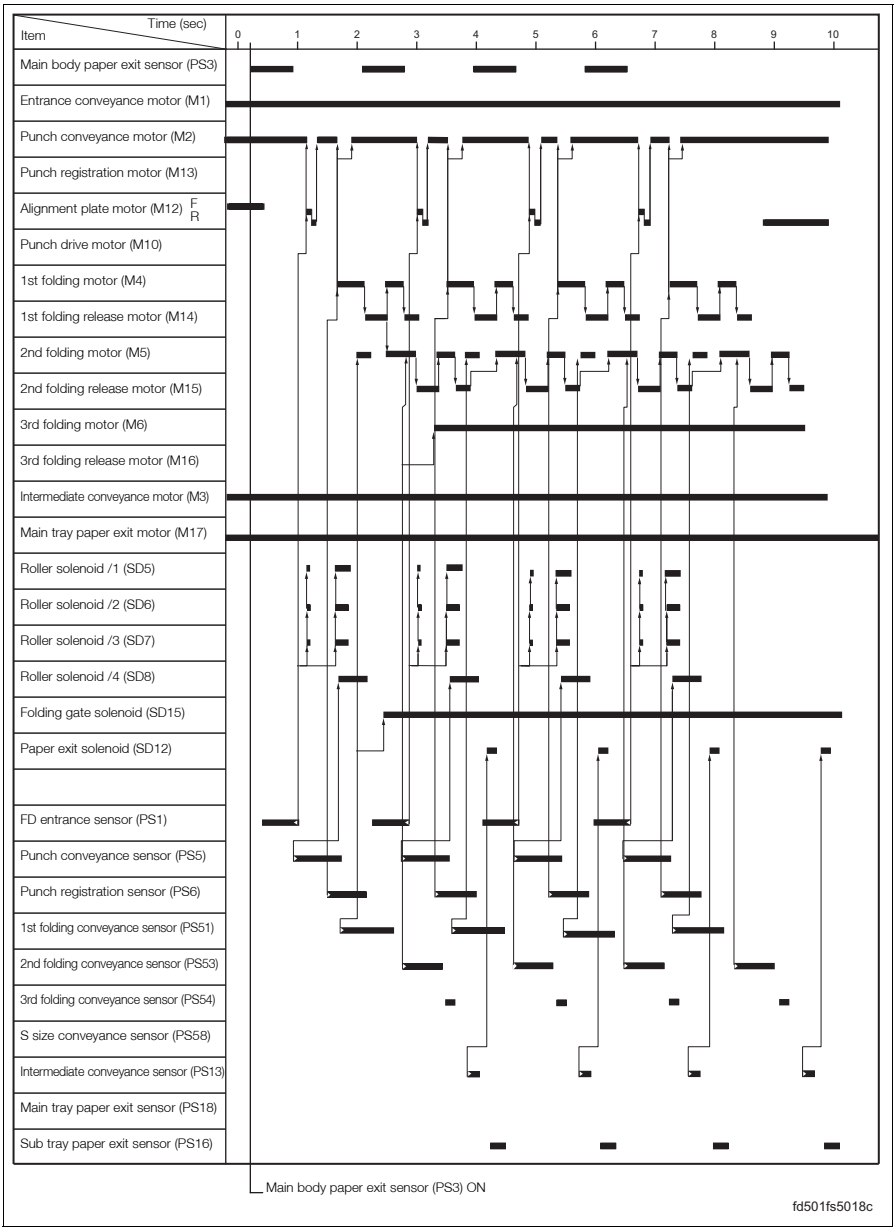
B. Letter fold-out, A3, 2 originals, 2 copies, sub tray paper exit



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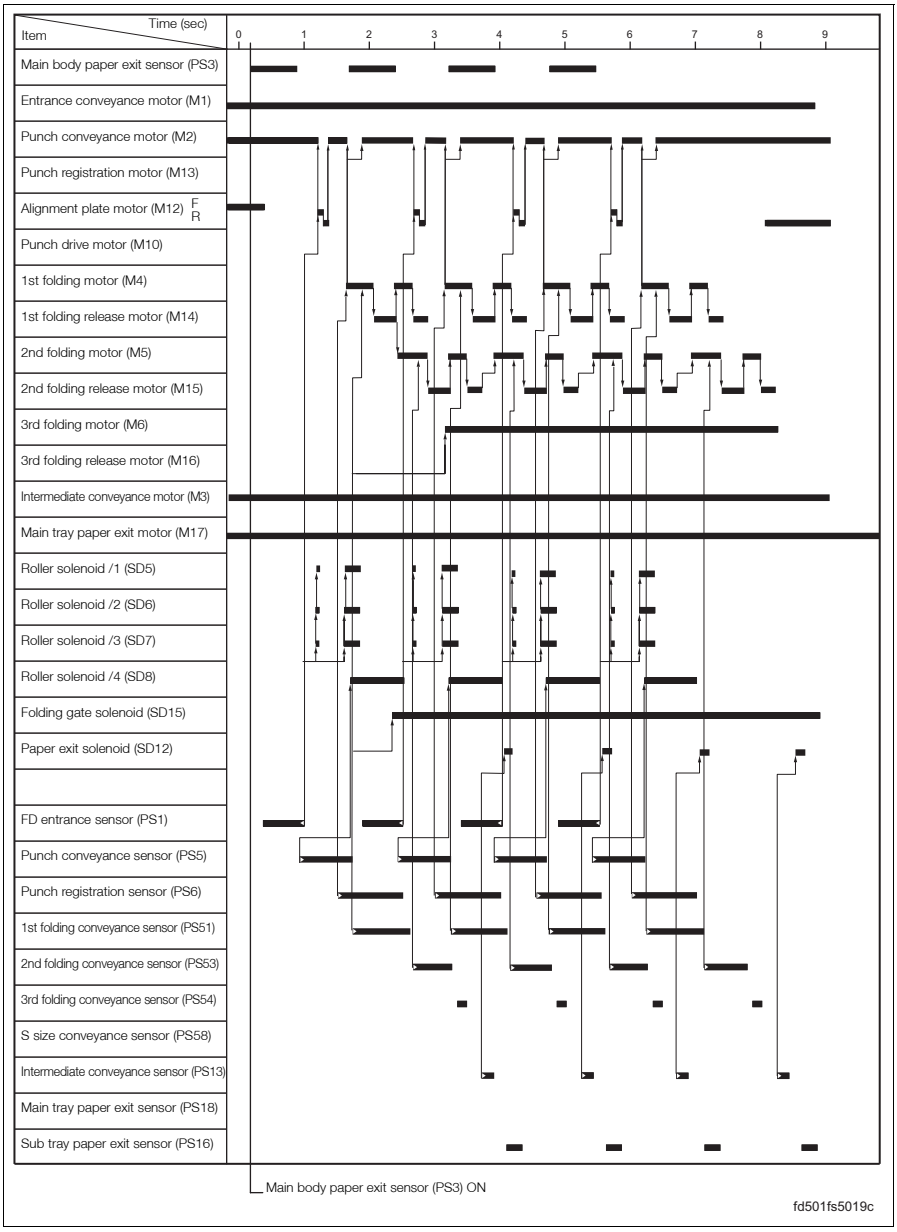
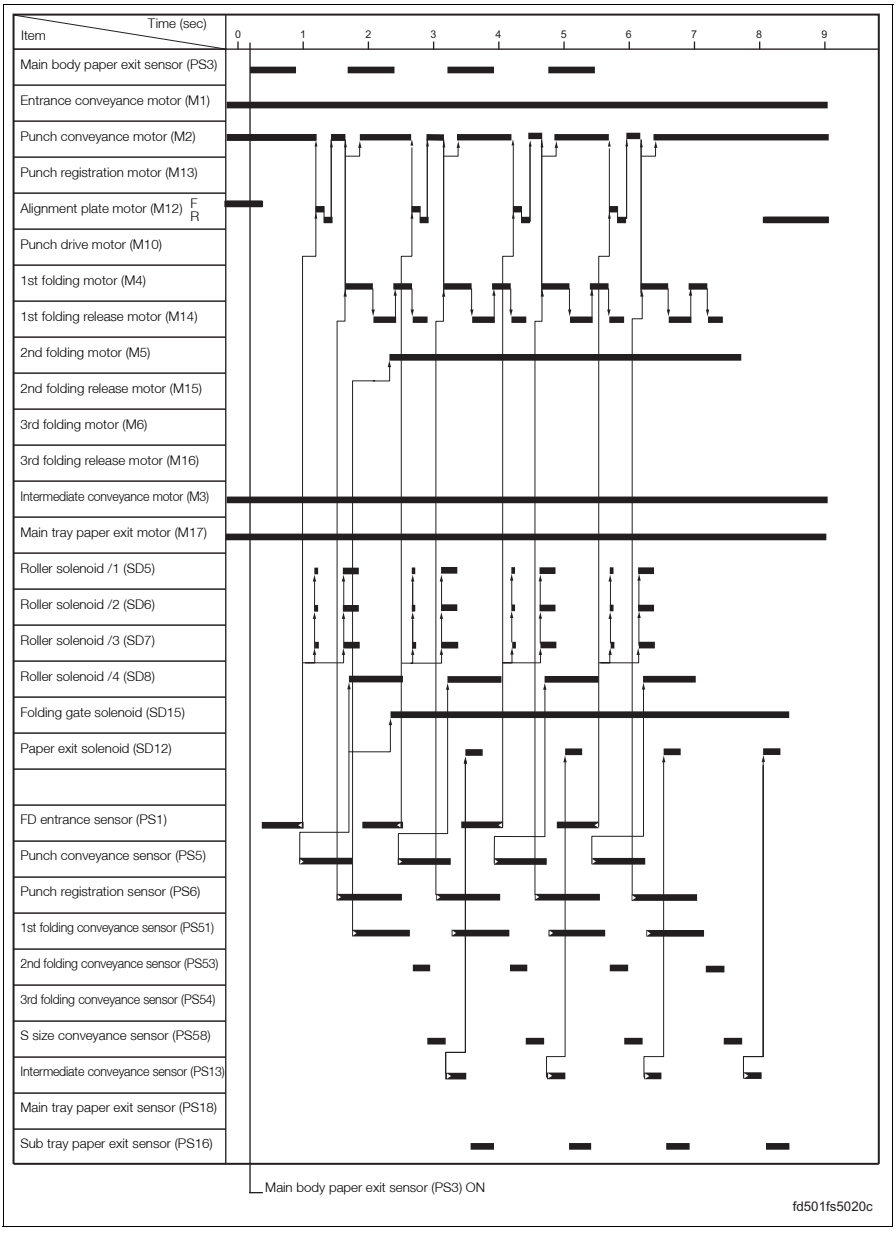
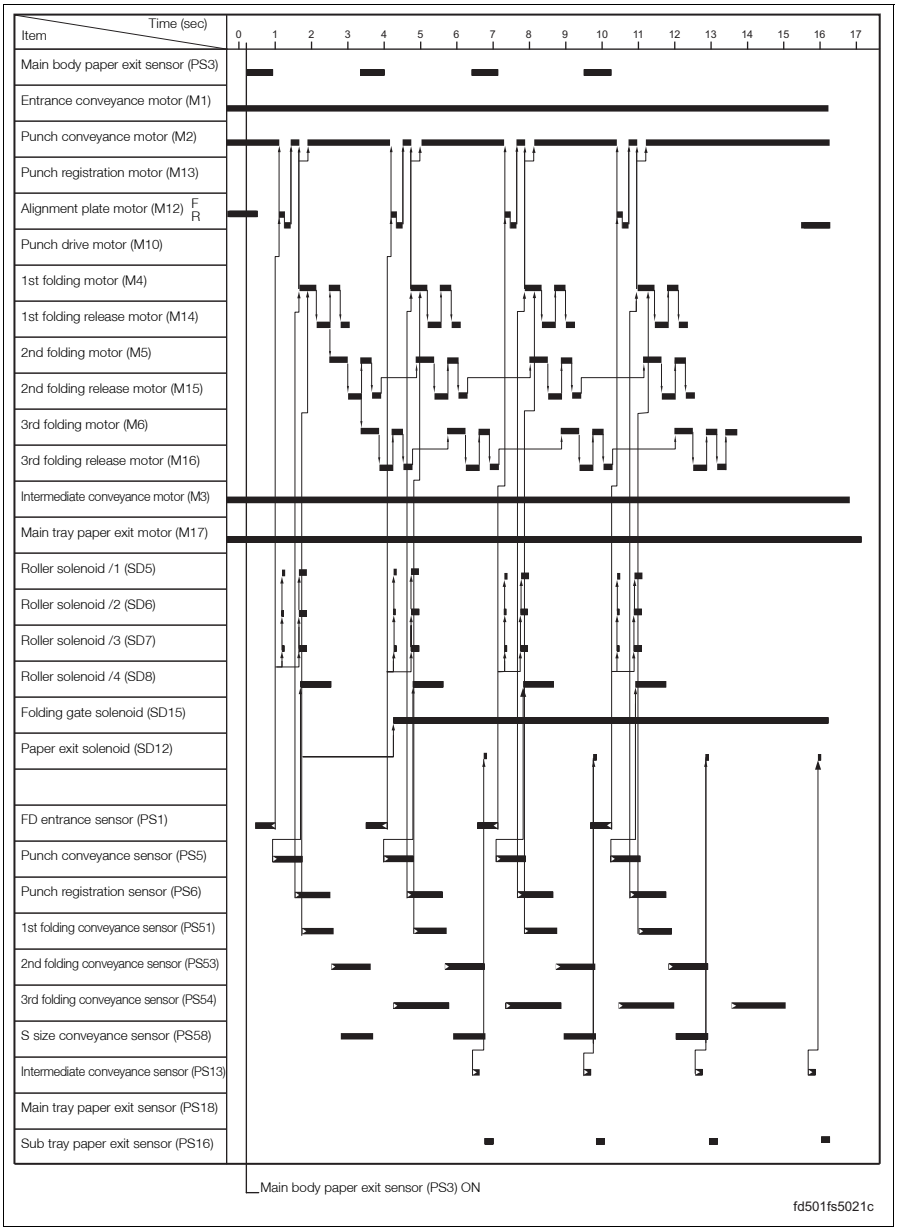
C. Double parallel, A3, 2 originals, 2 copies, sub tray paper exit



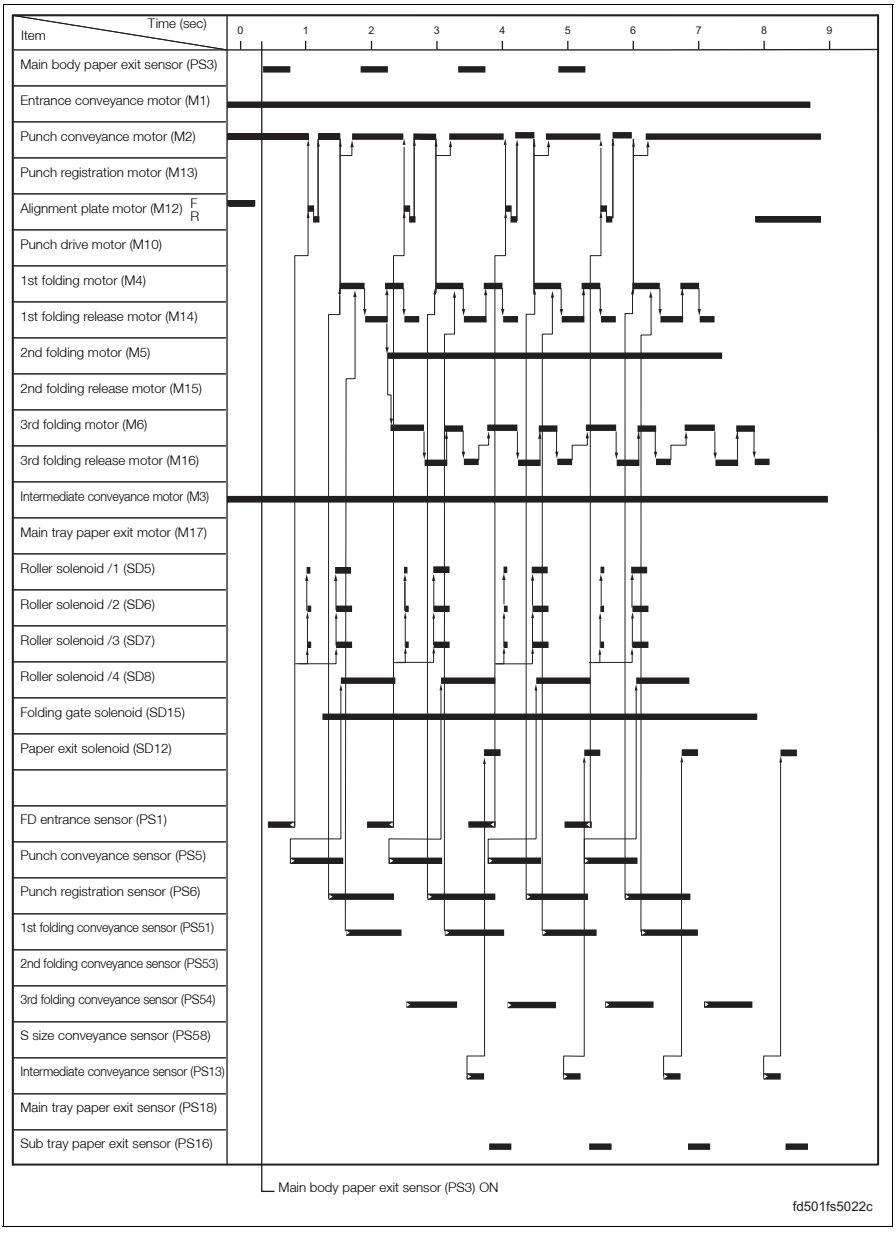
D. Folding, A3, 2 originals, 2 copies, sub tray paper exit



E. Gate fold, A3, 2 originals, 2 copies, sub tray paper exit



F. Z-fold, A3, 2 originals, 2 copies, sub tray paper exit



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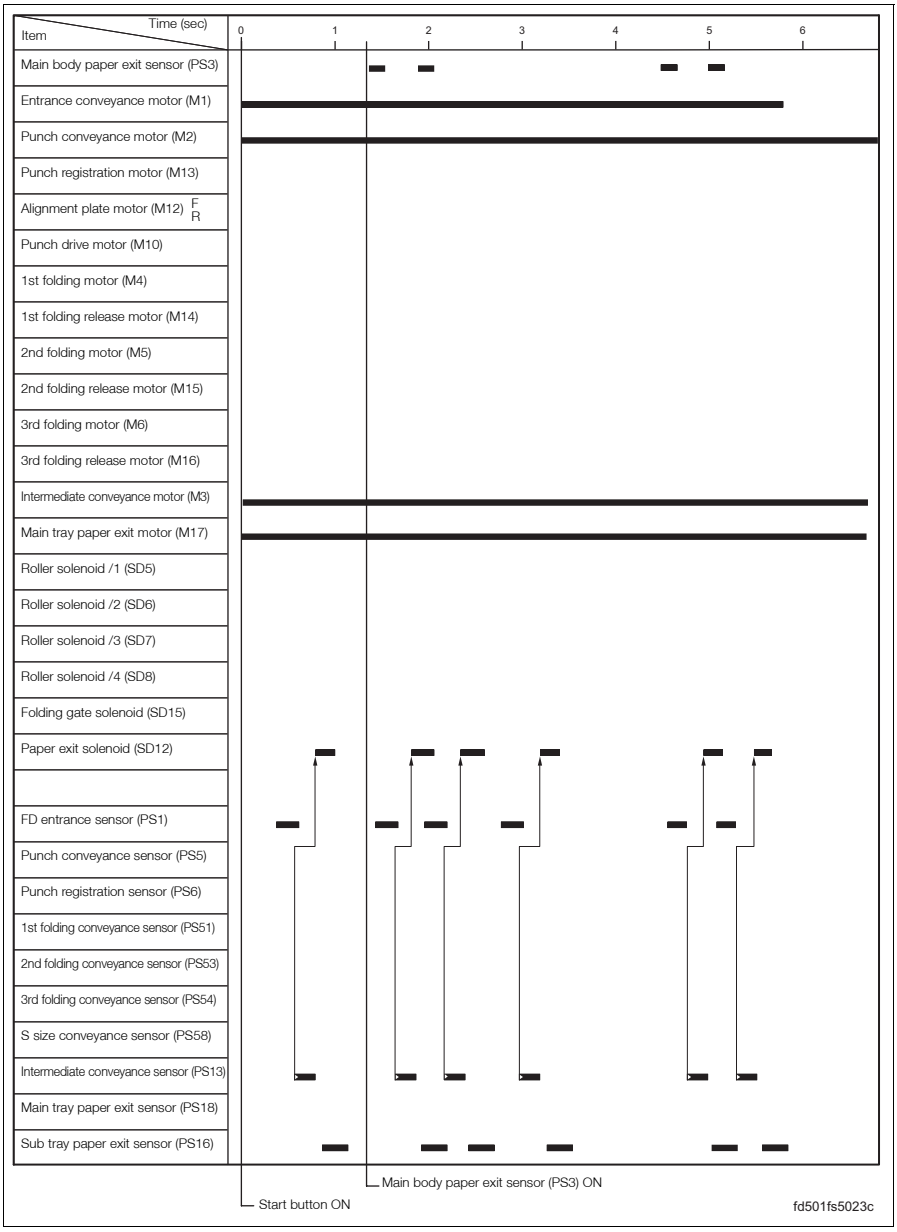
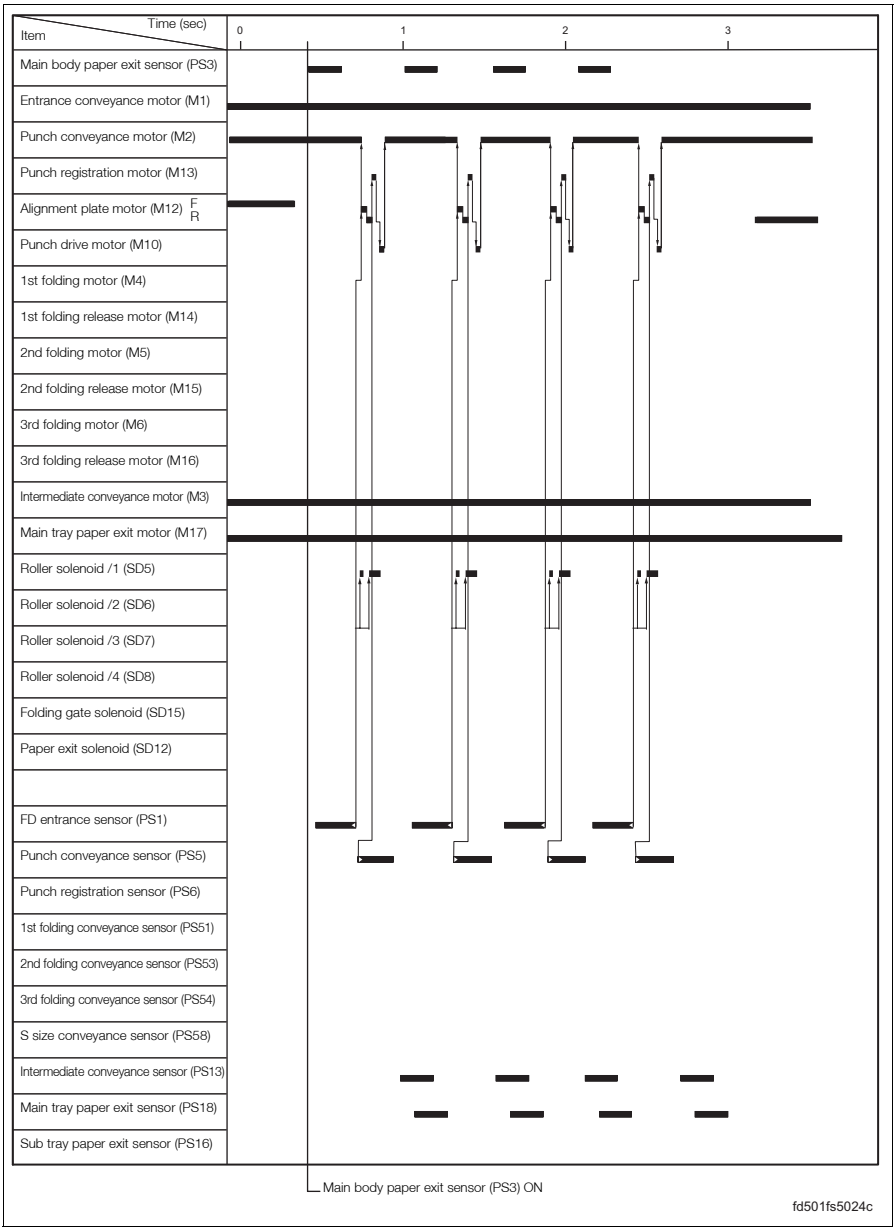
G. PI cover insertion, A4, 2 originals, 2 copies, sub tray paper exit

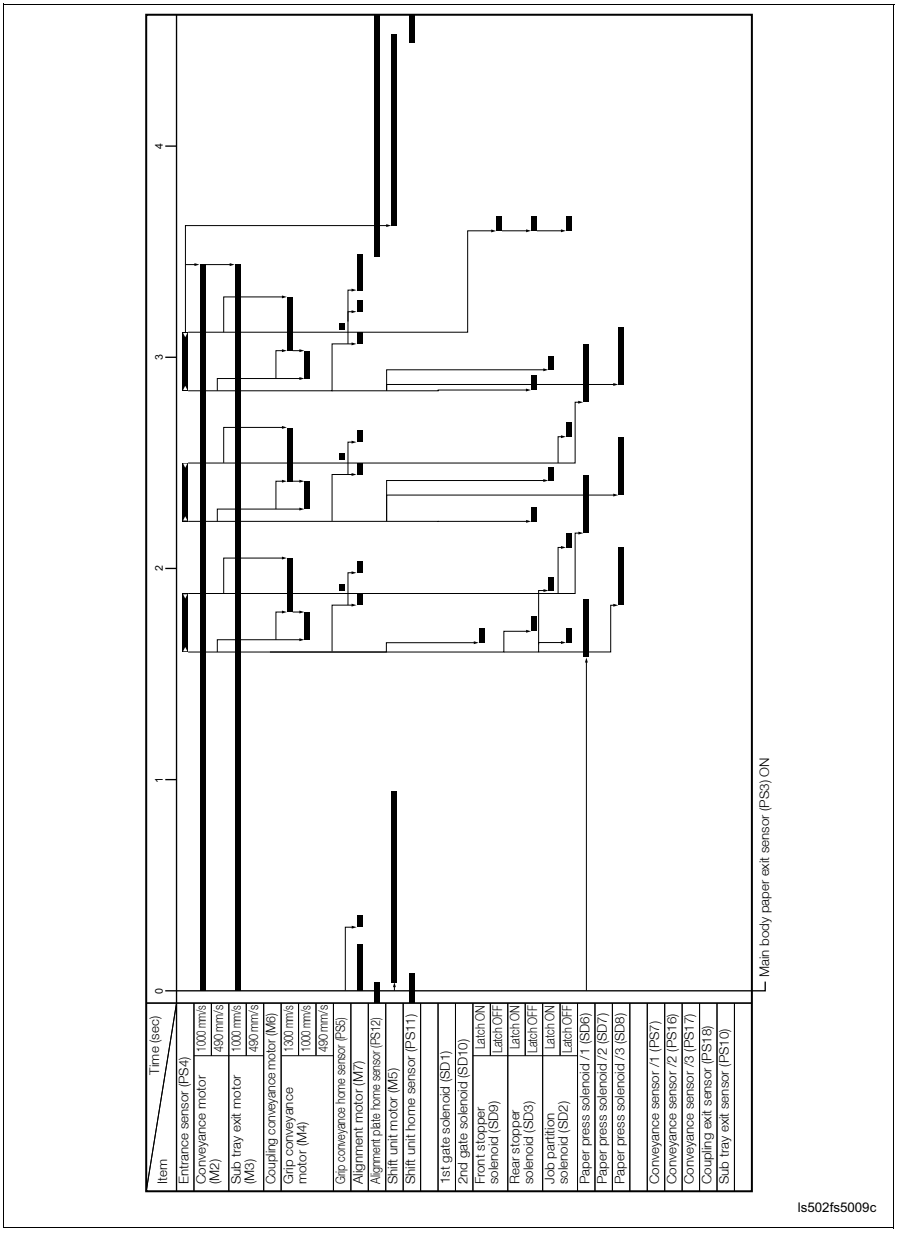


H. Punch, A4, 2 originals, 2 copies, sub tray paper exit



16.6 LS

A. A4, straight mode, 3 originals, 1 copy set



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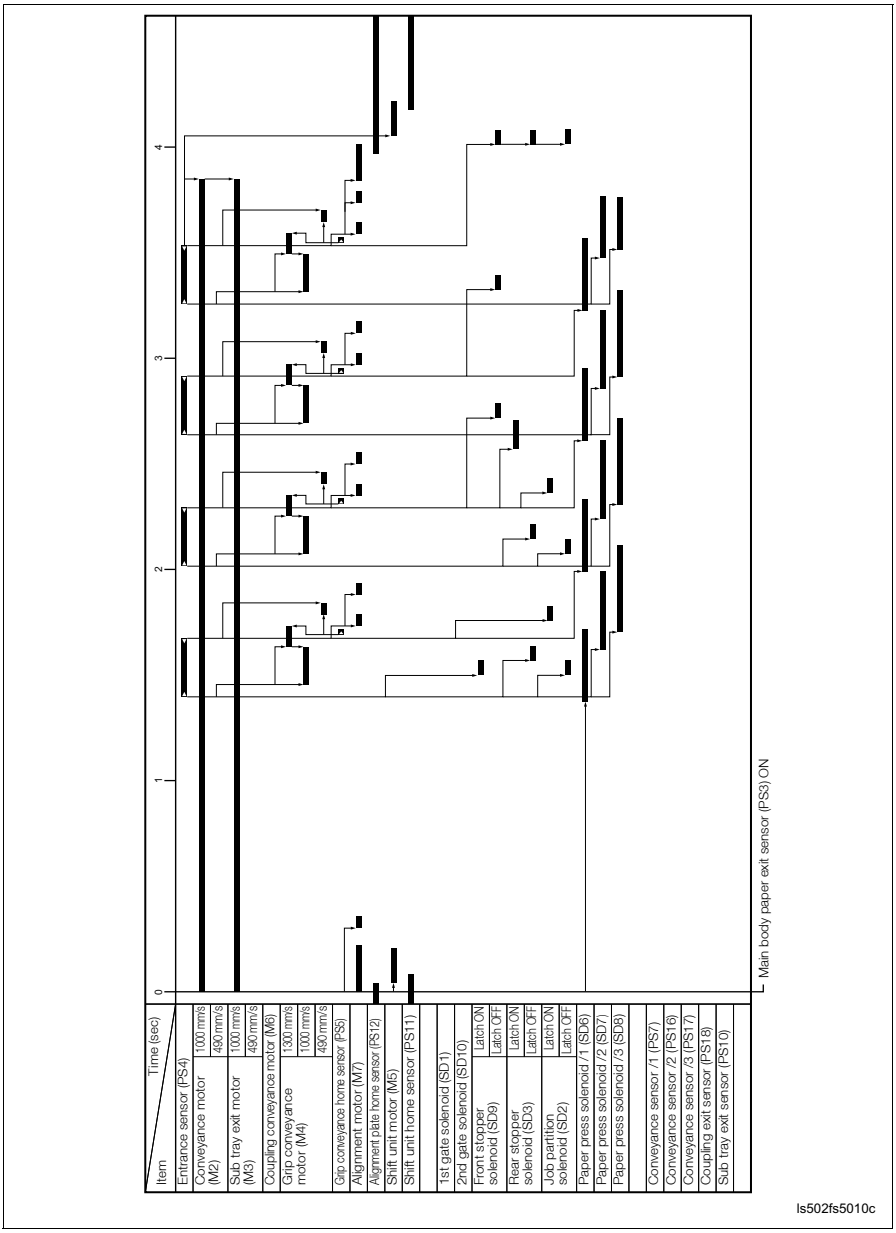
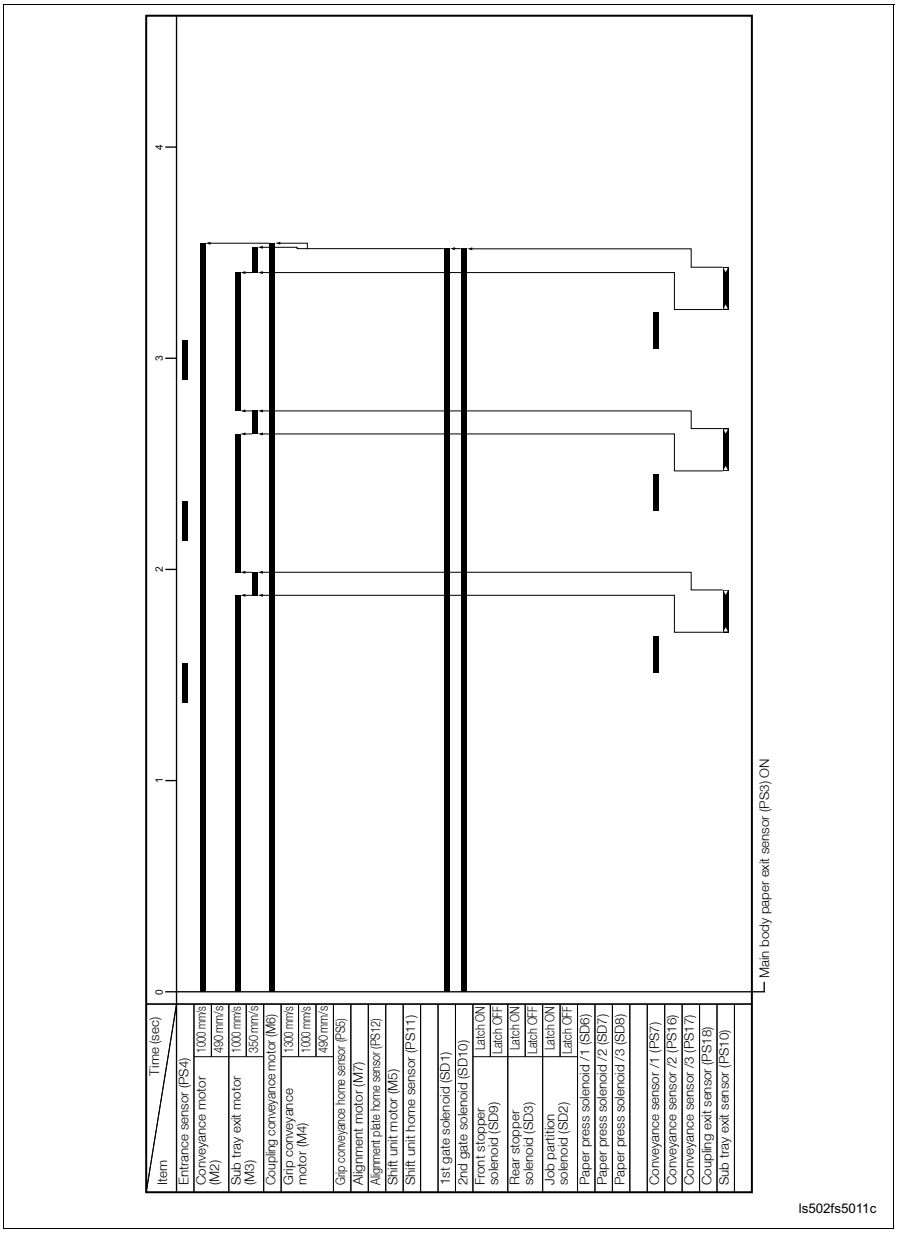
B. A3, shift mode, 2 originals, 2 copies set



C. A4, Sub tray mode, 3 originals, 1 copy set



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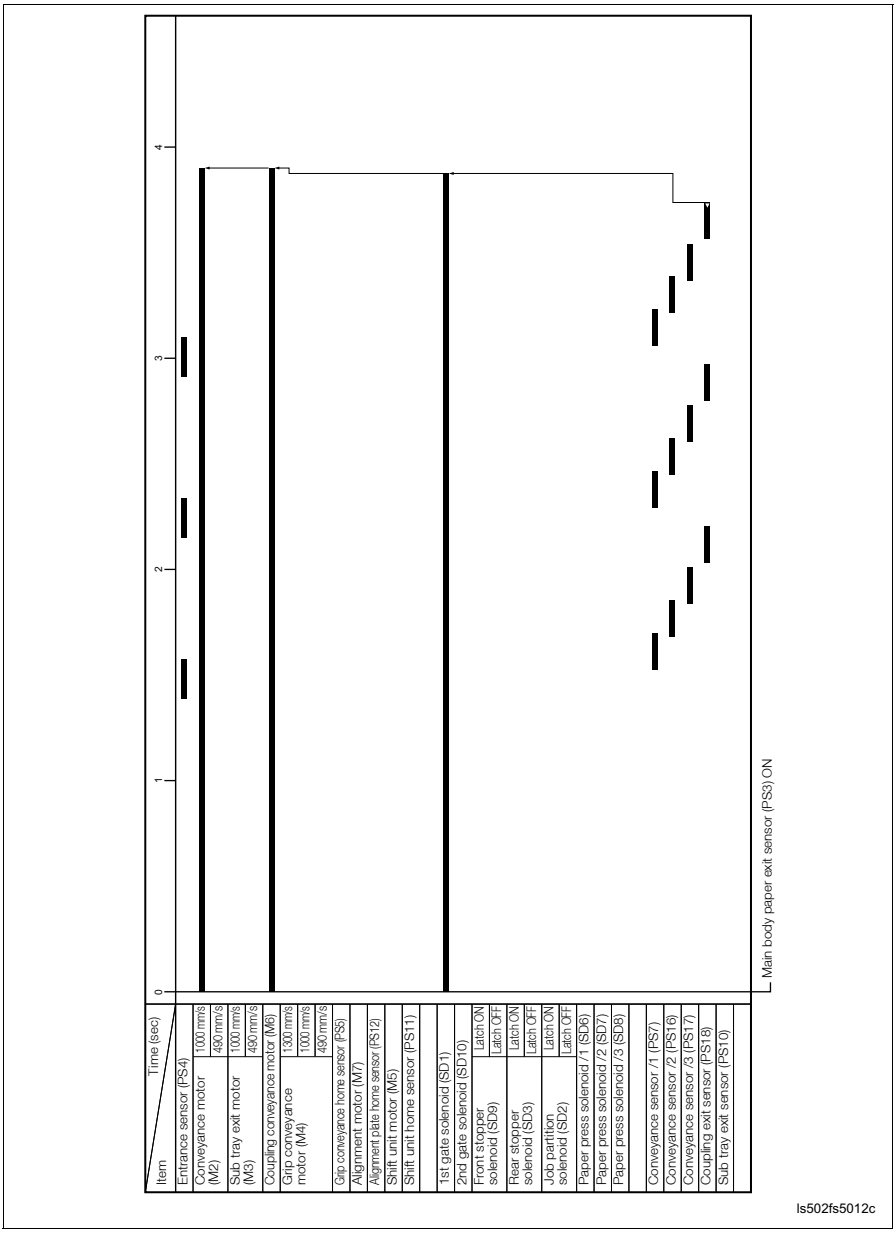
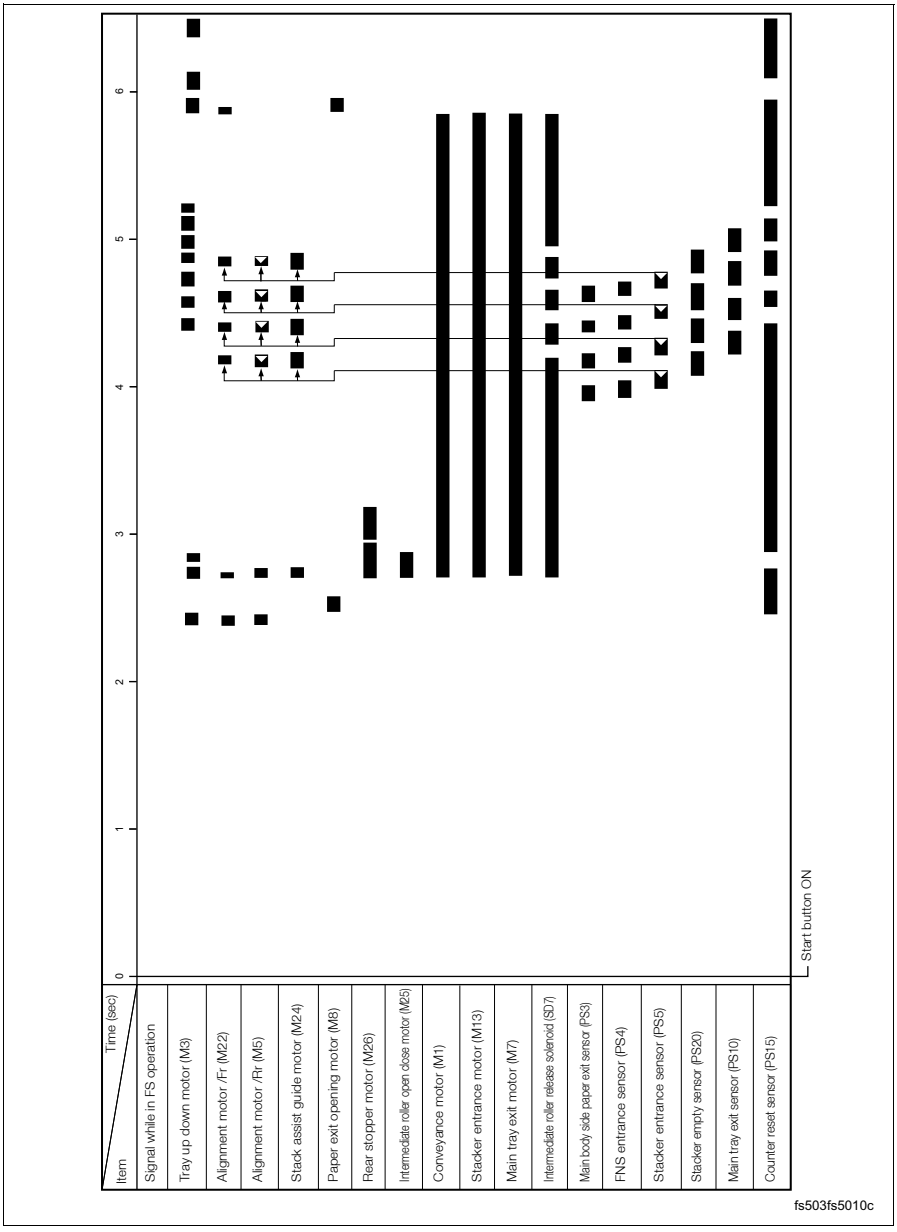
D. A4, tandem mode, 3 originals, 1 copy set



16.7 FS

16.7.1 FS-503

A. Sort, A4, 2 originals, 2 copies, Single side



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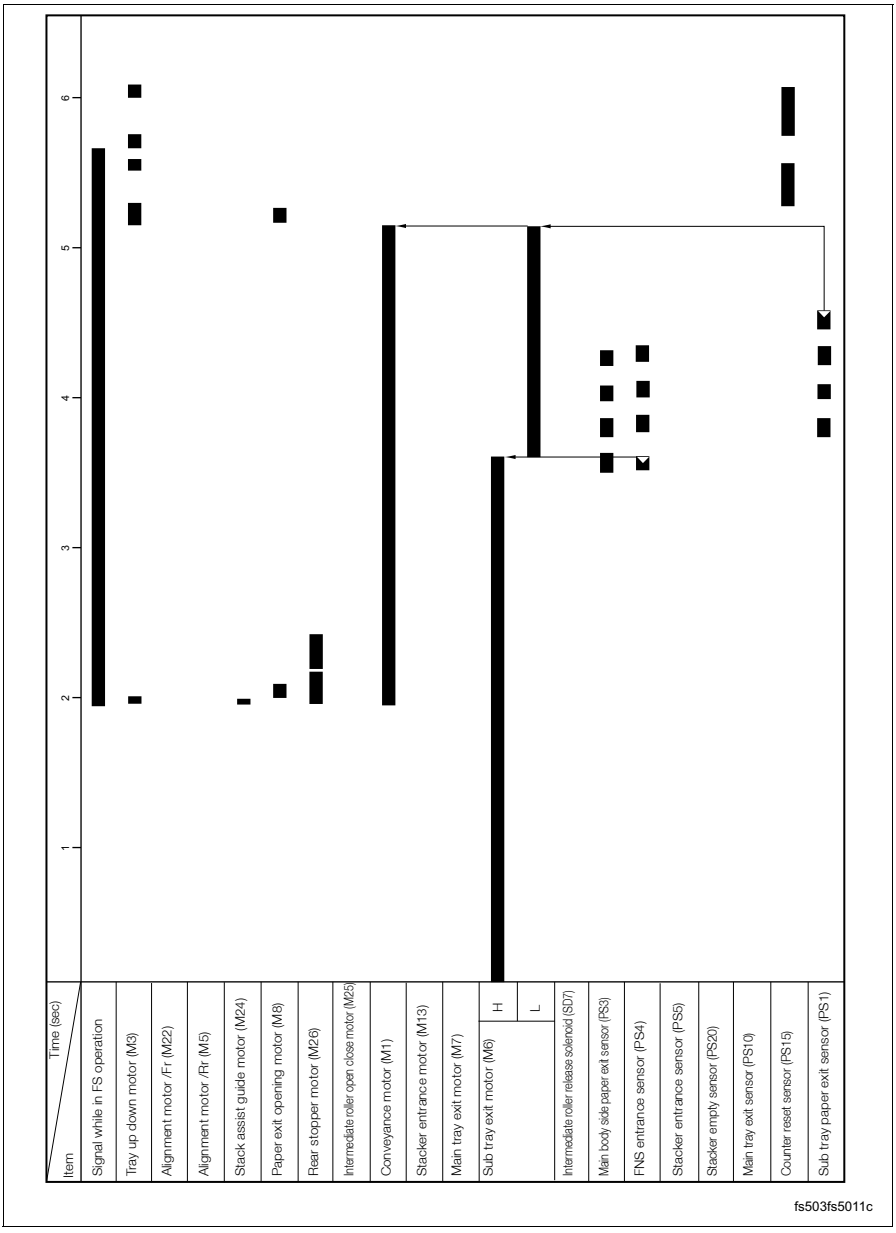
B. Sub tray, A4, 2 original, 2 copies, single side



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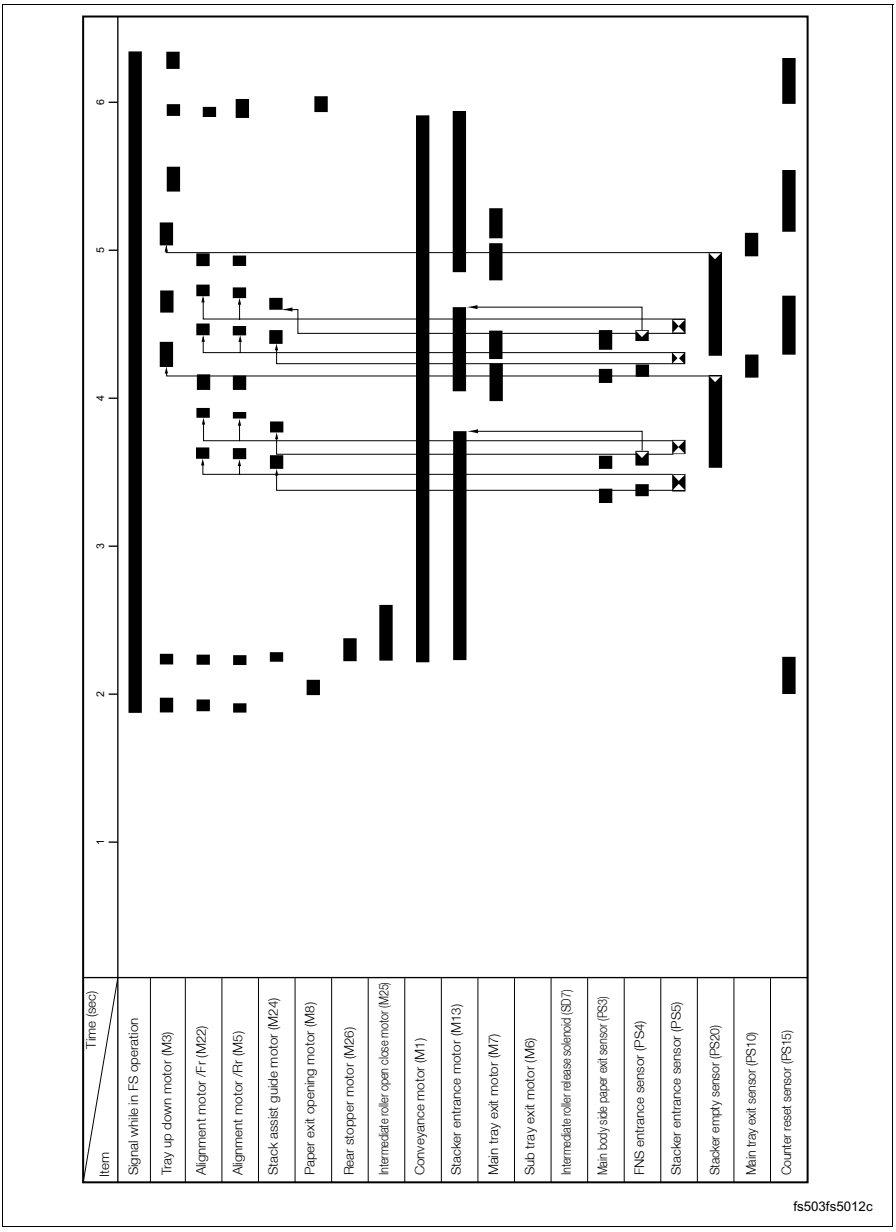
C. Staple, A4, 2 originals, 2 copies, single side



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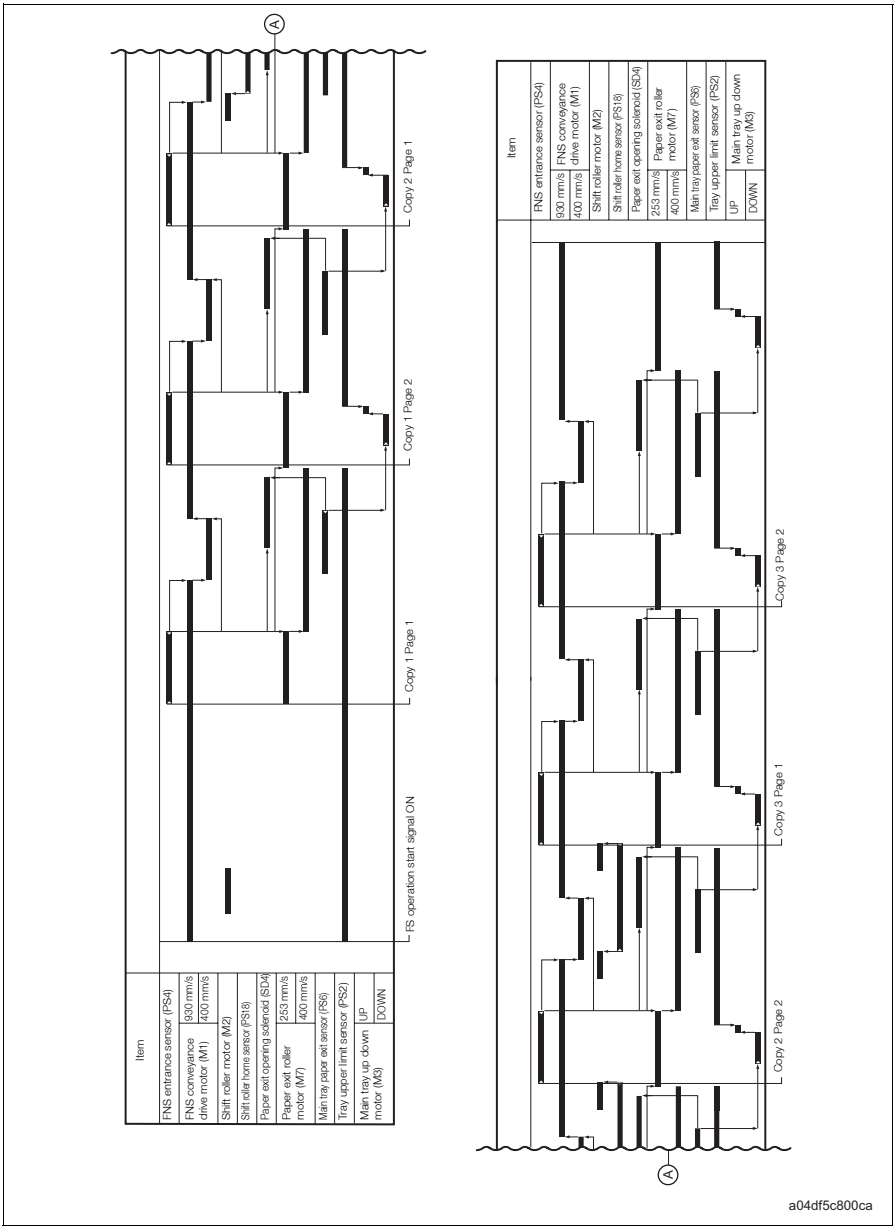
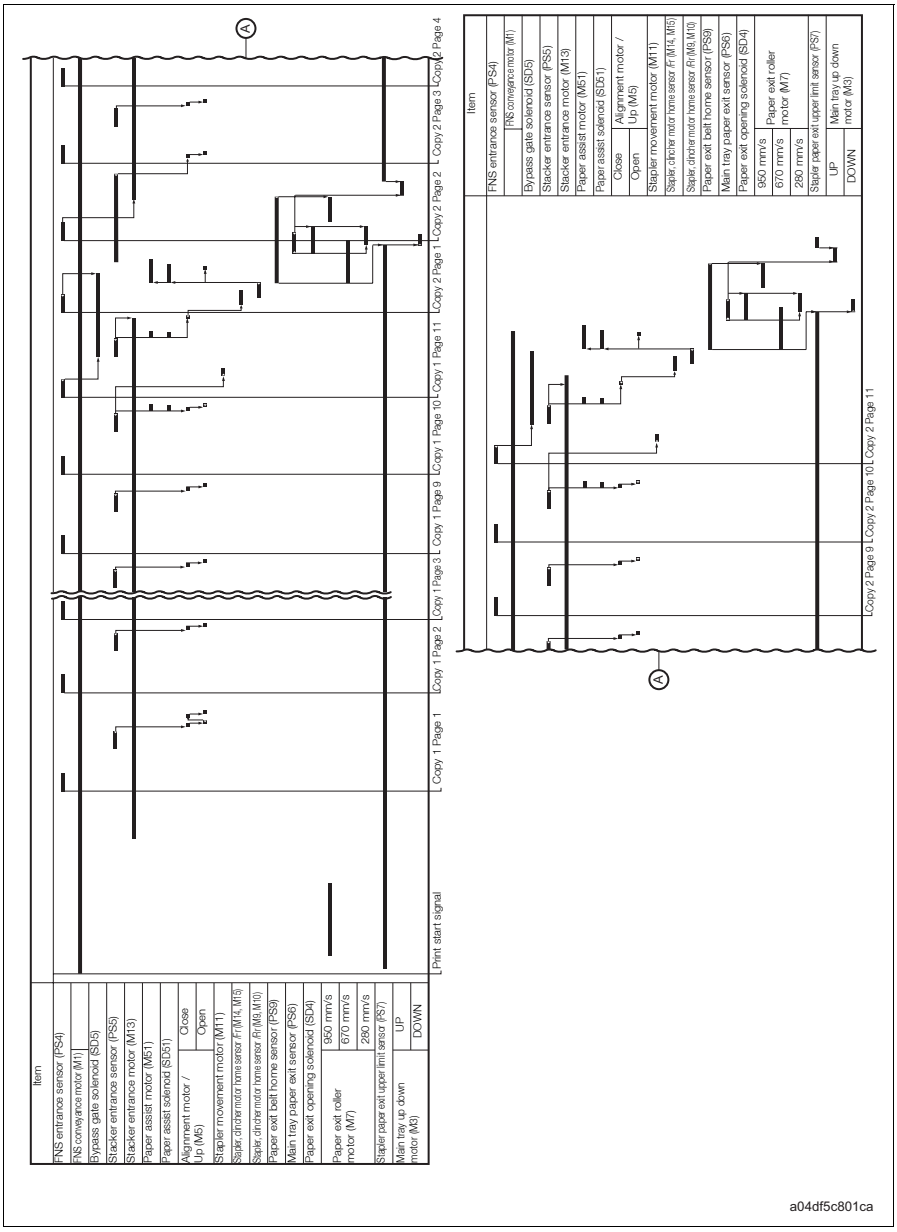
16.7.2 FS-607

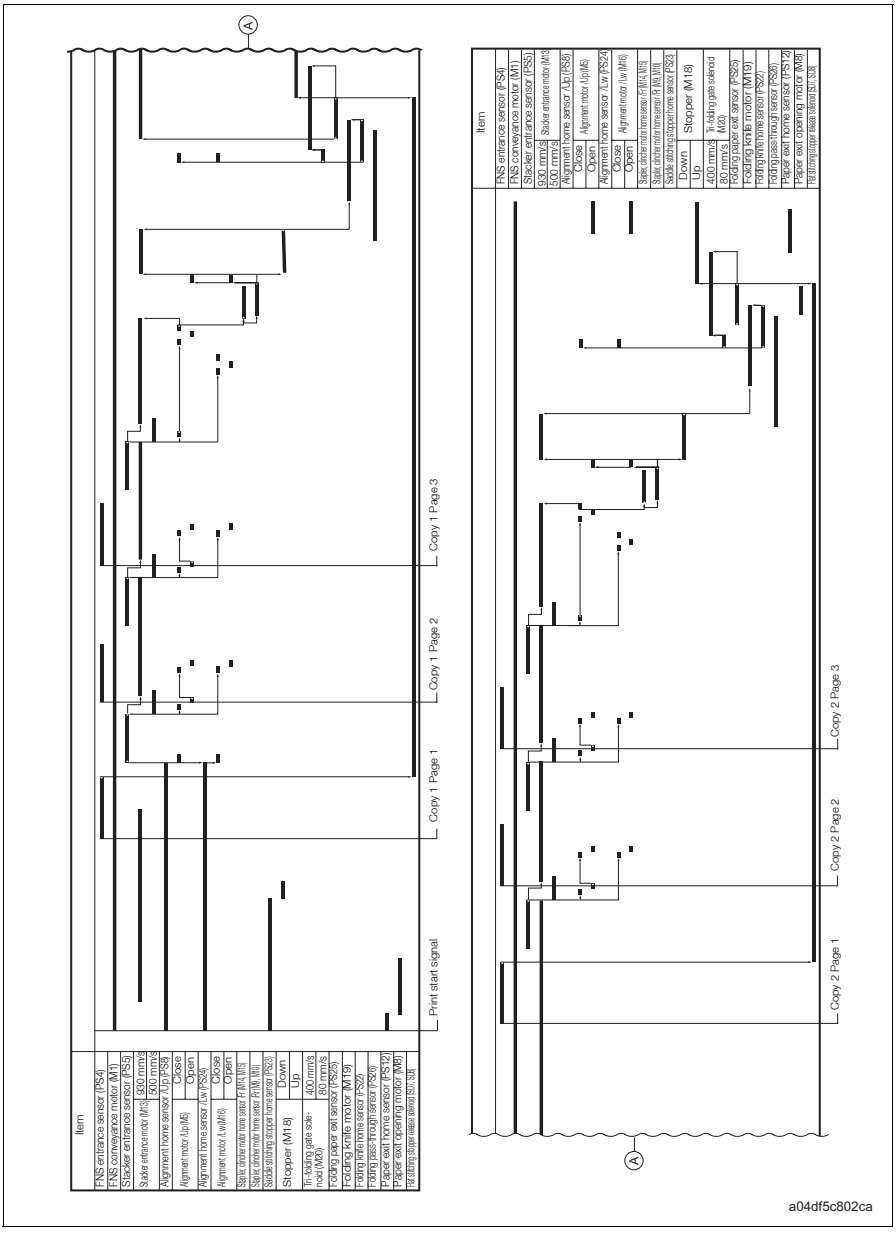
A. Sort, A4, 2 originals, 3 copies, Single side



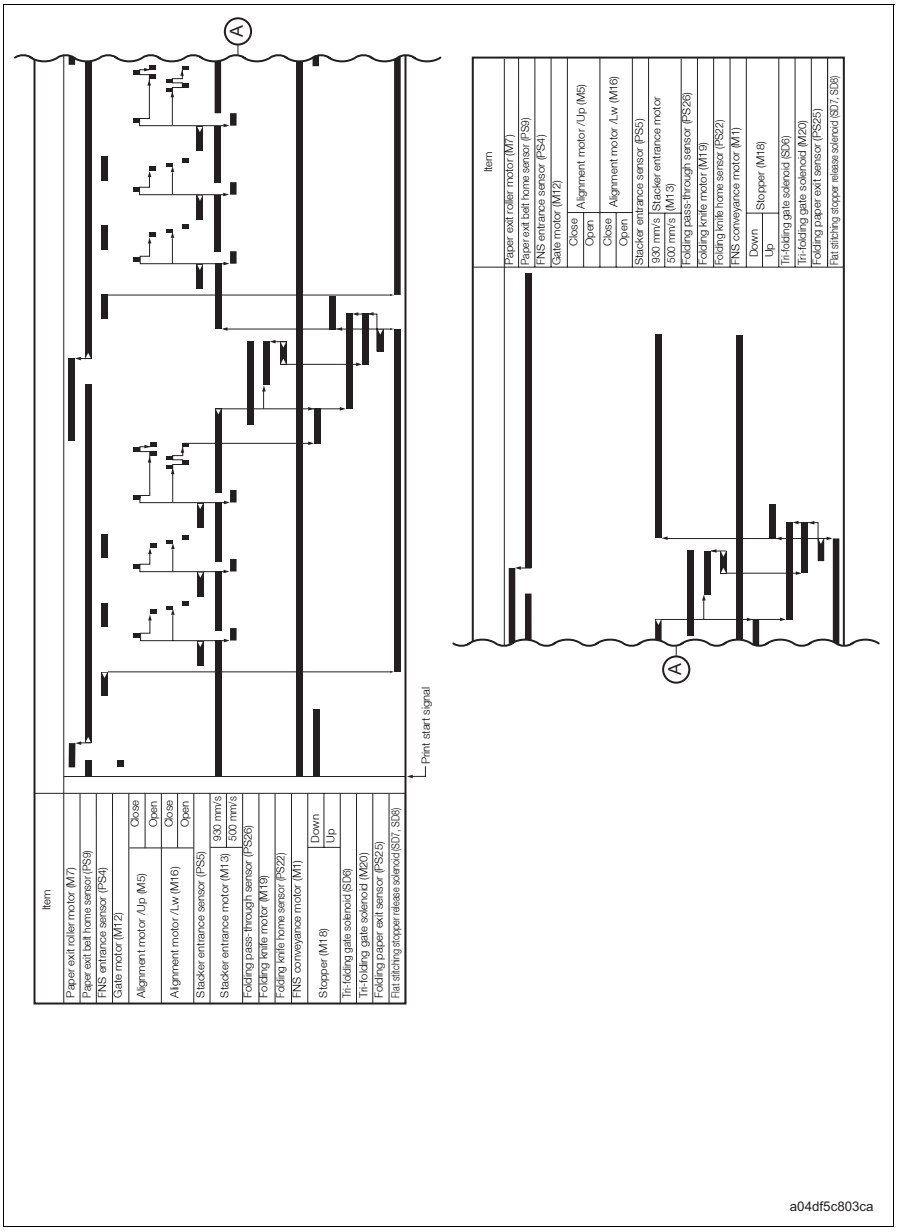
B. 2 flat stitching staples, A4, 11 originals, 2 copies, Single side



C. Saddle stitching, A4S, 3 originals, 2 copies, Single side



D. Tri-folding, A4S, 3 originals, 2 copies, Single side



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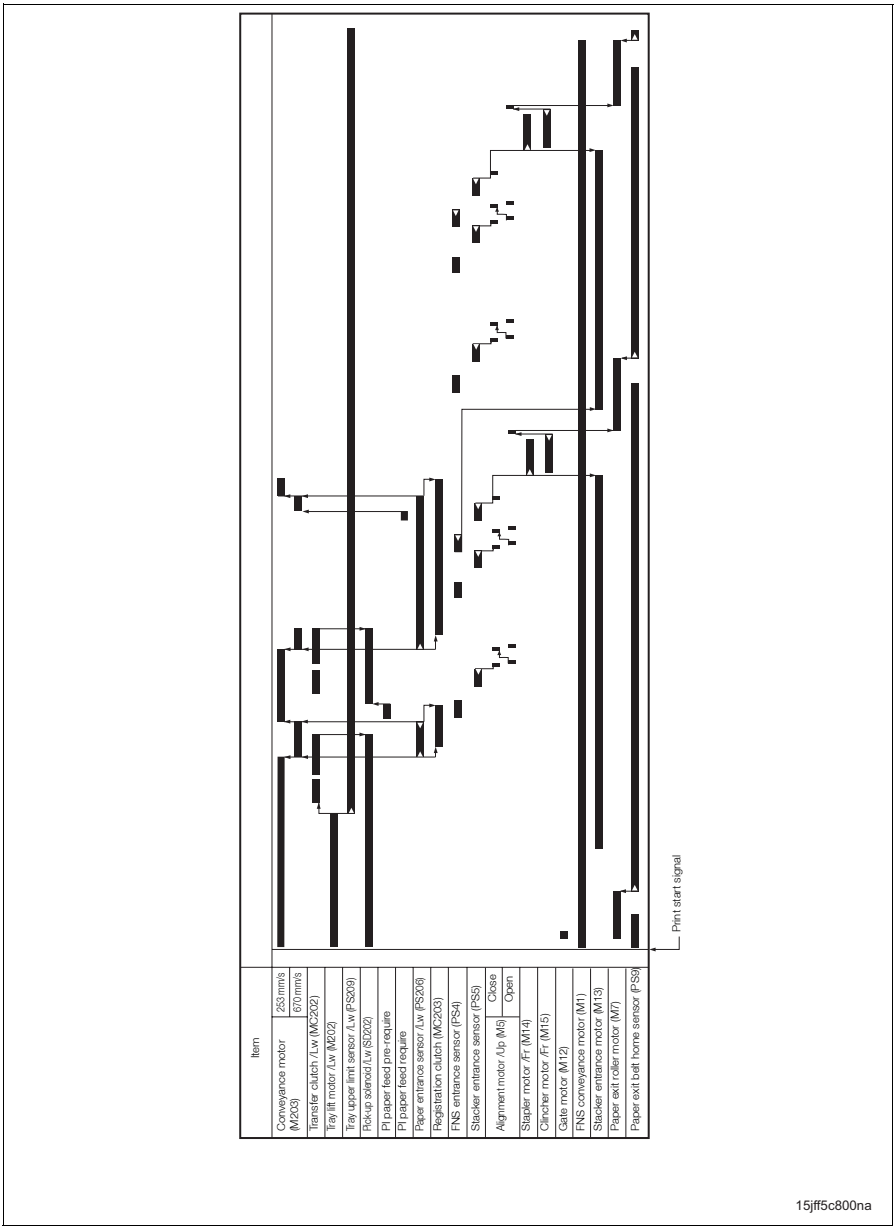
16.8 PI

A. PI auto paper feeder (lower tray), 2 flat stitching staples, A4, 2 originals, 2 copies, Single side



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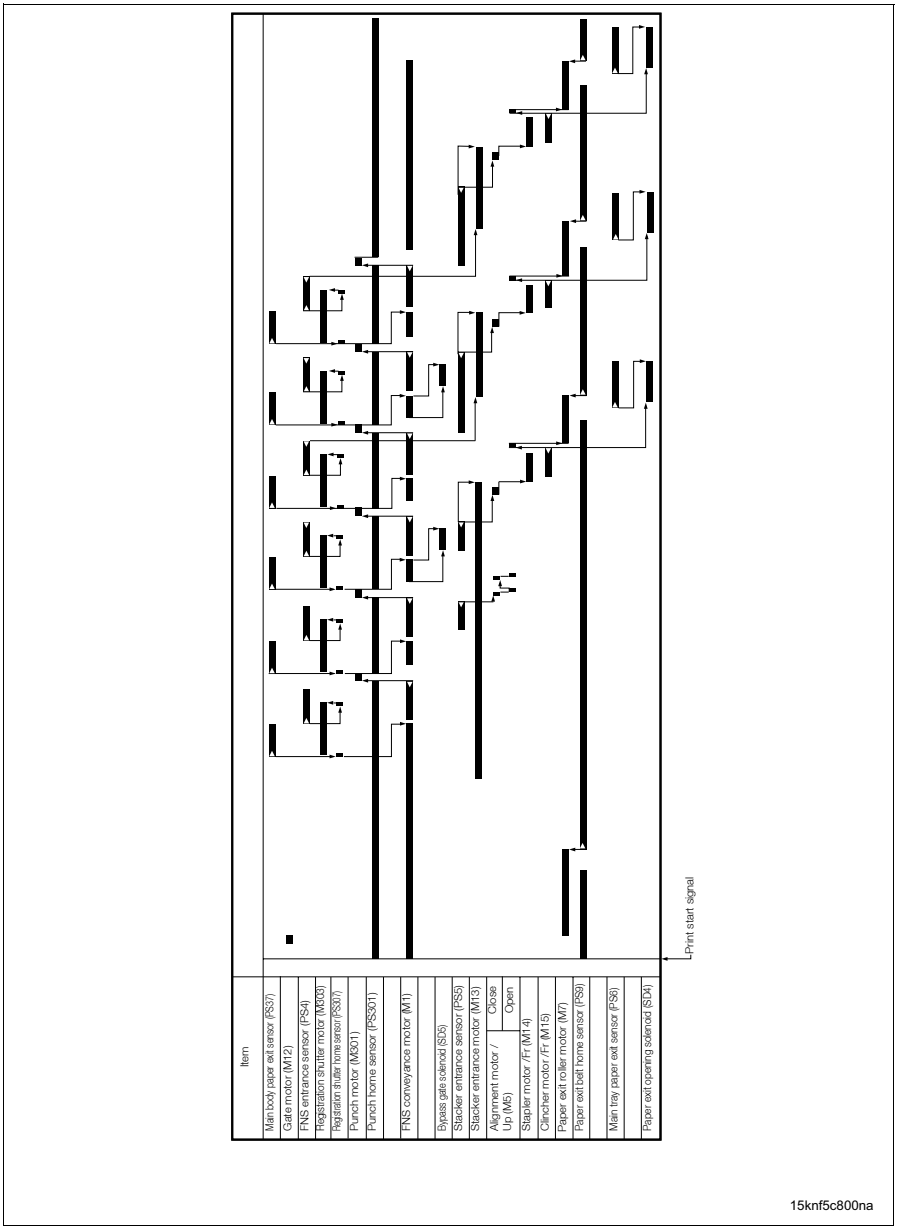
16.9 PK

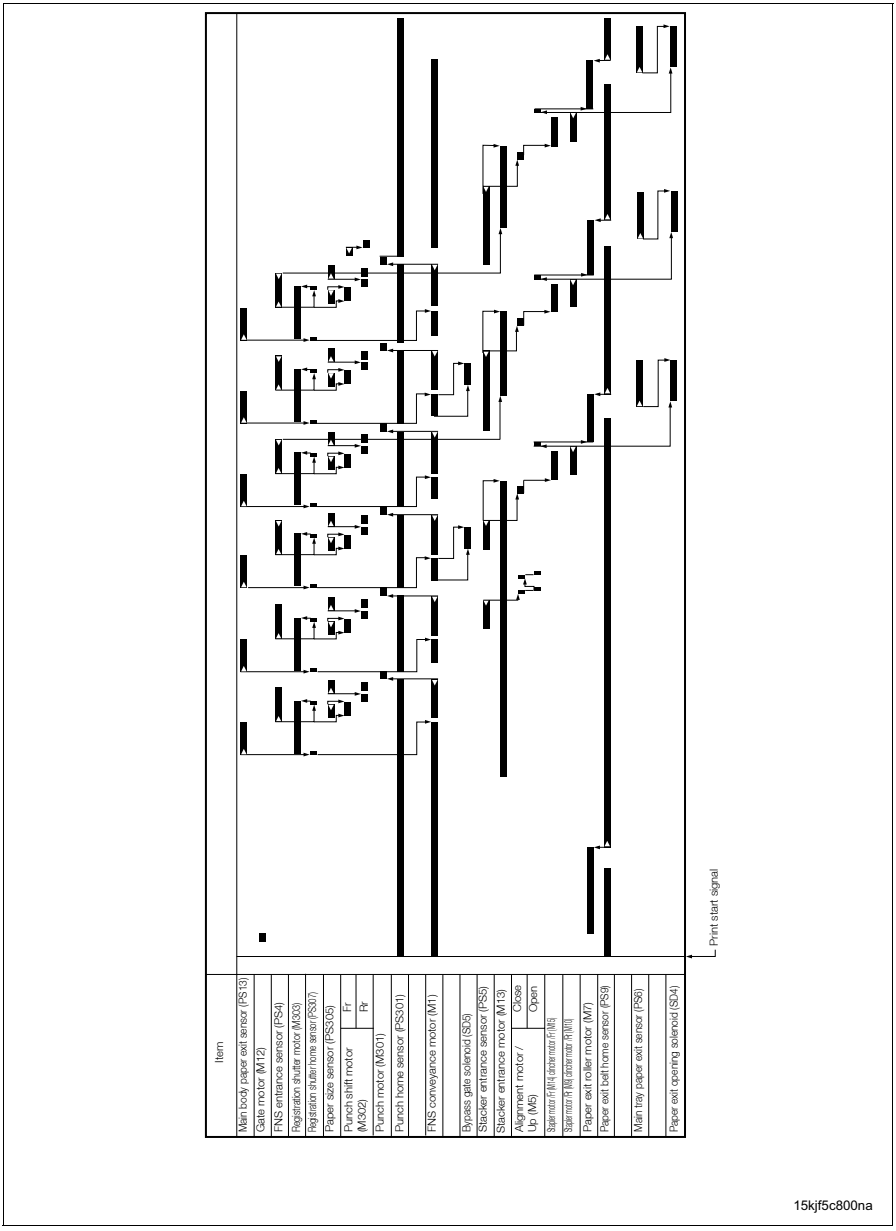
16.9.1 PK-512

A. Punch, 2 flat stitching staples, A4, 2 originals, 3 copies, Single side



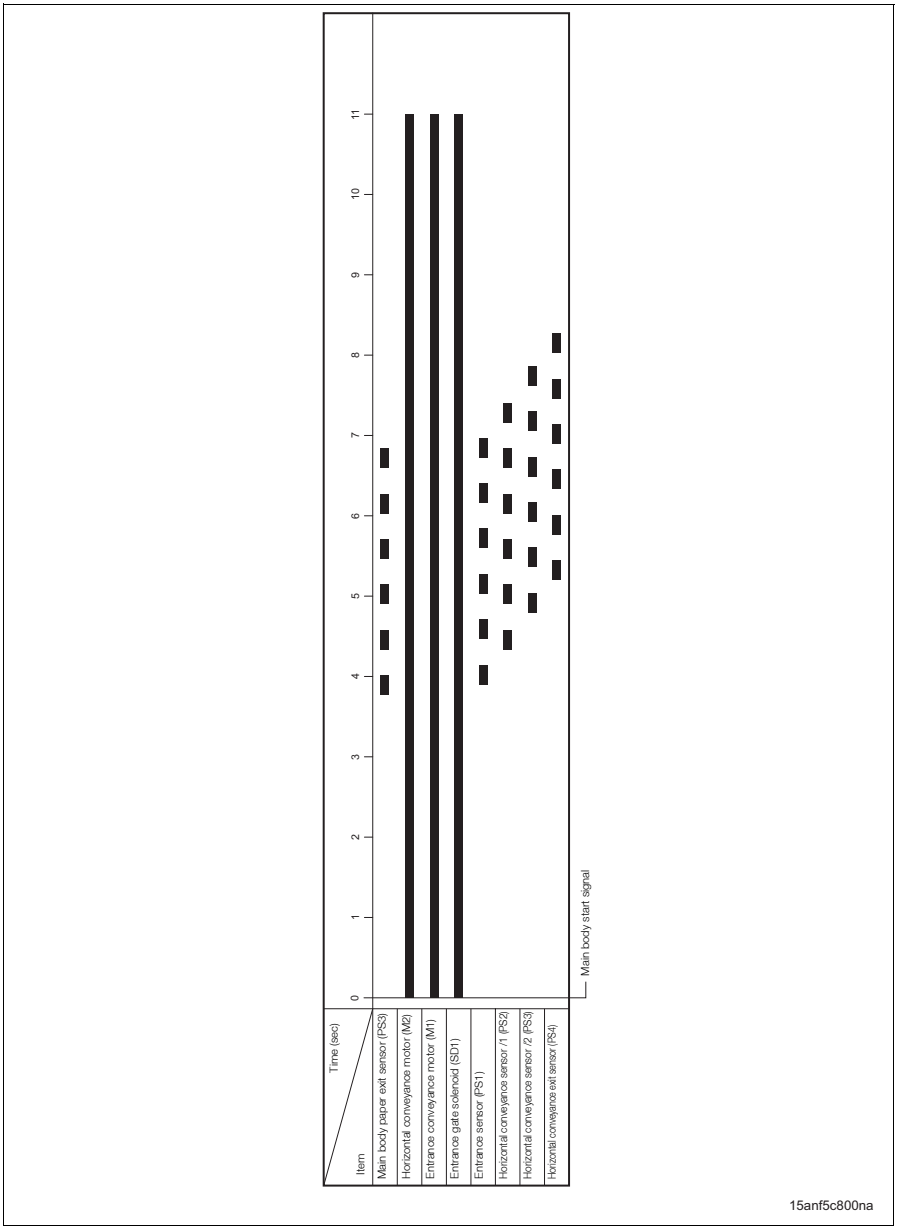
16.9.2 PK-513

A. Punch, 2 flat stitching staples, A4, 2 originals, 3 copies, Single side



16.10 SD

A. Coupling conveyance, A4, 3 sheets of paper, 2 set



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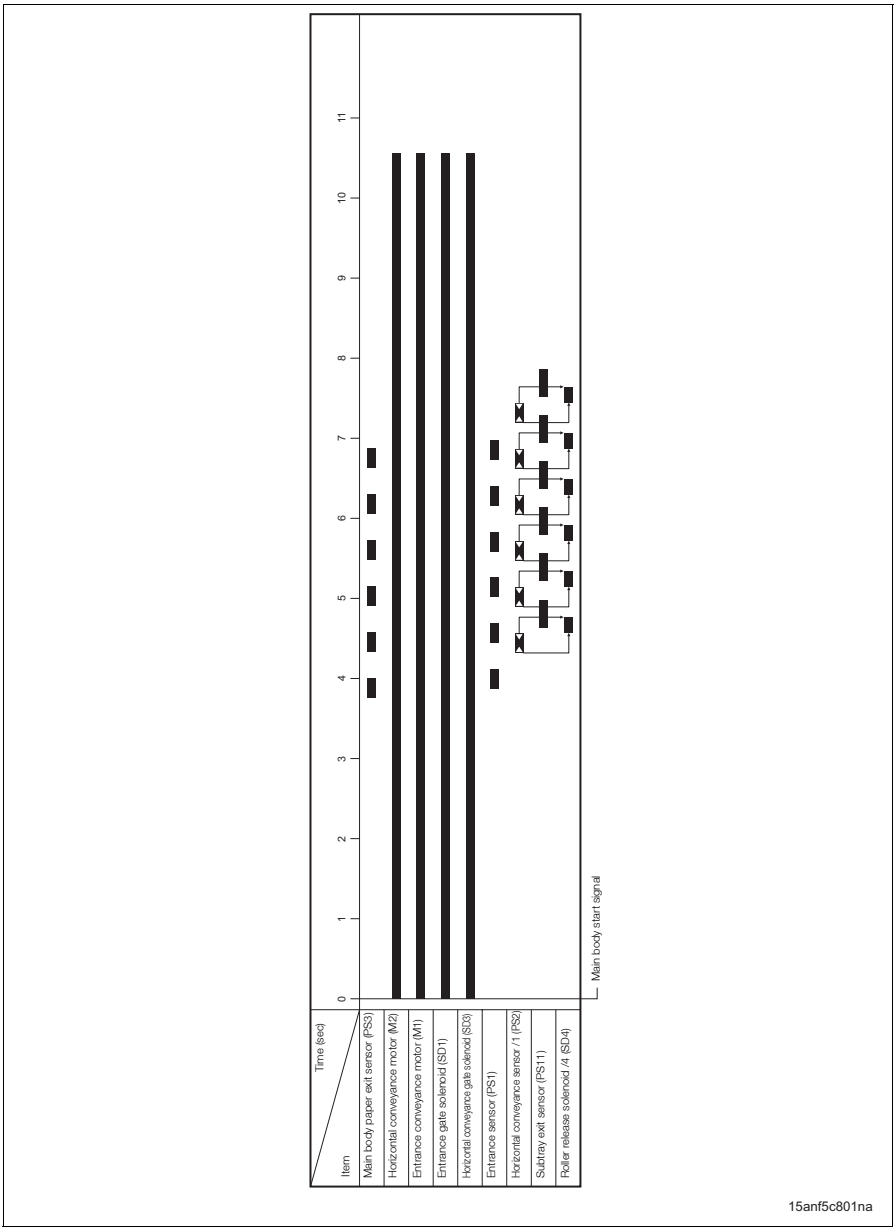
B. Subtray exit, A4, 3 sheets of paper, 2 set



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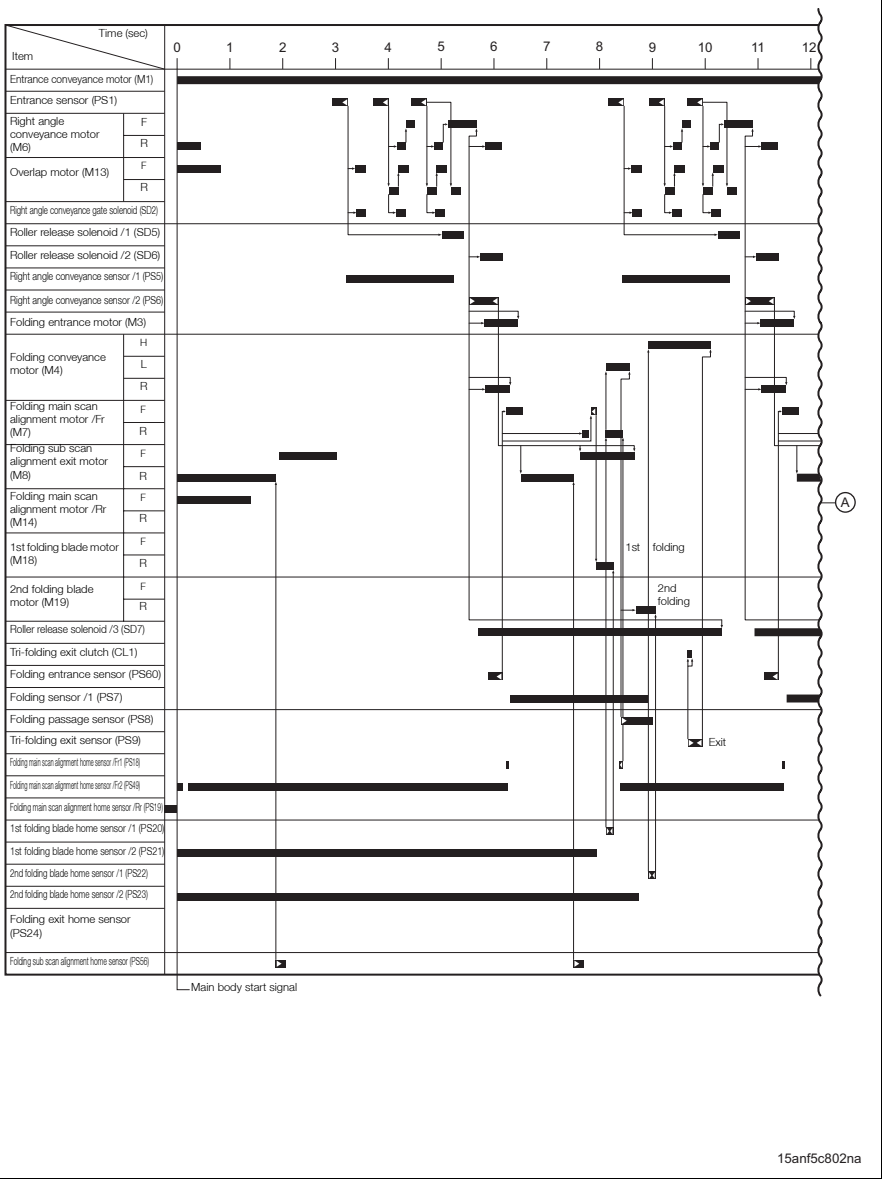
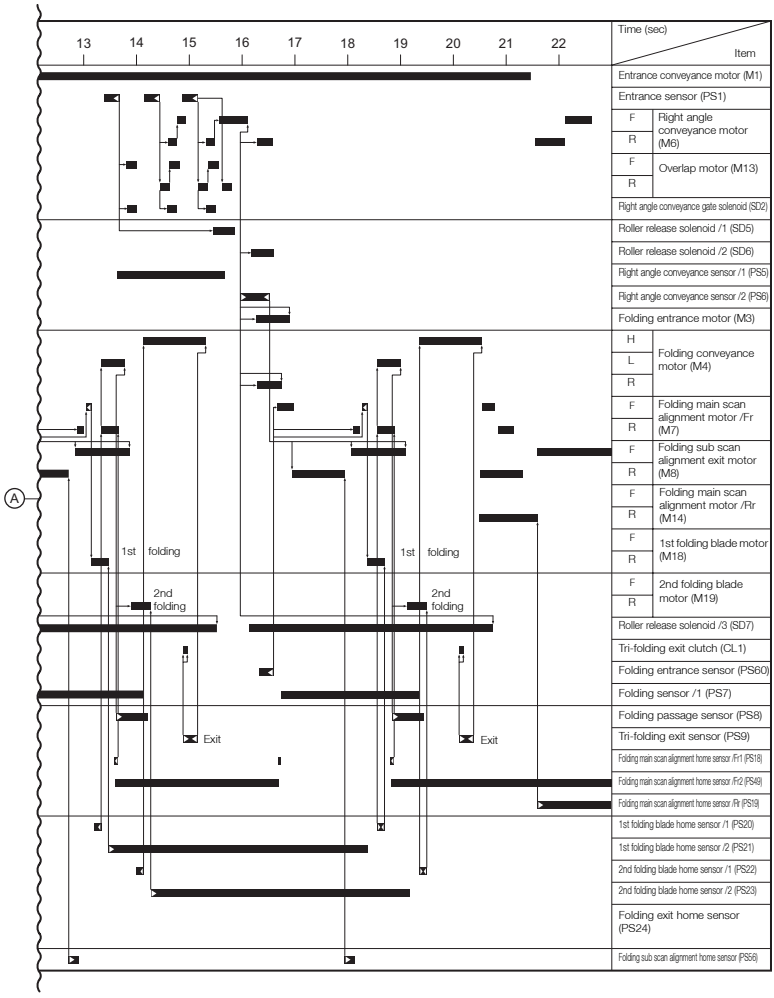
C. Overlap tri-folding, A4S, 3 sheets of paper, 3 set



15anf5c802na



15anf5c803na

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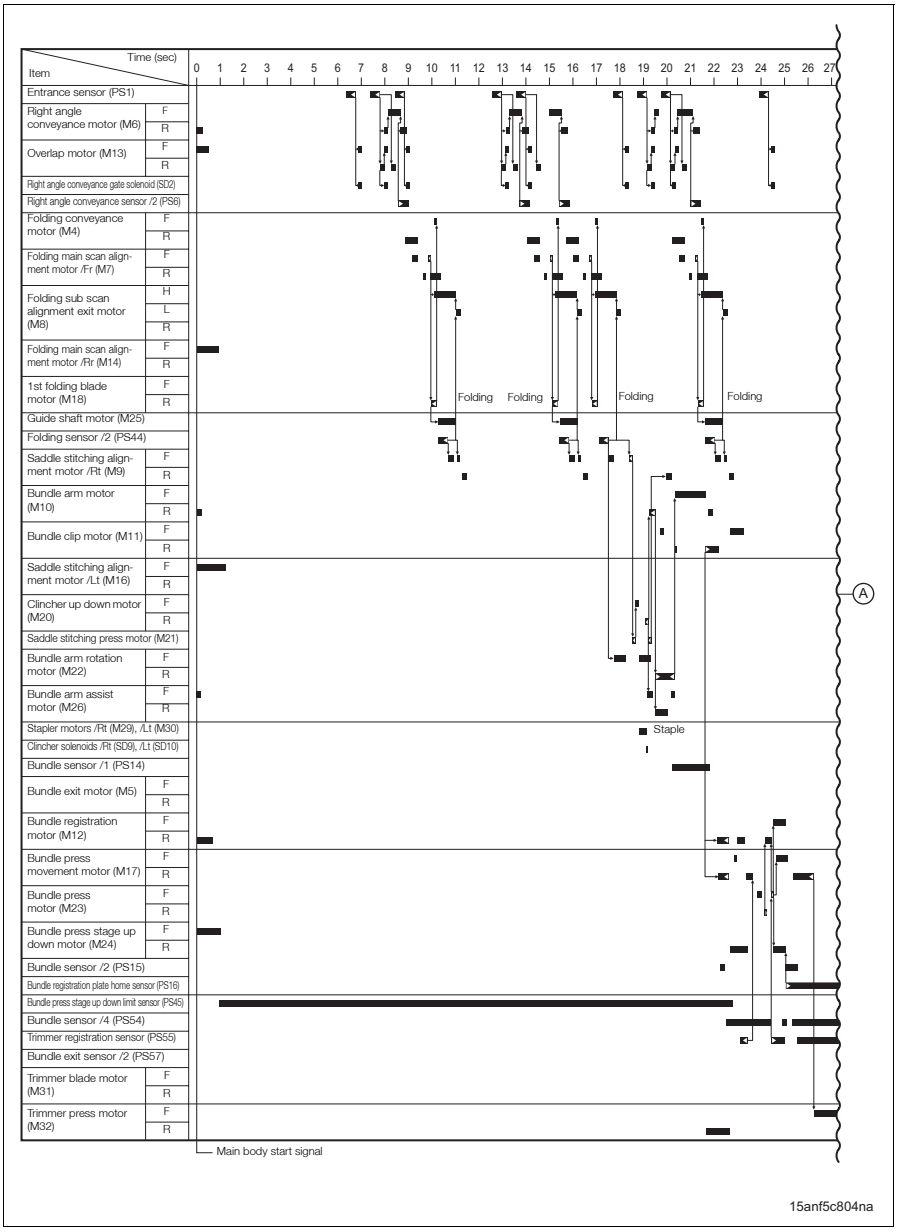
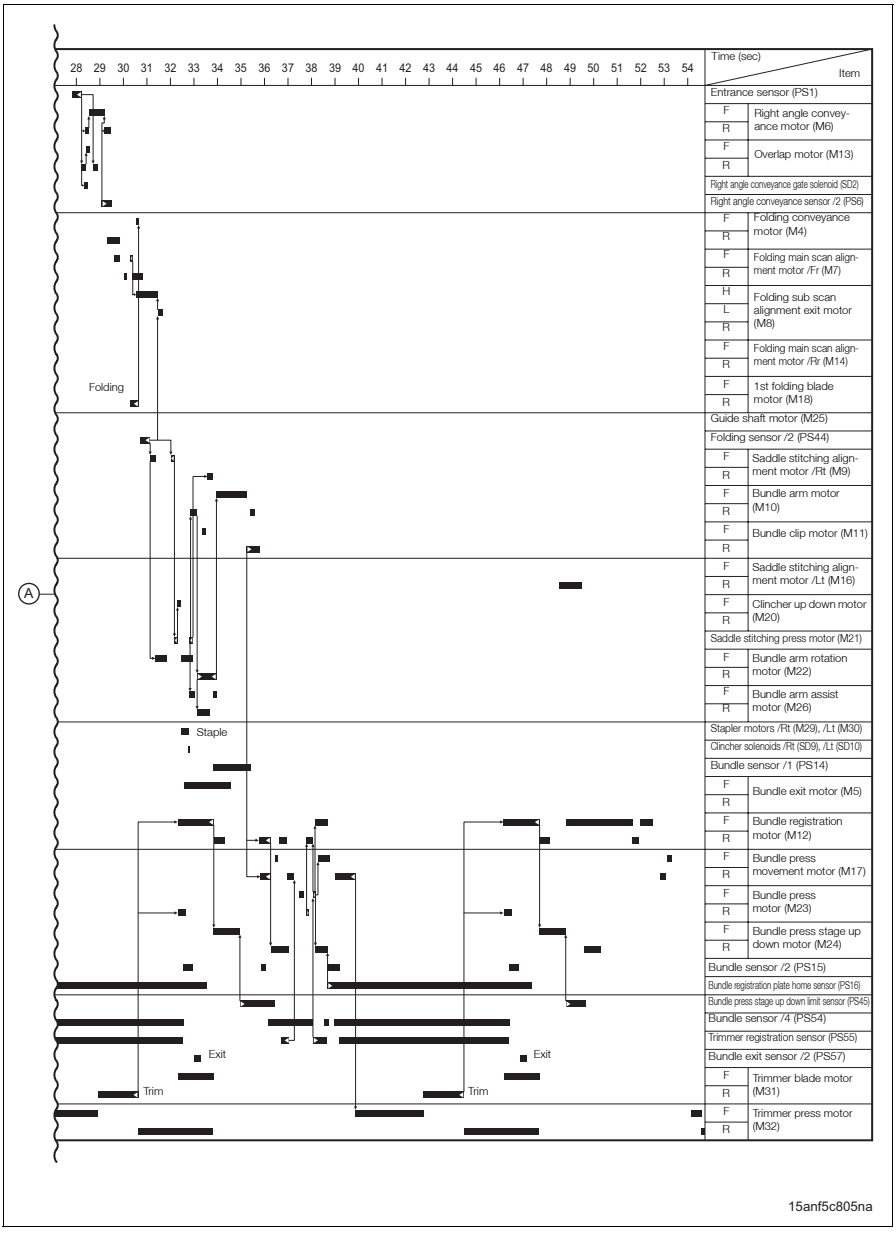
D. Saddle stitching (trimmer), A3, 5 sheets of paper, 2 set





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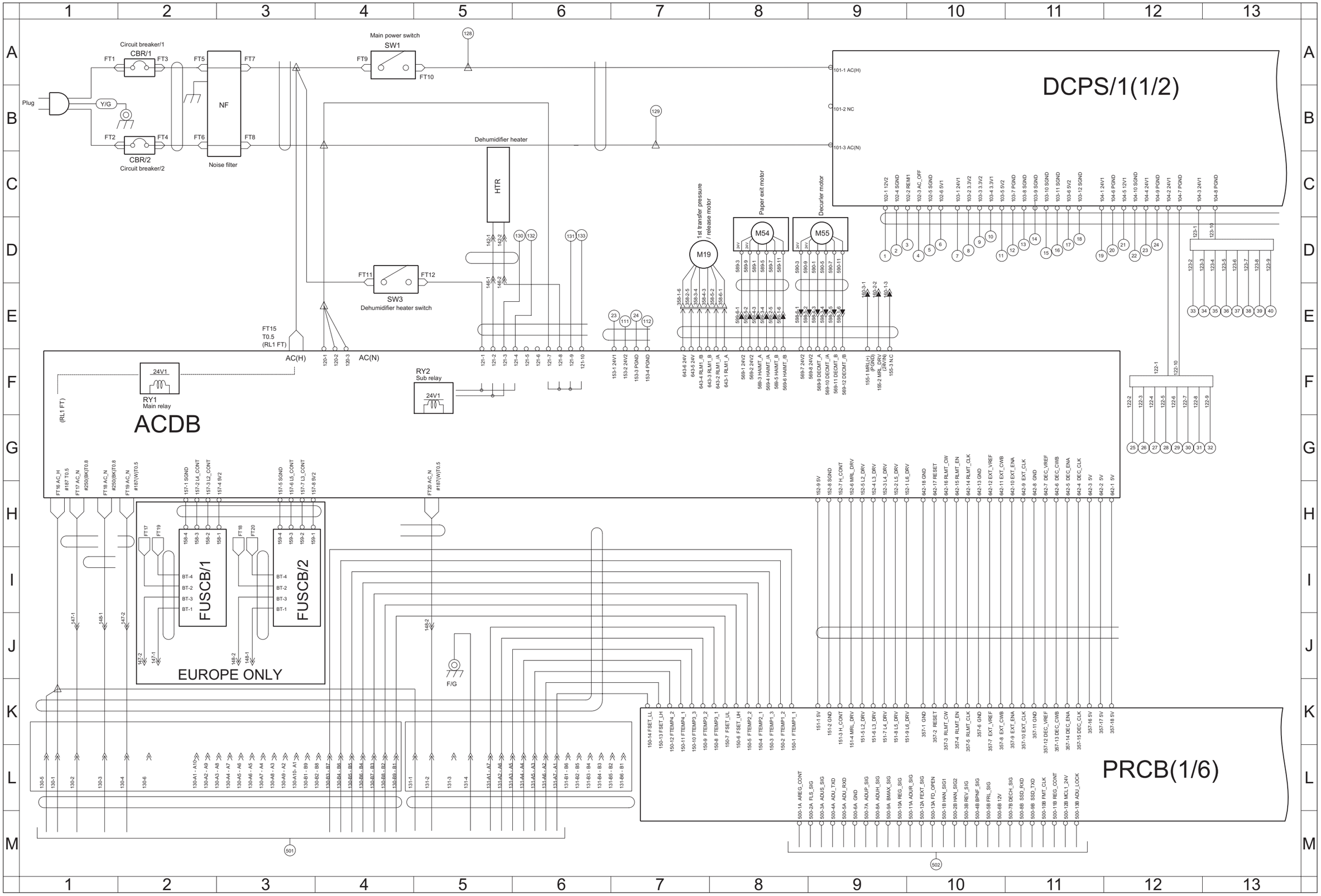
17. OVERALL WIRING DIAGRAM

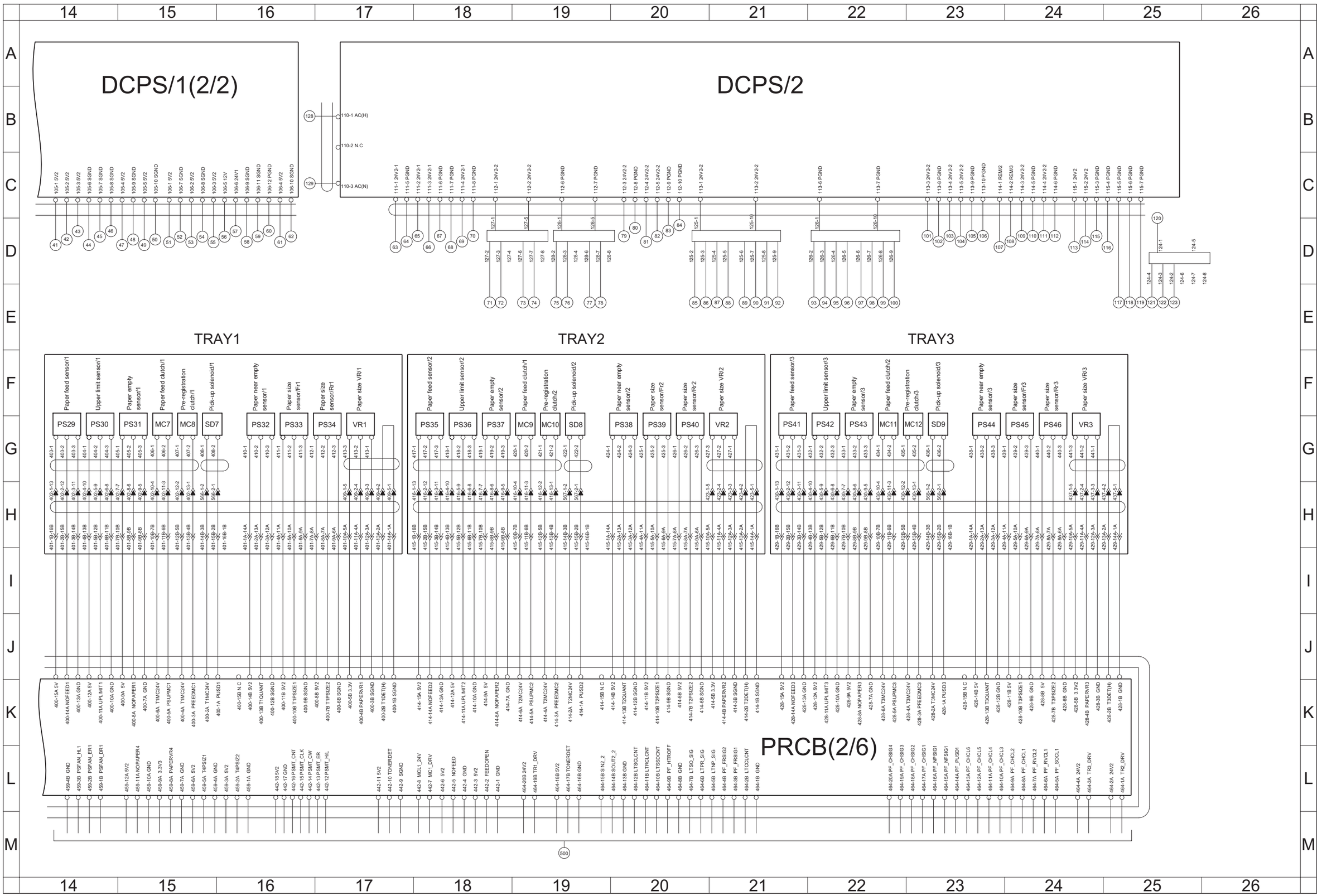
17.1 Main body 1/12



Main body location list

Symbol	Part name	Location
ACDB	AC drive board	1-F
CBR/1	Circuit breaker /1	2-A
CBR/2	Circuit breaker /2	2-B
DCPS/1	DC power supply /1	9-A
FUSCB/1	Fusing control board /1	2-H
FUSCB/2	Fusing control board /2	3-H
HTR	Dehumidifier heater	5-C
M19	1st transfer pressure/release motor	7-D
M54	Paper exit motor	8-C
M55	Decurler motor	8-C
NF	Noise filter	2-A
PRCB	Printer control board	7-K
RY1	Main relay	2-F
RY2	Sub relay	4-F
SW1	Main power switch	4-A
SW3	Dehumidifier heater switch	4-D

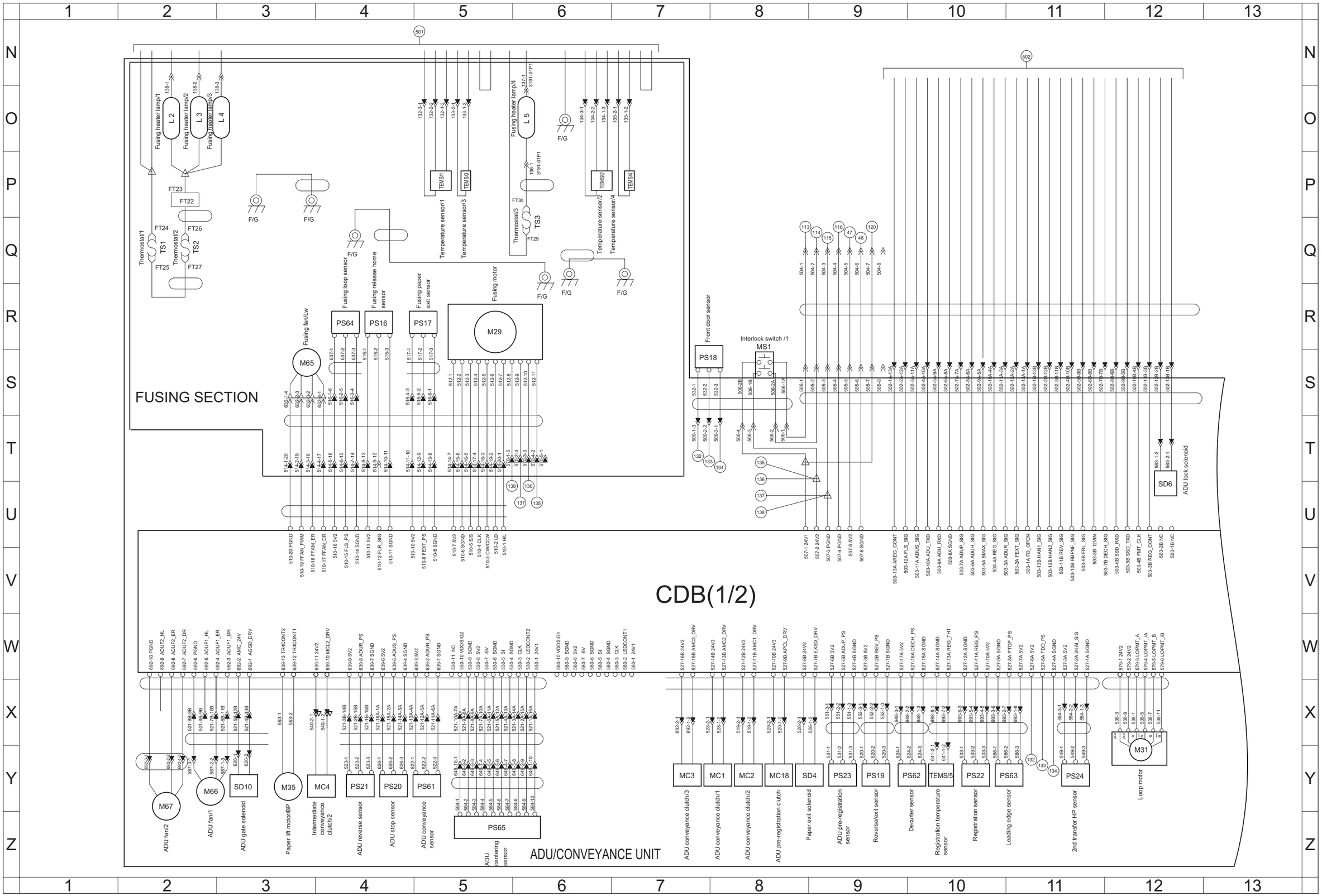
17.2 Main body 2/12



Main body location list

Symbol	Part name	Location
DCPS/1	DC power supply /1	14-A
DCPS/2	DC power supply /2	17-A
MC7	Paper feed clutch /1	15-F
MC8	Pre-registration clutch /1	15-F
MC9	Paper feed clutch /1	19-F
MC10	Pre-registration clutch /2	19-F
MC11	Paper feed clutch /2	22-F
MC12	Pre-registration clutch /3	22-F
PRCB	Printer control board	14-J
PS29	Laser drive board	14-F
PS30	Upper limit sensor /1	14-F
PS31	Paper empty sensor /1	15-F
PS32	Paper near empty sensor /1	16-F
PS33	Paper size sensor /Fr1	16-F
PS34	Paper size sensor /Rr1	16-F
PS35	Paper feed sensor /2	18-F
PS36	Upper limit sensor /2	18-F
PS37	Paper empty sensor /2	18-F
PS38	Paper near empty sensor /2	19-F
PS39	Paper size sensor /Fr2	20-F
PS40	Paper size sensor /Rr2	20-F
PS41	Paper feed sensor /3	21-F
PS42	Upper limit sensor /3	22-F
PS43	Paper empty sensor /3	22-F
PS44	Paper near empty sensor /3	23-F
PS45	Paper size sensor /Fr3	23-F
PS46	Paper size sensor /Rr3	24-F
SD7	Pick-up solenoid /1	15-F
SD8	Pick-up solenoid /2	19-F
SD9	Pick-up solenoid /3	23-F
VR1	Paper size VR /1	17-F
VR2	Paper size VR /2	20-F
VR3	Paper size VR /3	24-F

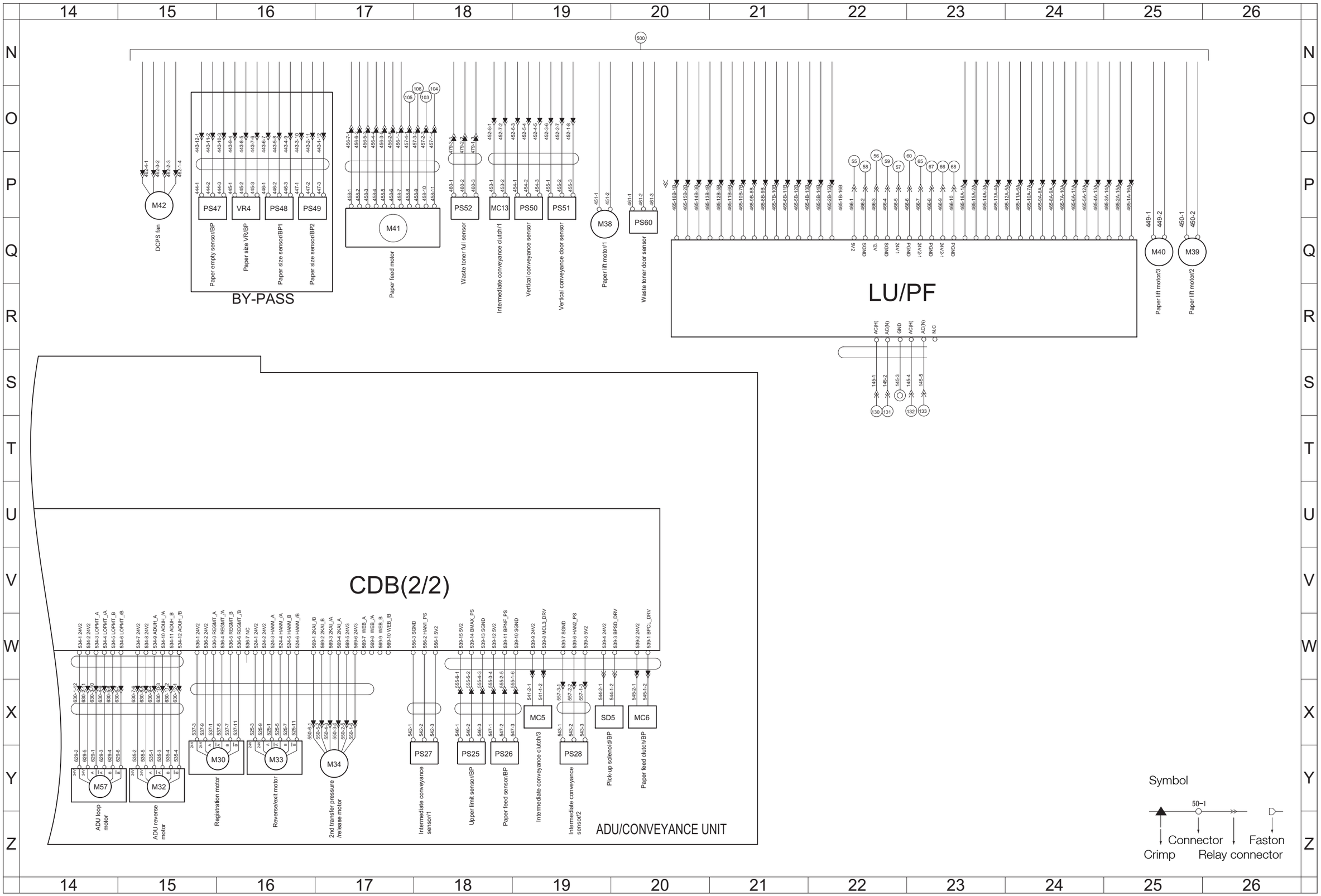
17.3 Main body 3/12



Main body location list

Symbol	Part name	Location
CDB	Conveyance drive board	1-U
L2	Fusing heater lamp /1	2-O
L3	Fusing heater lamp /2	2-O
L4	Fusing heater lamp /3	2-O
L5	Fusing heater lamp /4	6-O
M29	Fusing motor	5-R
M31	Loop motor	12-Y
M35	Paper lift motor /BP	3-Y
M65	Fusing fan /Lw	3-R
M66	ADU fan /1	2-Y
M67	ADU fan /2	2-Y
MC1	ADU conveyance clutch /1	7-X
MC2	ADU conveyance clutch /2	8-X
MC3	ADU conveyance clutch /3	7-Y
MC4	Intermediate conveyance clutch /2	3-Y
MC18	ADU pre-registration clutch	8-Y
MS1	Interlock switch /1	8-R
PS16	Fusing release home sensor	4-R
PS17	Fusing paper exit sensor	5-R
PS18	Front door sensor	7-R
PS19	Reverse/exit sensor	9-Y
PS20	ADU stop sensor	4-Y
PS21	ADU reverse sensor	4-Y
PS22	Registration sensor	10-Y
PS23	DADU pre-registration sensor	9-Y
PS24	2nd transfer HP sensor	11-Y
PS61	ADU conveyance sensor	4-Y
PS62	Decurler sensor	9-Y
PS63	Leading edge sensor	10-Y
PS64	Fusing loop sensor	4-R
PS65	TADU centering sensor	5-Z
SD4	Paper exit solenoid	8-Y
SD6	ADU lock solenoid	12-T
SD10	ADU gate solenoid	3-Y
TEMS1	Registration temperature sensor	10-Y
TEMS/1	Temperature sensor /1	5-P
TEMS/2	Temperature sensor /2	6-P
TEMS/3	Temperature sensor /3	5-P
TEMS/4	Temperature sensor /4	7-P
TS1	Thermostat /1	2-Q
TS2	Thermostat /2	2-Q
TS3	Thermostat /3	6-P

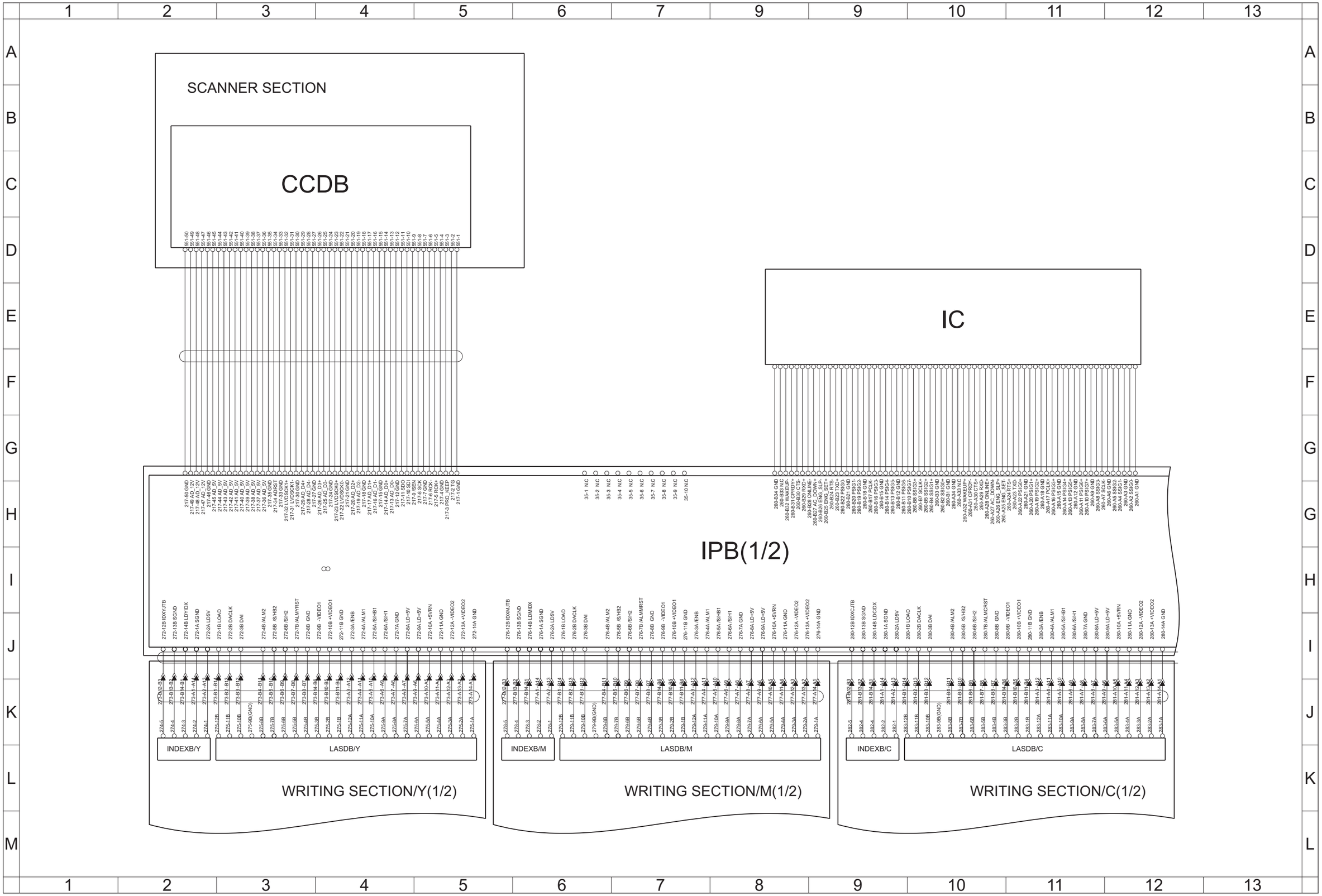
17.4 Main body 4/12



Main body location list

Symbol	Part name	Location
CDB	Conveyance drive board	14-T
M30	Registration motor	14-X
M32	ADU reverse motor	15-Y
M33	Reverse/exit motor	16-X
M34	2nd transfer pressure/release motor	16-X
M38	Paper lift motor /1	19-P
M39	Paper lift motor /2	25-Q
M40	Paper lift motor /3	25-Q
M41	Paper feed motor	17-P
M42	DCPS fan	15-P
M57	ADU loop motor	14-Y
MC5	Intermediate conveyance clutch /3	19-W
MC6	Paper feed clutch /BP	20-W
MC13	Intermediate conveyance clutch /1	18-P
PS25	Upper limit sensor /BP	18-X
PS26	Paper feed sensor /BP	18-X
PS27	Intermediate conveyance sensor /1	17-X
PS28	Intermediate conveyance sensor /2	19X
PS47	Paper empty sensor /BP	15-P
PS48	Paper size sensor /BP1	16-P
PS49	Paper size sensor /BP2	16-P
PS50	Vertical conveyance sensor	19-P
PS51	Vertical conveyance door sensor	19-P
PS52	Waste toner full sensor	18-P
PS60	Waste toner door sensor	20-P
SD5	Pick-up solenoid /BP	19-W
VR4	Paper size VR/BP	16-P

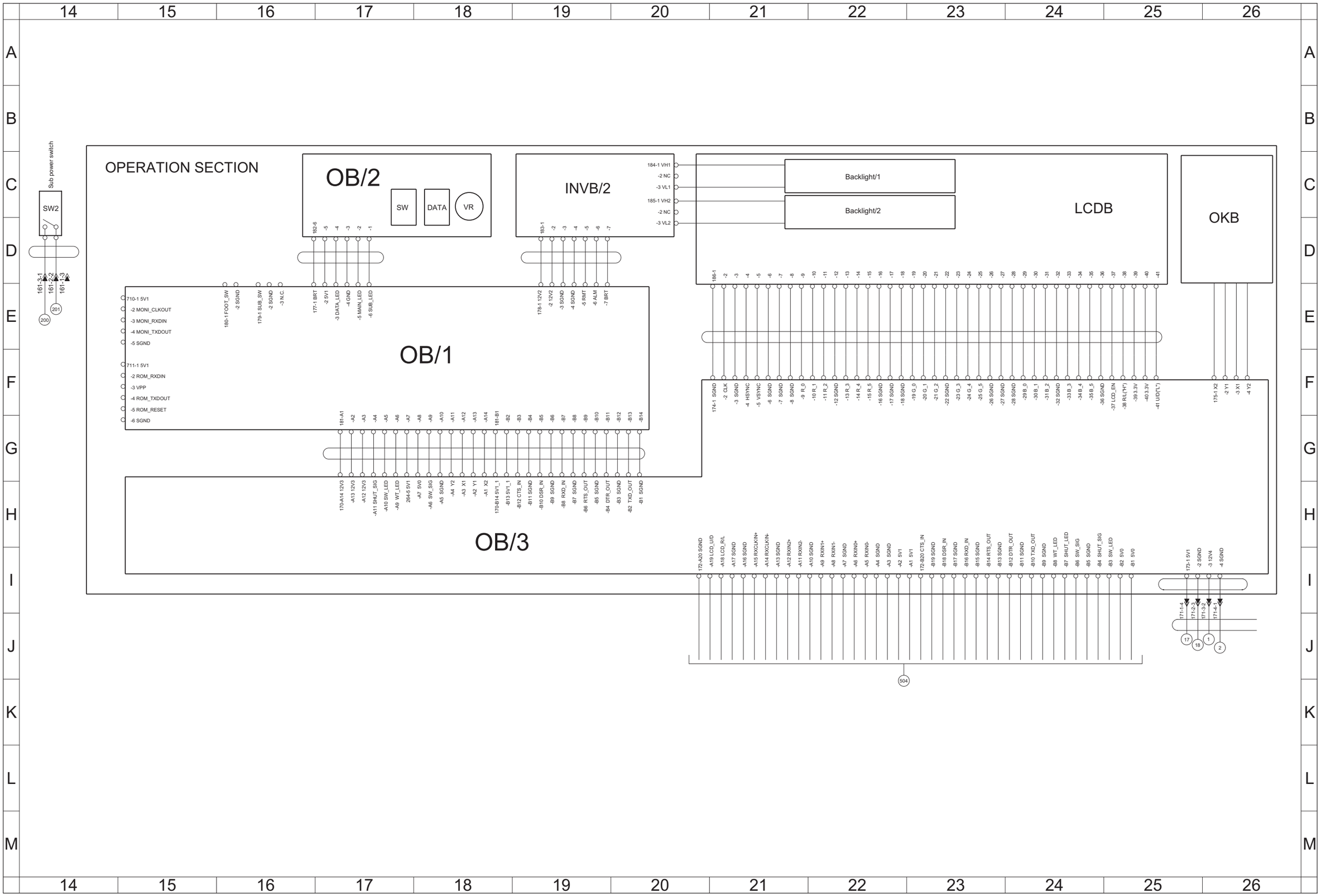
17.5 Main body 5/12



Main body location list

Symbol	Part name	Location
CCDB	CCD board	2-A
INDEXB/C	Index board /C	9-L
INDEXB/M	Index board /M	5-L
INDEXB/Y	Index board /Y	2-L
IPB	Image processing board	2-G
LASDB/C	Laser drive board /C	9-K
LASDB/M	Laser drive board /M	6-K
LASDB/Y	Laser drive board /Y	3-K

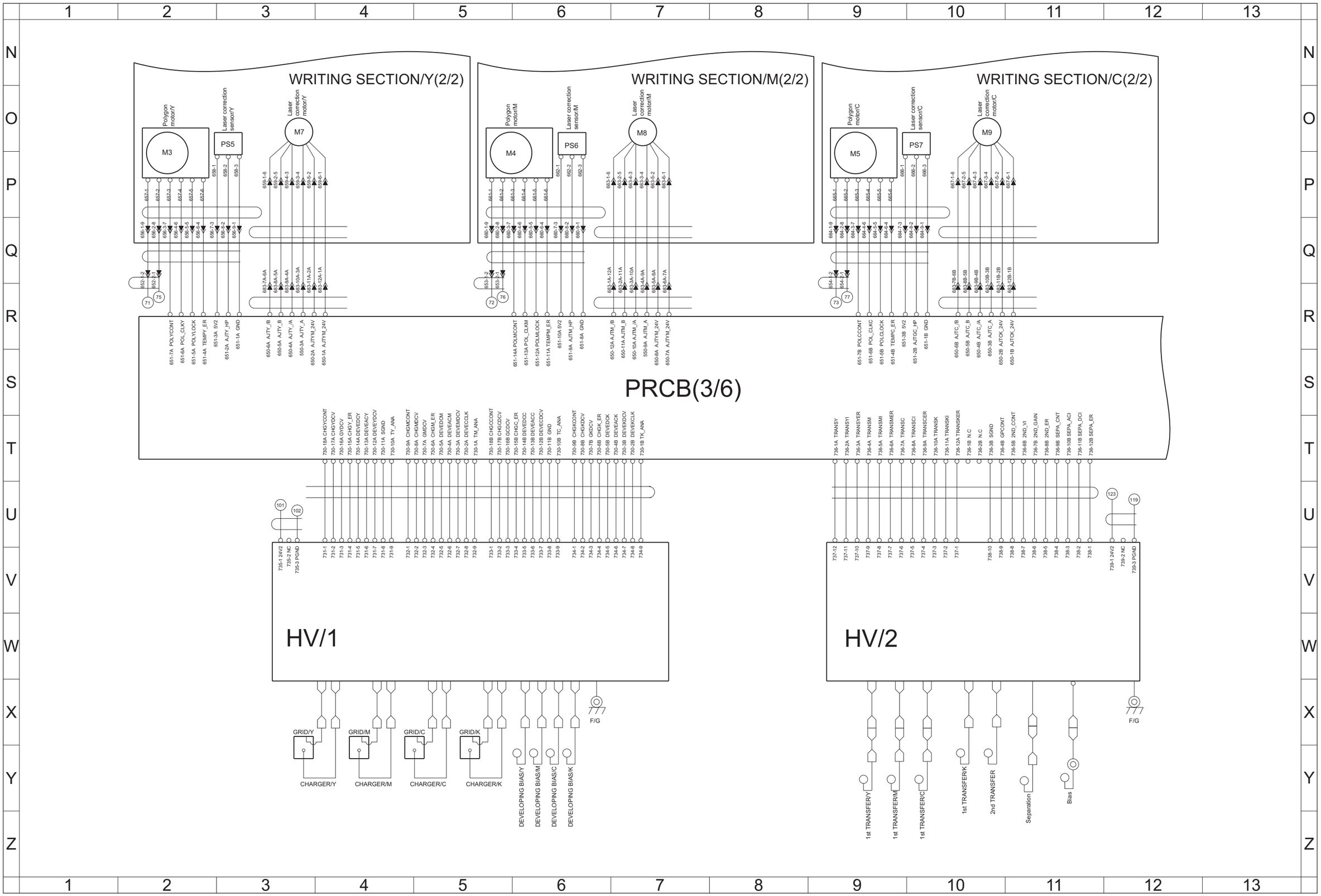
17.6 Main body 6/12



Main body location list

Symbol	Part name	Location
INVB/2	Inverter board /2	19-C
LCDB	LCD board	20-C
OB/1	Operation board /1	15-X
OB/2	Operation board /2	16-X
OB/3	Operation board /3	19-P
OKB	Operation key board	25-Q
SW2	Sub power switch	14-C
-	Backlight /1	21-C
-	Backlight /2	21-C

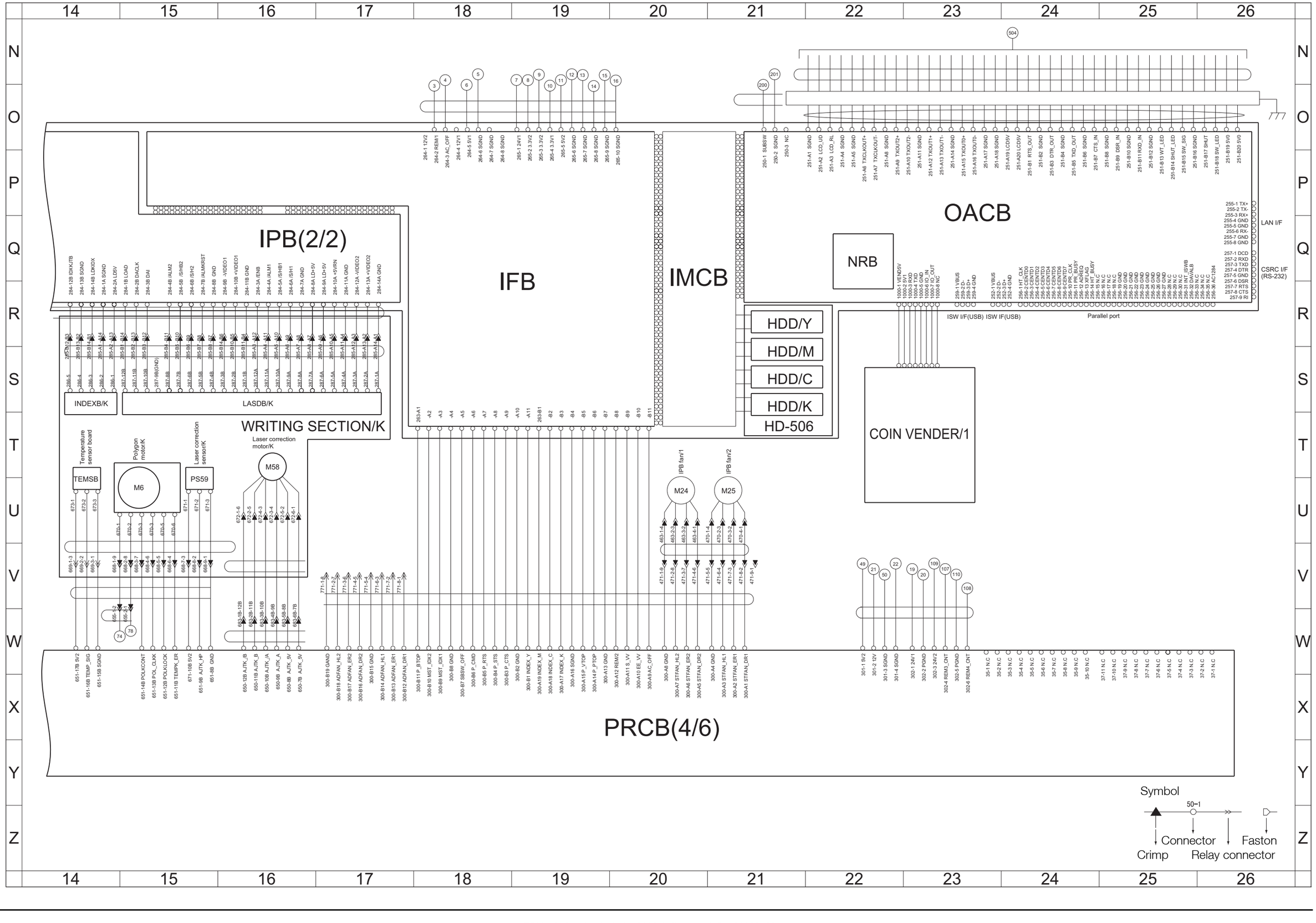
17.7 Main body 7/12



Main body location list

Symbol	Part name	Location
HV/1	High voltage unit /1	3-U
HV/2	High voltage unit /2	9-U
M3	Polygon motor /Y	2-O
M4	Polygon motor /M	5-O
M5	Polygon motor /C	9-O
M7	Laser correction motor /Y	3-O
M8	Laser correction motor /M	7-O
M9	Laser correction motor /C	9-O
PRCB	Printer control board	2-R
PS5	Laser correction sensor /Y	3-O
PS6	Laser correction sensor /M	6-O
PS7	Laser correction sensor /C	10-O
-	1st transfer /C	10-Y
-	1st transfer /K	10-Y
-	1st transfer /M	9-Y
-	1st transfer /Y	9-Y
-	2st transfer	10-Y
	Grid /C	4-X
	Grid /K	5-X
	Grid /M	4-X
	Grid /Y	3-X
-	Developing bias /C	6-X
-	Developing bias /K	6-X
-	Developing bias /M	6-X
-	Developing bias /Y	6-X
-	Charger /C	4-X
-	Charger /K	5-X
-	Charger /M	4-X
-	Charger /Y	3-X
-	Bias	11-Y
-	Separation	11-Y

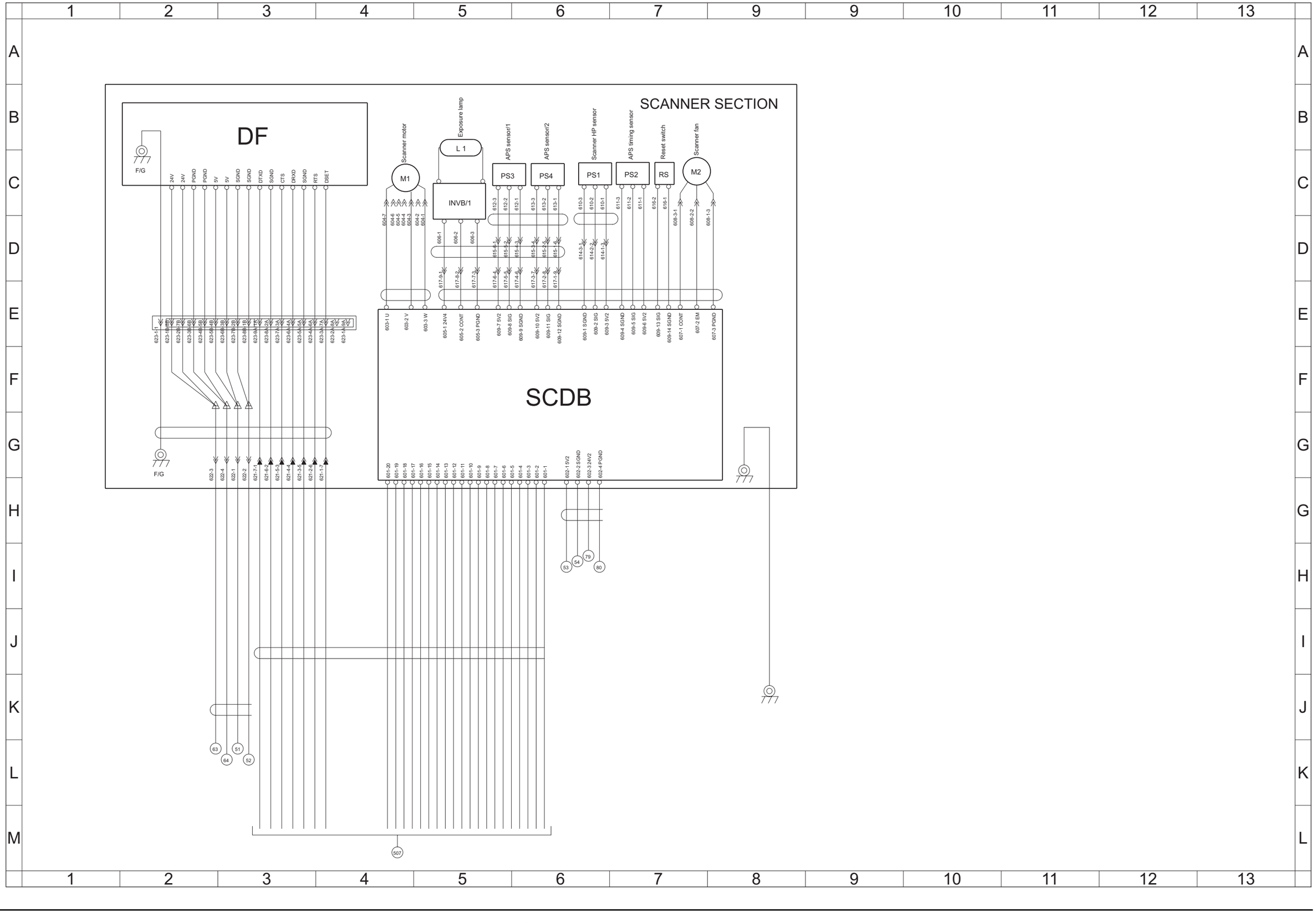
17.8 Main body 8/12



Main body location list

Symbol	Part name	Location
HDD/C	HDD /C	21-R
HDD/K	HDD /K	21-R
HDD/M	HDD /M	21-S
HDD/Y	HDD /Y	21-S
IFB	I/F board	15-O
IMCB	Image memory control board	20-O
INDEXB/K	Index board /K	14-S
IPB	image processing board	14-O
LASDB/K	Laser drive board /K	15-S
M6	Polygon motor /K	15-U
M24	IPB fan /1	20-T
M25	IPB fan /2	21-T
M58	Laser correction motor /K	16-T
NRB	NVRAM board	22-Q
OACB	Overall control board	21-O
PRCB	Printer control board	14-W
PS59	Laser correction sensor /K	15-T
TEMSB	Temperature sensor board	14-T

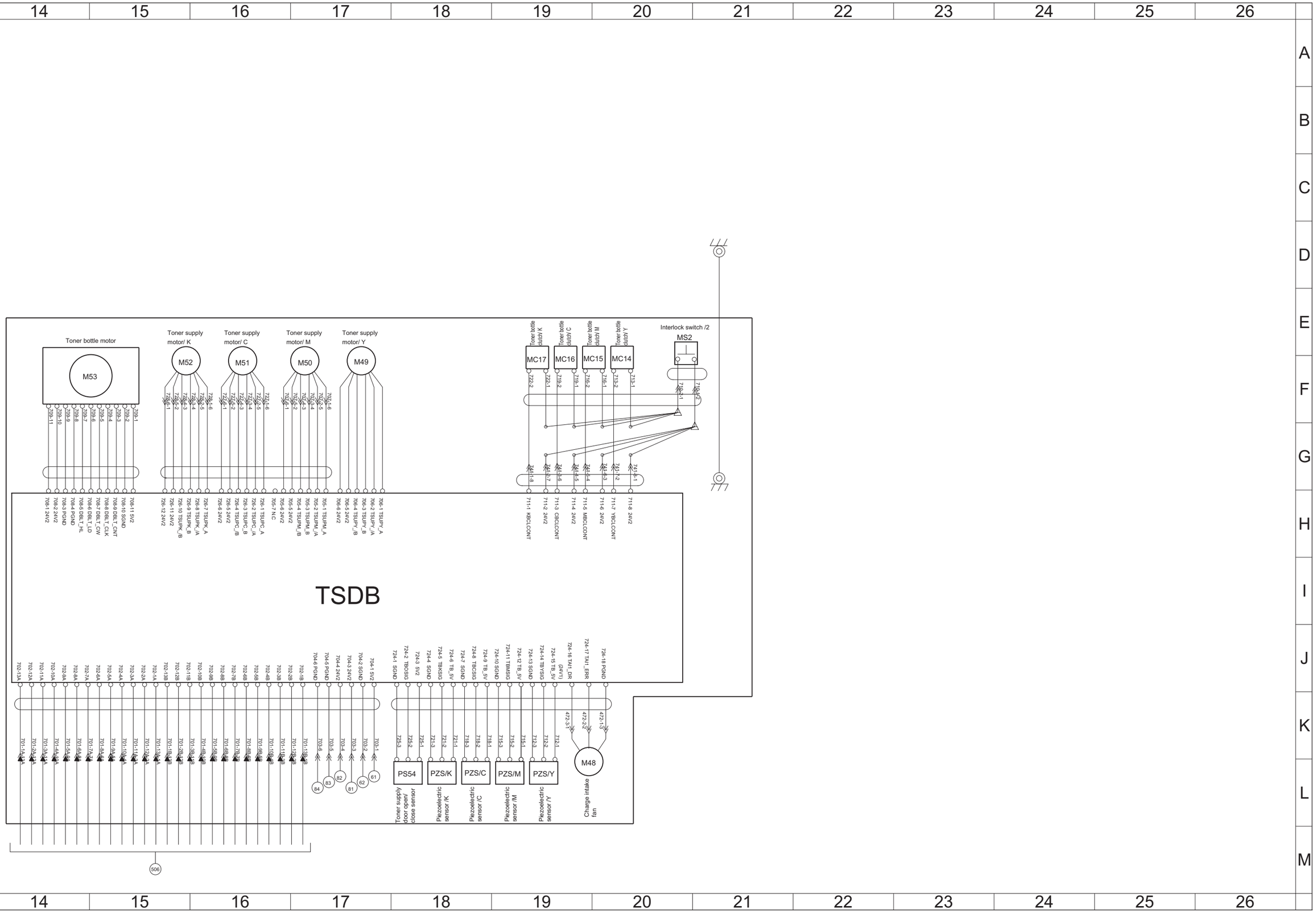
17.9 Main body 9/12



Main body location list

Symbol	Part name	Location
INVB/1	Inverter board /1	5-C
L1	Exposure lamp	5-B
M1	Scanner motor	4-C
M2	Scanner fan	7-C
PS1	Scanner HP sensor	6-C
PS2	APS Timing sensor	7-C
PS3	APS sensor /1	5-C
PS4	APS sensor /2	6-C
RS	Read switch	7-C
SCDB	Scanner drive board	4-E

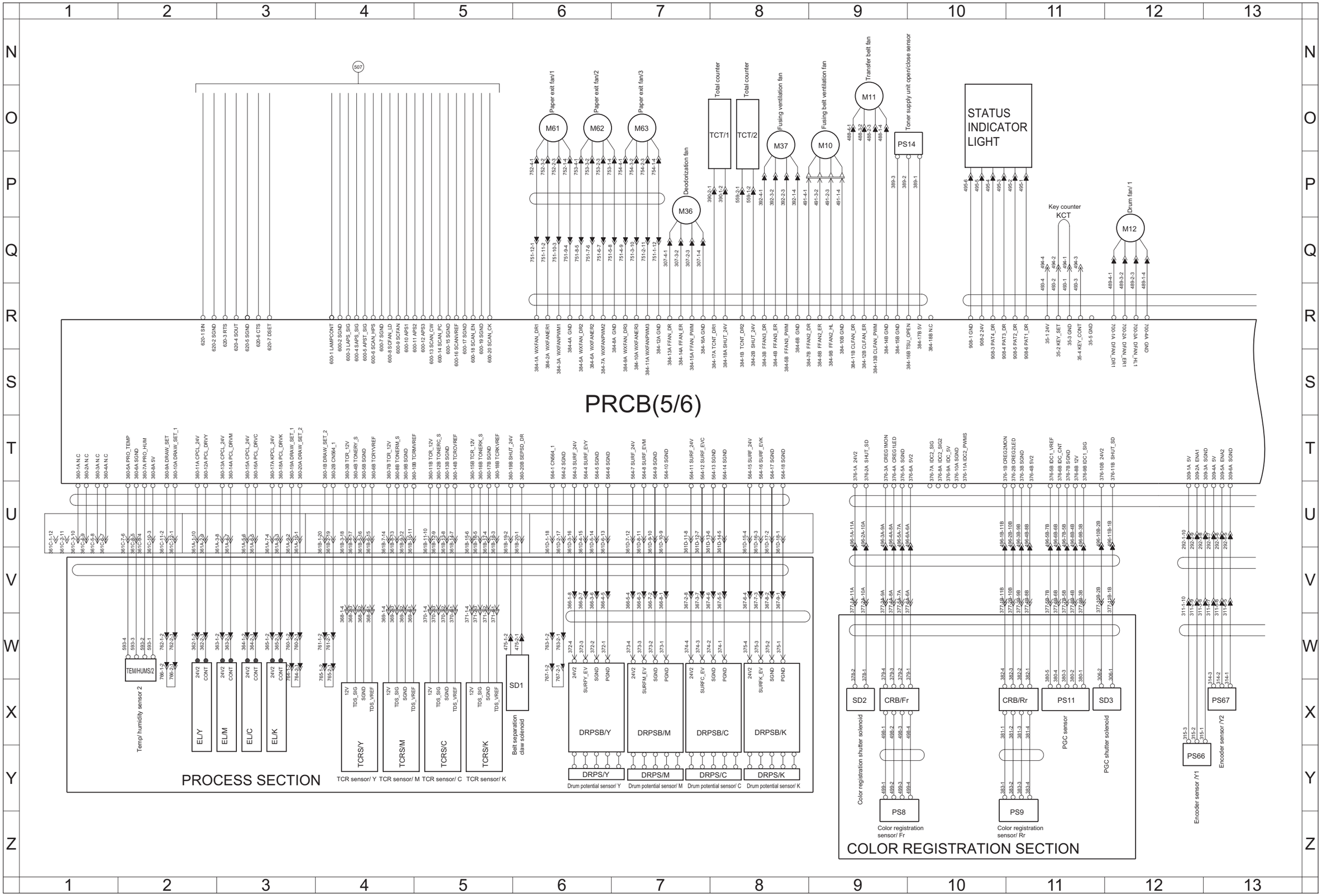
17.10 Main body 10/12



Main body location list

Symbol	Part name	Location
M48	Charge intake fan	19-K
M49	Toner supply motor /Y	17-K
M50	Toner supply motor /M	17-K
M51	Toner supply motor /C	16-K
M52	Toner supply motor /K	15-K
M53	Toner bottle motor	14-K
MC14	Toner bottle clutch /Y	20-E
MC15	Toner bottle clutch /M	19-E
MC16	Toner bottle clutch /C	19-E
MC17	Toner bottle clutch /K	19-E
MS2	Interlock switch /2	20-E
PS54	Toner supply door open/close sensor	18-K
PZS/C	Piezoelectric sensor /C	18-K
PZS/K	Piezoelectric sensor /K	18-K
PZS/M	Piezoelectric sensor /M	19-K
PZS/Y	Piezoelectric sensor /Y	19-K
TSDB	Toner supply drive board	14-H

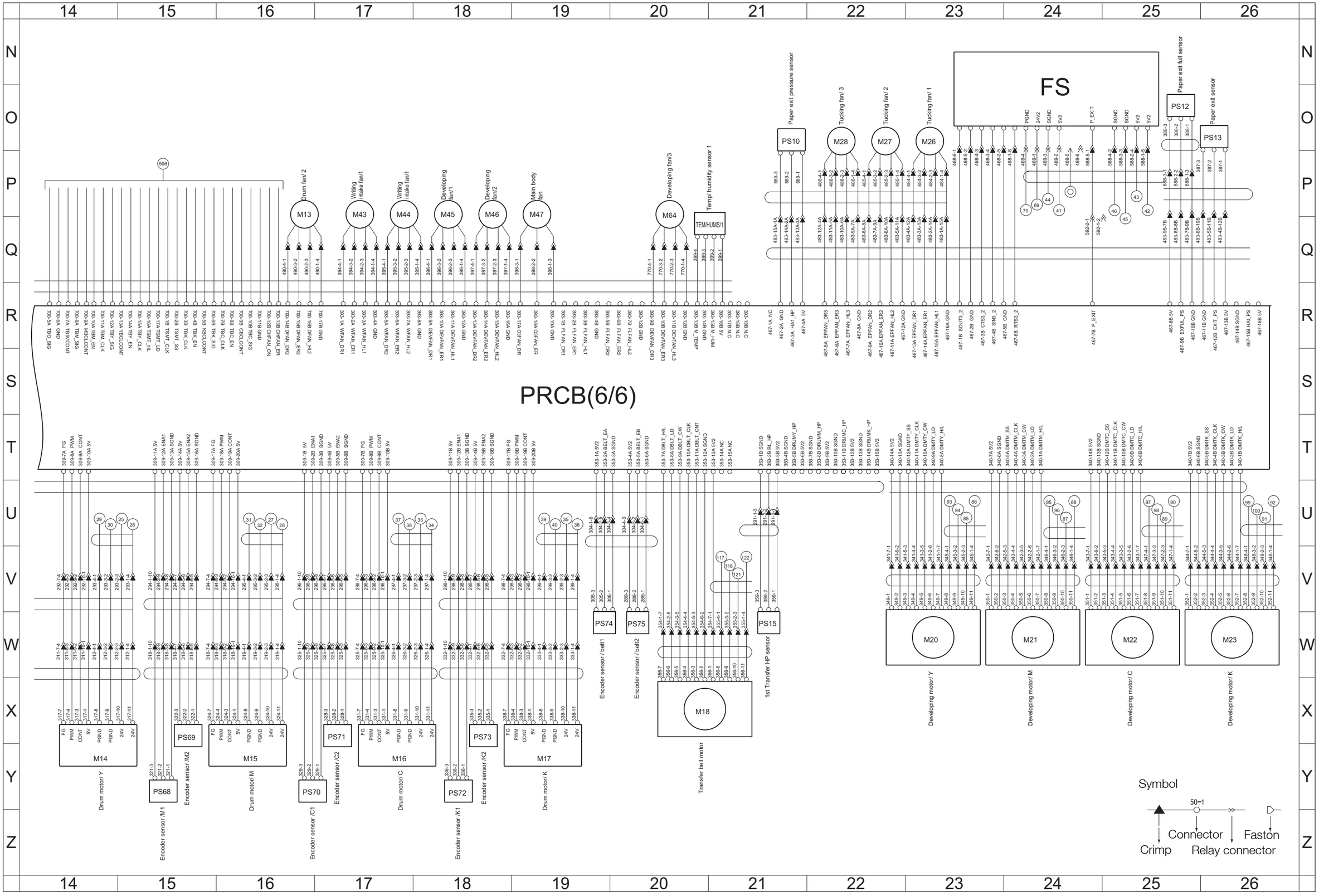
17.11 Main body 11/12



Main body location list

Symbol	Part name	Location
CRB/Fr	Color registration board /Fr	9-X
CRB/Rr	Color registration board /Rr	10-X
DRPS/C	Drum potential sensor /C	7-Y
DRPS/K	Drum potential sensor /K	8-Y
DRPS/M	Drum potential sensor /M	7-Y
DRPS/Y	Drum potential sensor /Y	6-Y
DRPSB/C	Drum potential sensor board /C	7-W
DRPSB/K	Drum potential sensor board /K	8-W
DRPSB/M	Drum potential sensor board /M	7-W
DRPSB/Y	Drum potential sensor board /Y	6-W
EL/C	Erase lamp /C	3-W
EL/K	Erase lamp /K	3-W
EL/M	Erase lamp /M	3-W
EL/Y	Erase lamp /Y	2-W
KCT	Key counter	11-P
M10	Fusing belt ventilation fan	9-O
M11	Transfer belt fan	9-O
M12	Drum fan /1	12-Q
M36	Deodorization fan	7-P
M37	Fusing ventilation fan	8-O
M61	Paper exit fan /1	6-O
M62	Paper exit fan /2	6-O
M63	Paper exit fan /3	7-O
PRCB	Printer control board	1-R
PS8	Color registration sensor /Fr	9-Y
PS9	Color registration sensor /Rr	10-Y
PS11	PGC sensor	11-X
PS14	Toner supply unit open/close sensor	9-O
PS66	Encoder sensor /Y1	12-Y
PS67	Encoder sensor /Y2	13-X
SD1	Belt separation claw solenoid	6-W
SD2	Color registration shutter solenoid	9-X
SD3	PGC shutter solenoid	11-X
TCRS/C	TCR sensor /C	5-W
TCRS/K	TCR sensor /K	5-W
TCRS/M	TCR sensor /M	4-W
TCRS/Y	TCR sensor /Y	4-W
TCT/1	Total counter /1	7-O
TCT/2	Total counter /2	8-O
TEM/HUMS/2	Temp/humidity sensor /2	2-W

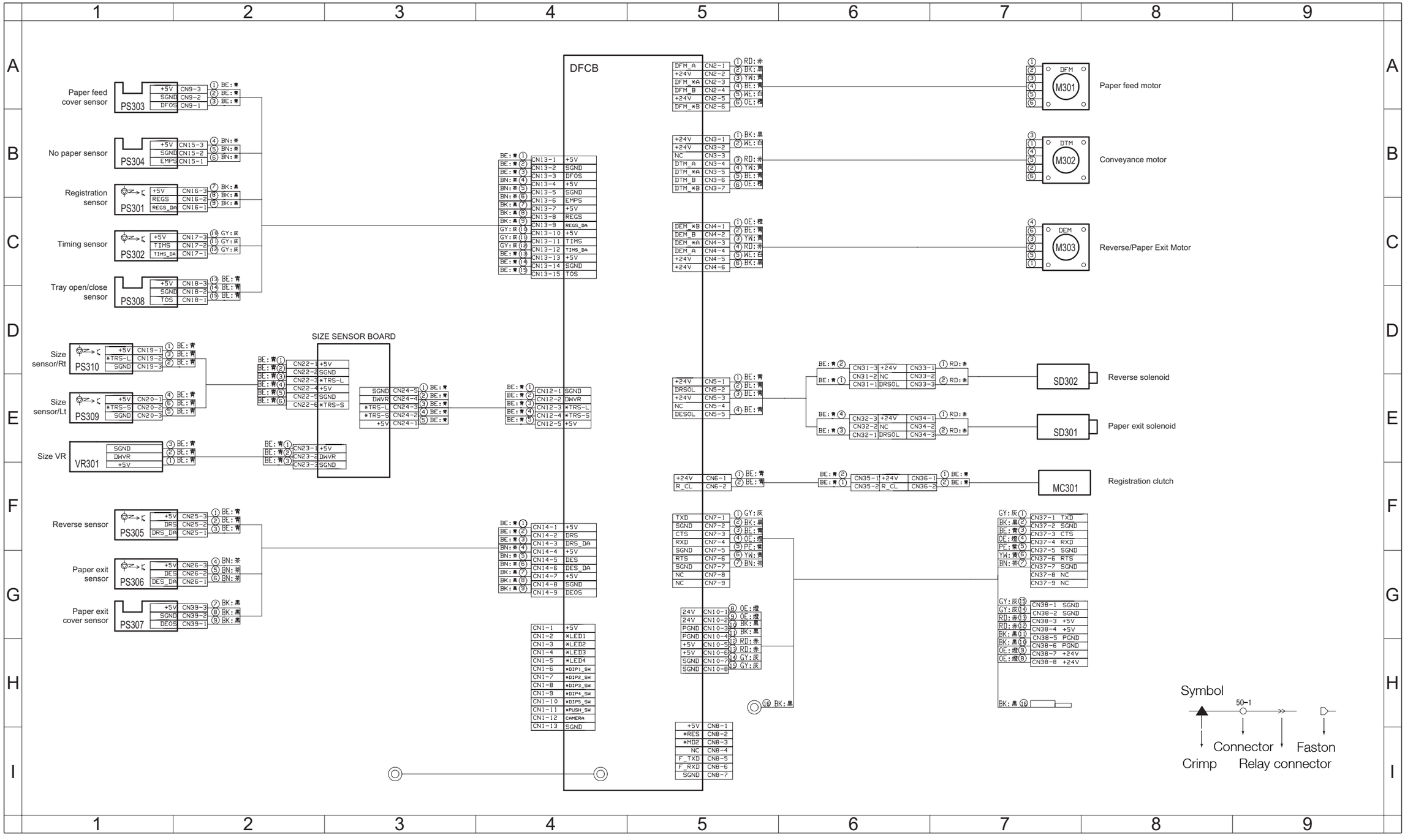
17.12 Main body 12/12



Main body location list

Symbol	Part name	Location
M13	Drum fan /2	16-P
M14	Drum motor /Y	14-X
M15	Drum motor /M	15-X
M16	Drum motor /C	17-X
M17	Drum motor /K	18-X
M18	Transfer belt motor	20-W
M20	Developing motor /Y	22-V
M21	Developing motor /M	23-V
M22	Developing motor /C	24-V
M23	Developing motor /K	25-V
M26	Tucking fan /1	23-O
M27	Tucking fan /2	22-O
M28	Tucking fan /3	22-O
M43	Writing intake fan /1	17-P
M44	Writing intake fan /2	17-P
M45	Developing fan /1	18-P
M46	Developing fan /2	18-P
M47	Main body fan	19-P
M64	Developing fan /3	20-P
PRCB	Printer control board	14-R
PS10	Paper exit pressure sensor	21-O
PS12	Paper exit full sensor	25-O
PS13	Paper exit sensor	26-O
PS15	1st transfer HP sensor	21-V
PS68	Encoder sensor /M1	15-Y
PS69	Encoder sensor /M2	16-X
PS70	Encoder sensor /C1	16-Y
PS71	Encoder sensor /C2	17-X
PS72	Encoder sensor /K1	18-Y
PS73	Encoder sensor /K2	18-X
PS74	Encoder sensor /belt1	19-V
PS75	Encoder sensor /belt2	20-V
TEM/HUMS/1	Temp/humidity sensor /1	20-Q

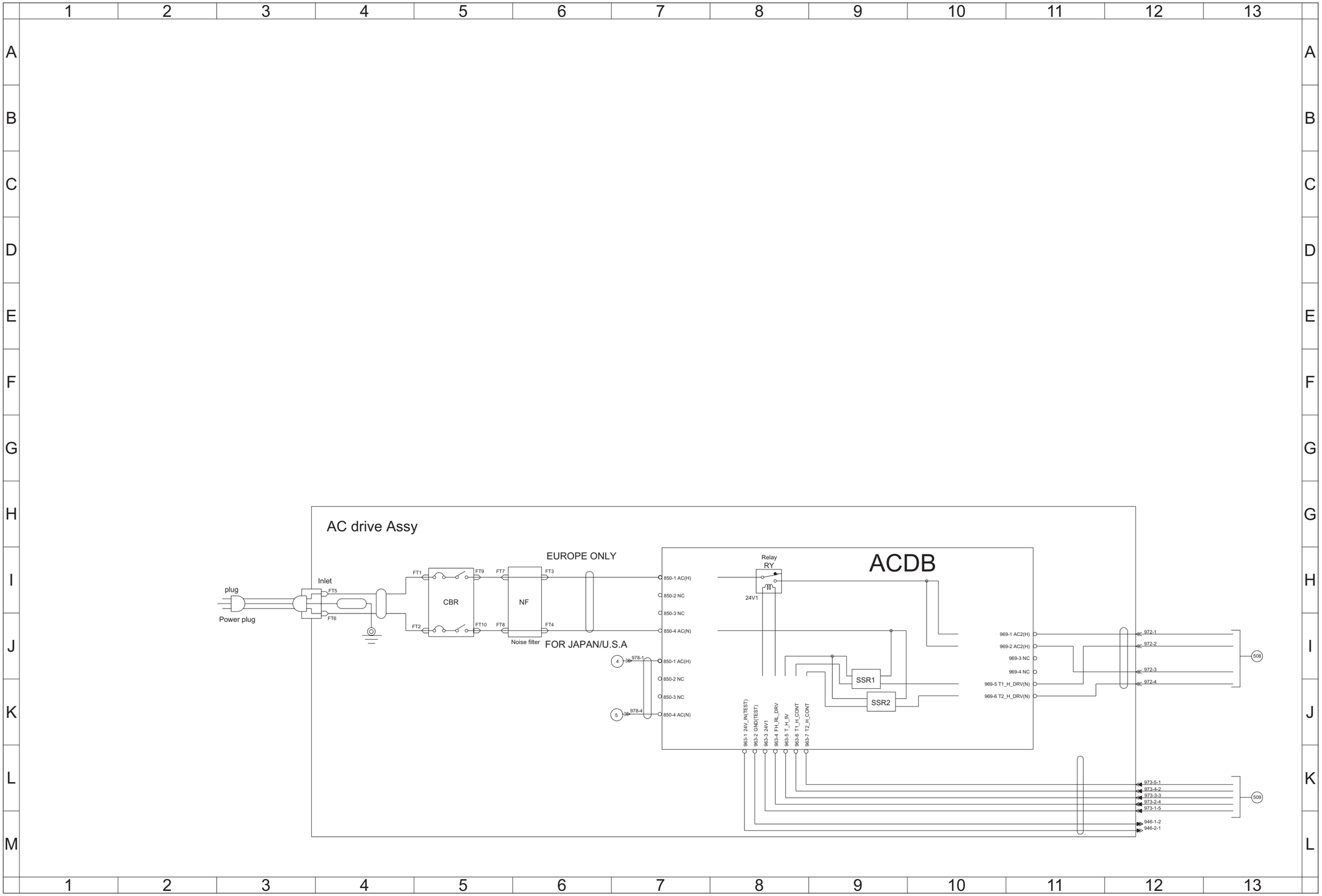
17.13 DF


DFCB
Paper feed cover sensor
PS303
No paper sensor
PS304
Registration sensor
PS301
Timing sensor
PS302
Tray open/close sensor
PS308
SIZE SENSOR BOARD
Size sensor/Rt
PS310
Size sensor/Lt
PS309
Size VR
VR301
Reverse sensor
PS305
Paper exit sensor
PS306
Paper exit cover sensor
PS307
M301
Paper feed motor
M302
Conveyance motor
M303
Reverse/Paper Exit Motor
SD302
Reverse solenoid
SD301
Paper exit solenoid
MC301
Registration clutch
Symbol
50-1
Connector
Faston
Crimp
Relay connector

DF location list

Symbol	Part name	Location
DFCB	DF control board	4-A
M301	Paper feed motor	7-A
M302	Conveyance motor	7-B
M303	Reverse/paper exit motor	7-C
MC301	Registration clutch	7-F
PS301	Registration sensor	1-B
PS302	Timing sensor	1-C
PS303	Paper feed cover sensor	1-A
PS304	No paper sensor	1-B
PS305	Reverse sensor	1-F
PS306	Paper exit sensor	1-G
PS307	Paper exit cover sensor	1-G
PS308	Tray open/close sensor	1-D
PS309	Size sensor/Lt	1-E
PS310	Size sensor/Rt	1-D
SD301	Paper exit solenoid	7-E
SD302	Reverse solenoid	7-D
SSB	Size sensor board	2-D
VR301	Size VR	1-E

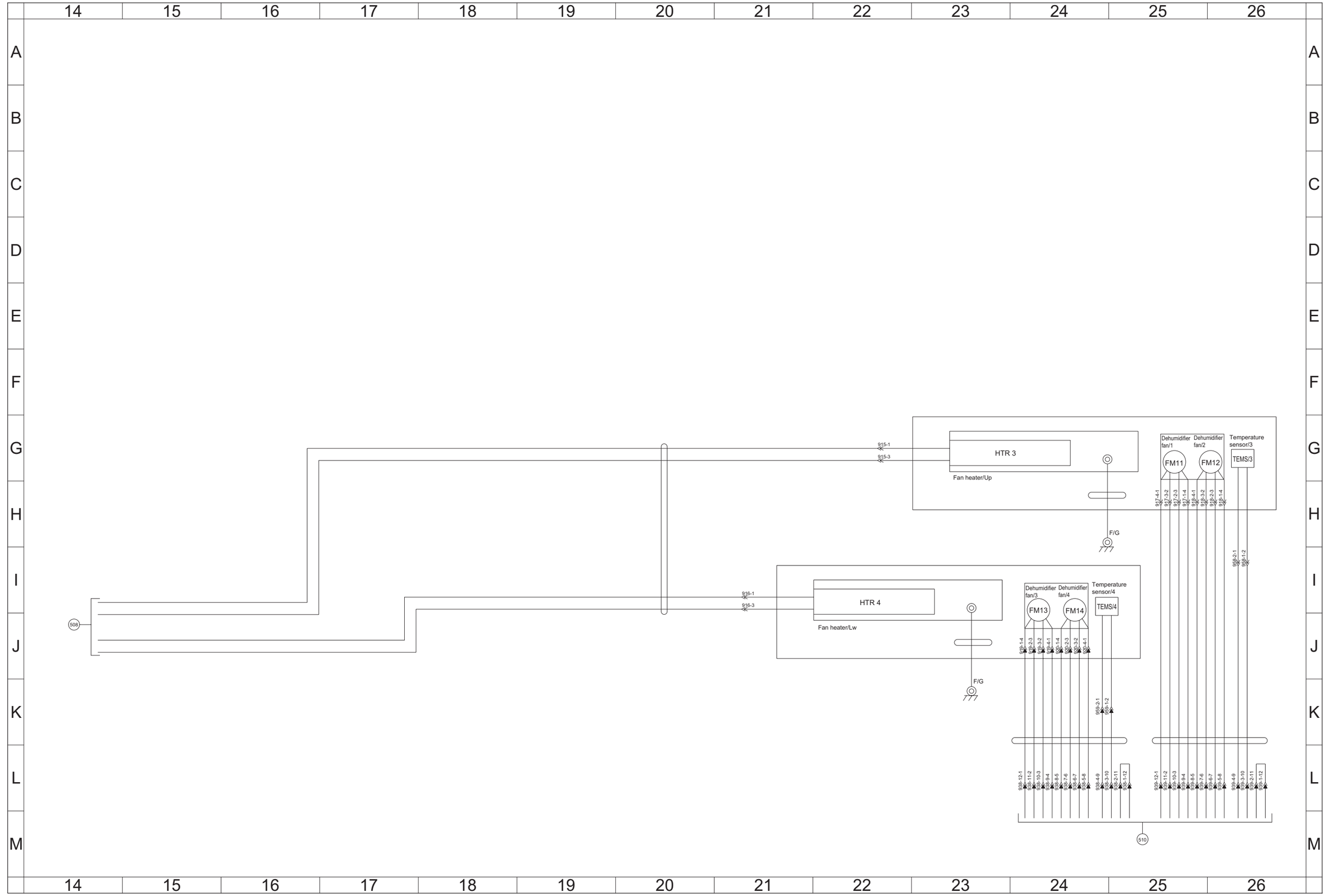
17.14 PF 1/4


AC drive Assy
EUROPE ONLY
FOR JAPAN/U.S.A
plug
Power plug
Inlet
FT1
FT2
FT5
FT6
FT7
FT8
FT9
FT10
FT3
FT4
CBR
NF
Noise filter
850-1 AC(H)
850-2 NC
850-3 NC
850-4 AC(N)
978-1
978-4
Relay
RY
24V1
ACDB
SSR1
SSR2
963-1 24V_IN(TEST)
963-2 GND(TEST)
963-3 24V1
963-4 FH_RL_DRV
963-5 T_H_5V
963-6 T1_H_CONT
963-7 T2_H_CONT
969-1 AC2(H)
969-2 AC2(H)
969-3 NC
969-4 NC
969-5 T1_H_DRV(N)
969-6 T2_H_DRV(N)
972-1
972-2
972-3
972-4
508
973-5-1
973-4-2
973-3-3
973-2-4
973-1-5
946-1-2
946-2-1
509

PF location list

Symbol	Part name	Location
ACDB	AC drive board	9-H
CBR	Circuit breaker	5-I
NF	Noise filter	6-I
RY	Relay	8-I

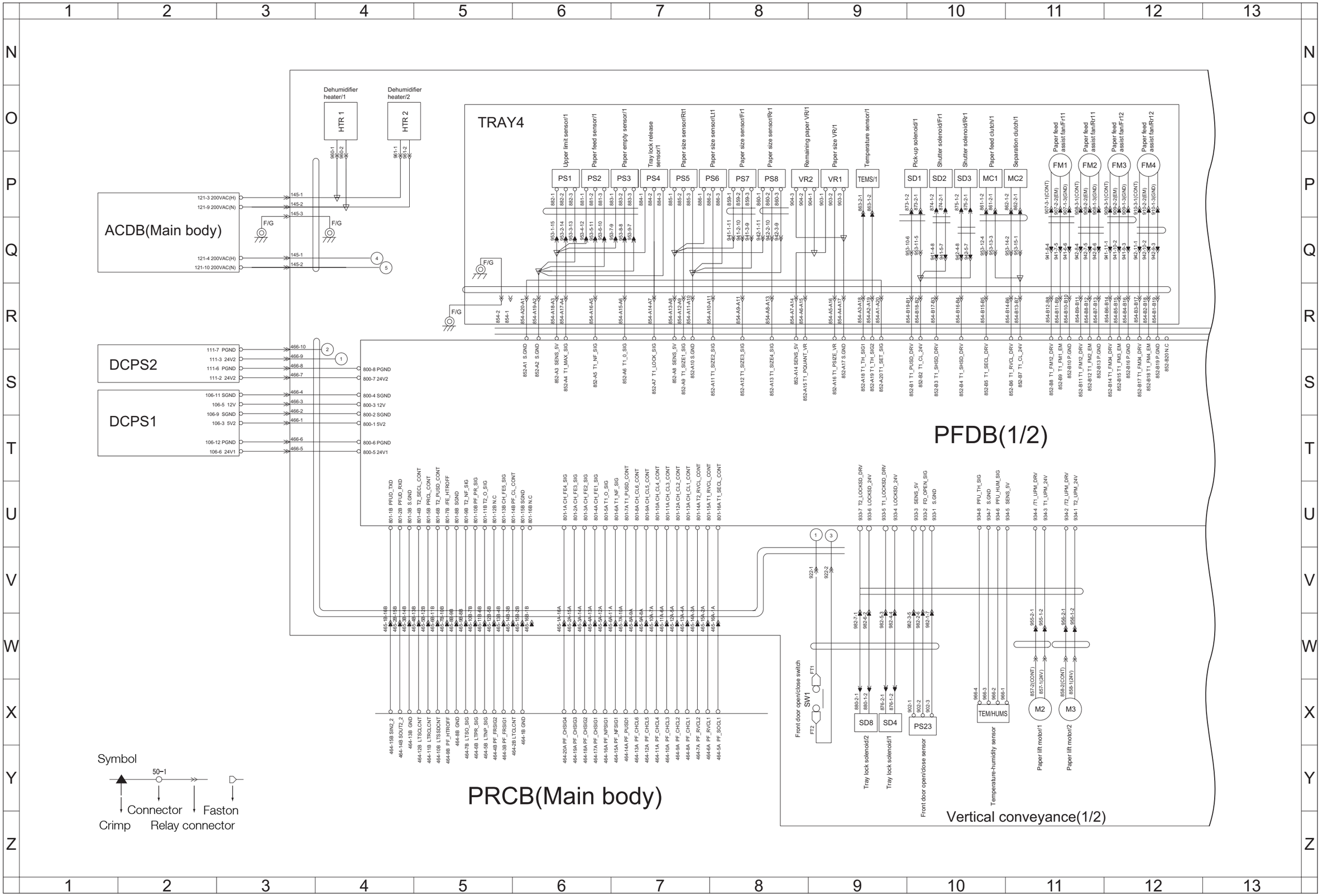
17.15 PF 2/4


915-1
915-3
HTR 3
Fan heater/Up
F/G
Dehumidifier fan/1
Dehumidifier fan/2
Temperature sensor/3
FM11
FM12
TEMS/3
917-4-1
917-3-2
917-2-3
917-1-4
918-4-1
918-3-2
918-2-3
918-1-4
958-2-1
958-1-2
916-1
916-3
HTR 4
Fan heater/Lw
F/G
Dehumidifier fan/3
Dehumidifier fan/4
Temperature sensor/4
FM13
FM14
TEMS/4
919-1-4
919-2-3
919-3-2
919-4-1
920-1-4
920-2-3
920-3-2
920-4-1
959-2-1
959-1-2
938-12-1
938-11-2
938-10-3
938-9-4
938-8-5
938-7-6
938-6-7
938-5-8
938-4-9
938-3-10
938-2-11
938-1-12
939-12-1
939-11-2
939-10-3
939-9-4
939-8-5
939-7-6
939-6-7
939-5-8
939-4-9
939-3-10
939-2-11
939-1-12
508
510

PF location list

Symbol	Part name	Location
FM11	Dehumidifier fan /1	25-G
FM12	Dehumidifier fan /2	26-G
FM13	Dehumidifier fan /3	24-I
FM14	Dehumidifier fan /4	24-I
HTR3	Fan heater /Up	23-G
HTR4	Fan heater /Lw	21-I
TEMS/3	Temperature sensor /3	26-G
TEMS/4	Temperature sensor /4	24-I

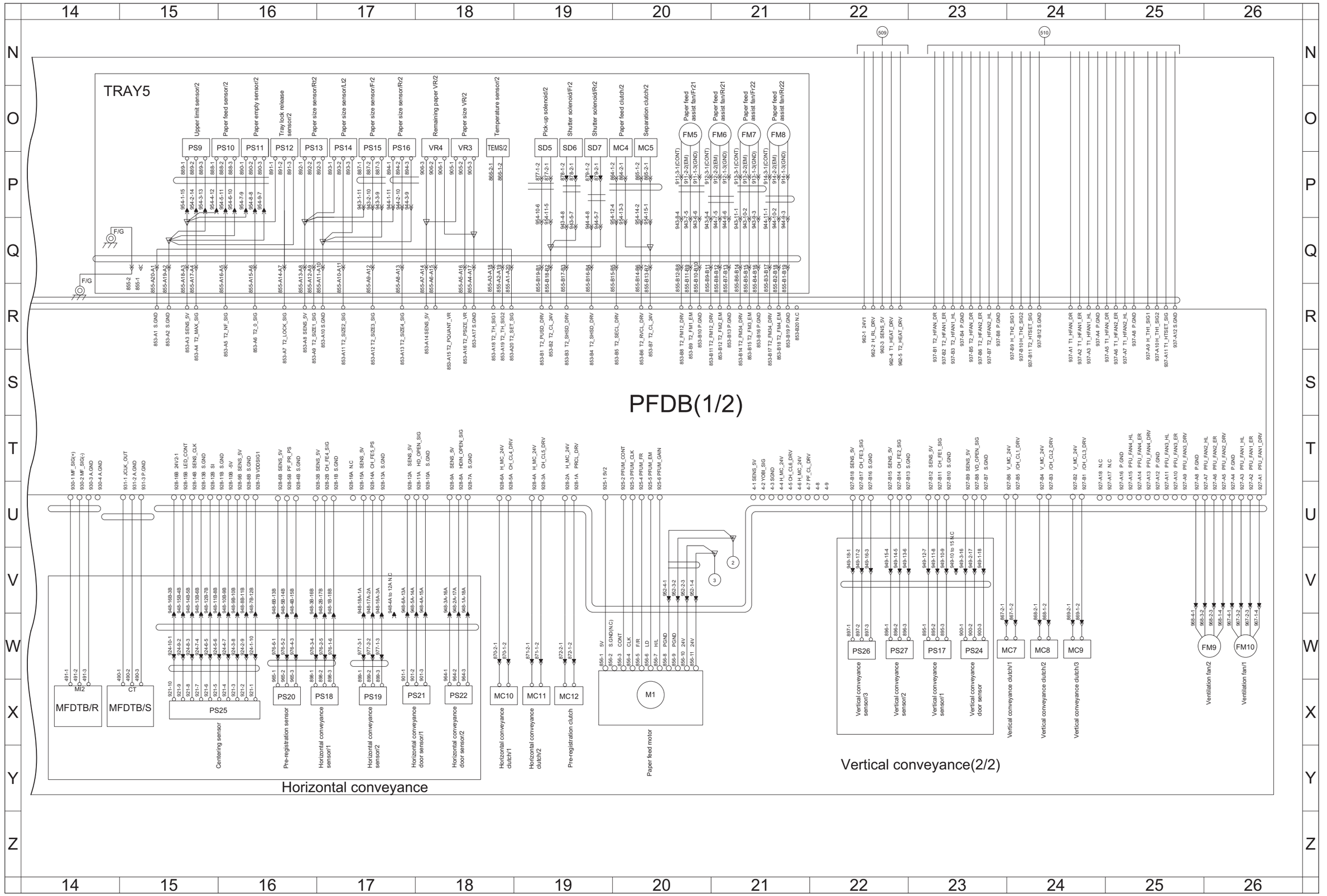
17.16 PF 3/4


Dehumidifier heater/1
Dehumidifier heater/2
HTR 1
HTR 2
ACDB(Main body)
DCPS2
DCPS1
TRAY4
PS1
PS2
PS3
PS4
PS5
PS6
PS7
PS8
VR2
VR1
TEMS/1
SD1
SD2
SD3
MC1
MC2
FM1
FM2
FM3
FM4
PFDB(1/2)
PRCB(Main body)
Vertical conveyance(1/2)
Front door open/close switch
SW1
SD8
SD4
PS23
TEM/HUMS
M2
M3
Tray lock solenoid/2
Tray lock solenoid/1
Front door open/close sensor
Temperature-humidity sensor
Paper lift motor/1
Paper lift motor/2
Symbol
Connector
Faston
Crimp
Relay connector

PF location list

Symbol	Part name	Location
ACDB(Main body)	AC drive board(Main body)	1-P
FM1	Paper feed assist fan /Fr11	11-P
FM2	Paper feed assist fan /Rr11	11-P
FM3	Paper feed assist fan /Fr12	12-P
FM4	Paper feed assist fan /Rr12	12-P
HTR1	Dehumidifier heater /1	4-O
HTR2	Dehumidifier heater /2	4-O
M2	Paper lift motor /1	11-X
M3	Paper lift motor /2	11-X
MC1	Paper feed clutch /1	10-P
MC2	Separation clutch /1	11-P
PFDB	PF drive board	4-R
PS1	Upper limit sensor /1	6-P
PS2	Paper feed sensor /1	6-P
PS3	Paper empty sensor /1	7-P
PS4	Tray lock release sensor /1	7-P
PS5	Paper size sensor /Rt1	7-P
PS6	Paper size sensor /Lt1	7-P
PS7	Paper size sensor /Fr1	8-P
PS8	Paper size sensor /Rr1	8-P
PS23	Front door open/close sensor	10-X
SD1	Pick-up solenoid /1	10-P
SD2	Shutter solenoid /Fr1	10-P
SD3	Shutter solenoid /Rr1	10-P
SD4	Tray lock solenoid /1	9-X
SD8	Tray lock solenoid /2	9-X
SW1	Front door open/close switch	8-X
VR1	Paper size VR /1	9-P
VR2	Remaining paper VR /1	8-P
TEM/HUMS	Temperature-humidity sensor	10-X
TEMS/1	Temperature sensor /1	9-P

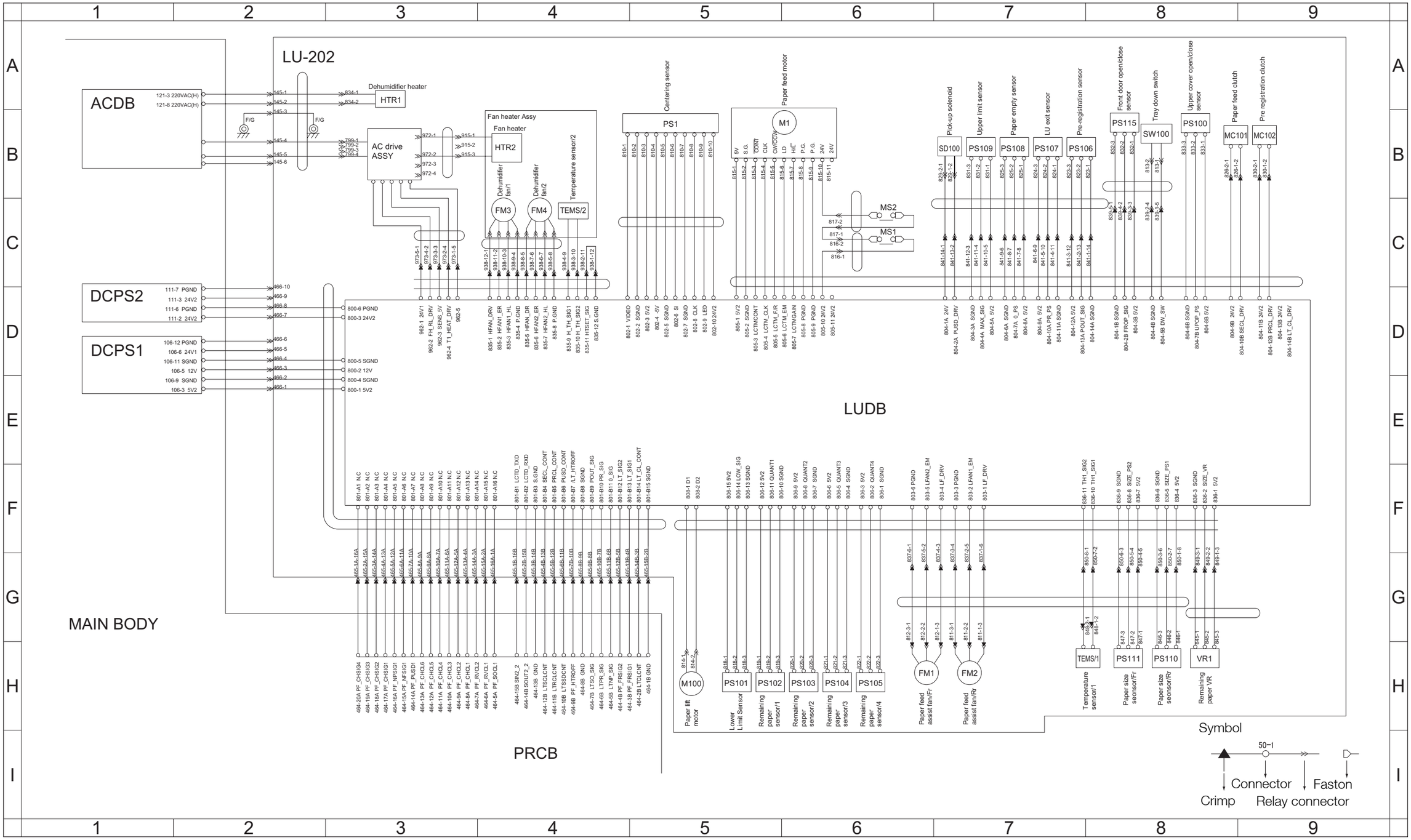
17.17 PF 4/4


TRAY5
PS9 Upper limit sensor/2
PS10 Paper feed sensor/2
PS11 Paper empty sensor/2
PS12 Tray lock release sensor/2
PS13 Paper size sensor/Rt2
PS14 Paper size sensor/Lt2
PS15 Paper size sensor/Fr2
PS16 Paper size sensor/Rr2
VR4 Remaining paper VR/2
VR3 Paper size VR/2
TEMS/2 Temperature sensor/2
SD5 Pick-up solenoid/2
SD6 Shutter solenoid/Fr2
SD7 Shutter solenoid/Rr2
MC4 Paper feed clutch/2
MC5 Separation clutch/2
FM5 Paper feed assist fan/Fr21
FM6 Paper feed assist fan/Rr21
FM7 Paper feed assist fan/Fr22
FM8 Paper feed assist fan/Rr22
F/G
PFDB(1/2)
MI2 MFDTB/R
CT MFDTB/S
PS25 Centering sensor
PS20 Pre-registration sensor
PS18 Horizontal conveyance sensor/1
PS19 Horizontal conveyance sensor/2
PS21 Horizontal conveyance door sensor/1
PS22 Horizontal conveyance door sensor/2
MC10 Horizontal conveyance clutch/1
MC11 Horizontal conveyance clutch/2
MC12 Pre-registration clutch
M1 Paper feed motor
Horizontal conveyance
PS26 Vertical conveyance sensor/3
PS27 Vertical conveyance sensor/2
PS17 Vertical conveyance sensor/1
PS24 Vertical conveyance door sensor
MC7 Vertical conveyance clutch/1
MC8 Vertical conveyance clutch/2
MC9 Vertical conveyance clutch/3
FM9 Ventilation fan/2
FM10 Ventilation fan/1
Vertical conveyance(2/2)

PF location list

Symbol	Part name	Location
FM5	Paper feed assist fan /Fr21	20-O
FM6	Paper feed assist fan /Rr21	20-O
FM7	Paper feed assist fan /Fr22	21-O
FM8	Paper feed assist fan /Rr22	21-O
FM9	Ventilation fan /2	25W
FM10	Ventilation fan /1	26W
M1	Paper feed motor	20-X
MC4	Paper feed clutch /2	19-O
MC5	Separation clutch /2	20-O
MC7	Vertical conveyance clutch /1	23-W
MC8	Vertical conveyance clutch /2	24-W
MC9	Vertical conveyance clutch /3	24-W
MC10	Horizontal conveyance clutch /1	18-X
MC11	Horizontal conveyance clutch /2	19-X
MC12	Pre-registration clutch	19-X
MFDTB/R	Multi feed detection board /R	14-X
MFDTB/S	Multi feed detection board /S	14-X
PFDB	PF drive board	20-S
PS9	Upper limit sensor /2	15-O
PS10	Paper feed sensor /2	15-O
PS11	Paper empty sensor /2	16-O
PS12	Tray lock release sensor /2	16-O
PS13	Paper size sensor /Rt2	16-O
PS14	Paper size sensor /Lt2	17-O
PS15	Paper size sensor /Fr2	17-O
PS16	Paper size sensor /Rr2	17-O
PS17	Vertical conveyance sensor /1	23-W
PS18	Horizontal conveyance sensor /1	17-X
PS19	Horizontal conveyance sensor /2	17-X
PS20	Pre-registration sensor15-U	16-X
PS21	Horizontal conveyance door sensor /1	18-X
PS22	Horizontal conveyance door sensor /2	18-X
PS24	Vertical conveyance door sensor	23-W
PS25	Centering sensor	15-X
PS26	Vertical conveyance sensor /3	22-W
PS27	Vertical conveyance sensor /2	22-W
SD5	Pick-up solenoid /2	19-O
SD6	Shutter solenoid /Fr2	19-O
SD7	Shutter solenoid /Rr2	19-O
TEMS/2	Temperature sensor /2	18-O
VR3	Paper size VR/217-K	18-O
VR4	Remaining paper VR /217-K	18-O

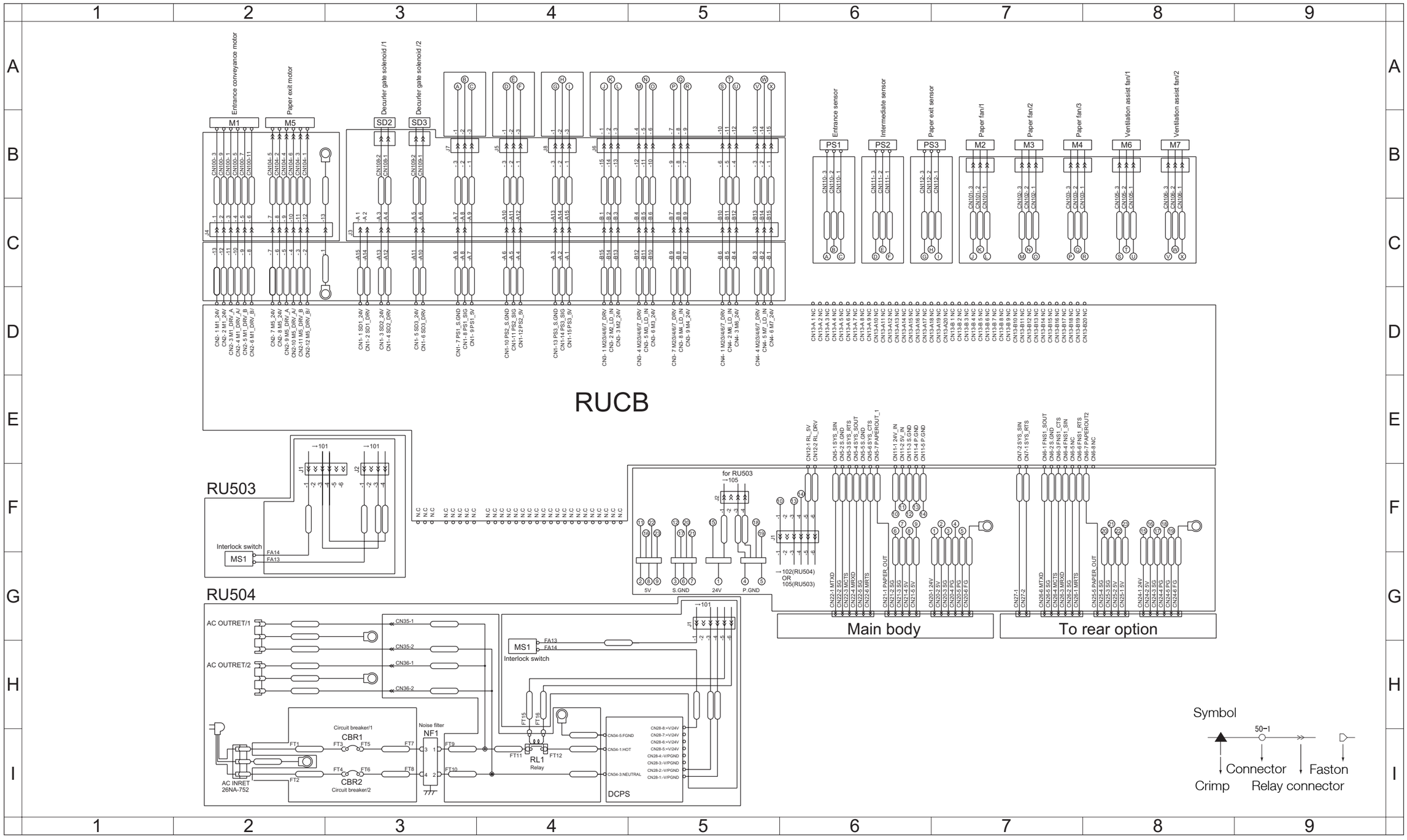
17.18 LU


LU-202
ACDB
121-3 220VAC(H)
121-8 220VAC(H)
F/G
Dehumidifier heater
HTR1
AC drive ASSY
Fan heater Assy
Fan heater
HTR2
Dehumidifier fan/1
Dehumidifier fan/2
Temperature sensor/2
FM3
FM4
TEMS/2
Centering sensor
PS1
Paper feed motor
M1
MS2
MS1
Pick-up solenoid
SD100
Upper limit sensor
PS109
Paper empty sensor
PS108
LU exit sensor
PS107
Pre-registration sensor
PS106
Front door open/close sensor
PS115
Tray down switch
SW100
Upper cover open/close sensor
PS100
Paper feed clutch
MC101
Pre registration clutch
MC102
DCPS2
DCPS1
LUDB
MAIN BODY
PRCB
M100
Paper lift motor
PS101
Lower Limit Sensor
PS102
Remaining paper sensor/1
PS103
Remaining paper sensor/2
PS104
Remaining paper sensor/3
PS105
Remaining paper sensor/4
FM1
Paper feed assist fan/Fr
FM2
Paper feed assist fan/Rr
TEMS/1
Temperature sensor/1
PS111
Paper size seonsor/Fr
PS110
Paper size seonsor/Rr
VR1
Remaining paper VR
Symbol
Connector
Crimp
Relay connector
Faston

LU location list

Symbol	Part name	Location
FM1	Paper feed assist fan /Fr	6-H
FM2	Paper feed assist fan /Rr	7-H
FM3	Dehumidifier fan /1	4-C
FM4	Dehumidifier fan /2	4-C
HTR1	Dehumidifier heater /1	3-A
HTR2	Dehumidifier heater /2	4-B
LUDB	LU drive board	3-D
M1	Paper feed motor	5-B
M100	Paper lift motor	5-H
MC101	Paper feed clutch	8-B
MC102	Pre-registration clutch	9-B
MS1	Interlock switch /1	6-C
MS2	Interlock switch /2	6-C
PS1	Centering sensor	5-B
PS100	Upper door sensor	8-B
PS101	Lower limit sensor	5-H
PS102	Remaining paper sensor /1	5-H
PS103	Remaining paper sensor /2	6-H
PS104	Remaining paper sensor /3	6-H
PS105	Remaining paper sensor /4	6-H
PS106	Pre-registration sensor	7-B
PS107	LU exit sensor	7-B
PS108	Paper empty sensor	7-B
PS109	Upper limit sensor	7-B
PS110	Paper size sensor /Fr	7-B
PS111	Paper size sensor /Rr	8-H
PS115	Front door sensor	8-B
SD100	Pick-up solenoid	7-B
SW100	Tray down switch	8-B
TEMS/1	Temperature sensor /1	8-H
TEMS/2	Temperature sensor /2	4-C
VR1	Paper size VR	8-H

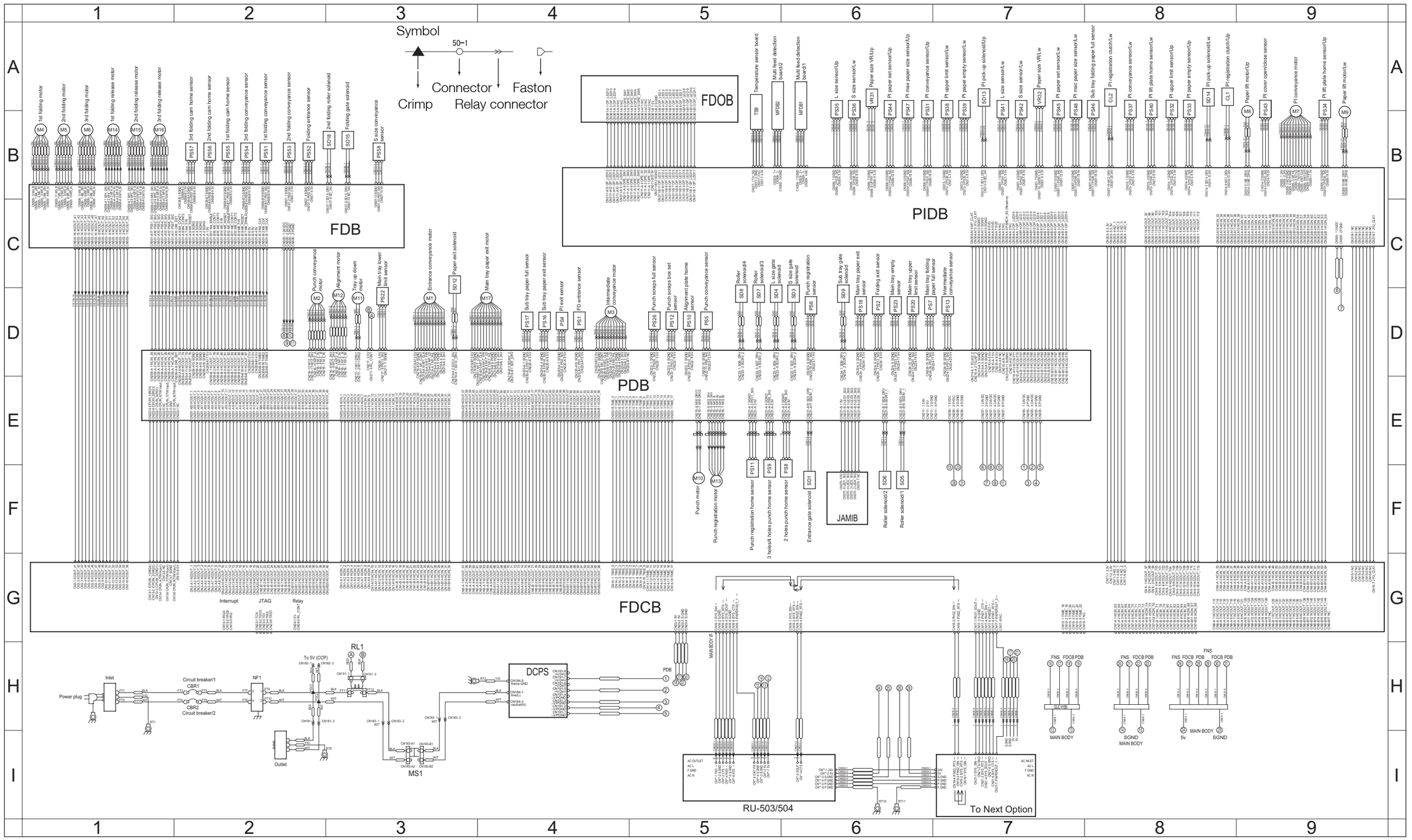
17.19 RU


RUCB
Entrance conveyance motor
Paper exit motor
Decurler gate solenoid /1
Decurler gate solenoid /2
Entrance sensor
Intermediate sensor
Paper exit sensor
Paper fan/1
Paper fan/2
Paper fan/3
Ventilation assist fan/1
Ventilation assist fan/2
RU503
Interlock switch
RU504
AC OUTRET/1
AC OUTRET/2
AC INRET
26NA-752
Circuit breaker/1
CBR1
Circuit breaker/2
CBR2
Noise filter
NF1
RL1
Relay
DCPS
for RU503
102(RU504)
OR
105(RU503)
Main body
To rear option
Symbol
Connector
Crimp
Relay connector
Faston

RU location list

Symbol	Part name	Location
CBR1	Circuit breaker /1	3-I
CBR2	Circuit breaker /2	3-I
DCPS	DC power supply	5-I
M1	Entrance conveyance motor	2-B
M2	Paper fan/1	7-B
M3	Paper fan/2	7-B
M4	Paper fan/3	7-B
M5	Paper exit motor	2-B
M6	Ventilation assist fan /1	8-B
M7	Ventilation assist fan /2	8-B
MS1	Interlock switch	2-G,4-H
NF	Noise filter	3-I
PS1	Entrance sensor	6-B
PS2	Intermediate sensor	6-B
PS3	Paper exit sensor	6-B
RL1	Relay	4-I
RUCB	RU control board	2-D
SD2	Decurler gate solenoid /1	3-B
SD3	Decurler gate solenoid /2	3-B

17.20 FD


Symbol
50-1
Connector
Faston
Crimp
Relay connector
FDB
FDOB
PIDB
PDB
FDCB
JAMIB
DCPS
RL1
MS1
RU-503/504
To Next Option
Inlet
Power plug
Circuit breaker/1
CBR1
CBR2
Circuit breaker/2
NF1
Outlet
To 5V (CCP)
Interrupt
JTAG
Relay
MAIN BODY IF
MAIN BODY
SGND
5v
FNS
1st folding motor
2nd folding motor
3rd folding motor
1st folding release motor
2nd folding release motor
3rd folding release motor
3rd folding cam home sensor
2nd folding cam home sensor
1st folding cam home sensor
3rd folding conveyance sensor
1st folding conveyance sensor
2nd folding conveyance sensor
Folding entrance sensor
2nd folding roller solenoid
Folding gate solenoid
S size conveyance sensor
Punch conveyance motor
Alignment motor
Tray up down motor
Main tray lower limit sensor
Entrance conveyance motor
Paper exit solenoid
Main tray paper exit motor
Sub tray paper full sensor
Sub tray paper exit sensor
PI exit sensor
FD entrance sensor
Intermediate conveyance motor
Punch scraps full sensor
Punch scraps box set sensor
Alignment plate home sensor
Punch conveyance sensor
Roller solenoid/4
Roller solenoid/3
L size gate solenoid
S size gate solenoid
Punch registration sensor
Sub tray gate solenoid
Main tray paper exit sensor
Folding exit sensor
Main tray empty sensor
Main tray upper limit sensor
Main tray folding paper full sensor
Intermediate conveyance sensor
Temperature sensor board
Multi feed detection board/2
Multi feed detection board/1
L size sensor/Up
S size sensor/Up
Paper size VR/Up
PI paper set sensor/Up
PI max paper size sensor/Up
PI conveyance sensor/Up
PI upper limit sensor/Lw
PI paper empty sensor/Lw
PI pick-up solenoid/Up
L size sensor/Lw
S size sensor/Lw
Paper size VR/Lw
PI paper set sensor/Lw
PI max paper size sensor/Lw
Sub tray folding paper full sensor
PI registration clutch/Lw
PI conveyance sensor/Lw
PI lift plate home sensor/Lw
PI upper limit sensor/Up
PI paper empty sensor/Up
PI pick-up solenoid/Lw
PI registration clutch/Up
Paper lift motor/Up
PI cover openclose sensor
PI conveyance motor
PI lift plate home sensor/Up
Paper lift motor/Lw
Punch motor
Punch registration motor
Punch registration home sensor
3 holes/4 holes punch home sensor
2 holes punch home sensor
Entrance gate solenoid
Roller solenoid/2
Roller solenoid/1

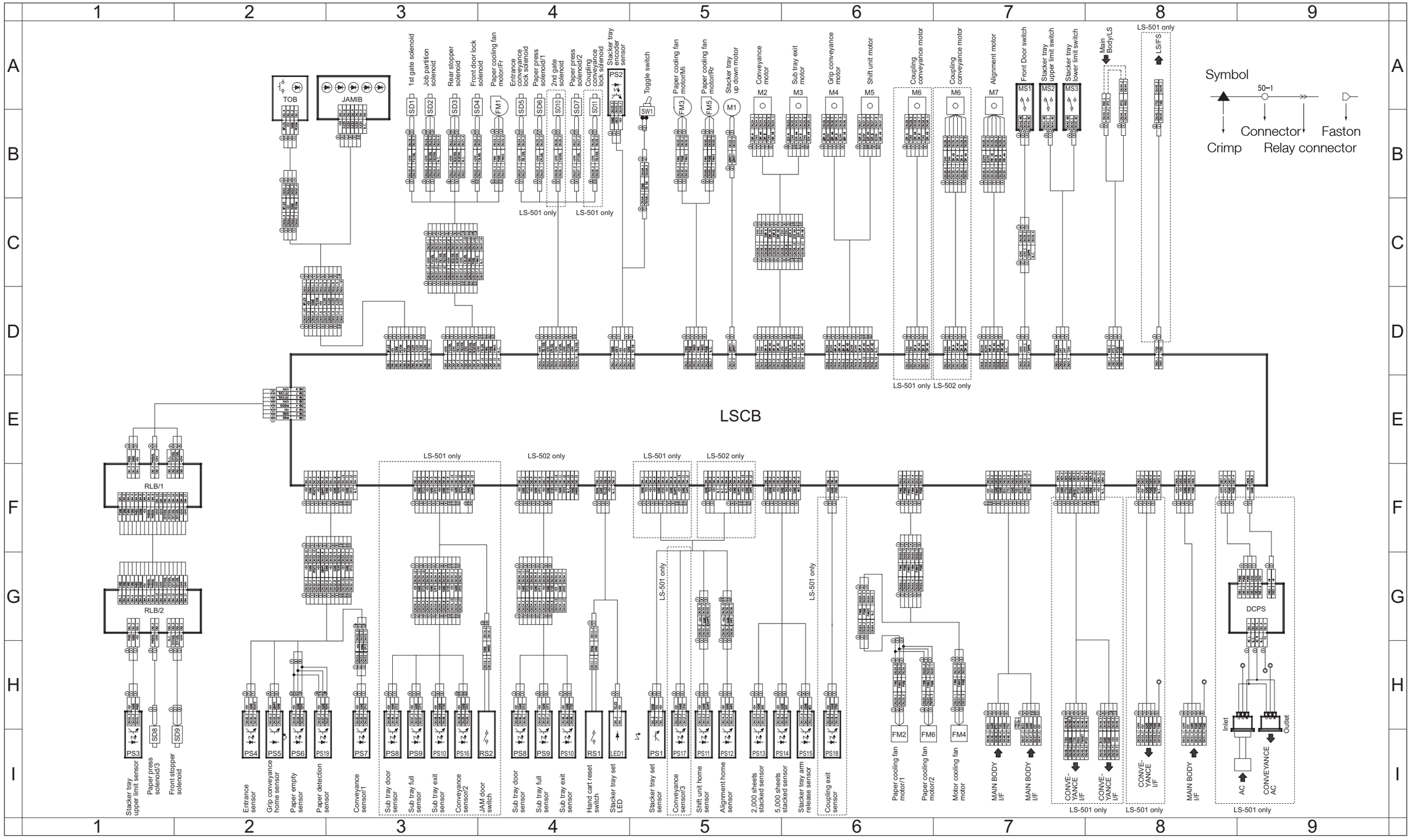
FD location list

Symbol	Part name	Location
-	Outlet	2-I
-	Inlet	1-H
-	Power plug	1-H
CBR1	Circuit breaker /1	2-H
CBR2	Circuit breaker /2	2-H
CL1	PI registration clutch /Up	8-A
CL2	PI registration clutch /Lw	8-A
DCPS	DC power supply	4-H
FDB	Folding drive board	1-B
FDCB	FD control board	1-G
FDOB	FD operation board	4-A
JAMIB	Jam indicator board	6-F
M1	Entrance conveyance motor	3-D
M2	Punch conveyance motor	2-D
M3	Intermediate conveyance motor	4-D
M4	1st folding motor	1-B
M5	2nd folding motor	1-B
M6	3rd folding motor	1-B
M7	PI conveyance motor	9-A
M8	Paper lift motor /Up	9-A
M9	Paper lift motor /Lw	9-A
M10	Punch motor	5-F
M11	Tray up down motor	3-D
M12	Alignment motor	3-D
M13	Punch registration motor	5-F
M14	1st folding release motor	1-B
M15	2nd folding release motor	1-B
M16	3rd folding release motor	1-B
M17	Main tray paper exit motor	4-D
MFDB1	Multi feed detection board /1	6-A
MFDB2	Multi feed detection board /2	5-A
MS1	Door switch	3-I
NF1	Noise filter	2-H

Symbol	Part name	Location
PDB	Punch drive board	1-D
PIDB	PI drive board	4-B
PS1	FD entrance sensor	4-D
PS2	Folding exit sensor	6-D
PS4	PI exit sensor	4-D
PS5	Punch conveyance sensor	5-D
PS6	Punch registration sensor	6-D
PS7	Main tray folding paper full sensor	6-D
PS8	2 holes punch home sensor	5-E
PS9	3 holes/4 holes home sensor	5-E
PS10	Alignment plate home sensor	5-D
PS11	Punch registration home sensor	5-E
PS12	Punch scraps box set sensor	5-D
PS13	Intermediate conveyance sensor	7-D
PS16	Sub tray paper exit sensor	4-D
PS17	Sub tray paper full sensor	4-D
PS18	Main tray paper exit sensor	6-D
PS20	Main tray upper limit sensor	6-D
PS22	Main tray lower limit sensor	3-D
PS23	Main tray empty sensor	6-D
PS26	Punch scraps full sensor	5-D
PS31	PI conveyance sensor /Up	6-A
PS32	PI upper limit sensor /Up	8-A
PS33	PI paper empty sensor /Up	8-A
PS34	PI lift plate home sensor /Up	9-A
PS35	L size sensor /Up	6-A
PS36	S size sensor /Up	6-A
PS37	PI conveyance sensor /Lw	8-A
PS38	PI upper limit sensor /Lw	7-A
PS39	PI paper empty sensor /Lw	7-A
PS40	PI lift plate home sensor /Lw	8-A
PS41	L size sensor /Lw	7-A
PS42	S size sensor /Lw	7-A

Symbol	Part name	Location
PS43	PI cover open/close sensor	9-A
PS44	PI paper set sensor /Up	6-A
PS45	PI paper set sensor /Lw	7-A
PS46	Sub tray folding paper full sensor	8-A
PS47	PI max paper size sensor /Up	6-A
PS48	PI max paper size sensor /Lw	6-A
PS51	1st folding conveyance sensor	2-B
PS52	Folding entrance sensor	2-B
PS53	2nd folding conveyance sensor	2-B
PS54	3rd folding conveyance sensor	2-B
PS55	1st folding cam home sensor	2-B
PS56	2nd folding cam home sensor	2-B
PS57	3rd folding cam home sensor	2-B
PS58	S size conveyance sensor	3-B
RL1	Relay	3-H
SD1	Entrance gate solenoid	6-F
SD3	S size gate solenoid	6-C
SD4	L size gate solenoid	5-C
SD5	Roller solenoid /1	6-F
SD6	Roller solenoid /2	6-F
SD7	Roller solenoid /3	5-C
SD8	Roller solenoid /4	5-C
SD9	Sub tray gate solenoid	6-C
SD12	Paper exit solenoid	3-C
SD13	PI pick-up solenoid /Up	7-A
SD14	PI pick-up solenoid /Lw	8-A
SD15	Folding gate solenoid	3-B
SD18	2nd folding roller solenoid	2-B
VR31	Paper size VR /Up	6-A
VR32	Paper size VR /Lw	7-A
TSB	Temperature sensor board	5-A

17.21 LS


TOB
JAMIB
1st gate solenoid
Job partition solenoid
Rear stopper solenoid
Front door lock solenoid
Paper cooling fan motor/Fr
Entrance conveyance lock solenoid
Paper press solenoid/1
2nd gate solenoid
Paper press solenoid/2
Coupling conveyance lock solenoid
Stacker tray encoder sensor
PS2
Toggle switch
SW1
Paper cooling fan motor/Mi
FM3
Paper cooling fan motor/Rr
FM5
Stacker tray up down motor
M1
Conveyance motor
M2
Sub tray exit motor
M3
Grip conveyance motor
M4
Shift unit motor
M5
Coupling conveyance motor
M6
Alignment motor
M7
Front Door switch
MS1
Stacker tray upper limit switch
MS2
Stacker tray lower limit switch
MS3
Main Body/LS
LS/FS
LS-501 only
LS-502 only
Symbol
50-1
Connector
Crimp
Relay connector
Faston
LSCB
RLB/1
RLB/2
SD6
SD9
PS3
Stacker tray upper limit sensor
Paper press solenoid/3
Front stopper solenoid
PS4
Entrance sensor
PS5
Grip conveyance home sensor
PS6
Paper empty sensor
PS19
Paper detection sensor
PS7
Conveyance sensor/1
PS8
Sub tray door sensor
PS9
Sub tray full sensor
PS10
Sub tray exit sensor
PS16
Conveyance sensor/2
RS2
JAM door switch
PS8
Sub tray door sensor
PS9
Sub tray full sensor
PS10
Sub tray exit sensor
RS1
Hand cart reset switch
LED1
Stacker tray set LED
PS1
Stacker tray set sensor
PS17
Conveyance sensor/3
PS11
Shift unit home sensor
PS12
Alignment home sensor
PS13
2,000 sheets stacked sensor
PS14
5,000 sheets stacked sensor
PS15
Stacker tray arm release sensor
PS18
Coupling exit sensor
FM2
Paper cooling fan motor/1
FM6
Paper cooling fan motor/2
FM4
Motor cooling fan motor
MAIN BODY I/F
CONVE-YANCE I/F
DCPS
Inlet
Outlet
AC
CONVEYANCE AC

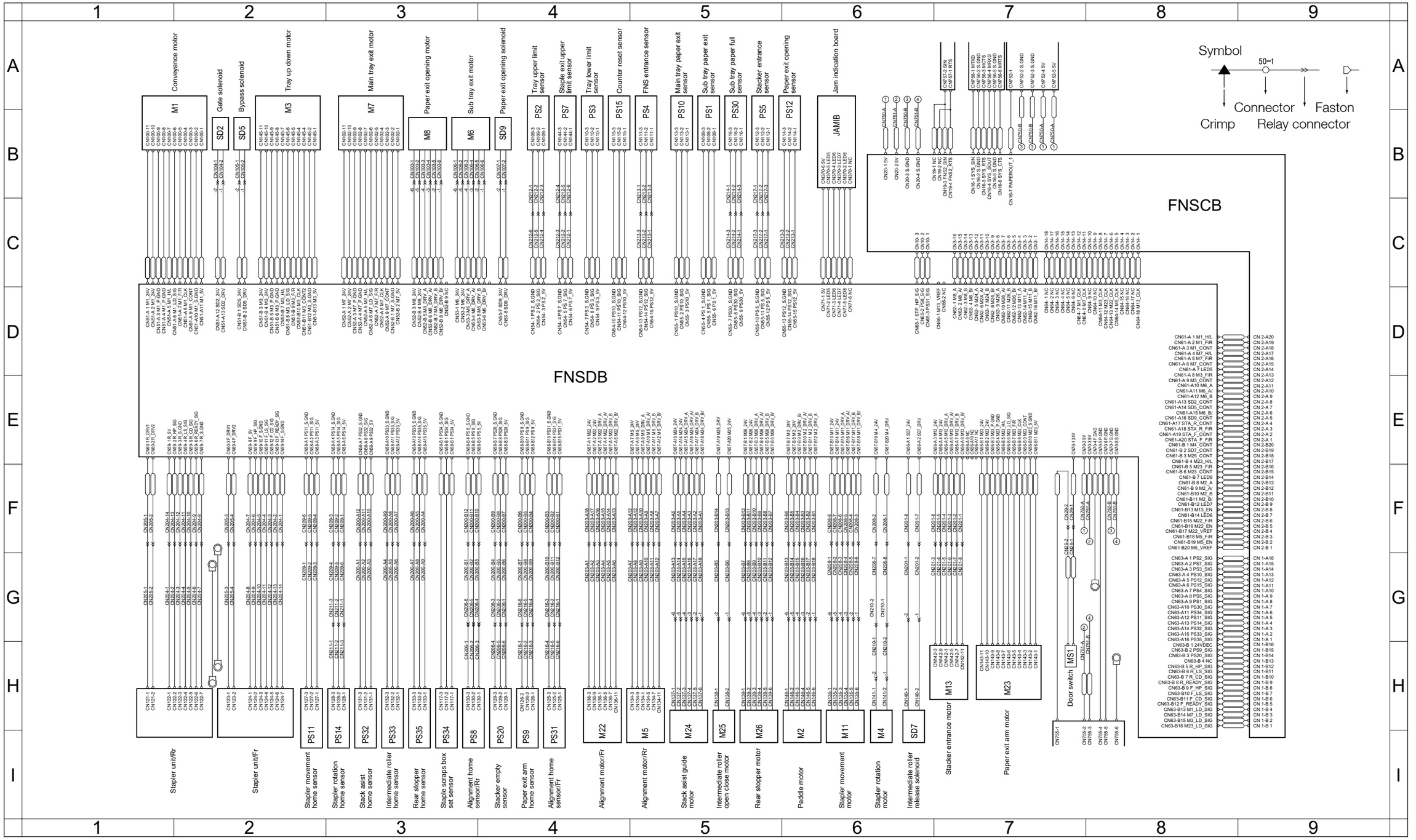
LS location list

Symbol	Part name	Location
M1	Stacker tray up down motor	5-A
M2	Conveyance motor	5-A
M3	Sub tray exit motor	6-A
M4	Grip conveyance motor	6-A
M5	Shift unit motor	6-A
M6	Coupling conveyance motor	6-A (LS-501)
		7-A (LS-502)
M7	Alignment motor	7-A
FM1	Paper cooling fan motor /Fr	4-A
FM2	Paper cooling fan motor /1	6-H
FM3	Paper cooling fan motor /Mi	5-A
FM4	Motor cooling fan motor	7-H
FM5	Paper cooling fan motor /Rr	5-A
FM6	Paper cooling fan motor /2	6-H
SD1	1st gate solenoid	3-A
SD2	Job partition solenoid	3-A
SD3	Rear stopper solenoid	3-A
SD4	Front door lock solenoid	4-A
SD5	Entrance conveyance lock solenoid	4-A
SD6	Paper press solenoid /1	4-A
SD7	Paper press solenoid /2	4-A
SD8	Paper press solenoid /3	2-H
SD9	Front stopper solenoid	2-H
SD10	2nd gate solenoid	4-A (LS-501 only)
SD11	Coupling conveyance lock solenoid	4-A (LS-501 only)
SW1	Toggle switch	5-B
LED1	Stacker tray set LED	4-H
PS1	Stacker tray set sensor	5-H
PS2	Stacker tray encoder sensor	5-A
PS3	Stacker tray upper limit sensor	2-H
PS4	Entrance sensor	2-H

Symbol	Part name	Location
PS5	Grip conveyance sensor	2-H
PS6	Paper empty sensor	3-H
PS7	Conveyance sensor /1	3-H
PS8	Sub tray door sensor	3-H (LS-501)
		4-H (LS-502)
PS9	Sub tray full sensor	3-H (LS-501)
		4-H (LS-502)
PS10	Sub tray paper exit sensor	3-H (LS-501)
		4-H (LS-502)
PS11	Shift unit home sensor	5-H
PS12	Alignment plate home sensor	5-H
PS13	2,000 sheets stacked sensor	5-H
PS14	5,000 sheets stacked sensor	5-H
PS15	Stacker tray arm release sensor	6-H
PS16	Conveyance sensor /2	3-H (LS-501 only)
PS17	Conveyance sensor /3	5-H (LS-501 only)
PS18	Coupling exit sensor	6-H (LS-501 only)
PS19	Paper detection sensor	4-H
RS1	Hand cart set switch	4-H (LS-501 only)
RS2	JAM door switch	7-A
MS1	Front door switch	7-A
MS2	Stacker tray upper limit switch	7-A
MS3	Stacker tray lower limit switch	2-A
TOB	Stacker tray operation board	3-A
JAMIB	Jam indication board	2-F
RLB/1	Relay board /1	2-G
RLB/2	Relay board /2	2-D
LSCB	LS control board	8-G (LS-501 only)
DCPS	DC power supply	8-H (LS-501 only)
	Inlet	8-H (LS-501 only)
	Outlet	3-H

17.22 FS

17.22.1 FS-503

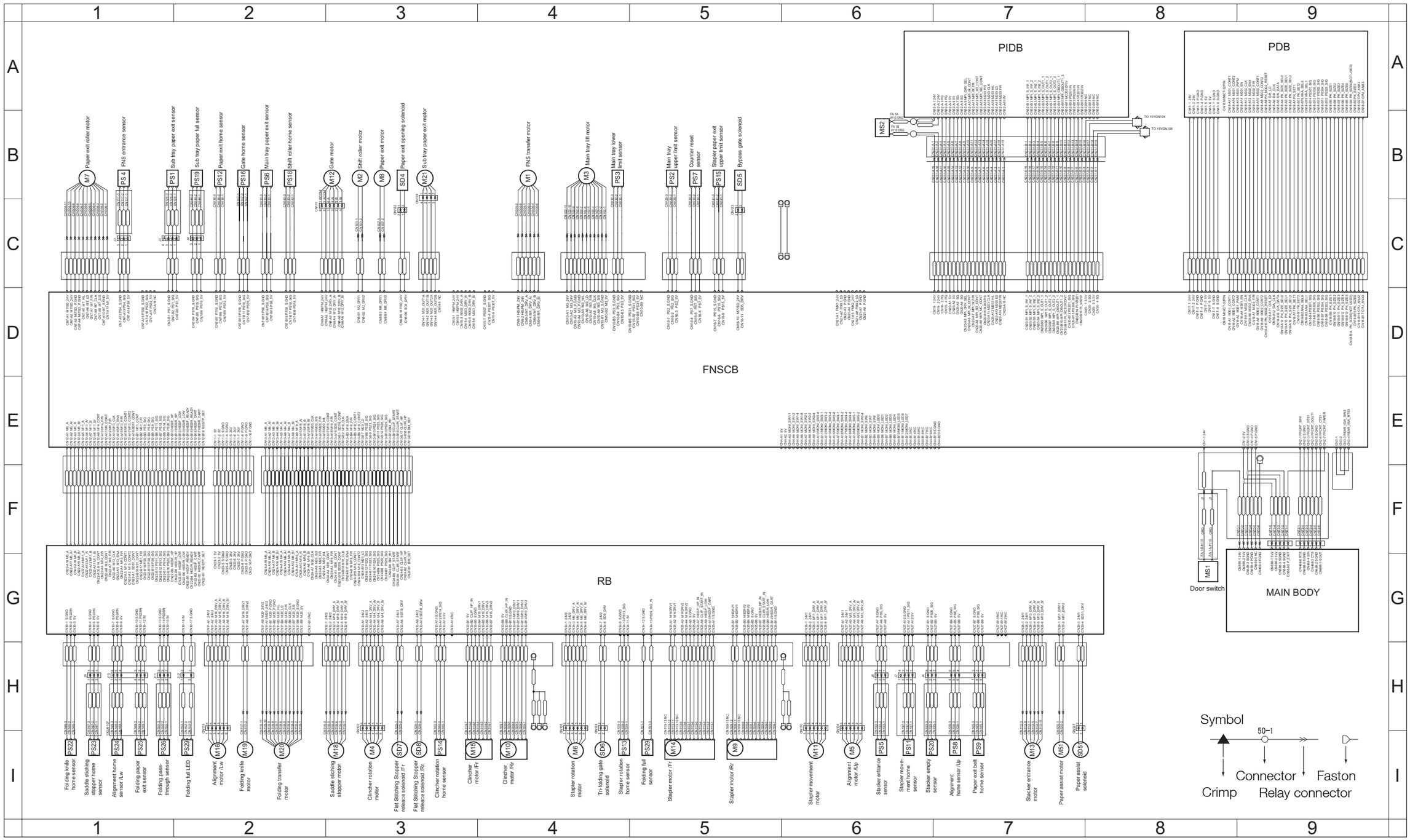


FS-503 location list

Symbol	Part name	Location
FNSCB	FNS control board	6-B
FNSDB	FNS drive board	1-C
JAMIB	Jam indication board	6-A
M1	Conveyance motor	1-A
M2	Paddle motor	6-H
M3	Tray up down motor	2-A
M4	Stapler rotation motor	6-H
M5	Alignment motor /Rr	4-H
M6	Sub tray exit motor	3-B
M7	Main tray exit motor	3-A
M8	Paper exit opening motor	3-B
M11	Stapler movement motor	6-H
M13	Stacker entrance motor	6-H
M30	Stapler motor /Rr	Inside the stapler unit /Rr
M31	Stapler motor /Fr	Inside the stapler unit /Fr
M22	Alignment motor /Fr	4-H
M23	Paper exit arm motor	7-H
M24	Stack assist guide motor	5-H
M25	Intermediate roller open close motor	5-H
M26	Rear stopper motor	5-H
MS1	Door switch	7-H
PS1	Sub tray paper exit sensor	5-A
PS2	Tray upper limit sensor	4-A
PS3	Tray lower limit sensor	4-A
PS4	FNS entrance sensor	5-A
PS5	Stacker entrance sensor	5-A
PS7	Staple exit upper limit sensor	4-A

Symbol	Part name	Location
PS8	Alignment home sensor /Rr	3-H
PS9	Paper exit arm home sensor	4-H
PS10	Main tray paper exit sensor	5-A
PS11	Stapler movement home sensor	2-H
PS12	Paper exit opening sensor	5-A
PS14	Stapler rotation home sensor	3-H
PS15	Counter reset sensor	4-A
PS20	Stacker empty sensor	4-H
PS30	Sub tray paper full sensor	5-A
PS31	Alignment home sensor /Fr	4-H
PS32	Stack assist home sensor	3-H
PS33	Intermediate roller home sensor	3-H
PS34	Staple scraps box set sensor	3-H
PS35	Rear stopper home sensor	3-H
PS40	Stapler home sensor /Rr	Inside the stapler unit /Rr
PS41	Stapler home sensor /Fr	Inside the stapler unit /Fr
PS42	Cartridge set sensor /Rr	Inside the stapler unit /Rr
PS43	Cartridge set sensor /Fr	Inside the stapler unit /Fr
PS44	Staple empty sensor /Rr	Inside the stapler unit /Rr
PS45	Staple empty sensor /Fr	Inside the stapler unit /Fr
PS46	Stapler ready sensor /Rr	Inside the stapler unit /Rr
PS47	Stapler ready sensor /Fr	Inside the stapler unit /Fr
SD2	Gate solenoid	2-B
SD5	Bypass solenoid	2-B
SD7	Intermediate roller release solenoid	6-H
SD9	Paper exit opening solenoid	4-B
STB	Stapler board	

17.22.2 FS-607

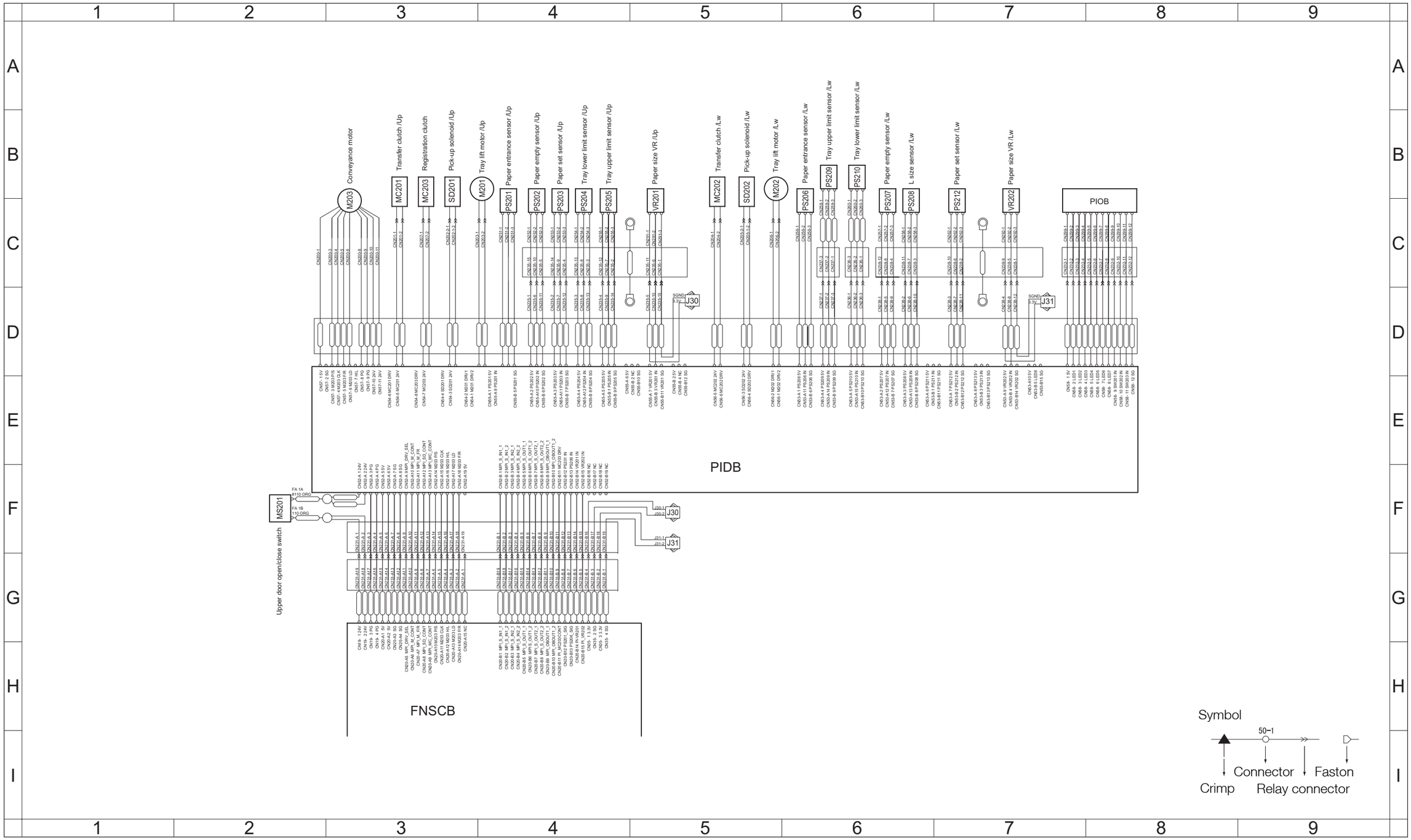

PIDB
PDB
FNSCB
RB
MAIN BODY
Door switch
Paper exit roller motor
FNS entrance sensor
Sub tray paper exit sensor
Sub tray paper full sensor
Paper exit home sensor
Gate home sensor
Main tray paper exit sensor
Shift roller home sensor
Gate motor
Shift roller motor
Paper exit motor
Paper exit opening solenoid
Sub tray paper exit motor
FNS transfer motor
Main tray lift motor
Main tray lower limit sensor
Main tray upper limit sensor
Counter reset sensor
Stapler paper exit upper limit sensor
Bypass gate solenoid
Folding knife home sensor
Saddle stiching stopper home sensor
Alignment home sensor /Lw
Folding paper exit sensor
Folding pass-through sensor
Folding full LED
Alignment motor /Lw
Folding knife motor
Folding transfer motor
Saddle stiching stopper motor
Clincher rotation motor
Flat Stitching Stopper release solenoid /Fr
Flat Stitching Stopper release solenoid /Rr
Clincher rotation home sensor
Clincher motor /Fr
Clincher motor /Rr
Stapler rotation motor
Tri-folding gate solenoid
Stapler rotation home sensor
Folding full sensor
Stapler motor /Fr
Stapler motor /Rr
Stapler movement motor
Alignment motor /Up
Stacker entrance sensor
Stapler movement home sensor
Stacker empty sensor
Alignment home sensor /Up
Paper exit belt home sensor
Stacker entrance motor
Paper assist motor
Paper assist solenoid
Symbol
50-1
Crimp
Connector
Relay connector
Faston

FS-607 location list

Symbol	Part name	Location
M1	FNS conveyance motor	4-B
M2	Shift roller motor	3-B
M3	Main tray up down motor	4-B
M4	Clincher rotation motor	3-I
M5	Alignment motor /Up	6-I
M6	Stapler rotation motor	4-I
M7	Paper exit roller motor	1-B
M8	Paper exit opening motor	3-B
M9	Stapler motor /Rr	5-I
M10	Clincher motor /Rr	4-I
M11	Stapler movement motor	6-I
M12	Gate motor	3-B
M13	Stacker entrance motor	7-I
M14	Stapler motor /Fr	5-I
M15	Clincher motor /Fr	3-I
M16	Alignment motor /Lw	2-I
M18	Saddle stitching stopper motor	3-I
M19	Folding knife motor	2-I
M20	Folding transfer motor	2-I
M21	Sub tray exit motor	3-B
M51	Paper assist motor	7-I
MS1	Door switch	8-G
PS1	Sub tray paper exit sensor	1-B
PS2	Main tray upper limit sensor	5-B
PS3	Main tray lower limit sensor	4-B
PS4	FNS entrance sensor	1-B
PS5	Stacker entrance sensor	6-I
PS6	Main tray paper exit sensor	2-B
PS7	Stapler paper exit upper limit sensor	5-B
PS8	Alignment home sensor /Up	7-I
PS9	Paper exit belt home sensor	7-I
PS11	Stapler movement home sensor	6-I

Symbol	Part name	Location
PS12	Paper exit home sensor	2-B
PS13	Stapler rotation home sensor	4-I
PS14	Clincher rotation home sensor	3-I
PS15	Counter reset sensor	5-B
PS16	Gate home sensor	2-B
PS18	Shift roller home sensor	2-B
PS19	Sub tray paper full sensor	2-B
PS20	Stacker empty sensor	6-I
PS22	Folding knife home sensor	1-I
PS23	Saddle stitching stopper home sensor	1-I
PS24	Alignment home sensor /Lw	1-I
PS25	Folding paper exit sensor	1-I
PS26	Folding pass-through sensor	1-I
PS29	Folding full LED	2-I
PS29	Folding full sensor	5-I
SD4	Paper exit opening solenoid	3-B
SD5	Bypass gate solenoid	5-B
SD6	Tri-folding gate solenoid	4-I
SD7	Flat stitching stopper release solenoid /Fr	3-I
SD8	Flat stitching stopper release solenoid /Rr	3-I
SD51	Paper assist solenoid	7-I
FNSCB	FNS control board	1-D
RB	Relay board	1-F
SW1	Cartridge set switch /Rr	Within the stapler unit
SW2	Staple empty switch /Rr	Within the stapler unit
SW3	Cartridge set switch /Fr	Within the stapler unit
SW4	Staple empty switch /Fr	Within the stapler unit
PS30	Stapler motor home sensor /Rr	Within the stapler unit
PS31	Stapler motor home sensor /Fr	Within the stapler unit
PS32	Clincher motor home sensor /Rr	Within the stapler unit
PS33	Clincher motor home sensor /Fr	Within the stapler unit

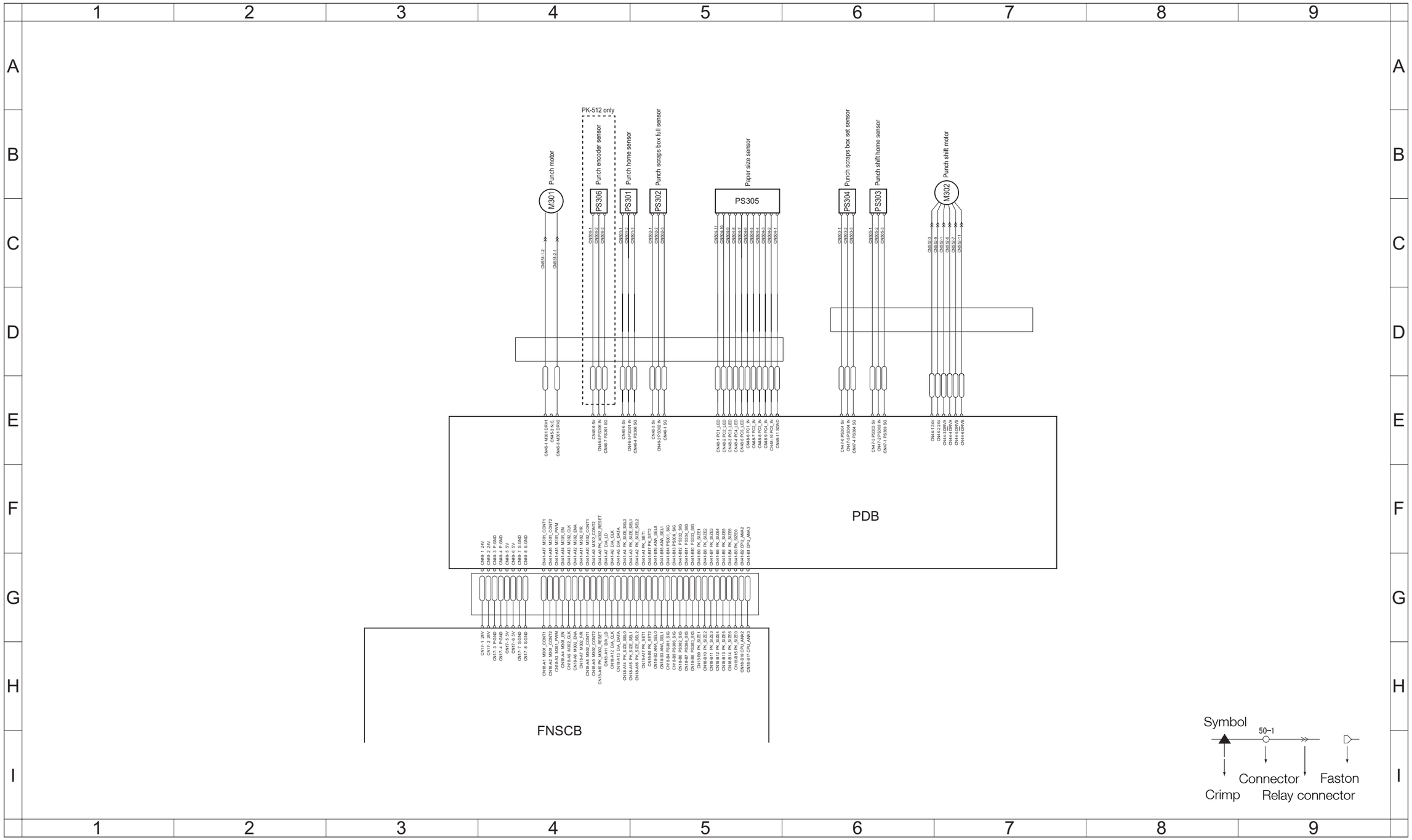
17.23 PI


PIDB
FNSCB
PIOB
Conveyance motor
Transfer clutch /Up
Registration clutch
Pick-up solenoid /Up
Tray lift motor /Up
Paper entrance sensor /Up
Paper empty sensor /Up
Paper set sensor /Up
Tray lower limit sensor /Up
Tray upper limit sensor /Up
Paper size VR /Up
Transfer clutch /Lw
Pick-up solenoid /Lw
Tray lift motor /Lw
Paper entrance sensor /Lw
Tray upper limit sensor /Lw
Tray lower limit sensor /Lw
Paper empty sensor /Lw
L size sensor /Lw
Paper set sensor /Lw
Paper size VR /Lw
Upper door open/close switch
Symbol
Connector
Crimp
Relay connector
Faston

PI location list

Symbol	Part name	Location
M201	Tray lift motor /Up	4-B
M202	Tray lift motor /Lw	5-B
M203	Conveyance motor	3-B
MC201	Transfer clutch /Up	3-B
MC202	Transfer clutch /Lw	5-B
MC203	Registration clutch	3-B
MS201	Upper door open/close switch	2-F
PS201	Paper entrance sensor /Up	4-B
PS202	Paper empty sensor /Up	4-B
PS203	Paper set sensor /Up	4-B
PS204	Tray upper limit sensor /Up	4-B
PS205	Tray lower limit sensor /Up	4-B
PS206	Paper entrance sensor /Lw	6-B
PS207	Paper empty sensor /Lw	6-B
PS208	L size sensor /Lw	6-B
PS209	Tray upper limit sensor /Lw	6-B
PS210	Tray lower limit sensor /Lw	6-B
PS212	Paper set sensor /Lw	7-B
SD201	Pick-up solenoid /Up	3-B
SD202	Pick-up solenoid /Lw	5-B
VR201	Paper size VR /Up	5-B
VR202	Paper size VR /Lw	7-B
PIOB	PI operation board	7-B
PIDB	PI drive board	2-D

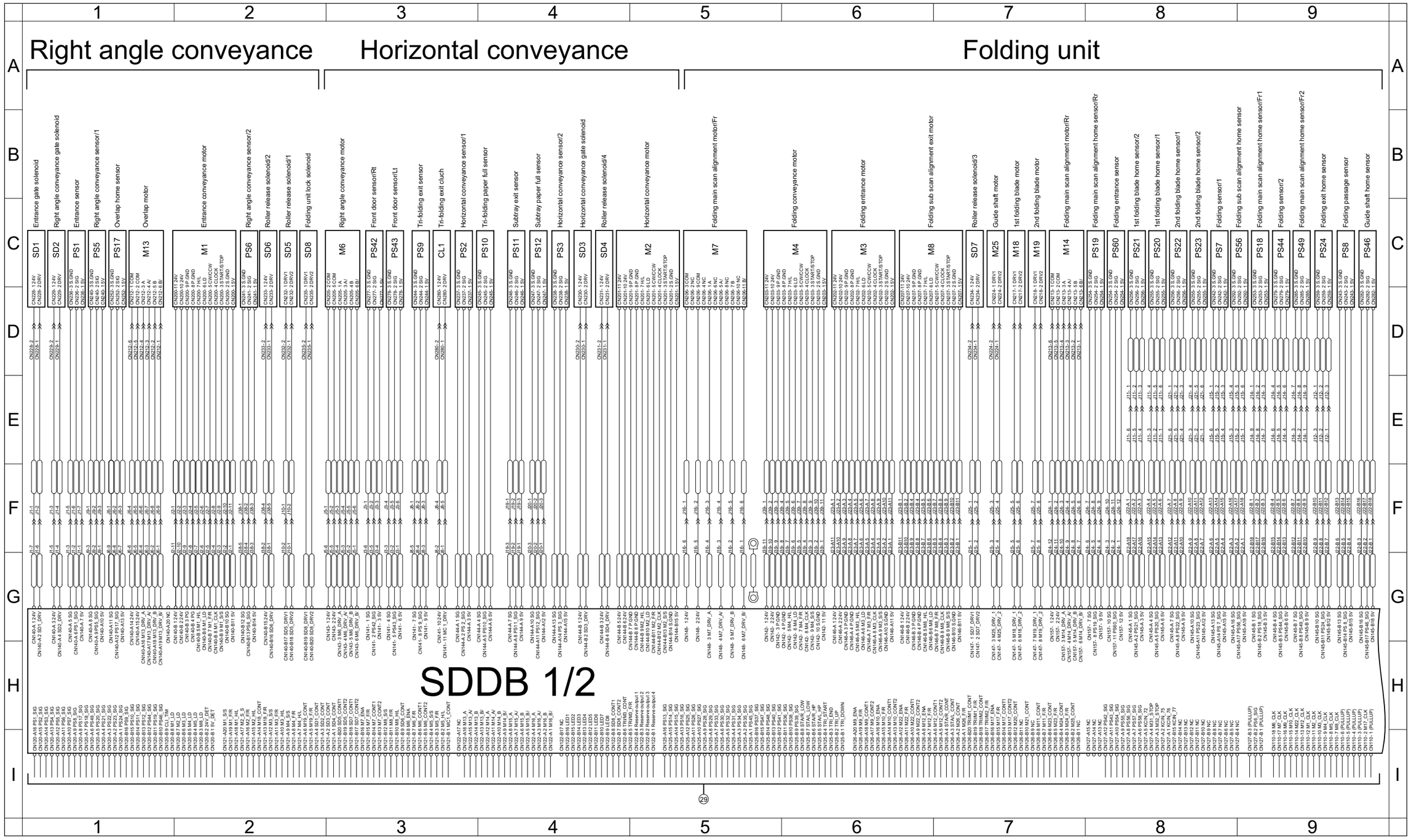
17.24 PK


PK-512 only
Punch motor
Punch encoder sensor
Punch home sensor
Punch scraps box full sensor
Paper size sensor
Punch scraps box set sensor
Punch shift home sensor
Punch shift motor
M301
PS306
PS301
PS302
PS305
PS304
PS303
M302
PDB
FNSCB
Symbol
50-1
Connector
Crimp
Relay connector
Faston

PK location list

Symbol	Part name	Location
M301	Punch motor	4-C
M302	Punch shift motor	7-C
PS301	Punch home sensor	5-C
PS302	Punch scraps box full sensor	5-C
PS303	Punch shift home sensor	6-C
PS304	Punch scraps box set sensor	6-C
PS305	Paper size sensor	5-C
PS306	Punch encoder sensor	4-C
PDB	Punch drive board	3-E

17.25 SD 1/4

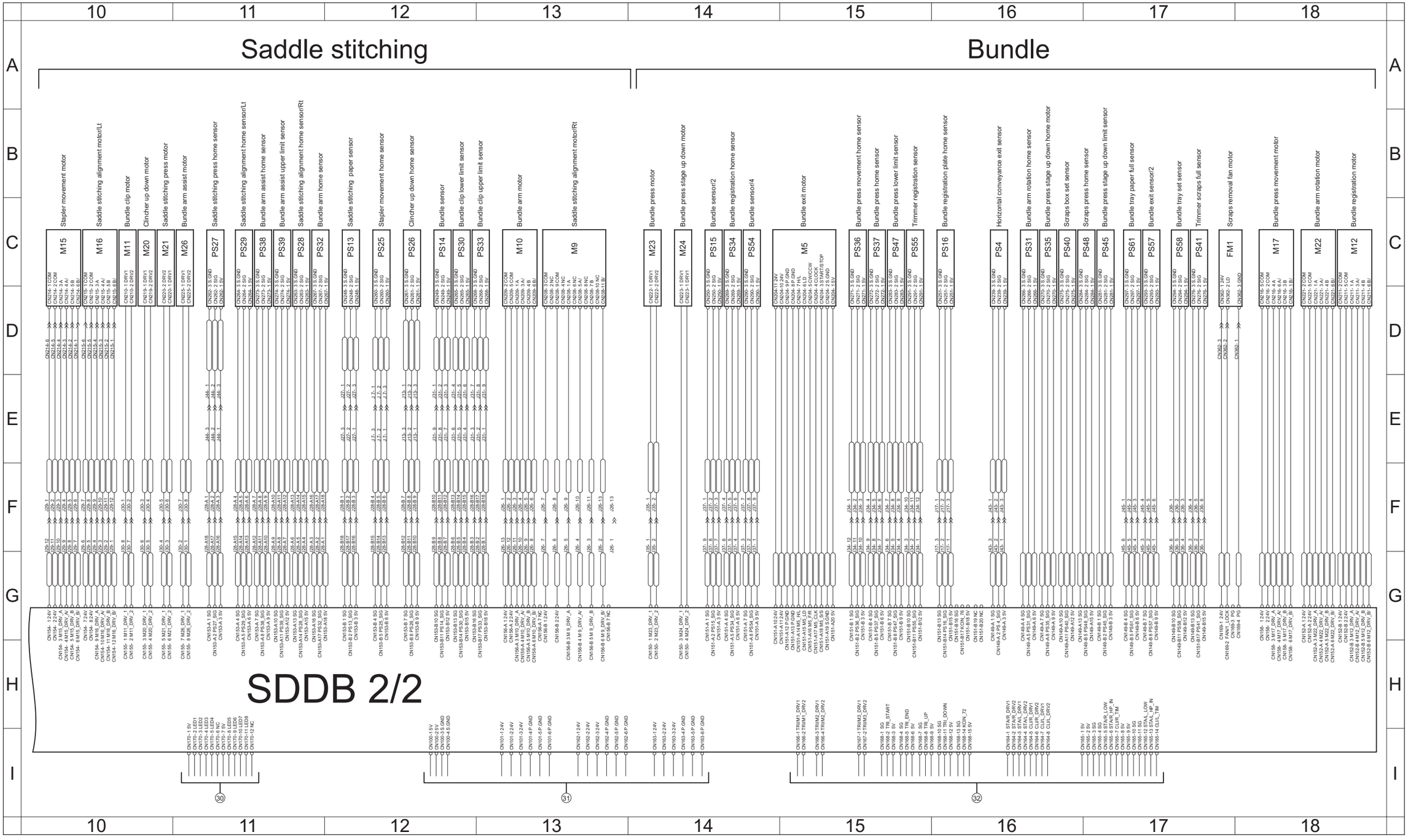


bizhub PRO C6500
APPENDIX

SD location list

Symbol	Part name	Location
SDDB	SD drive board	1-G
M1	Entrance conveyance motor	1-C
M2	Horizontal conveyance motor	4-C
M3	Folding entrance motor	6-C
M4	Folding conveyance motor	5-C
M6	Right angle conveyance motor	3-C
M7	Folding main scan alignment motor /Fr	5-C
M8	Folding sub scan alignment exit motor	6-C
M13	Overlap motor	1-C
M14	Folding main scan alignment motor /Rr	7-C
M18	1st folding blade motor	7-C
M19	2nd folding blade motor	7-C
M25	Guide shaft motor	7-C
CL1	Tri-folding exit clutch	3-C
PS1	Entrance sensor	1-C
PS2	Horizontal conveyance sensor /1	3-C
PS3	Horizontal conveyance sensor /2	4-C
PS5	Right angle conveyance sensor /1	1-C
PS6	Right angle conveyance sensor /2	2-C
PS7	Folding sensor /1	8-C
PS8	Folding passage sensor	9-C
PS9	Tri-folding exit sensor	3-C
PS10	Tri-folding paper full sensor	4-C
PS11	Subtray exit sensor	4-C
PS12	Subtray paper full sensor	4-C
PS17	Overlap home sensor	1-C
PS18	Folding main scan alignment home sensor / Fr1	9-C
PS19	Folding main scan alignment home sensor / Rr	8-C
PS20	1st folding blade home sensor /1	8-C
PS21	1st folding blade home sensor /2	8-C
PS22	2nd folding blade home sensor /1	8-C
PS23	2nd folding blade home sensor /2	8-C
PS24	Folding exit home sensor	9-C
PS42	Front door sensor /Rt	3-C
PS43	Front door sensor /Lt	3-C
PS44	Folding sensor /2	9-C
PS46	Guide shaft home sensor	9-C
PS49	Folding main scan alignment home sensor / Fr2	9-C
PS56	Folding sub scan alignment home sensor	8-C
PS60	Folding entrance sensor	8-C
SD1	Entrance gate solenoid	1-C
SD2	Right angle conveyance gate solenoid	1-C
SD3	Horizontal conveyance gate solenoid	4-C
SD4	Roller release solenoid /4	4-C
SD5	Roller release solenoid /1	2-C
SD6	Roller release solenoid /2	2-C
SD7	Roller release solenoid /3	7-C
SD8	Folding unit lock solenoid	2-C

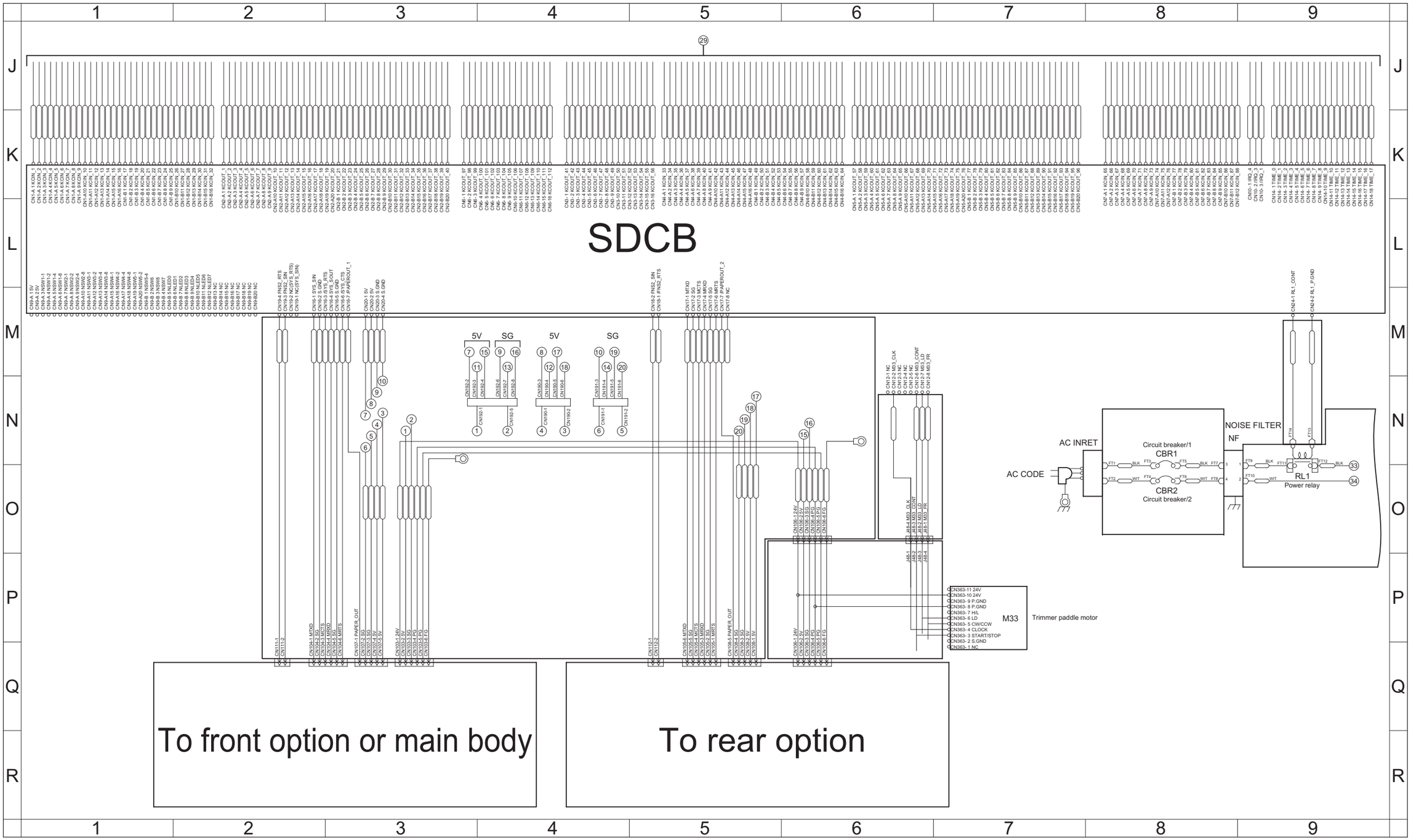
17.26 SD 2/4


Saddle stitching
Bundle
SDDB 2/2
M15 Stapler movement motor
M16 Saddle stitching alignment motor/Lt
M11 Bundle clip motor
M20 Clincher up down motor
M21 Saddle stitching press motor
M26 Bundle arm assist motor
PS27 Saddle stitching press home sensor
PS29 Saddle stitching alignment home sensor/Lt
PS38 Bundle arm assist home sensor
PS39 Bundle arm assist upper limit sensor
PS28 Saddle stitching alignment home sensor/Rt
PS32 Bundle arm home sensor
PS13 Saddle stitching paper sensor
PS25 Stapler movement home sensor
PS26 Clincher up down home sensor
PS14 Bundle sensor
PS30 Bundle clip lower limit sensor
PS33 Bundle clip upper limit sensor
M10 Bundle arm motor
M9 Saddle stitching alignment motor/Rt
M23 Bundle press motor
M24 Bundle press stage up down motor
PS15 Bundle sensor/2
PS34 Bundle registration home sensor
PS54 Bundle sensor/4
M5 Bundle exit motor
PS36 Bundle press movement home sensor
PS37 Bundle press home sensor
PS47 Bundle press lower limit sensor
PS55 Trimmer registration sensor
PS16 Bundle registration plate home sensor
PS4 Horizontal conveyance exit sensor
PS31 Bundle arm rotation home sensor
PS35 Bundle press stage up down home motor
PS40 Scraps box set sensor
PS48 Scraps press home sensor
PS45 Bundle press stage up down limit sensor
PS61 Bundle tray paper full sensor
PS57 Bundle exit sensor/2
PS58 Bundle tray set sensor
PS41 Trimmer scraps full sensor
FM1 Scraps removal fan motor
M17 Bundle press movement motor
M22 Bundle arm rotation motor
M12 Bundle registration motor
30
31
32

SD location list

Symbol	Part name	Location
FM1	Scraps removal fan motor	17-C
M5	Bundle exit motor	17-C
M9	Saddle stitching alignment motor /Rt	13-C
M10	Bundle arm motor	13-C
M11	Bundle clip motor	10-C
M12	Bundle registration motor	18-C
M15	Stapler movement motor	10-C
M16	Saddle stitching alignment motor /Lt	10-C
M17	Bundle press movement motor	18-C
M20	Clincher up down motor	10-C
M21	Saddle stitching press motor	10-C
M22	Bundle arm rotation motor	18-C
M23	Bundle press motor	14-C
M24	Bundle press stage up down motor	14-C
M26	Bundle arm assist motor	11-C
PS4	Horizontal conveyance exit sensor	16-C
PS13	Saddle stitching paper sensor	12-C
PS14	Bundle sensor /1	12-C
PS15	Bundle sensor /2	14-C
PS16	Bundle registration plate home sensor	16-C
PS25	Stapler movement home sensor	12-C
PS26	Clincher up down home sensor	12-C
PS27	Saddle stitching press home sensor	11-C
PS28	Saddle stitching alignment home sensor /Rt	11-C
PS29	Saddle stitching alignment home sensor /Lt	11-C
PS30	Bundle clip lower limit sensor	12-C
PS31	Bundle arm rotation home sensor	16-C
PS32	Bundle arm home sensor	11-C
PS33	Bundle clip upper limit sensor	12-C
PS34	Bundle registration home sensor	14-C
PS35	Bundle press stage up down home motor	16-C
PS36	Bundle press movement home sensor	15-C
PS37	Bundle press home sensor	15-C
PS38	Bundle arm assist home sensor	11-C
PS39	Bundle arm assist upper limit sensor	11-C
PS40	Scraps box set sensor	16-C
PS41	Trimmer scraps full sensor	17-C
PS45	Bundle press stage up down limit sensor	17-C
PS47	Bundle press lower limit sensor	15-C
PS48	Scraps press home sensor	16-C
PS54	Bundle sensor /4	14-C
PS55	Trimmer registration sensor	15-C
PS57	Bundle exit sensor /2	17-C
PS58	Bundle tray set sensor	17-C
PS61	Bundle tray paper full sensor	17-C

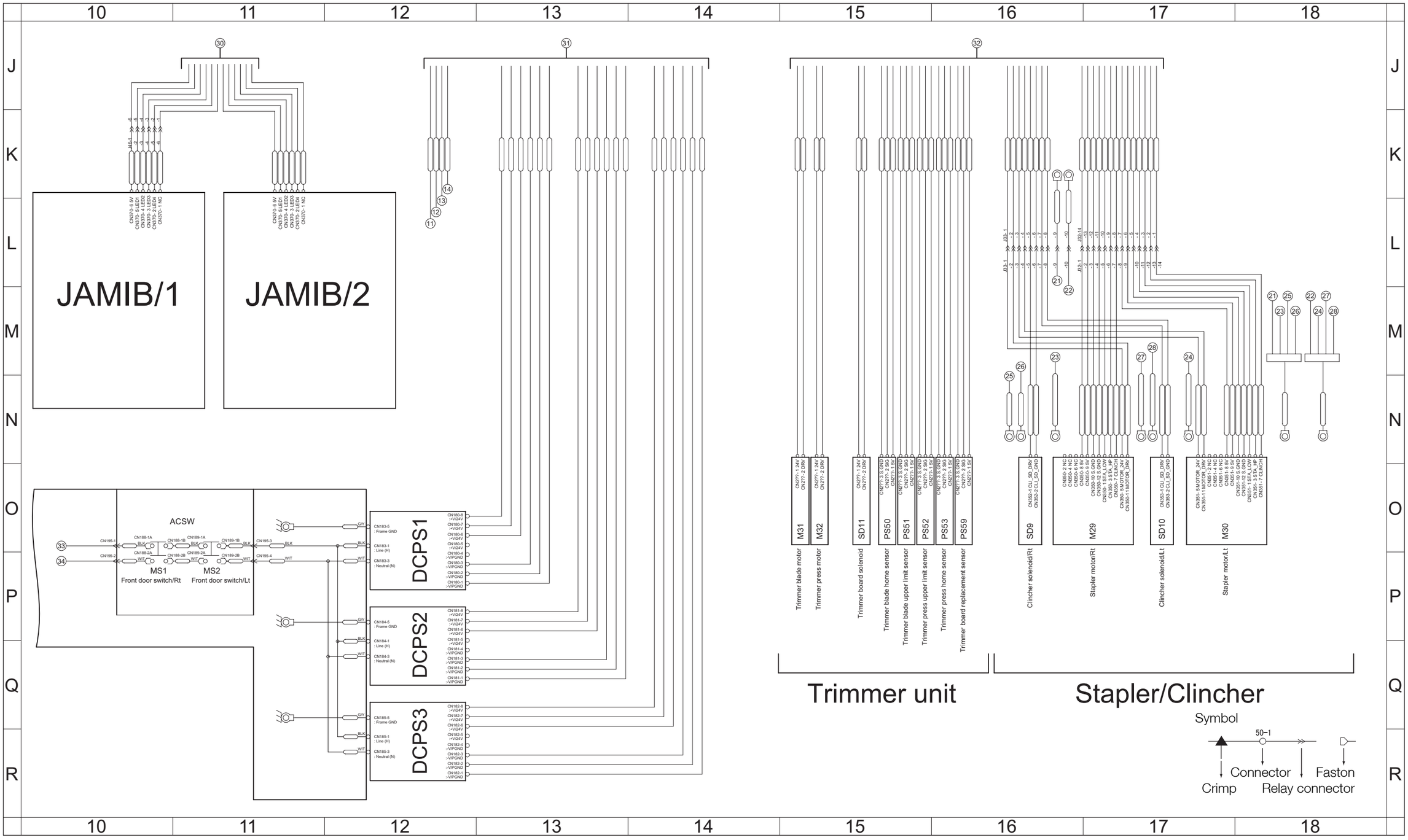
17.27 SD 3/4


SDCB
To front option or main body
To rear option
AC INRET
AC CODE
Circuit breaker/1
CBR1
CBR2
Circuit breaker/2
NOISE FILTER
NF
RL1
Power relay
M33
Trimmer paddle motor

SD location list

Symbol	Part name	Location
SDCB	SD control board	1-K
CBR1	Circuit breaker /1	8-O
CBR2	Circuit breaker /2	8-P
NF	Noise filter	8-O
RL1	Power relay	9-P
M33	Trimmer paddle motor	7-P

17.28 SD 4/4


JAMIB/1
JAMIB/2
ACSW
MS1
Front door switch/Rt
MS2
Front door switch/Lt
DCPS1
DCPS2
DCPS3
Trimmer blade motor
Trimmer press motor
Trimmer board solenoid
Trimmer blade home sensor
Trimmer blade upper limit sensor
Trimmer press upper limit sensor
Trimmer press home sensor
Trimmer board replacement sensor
Clincher solenoid/Rt
Stapler motor/Rt
Clincher solenoid/Lt
Stapler motor/Lt
Trimmer unit
Stapler/Clincher
Symbol
Crimp
Connector
Relay connector
Faston

SD location list

Symbol	Part name	Location
JAMIB/1	Jam indicator board /1	10-K
JAMIB/2	Jam indicator board /2	11-K
M29	Stapler motor /Rt	16-N
M30	Stapler motor /Lt	17-N
M31	Trimmer blade motor	15-N
M32	Trimmer press motor	15-N
MS1	Front door switch /Rt	10-P
MS2	Front door switch /Lt	11-P
PS50	Trimmer blade home sensor	15-N
PS51	Trimmer blade upper limit sensor	15-N
PS52	Trimmer press upper limit sensor	15-N
PS53	Trimmer press home sensor	16-N
PS59	Trimmer board replacement sensor	16-N
SD9	Clincher solenoid /Rt	16-N
SD10	Clincher solenoid /Lt	17-N
SD11	Trimmer board solenoid	15-N
DCPS1	DC power supply /1	12-O
DCPS2	DC power supply /2	12-P
DCPS3	DC power supply /3	12-Q

KONICA MINOLTA

SERVICE MANUAL

Field Service

DF-609

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

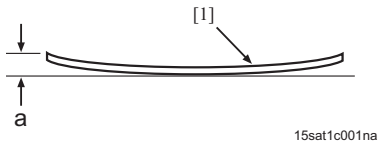
A. Type

Type	Belt conveyance type original auto feeder

B. Functions

Original size	A3, B4, A4, A4S, B5, B5S, A5, A5S, B6S 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½, 5½ x 8½S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS
Max. original size	297 x 431.8mm
Min. original size	128 x 139.7mm • Various sizes of paper can be accommodated

C. Original type

Paper type	Plain paper	High quality paper of 35 to 210 g/m^2 (single side) High quality paper of 50 to 210 g/m^2 (double side) Paper of less than 49g/m^2: conveyed in thin paper mode Paper of more than 129g/m^2: conveyed in thick paper mode
	Special paper	Same as plain paper. However, paper feed and conveyance performance are not guaranteed. • Recycled paper, coarse paper, thermal paper, binding-holed paper, user-defined paper, paper with smooth surface, paper with rough surface, and paper with folds Following types of special paper cannot be used. • OHP film, blueprint master paper, label paper, off-set master, bonded original, high quality paper (paper weight: Less than 34g/m^2 or more than 211g/m^2)
Paper curl amount	Up to 10 mm with 5 originals overlapped one another  15sat1c001na a Curing: 10 mm or less [1] Original	
Max. tray capacity	100 sheets (80g/m^2 paper)	

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Scan speed (8½ x 11)	Single-sided mode (including thin-paper mode): 39 sheets/min. Double-sided mode (including thin-paper mode): 26 sheets/min. Single-sided mode (thick-paper mode): 28 sheets/min. Double-sided mode (thick-paper mode): 14 sheets/min.
Scanning system	After the original that is conveyed on the belt stops, the scanner moves and scans the original.

D. Machine data

Power source	24/5V DC (supplied from the main body)
Power consumption	Max. 60W or less
Weight	Approx. 14.5kg
Dimensions	588 (W) x 519 (D) x 135 (H) mm (Excluding paper feed tray)

E. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

F. Operating environment

Temperature	10 to 30 °C
Humidity	10 to 80%RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC INSPECTION

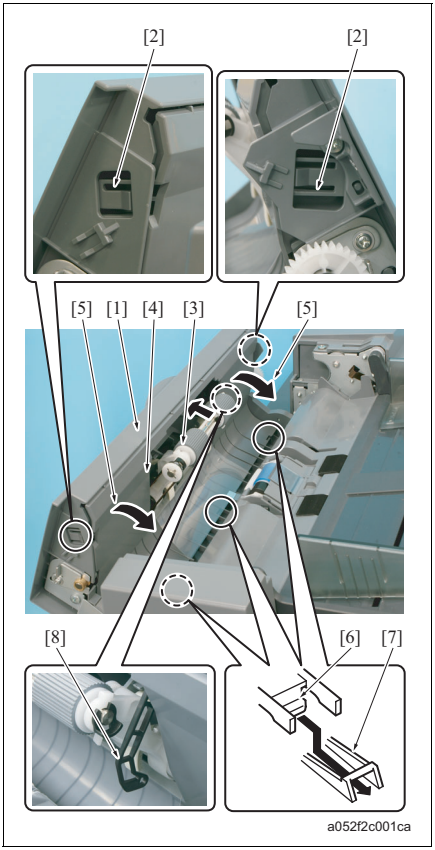
⚠Caution:

- **Be sure to unplug the power cord from the power outlet.**

2.1 Maintenance procedure of the paper feeding section

2.1.1 Removing/installing paper feed unit

A. Procedure



1. Open the paper feed cover [1]
2. Release the two locks [2].
3. Turn the paper feed guide [4] in the direction of the arrow [5] while pushing in the paper feed unit [3] to the paper feed cover [1] side, and remove the paper feed guide [4] upward.

Note

- **When installing the paper feed guide, fit the three tabs [6] in each positioning hole [7].**
- **When installing the paper feed guide, be sure to put the no paper detection actuator [8] so that it protrudes out of the paper feed guide [4] as shown in the figure on the left.**

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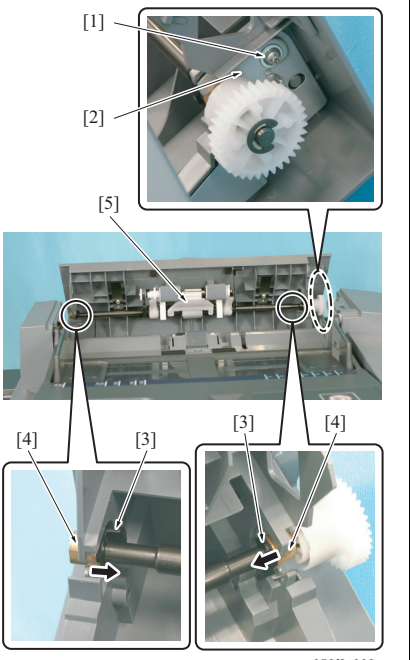

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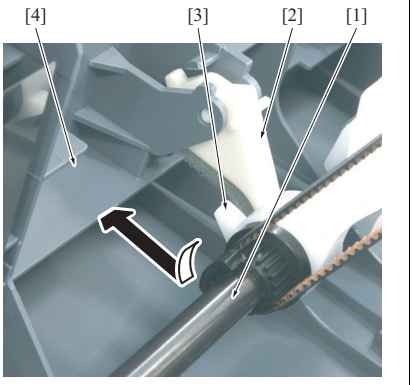
4. Remove the screw [1] and remove the shaft securing plate [2].
5. Remove the two C-clips [3].
6. Slide the two bearings [4] inward, and remove the paper feed unit [5].



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Note

- **When removing the paper feed unit, be sure not to damage the arm [2] with the shaft [1].**
- **When installing the paper feed unit, make sure the arm [2] is mounted on the shaft [1].**
- **When installing the paper feed unit, insert the tab [3] under the cover plate [4] as shown in the figure.**

7. Reinstall the above parts following the removal steps in reverse.

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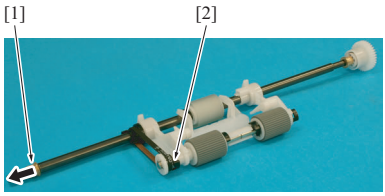
2.1.2 Replacing pick-up roller/paper feed roller

A. Periodically replaced parts/cycle

- Paper feed roller: Every 1,800,000 prints (actual replacement cycle: every 625,000 feed)
- Pick-up roller: Every 1,800,000 prints (actual replacement cycle: every 625,000 feed)

B. Procedure



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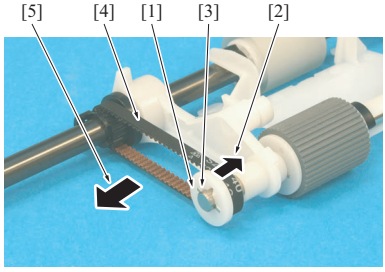
1. Remove the paper feed unit. (See P.3)
2. Remove the bearing [1].
3. Remove the C-clip [2].



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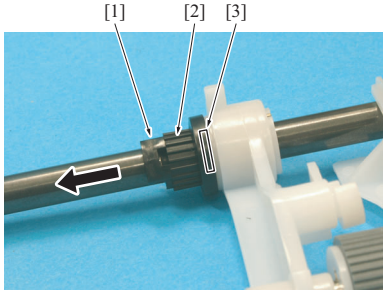
4. Slide the gear [1] in the direction of the arrow [2] and remove the pin [3]. Then remove the gear [1] and the belt [4] in the direction of the arrow [5].



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5. Remove the C-clip [1], then remove the gear [2] and the pin [3].

Note

- **Be careful not to lose the pin [3] as it may drop off the shaft when removing the gear [2].**

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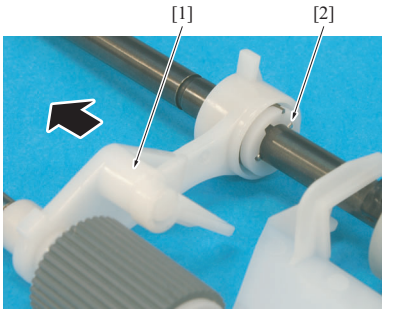
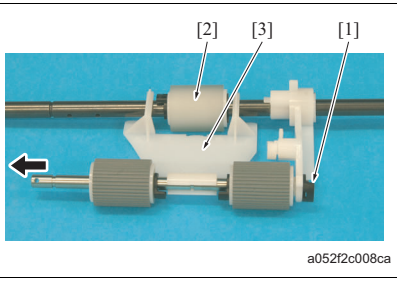


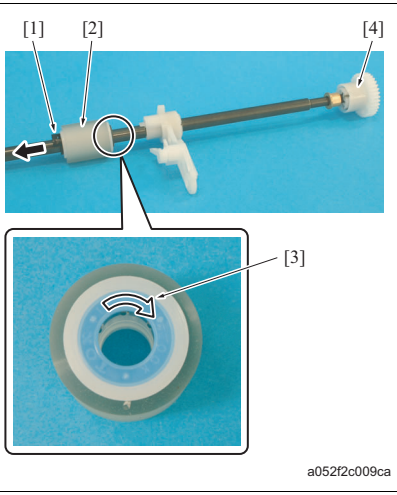
6. Remove the arm [1] and the pin [2].

Note

- **Be careful not to lose the pin [2] as it may drop off the shaft when removing the arm [1].**



7. Remove the C-clip [1], and remove the pick-up roller assy [3] from the paper feed roller assy [2].



8. Remove the C-clip [1] and pull out the paper feed roller [2] from the shaft to replace it with new one.

Note

- **When installing the paper feed roller, make sure that the arrow mark [3] on the paper feed roller is facing the gear [4].**

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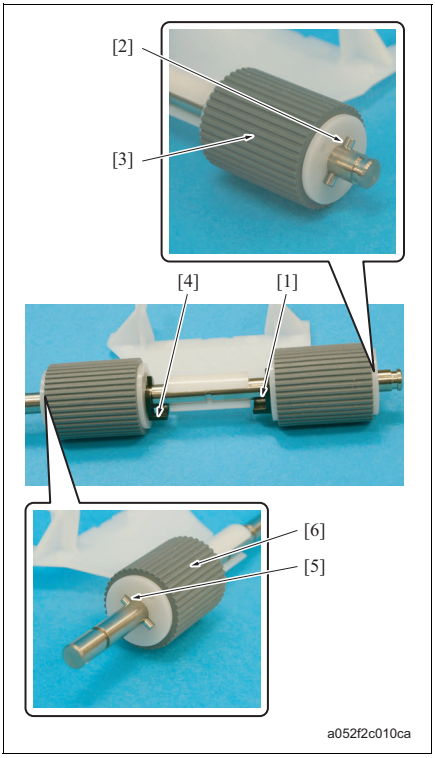

9. Remove the C-clip [1].

Note

- **Be careful not to lose the pin [2] as it may drop off the shaft when removing the C-clip [1].**

10. Remove the pin [2] and remove the pick-up roller [3].

11. Remove the C-clip [4].

Note

- **Be careful not to lose the pin [5] as it may drop off the shaft when removing the C-clip [4].**

12. Remove the pin [5] and remove the pick-up roller [6].

13. Reinstall the above parts following the removal steps in reverse.

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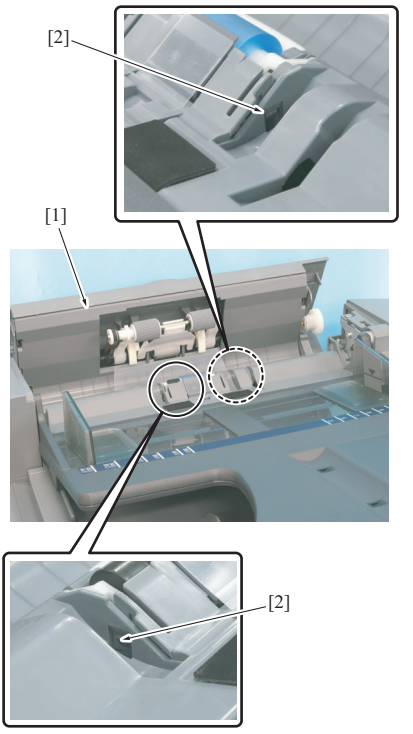
2.1.3 Replacing separation roller

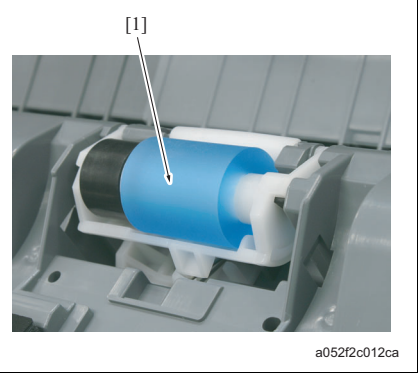
A. Periodically replaced parts/cycle

- Separation roller: Every 1,800,000 prints (actual replacement cycle: every 625,000 feed)

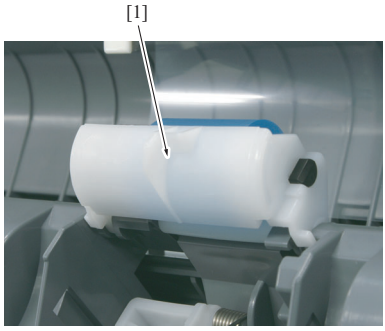
B. Procedure



1. Open the paper feed cover [1]
2. Push the two tabs [2] inward to release the lock and remove the separation unit cover.



3. Pinch both ends of the roller shaft and raise the separation roller [1] straight up.



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4. Remove the separation unit [1] and replace it with a new one.
5. Reinstall the above parts following the removal steps in reverse.

2.1.4 Cleaning timing sensor (PS302)

A. Periodically cleaned parts/cycle

- Timing sensor (PS302): Every 200,000 prints

B. Procedure

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1. Secure the hinge adjustment bracket at 90 degrees. (See P.17)
2. Open the DF [1] vertically.
3. Remove the two screws [2] and open the metal frame [3] in the direction of the arrow [4].

Note

- **The two screws [2] are different from each other, so try not to mix them up.**

4. Clean the timing sensor (PS302) through the hole [5] with a blower brush or a similar tool.

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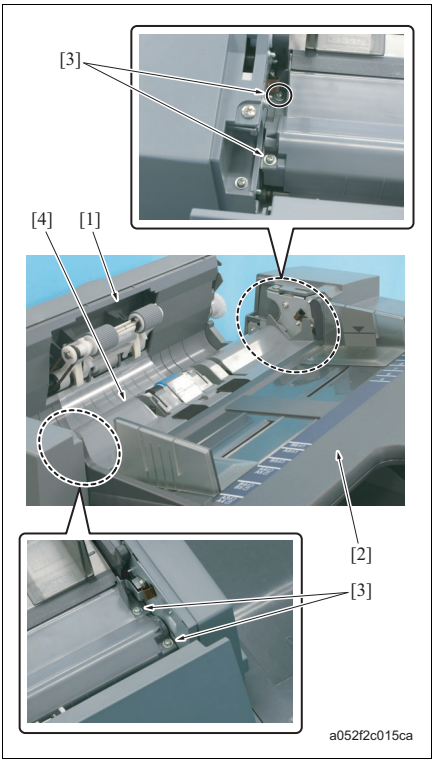
2.1.5 Removing/reinstalling registration roller cover

A. Procedure



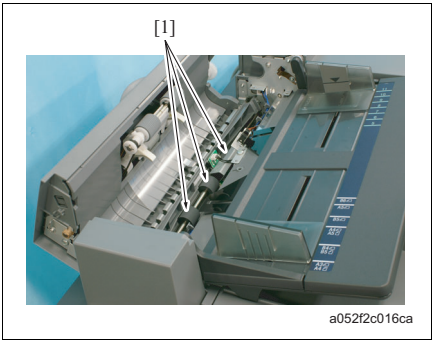
1. Open the paper feed cover [1]
2. Raise the paper feed tray [2] straight up.
3. Remove the four screws [3] and remove the registration roller cover [4].
4. Reinstall the above parts following the removal steps in reverse.

2.1.6 Cleaning registration roller

A. Periodically cleaned parts/cycle

- Registration roller: Every 200,000 prints

B. Procedure



1. Remove the registration roller cover. (See P.10)
2. Soak cotton waste with alcohol and wipe the three registration rollers [1] with it.

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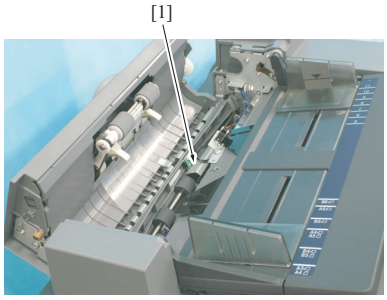
2.1.7 Cleaning registration sensor (PS301)

A. Periodically cleaned parts/cycle

- Registration sensor: Every 200,000 prints

B. Procedure



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1. Remove the registration roller cover. (See P.10)
2. Clean the registration sensor (PS301) [1] with a blower brush or a similar tool.

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3. OTHERS

3.1 Disassembly/reassembly parts list

No.	Section	Part name	Reference page
1	Main body	DF	P.13
2	Cover section	Front cover	P.15
3		Rear cover	P.15
4	Conveyance section	Conveyance belt unit	P.16

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3.2 Disassembly/reassembly procedures

⚠Caution:

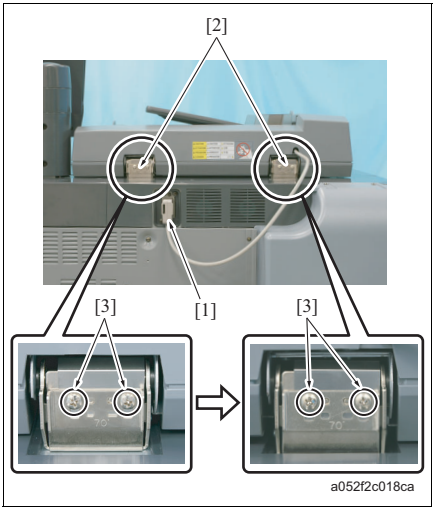
- **Be sure to unplug the power cord from the power outlet.**

3.2.1 Removing/reinstalling DF

Note

- **Before removing the DF, be sure to secure the hinge adjustment bracket of the DF at 90 degrees. When removing the parts from the scanner section with the DF opened, secure the hinge adjustment bracket at 90 degrees as well. Not doing so may deform the metal frame in the DF installation section.**

A. Procedure



1. Disconnect the connector [1].
2. Read the explanation below and secure the two hinge adjustment brackets [2] at 90 degrees.
   There are two types of the bracket installed in the DF; one for 70 degrees and the other for 40 degrees, and they can be distinguished by the scratched number on each surface.
   Brackets for 70 degrees: Loosen the four screws [3] and slide the two brackets [2] downward, and then secure them with the four screws [3] again.
   Brackets for 40 degrees: Remove the four screws [3]. Turn the two brackets [2] upside down and reinstall them to DF and secure the four screws [3] again.

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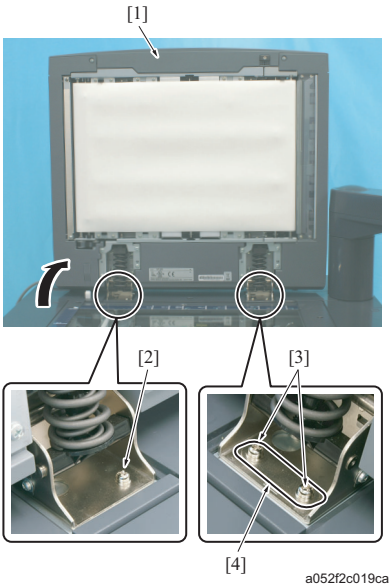
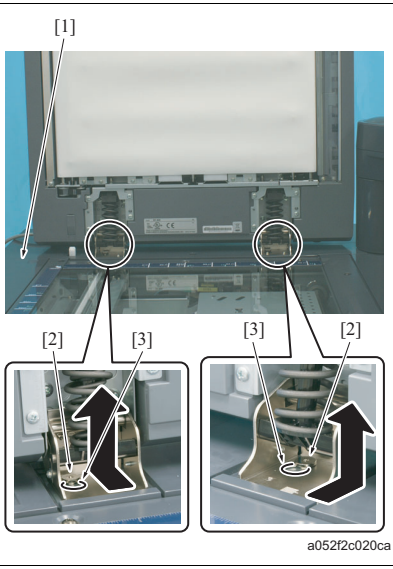


3. Open the DF [1] vertically.
4. Remove the screw [2].
5. Remove the two screws [3] and remove the metal plate [4].



6. Holding the DF [1], slide the two stoppers [2] to disengage them from the holes [3], and remove the DF upward.

Note

- **When releasing the stoppers [2], be sure to support the DF firmly so as not to fall over backward.**

7. Reinstall the above parts following the removal steps in reverse.

Note

- **After installing DF, perform the service mode "ADF original stop position adjustment".**

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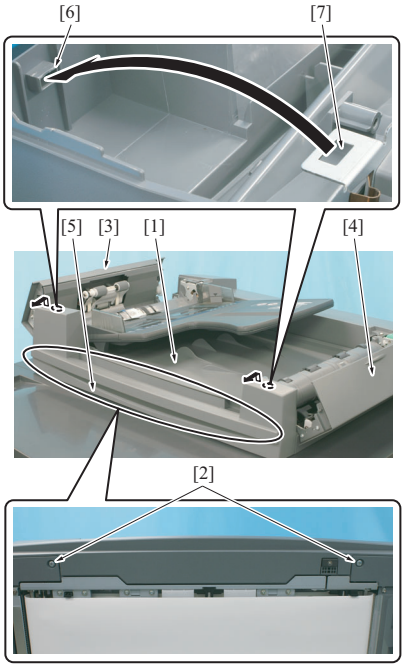
3.2.2 Removing/reinstalling front cover

A. Procedure



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1. Secure the hinge adjustment bracket at 90 degrees. (See P.17)
2. Open the DF [1] and remove the two screws [2].
3. After closing the DF [1], open the paper feed cover [3] and paper exit cover [4].

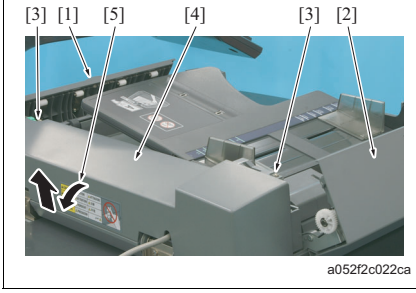
Note

- **Be sure to close the DF [1] gently since the front cover [5] is not secured and is unstable at this moment.**
- **Do not open the DF [1] with the paper exit cover opened so as to avoid the paper exit cover [4] from being damaged.**

4. Lift the front cover [5] a little so that the tab [6] is released through the hole [7], and remove the front cover [5].
5. Reinstall the above parts following the removal steps in reverse.

3.2.3 Removing/reinstalling rear cover

A. Procedure



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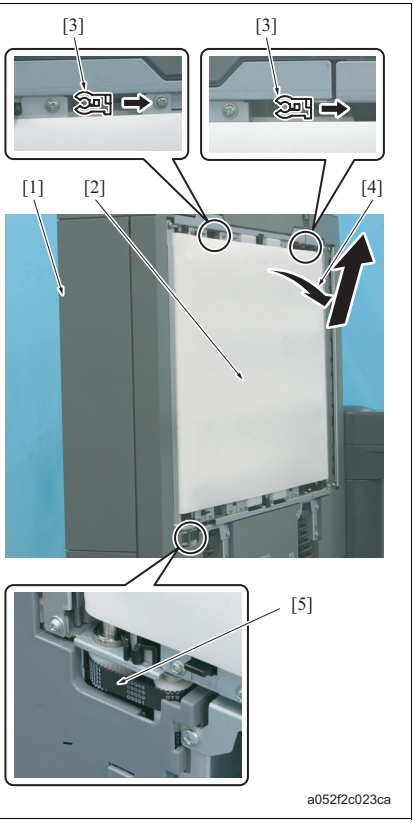
1. Open the paper feed cover [1] and the paper exit cover [2].
2. Remove the two screws [3].
3. Tilt the rear cover [4] in the direction of the arrow [5] and remove it upward.
4. Reinstall the above parts following the removal steps in reverse.

3.2.4 Removing/reinstalling conveyance belt

Note

- **Do not touch, fold, or damage the belt roller. If necessary, be sure to hold it within the range of 20mm from each end of the belt in sub-scanning direction.**

A. Procedure

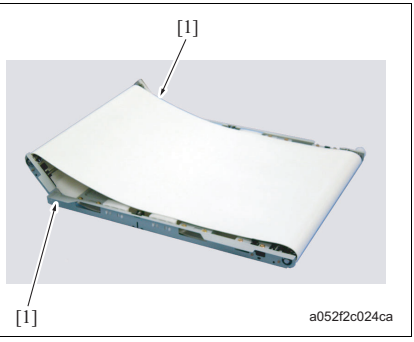


1. Secure the hinge adjustment bracket at 90 degrees. (See P.17)
2. Open the DF [1] vertically.
3. Slide the two stoppers [3] located on the upper inner side of the conveyance belt unit [2] to the right and remove them.
4. Pull out the upper part of the conveyance belt unit in the direction of the arrow [4], and remove it upward.

Note

- **When installing the conveyance belt unit, be sure to install the linking drive belt [5] into the conveyance belt unit securely.**

5. Reinstall the above parts following the removal steps in reverse.



6. Remove the two screws [1], and raise the roller section upward.
7. Remove the conveyance belt.
8. Reinstall the above parts following the removal steps in reverse.

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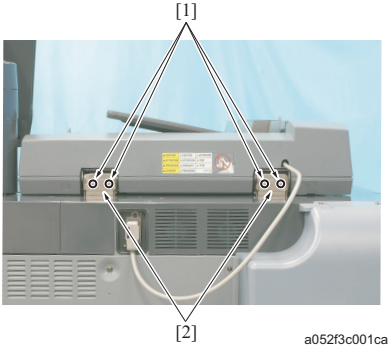
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

4.1 Adjustment of the DF hinge opening/closing angle

4.1.1 Replacement of the hinge adjustment brackets for 70 degrees and 40 degrees

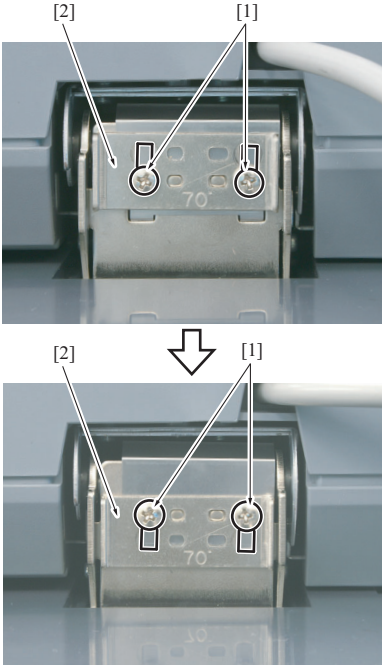
A. Procedure



1. Remove the four screws [1] and the two hinge adjustment brackets [2].
   There are two types of the bracket installed in the DF; one for 70 degrees and the other for 40 degrees, and they can be distinguished by the scratched number on each surface.
2. Install two new hinge adjustment brackets [2] and tighten them with the four screws [1] securely.

4.1.2 Securing the hinge adjustment bracket at 90 degrees

A. Procedure



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Note

- **When removing the DF or removing any parts from the scanner section with the DF opened, be sure to secure the hinge adjustment brackets at 90 degrees. Not doing so may deform the metal frame in the DF installation section.**

1. To secure the hinge adjustment brackets at 90 degrees, follow either of the steps below.
   There are two types of the bracket installed in the DF; one for 70 degrees and the other for 40 degrees, and they can be distinguished by the scratched number on each surface.
   Brackets for 70 degrees: Loosen the four screws [1] and slide the two brackets downward, and then secure them with the four screws [1] again.
   Brackets for 40 degrees: Remove the four screws [1]. Turn the two brackets [2] upside down and reinstall them to DF and secure the four screw [1] again.
2. When completed, be sure to put the brackets back to the original state.

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KONICA MINOLTA

SERVICE MANUAL

Field Service

PF-601/HT-504

2006.09
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0
EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

1.1 PF-601

A. Type

Type	Front loading type two-tray paper feeder

B. Functions

Number of trays	Two trays (All trays universal)
Tray capacity	6,000 sheets (80 g/m^2 standard paper) = 3,000 sheets x 2 trays

C. Paper type

Paper size	SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5, B5S, A5*1, B6S, A6S*1 13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS Tab paper (A4, 8½ x 11) Custom paper (Max. 330 x 487mm, Min. 100 x 148 mm)	
Applicable paper	Plain paper, high quality paper, coated paper	
Paper weight	Tray/4	64 to 256g/m^2
	Tray/5	64 to 300g/m^2

*1 A5 and A6S are fed only from the tray/5.

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source	24/12/5VDC, 200 to 240VAC (supplied both from the main body)
Maximum power consumption	DC: 90W or less, AC: 100W or less
Dimensions	947 (W) x 750 (D) x 1045 (H) mm
Weight	Approx. 170kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80%RH (with no condensation)

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1.2 HT-504

A. Type

Type	Fan heater type dehumidifier heater

B. Maintenance

Machine service life	Same as the main body.

C. Machine data

Power source	24/5VDC (supplied from the main body), 200 to 240VAC*1
Maximum power consumption	DC: 6W or less, AC: 580W or less
Dimensions	Dehumidifier fan heater unit: 197 (W) x 82 (D) x 293 (H) mm Power supply unit: 121 (W) x 80 (D) x 160 (H) mm
Weight	Dehumidifier fan heater unit: Approx. 1.5kg/1 unit Power supply unit: Approx. 0.9kg

*1 North America model: Supplied from the main body.
Europe model: Supplied from external.

D. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80%RH (with no condensation)

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■ MAINTENANCE

2. PERIODIC INSPECTION

2.1 Maintenance procedure of the tray section

⚠Caution:

- **Be sure to unplug the power cord from the power outlet.**

Note

- **The replacement procedures for the pick-up roller, paper feed roller, and the separation roller in tray/4 are the same for those in tray/5. The explanation here is made by the example of tray/4.**
- **After the installation is completed, rotate the pick-up roller in the paper feed direction (clockwise as seen from the front side) to see if the paper feed roller rotates smoothly. The rotation is restricted only in the paper feed direction (clockwise as seen from the front side) and be careful not to rotate the roller counterclockwise.**
- **The orientation of the pick-up roller assy and the separation roller assy in the main unit differs from that of the rollers in the PF.**

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2.1.1 Replacing the Pick-up rubber/paper feed roller

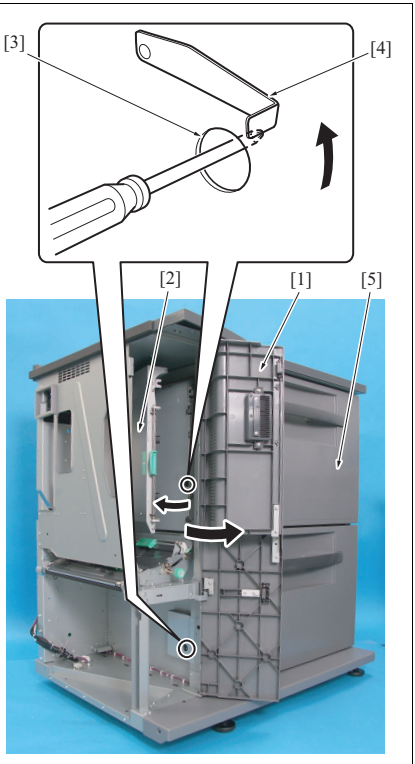
A. Periodically replaced parts/cycle

- Pick-up rubber: Every 600,000 prints (actual replacement cycle: every 300,000 feed)
- Paper feed roller: Every 600,000 prints (actual replacement cycle: every 300,000 feed)

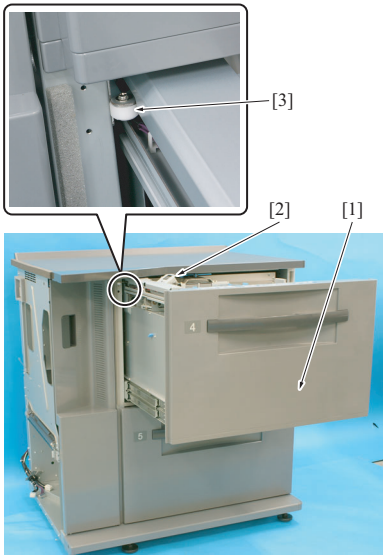
B. Procedure

Note

- **The appearance of the collars is the same for the paper feed roller and the separation roller. However, the collar of the paper feed roller has a one-way mechanism inside, be sure not to mix up these two rollers.**



1. Open the front door [1].
2. Open the vertical conveyance unit guide plate [2] (Tray/4 only).
3. Insert a screwdriver or a similar tool into the hole [3], lift up the tray lock lever [4] slightly, and pull out the tray [5].



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Note

- **Do not pull out tray [1] all the way. Hold tray [1] so that the stopper [3] on the left side of the tray pushed in, and make the pick-up holder assy [2] placed horizontally (paper feed position).**

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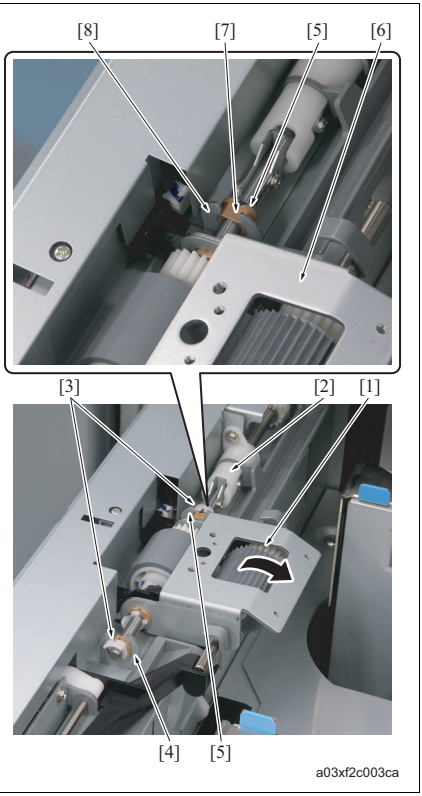

4. Rotate the pick-up roller [1] in the direction of the arrow (clockwise as seen from the front side) and bring the coupling [2] to the lengthwise direction.

Note

- **Be sure not to rotate the pick-up roller against the direction of the arrow forcibly, as the roller is designed not to rotate in that direction.**

5. Remove the two C-clips [3].
6. Remove the bearing/Fr [4].
7. Move the bearing/Rr [5] to the rear side.

Note

- **When installing the bearing, hold down the metal plate [6] of the pick-up roller assy slightly, and insert the flat part [7] of the bearing/Rr [5] while keeping it horizontally into the notch [8] of the metal plate. Then, insert the bearing/Fr [4] in the same manner.**

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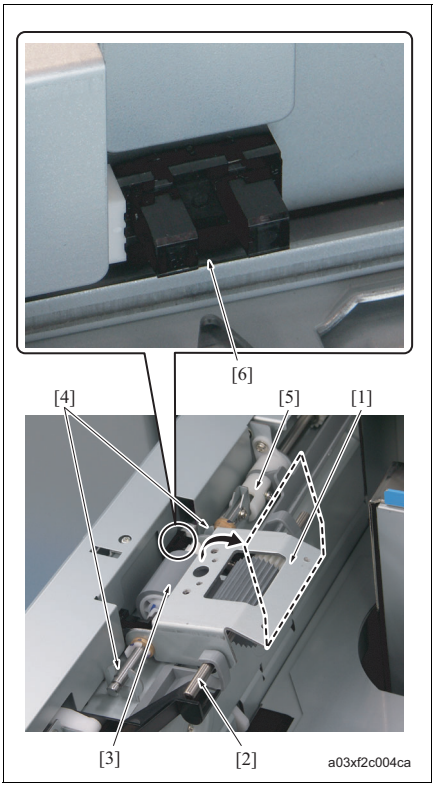

8. Hold the pick-up roller assy [1] by hand and lift and tilt the paper feed roller [3] so that it rotates on the shaft [2] of the pick-up roller to remove it from both the notch of the bearing [4] and the coupling [5].

Note

- **When removing the pick-up roller assy [1], be careful not to damage the sensor [6] with the metal plate.**

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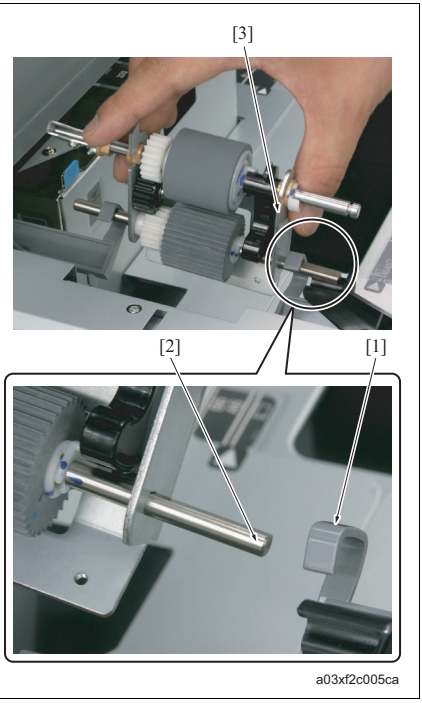

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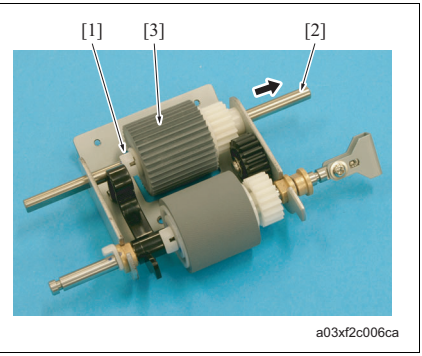
9. Remove the pick-up roller shaft [2] from the arm [1] of the paper feed guide plate and remove the pick-up roller assy [3].



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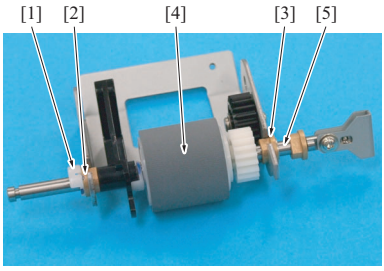
10. Remove the C-clip [1], pull out the shaft [2], and remove the pick-up roller [3].

11. Remove the pick-up rubber from the pick-up roller.

12. Replace the pick-up rubber.



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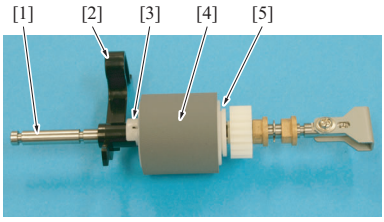
13. Remove the C-clip [1] and remove the bearing [2].
14. Slide the bearing [3] and remove the paper feed roller [4] together with the shaft [5].



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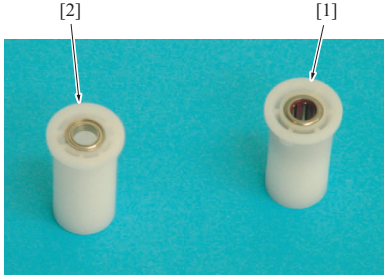
15. Remove the actuator [2] from the shaft [1].
16. Remove the C-clip [3] and pull out the paper feed roller [4] from the collar [5].



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17. Replace the paper feed roller.

Note

- **The appearance of the collars is the same for the paper feed roller and the separation roller. However, the collar [1] of the paper feed roller has a one-way mechanism inside while the collar [2] of the separation roller has no one-way mechanism, be sure not to mix up these two rollers.**

18. Reinstall the above parts following the removal steps in reverse.

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2.1.2 Replacing separation roller

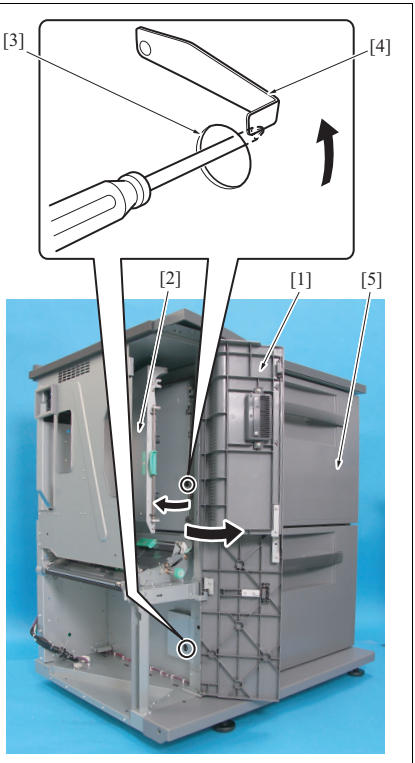
A. Periodically replaced parts/cycle

- Separation roller: Every 600,000 prints (actual replacement cycle: every 300,000 feed)

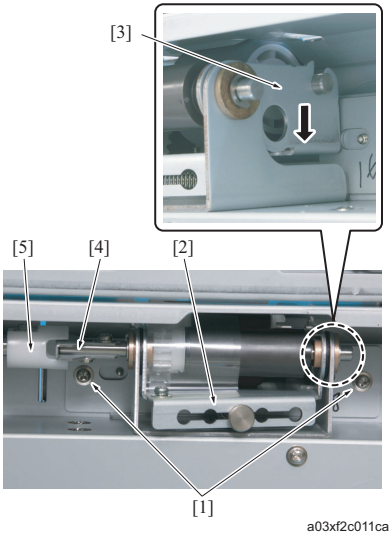
B. Procedure

Note

- **The appearance of the collars is the same for the paper feed roller and the separation roller. However, the collar of the paper feed roller has a one-way mechanism inside, be sure not to mix up these two rollers.**



1. Open the front door [1].
2. Open the vertical conveyance unit guide plate [2] (Tray/4 only).
3. Insert a screwdriver or a similar tool into the hole [3], lift up the tray lock lever [4] slightly, and pull out the tray [5].



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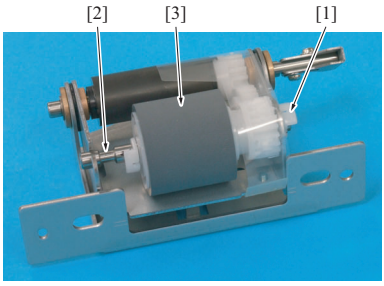
4. Remove two screws [1].
5. Disengage the coupling pin [4] from the joint [5] while pressing down the metal plate [3] of the separation roller assy [2], and remove the separation roller assy [2].

Note

- **When installing the separation roller assy, press down the metal plate [3] of the separation roller assy [2] and engage the coupling pin [4] to the joint [5].**



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6. Remove the C-clip [1] of the separation roller assy and remove the separation roller [3] together with the shaft [2].

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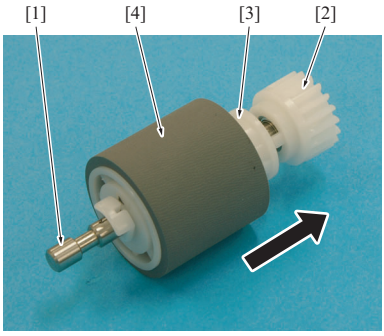

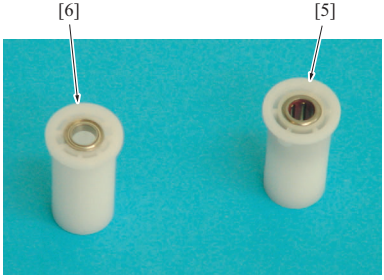

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7. Pull out the gear [2], the collar [3] and the separation roller [4] from the shaft [1] to the arrow-marked direction, and remove them.
8. Replace the pick-up roller [4].
9. Reinstall the above parts following the removal steps in reverse.

Note

- **The appearance of the collars is the same for the paper feed roller and the separation roller. However, the collar [5] of the paper feed roller has a one-way mechanism inside while the collar [6] of the separation roller has no one-way mechanism, be sure not to mix up these two rollers.**

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2.1.3 Replacing the paper feed clutch (MC1/MC4) and the separation clutch (MC2/MC5)

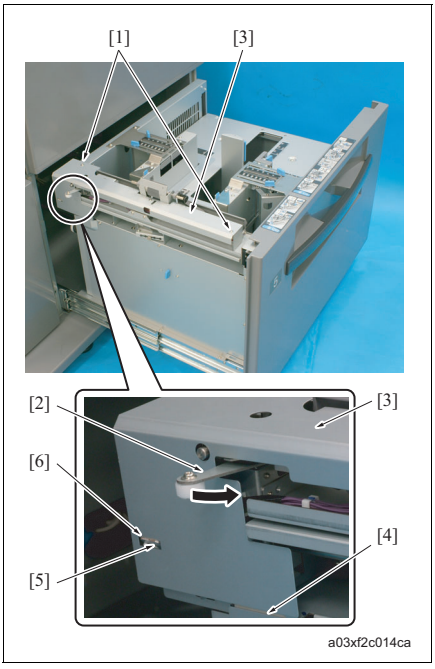
Note

- **The replacement procedures for the paper feed clutch and the separation clutch in tray/4 are the same for those in tray/5. The explanation here is made by the example of tray/5.**

A. Periodically replaced parts/cycle

- Paper feed clutch/1 (MC1), /2 (MC4): Every 2,400,000 prints (actual replacement cycle: every 2,000,000 feed)
- Separation clutch/1 (MC2), /2 (MC5): Every 2,400,000 prints (actual replacement cycle: every 2,000,000 feed)

B. Procedure



1. Remove the stopper and pull out the tray. (See P.24)
2. Remove two screws [1], bend the stopper [2] in the direction of the arrow, and remove the paper feed cover [3].

Note

- **For easier operation, lilft up the underpart [4] of the cover when installing the paper feed cover [3].**
- **When installing the paper feed cover [3], be sure to insert the tab [6] into the hole [5] of the metal plate.**

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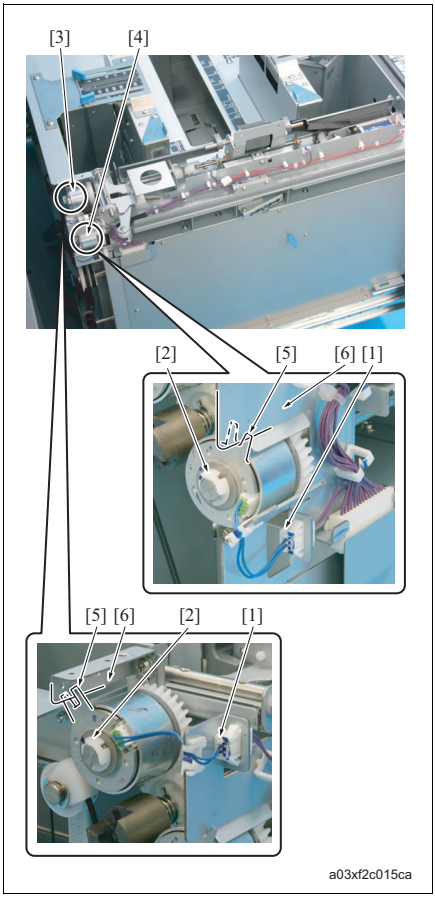

3. Disconnect the two connectors [1].

4. Remove the two C-clips [2], and remove the paper feed clutch (MC1/MC4) [3] and the separation clutch (MC2/MC5) [4].

Note

- **When installing the clutch, be sure to engage the stopper [5] of the clutch with the projection [6] of the metal plate.**

5. Reinstall the above parts following the removal steps in reverse.

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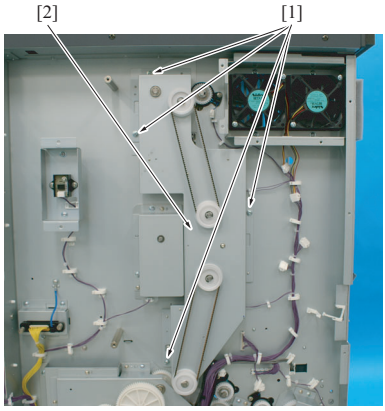
2.2 Maintenance procedure of the conveyance section

2.2.1 Replacing the vertical conveyance clutch/1 (MC7), /2 (MC8), and /3 (MC9)

A. Periodically replaced parts/cycle

- Vertical conveyance clutch/1 (MC7), /2 (MC8), and /3 (MC9):
  Every 2,400,000 prints (actual replacement cycle: every 2,000,000 feed)

B. Procedure



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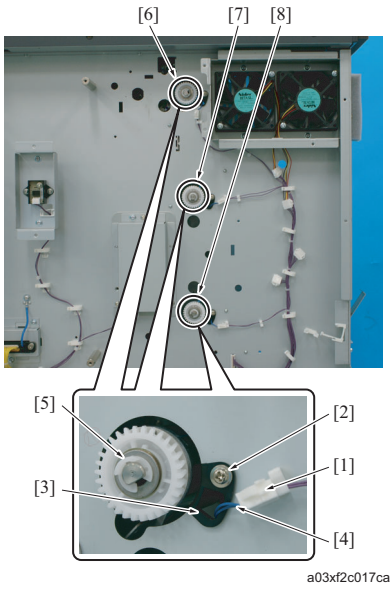
1. Remove the following parts.
   - Rear cover/Rt (See P.22)
   - Rear cover/Lt1 (See P.21)
   - Rear cover/Lt2 (See P.21)
2. Remove the four screws [1] and remove the gear mounting plate [2].



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3. Disconnect the three connectors [1].
4. Remove the three screws [2] and the three wire binding covers [3].

Note

- **When installing the wire binding [4], pass the binding through the hole in the wire binding cover [3].**

5. Remove the three C-clips [5] and remove the vertical conveyance clutch/1 (MC7) [6], /2 (MC8) [7], and /3 (MC9) [8].

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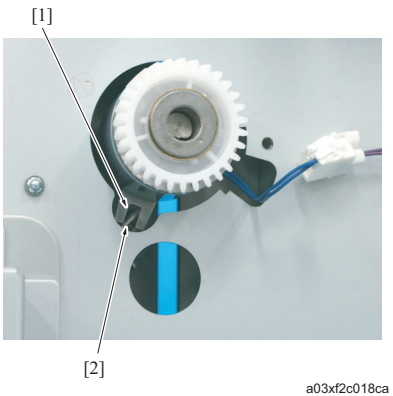

Note

- **When installing the clutch, be sure to engage the stopper [1] of the clutch with the projection [2] of the metal plate.**

6. Reinstall the above parts following the removal steps in reverse.

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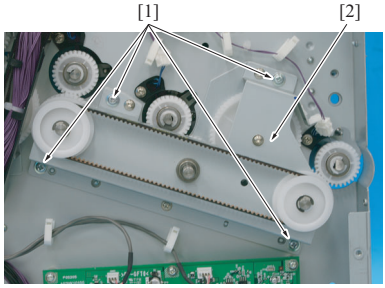
2.2.2 Replacing the horizontal conveyance clutch/1 (MC10), /2 (MC11), and pre-registration clutch (MC12)

A. Periodically replaced parts/cycle

- Horizontal conveyance clutch/1 (MC10), /2 (MC11), and pre-registration clutch (MC12):
  Every 2,400,000 prints (actual replacement cycle: every 2,000,000 feed)

B. Procedure



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1. Remove the following parts.
   - Rear cover/Rt (See P.22)
   - Rear cover/Lt1 (See P.22)
   - Rear cover/Lt2 (See P.21)
2. Remove the four screws [1] and remove the gear mounting plate [2].

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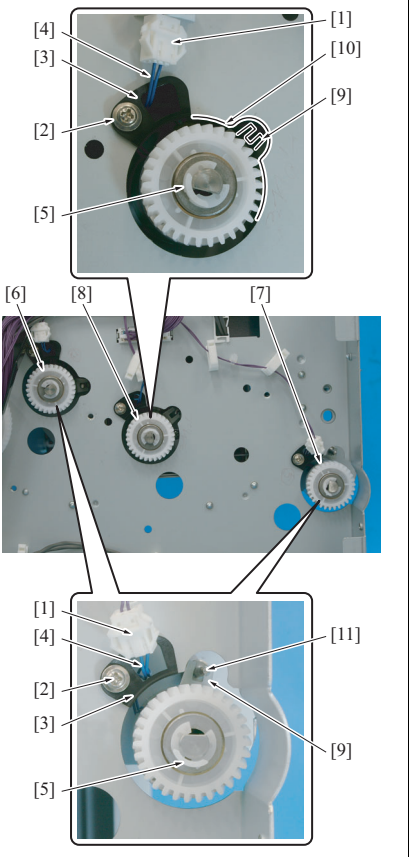

3. Disconnect the three connectors [1].

4. Remove the three screws [2] and the three wire binding covers [3].

Note

- **When installing the wire binding [4], pass the binding through the hole in the wire binding cover [3].**

5. Remove the three C-clips [5] and remove the horizontal conveyance clutch/1 (MC10) [6], /2 (MC11) [7], and the pre-registration clutch (MC12) [8].

Note

- **When installing the cluthes, be sure to match the stoppers [9] with the cutout of the rear panel [10].**
- **When installing the clutch, be sure to engage the stopper [9] of the clutch with the pin [11].**

6. Reinstall the above parts following the removal steps in reverse.

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3. OTHERS

3.1 Disassembly/reassembly parts list

No.	Section	Part name	Reference page
1	Cover	Right cover	P.20
2		Rear cover/Lt2	P.21
3		Rear cover/Lt1, /Rt	P.22
4		Front door	P.23
5	Tray section	Tray	P.24
6		Lift wire	P.27
7		Paper lift motor/1 (M2) and /2 (M3)	P.32
8	Conveyance section	Vertical conveyance unit	P.34
9		Horizontal conveyance unit	P.37
10		Multi feed detection board (MFDTB/R and /S)	P.39

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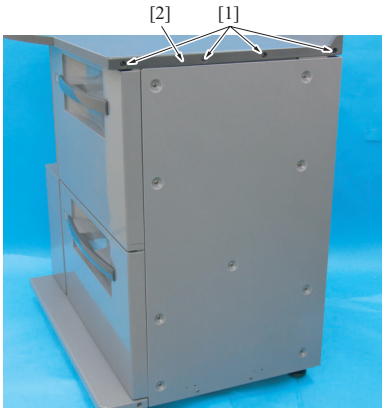
3.2 Disassembly/reassembly procedures

⚠Caution:

- **Be sure to unplug the power cord from the power outlet.**

3.2.1 Removing/installing the right cover

A. Procedure



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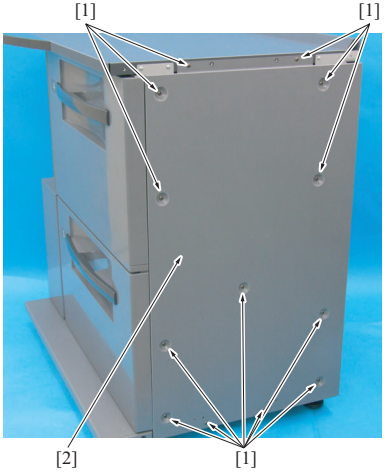
1. Remove the four screws [1] and remove the right cover fixing plate [2].



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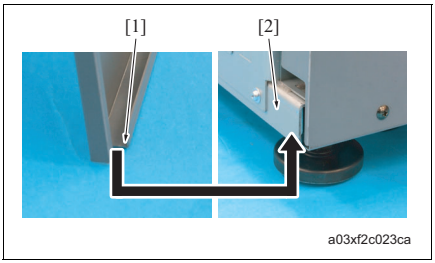
2. Remove the 13 screws [1] and then remove the right cover [2].



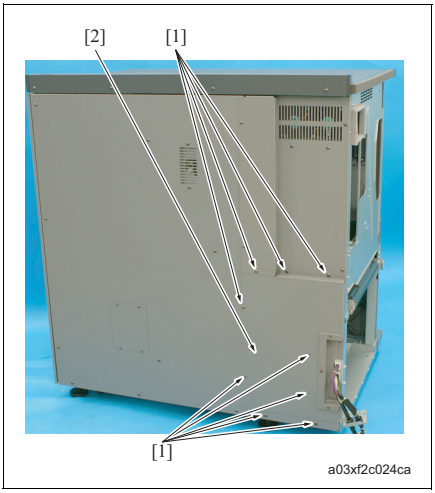
Note

- **When installing the right cover, be sure to match the metal plate [2] on the lower part of the PF main unit with the groove [1] on the right cover.**

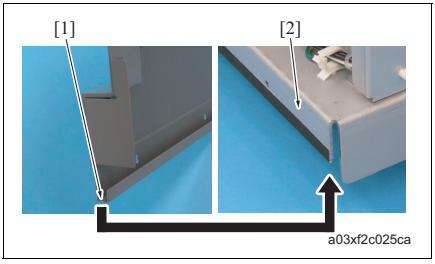
3. Reinstall the above parts following the removal steps in reverse.

3.2.2 Removing/installing the rear cover/Lt2

A. Procedure



1. Remove the nine screws [1] and remove the rear cover/Lt2 [2].



Note

- **When installing the rear cover/Lt2, be sure to match the metal plate [2] of the lower part of the PF main unit with the groove [1] of the rear cover.**

2. Reinstall the above parts following the removal steps in reverse.

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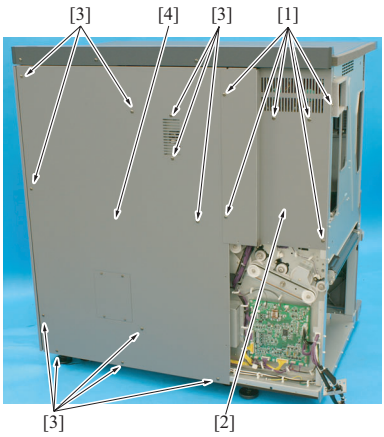
3.2.3 Removing/installing the rear cover/Lt1 /Rt

A. Procedure



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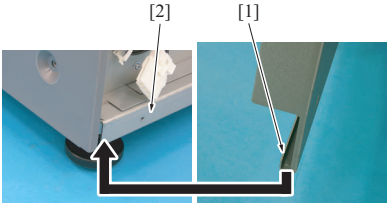
1. Remove the rear cover/Lt2.(See P.21)
2. Remove the six screws [1] and remove the rear cover/Lt1 [2].
3. Remove the eleven screws [3] and remove the rear cover/Rt1 [4].



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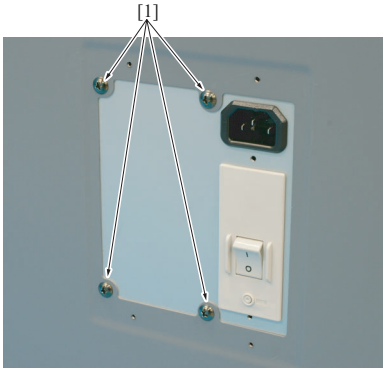
Note

- **When installing the rear cover/Rt, be sure to match the metal plate [2] on the lower part of the PF main unit with the groove [1] on the rear cover.**

4. Reinstall the above parts following the removal steps in reverse.



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Note

- **When HT-504 is installed, also remove the four screws [1] in step 3.**

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3.2.4 Removing/reinstalling the front cover

A. Procedure

1. Open the front door [1].
2. Remove the screw [2].
3. Remove the two screws [3] and the mounting plate [4], and remove the front door [1] releasing it from the pin [5].
4. Reinstall the above parts following the removal steps in reverse.

3.2.5 Removing/reinstalling the tray

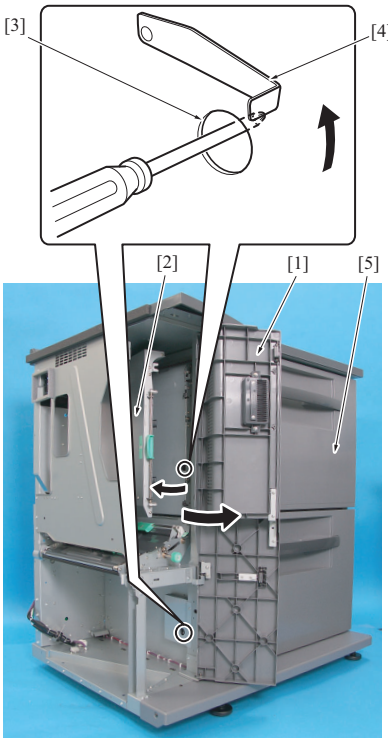
⚠Caution:

- **As the trays are very heavy, the following work should be performed by two people.**
- **Do not pull out the two trays at a time or the PF may topple over.**

Note

- **The removal and installation procedures of tray/4 is the same for those of tray/5. The explanation here is made by the example of tray/4.**
- **When lifting up the tray, be sure to hold it at the specified positions. Not doing so may cause damage to the trays or result in a paper jam.**

A. Procedure



1. Open the front door [1].
2. Open the vertical conveyance unit guide plate [2] (Tray/4 only).
3. Insert a screwdriver or a similar tool into the hole [3], lift up the tray lock lever [4] slightly, and pull out the tray [5].

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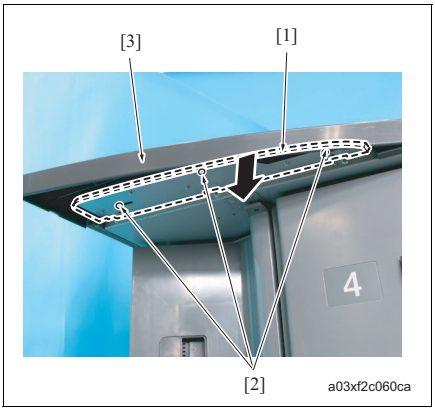
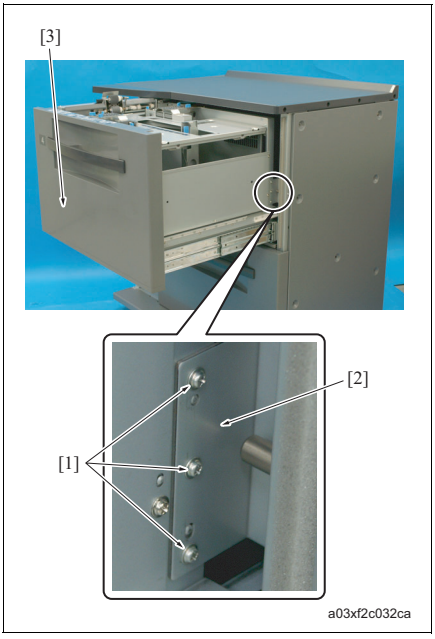


4. Remove the cushion/3 [1].
5. Remove the three screws [2] and remove the upper cover/1 [3].

Note

- **When replacing the cushion/3, also replace the double-sided tape that secure the cushion/3 with a new one.**



6. Remove the three screws [1] on the right side of the tray and remove the rail stopper [2].
7. Pull the tray [3] further out.

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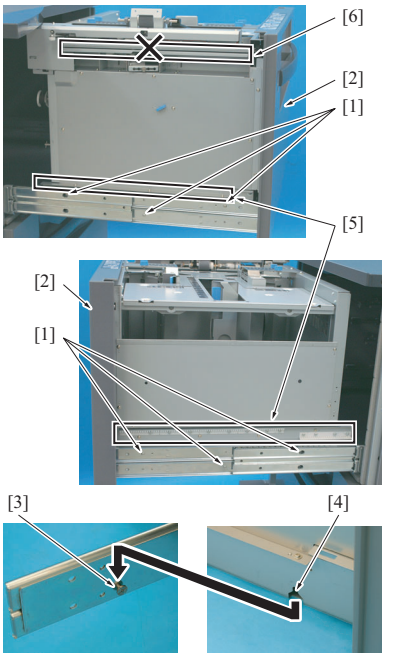

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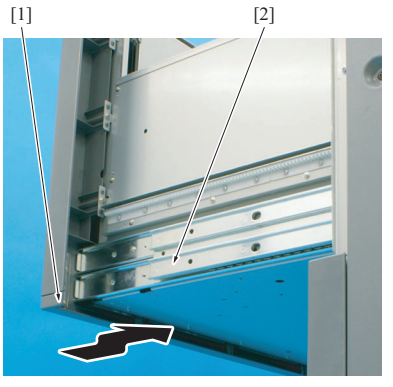
8. Remove the six screws [1], three each on the left and right rails, hold the tray [2] by the specified positions [5], and remove it straight up.

Note

- **When reinstalling the tray, make sure that the four knobs [3] on the rails are properly fitted in the notches [4] of the tray.**
- **When lifting up the tray, be sure to hold it by the specified positions [5] by two people. Do not hold the part indicated with [6] as the part may easily deform and this causes a paper jam.**



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Note

- **When installing tray/4, make sure not to let the lower part [1] of the tray cover contact the rail [2].**

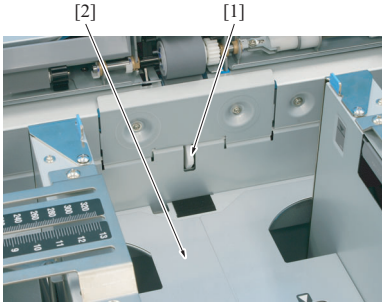
9. Reinstall the above parts following the removal steps in reverse.

3.2.6 Removing/installing the lift wire

Note

- **The removing/installing procedure of the lift wire is the same for tray/4 and tray/5.**

A. Procedure



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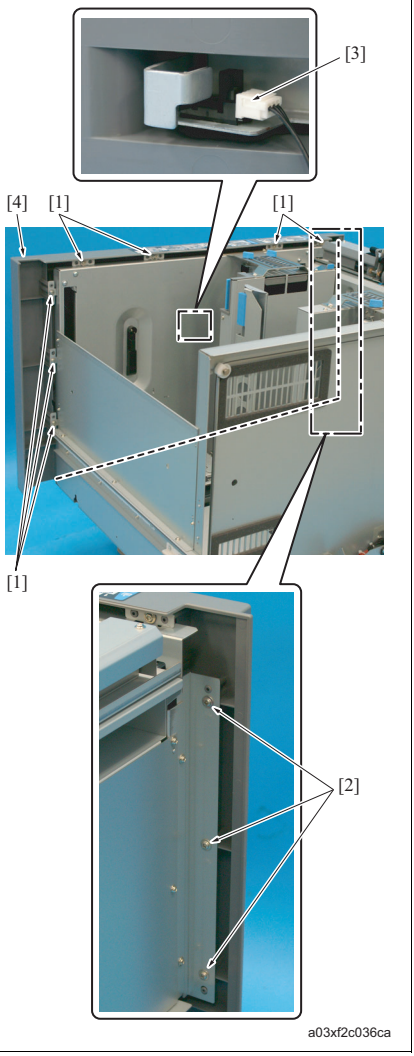
1. Press the down button [1] to let the lift plate [2] go down to the bottom of the tray.



2. Remove the tray. (See P.24)
3. Loosen the seven screws [1], and remove the three screws [2].
4. Disconnect the connector [3], and remove the front cover [4] of the tray.

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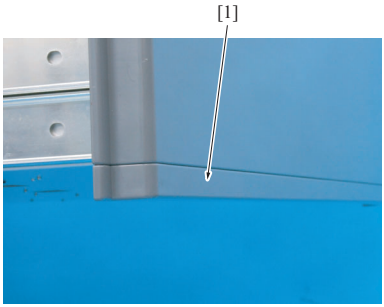

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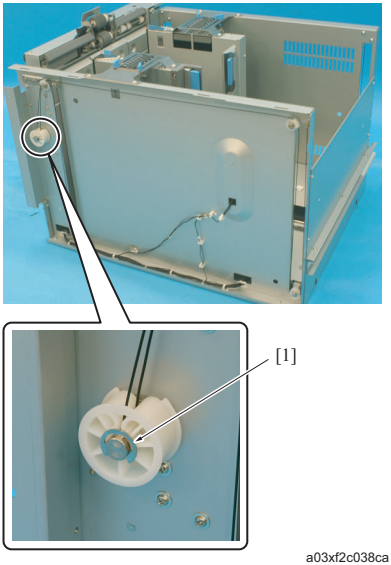
Note

- **The front cover of tray/4 has the ancillary cover [1], whereas that of tray/5 does not. When installing the front covers of each tray, make sure not to mix them up.**



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5. Remove the E-ring [1].

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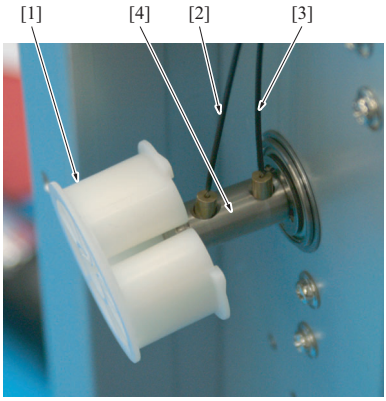

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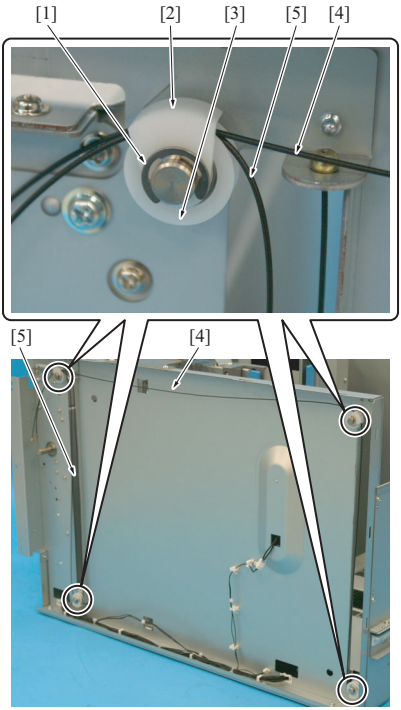
6. Slide the pulley [1], and pull out the wire ends of the lift wire/Fr1 [2] and /Fr2 [3] from each hole of the shaft [4].

Note

- **When inserting the wire ends to the shaft holes, be sure to insert each wire into the corresponding shaft holes. The shaft hole near the center of the tray is used for the shorter wire/Fr2 [3].**
- **When installing the pulley, raise the lift plate slightly to give slack to the wire, insert the wire ends one at a time into the shaft hole, and secure them with the pulley [1]. The wires can be inserted easily in this way.**



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7. Remove the four E-rings [1], and remove the four wire covers [2].
8. Remove the wires/Fr1 [4] and /Fr2 [5] from the four pulleys [3].

Note

- **When installing the wires, be sure that the wires are placed under the wire covers [2] and do not cross each other.**

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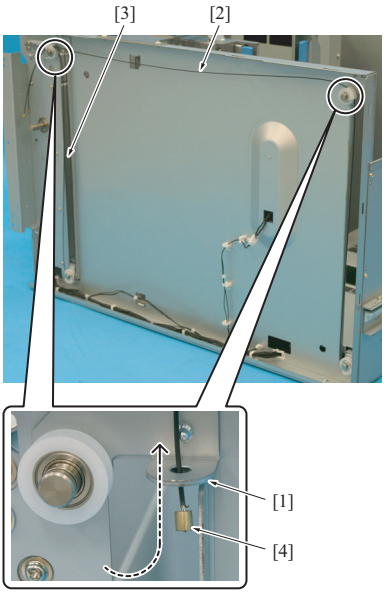

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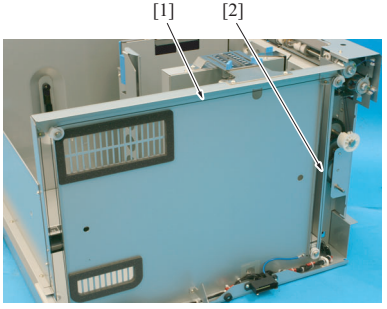
9. Pull out the wire ends [4] of the wire/Fr1 [2] and /Fr2 [3] through the lift plate arm [1].

Note

- **When pulling out the wire, pull it out gently and be careful not to damage it with the corner of the metal plate.**



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10. Remove the lift wire/Rr1 [1] and /Rr2 [2] in the same manner as step 5 - 9.

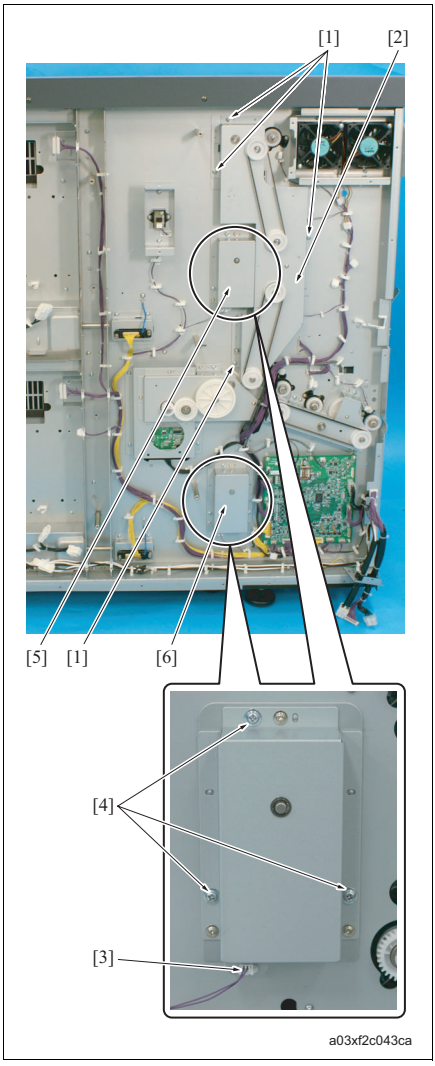
11. Reinstall the above parts following the removal steps in reverse.

Note

- **When the installation is completed, make sure that the lift plate is horizontal.**

3.2.7 Removing/installing the paper lift motor/1 (M2) and /2 (M3)

A. Procedure



1. Remove the following parts.
   - Rear cover/Rt (See P.22)
   - Rear cover/Lt1 (See P.22)
   - Rear cover/Lt2 (See P.21)
2. Remove the four screws [1] and remove the gear mounting plate [2].
3. Disconnect the two connectors [3].
4. Remove the six screws [4], and remove the paper lift motor assy/1 [5] and /2 [6] toward the rear of the main unit.

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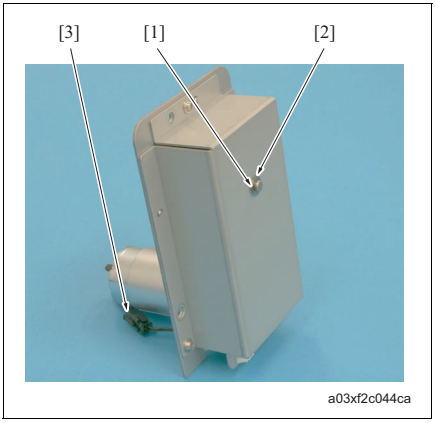

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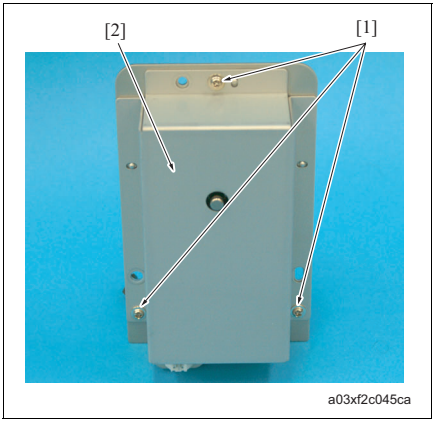
5. Remove the E-ring [1] and the bearing [2].
6. Disconnect the connector [3].



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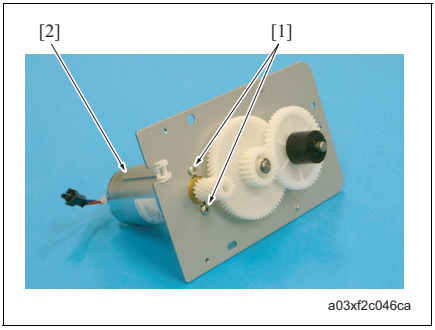
7. Remove the three screws [1] and remove the paper lift motor cover [2].



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8. Remove the two screws [1] and remove the paper lift motor/1 (M2) [2] and /2 (M3) [2].
9. Reinstall the above parts following the removal steps in reverse.

3.2.8 Removing/installing the vertical conveyance units

A. Procedure

1. Remove the PF from the main unit.
2. Remove the vertical conveyance clutch/1 (MC7), /2 (MC8), and /3 (MC9) (See P.15)
3. Remove the front door. (See P.23)
4. Remove the two screws [1] and remove the vent duct [2].
5. Remove the two screws [3] and remove the cover [4].

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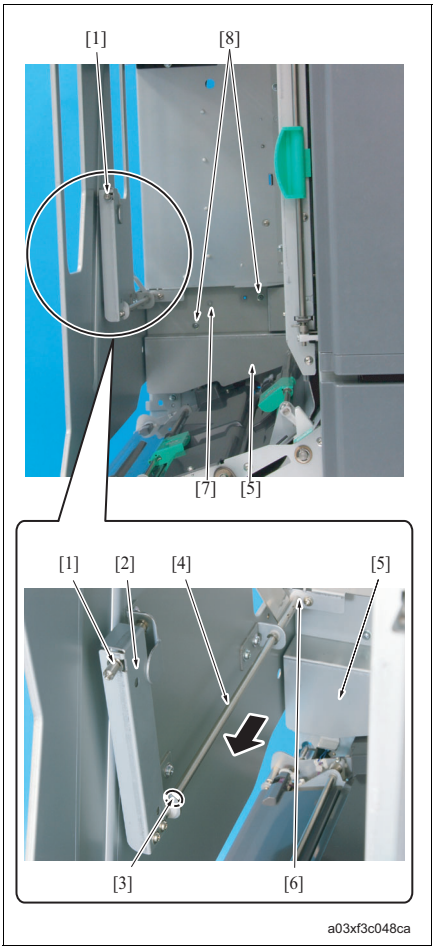

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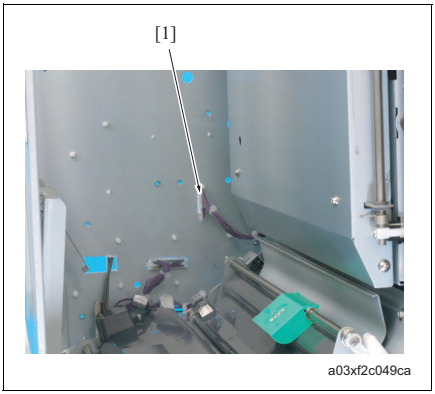
6. Loosen the screw [1], and release the filter replacement assy retaining mechanism stopper [2].
7. Remove the E-ring [3], pull the shaft [4] toward you, and pull out the shaft [4] through the hole [6] in the connector cover [5].
8. Release the lock [7] of the wire clamp and press it in toward the rear panel.
9. Remove the two screws [8] and remove the connector cover [5].



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10. Disconnect the connector [1].

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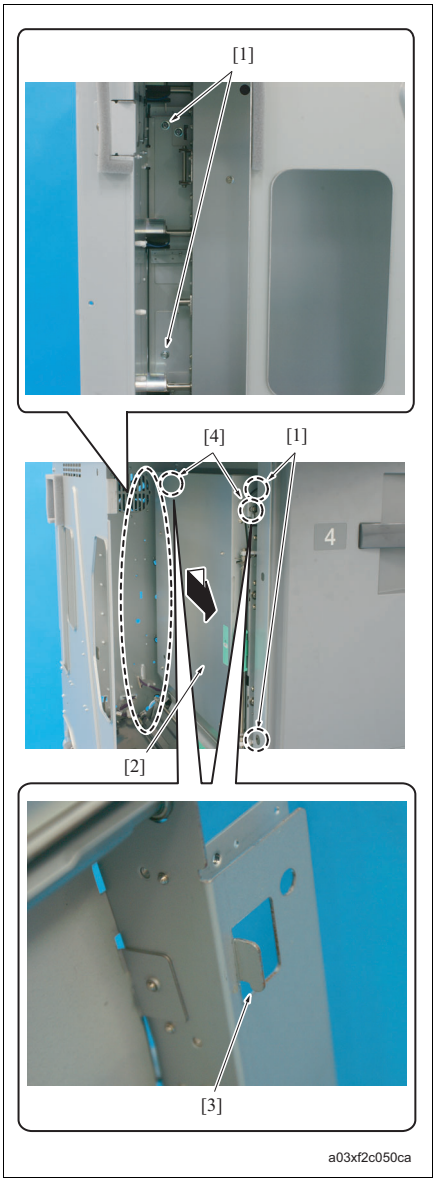

11. Remove the four screws [1] and remove the vertical conveyance unit [2].

Note

- **When installing the vertical conveyance unit [2], be sure that the two tabs [3] on the vertical conveyance unit are fitted in the holes [4] in the PF main unit.**

12. Reinstall the above parts following the removal steps in reverse.

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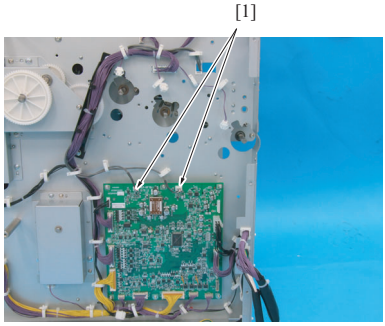
3.2.9 Removing/installing the horizontal conveyance unit

A. Procedure



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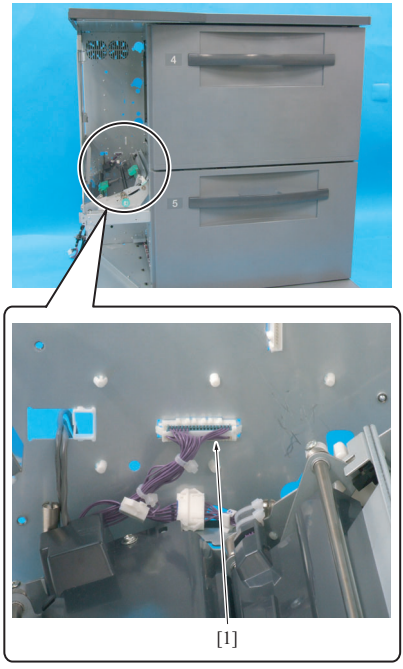
1. Remove the vertical conveyance unit. (See P.34)
2. Remove the horizontal conveyance clutch/1 (MC10), /2 (MC11), and the pre-registration clutch (MC12). (See P.17)
3. Disconnect the two connectors [1] and release the wires from the clamps.



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4. Disconnect the connector [1].

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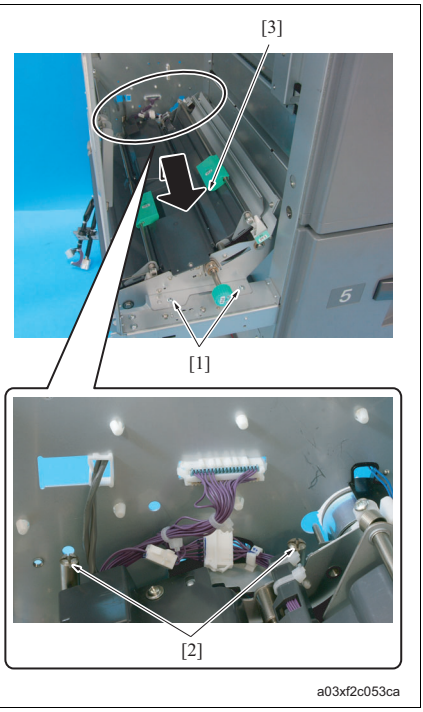
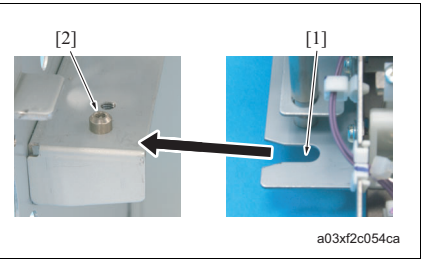


5. Remove the two screws [1].
6. Loosen the two screws [2] and remove the horizontal conveyance unit [3].



Note

- **When installing the horizontal conveyance unit, make sure that the pin [2] is fitted in the notch [1] of the unit.**

7. Reinstall the above parts following the removal steps in reverse.

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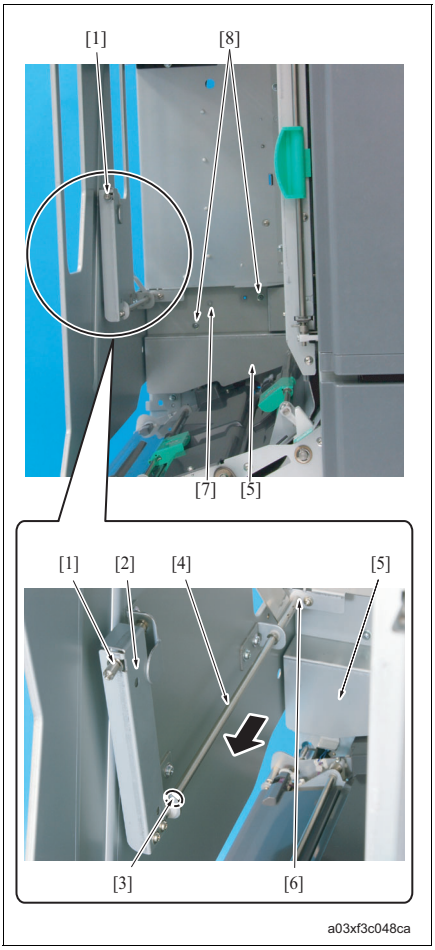
3.2.10 Removing/installing the multi feed detection board (MFDTB/R and /S)

Note

- **When replacing the multi feed detection board/S (MFDTB/S), be sure to replace the multi feed detection board/R (MFDTB/R) at the same time.**
- **When the multi feed detection board is replaced, be sure to conduct the adjustment when replacing multi feed detection board (PF). (See "10.7.4 Adjustment when replacing multi feed detection board (PF)" in Field Service for the main body.)**

A. Procedure



1. Loosen the screw [1], and release the filter replacement assy retaining mechanism stopper [2].
2. Remove the E-ring [3], pull the shaft [4] toward you, and pull out the shaft [4] through the hole [6] in the connector cover [5].
3. Release the lock [7] of the wire clamp and press it in toward the rear panel.
4. Remove the two screws [8] and remove the connector cover [5].

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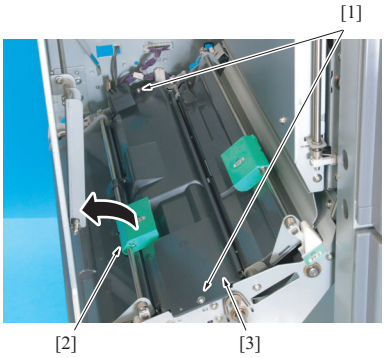

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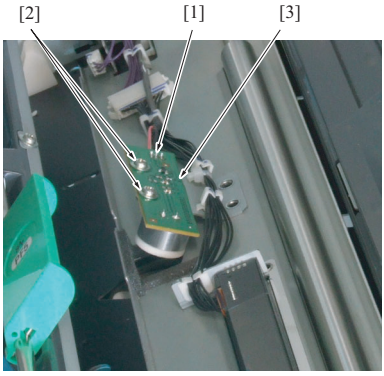
5. Remove the two screws [1].
6. Open the jam precessing lever PF5 [2], and remove the cover [3].



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7. Disconnect the connector [1].
8. Remove the two screws [2] and the multi feed detection board/R (MFDTB/R) [3].

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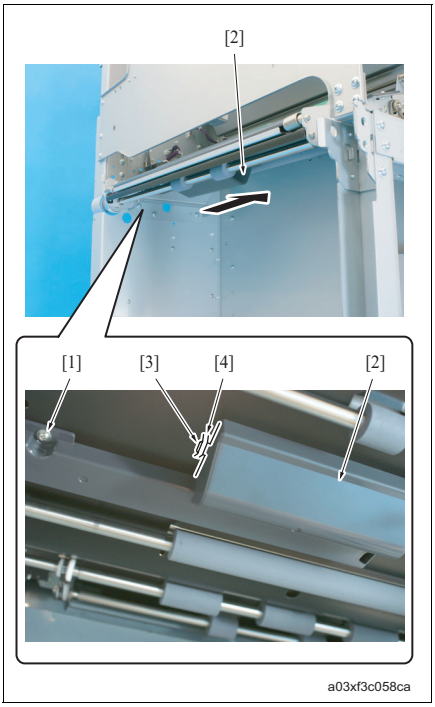

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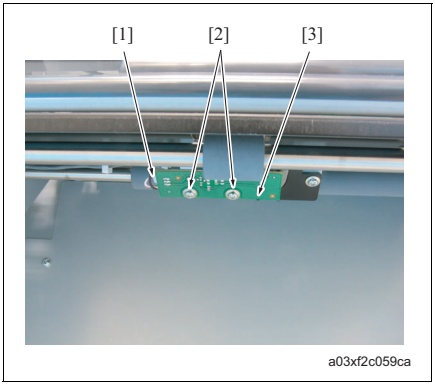
9. Remove the screw [1], slide the cover [2] in the direction of the arrow, and remove the cover downward.

Note

- **When installing the cover, be sure to insert the tab [3] on the cover into the hole of the horizontal conveyance unit [4].**



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10. Disconnect the connector [1].

11. Remove the two screws [2] and the multi feed detection board/S (MFDTB/S) [3].

12. Reinstall the above parts following the removal steps in reverse.

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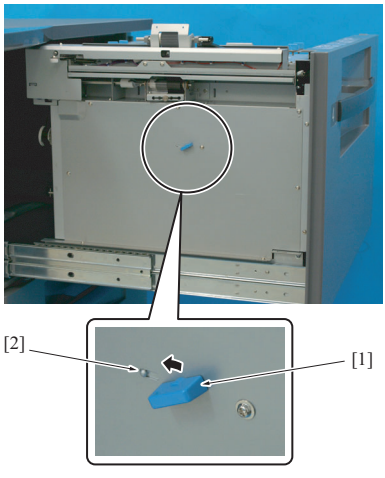
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

4.1 Paper feed pick-up amount adjustment

Perform the adjustment when no feed occurs frequently.

A. Procedure



1. Pull out the tray.
2. If paper remains in the tray, remove it.
3. Turn to loosen the knob [1], slide the projection [2] toward the rear side of the tray, and fasten the knob [1] to secure the projection [2].

Note

- **After the completion of the adjustment, loosen the knob [1], put the projection [2] back to the original position, and fasten the knob [1] to secure the projection [2].**

4. Install the tray and pull out it again after the lift plate has been fully brought up, which can be judged with the operating sound of the paper lift motor.
5. Remove the rail stopper, and pull out the tray further. (See P.24)

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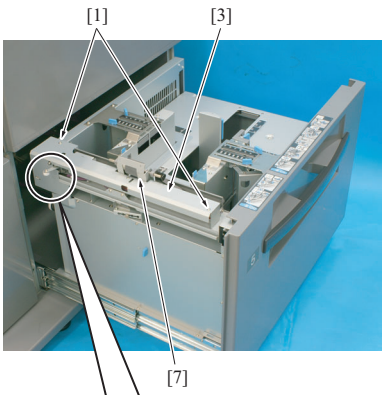

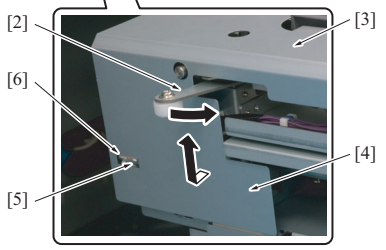

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6. Remove the two screws [1], bend the stopper [2] in the direction of the arrow, and remove the paper feed cover [3].

Note

- **To easily remove the paper feed cover [3], expand the metal plate [4] of the paper feed cover in the direction of the arrow, and lift the cover straight up.**
- **When installing the paper feed cover [3], be sure to insert the tab [6] into the hole [5] of the metal plate.**

7. Put the tray back to the position where the stopper [2] is pushed in the paper feed cover [3], and make the pick-up roller assy [7] placed horizontally (paper feed position).

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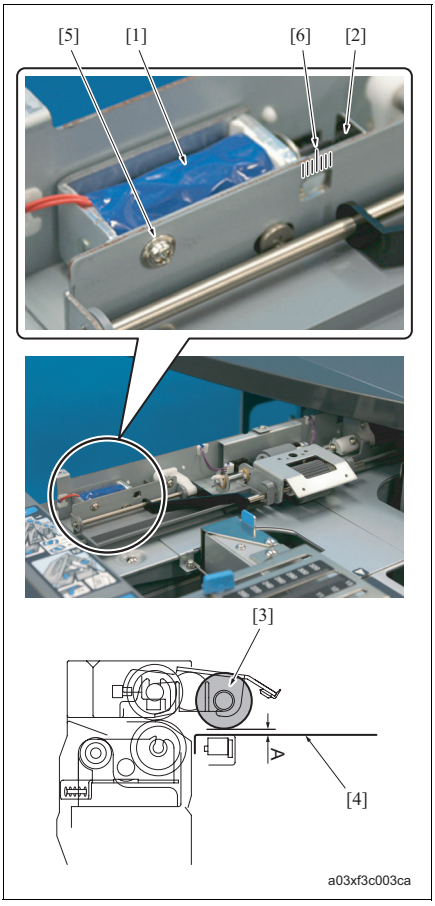


8. Pull the plunger [2] of the pick-up solenoid [1] and measure the gap between the pick-up roller [3] and the lift plate [4] with a feeler gauge.
   Measured value A = 0.5 to 1.0 mm
   If the measured value is not the specified value, perform step 9 and the steps that follow.
9. Loosen the screw [5].

Note

- **Before loosening the screw, be sure to mark off the position of the pick-up solenoid by drawing a line [6].**

10. With the plunger [2] pulled, adjust the position of the pick-up solenoid [1] so that the gap between the pick-up roller [3] and the lift plate [4] becomes to the specified value.
11. Tighten the screw [5] and fasten the pick-up solenoid [1].
12. Put paper in the tray and close the tray.
13. Make a copy/print to check that papers are fed properly.
14. Reinstall the above parts following the removal steps in reverse.

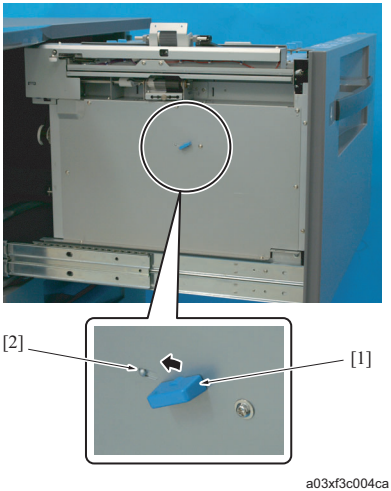
4.2 Pick-up roller height adjustment

Perform the adjustment under the following conditions: no feed occurs frequently; printed page is often folded; paper jam occurs at short intervals; feeding paper with a large amount of curl.
According to the pick-up roller height adjustment, the height of the upper most paper and the paper through height of the paper feed roller are decided.

Note

- **Pick-up roller height adjustment changes paper feed pick-up amount accordingly. When the adjustment is completed, perform the paper feed pick-up amount adjustment to check the pick-up amount.**

A. Procedure



1. Pull out the tray.
2. If paper remains in the tray, remove it.
3. Turn to loosen the knob [1], slide the projection [2] toward the rear side of the tray, and fasten the knob [1] to secure the projection [2].

Note

- **After the completion of the adjustment, loosen the knob [1], put the projection [2] back to the original position, and fasten the knob [1] to secure the projection [2].**

4. Install the tray and pull out it again after the lift plate has been fully brought up, which can be judged with the operating sound of the paper lift motor.
5. Remove the rail stopper, and pull out the tray further. (See P.24)

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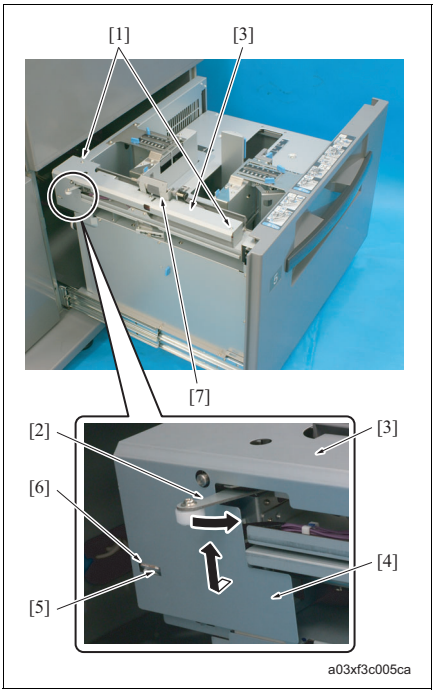
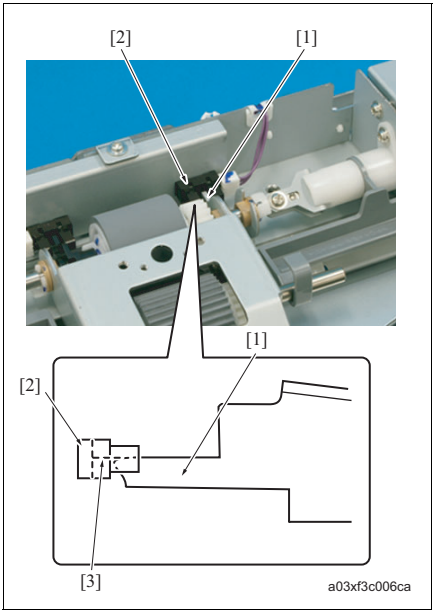


6. Remove the two screws [1], and remove the paper feed cover [3].

Note

- **To easily remove the paper feed cover [3], expand the metal plate [4] of the paper feed cover in the direction of the arrow, and lift the cover straight up.**
- **When installing the paper feed cover [3], be sure to insert the tab [6] into the hole [5] of the metal plate.**

7. Put the tray back to the position where the stopper [2] is pushed in the paper feed cover [3], and make the pick-up roller assy [7] placed horizontally (paper feed position).



8. Check if the actuator [1] of the pick-up roller assy meets the center [3] of the upper limit sensor/1 (PS1) and /2 (PS9) [2].

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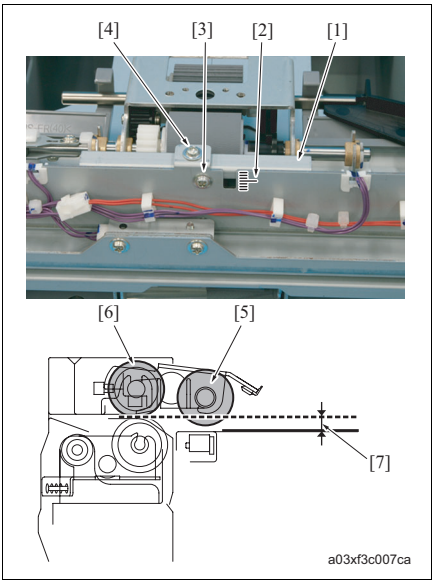

9. Mark off the position of the upper limit sensor mounting plate [1] by drawing a line [2].
10. Loosen the screw [3] to release the upper limit mounting plate [1].
11. Loosen or tighten the screw [4] to adjust the height of the upper limit sensor mounting plate [1].

Note

- **The upper limit sensor mounting plate [1] goes up by tightening the screw [4], and it goes down by loosening the screw.**

Reference

- **Raising the position of the upper limit sensor brings down the pick-up roller [5] (resulting in the increased difference [7] of elevation between the paper feed roller [6] and the pick-up roller [5]).**
- **Lowering the position of the upper limit sensor brings up the pick-up roller [5] (resulting in the reduced difference [7] of elevation between the paper feed roller [6] and the pick-up roller [5]).**
- **When the printed page is folded, when paper jam occurs frequently, or when feeding paper with a large amount of curl, raise the upper limit sensor mounting plate.**
- **When feeding convexly curled paper, lower the upper limit sensor mounting plate.**

12. After the completion of the adjustment, fasten the screw [3] to secure the upper limit mounting plate [1].
13. Put paper in the tray and close the tray.
14. Make a copy/print to confirm that papers are fed properly. If the problem is not solved, repeat steps 9 to 14.
15. Check the paper feed pick-up amount. (See P.43)
16. Reinstall the above parts following the removal steps in reverse.

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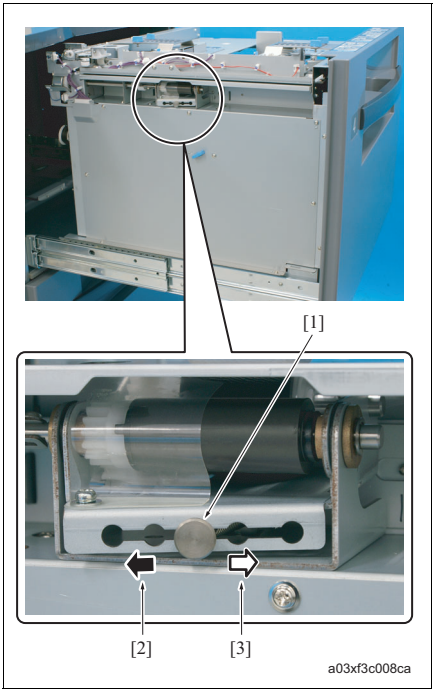
4.3 Separation pressure adjustment

Perform the adjustment when no feed or multi-feed occurs frequently.

Note

- **The no-feed or multi-feed error is most likely to occur due to paper type or operating environment. No feed tends to occur in low temperature environment, whereas high temperature environment results in a higher rate of multi-feed.**
- **Do not make an excessive adjustment. Doing so may reverse the respective symptoms.**

A. Procedure



1. Pull out the tray.
2. Change the position of the spring adjustment lever [1]. Slide the lever in the direction indicated with [2] to increase the separation pressure. Slide it in the direction indicated with [3] to reduce the separation pressure.
   Reduced pressure: lowers multi-feed rate.
   Increased pressure: lowers no feed rate.

Reference

- **The pressure applied to the spring increases/ decreases by about 10% increment.**

3. Close the tray and make a copy/print to confirm that papers are fed properly.
4. If the problem is not solved, repeat steps 2 and 3.

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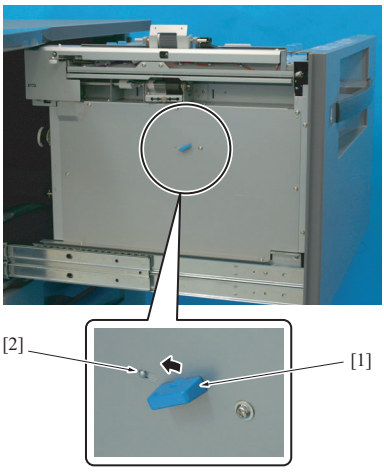
4.4 Lift plate horizontal adjustment

A. Procedure

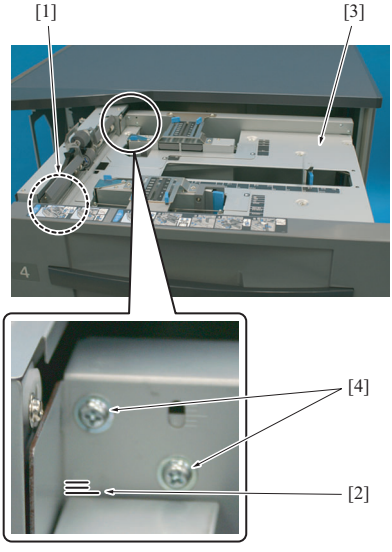


1. Pull out the tray.
2. If paper remains in the tray, remove it.
3. Turn to loosen the knob [1], slide the projection [2] toward the rear side of the tray, and fasten the knob [1] to secure the projection [2].

Note

- **After the completion of the adjustment, loosen the knob [1], put the projection [2] back to the original position, and fasten the knob [1] to secure the projection [2].**

4. Install the tray and pull out it again after the lift plate has been fully brought up, which can be judged with the operating sound of the paper lift motor.



5. Check if the lift plate [3] is placed horizontally using the engraved lines on the near side [1] and the far side [2] of the tray. If the plate is not horizontal, perform step 6 and the steps that follow.
6. Loosen the two screws [4] on the far side, and align the lift plate [3] with the engraved lines on the front side [1] and the far side [2] so that the lift plate is placed horizontally.

Note

- **Do not loosen the screws on the near side of the tray.**

7. After the completion of the adjustment, tighten the two screws [4].

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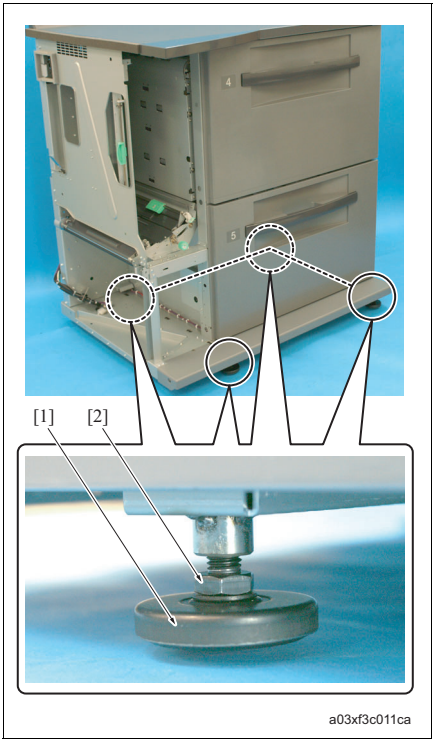
4.5 Horizontal adjustment

Perform the adjustment when the unit is not placed horizontally, or when the height/tilt of the unit is different from that of the main body.

Note

- **Horizontal adjustment may displace the unit position relative to the main body. When the adjustment is completed, be sure to make a test copy/print to see if papers are properly fed from the PF.**

A. Procedure



1. Turn off the power switch (SW2) and the main power switch (SW1) of the main body and unplug the power cord of the main body from the power outlet.
2. Turn the four nuts [2] of the adjusters [1] with a wrench to adjust the levelness of the unit.

Note

- **Be sure to take the height against the main body into account when making the adjustment.**

3. Turn the four nuts [2] of the adjusters [1] slightly to see if there are any adjuster(s) that are off the ground.

Note

- **If there are adjuster(s) that are off the ground, turn the nut [2] with a wrench to extend the adjuster(s) until you feed the adjuster(s) are securely grounded.**

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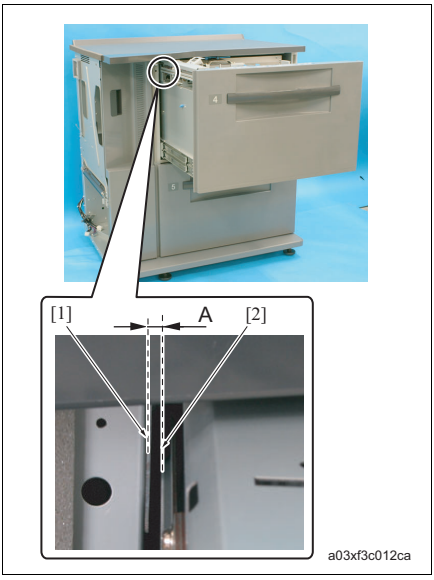

4. Pull out the tray/4, and make sure that the gap “A” between the PF plate [1] and the tray guide plate [2] is more than 2 mm. If the gap is 2 mm or less, lift up the two adjusters on the right side of the PF and adjust the gap.

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KONICA MINOLTA

SERVICE MANUAL

Field Service

LU-202/HT-503

2006.09
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0
EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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LU-202/HT-503

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

1.1 LU-202

A. Type

Type	Side mount type large volume paper feed tray

B. Functions

Max. tray capacity	2500 sheets (80 g/m ^{2})*1

*1 Stacked height 275 mm

C. Paper type

Paper size	SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5 13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S 8K, 16K Tab paper (A4, 8½ x 11) Custom paper (Max. 330 x 487mm, Min. 210 x 182 mm)*1
Applicable paper	Plain paper, high quality paper, coated paper 64 to 300 g/m^2 *1

*1 Available types of paper weighing 300 g/m^2 are limited to specific types.

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source	24/12/5VDC, 200 to 240VAC (supplied both from the main body)
Maximum power consumption	DC: 40W or less, AC: 50W or less (not including HT-503)
Weight	Approx. 40kg
Dimensions	710 (W) x 639 (D) x 477 (H) mm

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80% RH (with no condensation)

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1.2 HT-503

A. Type

Type	Fan heater type dehumidifier device

B. Maintenance

Machine service life	Same as the main body.

C. Machine data

Power source	24/5VDC, 200 to 240VAC (supplied both from the main body)
Maximum power consumption	DC: 4W or less, AC: 290W or less
Dimensions	Dehumidifier fan heater unit: 293 (W) x 82 (D) x 197 (H) mm Power unit: 121 (W) x 80 (D) x 160 (H) mm
Weight	Dehumidifier fan heater unit: Approx. 1.5 kg Power supply unit: Approx. 0.9 kg

D. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80%RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC INSPECTION

2.1 Maintenance Procedure of the Paper Feed Section

⚠Caution

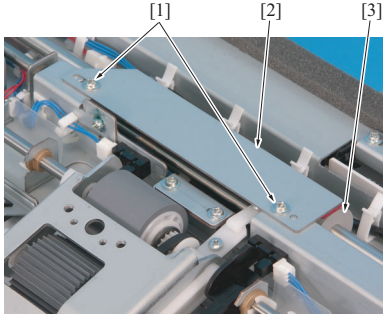
- **Be sure to unplug the power cord from the power outlet.**

2.1.1 Cleaning/pre-registration roller

A. Periodically cleaned parts/cycle

- Paper dust removing brush: Actual cleaning cycle: every 200,000 feed
- Pre-registration roller: Actual cleaning cycle: every 200,000 feed

B. Procedure



a03wf2c001ca

1. Remove the upper door. (See P.11)
2. Remove the paper feed cover. (See P.12)
3. Remove the two screws [1] and remove the paper dust cleaner brush [2].
4. Clean the paper dust removing brush [2] and the pre-registration roller [3].
5. Reinstall the above parts following the removal steps in reverse.

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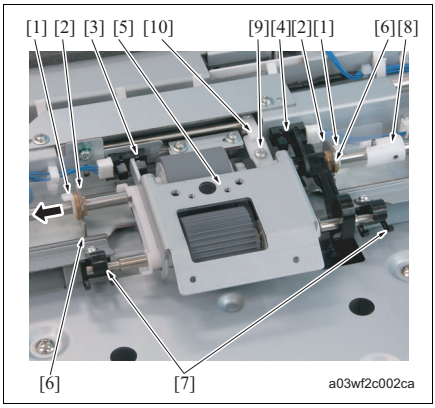
2.1.2 Removing/installing paper feed roller Assy

A. Procedure



1. Remove the upper door.
(See P.11)
2. Remove the paper feed cover.
(See P.12)
3. Remove the two C-clips [1], and slide the two bearings [2] outward.
4. After rotating the paper feed roller assy [5] to the position free from upper limit sensor (PS109) [3] and the paper empty sensor (PS108) [4], remove the coupling [8] while avoiding notch [6] and the arm [7] of paper feed guide plate, and remove the paper feed roller assy [5].

Note

- **When removing/installing, be careful not to damage the upper limit sensor (PS109) [3] and the paper empty sensor (PS108) [4].**
- **When installing, make sure that the arm [9] is underneath the lever [10].**

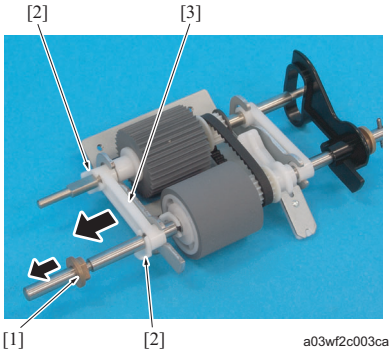
5. Reinstall the above parts following the removal steps in reverse.

2.1.3 Replacing the paper feed roller/pick-up roller

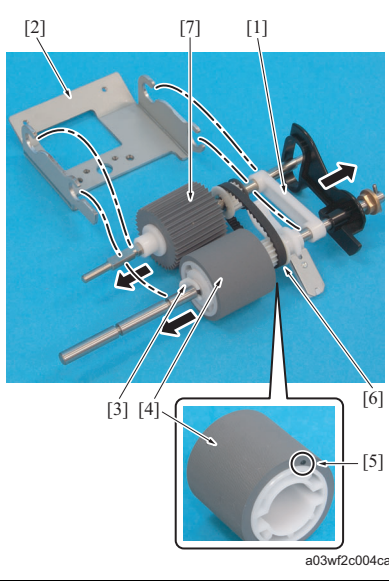
A. Periodically replaced parts/cycle

- Paper feed roller: Every 600,000 prints (actual replacement cycle: every 300,000 feed)
- Pick-up roller: Every 600,000 prints (actual replacement cycle: every 300,000 feed)

B. Procedure



1. Remove the paper feed roller assy. (See P.4)
2. Turn over the paper feed roller assy.
3. Remove the bearing [1].
4. Remove the two C-clips [2], and remove the coupling bearing [3].



5. Slide the coupling bearing [1] and remove the mounting bracket [2].
6. Remove the C-clip [3] and remove the paper feed roller [4].

Note

- **Install it so that the paint mark [5] is facing towards the belt [6].**

7. Remove the pick-up roller [7].

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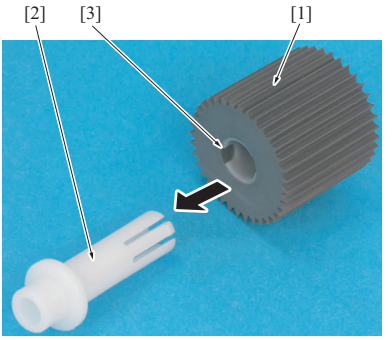


8. Remove the collar [2] from the pick-up roller [1].

Note

- **When installing, insert collar [2] from the groove [3] side.**

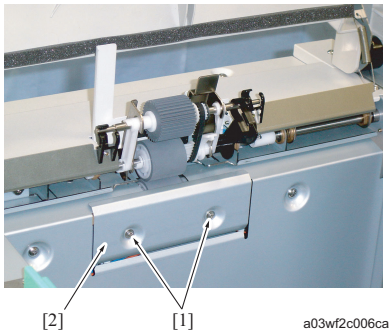
9. Reinstall the above parts following the removal steps in reverse.

2.1.4 Replacing separation roller

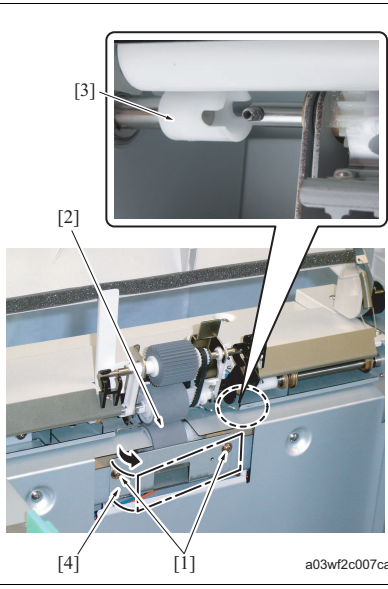
A. Periodically replaced parts/cycle

- Separation roller : Every 600,000 prints (actual replacement cycle: every 300,000 feed)

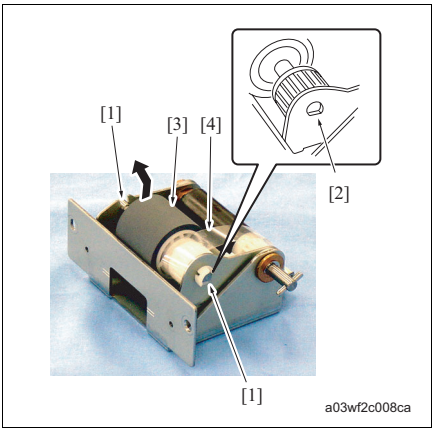
B. Procedure



1. Open the upper door.
2. Remove the 2 screws [1] and remove the cover [2].



3. Remove the two screws [1], pull out the front side while pressing down the separation roller [2], remove the coupling [3], and remove the separation roller assy [4].

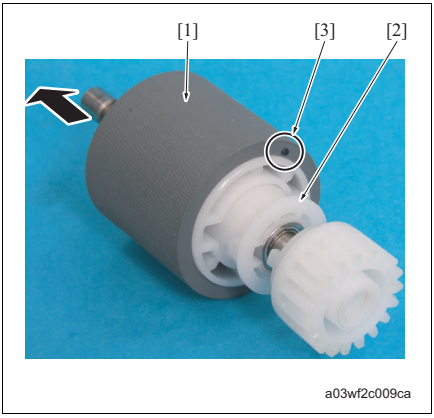


4. Remove the two C-clips [1].

5. Rotate the shaft to match its D-shape end with the D-cut of the metal plate [2], and remove the separation roller [3].

Note

- **When removing/installing, be careful not to damage the protection sheet [4].**



6. Remove the separation roller [1] from the collar [2].

Note

- **When installing, insert the paint mark [3] side to the collar [2].**
- **Be careful not to let any grease spill or drip on the separation roller.**

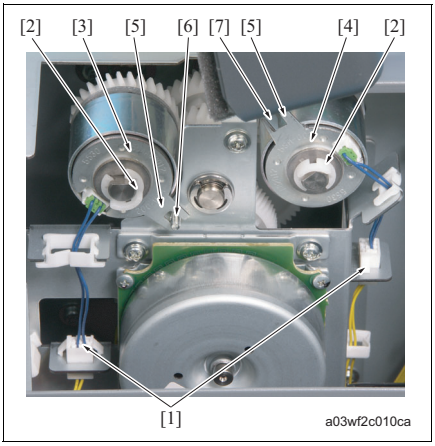
7. Reinstall the above parts following the removal steps in reverse.

2.1.5 Replacing paper feed clutch (MC101) /pre-registration clutch (MC102)

A. Periodically replaced parts/cycle

- Paper feed clutch (MC101): Every 2,400,000 prints (actual replacement cycle: every 2,000,000 feed)
- Pre-registration clutch (MC102): Every 2,400,000 prints (actual replacement cycle: every 2,000,000 feed)

B. Procedure



1. Remove the clutch cover.
(See P.11)
2. Disconnect the two connectors [1].
3. Remove the two C-clips [2] and remove the paper feed clutch (MC101) [3], and remove the pre-registration clutch [4].

Note

- **When installing, be sure to insert the stoppers [5] of the clutches over the screw [6] and the metal plate [7].**

4. Reinstall the above parts following the removal steps in reverse.

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3. OTHERS

3.1 Disassembly/Reassembly Parts List

No.	Section	Part name	Reference page
1	Cover section	Upper door	P.11
		Clutch cover	P.11
		Paper feed cover	P.12
		Right cover	P.12
		Front cover	P.13
		Rear cover	P.14
2	Up/down section	Lift wire	P.15

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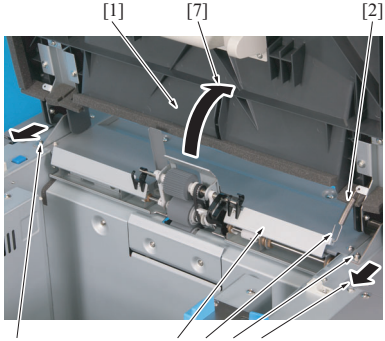
3.2 Disassembly/Reassembly Procedures

⚠Caution

- **Be sure to unplug the power cord from the power outlet.**

3.2.1 Removing/reinstalling the upper door

A. Procedure



1. Open the upper door [1].
2. Remove the hook [3] of spring [2] from the paper feed guide plate [4].

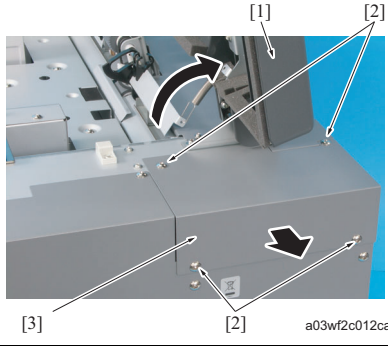
Note

- **When attaching the spring, be sure to put its hook through the hole on the plate from the outside.**

3. Remove the two screws [5], slide the door [1] in the direction of the arrow [6], and remove it while tilting it in the direction of the arrow [7].
4. Reinstall the above parts following the removal steps in reverse.

3.2.2 Removing/reinstalling the clutch cover

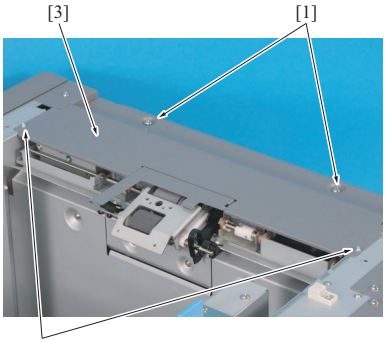
A. Procedure



1. Open the upper door [1].
2. Remove the four screws [2] and then remove the clutch cover [3].
3. Reinstall the above parts following the removal steps in reverse.

3.2.3 Removing/reinstalling the paper feed cover

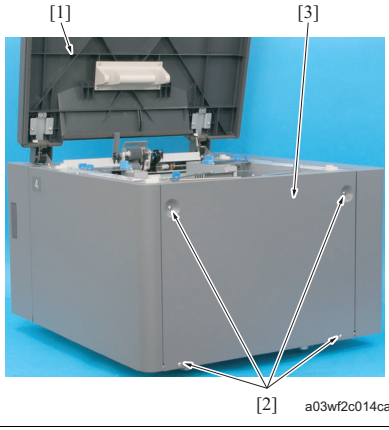
A. Procedure



1. Remove the upper door.
(See P.11)
2. Remove the two screws [1] and the two screws [2], and remove the paper feed cover [3].
3. Reinstall the above parts following the removal steps in reverse.

3.2.4 Removing/installing the right cover

A. Procedure



1. Open the upper door [1].
2. Remove the four screws [2] and remove the right cover [3].
3. Reinstall the above parts following the removal steps in reverse.

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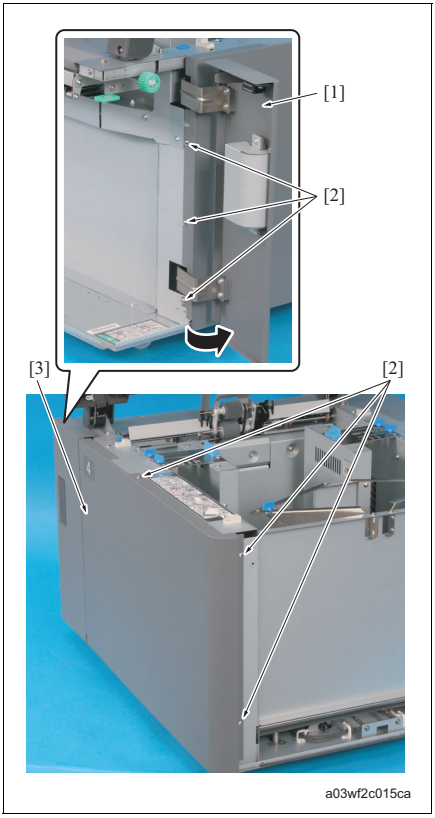
3.2.5 Removing/reinstalling the front cover

A. Procedure



1. Open the upper door.
2. Remove the right cover.
   (See P.12)
3. Open the front door [1] and remove the five screws [2].
4. Close the front door [1], and remove the front cover [3].
5. Reinstall the above parts following the removal steps in reverse.

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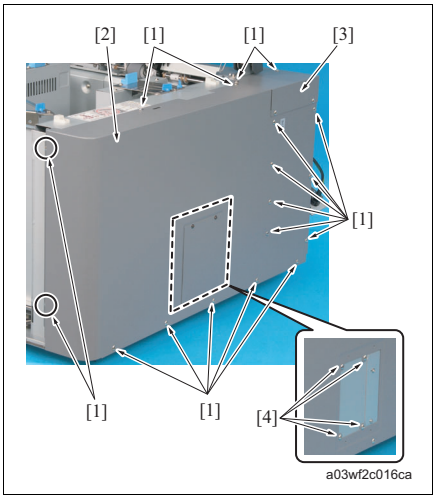
3.2.6 Removing/reinstalling the rear cover

A. Procedure



1. Open the upper door.
2. Remove the right cover.
(See P.12)
3. Remove the 18 screws [1] and remove the rear cover [2] with the clutch cover [3].

Note

- **When the HT (option) is installed, remove the four screws [4].**

4. Reinstall the above parts following the removal steps in reverse.

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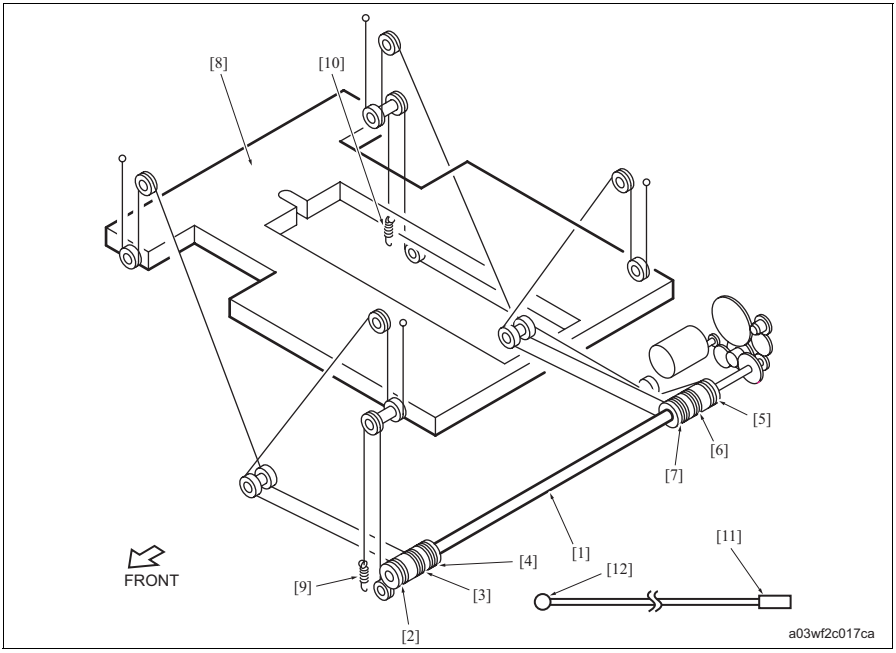
3.2.7 Replacing the lift wire

Note

- **When the HT-503 (option) is installed, remove it before performing the replacement.**
- **Be sure to lower the paper lift plate to its lower most position in advance by pressing the tray down switch (SW100) with electricity supplied.**
- **Remove the lift wire in the order of "A. Removing/installing the paper feed motor assy" "B. Removing/installing the paper lift drive section" "C. Removing/reinstalling the lift wire". Reinstall the lift wire following the removal steps in reverse.**
- **After replacing the lift wire, carry out the paper lift plate horizontal adjustment. (See P.28)**
- **There are six lift wires; Fr1[2], Fr2 [3], Fr3 [4], Rr1 [5], Rr2 [6], and Rr3 [7]. All of them are wound on the pulleys attached to the drive shaft [1] as shown.**
  The four lift wires; Fr2, Fr3, Rr2, Rr3 are the same in length, and are referred to as drive wire/A which lifts the paper lift plate [8]. The other two lift wires; Fr1 and Rr1 are different in length and attached to the spring/Fr [9] and the spring/Rr [10] as shown. The Fr1 and Rr1, referred to as assist wire/C and /D respectively, pull the paper lift plate downward to stabilize the plate.
  Drive wire/A (1450 mm) :lift wire/Fr2 [3], /Fr3 [4], Rr2 [6], /Rr3 [7]
  Assist wire/C (1240 mm) :lift wire/Fr1 [2]
  Assist wire/D (820mm) :lift wire/Rr1 [5]
- **Attach the cylindrical-shaped end [11] of the wire to the drive shaft, and attach the other ball shaped end [12] to the metal plate or the spring.**



[1]	Drive shaft	[6]	Lift wire /Rr2
[2]	Lift wire/Fr1	[7]	Lift wire/Rr3
[3]	Lift wire/Fr2	[8]	Paper lift plate
[4]	Lift wire/Fr3	[9]	Spring/Fr
[5]	Lift wire/Rr1	[10]	Spring/Rr

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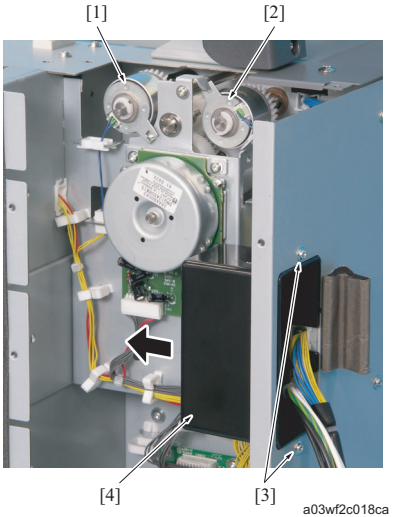
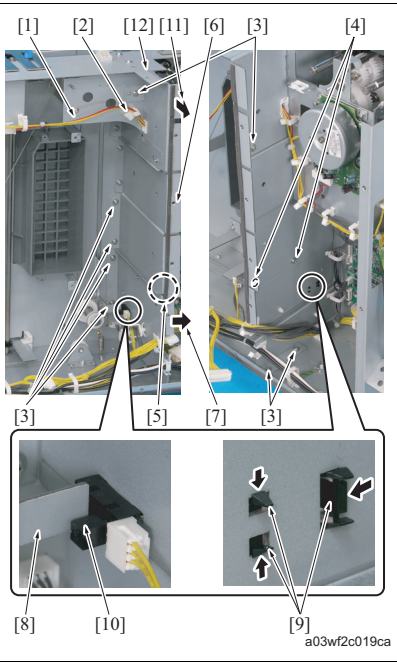
A. Removing/installing the paper feed motor assy



1. Remove the LU from the main body.
2. Remove the right cover.
(See P.12)
3. Remove the front cover.
(See P.13)
4. Remove the rear cover.
(See P.14)
5. Remove the paper feed clutch (MC101) [1] and pre-registration clutch (MC102) [2].
(See P.9)
6. Remove the two screws [3] and remove the duct [4].



7. Remove the wire binding [1] from the saddle [2].
8. Remove the eight screws [3].
9. Loosen the screw [4] one or two turns.

Note

- **Do not loosen the screw [4] too much. Doing so may damage the clearance sponge [5].**

10. Push the lower part of the bulkhead plate [6] a few millimeters in the direction of the arrow [7], then while avoiding actuator [8], push the tab [9] to remove the lower limit sensor (PS101) [10].

Note

- **When removing/installing PS101, be careful not to damage it.**
- **When installing, make sure that the tab [9] is securely inserted.**

11. Slide the upper part of the bulkhead plate [5] in the direction of the arrow [11], and tilt it until it comes off from the metal plate [12].

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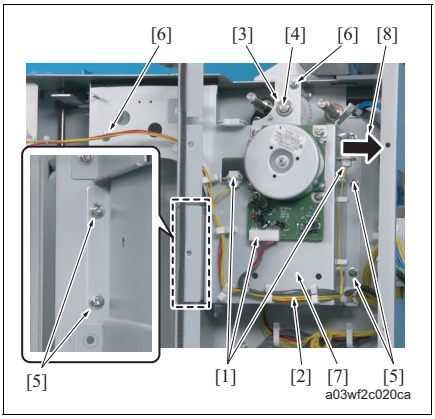


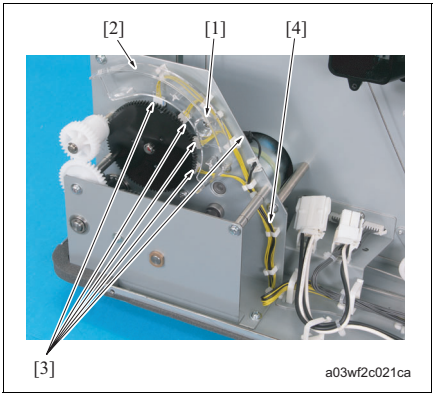
12. Remove the three connectors [1] and remove the wire binding [2] from the saddle.
13. Remove the E-ring [3] and the bearing [4].
14. Remove the four screws [5].
15. Remove the two screws [6] and remove the paper feed motor assy [7] in the direction of the arrow [8].

Note

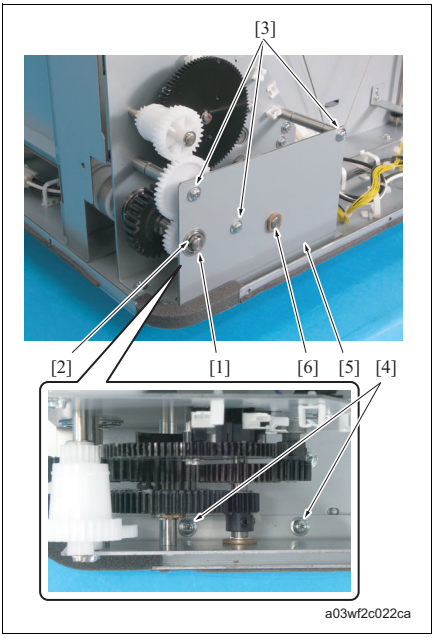
- **The screws [6] are shoulder screws. Make sure to properly attach the screws so that the metal plate is fitted securely.**

16. Reinstall the above parts following the removal steps in reverse.

B. Removing/installing the paper lift drive section



1. Remove the right cover.
(See P.12)
2. Remove the rear cover.
(See P.14)
3. Remove the screw [1], and remove the sensor cover [2].
4. Remove the five connectors [3] and remove the wire binding [4].



5. Remove the E-ring [1] and the bearing [2].
6. Remove the three screws [3] and the two screws [4].

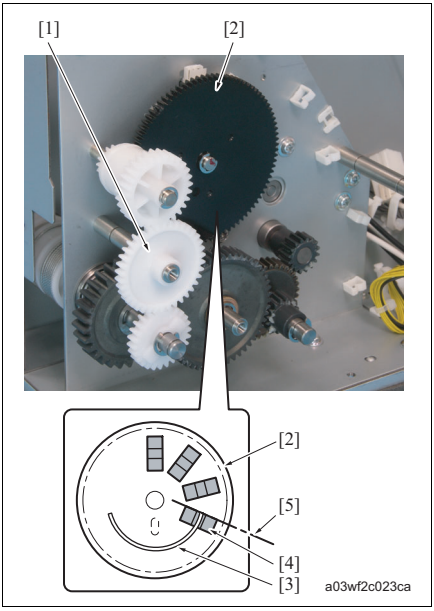
Note

- **The screws [3] are shoulder screws. Make sure to properly attach the screws so that the metal plate is fitted securely.**

7. Remove the metal plate [5] and the bearing [6].

Note

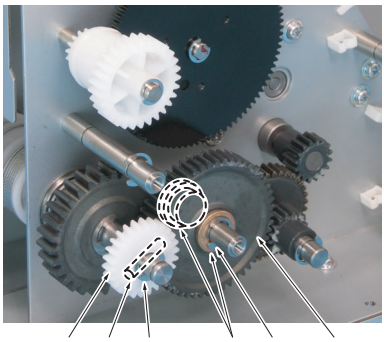
- **When installing the bearing [6], install it from the inner side of the metal plate [5].**



8. Remove the positioning gear [1].

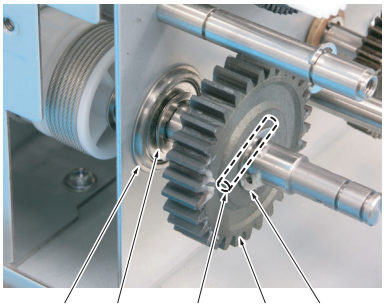
Note

- **When installing the gear [1] with the paper lift plate located at its lowest position, align the edge surface of the actuator [3] of the remaining paper detection gear [2] with the surface [5] of the remaining paper sensor/4 (PS105) [4].**
- **Make sure to attach the gear [1] in the correct direction.**



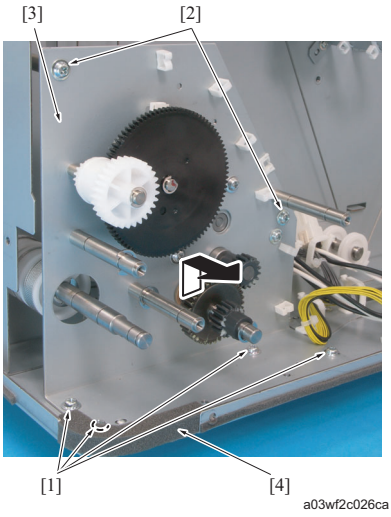
9. Remove the E-ring [1], then remove the gear [2] and the pin [3].

10. Remove the E-ring [4], then remove the gear [5] and the outer/inner bearings [6].



11. Remove the E-ring [1], then remove the gear [2] and the pin [3].

12. Remove the E-ring [4] and the bearing [5].



13. Remove the four screws [1] and the two screws [2], and remove the paper lift drive section [3].

Note

- **Be careful not to damage the clearance sponge [4].**
- **The screws [2] are shoulder screws. Make sure to properly attach the screws so that the metal plate is fitted securely.**

14. Reinstall the above parts following the removal steps in reverse.

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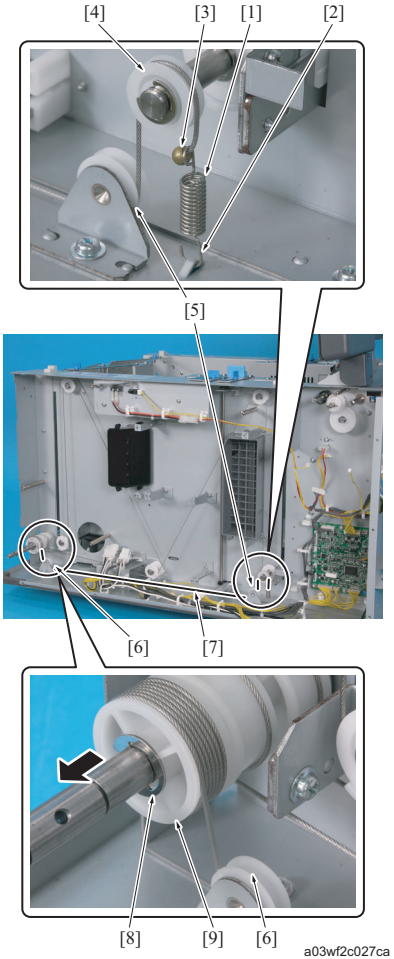
C. Removing/reinstalling the lift wire



1. Remove the paper feed motor assy.
(See P.16)
2. Remove the paper lift drive section.
(See P.17)
3. Release the hook [2] of the spring/Rr [1] provided at the back, and remove the ball shaped wire end [3].
4. Remove the lift wire/Rr1 [7] from the pulley [4], [5] and [6].
5. Remove the E-ring [8] and the pulley [9], and then remove the lift wire/Rr1 [7].

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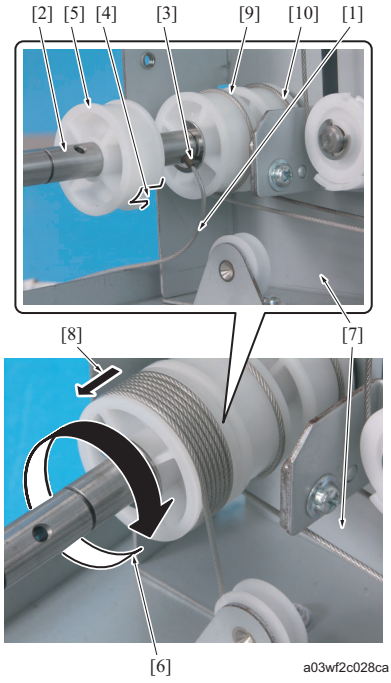
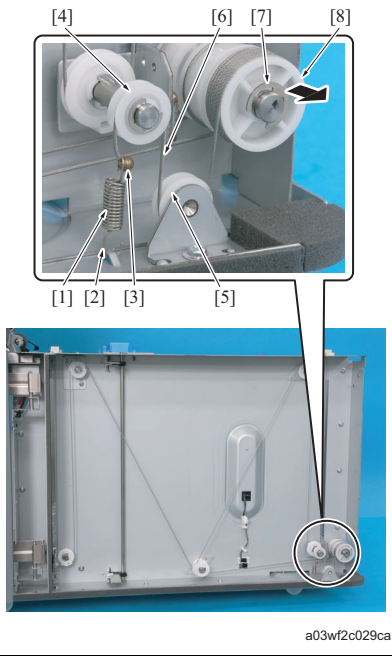


Note

- **When installing the lift wire/Rr1 [1], insert the cylindrical-shaped end of the wire [3] into the hole of the drive shaft [2], and insert the pulley [5] letting the wire through the cutout [4], and then wind the wire seven turns clockwise [6] (from the panel [7] side to outward [8]) in a single layer.**
- **When installing the lift wire/Rr1, be sure that the lift wire/Rr2 [9] and /Rr3 [10] are not on either side edge of the pulley, and the lift wire/Rr1 [1] is wound one turn at the panel side [7].**



6. Release the hook [2] of the spring/Fr [1] provided at the front, and remove the ball shaped wire end [3].
7. Remove the lift wire/Fr1 [6] from the pulley [4] and [5].
8. Remove the E-ring [7] and the pulley [8], and then remove the lift wire/Fr1 [6].

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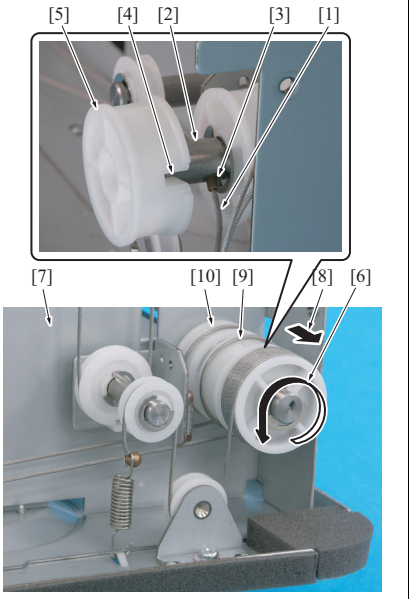
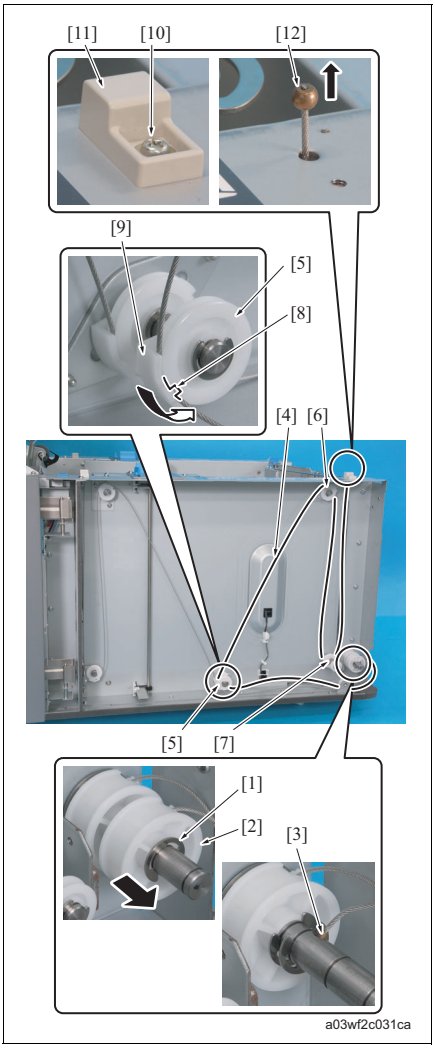


a03wf2c030ca

Note

- **When installing the lift wire/Fr1 [1], insert the cylindrical-shaped end of the wire [3] into the hole of the drive shaft [2], and insert the pulley [5] letting the wire through the cutout [4], and then wind the wire seven turns counterclockwise [6] (from the panel [7] side to outward [8]) in a single layer.**
- **Before Installing the lift wire/Fr1, rotate the shaft counterclockwise to prevent the lift wire/Fr2 [9] and Fr3 [10] from getting loose.**
- **Be sure to check that the wires are not loosened and are not on either side edges of the pulleys.**



9. Remove the E-ring [1] and the pulley [2], and then pull out the wire end [3].

10. Remove the lift wire/Fr2 [4] from the pulley [5], [6] and [7].

Note

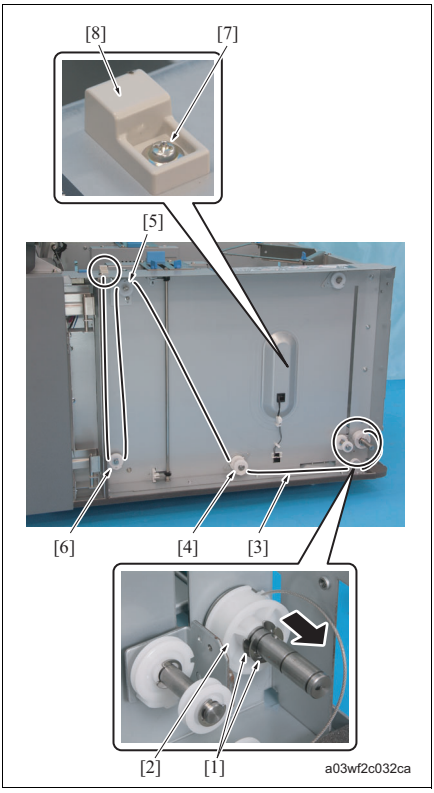
- **When removing the wire from the pulley [5], [6] and [7], pull the wire out from the convex portion [8] of the wire cover [9], then slide the wire cover.**

11. Remove the screw [10], and remove the wire protective cover [11].

12. Remove the ball shaped wire end [12] by pulling it straight up, and remove the lift wire/Fr2 [4].

Note

- **When removing/installing the lift wire, be careful not to damage it with the metal plate.**



13. Remove the two E-rings [1] and pulley [2], and remove the lift wire/Fr3 [3].

14. In the same manner as Step 10, remove the lift wire/Fr3 [3] from the pulley [4], [5] and [6].

15. In the same manner as Steps 11 and 12, remove the screw [7] and the wire cover [8], and remove the lift wire/Fr3 [3].

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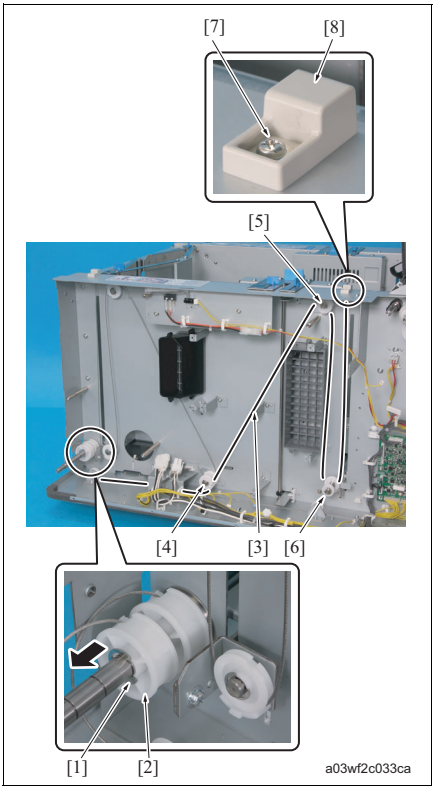

16. Remove the E-ring [1] provided at the back and the pulley [2], and remove the lift wire/Rr2 [3].

17. In the same manner as Step 10, remove the lift wire/Rr2 [3] from the pulley [4], [5] and [6].

18. In the same manner as Steps 11 and 12, remove the screw [7] and the wire protective cover [8], and remove the lift wire/Rr2 [3].

Note

- **After installing the lift wire, make sure that the lift wire does not contact with the metal plates or some other parts.**

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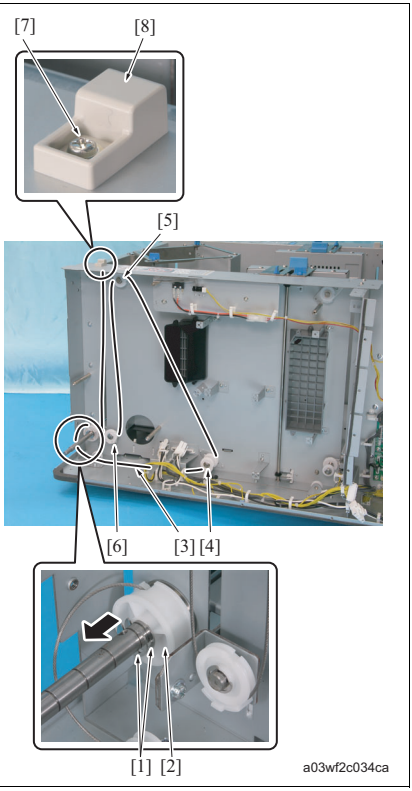

19. Remove the two E-rings [1] and pulley [2], and remove the lift wire/Rr3 [3].

20. In the same manner as Step 10, remove the lift wire/Fr3 [3] from the pulley [4], [5] and [6].

21. In the same manner as Steps 11 and 12, remove the screw [7] and the wire protective cover [8], and remove the lift wire/Rr3 [3].

Note

- **After installing the lift wire, make sure that the lift wire does not contact with the metal plates or some other parts.**

22. Reinstall the above parts following the removal steps in reverse.

Note

- **After installing, carry out the paper lift plate horizontal adjustment.**
  (See P.28)

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■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

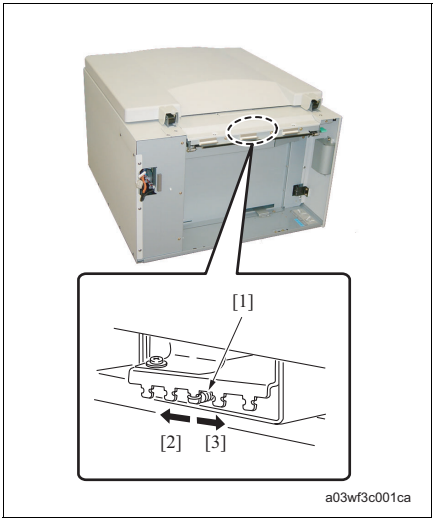
4.1 Separation pressure adjustment

Conduct the separation pressure adjustment when there occurs a no feed or double feed condition repeatedly.

Note

- **Do not make an excessive adjustment. Doing so may reverse the symptoms.**
- **Paper type and ambient temperature/humidity can be a major cause of the no-feed or multi-feed jam. For example, no-feed jam tends to occur in low temperature, and multi-feed jam does in high temperature. Make sure to carry out this adjustment with that in mind.**

A. Procedure



1. Remove the LU from the main body.
2. Disconnect the hooked end [1] of the spring from the tab, and attach it to another tab on the left [2] or right [3] side of the center tab to raise or reduce the separation pressure.

Note

- **The five tabs correspond to five pressure levels. Attach the hooked end of the spring to a tab on the [2] side to raise the pressure, or attach it to a tab on the [3] side to reduce the pressure.**
  Reducing pressure: lowers multi-feed jam rate.
  Raising pressure: lowers no-feed jam rate.
- **The spring force changes in increments of about 10%.**

3. Reinstall the LU to the main body.

Note

- **Make some test prints to check to see that no-feed or multi-feed jam does not occur.**

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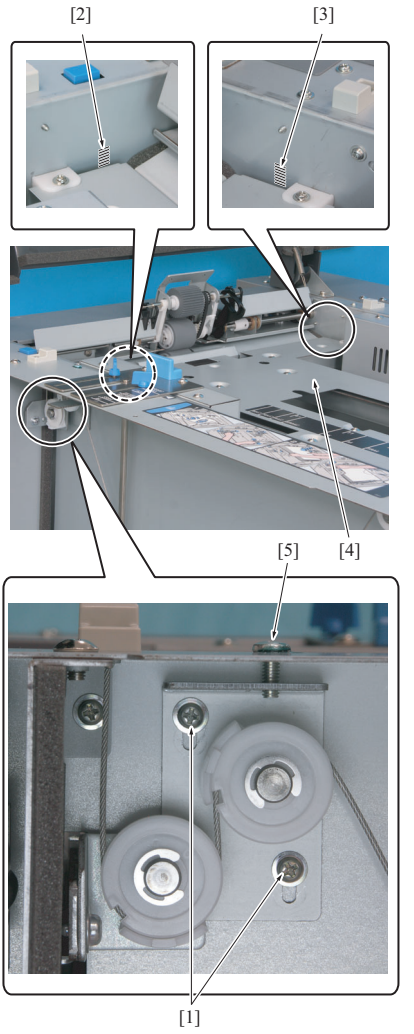
4.2 Paper lift plate horizontal adjustment

Conduct the paper lift plate horizontal adjustment when a paper feed jam occurs repeatedly or when the lift wire has been changed.

A. Procedure



1. Remove the paper from the LU and close the upper door.
2. Turn on the main power switch (SW1) and the sub power switch (SW2) of the main body. After the paper lift plate stops at its uppermost position (listen to the sound of the paper lift motor to figure out the stop status), turn off the both switches.
3. Open the upper door.
4. Remove the right cover.
(See P.12)
5. Remove the front cover.
(See P.13)
6. Loosen the two screws on the front side [1].
7. Adjust the levelness of the paper lift plate [4] with the adjustment screw [5] aligning its both end surfaces with the marking-off line [2] and [3].

Note

- **Before adjusting with the screw [5], push down the lift plate lightly to take up any slack in the wires.**

8. Tighten the two screws [1].
9. Reinstall the above parts following the removal steps in reverse.

Note

- **Make some test prints to check to see that no-feed or multi-feed jam does not occur.**

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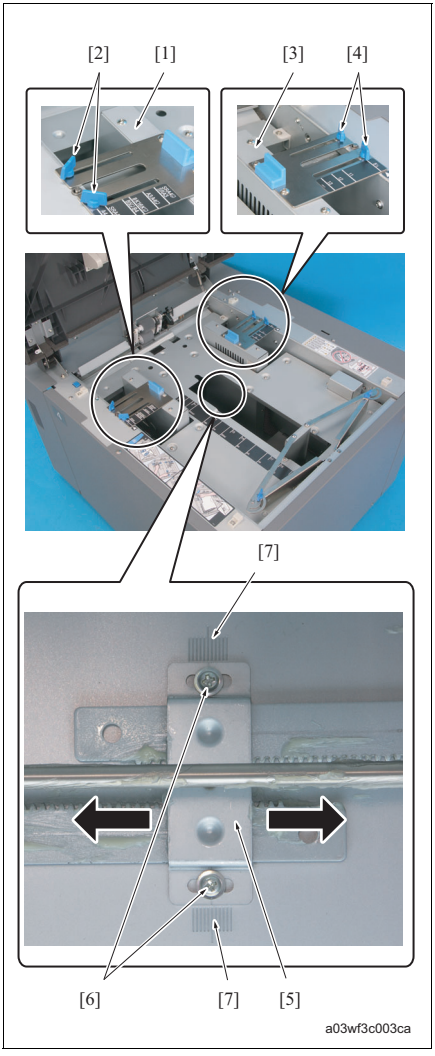
4.3 Paper centering adjustment

Perform this adjustment when images are not printed on the center of paper, which fed from LU, even after performing the "Printer centering adjustment (tray4)" (adjustment range: ± 4 mm) in service mode.

A. Procedure



1. Load about 100 sheets of paper in the LU. (less than 100 may cause the paper becoming warped when the guide plate is pressed against it.)
2. Feed paper from the tray4 (LU) and print the test pattern No. 16.
3. Fold the printed sheet in half in main scan direction to see how much the printed pattern is off-centered.
4. Close the upper door. And turn off the main power switch (SW1) and the sub power switch (SW2) after the paper lift plate stops at its uppermost position (listen to the sound of the paper lift motor to figure out the stop status).
5. Open the upper door and remove paper.
6. Loosen the two screws [2] of the guide plate /Fr [1] and the two screws [4] of the guide plate /Rr [3].
7. Loosen the two screws [6] of the centering bracket [5].
8. Slide the centering bracket [5] aligning the line on the both ends of the bracket with the marking-off line [7], and tighten the two screws [6].

Note

- **When sliding the centering bracket, make sure to slide its both ends simultaneously (not tilt it) so that the line on the both ends align with one of the marking off lines at the same position.**

9. Load paper and press the guide plate /Fr [1] and /Rr [3] against the paper, and tighten the two screws [2] and the two screws [4].

Note

- **When pressing the guide plates against paper, make sure not to press them too much, or a paper jam may occur.**

10. Reinstall the above parts following the removal steps in reverse.

Note

- **Make some test prints to check to see that the off-centered amount falls within the allowable range.**

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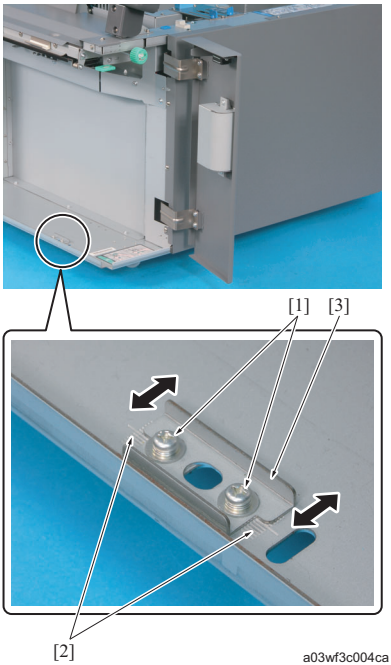
4.4 Paper skew adjustment

Conduct this adjustment when there is a difference in the inclination found with the main body tray and the paper skew. However, this method has a limited effect since all of the paper supplied is adjusted at the registration section.
An adjustment is made at a different place according to the case in which there occurs a skew of the same inclination in all of the paper supplied from the LU or in which there occurs a skew at random for each sheet of paper.

A. Preparation

1. Make the continuous print of the test pattern (No. 16) to check the skew.
2. Depending on the inclination of a skew, conduct either of the following adjustment B and C.
   Skew in the same inclination for the entire LU: Adjustment procedure B
   Skew at random: Adjustment procedure C

B. Adjustment procedure of all the paper skew regularly



1. Open the front door.
2. Loosen the two screws [1].
3. Slide the positioning bracket [3] referring to the marking-off line [2].

Note

- **When sliding the positioning bracket [3], move its both edges by the same amount so that they align with the making-off line [2] at the same position.**

4. Print the test pattern (No. 16) continuously to check to see that no skew of paper occur.

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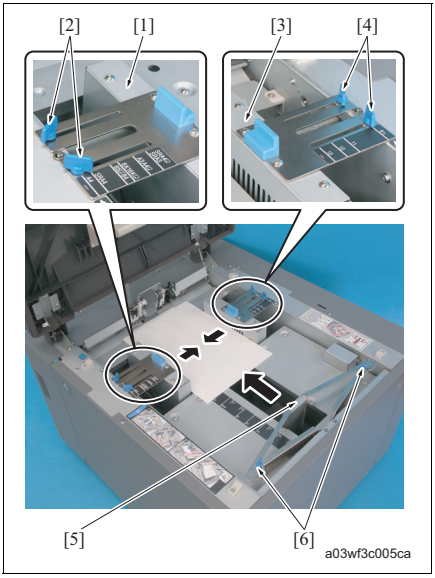
C. Adjustment procedure of each paper skew irregularly



1. Load about 100 sheets of paper in the LU. (less than 100 may cause the paper becoming warped when the guide plate is pressed against it.)

Note

- **When pressing the guide plates against paper, make sure not to press them too much, or a paper jam may occur.**

2. Turn on the main power switch (SW1) and the sub power switch (SW2) of the main body. After the paper lift plate stops at its uppermost position (listen to the sound of the paper lift motor to figure out the stop status), turn off the both switches.
3. Open the upper door and loosen the two screws [2] of the guide plate /Fr [1], the two screws [4] of the guide plate /Rr [3] and the two screws [6] of the guide plate /Rt [5].
4. Press the guide plate /Fr [2], /Rr [4] and /Rt [6] against the paper and tighten a total of six screws [2], [4], and [6].

Note

- **The paper size indications on the guide plates are marked 2 mm larger than the actual size. The 2 mm gap may cause the paper skew depending on the paper type.**
- **When pressing the guide plates against paper, make sure not to press them too much, or a paper jam may occur.**

5. Print the test pattern (No. 16) continuously to check to see that no skew of paper occur.

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4.5 (Maximum) Paper feed height adjustment

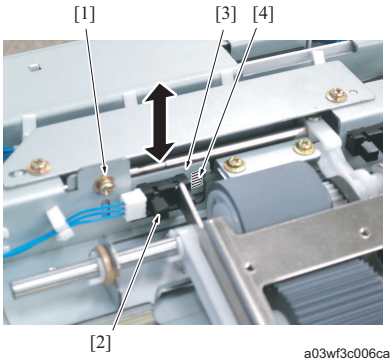
Conduct this adjustment when the following conditions occur.

- No-feed jam occurs
- Leading edge of printed page is folded
- No-feed jam of thick paper; it gets stuck with the entrance guide plate (the guide plate of the separation roller section).
- Multi-feed jam occurs
- When feeding tightly curled papers

Note

- **Be sure to carry out the pick-up roller separation adjustment after performing this adjustment, since this adjustment changes the distance between the pick-up roller surface and paper when the roller moved away from the paper.** **(See P.33)**

A. Procedure



1. Remove the paper from the LU and close the upper door.
2. Turn on the main power switch (SW1) and the sub power switch (SW2) of the main body. After the paper lift plate stops at its uppermost position (listen to the sound of the paper lift motor to figure out the stop status), turn off the both switches.
3. Remove the upper door.
   (See P.11)
4. Remove the paper feed cover.
   (See P.12)
5. Loosen the screw [1] and adjust the position of the mounting plate [3] of the upper limit sensor (PS109) [2] while holding it horizontally referring to the marking-off line [4], and tighten the screw [1].

Note

- **Be sure to install the sensor mounting plate [3] horizontally.**
- **Move the sensor mounting plate [3] downward to raise the paper feed level, or move the plate upward to lower the paper feed level.**
- **When no-feed occurs or convexly curled paper needs to be fed, move sensor mounting plate [3] downward to raise the paper feed level.**
- **When multi-feed occurs or the paper edge is folded, or when convexly curled paper needs to be fed, move sensor mounting plate [3] upward to lower the paper feed height level.**

6. Reinstall the above parts following the removal steps in reverse.

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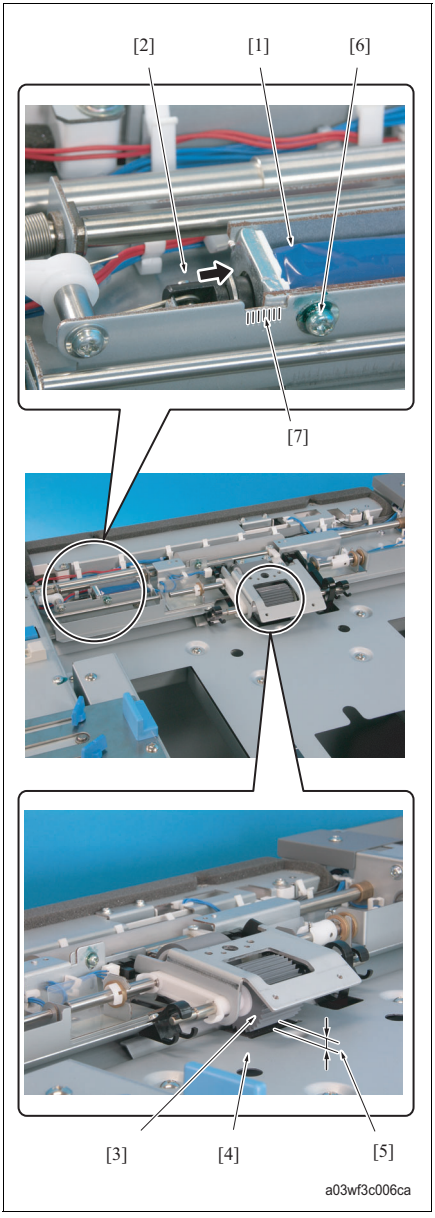
4.6 Pick-up roller separation adjustment

Conduct this adjustment when there occurs a no feed jam repeatedly and when the paper feed height (upper limit) adjustment is made.

A. Procedure



1. Remove the paper from the LU and close the upper door.
2. Turn on the main power switch (SW1) and the sub power switch (SW2) of the main body. After the paper lift plate stops at its uppermost position (listen to the sound of the paper lift motor to figure out the stop status), turn off the both switches.
3. Remove the upper door.
   (See P.11)
4. Remove the paper feed cover.
   (See P.12)
5. With the moving part [2] of the pick-up solenoid (SD100) [1] pulled in the direction of the arrow, measure the gap [5] between the pick-up roller [3] and the paper lift plate [4].
   Standard value: 0.5mm or more (0.5 to 2.5 mm)
   If the measured value is out of the specified range, perform step 6 and the subsequent steps.
6. Loosen a screw [6] and move the SD100 [1] back and forth reffering to the marking-off line [7] to adjust its position, and tighten the screw [6].
7. Reinstall the above parts following the removal steps in reverse.

Note

- **Make some test prints to check to see that no-feed or multi-feed jam does not occur.**

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KONICA MINOLTA

SERVICE MANUAL

Field Service

RU-503/504

2006.09
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0
EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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RU-503/504

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

A. Type

Type	Conveyance unit with paper cooling and decurler functions

B. Functions

(1) Functions

Accelerated conveyance mode	To accelerate for the finisher standard line speed.
Decurler conveyance mode	Reduces paper curl and conveys at an accelerating rate with posttreatment linear velocity.

(2) Operation capacity

65PPM (A4, B5, 8½ x 11, 16K)

C. Paper type

Paper size	SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5, B5S, A5, A5S, B6S, A6S 13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8 ½S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS Tab paper (A4, 8½ x 11) Custom paper (Max. 330 x 487mm, Min. 100 x 148 mm)	
Paper type	Plain paper, high quality paper, color paper, coated paper, tab paper (five-tab type): same as the main body.	
Paper weight	Accelerated conveyance mode	64 to 300g/m^2
	Decurler conveyance mode	64 to 209g/m^2

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

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E. Machine data

Power source	RU-503	24/5V DC (supplied from the main body)
	RU-504	AC100 to 240V/5V DC (supplied from the main body)
Maximum power consumption	90VA or less	
Dimensions	Including main body: 175 (W) x 723 (D) x 1 (H) mm	
Weight	RU-503	Approx. 33 kg
	RU-504	Approx. 35 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80%RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. OTHERS

2.1 Disassembly/reassembly parts list

No.	Section	Part name	Reference page
1	Conveyance section	Conveyance unit	P.4
2		Upper cover	P.9
3		Decurler gate solenoid /1 (SD2)	P.9
4		Decurler gate solenoid /2 (SD3)	P.11

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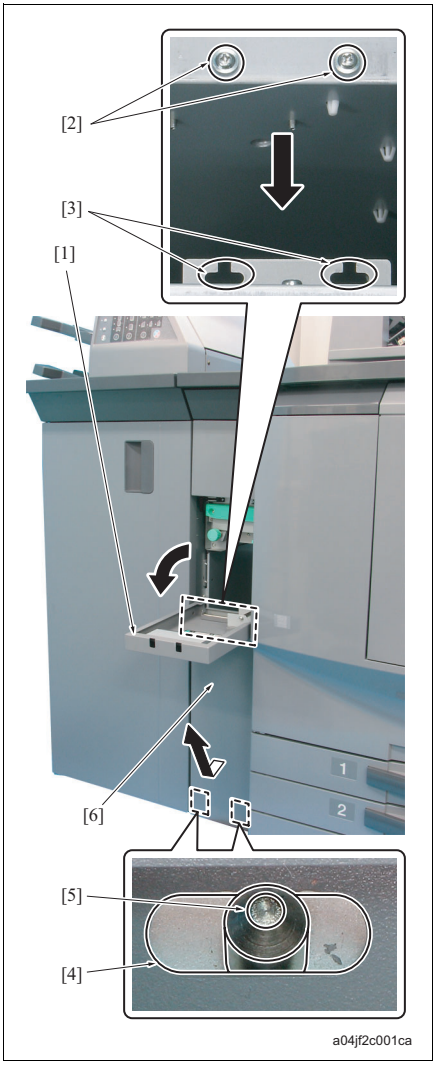
2.2 Disassembly/reassembly procedures

⚠Caution:

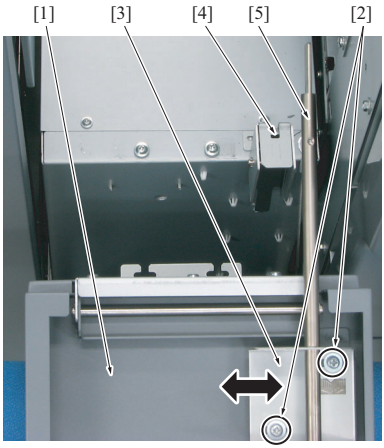
- **Be sure to unplug the power cord from the power outlet.**

2.2.1 Removing/reinstalling the conveyance units

A. Procedure



1. Open the front door [1].
2. Loosen the two screws [2] and detach them from the holes [3], release the projection [5] through the hole [4], and then remove the front cover [6].



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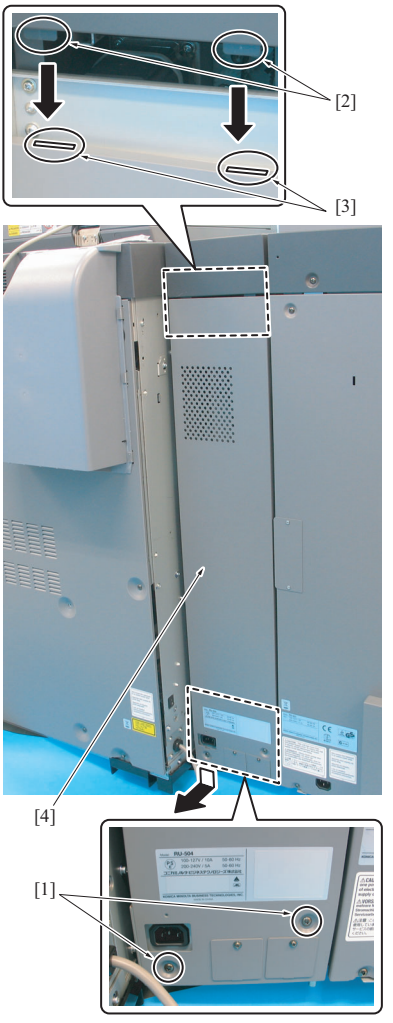
Note

- **After reinstalling the front door [1], loosen the two screws [2] and match the position of the actuator [5] with the interlock [4] while moving the fixing plate [3] in the direction of the arrow. Do not open the front door [1] forcibly.**



3. Remove the two screws [1], release the two tabs [2] through the holes [3], and then remove the rear cover [4].

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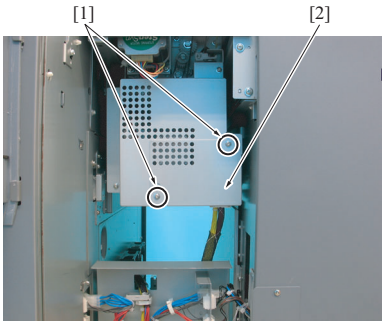

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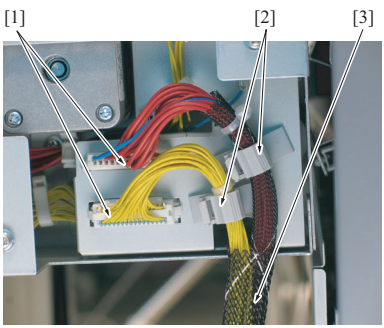
4. Remove the two screws [1] and then remove the cover [2].



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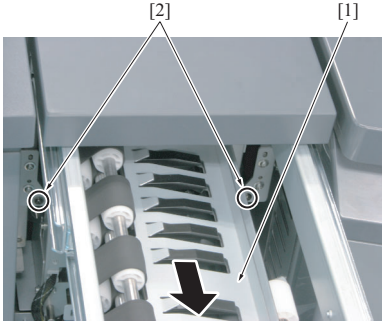
5. Disconnect the two connectors [1] and the two clamps [2], and then release the wire binding [3].



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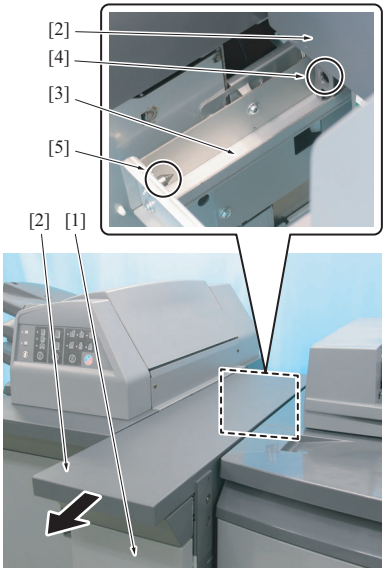
6. Pull out the conveyance unit [1] toward you and remove the two screws [2].



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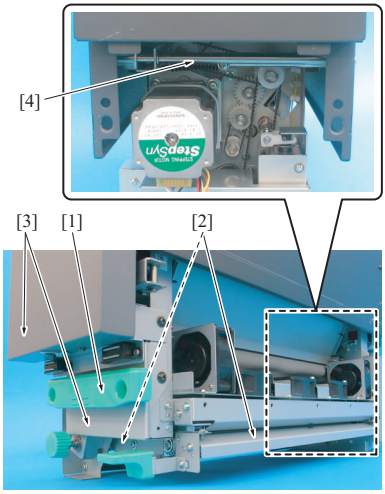
7. Push the conveyance unit [1] back to the main body, and pull it out again together with the upper cover [2].

Note

- **Do not carry the main body with the conveyance unit [1] pulled out without the upper cover [2].**
- **When installing the conveyance unit, put the upper cover [2] on the guide rail [3] properly and engage the hole [4] on the rear side of the conveyance unit with the pin [5] at the back of the guide rail.**

⚠Caution:

- **Be sure to install the lock shaft that you have removed during unpacking, or the conveyance unit may pop up and you may get hurt.**



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Note

- **When handling the conveyance unit, do not hold the unit by its handle [1] or the guide plate [2]. Be sure to grasp the sturdy parts such as the frame [3] or the shaft [4].**

8. Reinstall the above parts following the removal steps in reverse.

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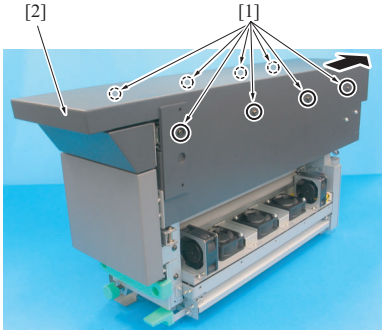
2.2.2 Removing/reinstalling the upper cover

A. Procedure



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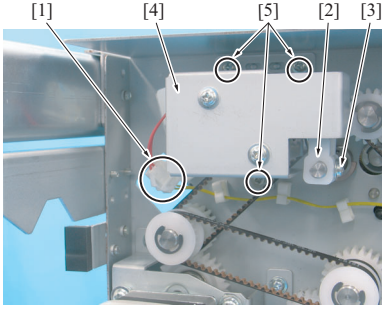
1. Remove the conveyance unit from the main body and the option. (See P.4)
2. Remove the eight screws [1], slide the cover [2] of the main body backward, and remove the cover.
3. Reinstall the above parts following the removal steps in reverse.

2.2.3 Removing/reinstalling the decurler gate solenoid /1 (SD2)

A. Procedure



a04jf2c010ca

1. Remove the conveyance unit from the main body and the option. (See P.4)
2. Remove the upper cover. (See P.9)
3. Disconnect the connector [1].
4. Remove the screw [3] of the solenoid lever [2].
5. Remove the three screws [5] of the solenoid mounting plate [4], and remove the solenoid lever [2] and the solenoid mounting plate [4] by pulling them out all together toward you.

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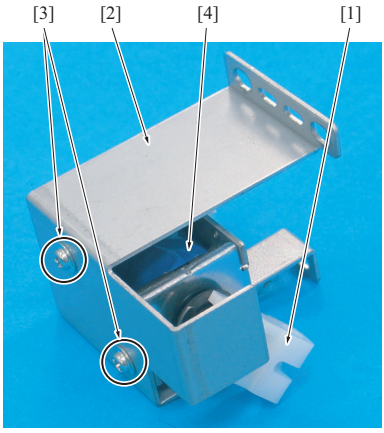

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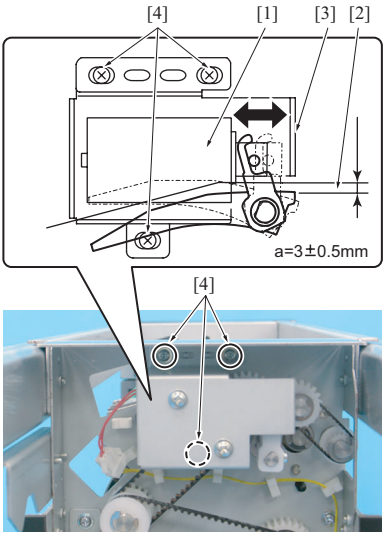
6. Remove the solenoid lever [1].

Note

- **Mind the correct direction when installing the solenoid lever.**

7. Remove the two screws [3] of the solenoid mounting plate [2], and replace the solenoid [4] with a new one.

8. Follow the steps 7 to 3, and carry out the adjustment below.



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9. Adjust the position of the solenoid mounting plate [3] so that the clearance of the gate outlet [2] becomes to the specified value “a” when the gate solenoid [1] is moved as shown by the arrow, and then secure the plate with the screw [4].
Specified value: a = 3 ± 0.5 mm

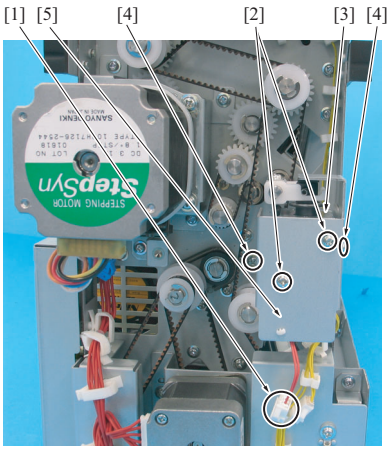
10. Reinstall the above parts following the removal steps in reverse.

2.2.4 Removing/reinstalling the decurler gate solenoid /2 (SD3)

A. Procedure

a04jf2c013ca

1. Remove the conveyance unit. (See P.4)
2. Remove the three screws [1], and remove the covers [2] and [3].



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3. Disconnect the connector [1].
4. Remove the two screws [2].

Note

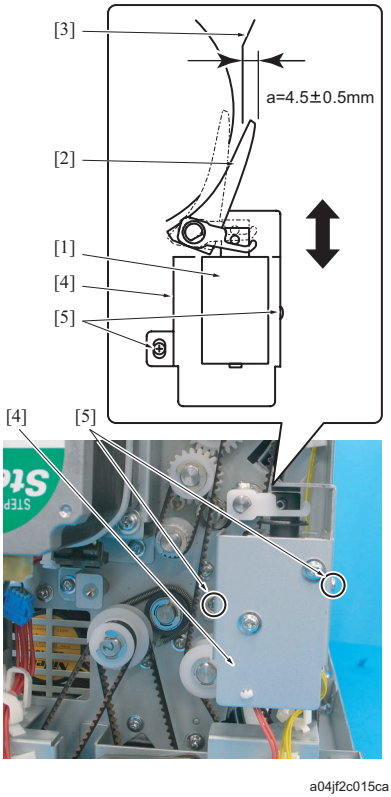
- **Be careful when handling the solenoid [3] as it is not fixed at this moment.**

5. Remove the two screws [4] and the solenoid mounting plate [5], and then remove the solenoid [3].

Note

- **Be careful not to drop the solenoid [3].**

6. After installing the solenoid [3] by following the steps 5 to 3, carry out the adjustment below.



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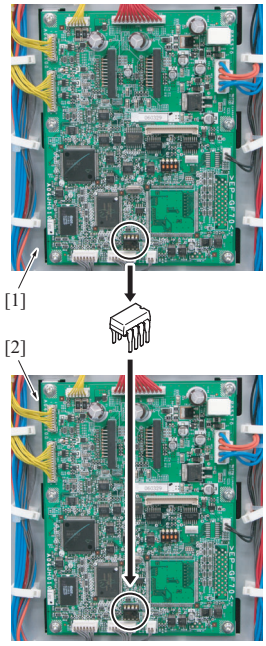
7. With the gate solenoid [1] powered on, measure the gap between the edge of decurler gate [2] and the guide plate [3]. Next, adjust the position of the solenoid mounting plate [4] so that the gap becomes the specified value “a”, and then secure it with the screws [5].
   Specified value: a = 4.5 ± 0.5 mm
8. Reinstall the above parts following the removal steps in reverse.

2.2.5 Note to keep in mind when replacing the board



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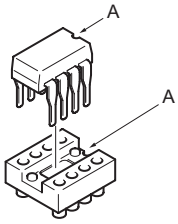
When the RU control board (RUCB) is replaced, be sure to replace the EEPROM (IC3).
Remove the EEPROM (IC3) from the old RU control board [1] and install it into the new RU control board [2].

Note

- **The setting of the SW1 should be the same as that of the old RUCB.**



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Note

- **Be sure to install the "A" sections of the EEPROM (IC3) in the same direction.**

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KONICA MINOLTA

SERVICE MANUAL

Field Service

FD-501

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 3.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	3.0	△2	Revision in relation to launching of C6500
2005/04	2.0	△1	Correction of an error in writing
2004/10	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

A. Type

Type	Multi folding device with punch and PI functions

B. Functions

(1) Functions

Normal paper exit function	Transfer paper exited from the main body is exited into the main tray/sub tray.
Punching function	Transfer paper that is exited by the main body or fed to the PI is punched for each sheet of paper and exited into the main tray/sub tray.
Folding function	Transfer paper that is exited from the main body or fed to the PI is handled for folding (either one of the following: Z-fold, Letter fold-out, Letter fold-in, Double parallel fold, Gate fold, and folding) for each sheet of paper, and exited into the sub tray/main tray (The Z-fold exit to the main tray while in the FS connection is limited only to B4, A3, 8½ x 14, 11 x 17, 12 x 18 and 8K.)
PI insertion function	PI tray paper is inserted in the transfer paper exited from the main body.
Manual mode	PI tray paper is punched, folded and stapled, and then exited into the sub tray/ main tray. (The stapling function is available only when the staple unit is connected to the downstream of the FD.)

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(2) Maximum tray capacity

Main tray (weighing 50 to 244 g/m^2)	2,500 sheets: A4, A4S, B5, B5S 8$^1/_2$ x 11, 8$^1/_2$ x 11S 16K*3, 16KS*3 1,500 sheets: SRA3*2, A3, B4, SRA4*2, SRA4S*2 13 x 19*2,12 x 18, 11 x 17, 8$^1/_2$ x 14 8$^1/_2$ x 13, 8$^1/_4$ x 13, 8$^1/_8$ x 13$^1/_4$ 8K*3 wide paper*1 : A3, B4,A4, A4S, B5, B5S, A5, 12 x 18, 11 x 17, 8$^1/_2$ x 11, 8$^1/_2$ x 11S, 5$^1/_2$ x 8$^1/_2$ size entry: (Max. 324 x 460 mm) 500 sheets: A5, A5S*2, B6S*2 5$^1/_2$ x 8$^1/_2$*1, 5$^1/_2$ x 8$^1/_2$S*2 Tab paper*4 : A3, B4, A4, A4S, B5, B5S,11 x 17, 8$^1/_2$ x 11,8$^1/_2$ x 11S, custom paper (Max. 324 x 460 mm, Min. 182 x 140mm) Custom paper : 1050 (Max. 324 x 460 mm, Min. 182 x 140mm) C6500 (Max. 330 x 483 mm, Min. 128 x 148mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 C6500: only A4 and 8$^1/_2$ x11. Operation of paper exit with tab area at the trail edge side is not assured.
Sub tray *1 (weighing 50 to 300 g/m^2)	SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5, B5S, A5, A5S, B6S, A6S 13 x 19, 12 x 18, 11 x 17, 8$^1/_2$ x 14, 8$^1/_2$ x 11, 8$^1/_2$ x 11S, 5$^1/_2$ x 8$^1/_2$, 5$^1/_2$ x 8$^1/_2$S, 8$^1/_2$ x 13, 8$^1/_4$ x 13, 8$^1/_8$ x 13$^1/_4$, 8 x 13 8K*2, 16K*2, 16KS*2 Tab paper*3 : A4, 8$^1/_2$ x 11, custom paper Custom paper : Max. 330 x 487 mm, Min. 100 x 148mm *1 C6500 only *2 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *3 Operation of paper exit with tab area at the trail edge side is not assured.

(3) Processing capacity

105PPM

C. Type of paper

(1) Punching function

⚠2	Paper size	2 holes:	A3, B4, SRA4S[*2], A4, A4S, B5, B5S, A5, A5S[*2] 12 x 18 , 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½[*1] 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K[*3], 16K[*3], 16KS[*3], Tab paper[*4] : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8½ x 11, 8½ x 11S, custom paper (Max. 324 x 460 mm, Min. 182 x 140mm)
		3 holes/4 holes:	A3, B4, A4, B5 12 x 18 , 11 x 17, 8½ x 11 8K[*3], 16K[*3] Tab paper[*4] : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8½ x 11, 8½ x 11S, custom paper (Max. 324 x 460 mm, Min. 182 x 140mm)
		*1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 A4, 8½ x 11 only for C6500	
	Applicable paper	Plain paper, tab paper	
	Paper weight	50 to 209 g/m^2	

(2) Folding functions

⚠2	Paper size	A3, B4, SRA4S[*1], A4S 12 x 18, 11 x 17, 8½ x 14, 8½ x 11S 8K[*2] Custom paper[*1]: (Max. 305 x 458 mm, Min. 210 x 279mm) *1 C6500 only *2 C6500: supported in all the destinations. 1050: only supported in Taiwan and China.	
	Applicable paper	Plain paper	
	Paper weight	Folding, Letter fold-in, Letter fold-out, Z-fold	50 to 130 g/m^2
		Double parallel fold, Gate fold	50 to 91 g/m^2

(3) PI functions

2	Paper size	SRA3*2, A3, B4, SRA4*2, SRA4S*2, A4, A4S, B5, B5S, A5 13 x 19*2, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½ 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K*3, 16K*3, 16KS*3 Tab paper*4 : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8½ x 11, 8½ x 11S, custom paper (Max. 324 x 460 mm, Min. 182 x 140mm) Custom paper*2 : Max. 330 x 483 mm, Min. 182 x 148mm Wide paper*1 : A3, B4, A4, A4S, B5, B5S, A5, 12 x 18,11 x 17, 8½ x 11, 8½ x 11S, 5½ x 8½, size entry: (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 A4, 8½ x 11 only for C6500
2	Applicable paper	Plain paper, high-quality paper, trace paper, coated paper
	Paper weight	50 to 300 g/m^2
	Maximum tray capacity	500 sheets (80 g/m^2) x 2 trays

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source (for metric area)	230 VAC, DCS 5V (5V DCS is supplied from the main body.) AC100, 240V, DC5V (DC5V is supplied from the main body.)
Power source (for inch area)	200 VAC, DCS 5V (5V DCS is supplied from the main body.)
Maximum power consumption	180 VA or less
2 Dimensions	400 (W) x 723 (D) x 1231 (H) mm (The main tray is not included in the width)
Weight	Approx. 130 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80% RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

■ MAINTENANCE

2. PERIODIC CHECK

⚠Caution:

- **Be sure to unplug the power cord from the power outlet.**

2.1 Maintenance procedure of conveyance section

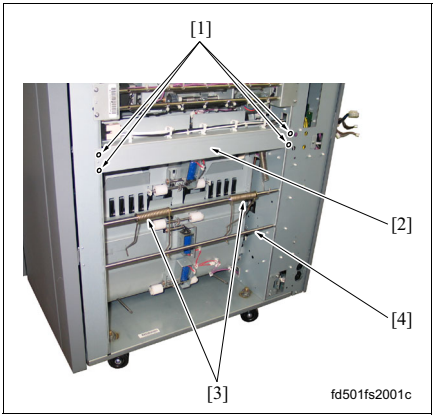
2.1.1 Replacing roller solenoids /1 (SD5) to /4 (SD8)

A. Periodically replaced parts/cycle

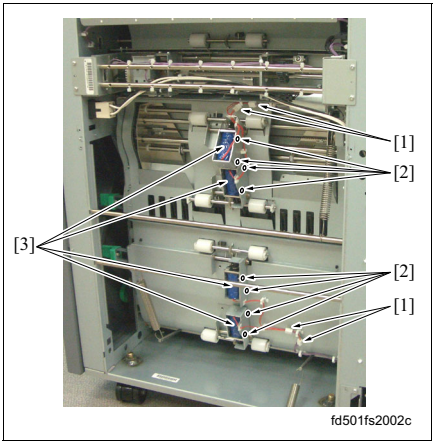
- Roller solenoids /1 (SD5) to /4 (SD8) : Every 10,000,000 prints (actual replacement cycle: every 5,000,000 punches) *1

*1 1050

B. Procedure



1. Remove 4 screws [1] and then remove the cord support board /A [2].
2. Unhook the hook of the spring [3] from the shaft [4].



3. Remove 4 connectors [1].
4. Remove each of 2 screws [2] and then remove the roller solenoids /1 (SD5) to /4 (SD8) [3].
5. Reinstall the above parts following the removal steps in reverse.
6. Make adjustments of the installation position. (See P.49)

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2.2 Maintenance procedure of punch section

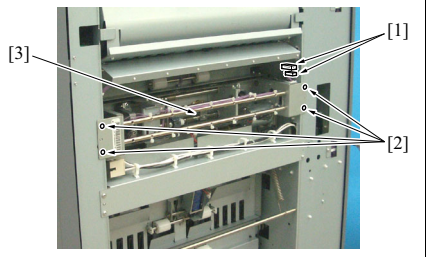
2.2.1 Replacing the punch motor (M10)

A. Periodically replaced parts/cycle

- Punch motor (M10) : Every 10,000,000 prints (actual replacement cycle: every 5,000,000 punches) *1

*1 1050

B. Procedure



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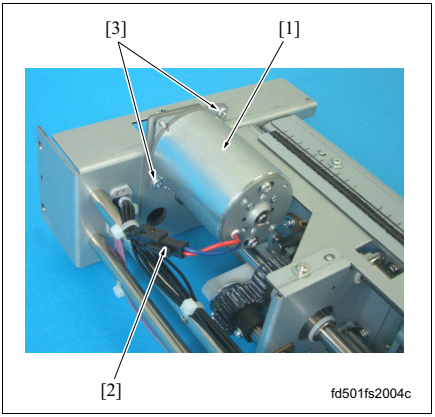
1. Remove 2 connectors [1].
2. Remove 4 screws [2].
3. Remove the punch unit [3].



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4. Disconnect the connector [2].
5. Remove 2 screws [3] and then remove the punch motor (M10) [1].
6. Reinstall the above parts following the removal steps in reverse.

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2.3 Maintenance procedure of main tray section

2.3.1 Replacing the tray up down motor (M11)

A. Periodically replaced parts/cycle

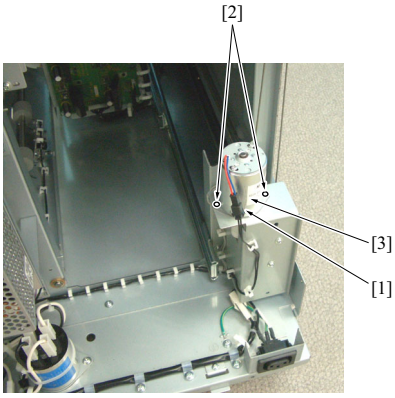
- Tray up down motor (M11) : Every 5,250,000 prints (actual replacement cycle: every 5,000,000 prints) *1

*1 1050

B. Procedure

Note

- **Be sure to remove the tray up down motor (M11) while supporting the up/down stay with your hands.**



fd501fs2005c

1. Remove the rear cover (See P.23) and the left cover /Rr (See P.24).
2. Open the front door and pull out the folding unit.
3. Disconnect the connector [1].
4. Remove 2 screws [2] and then remove the tray up down motor (M11) [3].
5. Reinstall the above parts following the removal steps in reverse.

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2.4 Maintenance procedure of PI section

2.4.1 Replacing the pick-up rubber (upper stage)

A. Periodically replaced parts/cycle

- Pick-up roller rubber : Every 5,250,000 prints (actual replacement cycle: every 200,000 feed) *1

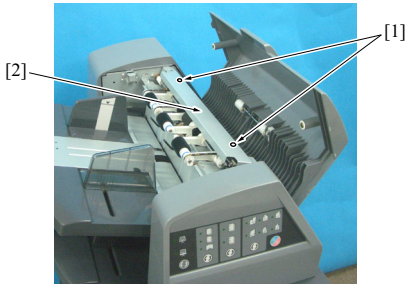
*1 1050

B. Spotted replaced parts/cycle

- Pick-up roller rubber : Actual replacement cycle: every 200,000 feed *2

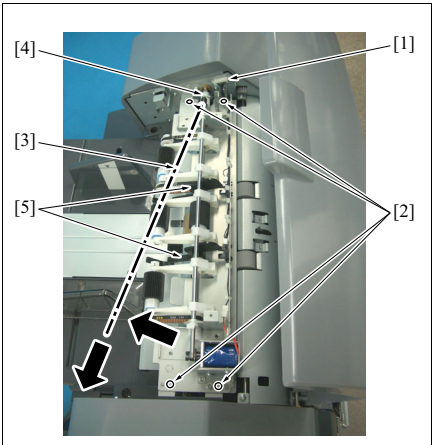
*2 C6500

C. Procedure



fd501fs2006c

1. Open the upper door.
2. Remove 2 screws [1] and then remove the protective cover [2].



fd501fs2007c

3. Disconnect the connector [1].
4. Remove 4 screws [2] and then remove the pick-up unit /Up [3].

Note

- **The rear side of the shaft is inserted into the coupling [4]. Be sure to remove the pick-up unit /Up [3] from the front side.**
- **Be careful not to damage 2 actuators [5] of the pick-up unit /Up.**

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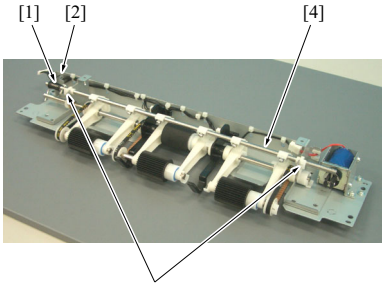
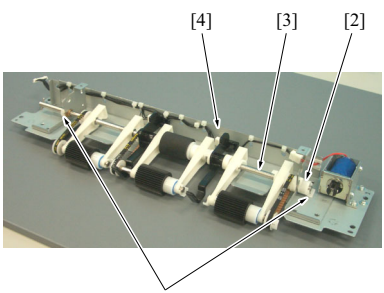
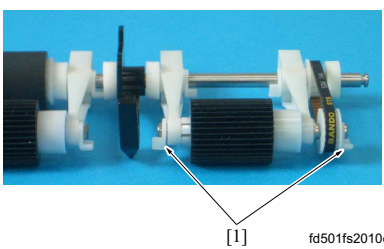


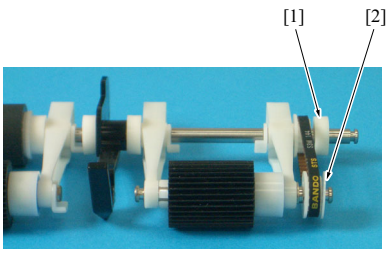
5. Remove the hook of the spring [1] from the mounting plate [2].
6. Remove 2 C-clips [3] and then remove the shaft [4].



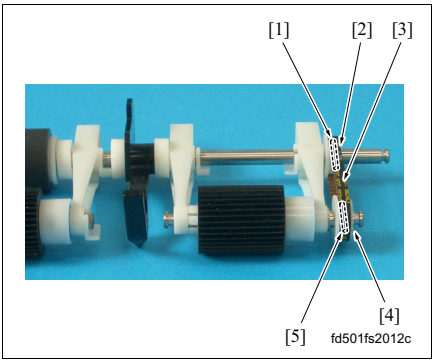
7. Remove 2 C-clips [1].
8. Remove the shaft fixing piece [2], and then remove the shaft [3] from the mounting plate [4].



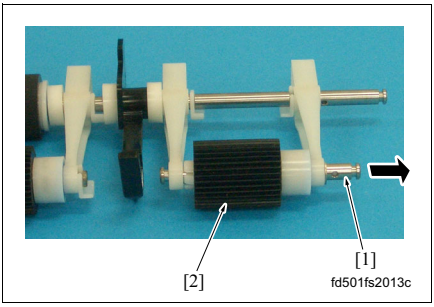
9. Remove 2 C-clips [1].



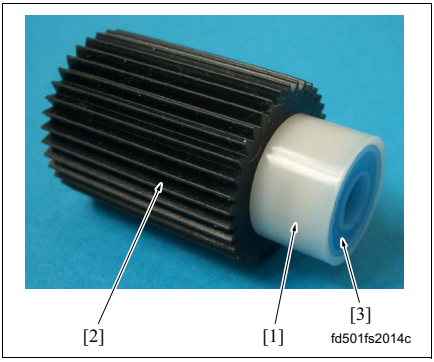
10. Remove the spacer [1] and the belt restriction plate [2].



11. Remove the belt [3] from the gear [2], [4] and then remove the gear [2], [4] and the pin [1], [5] from the pick-up roller shaft [4].



12. Pull out the pick-up roller shaft [1] to the front side, and remove the pick-up roller assembly [2].



13. Remove the pick-up roller [1] and replace the pick-up rubber [2].

Note

- **Be sure to install the pick-up roller so that the one-way clutch [3] (blue) is on the front side.**

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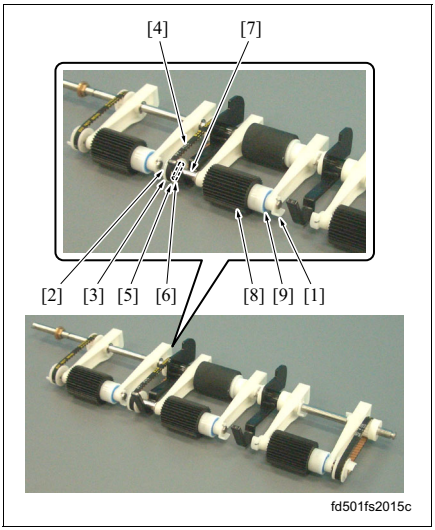
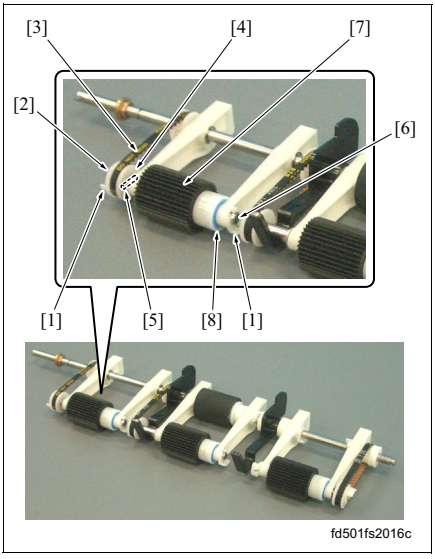


fd501fs2015c

14. Remove the C-clip [1].
15. Remove the E-ring [2].
16. Remove the belt restriction plate [3].
17. Remove the belt [4] from the gear [5], and then remove the gear [5] and the pin [6] from the pick-up roller shaft [7].
18. Pull out the pick-up roller shaft [7] to the rear side, and remove the pick-up roller assembly [8].
19. Remove the pick-up roller and replace the pick-up rubber.

Note

- **Be sure to install the pick-up roller so that the one-way clutch [9] (blue) is on the front side.**



fd501fs2016c

20. Remove 2 C-clips [1].
21. Remove the belt restriction plate [2].
22. Remove the belt [3] from the gear [4], and then remove the gear [4] and the pin [5] from the pick-up roller shaft [6].
23. Pull out the pick-up roller shaft [6] from the rear side, and remove the pick-up roller assembly [7].
24. Remove the pick-up roller and replace the pick-up rubber.

Note

- **Be sure to install the pick-up roller so that the one-way clutch [8] (blue) is on the front side.**

25. Reinstall the above parts following the removal steps in reverse.

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2.4.2 Replacing the paper feed rubber (upper stage)

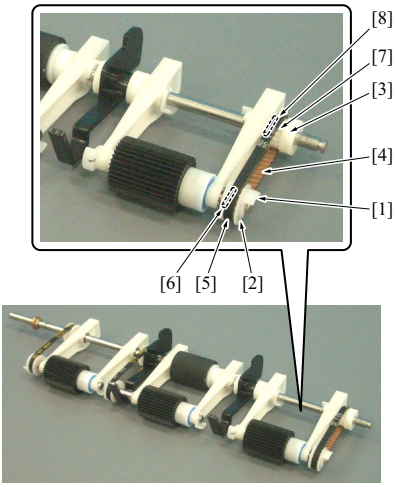
A. Periodically replaced parts/cycle

- Paper feed rubber : Every 2,250,000 prints (actual replacement cycle: every 100,000 feed) *1
  : Every 2,200,000 prints (actual replacement cycle: every 100,000 feed) *2

*1 1050

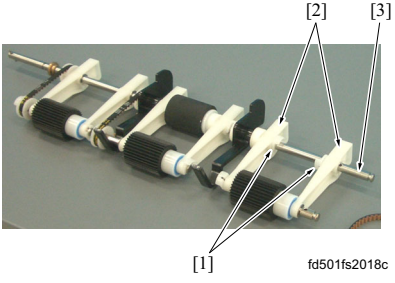
*2 C6500

B. Procedure



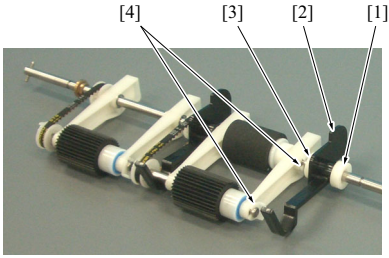
fd501fs2017c

1. Conduct the steps 1 to 8 in the "2.4.1 Replacing the pick-up rubber (upper stage)" and remove the pick-up roller unit.
2. Remove the C-clip [1].
3. Remove the belt restriction plate [2].
4. Remove the spacer [3].
5. Remove the belt [4].
6. Remove the gear [5] and the pin [6].
7. Remove the gear [7] and the pin [8].



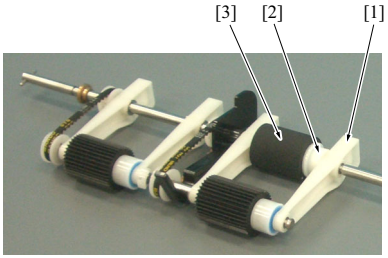
fd501fs2018c

8. Remove the 2 C-clips [1] and then remove the entire paper feed arm [2] from the paper feed shaft [3].



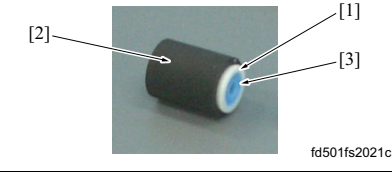
fd501fs2019c

9. Remove the spacer [1].
10. Remove the actuator [2].
11. Remove the spacer [3].
12. Remove 2 C-clips [4].



fd501fs2020c

13. Remove the paper feed arm [1].
14. Remove the spacer [2].
15. Remove the paper feed roller assembly [3].



fd501fs2021c

16. Remove the paper feed roller [1] and replace the paper feed rubber[2].
17. Reinstall the above parts following the removal steps in reverse.

Note

- **Be sure to install the pick-up roller so that the one-way clutch [3] (blue) is on the front side.**

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2.4.3 Replacing the separation rubber (upper stage)

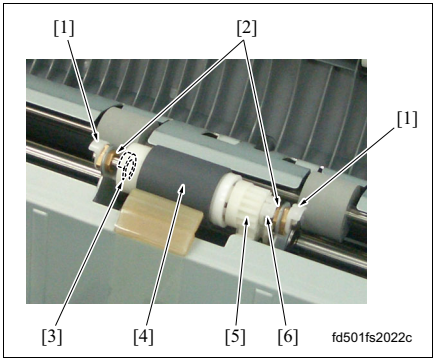
A. Periodically replaced parts/cycle

- Separation rubber : Every 2,250,000 prints (actual replacement cycle: every 100,000 feed) *1
  : Every 2,200,000 prints (actual replacement cycle: every 100,000 feed) *2

*1 1050

*2 C6500

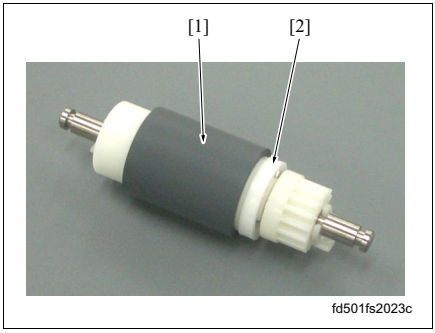
B. Procedure



1. Conduct the steps 1 to 4 in "2.4.1 Replacing the pick-up rubber (upper stage)" and remove the pick-up unit /Up.
2. Remove the 2 C-clips [1].
3. Remove 2 bearings [2].
4. Remove the C-clip [3] and then remove the entire roller shaft from the mounting plate while pressing the separation roller assembly [4] against the front gear [5].

Note

- **Pins are employed on the inside of the separation roller assembly [4] and the gear [5] respectively. When removing them, be careful that these pins do not get lost. With the C-clip [6] on the front side of the gear left as it is, pressing the roller onto the gear prevents the pins from dropping off.**



5. Remove the separation roller rubber [1] from the separation roller [2] and replace it.
6. Reinstall the above parts following the removal steps in reverse.

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2.4.4 Replacing the pick-up rubber (lower stage)

A. Periodically replaced parts/cycle

- Pick-up rubber : Every 5,250,000 prints (actual replacement cycle: every 200,000 feed) *1

*1 1050

B. Spotted replaced parts/cycle

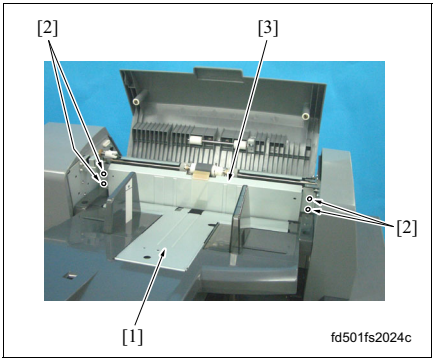
- Pick-up rubber : Actual replacement cycle: every 200,000 feed *2

*2 C6500

C. Procedure

Note

- **A shaft fixing screw is inserted when removing the PI tray /Up. Be sure to remove this shaft fixing screw from the PI tray /Up after completion of the replacement of the pick-up roller /Lw. Operating the machine with the shaft fixing screw inserted to the PI tray /Up may cause damage to the PI section.**



1. Make sure that the PI lift plate /Up [1] has come down fully. If it has not come down completely, conduct the I/O check (output) (PI/Up: 70 -11, PI/Lw: 70 - 13) in the service mode.
2. Conduct the steps 1 to 4 in "2.4.1 Replacing the pick-up rubber (upper stage)" and remove the pick-up unit /Up.
3. Remove the 4 screws [2] and then remove the paper feed stopper plate /Up [3].

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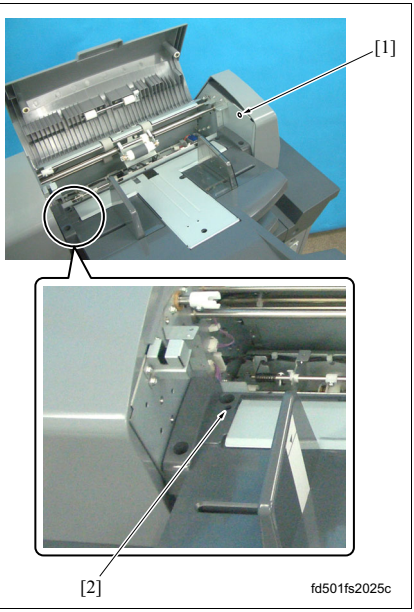
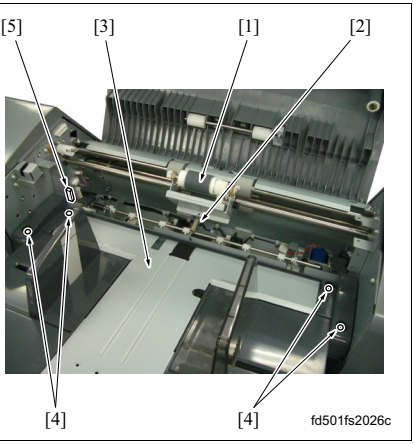


4. Remove the shaft fixing screw [1] and insert it in the shaft fixing hole [2].

Note

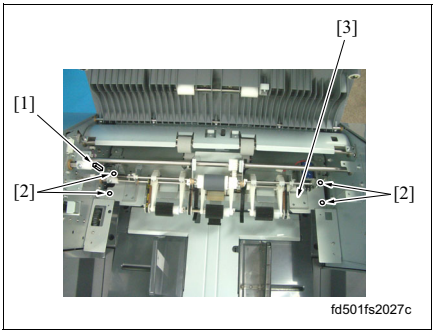
- **Be sure to turn the shaft fixing screw [1] until its stem section disappears completely.**
- **After completion of the replacement of the pick-up rubber (lower stage) be sure to remove the shaft fixing screw [1] from the position [2] and get it back to the position [1]. Operating the machine with the shaft fixing screw inserted to the position [2] may cause damage to the PI section.**



5. Remove the spring [2] hooked between the separation roller unit [1] and the PI tray /Up [3].
6. Disconnect the connector [5].
7. Remove the 4 screws [4] and then remove the PI tray /Up [3].

Note

- **When removing the PI tray /Up [2], be sure to pull it diagonally up to the left.**



8. Disconnect the connector [1].
9. Remove 4 screws [2] and then remove the pick-up unit /Lw [3].
10. For the subsequent operations, conduct the pick-up rubber (upper stage) (steps 4 to 25). (See P.8)
11. Replace it with a new pick-up rubber.
12. Reinstall the above parts following the removal steps in reverse.

Note

- **When installing the PI tray /Up, be sure to remove the shaft fixing screw and get it back to the original position.**

2.4.5 Replacing the paper feed rubber (lower stage)

A. Periodically replaced parts/cycle

- Paper feed rubber : Every 2,250,000 prints (actual replacement cycle: every 100,000 feed) *1
  Every 2,000,000 prints (actual replacement cycle: every 100,000 feed) *2

*1 1050

*2 C6500

B. Procedure

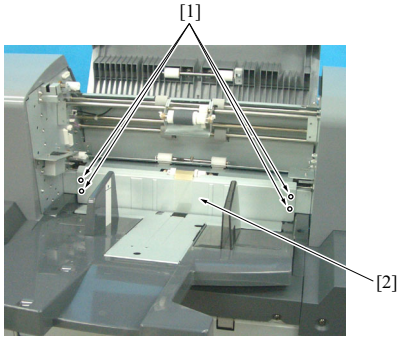
1. Conduct the steps 1 to 9 in "2.4.4 Replacing the pick-up rubber (lower stage)"
2. The subsequent operations are the same as those for the paper feed rubber (upper stage). (See P.12)
3. Reinstall a new paper feed rubber following the removal steps in reverse.

2.4.6 Replacing the separation rubber (lower stage)

A. Periodically replaced parts/cycle

- Separation rubber: Every 2,250,000 prints (actual replacement cycle: every 100,000 feed)

B. Procedure



1. Conduct the steps 1 to 9 in "2.4.4 Replacing the pick-up rubber (lower stage)"
2. Remove 4 screws [1] and then remove the paper feed stopper plate /Lw [2].
3. For the subsequent operations, conduct the separation rubber (upper stage) (steps 2 to 6). (See P.14)
4. Replace it with a new separation rubber.
5. Reinstall the above parts following the removal steps in reverse.

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3. OTHERS

3.1 Items not allowed to be disassembled and/or adjusted

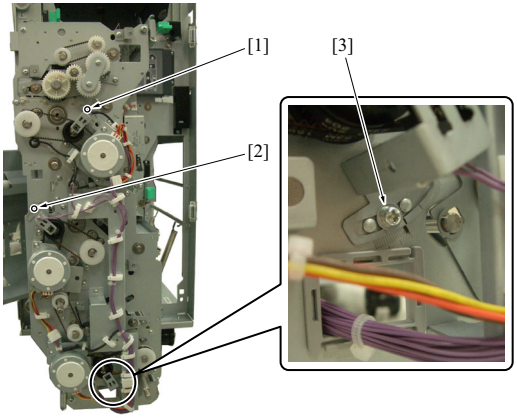
⚠Caution:

- **Be sure to unplug the power cord from the power outlet.**

3.1.1 Folding/conveyance switching position adjustment section

Note

- **Be sure to avoid removing or loosening the screws [1], [2], [3] of the folding/conveyance switching position adjustment section provided on the front of the folding conveyance unit. The adjustment scale marked on the folding conveyance frame are intended to be used in the factory.**



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3.2 List of parts to be disassembled and assembled

No.	Section	Part name	Page referred to
1	Cover section	Upper cover /Fr + PI cover /Fr	P.21
2		Upper cover /Rr + PI cover /Rr	P.22
3		Upper door	P.22
4		Rear cover	P.23
5		Left cover /Fr	P.23
6		Left cover /Rr	P.24
7		Paper exit stopper cover	P.24
8		Right cover	P.25
9		Left cover /Up	P.25
10		Stand cover	P.26
11		Front door	P.27
12	Folding conveyance section	2nd folding conveyance sensor (PS53)	P.28
13		3rd folding conveyance sensor (PS54)	P.28
14		3rd folding roller	P.29
15		Folding conveyance section	P.31
16	Main tray section	Main tray up/down wire	P.36
17	PI section	Multi feed detection board /1, /2	P.45

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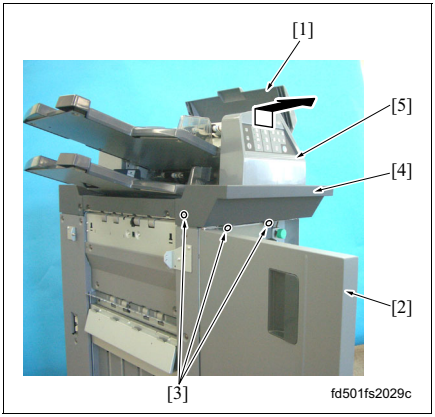
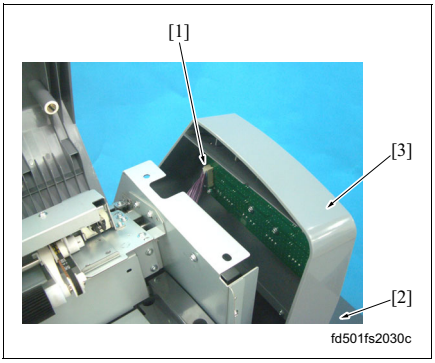
3.3 Removal procedure of parts to be disassembled and assembled

3.3.1 Removing/reinstalling the upper cover /Fr + PI cover /Fr

A. Procedure



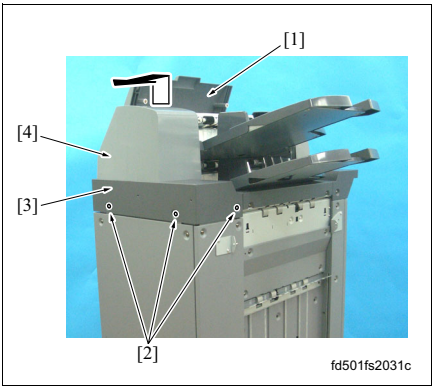
1. Open the upper door [1] and the front door [2].
2. Remove 3 screws [3], pull out the PI cover /Fr [5] to the front side while raising it together with the upper cover /Fr [4].



3. Disconnect the connector [1] and remove the PI cover /Fr [3] together with the upper cover /Fr [2].

3.3.2 Removing/reinstalling the upper cover /Rr + PI cover /Rr

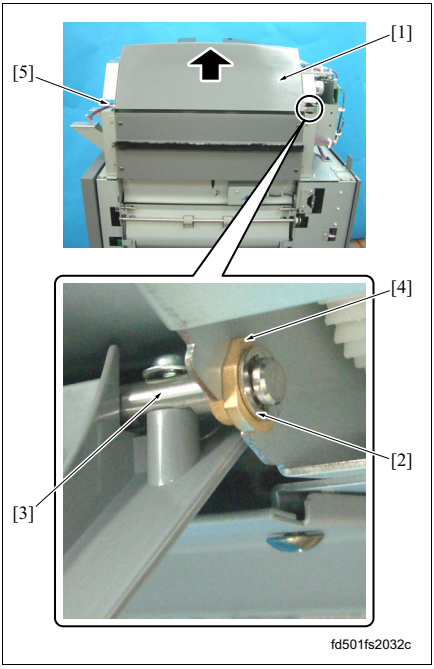
A. Procedure



1. Open the upper door [1].
2. Remove 3 screws [2] and pull out the PI cover /Rr [4] to the rear side while raising it together with the upper cover /Rr [3].

3.3.3 Removing/reinstalling the upper door

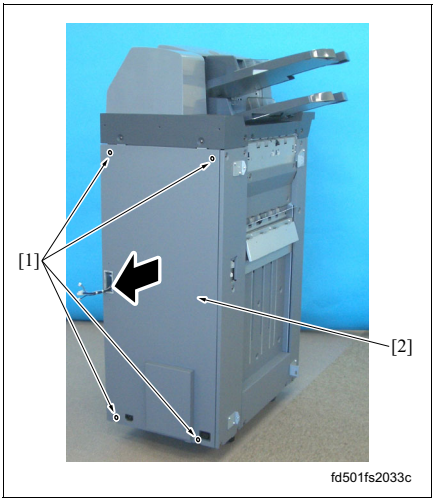
A. Procedure



1. Remove the upper cover /Fr, the PI cover /Fr, the upper cover /Rr and the PI cover /Rr.
2. Close the upper door [1].
3. Remove the E-ring [2] and then remove the bearing [4] of the upper door open/close shaft [3].
4. With the bearing [5] shifted to the front side, remove the upper door [1].

3.3.4 Removing/reinstalling the rear cover

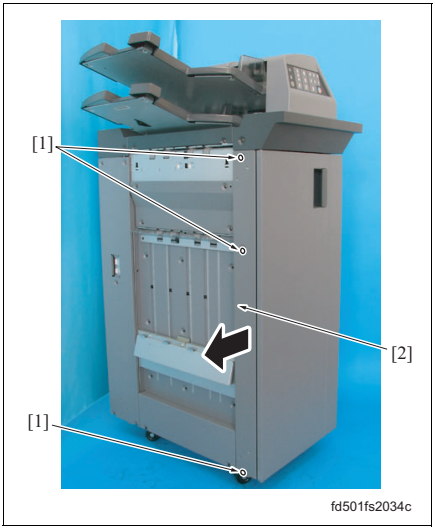
A. Procedure



1. Remove 4 screws [1] and then remove the rear cover /Lw [2].

3.3.5 Removing/reinstalling the left cover /Fr

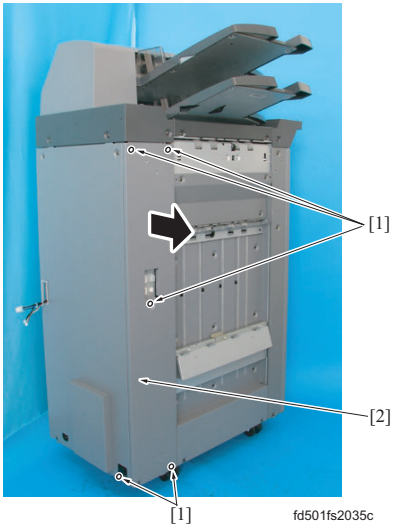
A. Procedure



1. Remove 3 screws [1] and then remove the left cover /Fr [2].

3.3.6 Removing/reinstalling the left cover /Rr

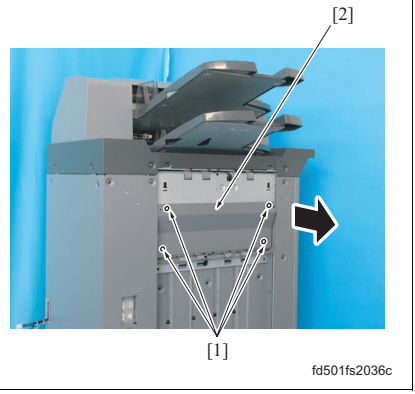
A. Procedure



1. Remove 5 screws [1] and then remove the left cover /Rr [2].

3.3.7 Removing/reinstalling the paper exit stopper cover

A. Procedure



1. Remove 4 screws [1] and then remove the paper exit stopper cover [2].

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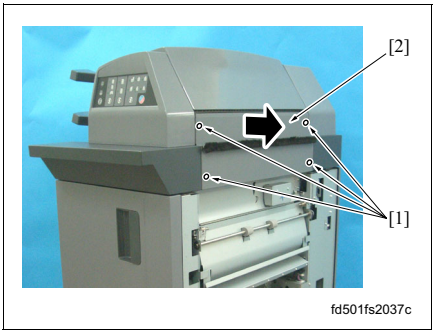
3.3.8 Removing/reinstalling the right cover

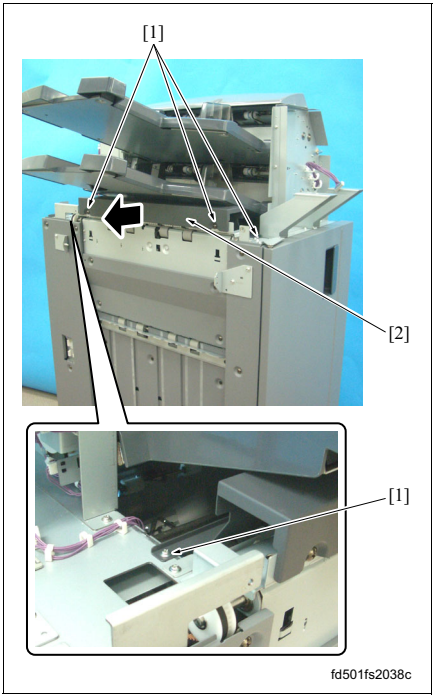
A. Procedure



1. Remove 4 screws [1] and then remove the right cover [2].

3.3.9 Removing/reinstalling the left cover /Up

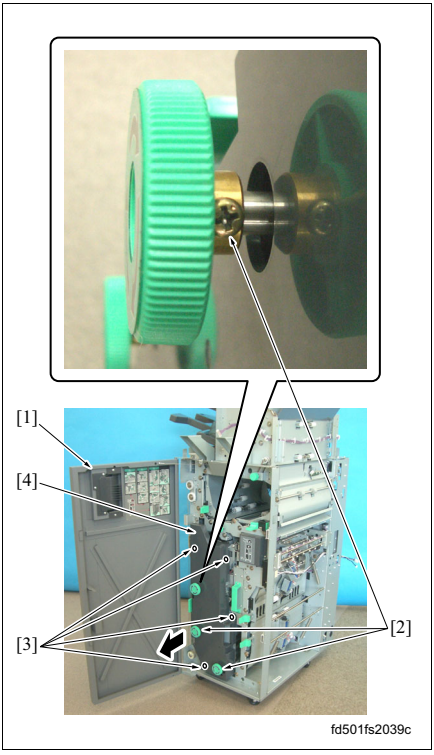
A. Procedure



1. Remove the upper cover /Fr, the PI cover /Fr, the upper cover /Rr and the PI cover /Rr.
2. Remove 4 screws [1] and then remove the left cover /Up [2].

3.3.10 Removing/reinstalling the stand cover

A. Procedure



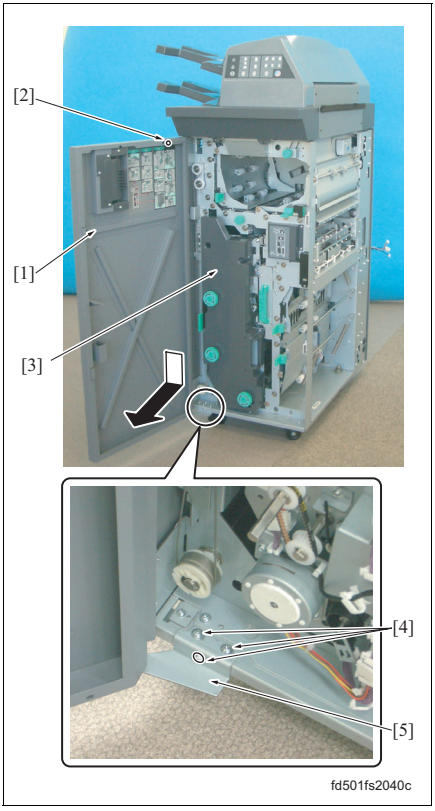
1. Open the front door [1].
2. Remove 3 screws [2] of the handle and then remove the handle.
3. Remove 4 screws [3] and then remove the stand cover [4].

3.3.11 Removing/reinstalling the front door

Note

- **When removing the front door, be sure to support it so that it does not fall down.**

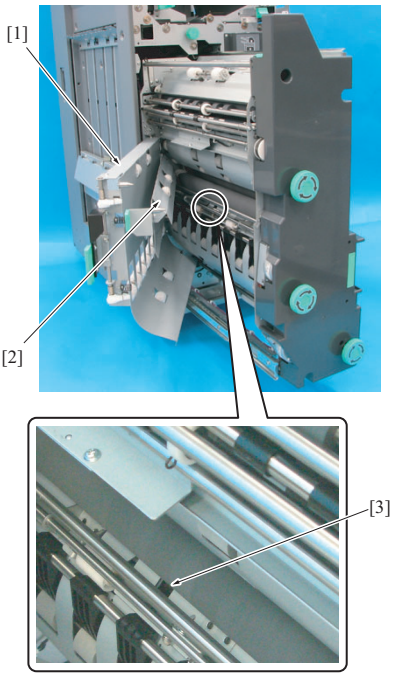
A. Procedure



1. Open the front door [1].
2. Remove the screw [2].
3. Remove the stand cover [3].
4. Remove 3 screws [4] while pushing up the front door so that it does not fall down, and then remove the support plate [5].
5. Remove the front door [1].

3.3.12 Cleaning the 2nd folding conveyance sensor (PS53)

A. Procedure

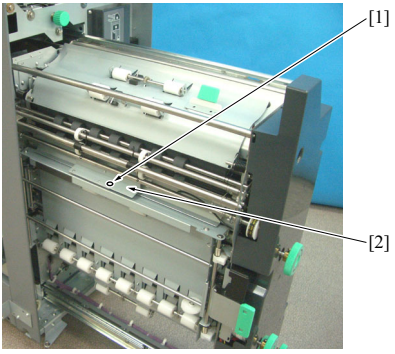


fd501fs2041c

1. Remove the front door and pull out the folding unit.
2. Open the guide plates [1] and [2].
3. Clean the 2nd folding conveyance sensor (PS53) [3].

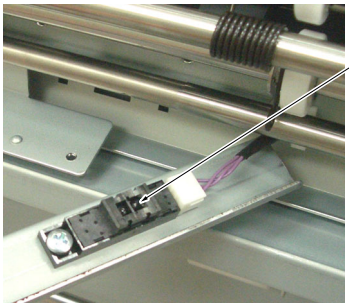
3.3.13 Cleaning the 3rd folding conveyance sensor (PS54)

A. Procedure



fd501fs2042c

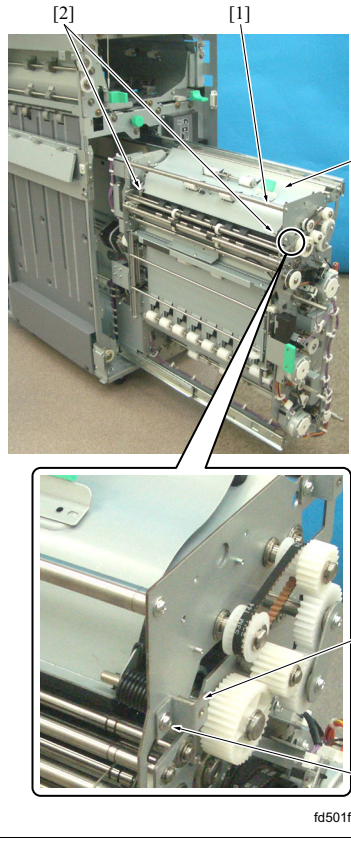
1. Remove the front door and pull out the folding unit.
2. Remove the screw [1] and turn over the sensor mounting plate [2].



3. Clean the 3rd folding conveyance sensor (PS54) [1].

3.3.14 Cleaning the 3rd folding roller

A. Procedure

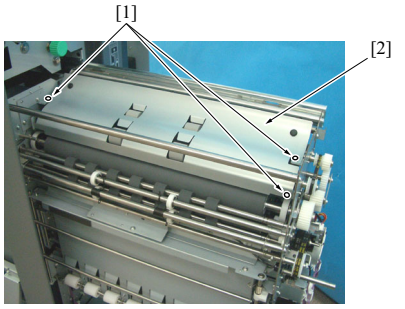


1. Open the front door and pull out the folding unit.

⚠2 *2.* Remove the stand cover.

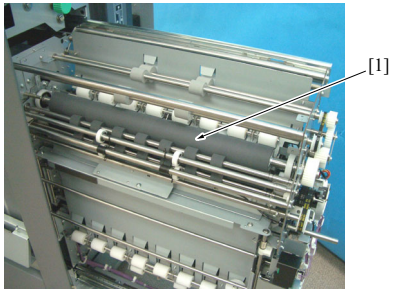
3. The 2 springs [2] are hooked to the shaft [1]. Remove them from the shaft [1].

4. Remove the screw [3] and then remove the 2 springs [2], the support plate [4] and the guide plate [5].



fd501fs2045c

5. Remove 3 screws [1] and then remove the guide plate [2].



fd501fs2046c

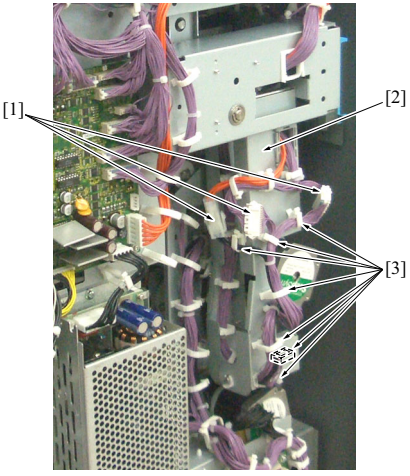
6. Clean the 3rd folding roller [1].

3.3.15 Removing/reinstalling the folding conveyance section

⚠Caution:

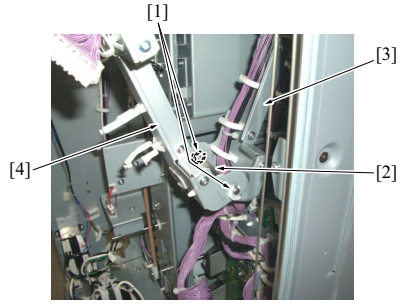
- **The folding conveyance section is very heavy. Be sure to conduct this operation with 2 people.**

A. Procedure



fd501fs2047c

1. Remove the front door and the rear cover.
2. Disconnect 3 connectors [1] and then remove the wiring harnesses from the 7 wiring harness guides [3] of the coupling arm /Rr [2].



fd501fs2048c

3. Remove 2 C-clips [1].
4. Remove the shaft [2] and separate the coupling arm /Fr [3] and the coupling arm /Rr [4].

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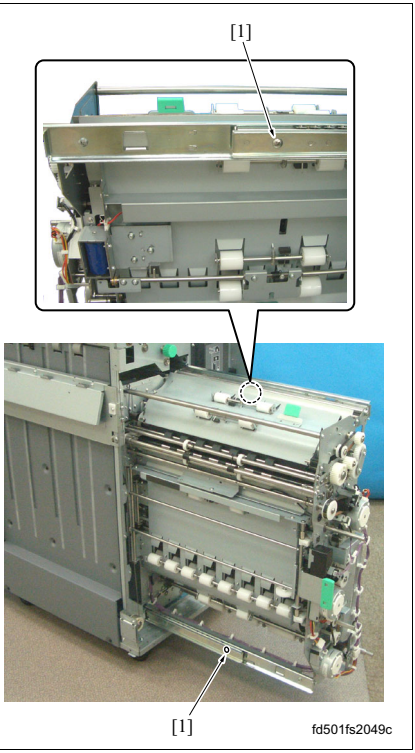

5. Remove the stopper screws [1], one each, from the left and right rails and pull further out the folding conveyance section.

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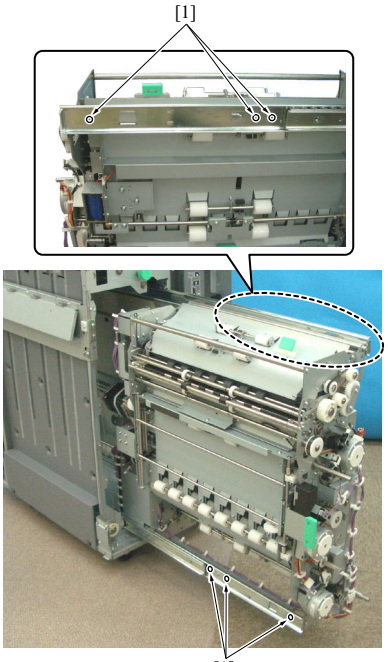

6. Remove screws [1], 3 each, from the left and right rails.

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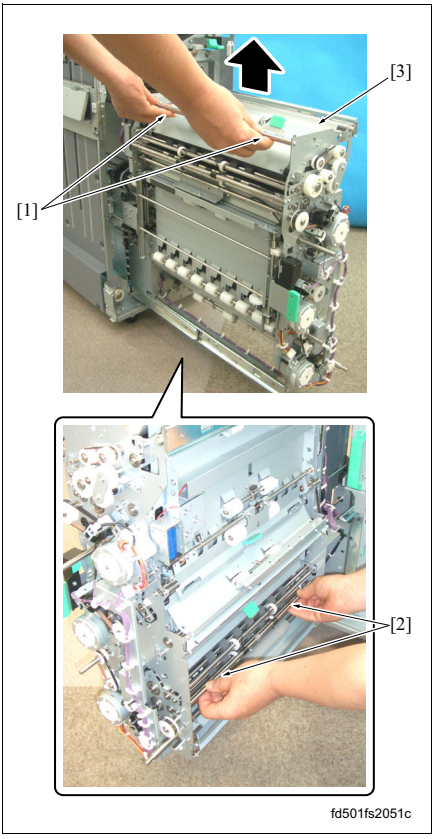
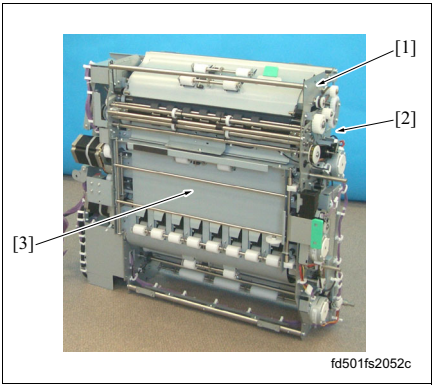


fd501fs2051c

7. Hold the folding conveyance section [3] at the specified places [1] and [2] and remove it while lifting it up.

⚠Caution:
- **Be careful of your posture when removing it. Be sure to carry out this operation with 2 people so that you don't throw out your back.**

Note
- **When lifting up the folding conveyance section, be sure to hold the shaft at the places [1] and [2]. Holding it at other places such as the roller shaft or the guide plate may cause deformation to these places.**



fd501fs2052c

8. Stand the folding conveyance section [1] upright when it has been removed, or lay it down on the right side [2].

Note
- **Be careful not to lay it with the right side [3] down. The guide plate may get deformed.**

9. Reinstall the above parts following the removal steps in reverse.

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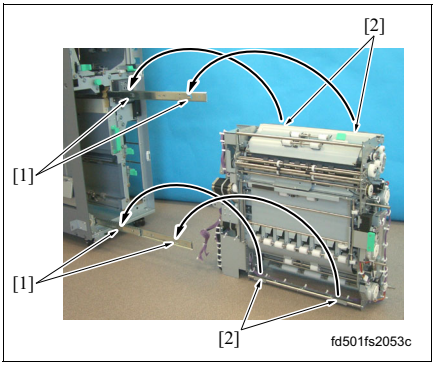
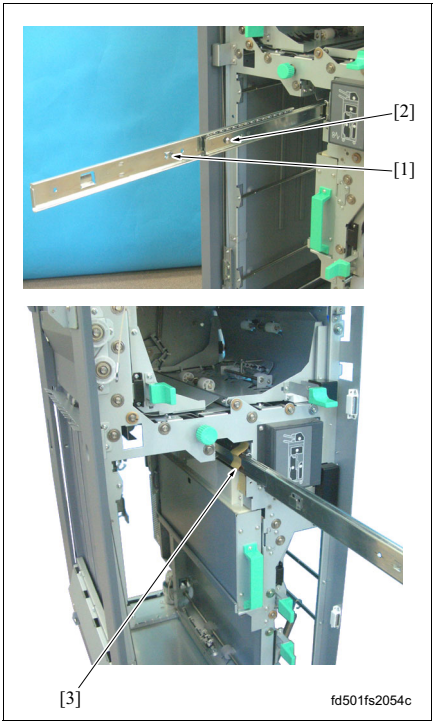


Note

- **When installing the folding conveyance section, make sure that all 4 hooks [1] of the rails have engaged the attaching holes [2] of the folding conveyance section.**
- **The top should be attached by pushing it to the right to engage the upper rail and the bottom pushed to the left to engage the lower rail.**



Note

- **When installing the folding conveyance section, pull out the rail further than the length of the stopper [1]. Use the stopper screw [2] to fasten it tentatively at its fully pulled-out position and fix the rail on the opposite side with tape [3]. Doing this prevents the rail from moving inwards for an easy and smooth operation.**

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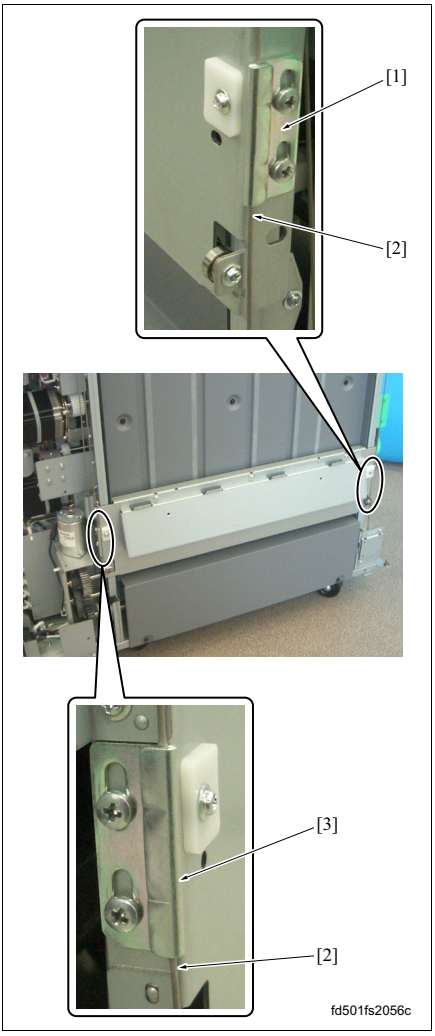
3.3.16 Removing/reinstalling the main tray up/down wire

A. Procedure



Note

- **The following procedure for replacing the up/down wire shows the examples on the rear side. The configuration and winding of the wires on the front side are symmetrical to the rear side.**
- **There are two types of up/down wires provided, one [1] on the front side and the other [3] on the rear side. These two wires are different in the direction of the wire mounting plates. Be sure to use the wire with the correct wire mounting plate direction when installing it. The distinction of these two wires can be made by the direction of the wire mounting plate when the shorter wire [2] is placed under the longer wire.**

1. Remove the following parts.
   Rear cover (See P.23)
   Left cover /Fr (See P.23)
   Left cover /Rr (See P.24)
   Front door (See P.27)

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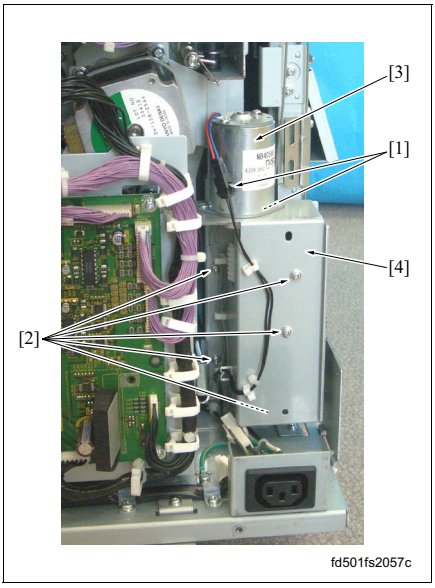
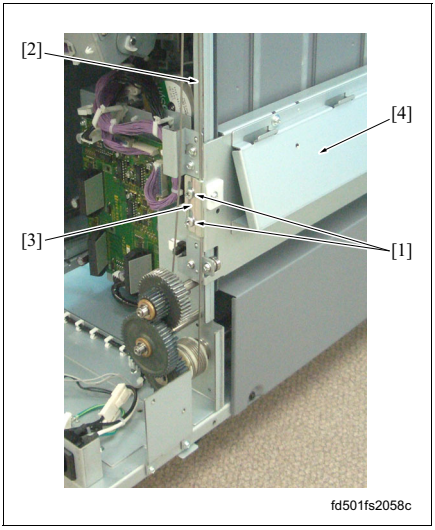


fd501fs2057c

2. Remove 2 connectors [1] and 5 screws [2], and then remove the gear box [4] together with the up down motor (M11) [3].

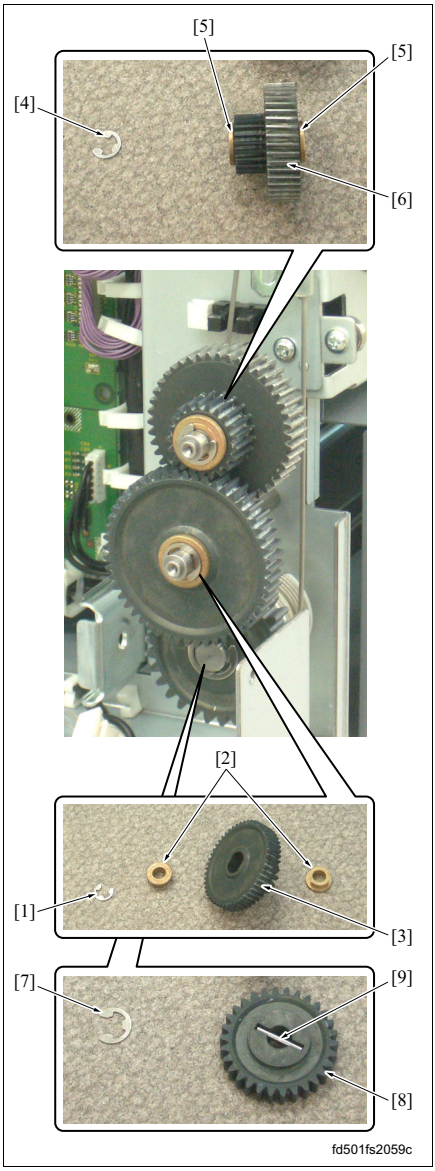
⚠Caution:

- **When the gear box is removed, the up/down stay may fall down. So, when removing the gear box, be sure to support the stay with your hands.**



fd501fs2058c

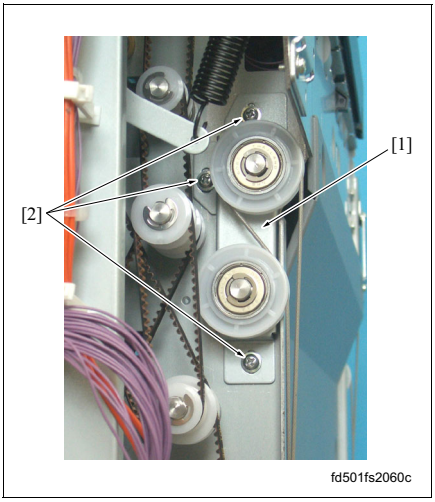
3. Remove 2 screws [1] and then remove the wire mounting plate [3] of the up/down wire /Rr [2] from the up/down stay [4].



4. Remove the E-ring [1] and then remove the gear [3] together with the 2 bearings [2].
5. Remove the E-ring [4] and then remove the gear [6] together with the 2 bearings [5].
6. Remove the E-ring [7] and then remove the gear [8] and the pin [9].

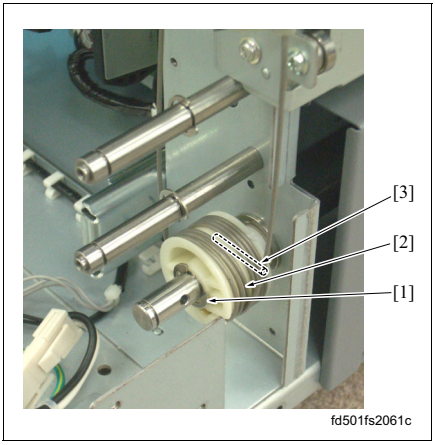
Note

- **When removing the gear [8], be careful not to drop the pin [9].**



fd501fs2060c

7. Loosen 3 screws [2] of the belt tensioner [1].

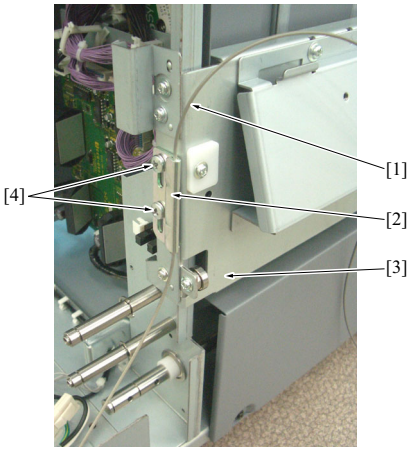


fd501fs2061c

8. Remove the E-ring [1] and then remove the up/down pulley /RrLw [2] and the pin [3].

Note

- **When removing the up/down pulley /RrLw [2], be careful not to drop the pin [3].**



9. Temporarily tighten the wire mounting plate [2] of a new up/down wire /Rr [1] to the up/down stay [3] with 2 screws [4].

Note

- **Install the up/down wires placing the shorter wire below the longer one with the wire supporting part of the mounting plate outside.**
- **There are two types of up/down wires, one for the front side and the other for the rear side, but these two wires are different in the direction of the wire mounting plates. Be sure to use a wire that fits in with the direction of a wire mounting plate.**

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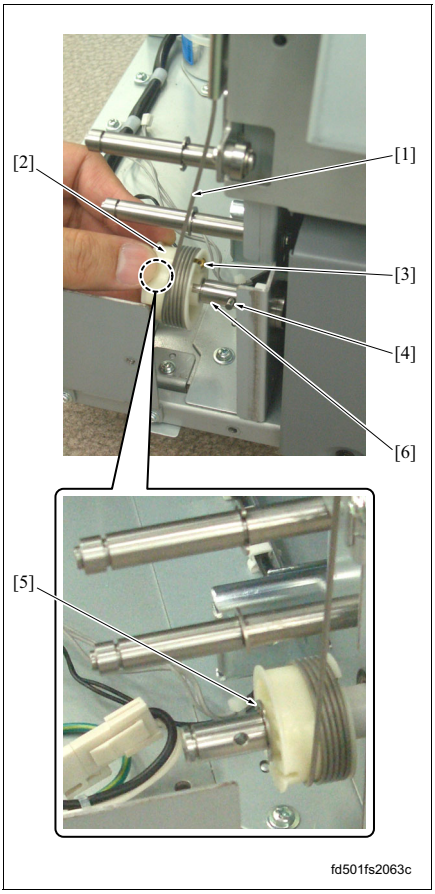

10. Fasten the new up/down wire /Rr [1] with the wire end [3] provided on the inside of the up/down pulley /RrLw [2] and insert it into the shaft [6]. Rotate the up/down pulley /RrLw [2] and wind it 5.5 turns clockwise from inside to outside around the up/down pulley with no slack, and then insert the up/down pulley /RrLw [2] fully onto the shaft so that it coincides with the pin [4] and fasten it with the E-ring [5]. If the angle does not coincide with the pin [4], move up and down the front side of the up/down tray to change the angle of the shaft [6].

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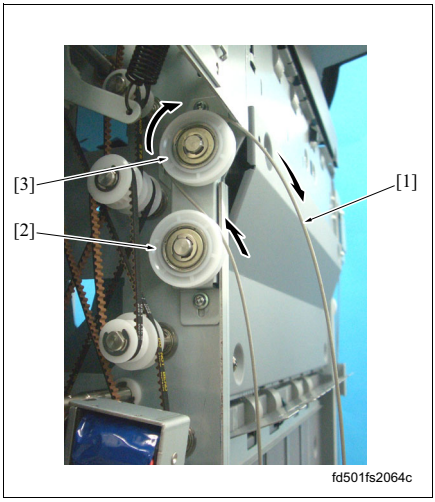
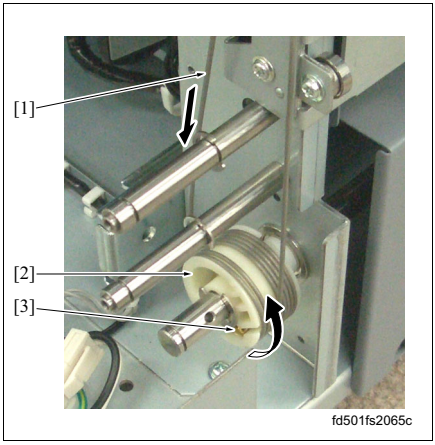


11. Hook up the up/down wire /Rr [1] onto the up/down pulley /RrUp [3] through the relay pulley /Rr [2].



12. Wind the up/down wire /Rr [1] 2 turns counter-clockwise from inside to outside around the up/down pulley /RrLw [2] with no slack and fasten it with the wire end [3].

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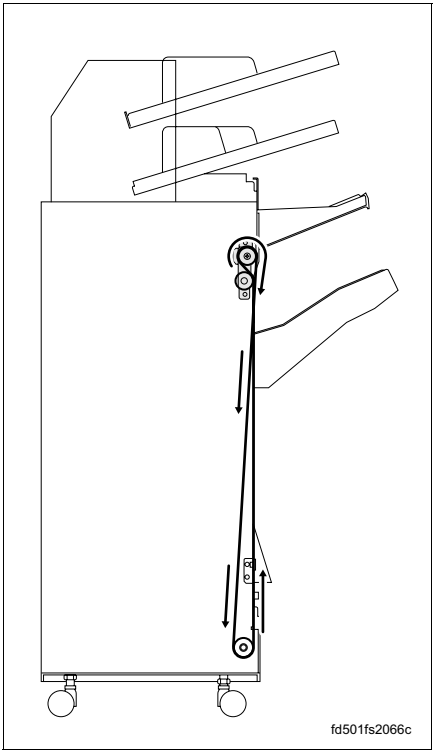
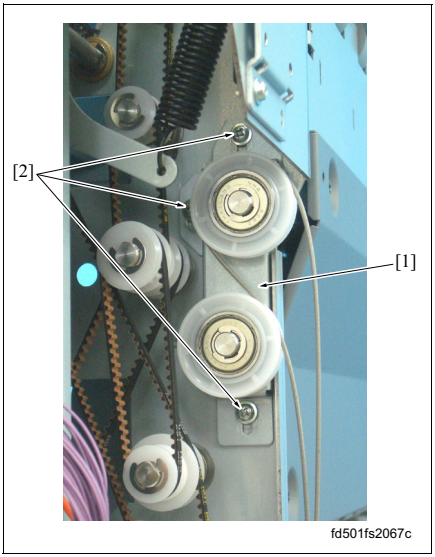
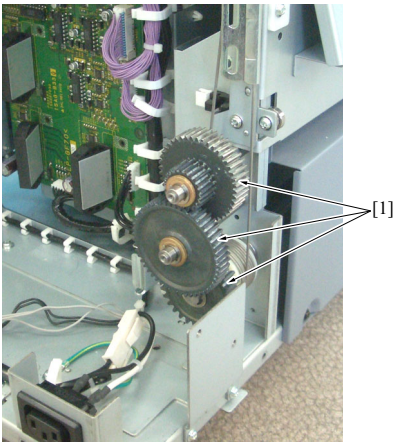


The route along which the up/down wire /Rr passes is, on the whole, as shown in the drawing left.

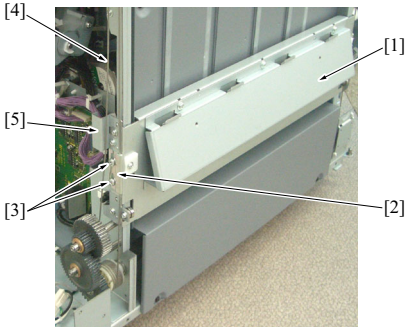


13. Use a tension gauge or spring balance to pull up the wire tensioner [1] upward with a designated force "A," and fasten it with the 3 screws [2].
Specified value: A = 2.5 kg ± 0.25 kg



fd501fs2068c

14. Reinstall the 3 gears [1] following the removal steps in reverse.



fd501fs2069c

15. With the up/down stay [1] held in a horizontal position, tighten the 2 screws [3] of the wire mounting plate [2].

Note

- **Move the up/down stay up and down and check to see if it moves smoothly. If it does not move smoothly, adjust it again so that it becomes horizontal.**
- **Check the up/down wire [4] if it gets behind the actuator plate [5]. If it gets behind the douser, an unnecessary load is applied to the up/down wire [4] when the up/down stay [1] goes up.**

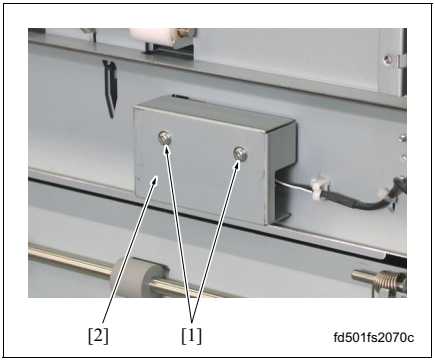
16. Reinstall the above parts following the removal steps in reverse.

3.3.17 Removing/reinstalling the multi feed detection boards /1 (MFDB/1) and /2 (MFDB/2)

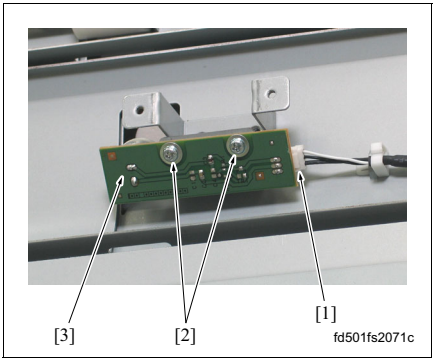
Note

- **When replacing the multi feed detection board /1 (MFDB/1), be sure to replace the multi feed detection board /2 (MFDB/2) at the same time.**
- **When the multi feed detection board is replaced, be sure to conduct the adjustment in replacing multi feed detection board (PI) (See "10.7.5 Adjustment when replacing multi feed detection board (PI)" in Field Service for the main body.)**

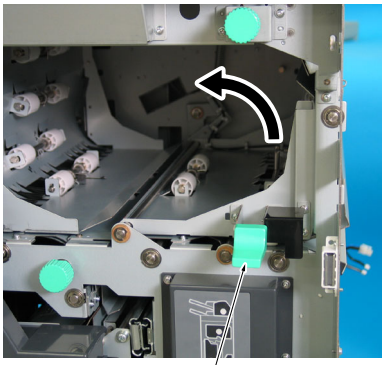
A. Procedure



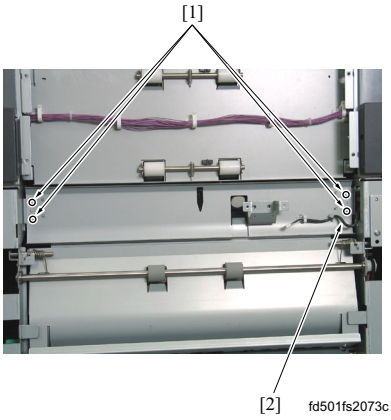
1. Remove 2 screws [1] and then remove the multi feed detection board /1 (MFDB/1) cover [2].



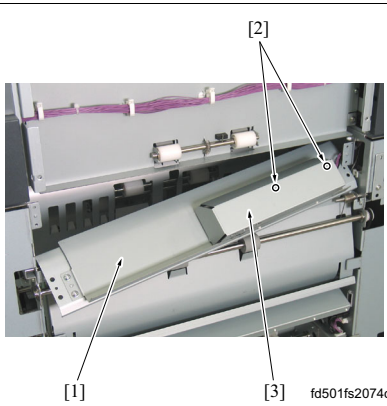
2. Remove the connector [1].
3. Remove 2 screws [2] and then remove the multi feed detection board /1 (MFDB/1) [3].



4. Open the front door and then open the conveyance guide plate /2 [1] in the upper right direction.



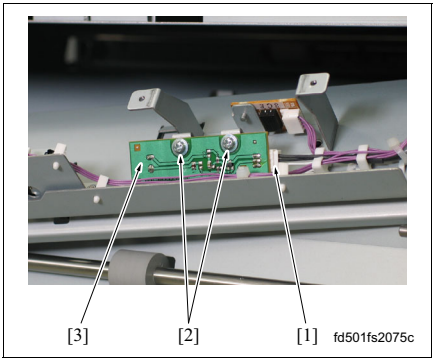
5. Remove 4 screws [1].
6. Remove the wiring harness of the multi feed detection board /1 (MFDB/1) from the wiring harness guide [2].



7. Turn around the conveyance guide plate /2 assembly [1] inside the machine and pull it to the outside.
8. Remove 2 screws [2] and then remove the multi feed detection board /2 cover [3].

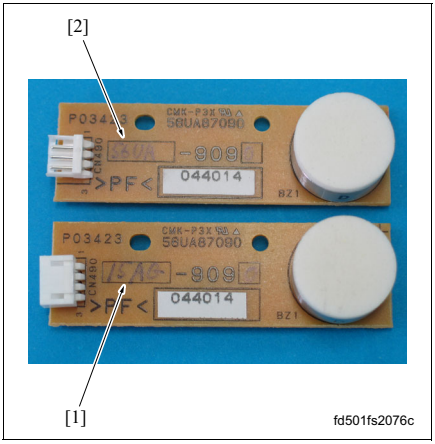
Note

- **When turning it around, or when disassembling or reassembling it, be careful not to damage the wiring harness.**



9. Remove the connector [1].
10. Remove 2 screws [2] and then remove the multi feed detection board /2 [3].
11. Reinstall the above parts following the removal steps in reverse.

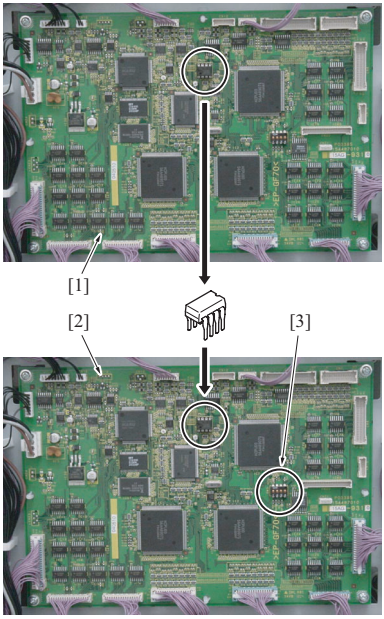
B. Notes to keep in mind when installing the multi feed detection boards /1 (MFDB/1) and /2 (MFDB/2)



- The multi feed detection boards /1 (MFDB/1) and /2 (MFDB/2) are installed on the same type board. Be careful not to confuse one with the other when installing them.
- Be sure to confirm the marking on the board when installing it.
  Multi feed detection board /1 (MFDB/1) [1]: 15AG
  Multi feed detection board /2 (MFDB/2) [2]: 56UA
- The connector shape is different for the multi feed detection boards /1 (MFDB/1) and /2 (MFDB/2). So, even if installed, the connector cannot be connected.

3.3.18 Note to keep in mind when replacing the board

⚠

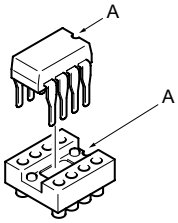


fd501fs2077c

When the FD control board (FDCB) is replaced, be sure to remove the EEPROM (IC68) from the old control board [1] and install it into the new control board [2].

Note

- **The setting of the SW3 [3] should be the same as that of the old FDCB. (See P.634 in Field Service for the main body.)**



fd501fs2078c

Note

- **Be sure to set the "A" sections of the EEPROM (IC68) in the same direction for installation.**

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■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

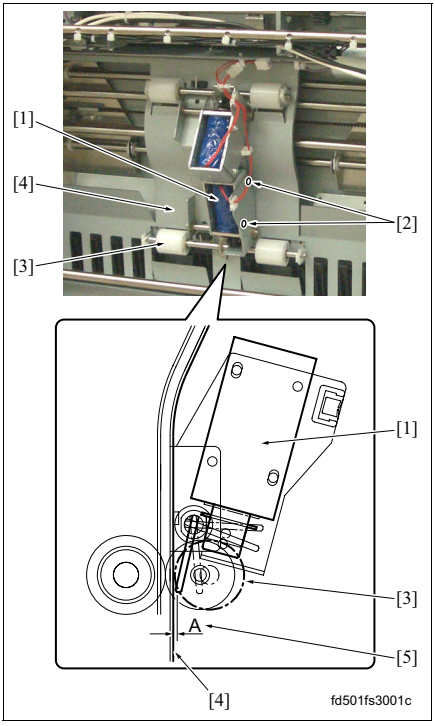
4.1 Roller solenoids /1 (SD5), /2 (SD6), /3 (SD7), /4 (SD8) position adjustment

When the roller solenoids /1 (SD5), /2 (SD6), /3 (SD7), /4 (SD8) are changed, be sure to conduct this adjustment.

Note

- **The adjustment steps given below show the steps for the roller solenoid /2 (SD6). For the roller solenoids /1 (SD5), /3 (SD7) and /4 (SD8), the same steps as those for the roller solenoid /2 are employed.**

A. Procedure



1. Loosen 2 screws [2] of the roller solenoid /2 (SD6) [1].
2. Measure the distance A [5] between the end face of the driven roller [3] and the right side (the opposite of the paper through side) of the guide plate [4] when the roller solenoid /2 (SD6) [1] is turned on, and then tighten the screw [2] after adjusting the distance so that it becomes the standard value.
   Standard value: A = 0 to 1.5 mm

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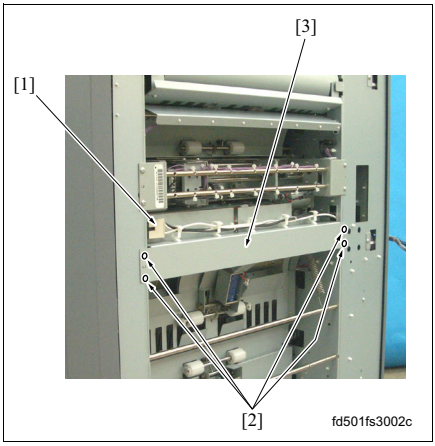
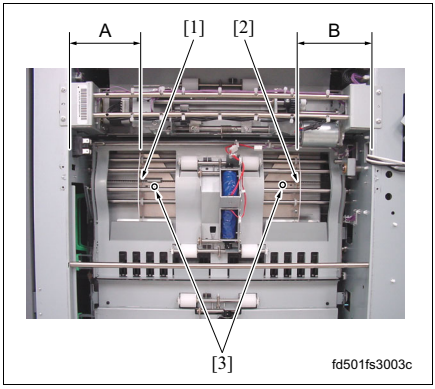
4.2 Punch centering adjustment

When the front to rear position of the punch holes cannot be adjusted up to the specification in the paper width adjustment in the service mode, be sure to conduct this adjustment. (See “10.9.4 Paper Width Adjustment (Multi Folder (Punch) Adj.)” in Field Service for the main body.)

A. Procedure



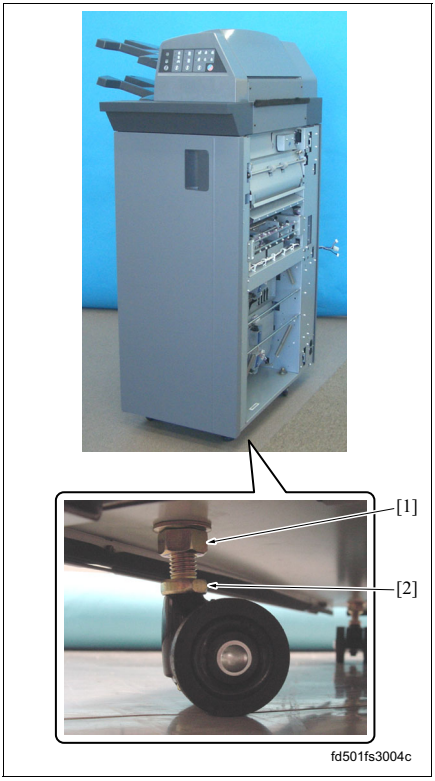
1. Remove the connector [1] and the 4 screws [2], and then remove the cord support board /A [3].



2. With the alignment plate /Fr [1] and the alignment plate /Rr [2] moved to the center, loosen the 2 screws [3].
3. Measure the distances A and B using a ruler and adjust the positions of the alignment plate /Fr [1] and the alignment plate /Rr [2] so that the distances A and B become equal, and then tighten the 2 screws [3].
4. Reinstall the above parts following the removal steps in reverse.

4.3 Height adjustment

A. Procedure



1. Loosen the nuts [1] provided at 4 places.
2. Rotate the screws [2] at 4 places for the horizontal adjustment of the device.

Note

- **Adjustment should be made while taking into account the height of the main body and other options.**

3. Rotate the screws [2] by hand at 4 places to check to see if there is any caster being raised.

Note

- **When any caster is found raised, use a wrench to rotate the screw [2] to extend the caster until you feel secure contact.**

4. Use a wrench to fix the screw [2] and tighten up the nut [1].

Note

- **Be careful that when the nut [1] is tightened with the screw [2] not held, the screw [2] also rotates together with the nut [1] thus resulting in an incorrect position adjustment.**

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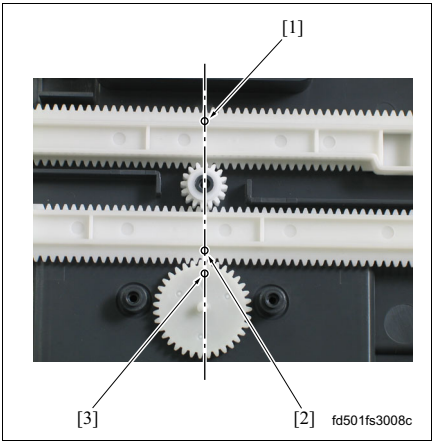
4.4 PI section

4.4.1 Gear position adjustment of the paper feed regulation plate

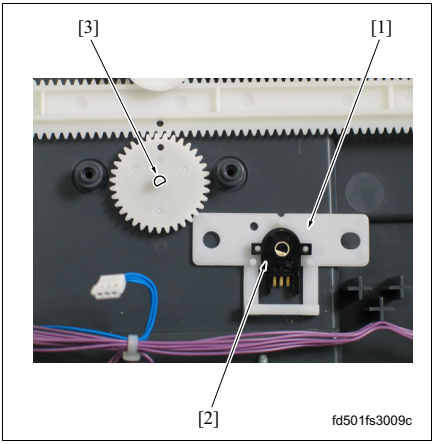
Note

- **Be sure to conduct the gear position adjustment when disassembling the paper feed regulation plate of the PI trays /Up and /Lw, the rack and the paper size VR section.**

A. Procedure



1. Install the regulation plate rack A [1] and the regulation rack B [2] so that they are aligned with the reference hole of the detection gear [3].



2. Check the paper size VR [2] to ensure it is held by the 2 bosses on the paper size VR mounting plate [1].
3. Install the paper size VR [2] so that the notch of its center hole is set to the notch of the detection gear [3].

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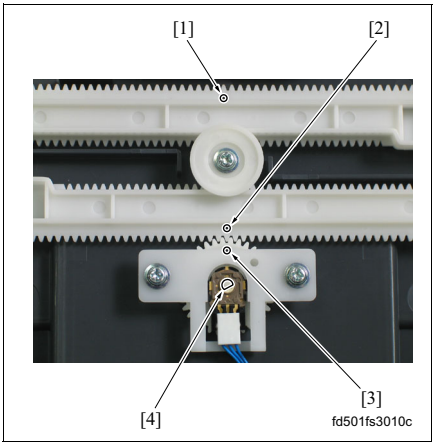

4. Check to see if the regulation plate rack A [1], the regulation plate rack B [2], the hole position of the detection gear [3] and the notch position of the paper size VR [4] are in the correct position respectively.

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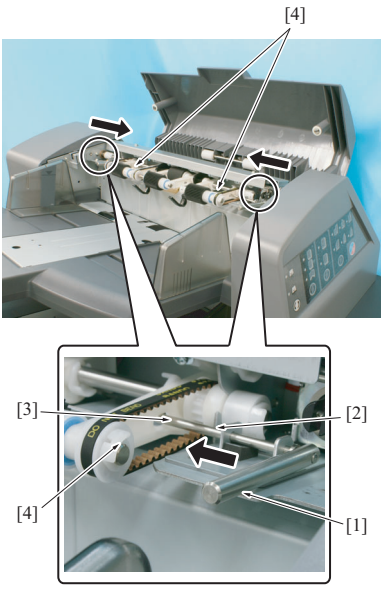
4.4.2 Paper feed pick-up amount adjustment

Perform this adjustment when multi-feed or paper jam occurs when feeding paper from the PI.



1. Slide the 2 paper feed arm fixing levers [1] inward, and insert the shafts [2] into the holes [3] in the paper feed arm to secure the paper feed arm [4].

KONICA MINOLTA

SERVICE MANUAL

Field Service

LS-501/502

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 3.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2006/09	3.0	△2	Revision in relation to launching of C6500
2005/04	2.0	△1	Correction of an error in writing
2004/10	1.0	—	Issue of the first edition

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

A. Type

Type	Grip conveyance type horizontal stacker	
Conveyance method	Entrance conveyance	Roller conveyance method
	Stacker tray conveyance	Grip conveyance method
	Sub tray conveyance	Roller conveyance method
	Coupling conveyance	Roller conveyance (LS-501 only)
Alignment method	Movable alignment lever (stacker tray only)	
⚠ Method of stacking	Horizontal stacking	Mixing of original sizes not allowed (stacker tray only)
Shifting method	Conveyance direction shift	Shift amount: 20 mm (stacker tray only)

B. Functions

Mode	Stacker tray non-sort mode	Exited into the stacker tray with no processing made.
	Sub tray mode	Exited into the sub tray with no processing made.
	Stacker tray sort mode	Exited into the stacker tray after being shifted (20mm).
	Coupling mode	Exited into the post-processing unit with no processing made.
Maximum number of sheets loadable	Stacker tray	5,000 sheets (80 g/m^2)
	Sub tray	200 sheets (80 g/m^2)

C. Type of paper

Paper size	Stacker tray	• When 5,000 sheets loaded SRA3*2, A3, B4, SRA4*2, SRA4S*2, A4, A4S 13 x 19*2, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11S 8 1/2 x 13, 8 1/4 x 13, 8 1/8 x 13 1/4, 8 x 13 8K*3, 16K*3 Wide paper*1 : A3, B4, A4, A4S, B5, B5S, A5, 12 x 18, 11 x 17, 8 1/2 x 11, 8 1/2 x 11S, 5 1/2 x 8 1/2, size entry : (Max. 324 x 460 mm) • When 3,000 sheets loaded Coated paper (Sub-scan direction is 380 mm or longer) Custom paper*2 : (Max. 330 x 483 mm, Min.210 x 148mm) • When 2,000 sheets loaded B5, A5 *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China.
	Sub tray	SRA3*2, A3, B4, SRA4*2, SRA4S*2, A4, A4S, B5, B5S, A5, A5S*2, B6S*2, A6S*2 13 x 19*2, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11S, 5 1/2 x 8 1/2*1, 5 1/2 x 8 1/2S*2 8 1/2 x 13, 8 1/4 x 13, 8 1/8 x 13 1/4, 8 x 13 8K*3, 16K*3, 16KS*3 Tab paper*4 : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8 1/2 x 11, 8 1/2 x 11S Custom paper*2 : (Max. 330 x 487 mm, Min. 100 x 148 mm) Wide paper*1 : A3, B4, A4, A4S, B5, B5S, A5, 12 x 18, 11 x 17, 8 1/2 x 11, 8 1/2 x 11S, 5 1/2 x 8 1/2, size entry : (Max.324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 C6500: only A4 and 8 1/2 x11. Operation of paper exit with tab area at the trail edge side is not assured.
Paper weight	Stacker tray	50 to 244 g/m^2
	Sub tray	50 to 300 g/m^2

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source	LS-501	AC100 to 240V (DC5V is supplied from the main body)
	LS-502	24V DC (supplied from the main body)
Maximum power consumption	143W or less	
Dimensions	785 (W) x 723 (D) x 1,020 (H) mm	
Weight	Approx. 110 kg	

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80%RH

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC CHECK

⚠Caution:
- **Be sure to unplug the power cord from the power outlet.**

2.1 Maintenance procedure of the conveyance section

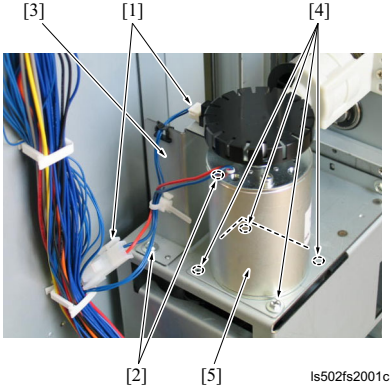
2.1.1 Replacing the stacker tray up down motor (M1)

A. Periodically replaced parts/cycle

- Stacker tray up down motor (M1) : Every 15,000,000 prints (actual replacement cycle: every 5,000,000 prints) *1

*1 1050

B. Procedure



1. Remove the rear cover /Lw. (See P.15)
2. Disconnect 2 connectors [1].
3. Remove 2 screws [2] and then remove the sensor mounting plate [3].
4. Remove 4 screws [4] and then remove the stacker tray up down motor (M1) [5].

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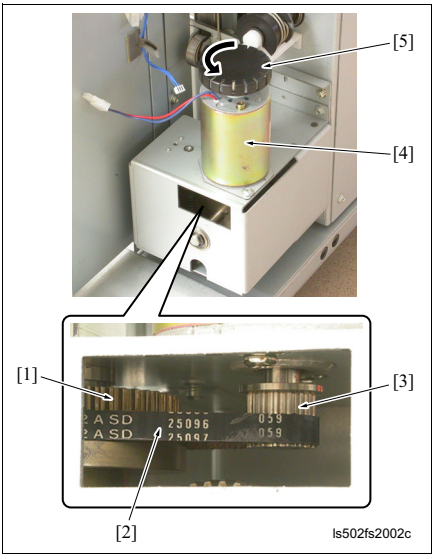
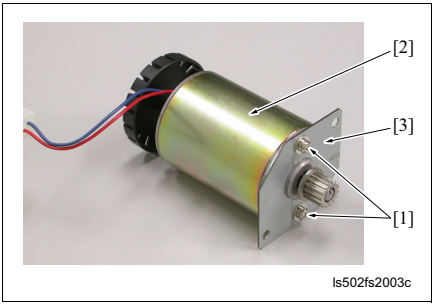


Note

- **When reinstalling the stacker tray up down motor (M1), be sure to check that the belt [2] has been engaged with the gear [1], and then engage it with the gear [3] before fastening the stacker tray up down motor (M1) [4].**
- **When the belt [2] is not horizontally attached between the gear [1] and the gear [3], make adjustments by rotating the encoder [5] counterclockwise.**



5. Remove 2 screws [1] and then remove the motor mounting plate [3] from the stacker tray up down motor (M1) [2].

6. Reinstall the above parts following the removal steps in reverse.

2.1.2 Replacing the paper press solenoid /3 (SD8)

A. Periodically replaced parts/cycle

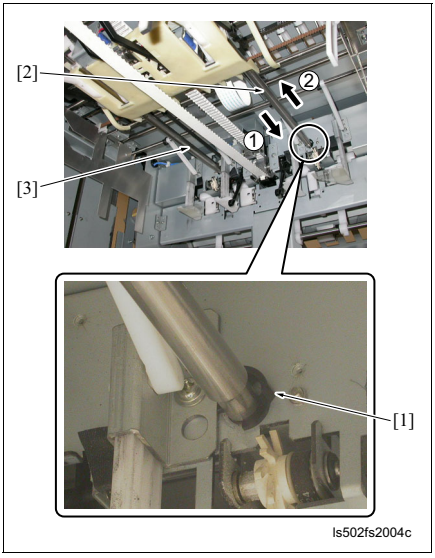
- Paper press solenoid /3 (SD8) : Every 15,000,000 prints (actual replacement cycle: every 5,000,000 prints) *1

*1 1050

Note

- **When conducting this operation, be sure to bring the stacker tray down to the bottom in advance.**

B. Procedure



1. Remove the C-clip [1].
2. Slide the guide rail [2] in the arrow-marked direction to release the fixing.

Note

- **In this step, be careful not to release the fixing on the rear guide rail [3].**

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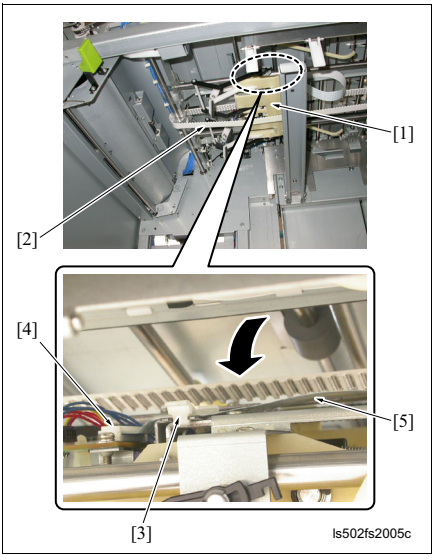
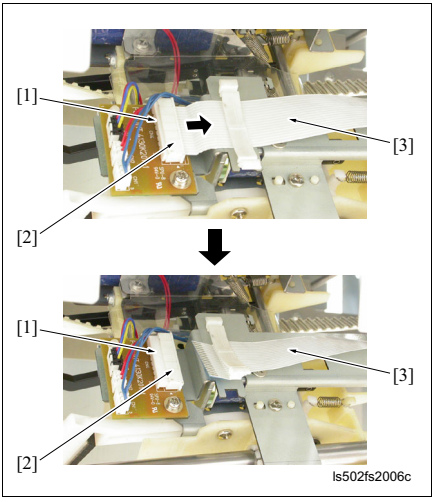


3. Slant the shift unit [1] to the front side so that you can see the upper surface of it.

Note

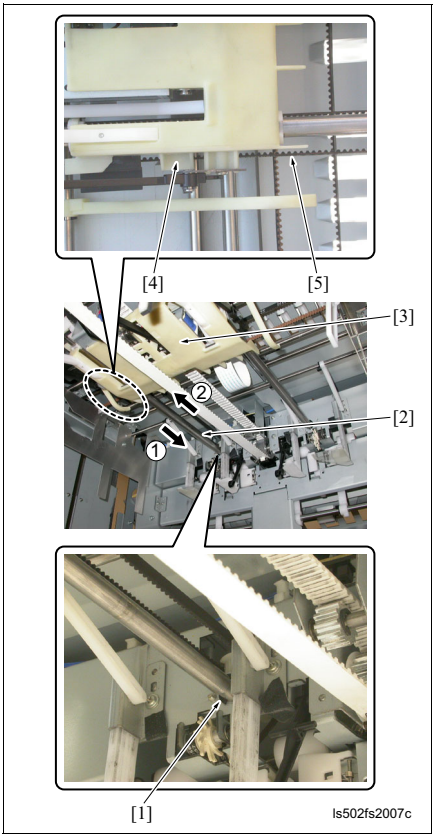
- **Be sure to slide the shift unit about 10 cm to the right in advance.**
- **Be careful that the belt [2] does not get pushed down by the bottom of the shift unit.**

4. Release the cable stopper [3] and remove the ribbon cable [5] from the connector [4].

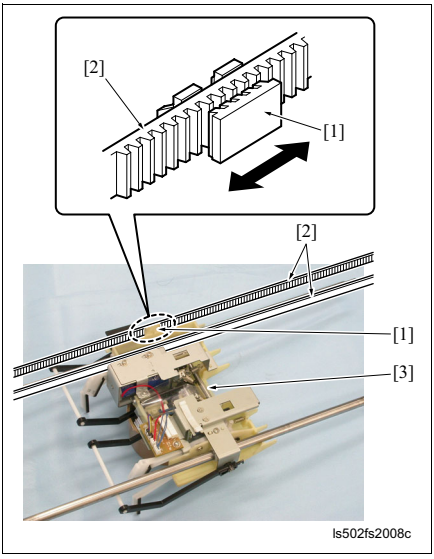


Note

- **Slide the lock [2] of the connector [1] for the ribbon cable in the arrow-marked direction and remove the ribbon cable [3].**
  When reinstalling the ribbon cable, slide the lock in the reverse direction after inserting the cable.

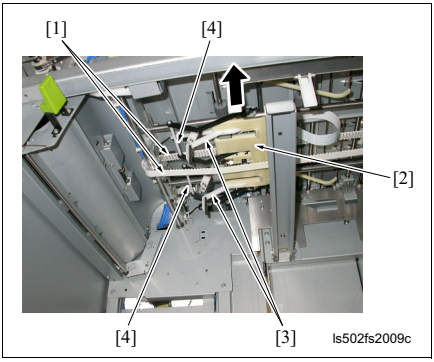


5. Remove the C-clip [1].
6. Slide the guide rail [2] in the arrow-marked direction and release the fixing.
7. Remove the belt [5] from the stopper section [4] of the shift unit [3].



Note

- **When attaching the belt [2] to the stopper section [1], slide the shift unit [3] in the arrow-marked direction and engage the stopper section with the belt.**



8. Remove the shift unit [2] through the clearance between the belts [1].

Note

- **When removing the shift unit [2], be careful that the front edge of the stoppers [3] and the paper pressure arms /3 [4] do not come into contact with the belt [1].**

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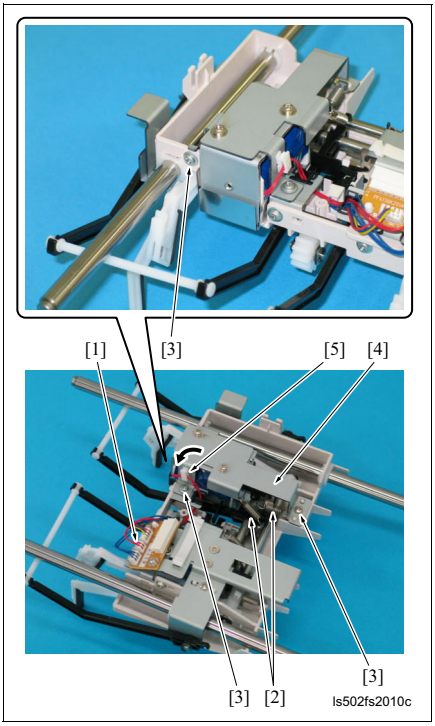
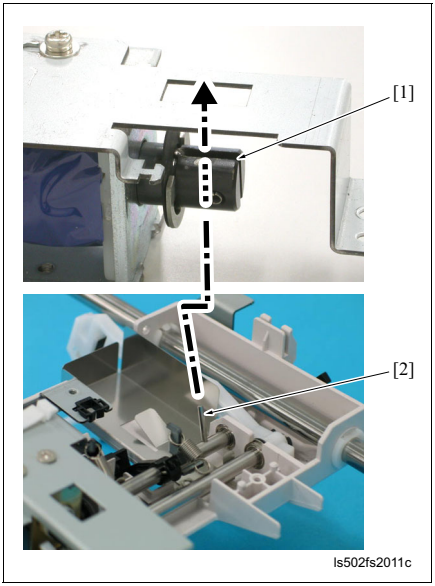
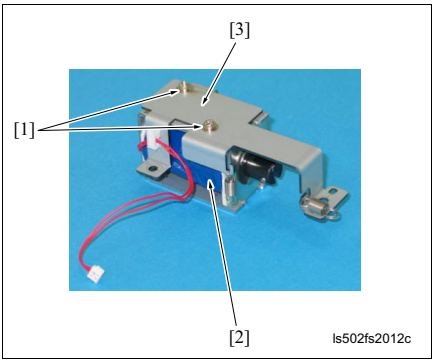


9. Disconnect the connect [1].
10. Remove 2 springs [2].
11. Rotate the wire saddle [5] in the arrow-marked direction and remove it.
12. Remove 3 screws [3] and then remove paper press solenoid /3 assy [4].



Note

- **When reinstalling the paper press solenoid /3 assy, be sure to insert the pin [2] of the shaft into the slit section [1] at the tip of the solenoid.**



13. Remove 2 screws [1] and then remove the solenoid mounting bracket [3] from the paper press solenoid /3 (SD8) [2].
14. Reinstall the above parts following the removal steps in reverse.

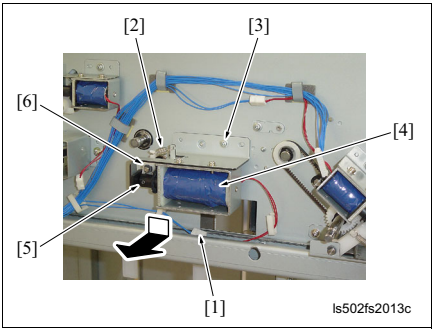
2.1.3 Replacing the paper press solenoid /1 (SD6)

A. Periodically replaced parts/cycle

- Paper press solenoid /1 (SD6): Every 15,000,000 prints (actual replacement cycle: every 5,000,000 prints) *1

*1 1050

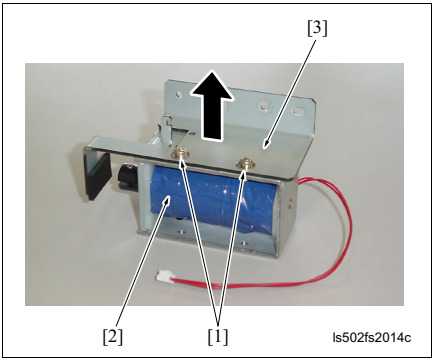
B. Procedure



1. Remove the front cover /Up, /Lw. (See P.15)
2. Disconnect the connect [1].
3. Remove the spring [2].
4. Remove the screw [3] and then remove the paper press solenoid /1 assy [4].

Note

- **When reinstalling the paper press solenoid /1 assy, be sure to insert the actuator [6] provided at the tip of the shaft into the slit section [5] at the tip of the solenoid.**



5. Remove 2 screws [1] and then remove the solenoid mounting bracket [3] from the paper press solenoid /1 (SD6) [2].
6. Reinstall the above parts following the removal steps in reverse.

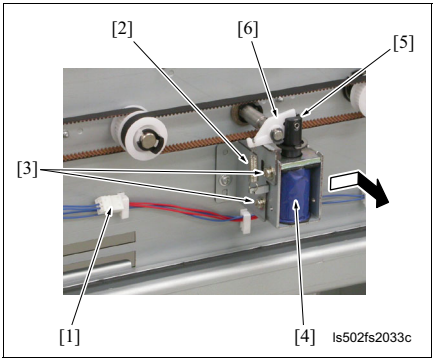
2.1.4 Replacing the paper press solenoid /2 (SD7)

A. Periodically replaced parts/cycle

- Paper press solenoid /2 : Every 15,000,000 prints (actual replacement cycle: every 5,000,000 prints) *1

*1 1050

B. Procedure



1. Remove the front cover /Up, /Lw. (See P.15)
2. Disconnect the connect [1].
3. Remove the spring [2].
4. Remove 2 screws [3] and then remove the paper press solenoid /2 (SD7) [4].

Note

- **When reinstalling the paper press solenoid /2 (SD7), be sure to insert the actuator [6] provided at the tip of the shaft into the slit section [5] at the tip of the solenoid.**

5. Reinstall the above parts following the removal steps in reverse.

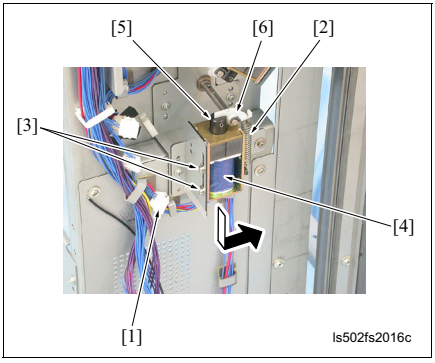
2.1.5 Replacing the rear stopper solenoid (SD3)

A. Periodically replaced parts/cycle

- Rear stopper solenoid (SD3): Every 15,000,000 prints (actual replacement cycle: every 5,000,000 prints) *1

*1 1050

B. Procedure



1. Remove the rear cover /Lw. (See P.15)
2. Disconnect the connect [1].
3. Remove the spring [2].
4. Remove 2 screws [3] and then remove the rear stopper solenoid (SD3) [4].

Note

- **When reinstalling the rear stopper solenoid (SD3), be sure to insert the actuator [6] provided at the tip of the shaft into the slit section [5] at the tip of the solenoid.**

5. Reinstall the above parts following the removal steps in reverse.

3. OTHERS

3.1 List of parts to be disassembled and assembled

No	Section	Part name	Page referred to
1	Cover	Front cover /Up	P.16
2		Front cover /Lw	P.16
3		Rear cover /Up	P.15
4		Rear cover /Lw	P.15
5		Upper cover	P.17
6	Wire	Stacker tray up/down wire	P.18

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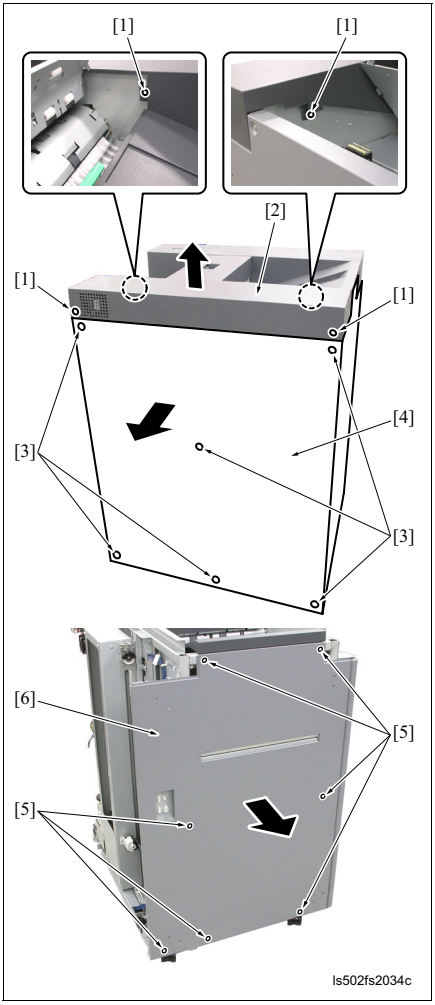
3.2 Removal procedure of parts to be disassembled and assembled

⚠Caution:

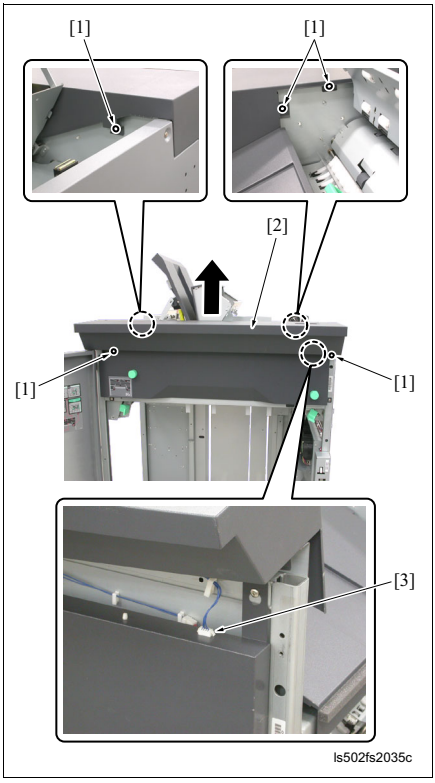
- **Be sure to unplug the power cord from the power outlet.**

3.2.1 Removing/reinstalling the cover

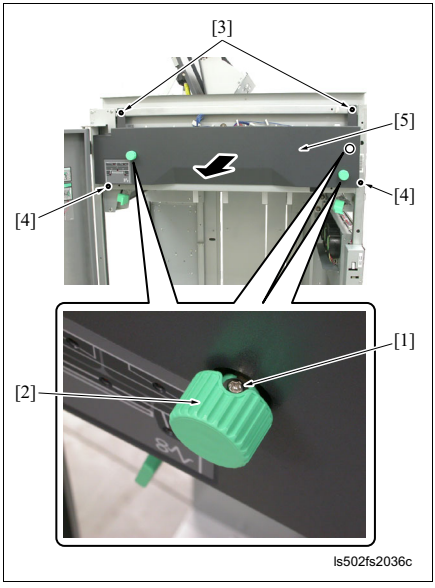
A. Procedure



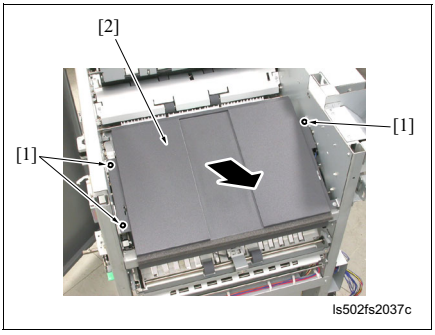
1. Remove 4 screws [1] and then remove the rear cover /Up [2].
2. Remove 6 screws [3] and then remove the rear cover /Lw [4].
3. Remove 7 screws [5] and then remove the left cover [6].



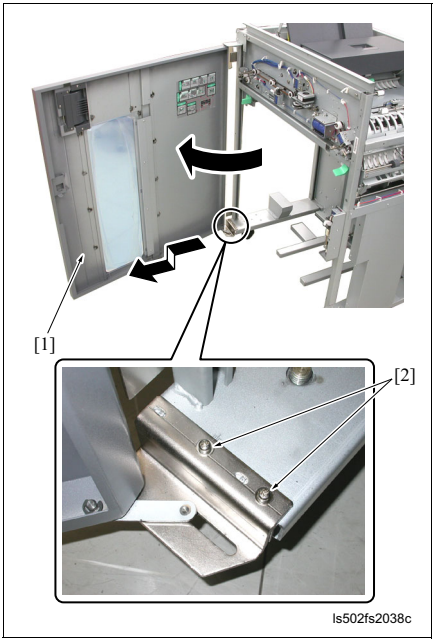
4. Remove 5 screws [1] and slide the front cover /Up [2] to the upper side.
5. Disconnect the connector [3] and remove the front cover /Up [2].



6. Remove the screws [1], one each, and then remove 3 knobs [2].
7. Loosen 2 screws [3].
8. Remove 2 screws [4] and then remove the front cover /Lw [5].



9. Remove 3 screws [1] and then remove the upper cover [2].



10. Open the front door [1].

11. Remove 2 screws [2] and then remove the front door [1].

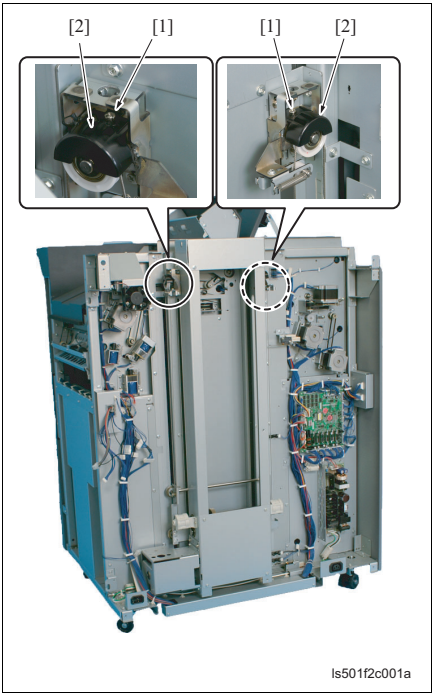
12. Reinstall the above parts following the removal steps in reverse.

3.2.2 Replacing the stacker tray up/down wire

Note

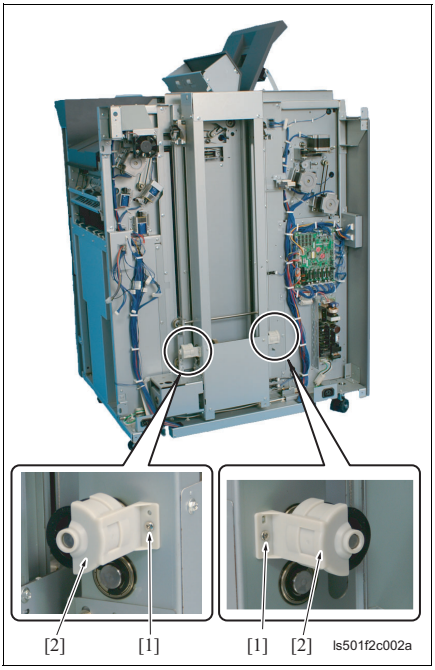
- **When conducting this operation, be sure to set the stacker tray at the home position (the upper most position) in advance.**

A. Procedure

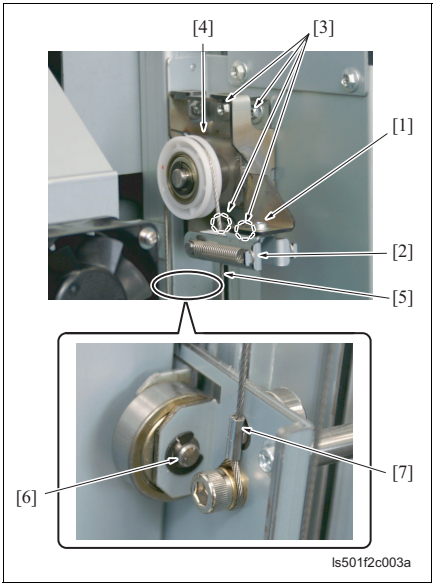


1. Remove the rear cover /Up, /Lw. (See P.15)
2. Remove the stacker tray up down motor (M1). (See P.5)
3. Remove the screws [1], one each, and then remove the pulley covers [2], one each.

2



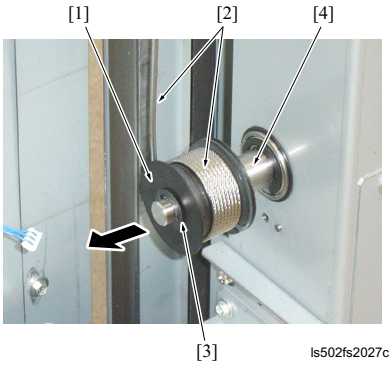
4. Remove the screws [1], one each, and then remove the pulley covers [2], one each.



5. Remove the screw [1] and remove the wire retaining bracket [2].
6. Remove 4 screws [3] and the pulley assy [4].
7. Remove the hexagon socket screw [6] and then remove the tip [7] of the wire /1 [5].

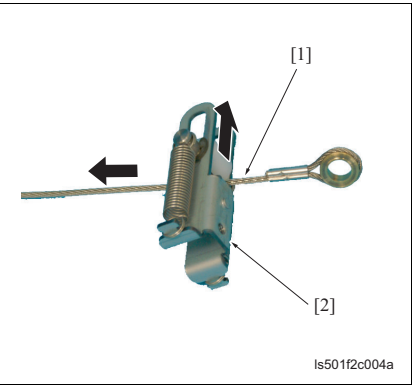
Note

- **On the paper exit side, loosen the 4 screws [3], bring down the pulley assy [4] and release the tension of the wire /2 [5] before starting the operation.**
- **When reinstalling it, the positions of the pulley assy on the paper feed side and the paper exit side become important. Be sure to check the marked position in advance of the pulley assy on the paper exit side.**



8. Release the winding of the wire /1 [2] from the pulley [1].

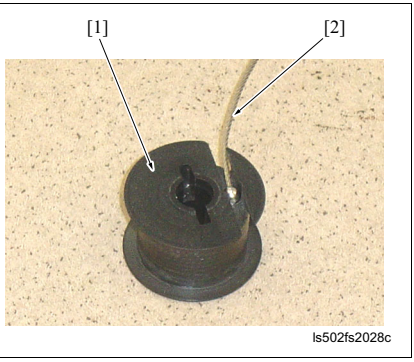
9. Remove the E-ring [3] and then remove the pulley [1] from the shaft [4].



10. Remove the wire retaining bracket [2] from the wire /1 [1].

Note

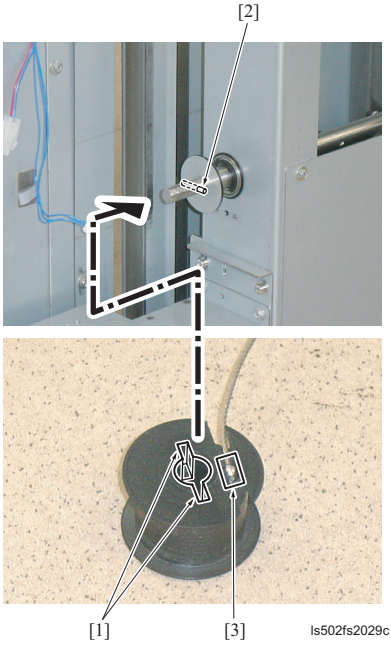
- **When installing the wire retaining bracket [2], install it to the wire /1 [1] so that the bracket comes to the rear side.**



11. Remove the wire /1 [2] from the pulley [1].

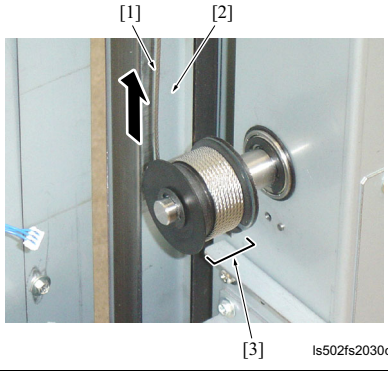
12. Reinstall a new wire /1 following the steps 5 to 11 above in reverse.

2

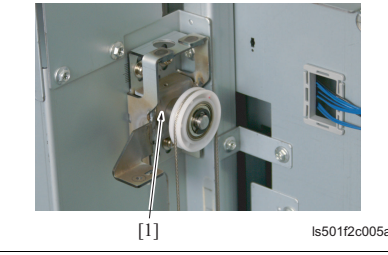


Note

- **When the 2 wires at both sides are removed at the same time, the stacker tray will come down. So, be sure to replace the wires one at a time (so that the remaining wire holds the stacker tray in place.)**
- **When attaching the pulley to the shaft, be sure to align the groove [1] of the pulley with the pin [2] that has been inserted into the shaft.**
- **Be sure to set it with the bead set portion [3] up.**



- **When winding the wire around the pulley, be sure to wind it 8 turns [3] so that the direction of drawing-out [1] comes to the rear panel side [2].**
- **The direction of drawing-out of the wire /1 is symmetrical to that of the wire /2.**

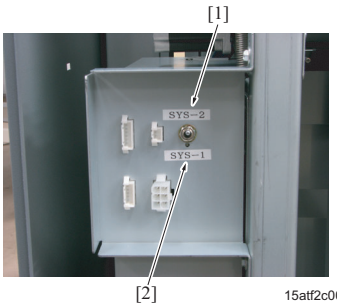


- **When fixing the pulley assy [1] on the paper exit side, be sure to fix it at the same position as it was removed from.**

⚠2 *13.* Replace the wire /2 with a new one following the steps 5 to 12 above.

14. Reinstall other parts following the steps 1 to 5 in reverse.

⚠2 3.2.3 Caution when setting models using toggle SW



Be sure to set the toggle SW on the left side of the LS to SYS2 [2] when using C6500.

SYS1 [1]: when using 1050
SYS2 [2]: when using C6500
*Factory setting: SYS2 (C6500)

Note

- **When using 1050, set the toggle SW to SYS1 and execute the ISW.**

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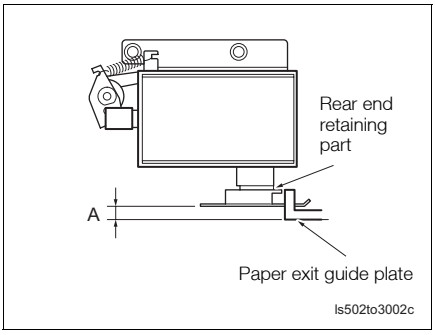
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

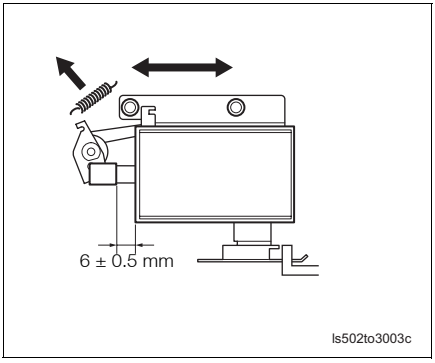
4.1 Adjusting the paper press solenoid /1 (SD6)

- Before starting this operation, be sure to bring the stacker tray down to the bottom in advance.

A. Procedure



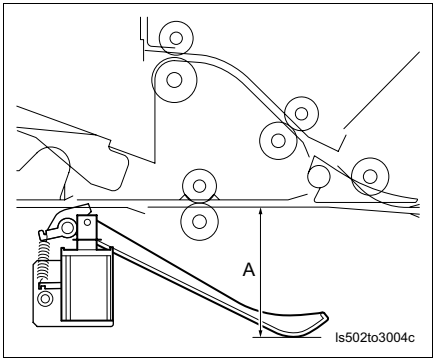
1. With the paper press solenoid /1 (SD6) turned on by hand, check to see if the A section in the drawing left is 1.5 to 3 mm.



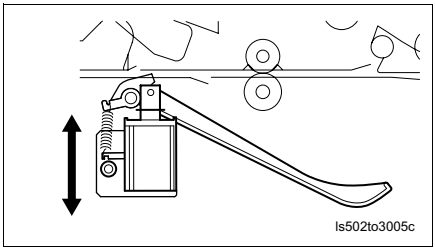
2. When not in the range of adjustment, remove the spring, loosen the fixing screw of the paper press solenoid /1 (SD6), and make adjustment by sliding it from side to side so that the range of the SD stroke becomes 6 ± 0.5mm.

4.2 Adjusting the paper press solenoid /2 (SD7)

A. Procedure



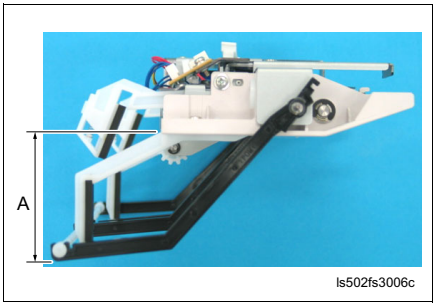
1. With the paper press solenoid /2 (SD7) turned off by hand, check to see if the A section in the drawing left is 66 ± 2 mm.



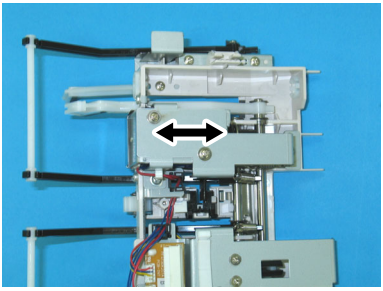
2. When not in the range of adjustment, loosen the fixing screw of the paper press solenoid /2 (SD7) and make adjustments by sliding it up and down.

4.3 Adjusting the paper press solenoid /3 (SD8)

A. Procedure



1. With the paper press solenoid /3 (SD8) turned on by hand, check to see if the A section in the drawing left is 50.1 ± 1 mm.

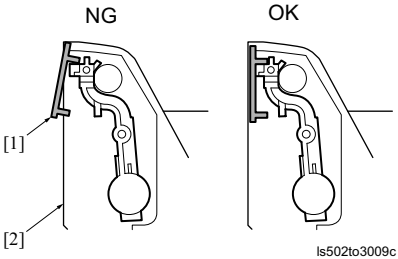


ls502fs3007c

2. When not in the range of adjustment, loosen the fixing screw of the paper press solenoid /3 (SD8) and make adjustments by sliding it from side to side.

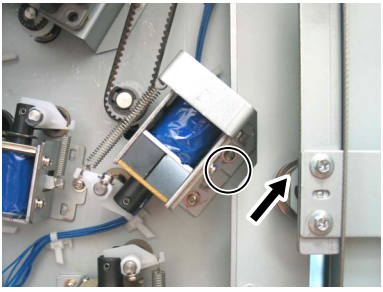
4.4 Adjusting the job partition solenoid (SD2)

A. Procedure



ls502to3009c

1. With the job partition solenoid (SD2) turned on by hand, check to see if the job partition blade [1] in the drawing left does not protrude from the metal frame [2].



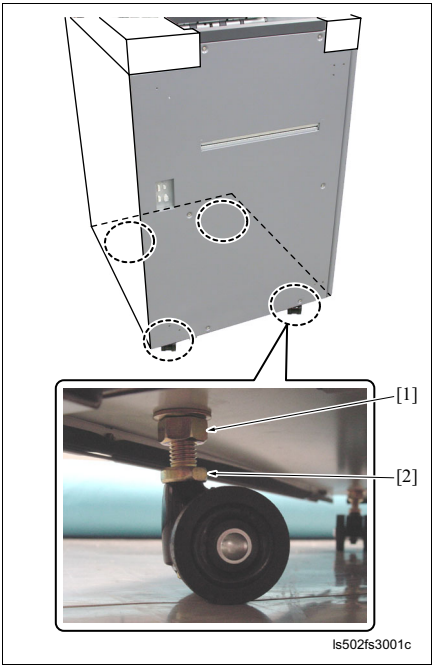
ls502fs3008c

2. When not in the range of adjustment, loosen the fixing screw of the job partition solenoid (SD2) and make adjustments by sliding it from side to side.

4.5 Horizontal adjustment

Adjustments are made when there is any discrepancy in height and slant found between the main body and other optional devices.

A. Procedure



1. Loosen the nuts [1] at the 4 places.
2. Rotate the screws [2] at the 4 places and make horizontal adjustments of the device.

Note

- **Be sure to make adjustments while taking into consideration the height between the main body and other optional devices.**

3. Rotate the screws [2] by hand provided at the 4 places to check to see if there is any caster that is raised.

Note

- **When any caster is found raised, rotate the screw [2] with a wrench to extend the length of the caster until it feels secure.**

4. Fasten the screw [2] with a wrench and tighten up the nut [1].

Note

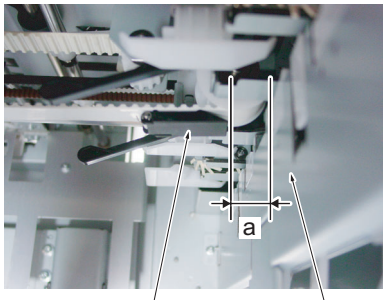
- **Be careful that when the nut [1] is tightened up with the screw [2] not fastened, the screw [2] also rotates together with the nut [1], thus resulting in an incorrect positioning.**

4.6 Grip conveyance sensor adjustment

Note

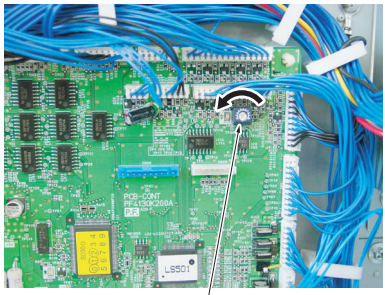
- **After replacing the LS control board (LSCB), be sure to conduct the following adjustments when a shift unit abnormality appears.**

A. Procedure



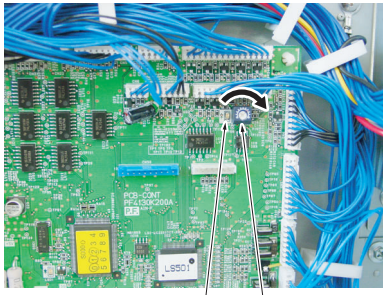
ls502fs3010c

1. Turn ON the power of the main body.
2. Move the grip belt by hand and stop it at the position in which the leading edge of the grip [1] is about 4 mm from the stack exit guide plate [2].
   a: approx. 4 mm



ls502fs3011c

3. Rotate VR1 [1] on the LS control board (LSCB) fully to the left.



ls502fs3012c

4. Rotate VR1 [1] to the right and stop it at the position in which LED2 [2] turns on from flashing.

Note

- **When LED2 is rotated too much from the turn-on position to the flashing position, repeat the procedure starting at Step 2.**

⚠2 5. After completion of adjustment, turn off and on the power of the main body and check if the grip stops at the position as described below:
Interval between the edge of the grip and the stack exit guide plate: 8 ± 2 mm

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KONICA MINOLTA

SERVICE MANUAL

Field Service

FS-503

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 3.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show △1 to the left of the revised section.
  A number within △1 represents the number of times the revision has been made.

- To indicate clearly a section revised, show ▲1 in the lower outside section of the corresponding page.
  A number within ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2006/09	3.0	△2	Revision in relation to launching of C6500
2005/04	2.0	△1	Correction of an error in writing
2004/10	1.0	—	Issue of the first edition

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

A. Type

Type	Staple-cut type multi staple device

B. Functions

(1) Functions

Straight mode	Exited into the main tray with no processing made.
Shift mode	Exited into the main tray after being shifted.
Sub tray mode	Exited into the sub tray with no processing made.
Staple mode	Exited into the main tray after being flat-stapled.
Subset staple mode	Bundles of flat-stapled sheets of paper and single sheets of paper being exited at random into the main tray.

(2) Staple

⚠2 Maximum number of sheets to be flat-stapled (Plain paper)	100 sheets of 50 to 81 g/m^2 paper (50 sheets for paper the length of which is 400 mm or longer) 60 sheets of 82 to 91 g/m^2 paper (50 sheets for paper the length of which is 400 mm or longer) 50 sheets of 92 to 130 g/m^2 paper 40 sheets of 131 to 161 g/m^2 paper 25 sheets of 162 to 244 g/m^2 paper
Stapling position	1 staple at the rear (45°), 1 staple at the front, and 2 staples at the center

(3) Maximum number of sheets loadable

<table>
<tr><td>⚠2 Main tray
(Weighing 50 to 244 g/m2)</td><td>Straight/Shift</td><td colspan="2">3,000 sheets: A4, A4S, B5, B5S
8 1/2 x 11, 8 1/2 x 11S
16K*3, 16KS*3
1,500 sheets: SRA3*2, A3, B4, SRA4*2, SRA4S*2
13 x 19*2 (straight only), 12 x 18, 11 x 17, 8 1/2 x 14,
8 1/2 x 13, 8 1/4 x 13, 8 1/8 x 13 1/4, 8 x 13
8K*3
wide paper*1: A3, B4, A4, A4S, B5, B5S, A5,
12 x 18, 11 x 17, 8 1/2 x 11, 8 1/2 x 11S,
5 1/2 x 8 1/2,
size entry : (Max. 324 x 460 mm)
500 sheets : A5, A5S*2, B6S*2 (straight only),
5 1/2 x 8 1/2*1, 5 1/2 x 8 1/2S*2
Tab paper*4 : A3, B4, A4, A4S, B5, B5S
11 x 17, 8 1/2 x 11, 8 1/2 x 11S
custom size (Max. 324 x 460 mm, Min. 182 x 140 mm)
Custom paper : 1050 (Max. 324 x 460 mm, Min. 182 x 140 mm)
C6500 (Max. 324 x 460 mm, Min. 148 x 148 mm)

*1 1050 only *2 C6500 only
*3 C6500: supported in all the destinations.
1050: only supported in Taiwan and China.
*4 C6500: only A4 and 8 1/2 x11. Operation of paper exit with tab area at the trail edge side is not assured.</td></tr>
<tr><td></td><td>Staple mode</td><td>Staple sheet</td><td>Set</td></tr>
<tr><td></td><td></td><td>2 to 9</td><td>150 (paper length 182 to 364mm)
75 (other than paper length 182 to 364mm)</td></tr>
<tr><td></td><td></td><td>10 to 20</td><td>50</td></tr>
<tr><td></td><td></td><td>21 to 30</td><td>30</td></tr>
<tr><td></td><td></td><td>31 to 40</td><td>25</td></tr>
<tr><td></td><td></td><td>41 to 50</td><td>20</td></tr>
<tr><td></td><td></td><td>51 to 60</td><td>15</td></tr>
<tr><td></td><td></td><td>61 to 100</td><td>10</td></tr>
</table>

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2	Sub tray (Weighing 50 to 300 g/m^2)	SRA3*2, A3, B4, SRA4*2, SRA4S*2 A4, A4S, B5, B5S, A5, A5S*2, B6S*2, A6S*2 13 x 19*2, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½*1, 5½ x 8½S*2 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K*3, 16K*3, 16KS*3 Tab paper*4 : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8½ x 11, 8½ x 11S, custom size (Max. 324 x 460 mm, Min. 182 x 140 mm) Custom paper : 1050 (Max. 324 x 460 mm, Min. 182 x 140 mm), C6500 (Max. 330 x 487 mm, Min. 100 x 148 mm) Wide paper*1 : A3, B4, A4, A4S, B5, B5S, A5, 12 x 18, 11 x 17, 8½ x 11, 8½ x 11S, 5½ x 8½, size entry : (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 C6500: only A4 and 8½ x11. Operation of paper exit with tab area at the trail edge side is not assured.

C. Type of paper

(1) Staple

2	Paper size	SRA3*2, A3, B4, SRA4*2, SRA4S*2, A4, A4S, B5, A5 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½*1 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K*3, 16K*3 Tab paper*4 : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8½ x 11, 8½ x 11S, custom size (Max. 324 x 460 mm, Min. 182 x 140 mm) Custom paper : 1050 (Max. 324 x 460 mm, Min. 182 x 140 mm), C6500 (Max. 324 x 460 mm, Min. 210 x 148 mm) Wide paper*1 : A3, B4, A4, A4S, B5, B5S, A5, 12 x 18, 11 x 17, 8½ x 11, 8½ x 11S, 5½ x 8½, size entry : (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 C6500: only A4 and 8½ x11. Operation of paper exit with tab area at the trail edge side is not assured.	
	Applicable paper	Plain paper, high-quality paper, book paper	
	Paper weight	Main tray	50 g/m^2 to 244 g/m^2

D. Maintenance

Maintenance	Same as the main body
Machine service life	Same as the main body

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E. Machine data

Power source	24/5V DC (supplied from the main body)
Maximum power consumption	110VA
Dimensions	When the main tray is pulled out: 915 (W) x 656 (D) x 1020 (H) mm When the main tray is set in: 798 (W) x 656 (D) x 1020 (H) mm When the main tray is removed: 544 (W) x 656 (D) x 1020 (H) mm
Weight	Approx. 80 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80% RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC CHECK

⚠2 2.1 Maintenance procedure

⚠Caution:
- **Be sure to unplug the power cord from the power outlet.**

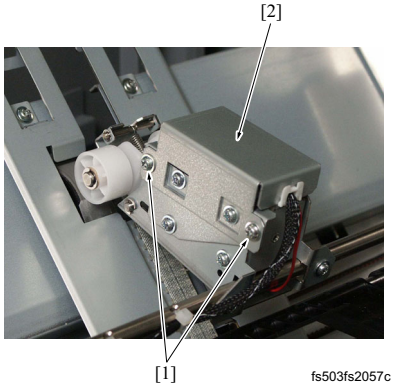
2.1.1 Replacing the intermediate roller release solenoid

A. Periodically replaced parts/cycle

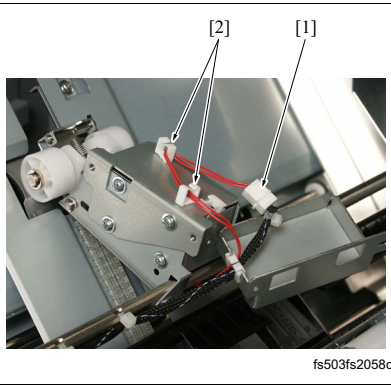
- Intermediate roller release solenoid : Every 5,250,000 prints *1

*1 1050

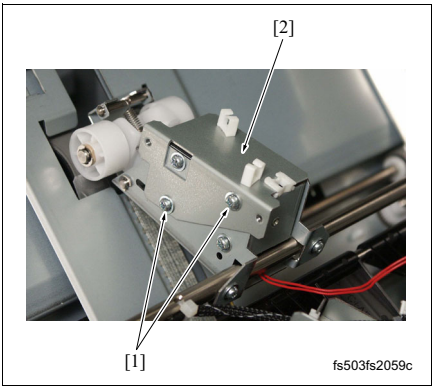
B. Procedure



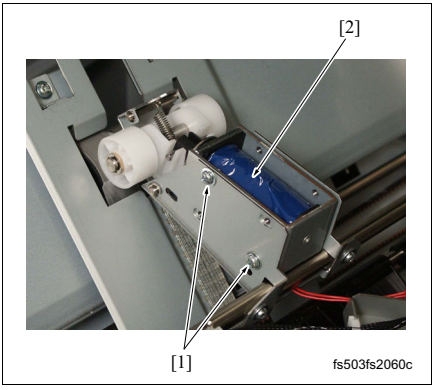
1. Open the front door and pull out the stacker unit.
2. Remove 2 screws [1] of the intermediate roller release solenoid and then remove the cover 1 [2].



3. Disconnect the connector [1] and remove the wiring harness from the wire binding band [2].



4. Remove 2 screws [1] and then remove the cover 2 [2].



5. Remove 2 screws [1] and then remove the intermediate roller solenoid [2].
6. Reinstall the above parts following the removal steps in reverse.

Note

- **Be sure to stop the intermediate roller solenoid at the center of the oblong hole.**
  (See P.39)

⚠ 2.1.2 Replacing the stapler unit /Fr, /Rr

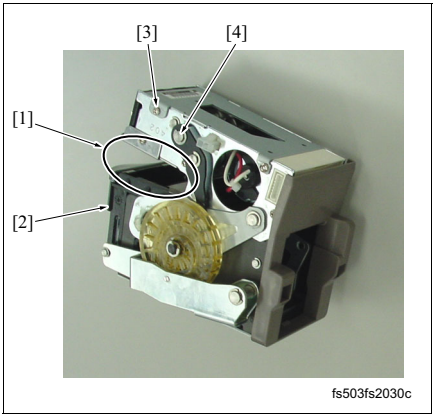
A. Periodically replaced parts/cycle

- Stapler unit /Fr: Every 3,000,000 prints (actual replacement cycle: every 500,000 staples)
- Stapler unit /Rr: Every 3,000,000 prints (actual replacement cycle: every 500,000 staples)

B. Pre-arrangement for replacing the stapler unit

⚠Caution:

- **After moving the stapler, be sure to unplug the power cord from the power outlet.**



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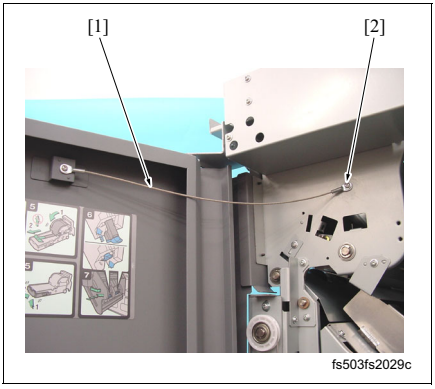
Note

- **Be careful not to get your hand caught in the opening [1] of the stapler unit.**
- **Pressing the staple side [2] and/or the clinch side [3] may cause the opening [1] to close unexpectedly. It is very difficult to open the opening by hand once it has closed. So, take care that the opening does not close.**
- **When holding the stapler unit, be sure to hold it at both ends of the cam shaft [4].**



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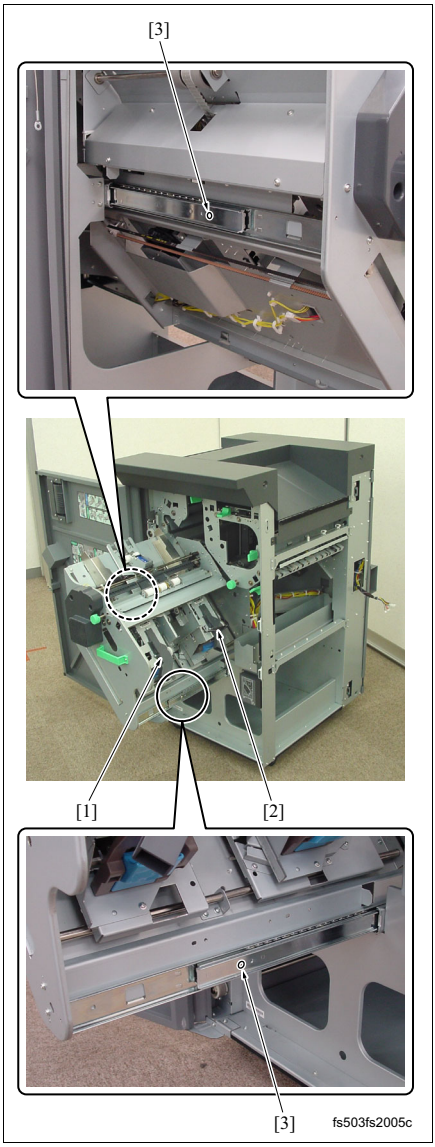
1. Select 2 sheets A4 originals with 1-staple at the upper right corner, make a print and then move the stapler to the stapling position.
2. Turn OFF the power switch (SW2) and the main power switch (SW1) of the main body and unplug the power cord from the power outlet.
3. Open the front door and pull out the stacker unit.
4. Remove the screw [2] of the wire [1].



5. Remove the stapler cartridges /Fr [1] and /Rr [2].
6. Remove the screws [3], one each, of the stoppers provided in front and rear and pull further out the stacker unit.
7. Reinstall the above parts following the removal steps in reverse.

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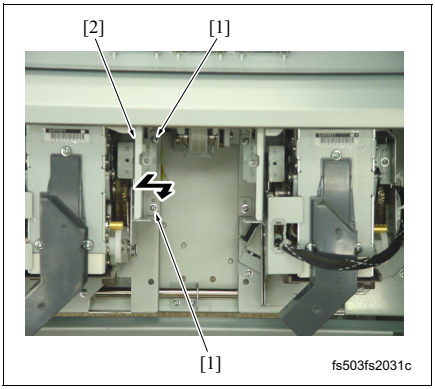
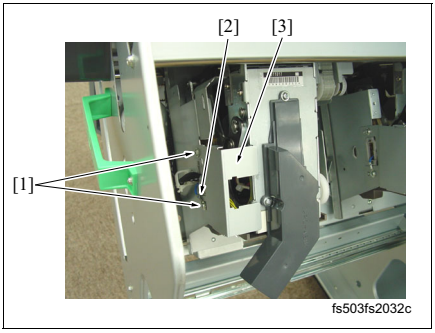
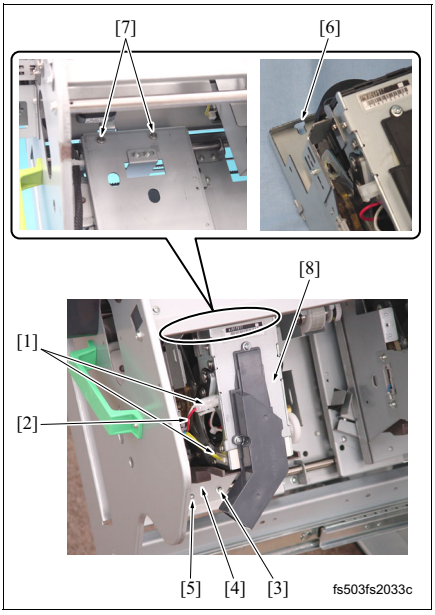
C. Removing/reinstalling the stapler unit /Fr



1. Conduct "B. Pre-arrangement for replacing the stapler unit."
2. Remove 2 screws [1] and then remove the stacker entrance roller mounting plate /Fr [2].



3. Remove 2 screws [1] and then remove the ground [2] and the metal fitting [3].



4. Disconnect 2 connectors [1] and remove the wire binding band [2].
5. Remove the screw [3] and raise the lower section of the stapler unit mounting plate [4] a little to remove it from the notch [5]. And slide the upper notch [6] to the lower side to release it from the pin [7] and then remove the stapler unit /Fr [8] together with the mounting plate [4].
6. Reinstall the above parts following the removal steps in reverse.

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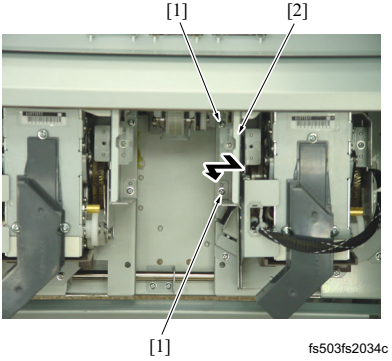
D. Removing/reinstalling the stapler unit /Rr

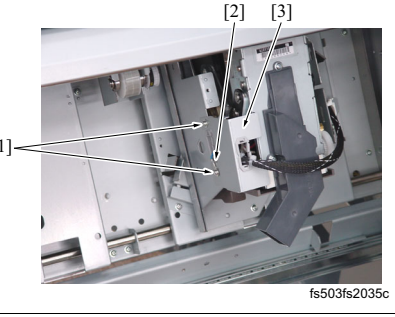


1. Conduct "B. Pre-arrangement for replacing the stapler unit."

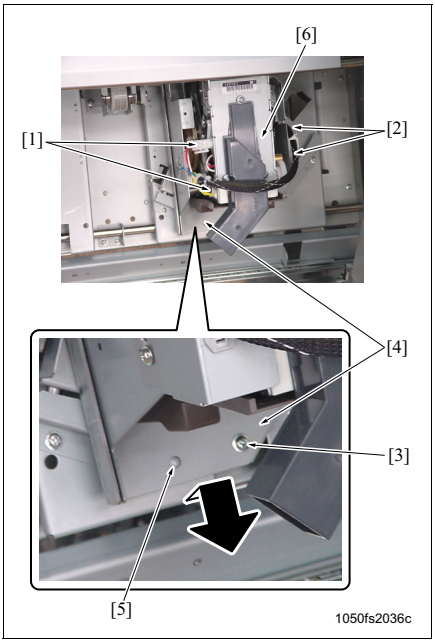
Note

- **The steps given below are the removal steps using a short driver. When using a driver of a regular length, removal of the stapler unit /Rr is available only when the stapler unit /Fr has been already removed. When using a regular length driver, be sure to remove the stapler unit /Fr in advance by following the steps given in "C. Removing/reinstalling the stapler unit /Fr."**

⚠1 *2.* Remove 2 screws [1] and then remove the stacker entrance roller mounting plate /Rr [2].

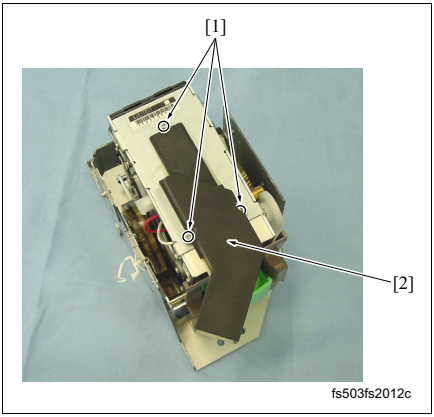


3. Remove 2 screws [1] and then remove the ground [2] and the metal fitting [3].

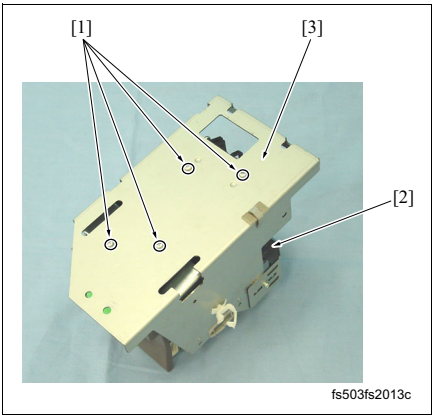


4. Disconnect 2 connector [1] and remove the 2 wire binding bands [2].
5. In the same procedure as the step 5 of the stapler /Fr, remove the screw [3] and raise the lower portion of the stapler mounting plate [4] a little to remove it from the notch [5]. And then, slide it to the lower side and remove the stapler /Rr [6] together with the mounting plate [4].
6. Reinstall the above parts following the removal steps in reverse.

E. Replacing the stapler unit



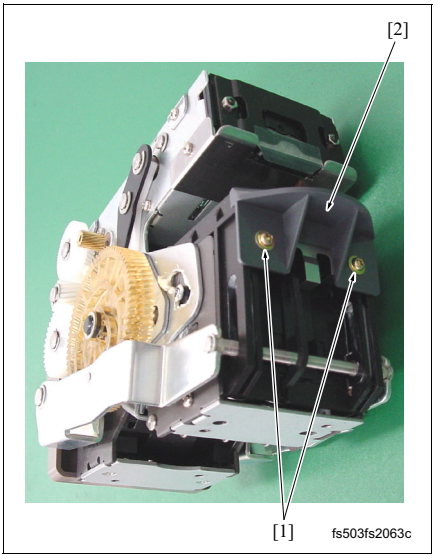
1. Conduct the following operations:
   - B. Pre-arrangement for replacing the stapler unit
   - C. Removing/reinstalling the stapler unit /Fr
   - D. Removing/reinstalling the stapler unit /Rr
2. Remove 3 screws [1] together with the stapler units /Fr and Rr, and then remove the cut staple duct [2].



3. Remove 4 screws [1] together with the stapler units /Fr and Rr, and then remove the bracket [3] from the stapler [2].

Note

- **Take note that the brackets for the stapler units /Fr and /Rr are different in the position where the wire binding band is attached.**



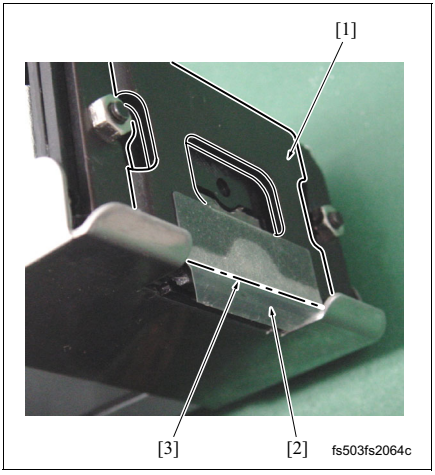
4. Remove 2 screws [1] and then remove the stapler guide block [2].

5. Reinstall the above parts following the removal steps in reverse.

F. Checking of the stapler guide seal

Note

- **The pasting of the stapler guide seal is limited only to the stapler unit /Rr.**



1. Conduct the following operations:
   - B. Pre-arrangement for replacing the stapler unit
   - D. Removing/reinstalling the stapler unit /Rr
   - E. Replacing the stapler unit
2. The stapler guide seal [2] must be pasted on the clincher side [1] of the new stapler unit /Rr.

Note

- **Be sure to align the end line [3] on the clincher side [1] with the bend line of the stapler guide seal [2] and paste it with no slippage (tolerance: 0.5 mm).**
- **Be sure to check the guide seal to ensure it is not damaged or soiled.**

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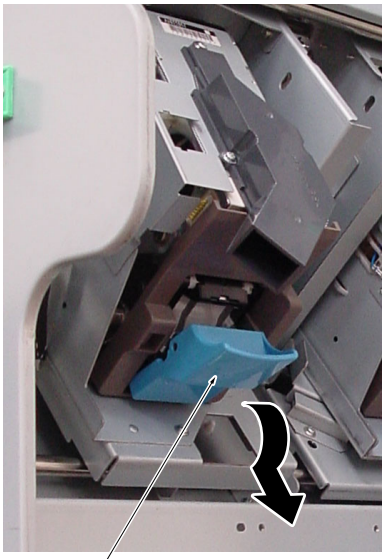
2.1.3 Replacing the staples

A. Periodically replaced parts/cycle

- Staple cartridge: Every 5,000 staples

B. Procedure



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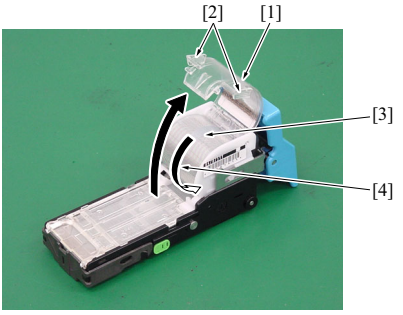
1. Open the front door and pull out the stacker unit.
2. Pull the stapler cartridge knob [1] in the arrow-marked direction to remove it.



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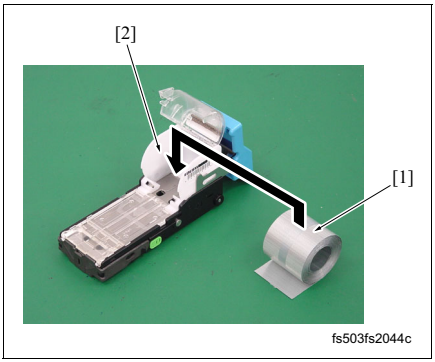
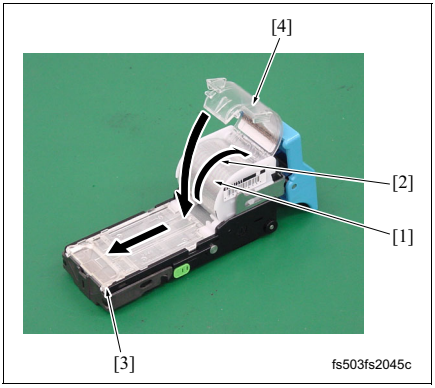
3. Hold the knob [2] of the cover [1] and open it.
4. Rotate and wind up carefully the remaining refill staples [3] in the arrow-marked direction [4] and take it out.

Note

- **The refill staples are apt to break away. Be careful when handling them.**



5. With the refill staples [1] set as shown in the drawing, place them gently in the pocket [2] of the stapler cartridge.



6. Feed the refill staples [1] by hand to the arrow-marked direction [2] and get the tip of the refill staples near to the stapling position [3].

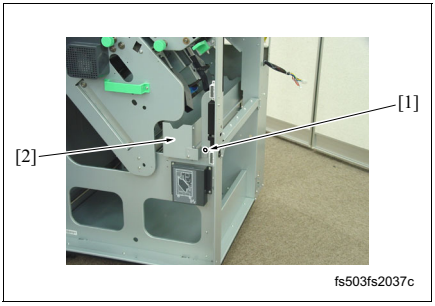
Note

- **New refill staples are attached with a lead sheet. The tip of the refill staples can be pulled up to the stapling position by this lead sheet.**

7. Close the cover [4].
8. Reinstall the above parts following the removal steps in reverse.

2.1.4 Cleaning the cut staple box

A. Procedure



1. Open the front door.
2. Remove the screw [1] and pull out the cut staple box [2].
3. Reinstall the above parts following the removal steps in reverse.

2.1.5 Replacing the paper exit roller

A. Periodically replaced parts/cycle

- Paper exit roller /A (sponge roller) : Every 750,000 prints *1
  : Every 600,000 prints *2

*1 1050

*2 C6500

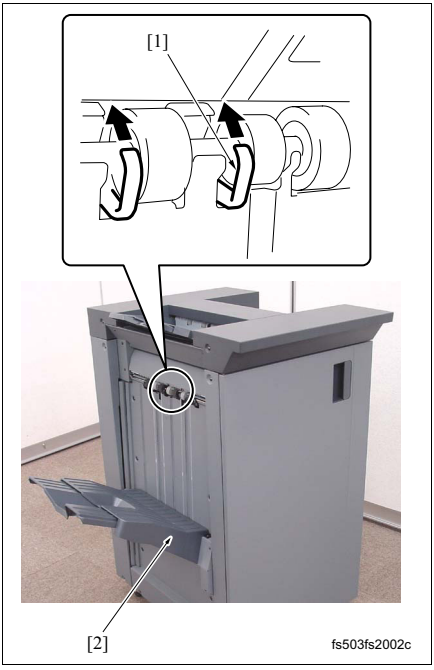
⚠Caution:

- **After having lowered the main tray, be sure to unplug the power cord from the power outlet.**

Note

- **When replacing the paper exit rollers /A (sponge roller), be sure to replace all 4 pairs of rollers (8 rollers in all).**

B. Procedure



1. Push up with your fingers the actuator [1] of the tray upper limit sensor (PS2) to lower the main tray [2].
2. Turn OFF the power switch (SW2) and the main power switch (SW1) of the main body and unplug the power cord from the power outlet.

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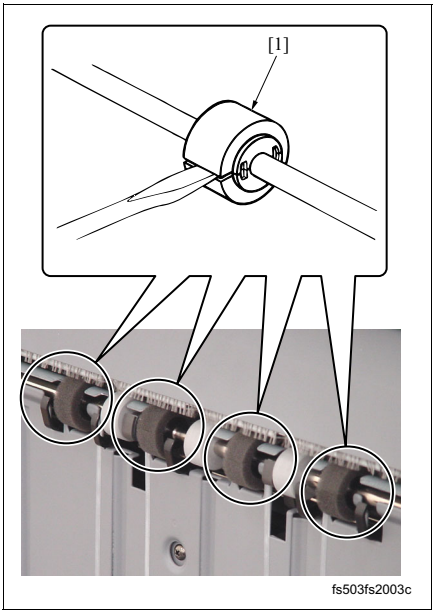
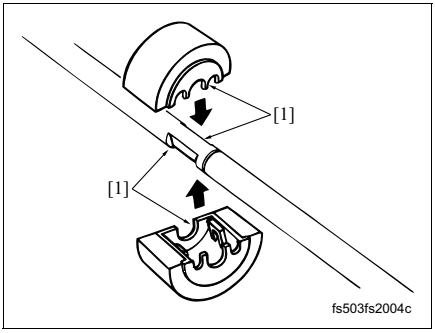


3. Insert a driver into the groove of the sponge roller [1] and remove the sponge roller [1] by prizing it open.



4. With each of the depressions [1] of a new sponge roller and the shaft brought together, press the sponge roller until it clicks to fit it in securely.

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3. OTHERS

3.1 List of parts to be disassembled and assembled

No.	Section	Part name	Page referred to
1	Cover	Front cover	P.19
2		Sub tray	P.20
3		Upper cover /1	P.20
4		Upper cover /2	P.21
5		Left cover /Fr	P.21
6		Rear cover	P.22
7	Stacker section	Stacker unit	P.23
8	Main tray section	Main tray	P.27
9		Lift wire	P.29
10		Tray up down motor	P.34
11	Stapler section	Handling of the clogged stapler 1	P.35
12		Handling of the clogged stapler 2	P.35

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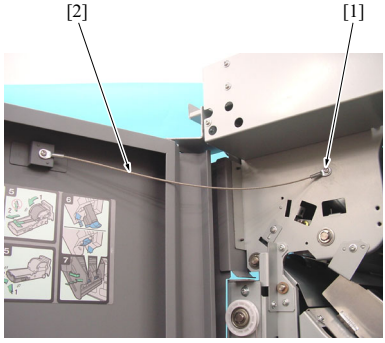
3.2 Removal procedure of parts to be disassembled and assembled

⚠Caution:
- **Be sure to unplug the power cord from the power outlet.**

3.2.1 Removing/reinstalling the front door

A. Procedure



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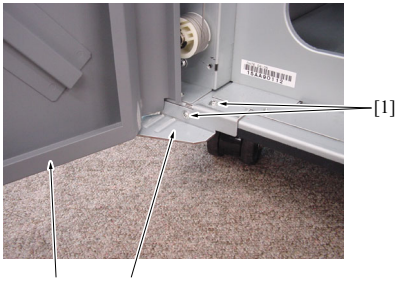
1. Open the front door, remove the screw [1] and then remove the wire [2] from the door.



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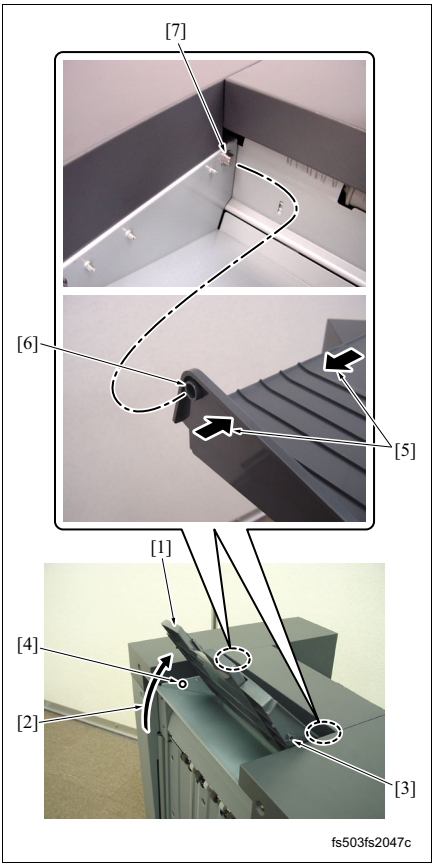
2. Remove 2 screws [1] and then remove the door support mounting plate [2] and the front door [3].

Note
- **The front door is heavy. Support it securely when removing it.**

3. Reinstall the above parts following the removal steps in reverse.

3.2.2 Removing/reinstalling the sub tray

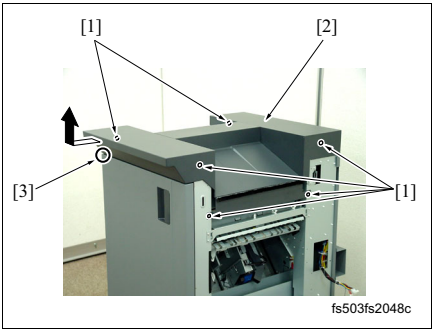
A. Procedure



1. Rotate the sub tray [1] in the arrow-marked direction [2] and remove the ball catch [3] from the ball [4].
2. Press the front and rear sections of the sub tray [1] in the arrow-marked direction [5] to make it curve a little, and detach the attaching hole [6] from the pin [7] to remove the sub tray [1].
3. Reinstall the above parts following the removal steps in reverse.

3.2.3 Removing/reinstalling the upper cover /1

A. Procedure



1. Remove the sub tray.
2. Remove 6 screws [1] and then remove the upper cover /1 [2].

Note

- **When the front door support section [3] is difficult to remove, slide the upper cover [2] a little to the front side and remove it while lifting it up.**

3. Reinstall the above parts following the removal steps in reverse.

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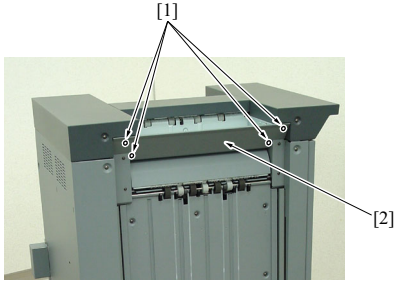
3.2.4 Removing/reinstalling the upper cover /2

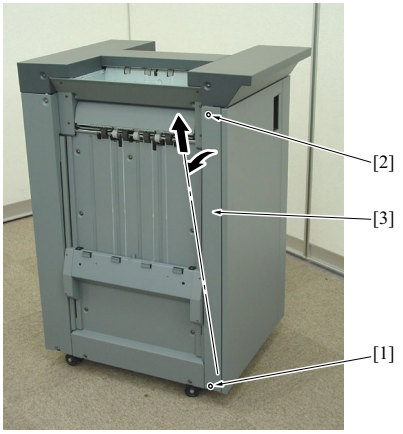
A. Procedure



1. Remove 4 screws [1] and then remove the upper cover /2 [2].
2. Reinstall the above parts following the removal steps in reverse.

3.2.5 Removing/reinstalling the left cover /Fr

A. Procedure



1. Loosen the screw [1].
2. Remove the screw [2], slant the upper section of the left cover /Fr [3] and remove it while lifting it up.
3. Reinstall the above parts following the removal steps in reverse.

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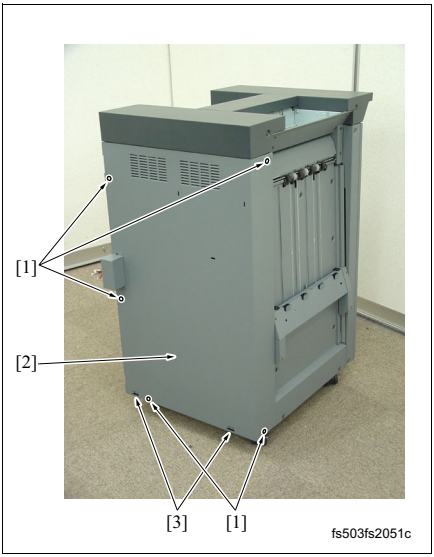
3.2.6 Removing/reinstalling the rear cover

A. Procedure



1. Remove 5 screws [1] and the remove the rear cover [2].

Note

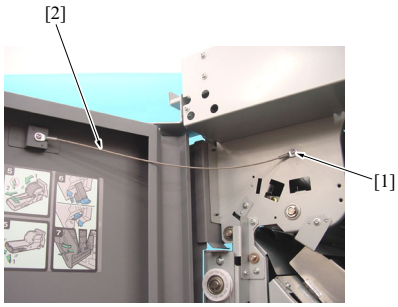
- **When reinstalling it, be sure to hook the rear cover to the 2 catches [3] provided at the lower section.**

2. Reinstall the above parts following the removal steps in reverse.

3.2.7 Removing/reinstalling the stacker unit

⚠Caution:
- **Be sure to conduct this operation with 2 people.**

A. Procedure



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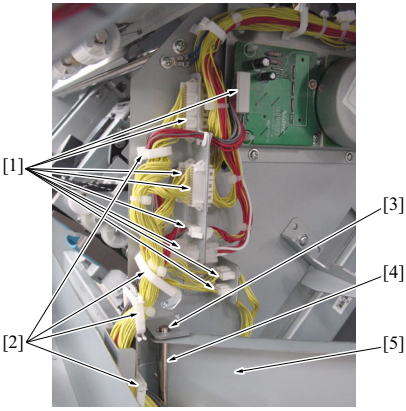
1. Remove the rear cover. (See P.22)
2. Open the front door, remove the screw [1] and then remove the wire [2] of the door.



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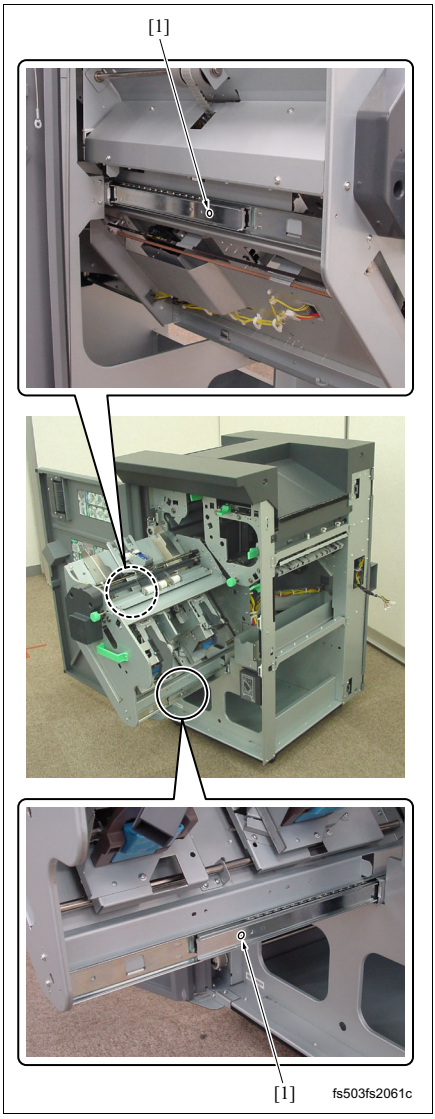
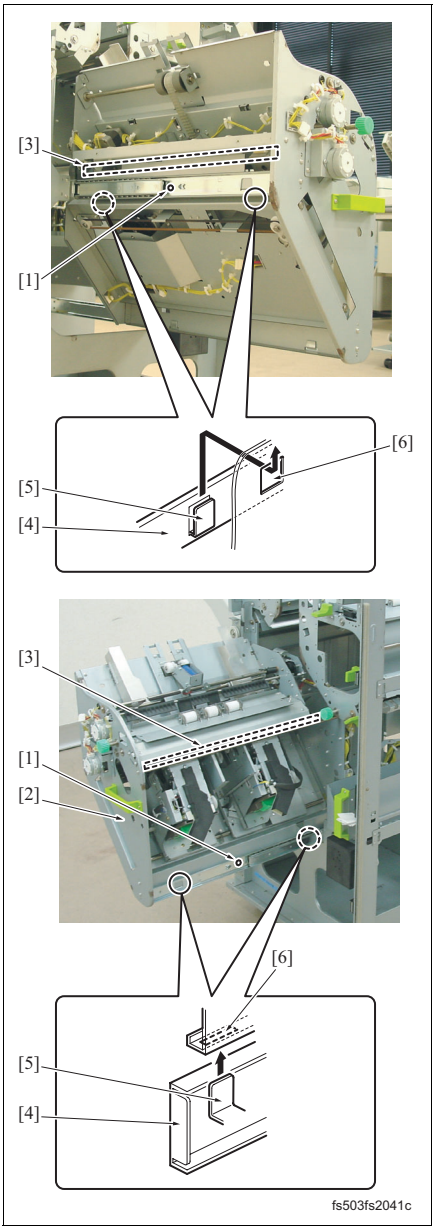
3. Disconnect 8 connectors [1].
4. Remove each of the cables from the 4 wiring harness guides [2].
5. Remove the E-ring [3] and the shaft [4] and cut off the coupling arm [5].



6. Remove the stopper screws [1], one each, provided on the rails in front and rear, pull the stacker unit further out.



7. Remove the screws [1], one each, provided on the rails in front and rear.
8. Lift up the stacker section [2] at the specified positions [3], release the hook of the rail [4] from the hole [6] and remove the stacker section [2].

⚠Caution:

- **Be careful of your posture when removing it. And be sure to conduct this operation with 2 people so that you do not suffer backache.**

Note

- **When lifting up the stacker section, be sure to hold it at the specified positions [3]. Holding other positions such as the roller shaft may cause damage to these positions.**

9. Reinstall the above parts following the removal steps in reverse.

Note

- **When reinstalling the stacker section to the rail [4], be sure to check that the hooks [5] provided at the 2 locations in front and rear, 4 locations in all, get into the attaching holes [6] securely.**

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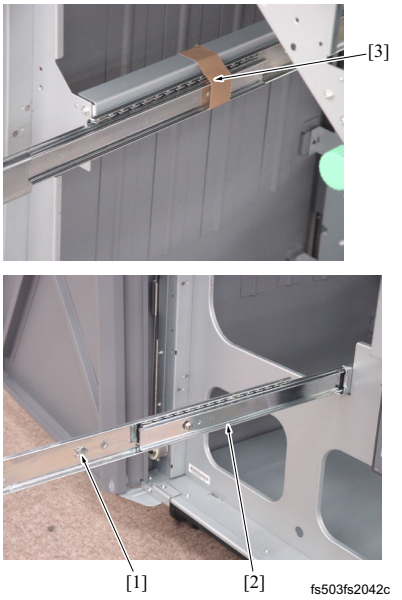


Note

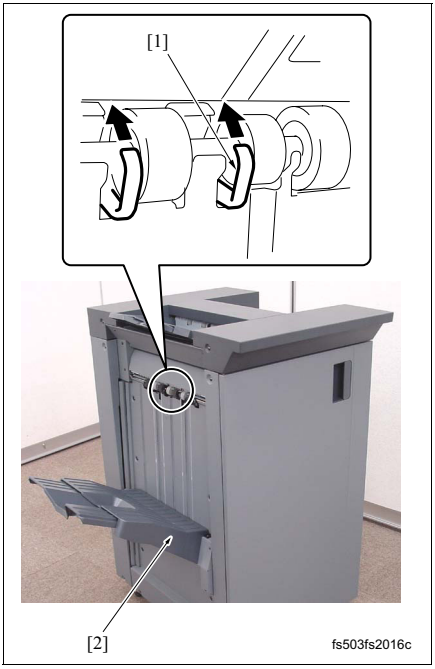
- **When reinstalling it, be sure to fully pull out the rail [1] and fasten it with the stopper screw [2] tentatively. And then fix the rail in the rear with tape [3] so that the rail does not move and contract. Doing it like this allows you to conduct the operation smoothly.**

3.2.8 Removing/reinstalling the main tray

⚠Caution:

- **After having lowered the main tray, be sure to unplug the power cord from the power outlet.**

A. Procedure



1. Push the actuator [1] of the tray upper limit sensor (PS2) up with your fingers to lower the main tray [2].
2. Turn OFF the power switch (SW2) and the main power switch (SW1) of the main body and unplug the power cord of the main body from the power outlet.

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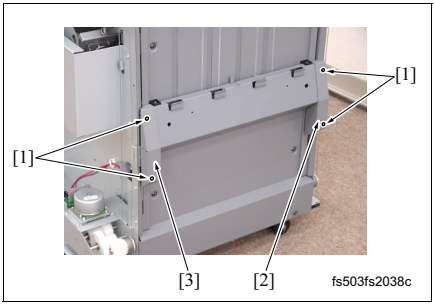
3. Remove 2 screws [1].
4. Lift up the main tray [2] to unhook the up/down stay [3], and remove the main tray [2].
5. Reinstall the above parts following the removal steps in reverse.

3.2.9 Removing/reinstalling the lift wire

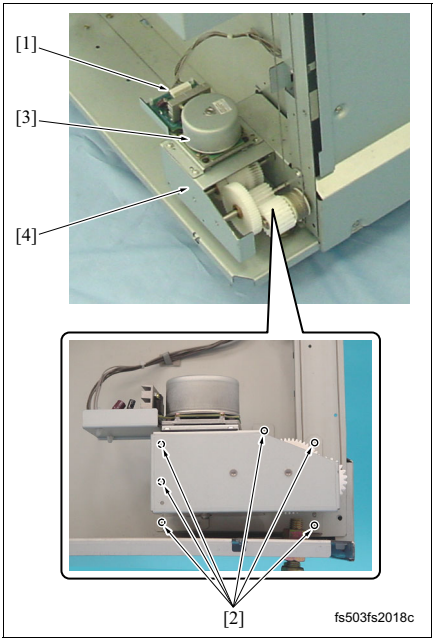
Note

- **The following replacement procedure of the lift wire shows the steps taken on the rear side. The figuration and the winding of wires on the front side are symmetrical to those on the rear side.**
- **The brackets of the lift wire are stamped with "F" on the front side and "R" on the rear side. Be careful not to confuse one with the other.**

A. Procedure



1. Push the actuator of the tray upper limit sensor (PS2) up with your fingers to lower the main tray.
2. Remove the following parts.
   Main tray (See P.27)
   Rear cover (See P.22)
   Left cover /Fr (See P.21)
   Front door (See P.19)
3. Remove the screws [1], two each, and then remove the tray stay covers /Fr [2] and /Rr [3].



4. Disconnect the connector [1], remove 6 screws [2] and then remove the gear box [4] together with the tray up down motor [3].

⚠Caution:

- **When the gear box is removed, the main tray will fall down. So, be sure to support the tray by hand when removing the gear box.**

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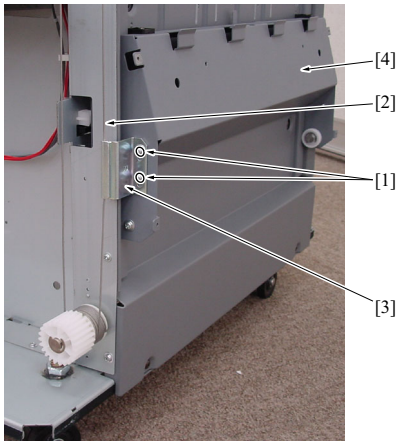

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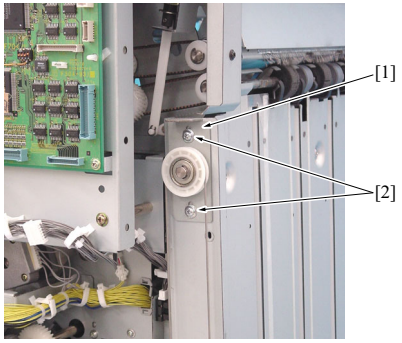
5. Remove 2 screws [1] and then remove the wire mounting plate [3] of the lift wire /Rr [2] from the lift stay [4].



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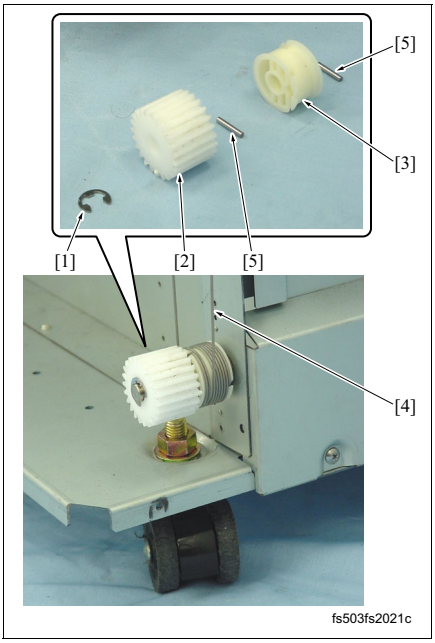
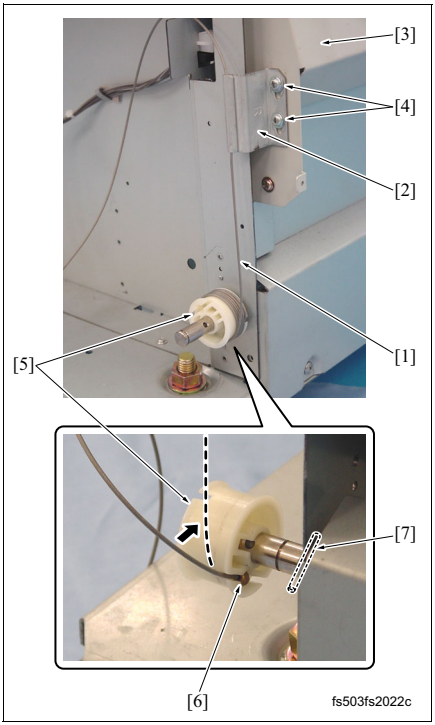
6. Loosen 2 screws [2] of the belt tensioner [1].



7. Remove the E-ring [1] and then remove the gear [2] and the lift pulley /Lw [3] to remove the lift wire /Rr [4].

Note

- **When removing the gear [2] and the lift pulley [3], be careful that the pin [5] does not come off and get lost.**

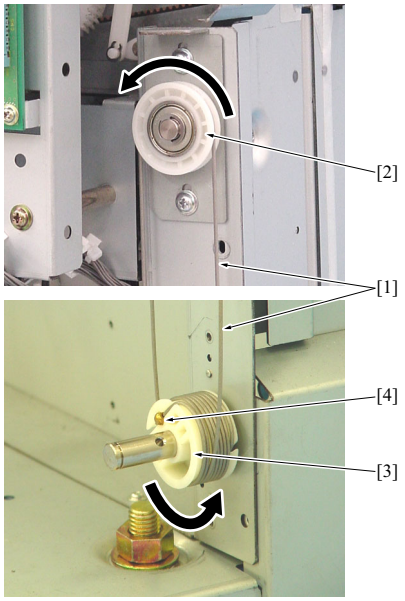


8. Tentatively fasten the wire mounting plate [2] of the new lift wire /Rr [1] to the lift stay [3] with the 2 screws [4].

Note

- **Be sure to install the lift wires placing the shorter one below the longer one.**

9. Fasten the new lift wire /Rr [1] with the wire end [6] of the lift pulley /Lw [5] and insert it into the shaft. And rotate the lift pulley /Lw [5] and wind it 6 turns clockwise from inside to outside around the lift pulley /Lw [5] with no slack, and then insert the lift pulley /Lw [5] fully deep into the shaft so that it coincides with the pin [7].



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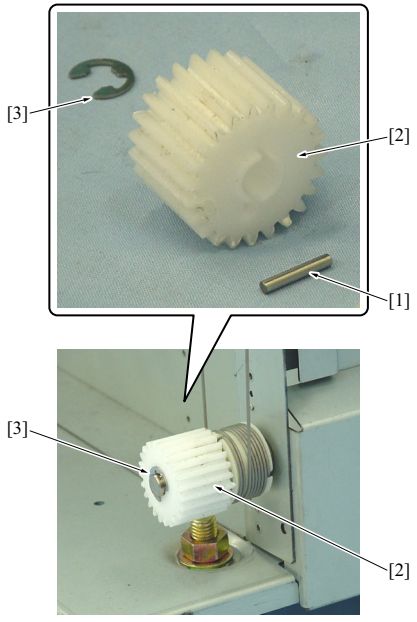
10. With the lift wire /Rr [1] hooked to the lift pulley / Up [2], wind it 2 turns counterclockwise from inside to outside around the lift pulley /Lw [3] with no slack and then fasten it with the wire end [4].



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11. Insert the pin [1] and the gear [2] into the shaft, and fasten them with the E-ring [3].

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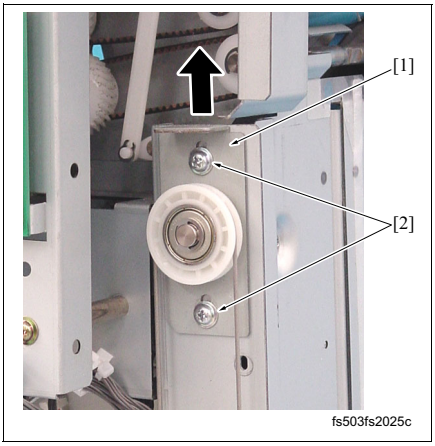
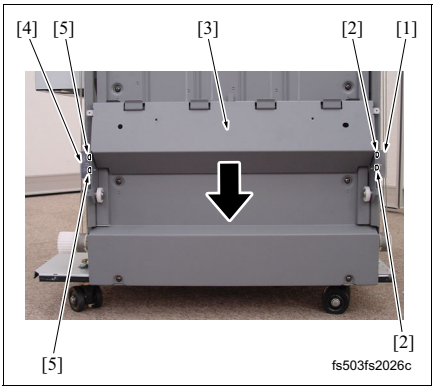


12. Use a tension gauge or a spring balance to pull the belt tensioner [1] with a specified force A and tighten it up 2 screws [2].
Specified value: A = 2.5 ± 0.1 kg



13. Loosen 2 screws [2] of the wire mounting plate [1] on the front side, press down the lift stay [3] to bring it to a horizontal position, and tighten up 2 screws [5] of the wire mounting plate [4] on the rear side and 2 screws [2] on the front side, that is, 4 screws in all.

Note

- **Check to see if the lift stay [3] is kept in a horizontal position. If it is on the slant, an unnecessary load may be applied onto the gear, thus causing damage to it.**

14. Reinstall the above parts following the removal steps in reverse.

Note

- **When reinstalling the covers, be sure to rotate the tray up/down motor counterclockwise as seen from above to raise the lift stay about 12 cm before installing each cover. Since the lift stay comes down lower than the normal operating range due to the lift gear box being removed, it is inevitably necessary to raise the lift stay to install it without the left cover / Fr and the rear cover hitting against the up/down stay.**

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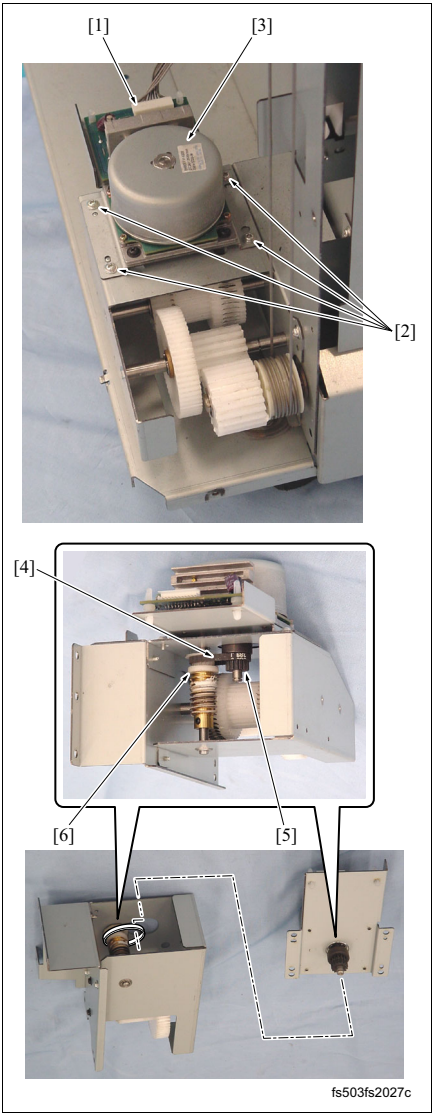
3.2.10 Removing/reinstalling the tray up down motor

A. Procedure



1. Remove the rear cover.
2. Disconnect the connector [1], remove 4 screws [2] and then remove the tray up down motor [3].

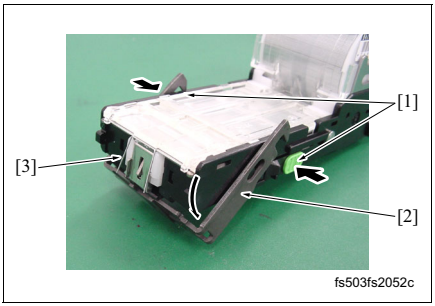
Note

- **When reinstalling it, make sure that the belt [4] is set correctly to the gears [5] and [6].**

3. Reinstall the above parts following the removal steps in reverse.

3.2.11 Handling of the clogged stapler 1

A. Procedure



1. Remove the stapler cartridge.

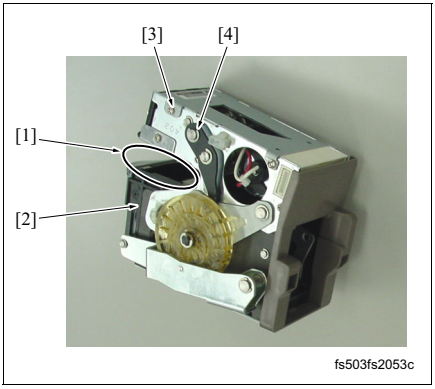
Note

- **When the stapler cartridge cannot be removed, conduct the initial operation by turning ON and OFF the power switch (SW2) of the main body.**
- **When removal of the stapler cartridge is not possible even after the initial operation, conduct "3.2.12 Handling of the clogged stapler 2."**

2. Press the release button [1] and open the staple cover [2].
3. Remove the unnecessary staples [3].
4. Close the staple cover [2].
5. Reinstall the above parts following the removal steps in reverse.

3.2.12 Handling of the clogged stapler 2

A. Procedure



⚠Caution:

- **Be careful not to get your hand caught in the opening [1] of the stapler unit. Pressing the staple side [2] and/or the clinch side [3] may cause the opening [1] to close unexpectedly. It is very difficult to open the opening by hand once it has closed. So, be careful not to close it. When holding the stapler unit, be sure to hold it at both ends of the cam shaft [4].**
- **When conducting the operation, be sure to wear protective gloves.**
- **When conducting the operation, be careful not to get the glove and/or your hand caught in the gear.**

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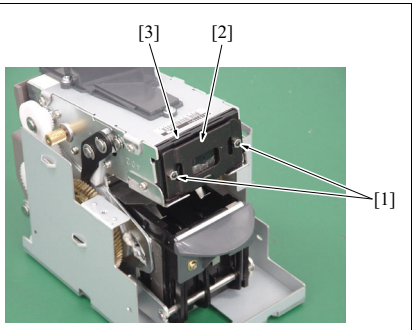

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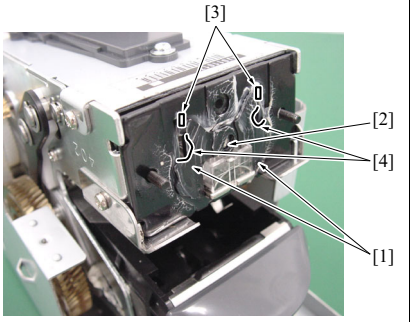
1. Remove the stapler unit. (See P.7)
2. Remove 2 nuts [1] and then remove the clinch protective plates /1 [2] and /2 [3].



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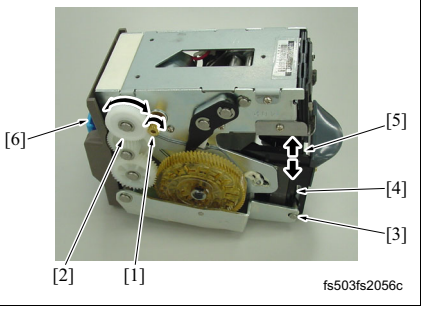
3. Remove the clogged staples.

Note

- **When reinstalling it, place the holes [2] of the 2 clinch metal fittings [1] one upon the other so that the tip [3] of the clinch presser is engaged to the depression [4] of the clinch metal fitting.**



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4. When the clogged staples cannot be removed, rotate the gear [1] of the stapler motor shaft and the gear [2] that comes into contact the motor gear to open the opening [5] until the pin [3] at the tip of the stapling arm comes to the bottom of the slit [4].

⚠Caution:

- **Considerable force is required to rotate the gear. Be sure to wear gloves not to get injured.**

Note

- **The gear can be rotated in whichever direction is easiest.**

5. Remove the stapler cartridge [6] and then remove the unnecessary staples from the stapler cartridge. (See P.35)
6. Reinstall the above parts following the removal steps in reverse.

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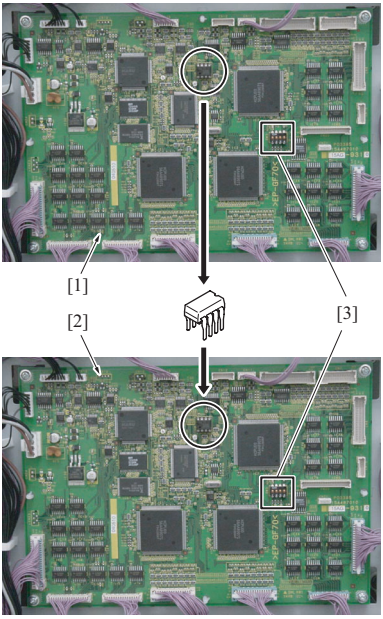
3.2.13 Note to keep in mind when replacing the board



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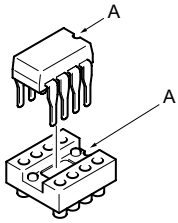
When the FNS control board (FNSCB) is replaced, be sure to remove the EEPROM (IC68) from the old control board [1] and install it into the new control board [2].

⚠ Note

- **Setting of the SW3 [3] should be the same as that of the old FNSCB. (See P.640 in Field Service for the main body.)**



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Note

- **Be sure to set the "A" sections of the EEPROM (IC68) in the same direction for installation.**

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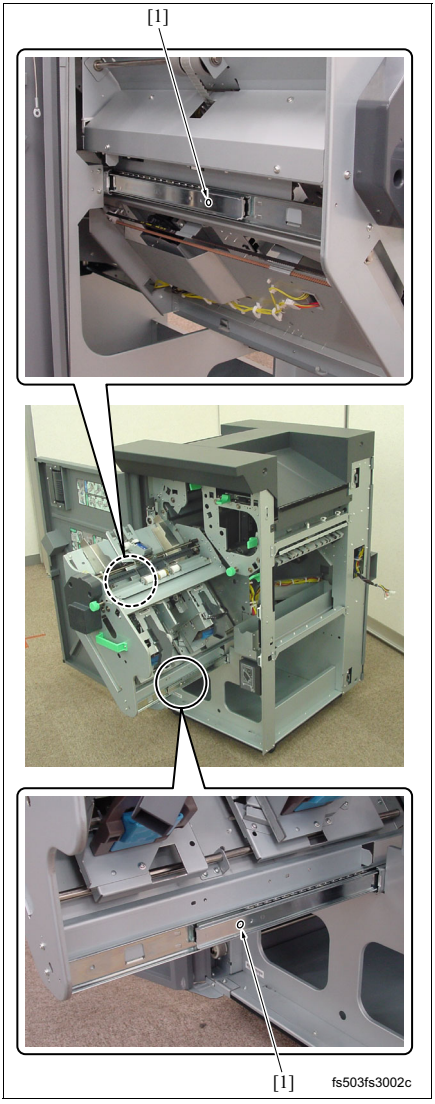
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

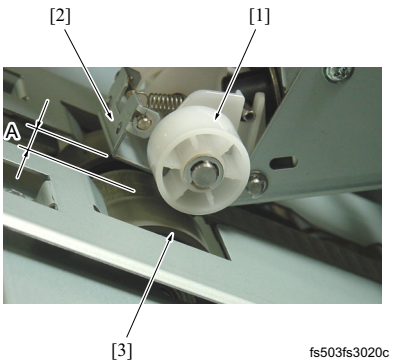
4.1 Intermediate roller position adjustment

Conduct this adjustment when paper gets jammed in the intermediate roller in the stacker during paper conveyance.

A. Procedure



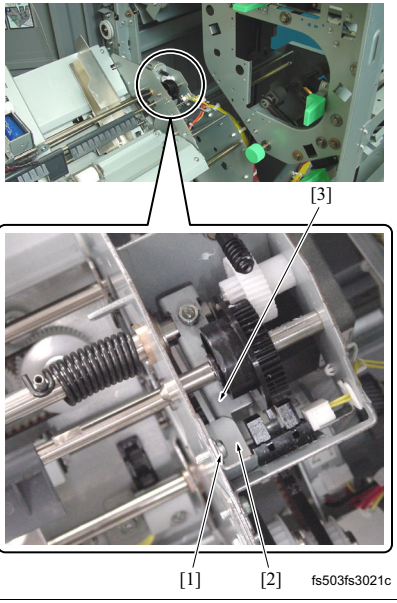
1. Open the front door and pull out the stacker unit.
2. Remove the rail stopper screws [1], one each provided in front and rear, and pull further out the stacker unit.



3. Check to see if the clearance between the mounting plate [2] of the intermediate roller /Up [1] and the intermediate roller /Lw [3] is at a standard value.
   Standard value: A = 4.5 ± 0.5 mm
   When the clearance is not at a standard value, conduct step 4 and the succeeding steps for adjustment.
4. Raise up the intermediate roller and insert a thickness gauge of 4.5 mm between the mounting plate [2] of the intermediate roller /Up [1] and the intermediate roller /Lw [3].

Note

- **Be careful not to let the thickness gauge drop into the stacker. (Be sure to fix it with tape.)**
- **Make sure that there is no raised section found in the thickness gauge so that the clearance is to be accurate.**



5. Loosen the screw [1], slide the positioning plate [2] to the lower side until it hits against the rotating lever [3], and tighten up the screw [1].
6. Remove the thickness gauge inserted in Step 4.
7. Conduct the measurement in the step 3. When the value obtained is not the stipulated one, repeat the steps 4 to 6.
8. After completion of adjustment, make a print and check to see if a jam occurs.
9. Reinstall the above parts following the removal steps in reverse.

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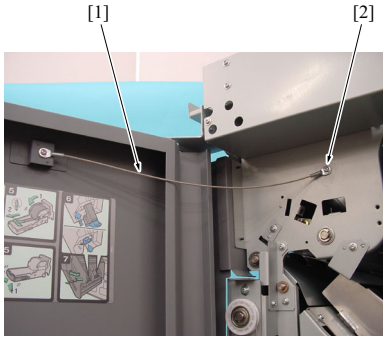
4.2 Adjusting the flat-stapling stopper position

In the flat-stapling mode, adjustments are made when the distance from the edge of paper to the stapling position is not within the standard value, or when it is on a slant.

Note

- **When making adjustments, be sure not move the stapler by hand. (This may cause the teeth of the belt and the gear to jump.)**

A. Procedure



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1. Conduct the following in the output check of the I/O check mode in the service mode.
   - 72-31 (Stapler movement motor home position search)
   - 72-78 (Alignment motors /Fr and /Rr home position search)
   - 72-42 (End stopper motor stopper release)
2. Turn OFF the power switch (SW2) and the main power switch (SW1) of the main body and unplug the power cord from the power outlet.
3. Open the front door and remove the screw [2] of the wire [1].

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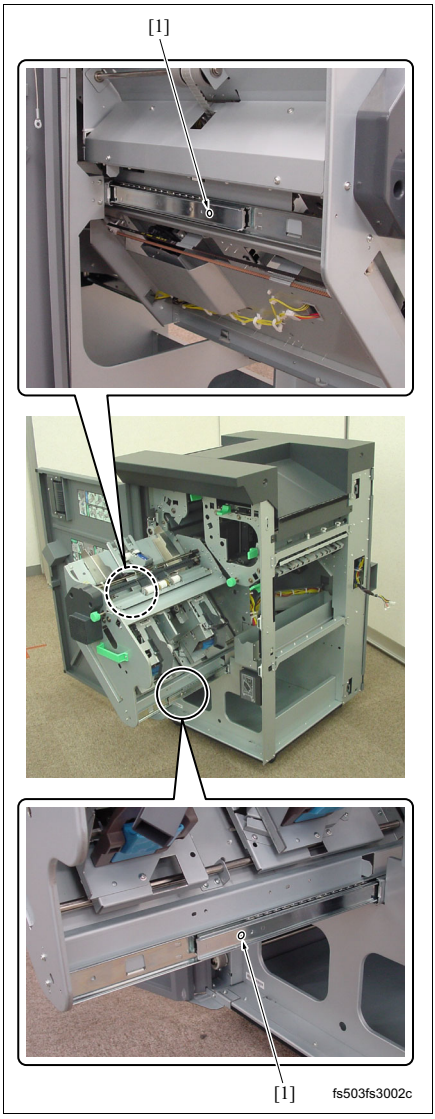
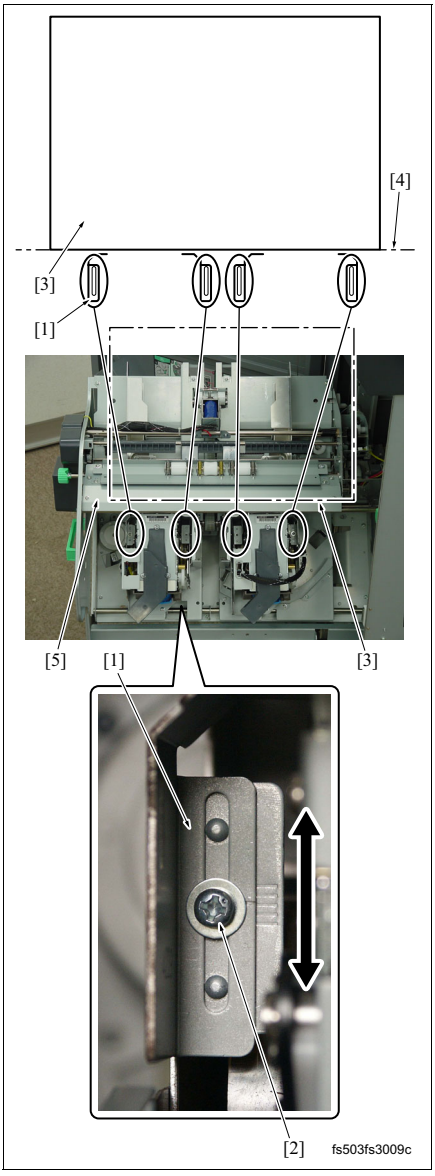


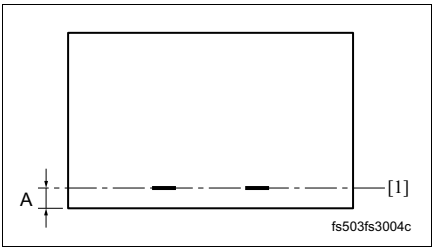
4. Pull out the stacker unit, remove the rail stopper screws [1], one each, in front and rear and pull the stacker unit further out.



5. Loosen the screws [2], one each, of the 4 flat-stapling stopper [1] and make adjustments of the positions of the 4 flat-stapling stoppers.

Note

- **With the paper [3] inserted, be sure to check to see if the paper is on a slant and that all of the 4 flat-stapling stoppers are in contact with the edge [4] of paper.**
- **When the stopper is not seen clearly, be sure to adjust it after removing the guide plate assembly [5].**



6. Conduct flat-stapling to check to see if it is within the standard value.
   - Standard value: A = 9.5 ± 2mm
   - The line [1] connecting the 2 staples is parallel to the edge of paper.
   - When the value is not within the standard value or the line is not parallel to the edge of paper, repeat the steps 1 to 6 above.
7. Reinstall the above parts following the removal steps in reverse.

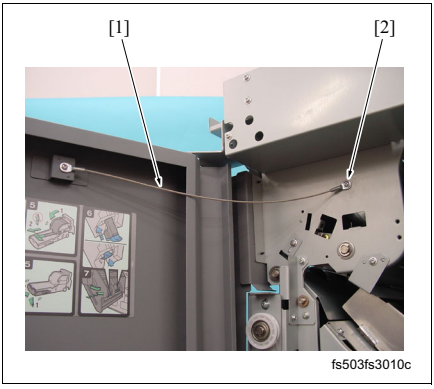
4.3 Adjusting the alignment plate position

Conduct this adjustment operation when the slippage in the bundle of paper while in stapling and the uneven paper exit while in non-stapling cannot be adjusted by conducting "Stapling center position adjustment" and "Paper width adjustment" in the service mode.

Note

- **After completion of this adjustment, be sure to conduct "Stapling center position adjustment" and "Paper width adjustment" in the service mode.**

A. Procedure



1. Conduct the alignment motors /Fr and /Rr home position movement in the output check 72-78 of the I/O check mode in the service mode.
2. Turn OFF the main power switch (SW1) of the main body, and unplug the power cord of the main body from the power outlet.
3. Open the front door and remove the screw [2] of the wire [1].

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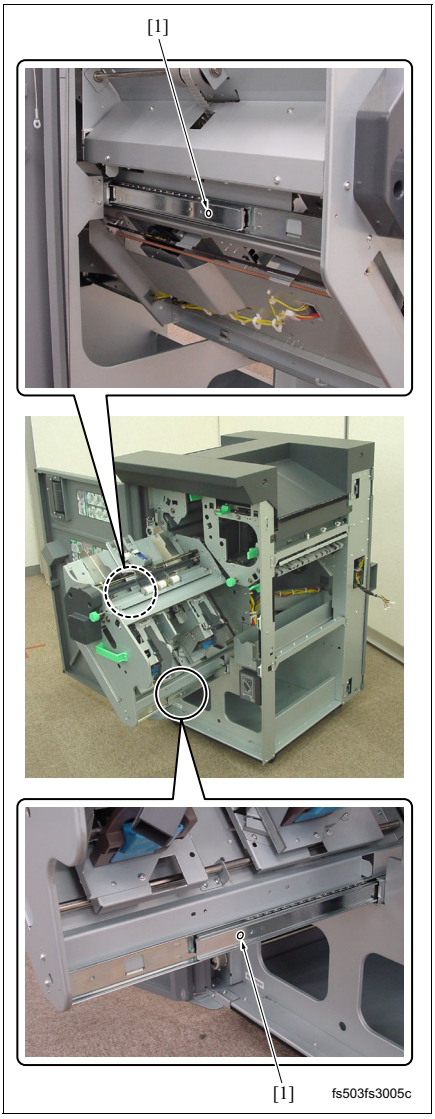

4. Pull out the stacker unit, remove the rail stopper screws [1], one each, in front and rear and pull the stacker unit further out.

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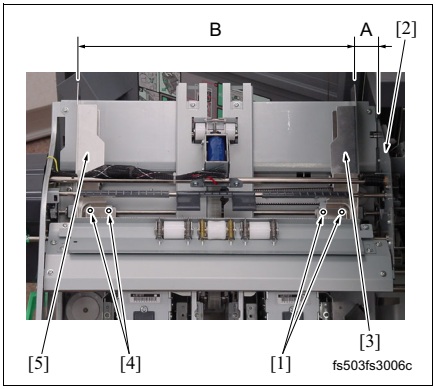

5. Loosen 2 screws [1] and check to see if the distance from the front side of the side plate [2] in the rear to the paper side of the alignment plate /Rr [3] is within the standard value A, and then tighten the screws [1].
Standard value: A = 17.9 +1.0/ -0.0 mm

Note

- **Check the alignment plate /Rr to see if it is on a slant.**

6. Loosen the 2 screws [4] and check to see if the distance between the alignment plate /Rr [3] and the inner face on the paper side of the alignment plate /Fr [5] is within the standard value B, and then tighten the screws [4].
Standard value: B = 376 $^{0}_{-0.5}$ mm

7. Move the staple home position using I/O check mode 72-31 in service mode, insert a thick paper or similar sheet, and check the angle of the rear end stopper and the alignment plate.

Note

- **Move the alignment plates with your hand until the paper width space is created between them, and make sure there is no improper gap at the upper and lower side of the alignment plates.**

8. Reinstall the above parts following the removal steps in reverse.

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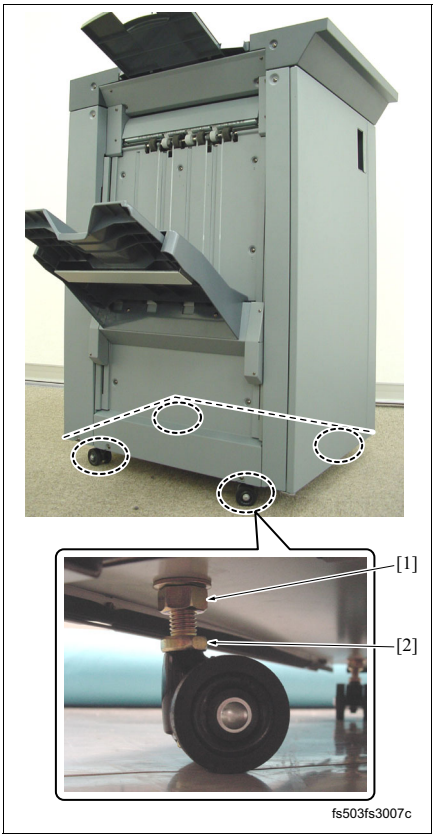
4.4 Horizontal adjustment

Adjustments are made when there is any discrepancy in height and slant found between the main body and other optional devices.

A. Procedure



1. Loosen the nuts [1] provided at the 4 places.
2. Rotate the screws [2] provided at the 4 places to make horizontal adjustments of the device.

Note

- **Be sure to make adjustments while taking into consideration the heights of the main body and other optional devices.**

3. Rotate the screws [2] by hand provided at the 4 places to check to see if there is any caster that is raised.

Note

- **When there is any caster found raised, rotate the screw [2] with a wrench to extend the length of the caster until you can get a feeling of secure contact.**

4. Fasten the screw [2] with a wrench and tighten up the nut [1].

Note

- **Be careful that when the nut [1] is tightened up with the screw [2] not fastened, the screw [2] may also rotate together with the nut [1], thus resulting in an incorrect positioning.**

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KONICA MINOLTA

SERVICE MANUAL

Field Service

FS-607

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

A. Type

Type	Multi folding multi stapling device

B. Functions

(1) Functions

Non-sort mode	Exited to the main tray with no processing made.
Sort/group mode	Exited to the main tray after being shifted for every copy.
Sub tray mode	Exited to the sub tray with no processing made.
Stapling mode	Exited to the main tray after being stapled.
Saddle stitching mode	Exited to the booklet tray with the paper folded into two after being stitched and folded at the center of the paper.
Folding mode	Exited to the booklet tray with the paper folded into two at its center.
Tri-folding mode	Exited to the booklet tray after being overlapped up to 3 sheets and being tri-folded.

(2) Stapling

Max. flat-stapling capacity	50 sheets of 64 to 80 g/m^2 (plain paper, high-quality paper),30 sheets (color paper, coated paper) 30 sheets of 81 to 105 g/m^2 (plain paper, high-quality paper),16 sheets (color paper, coated paper) Up to 2 sheets of 200g/m2 can be added unless the total number of sheets exceeds the above capacity.	
	staple position	Front parallel / back 45° 1 position diagonally, 2 positions at the center
Max. saddle stitching capacity	20 sheets of 64 to 80 g/m^2 20 sheets of 81 to 105 g/m^2 (Plain paper, high-quality paper), 16 sheets (color paper, coated paper) Up to 2 sheets of 200g/m2 can be added unless the total number of sheets exceeds the above capacity.	
	staple position	variable (128 to 168mm)

(3) Folding

Max.Folding	3 sheets of 64 to 105 g/m^2 paper
Max.Tri-folding	3 sheets of 64 to 80 g/m^2 paper 1 sheet of 81 to 105 g/m^2 paper

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(4) Max. paper capacity

<table>
<tr><td rowspan="8">Main tray
(Weighing 80g/m^2)</td><td rowspan="8">Non-sort mode,
sort/group mode</td><td colspan="3">2500 sheets: A4, A4S, B5, B5S
8½ x 11, 8½ x 11S
16K, 16KS
1500 sheets: A3, B4, SRA4S,
12 x 18, 11 x 17, 8½ x 14,
8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13
8K
500 sheets: A5, A5S *1, B6S *1
5½ x 8½S *1
Tab paper*3 : A4, 8½ x 11
Custom paper : Max. 314 x 458mm, Min.*2 182 x 148 mm</td></tr>
<tr><td rowspan="7">Stapling mode</td><td colspan="3">Max. 1000 sheets</td></tr>
<tr><td>No. of sheets per stapling</td><td>Size in the sub scan direction is 418mm or longer</td><td>The others</td></tr>
<tr><td>2 to 9</td><td>50 copies</td><td>100 copies</td></tr>
<tr><td>10 to 20</td><td>50 copies</td><td>50 copies</td></tr>
<tr><td>21 to 30</td><td>30 copies</td><td>30 copies</td></tr>
<tr><td>31 to 40</td><td>25 copies</td><td>25 copies</td></tr>
<tr><td>41 to 50</td><td>20 copies</td><td>20 copies</td></tr>
<tr><td rowspan="3">Booklet tray
(Weighing 80g/m^2)</td><td>Saddle stitching mode</td><td colspan="3">Size in the sub scan direction is 299 mm or longer : 15 copies in 5 sheets of saddle stitching
other than the above : 20 copies in 5 sheets of saddle stitching</td></tr>
<tr><td>Folding mode</td><td colspan="3">Size in the sub scan direction is 299 mm or longer : 25 copies in 3 sheets of folding
other than the above : 33 copies in 3 sheets of folding</td></tr>
<tr><td>Tri-folding mode</td><td colspan="3">50 copies in 1 sheet of folding</td></tr>
<tr><td>Sub tray
(Weighing 80g/m^2)</td><td colspan="4">100 sheets : SRA3, A3, B4, SRA4, SRA4S, A4, A4S, B5, B5S, A5, A5S, B6S, A6S
13 x 19, 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½S
8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13
8K, 16K, 16KS
Tab paper*3 : A4, 8½ x 11
Custom paper : Max. 330 x 487mm, Min. 100 x 148 mm</td></tr>
</table>

*1 Non-sort mode only

*2 Non-sort mode is 128 x 148 mm

*3 Operation of paper exit with tab area at the trail edge side is not assured.

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C. Type of paper

(1) Stapling mode

Paper size	A3, B4, SRA4S, A4, A4S, B5, B5S, A5 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS Tab paper*1 (A4, 8½ x 11) Custom paper (Max. 314 x 458 mm, Min. 182 x 148 mm)
Applicable paper	Plain paper, high-quality paper, color paper, coated paper (same as the main body)
Paper weight	64 to 105 g/m^2

*1 Operation of paper exit with tab area at the trail edge side is not assured.

(2) Saddle stitching mode

Paper size	A3, B4, SRA4S, A4S 12 x 18, 11 x 17, 8½ x 14, 8½ x 11S 8K Custom paper (Max. 314 x 458 mm, Min. 210 x 280 mm)
Applicable paper	Plain paper, high-quality paper, color paper, coated paper
Paper weight	64 to 105 g/m^2

(3) Folding mode

Paper size	SRA3, A3, B4, SRA4S, A4S 12 x 18, 11 x 17, 8½ x14, 8½ x11S, 8K Custom paper (Max. 314 x 458 mm, Min. 210 x 280 mm)
Applicable paper	Plain paper, high-quality paper, color paper, coated paper
Paper weight	64 to 105 g/m^2

(4) Tri-folding mode

Paper size	A4S 8½ x11S
Applicable paper	Plain paper, high-quality paper, color paper, coated paper
Paper weight	64 to 105 g/m^2

D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

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E. Machine data

Power source	24/5VDC (supplied from the main body)
Maximum power consumption	80W or less
Dimensions	When the main tray is pulled out: 790.5 (W) x 656 (D) x 990 (H) mm When the main tray is set in: 674.5 (W) x 656 (D) x 990 (H) mm
Weight	Approx. 65 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80% RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC CHECK

⚠**Caution:**
- **Be sure to unplug the power cord of the main body from the power outlet.**

2.1 Maintenance procedure of the conveyance section

2.1.1 Replacing the paper exit roller (sponge roller)

A. Periodically replaced parts/cycle

- Paper exit roller (sponge roller): Every 200,000 prints

Note

- **When replacing the paper exit rollers /A (sponge rollers), be sure to replace all 5 pairs of rollers (10 rollers in all).**

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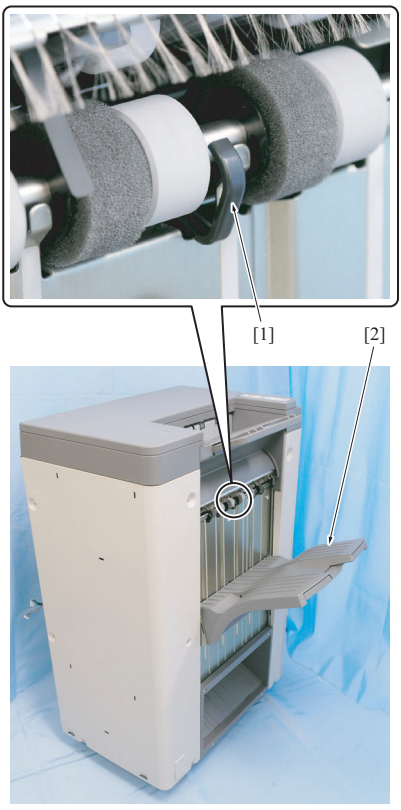
B. Procedure



1. Turn ON the main power switch (SW1) and the power switch (SW2) of the main body.
2. Push up the actuator [1] of the main tray upper limit sensor (PS2) with your finger, and then lower the main tray [2].
3. Turn OFF the SW1 and the SW2 of the main body, and then unplug the power cord of the main body from the power outlet.

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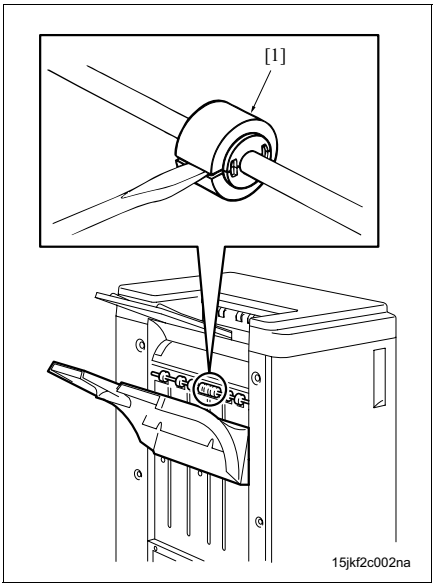
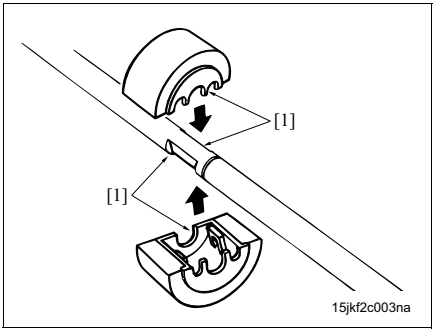


4. Insert a driver into the groove of the sponge roller [1] and remove the sponge roller by prizing it open.



5. With each of the depressions [1] of a new sponge roller and the shaft brought together, press the sponge roller until it clicks to fit it in securely.
6. Reinstall the above parts following the removal steps in reverse.

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2.1.2 Replacing the intermediate transfer roller (sponge roller)

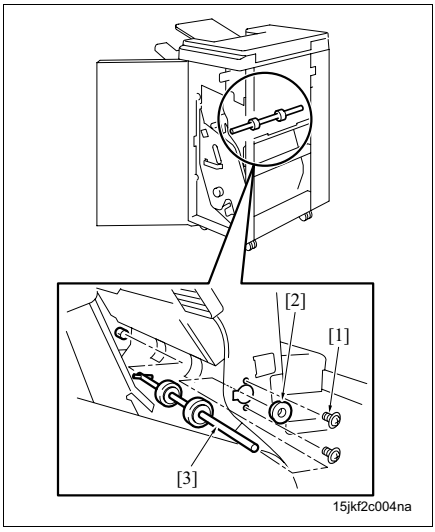
A. Periodically replaced parts/cycle

- Intermediate transfer roller (sponge roller): Every 400,000 prints (actual replacement cycle: every 200,000 prints)

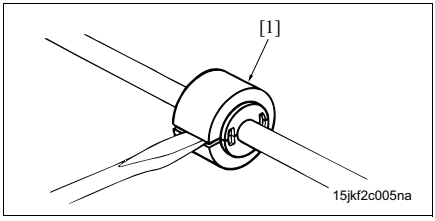
Note

- **When replacing the intermediate transfer rollers (sponge rollers), be sure to replace all 2 pairs of rollers (4 rollers in all).**

B. Procedure



1. Open the front door.
2. Remove 2 screws [1] and the bearing [2], and then remove the shaft of the intermediate transfer roller [3].



3. Insert a driver into the groove of the sponge roller [1] and remove the sponge roller by prizing it open.

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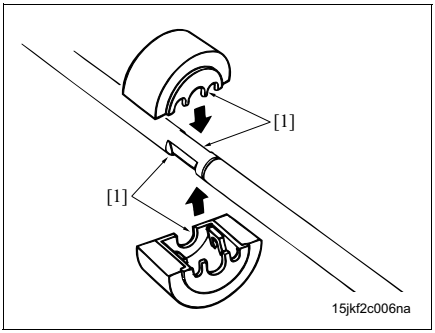


4. With each of the depressions [1] of a new sponge roller and the shaft brought together, press the sponge roller until it clicks to fit it in securely.
5. Reinstall the above parts following the removal steps in reverse.

Note

- **When installing the intermediate transfer roller, be sure to insert the pin at the rear of the shaft of the intermediate transfer roller into the groove.**

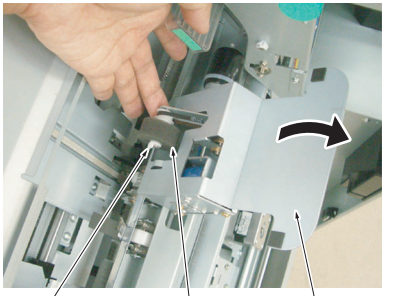
2.2 Maintenance procedure of the stacker section

2.2.1 Replacing the paper assist roller (sponge roller)

A. Periodically replaced parts/cycle

- Paper assist roller (sponge roller): Every 400,000 prints

B. Procedure



1. Open the front door.
2. Pull out the stacker unit.
3. Open the paper assist section [1], and then lift up the paper assist roller [2].
4. Remove the C-clip [3], and then remove the paper assist roller [2].
5. Reinstall the above parts following the removal steps in reverse.

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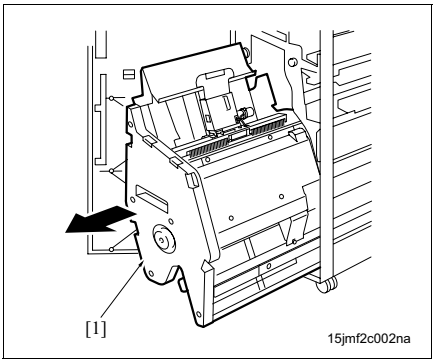
2.3 Maintenance procedure of the stapler section

2.3.1 Removing/reinstalling the stapler unit cover

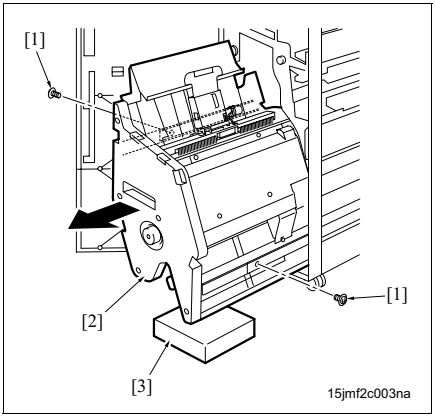
⚠Caution:

- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

A. Procedure



1. Open the front door.
2. Pull out the stacker unit [1].



3. Remove 2 screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

Note

- **Be sure to place a support [3] under the stacker unit to prevent FS from falling down.**

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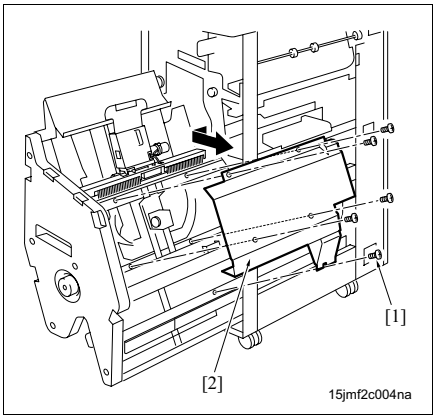


4. Remove 5 screws [1], and then remove the stapler unit cover [2].
5. Reinstall the above parts following the removal steps in reverse.

2.3.2 Replacing the stapler unit

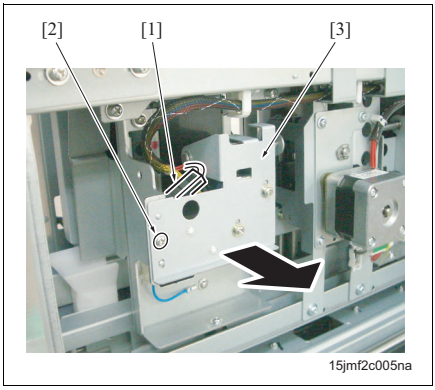
Note

- **The stapler unit consists of the clincher section and the stapler section.**
- **Never move the clincher section and the stapler section in the horizontal direction manually. Otherwise, it may cause the timing belt skipping.**
- **After the reinstallation, be sure to adjust the stapler position in the vertical direction.**
  (See P.51)

A. Periodically replaced parts/cycle

- Stapler unit: Every 1,000,000 staples (actual replacement cycle: every 200,000 staples)

B. Procedure



1. Enter the service mode and select [State Confirmation]- [I/O Check Mode]. Perform the output code 72-32 : Stapler movement motor (M11) (A4, 1-stapling position). Then turn OFF the main body.
2. Open the front door.
3. Pull out the stacker unit, and then remove the stapler unit cover.
   (See P.11)
4. Disconnect the connector [1] and remove the screw [2], and then remove the flat-stapling stopper release unit /Fr [3].
5. Enter the service mode and select [State Confirmation]- [Output check]. Perform the output code 72-31. Then turn OFF the main body.

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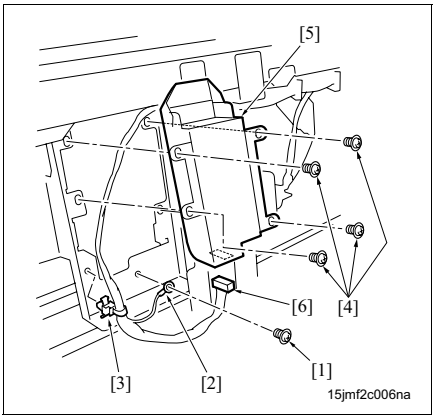
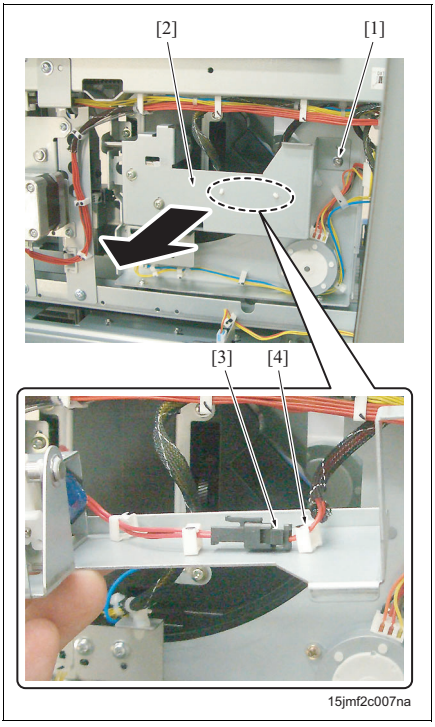


6. Remove the screw [1], the ground [2], and the clamp [3].
7. Remove 4 screws [4], and then remove the clincher /Fr [5] and disconnect the connector [6].



8. Remove the screw [1] and then remove the flat-stapling stopper release unit /Rr [2].
9. Disconnect the connector [3] on the back of the flat-stapling stopper release unit /Rr [2], and the remove the wiring harness from the clamp [4].

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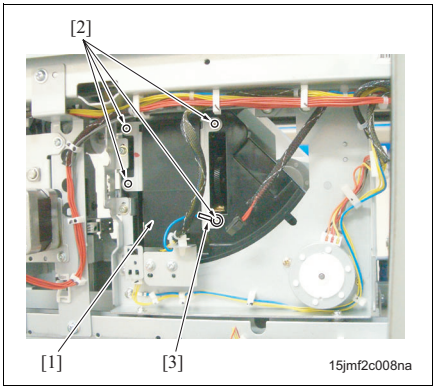
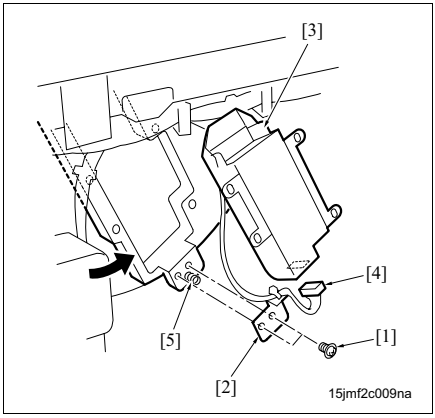


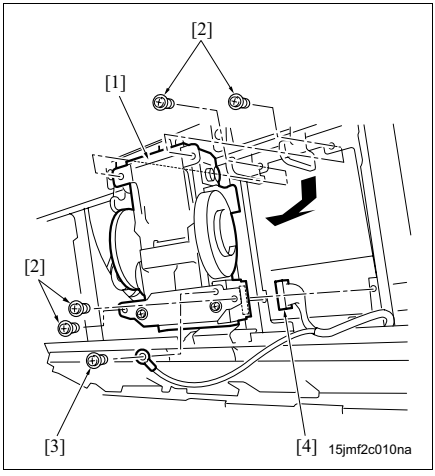
10. Remove 4 screws [2] from the clincher /Rr [1], and then remove the ground [3].



11. Remove 2 screws [1] and the ball bearing mounting plate [2], and then rotate and remove the clincher /Rr [3] and disconnect the connector [4].

Note

- **Be careful not to lose the ball bearing stopper spring [5] and the ball.**



12. Remove the cartridge from the stapler.

13. Remove 4 screws [2] from the stapler /Fr [1] and the screw [3] from the ground, and then remove the stapler /Fr [1] and disconnect the connector [4].

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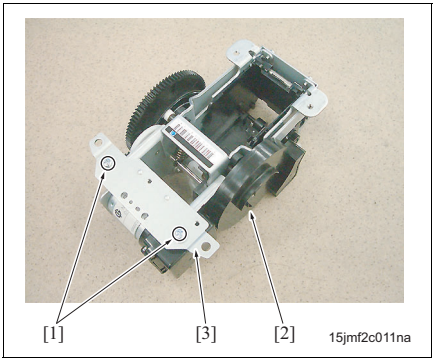
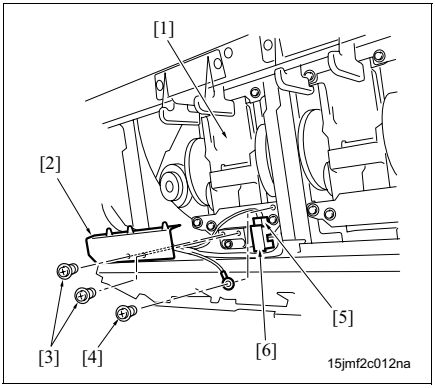


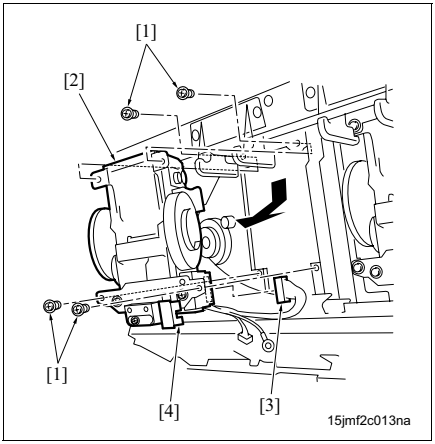
14. Remove 2 screws [1], and then remove the mounting plate [3] from the stapler /Fr [2].



15. Remove 2 screws [3] from the sensor cover [2] of the stapler /Rr [1], and then remove the screw [4] from the ground and disconnect the connector [5].

Note

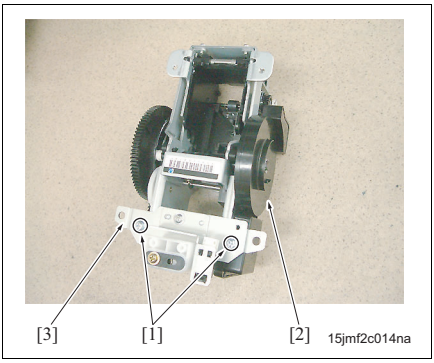
- **When installing the sensor cover [2], be sure to keep the wiring harness out of the stapler rotation home sensor (PS13) [7] and be careful not to let the gear bite it.**



16. Remove 4 screws [1], and then remove the stapler /Rr [2] and disconnect the connector [3].

Note

- **When removing the stapler /Rr [2], be sure not to damage PS13 [4].**



17. Remove 2 screws [1], and then remove the mounting plate [3] from the stapler /Rr [2].

18. Reinstall the above parts following the removal steps in reverse.

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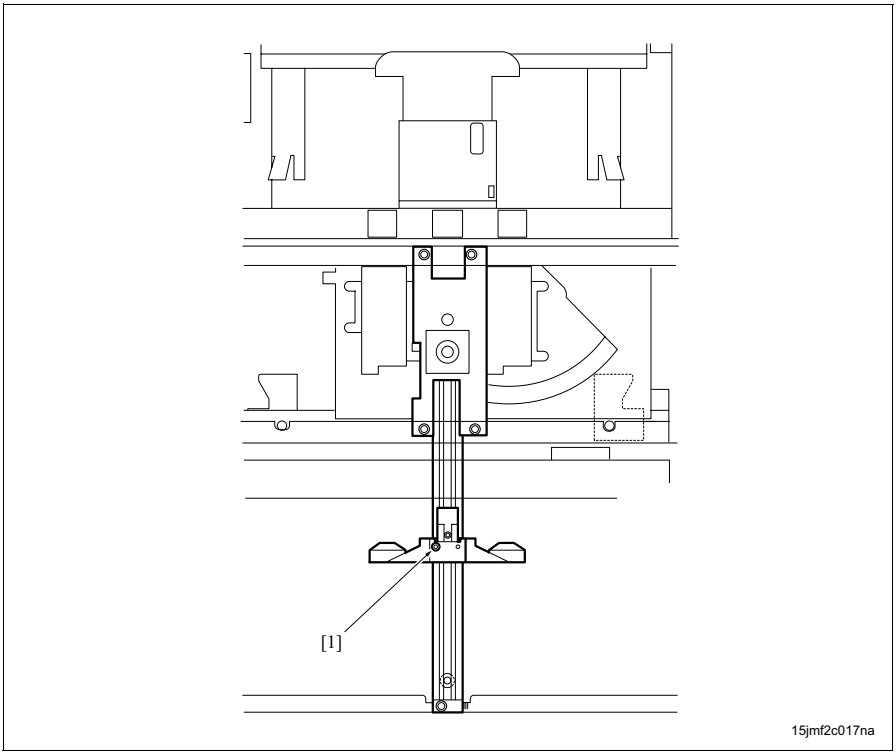
3. OTHER PARTS

3.1 Items not allowed to be disassembled and adjusted

A. The screw not allowed to be removed in the folding stopper

(1) Parts not allowed to be removed

There is a screw in the folding stopper, that is not allowed to be removed.



[1] The screw not allowed to be removed in the folding stopper

Note

- **For ease of understand, the position of the folding stopper is shown lower than the actual position in the illustration.**

(2) Reason

The tilt adjustment of the folding stopper should be made at the slide shaft of the folding stopper. (See P.54) Never loosen the screw not allowed to be removed in the folding stopper because the tilt of the folding stopper may be changed and the adjustment reference in the slide shaft may be misaligned if the screw is loosen.

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3.2 List of parts to be disassembled and assembled

No.	Section	Part name	Page referred to
1	Cover	Upper cover /1	P.19
2		Upper cover /2	P.19
3		Front door	P.20
4		Rear cover	P.20
5		Left cover	P.21
6	Main tray section	Main tray	P.22
7		Lift wire	P.23
8	Stacker section	Stacker unit cover	P.29
9		Stacker unit	P.30
10	Transfer section	Paper exit unit	P.32

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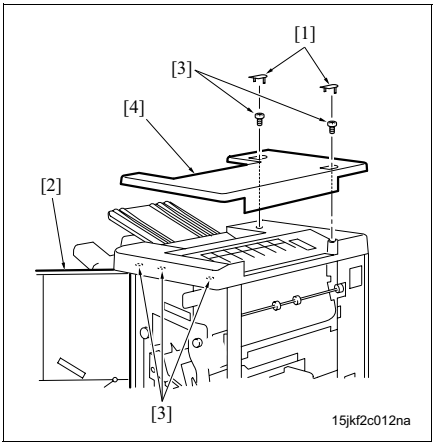
3.3 Removal procedure of parts to be disassembled and assembled

3.3.1 Removing/reinstalling the upper cover /1

A. Procedure



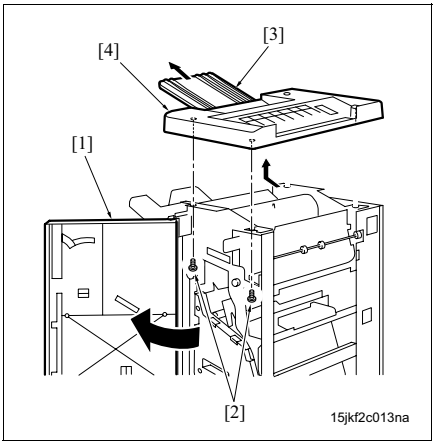
1. Remove 2 caps [1].
2. Open the front door [2] and remove the 5 screws [3], and then remove the upper cover /1 [4].
3. Reinstall the above parts following the removal steps in reverse.

3.3.2 Removing/reinstalling the upper cover /2

Note

- **Remove optional PI if it is installed.**

A. Procedure



1. Remove the upper cover /1. (See P.19)
2. Open the front door [1].
3. Remove 2 screws [2] and pull out the sub tray [3], and then remove the upper cover /2 [4].
4. Reinstall the above parts following the removal steps in reverse.

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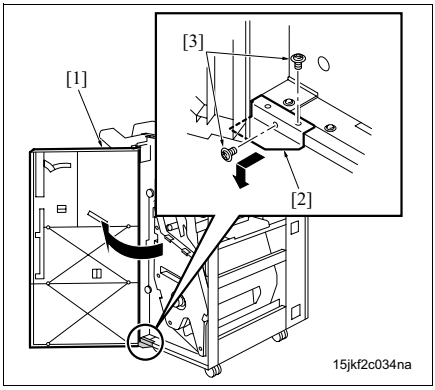
3.3.3 Removing/reinstalling the front door

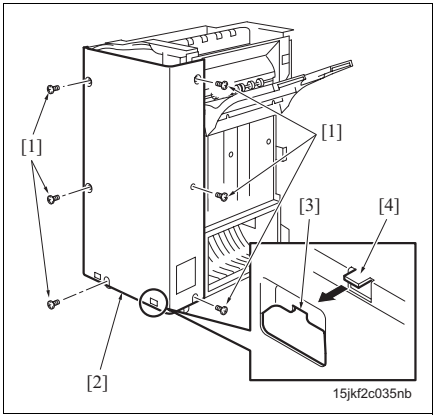
A. Procedure



1. Open the front door [1].
2. Remove 2 screws [3] from the lower hinge plate [2], and then remove the front door [1].
3. Reinstall the above parts following the removal steps in reverse.

3.3.4 Removing and reinstalling the rear cover

A. Procedure



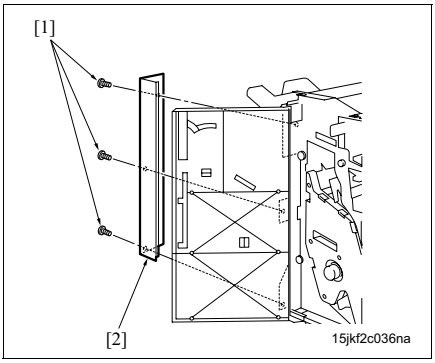
1. Remove 6 screws [1], and then remove the rear cover [2].
2. Reinstall the above parts following the removal steps in reverse.

Note

- **When reinstalling the rear cover, be sure to hook the notch [3] of the rear cover on the prong [4] of the frame.**

3.3.5 Removing/reinstalling the left cover

A. Procedure



1. Open the front door.
2. Remove 3 screws [1], and then remove the left cover [2].
3. Reinstall the above parts following the removal steps in reverse.

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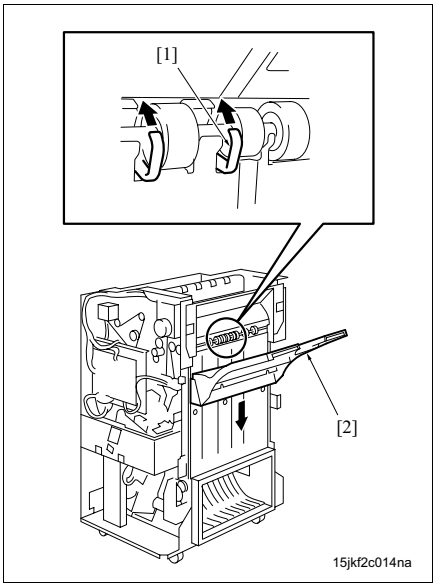
3.3.6 Removing/reinstalling the main tray

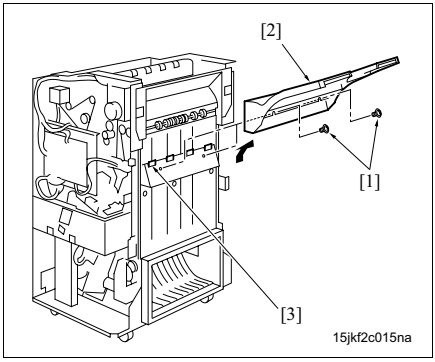
⚠Caution:

- **After opening the main tray, be sure to unplug the power cord of the main body from the power outlet.**

A. Procedure



1. Push up the actuator [1] of the main tray upper limit sensor (PS2) with your finger, and then open the main tray [2].
2. Turn OFF the main power switch (SW1) and the sub power switch (SW2) of the main body, and then unplug the power cord of the main body from the power outlet.



3. Remove 2 screws [1] from the main tray.
4. Lift up the main tray [2] and unhook the main tray from the lift stay [3], and then remove the main tray [2].
5. Reinstall the above parts following the removal steps in reverse.

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3.3.7 Replacing the lift wire

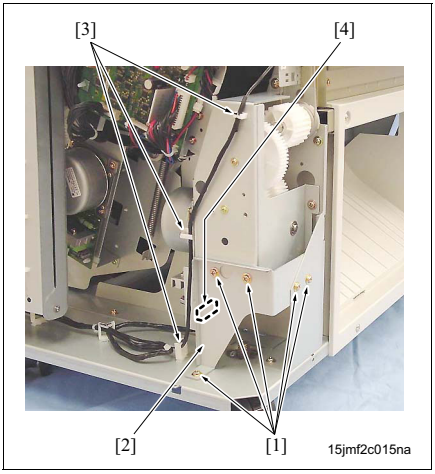
⚠Caution:

- **When the main tray lift motor is removed, the main tray may fall down. When removing the main tray lift motor, be sure to support the main tray with your hand.**

Note

- **The following procedure for replacing the lift wire shows the examples on the rear side. The configuration and winding of the wires on the front side are symmetrical to the rear side.**
- **The front and rear lift wires are marked as "F" and "R" on their mounting plates respectively. Be sure to check it when reinstalling the lift wires.**

A. Procedure



1. Remove the following parts.
   - Left cover (See P.21)
   - Front cover (See P.20)
   - Rear cover (See P.20)
   - Main tray (See P.22)
2. Remove 5 screws [1] to remove the reinforcing metal [2], and then remove the wiring harness from 3 clamps [3] and disconnect the connector [4].

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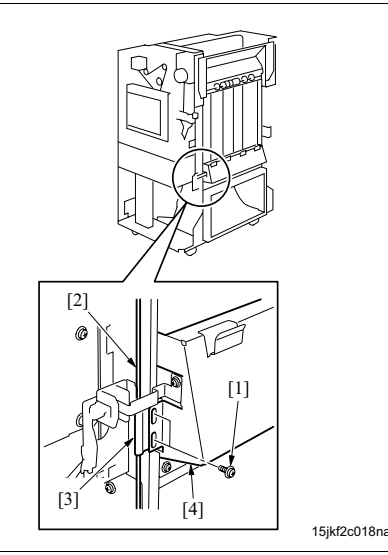
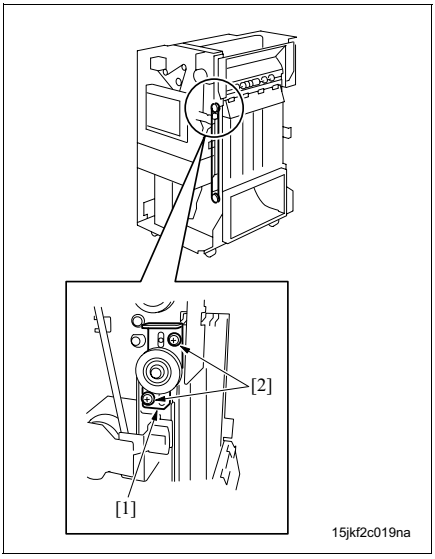
3. Remove 5 screws [1], and then remove the lift motor unit [2].

⚠Caution:

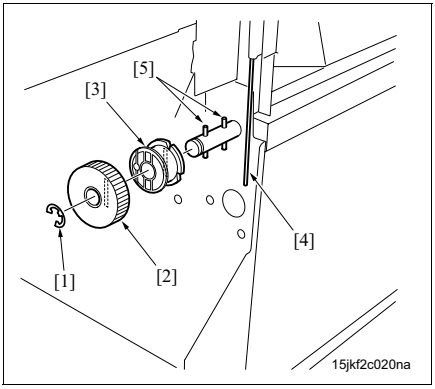
- **When the lift motor assy [2] is removed, the main tray may fall down. When removing the lift motor assy, be sure to support the main tray with your hand.**



4. Remove 2 screws [1], and then remove the wire mounting plate [3] of the rear lift wire [2] from the lift stay [4].



5. Loosen 2 screws [2] on the belt tensioner [1].



6. Remove the E-ring [1], the gear [2], and the lift pulley /Lw [3], and then remove the lift wire [4].

Note

- **When removing the lift pulley /Lw, be sure not to let 2 pins [5] fall down.**

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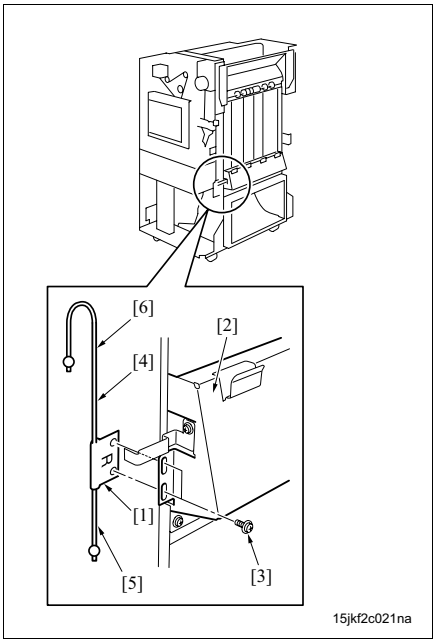
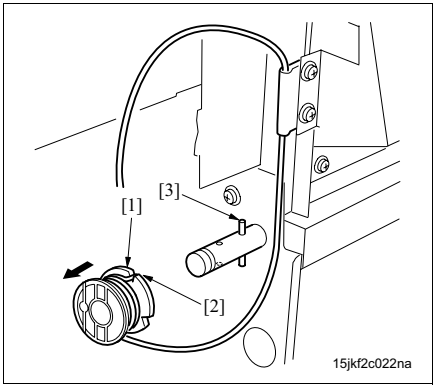


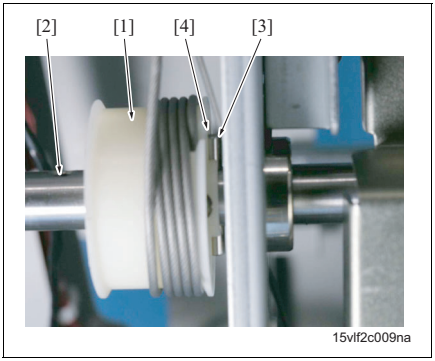
7. Tighten the wire mounting plate [1] of the new lift wire [4] on the lift stay [2] with 2 screws [3] temporarily.

Note

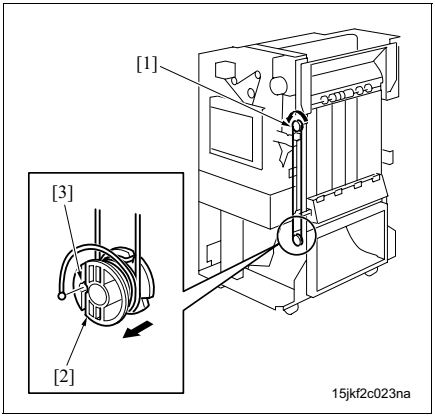
- **The lift wire [4] should be placed with the short side [5] to the bottom and the long side [6] to the top.**



8. Fasten the wire end of the lift wire with the inner wire end hole of the lift pulley /Lw [1]. Then, draw the lift wire through the notch [2] and wind it a little less than 5 turns from inside to outside around the lift pulley with no slack, and then insert the lift pulley /Lw [1] into the shaft so that it coincides with the pin [3].



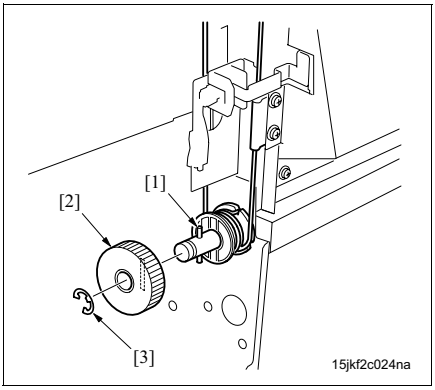
9. Insert the up/down pulley [1] wound around with the wire into the shaft so that the pin [3] that has been inserted into the shaft [2] in advance is set to the groove [4] of the pulley.



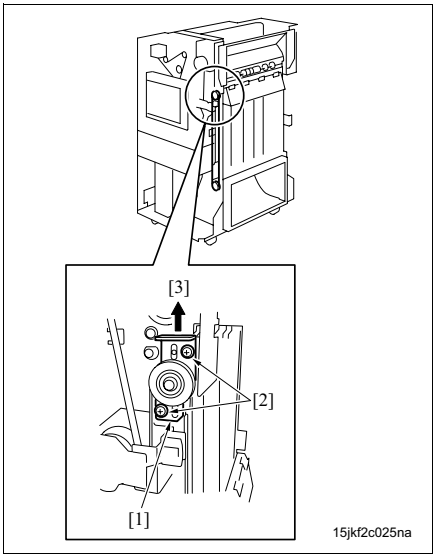
10. Hook the lift wire on the lift pulley /Up [1]. Then, wind the lift wire 2 turns from inside to outside around the lift pulley Lw [2] with no slack, draw the lift wire through the notch and fasten it with the wire end hole [3].

Note

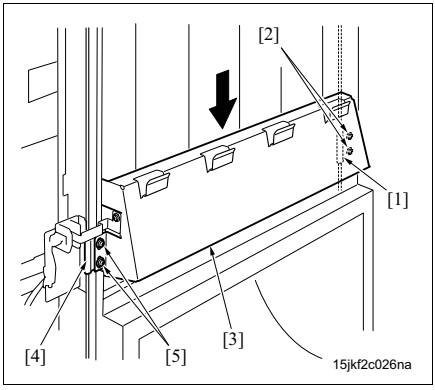
- **Be sure to wind the lift wire on the lift pulley / UP without the short side (the side wound in advance) and the long side (the side wound subsequently) are overlapped.**



11. Insert the pin [1] and the gear [2], and then fasten it with E-ring [3].



12. Use a tension gauge or spring balance to pull up the belt tensioner [1] with a standard force "A" [3] and fasten it with the 2 screws [2].
Standard value [3]: A = 2.5 ± 0.25 kg



13. Loosen the 2 screws [2] on the wire mounting plate [1] at the front to push down the lift stay [3] to the horizontal position, and then remove 4 screws [2] and [5] from both the front and the rear.

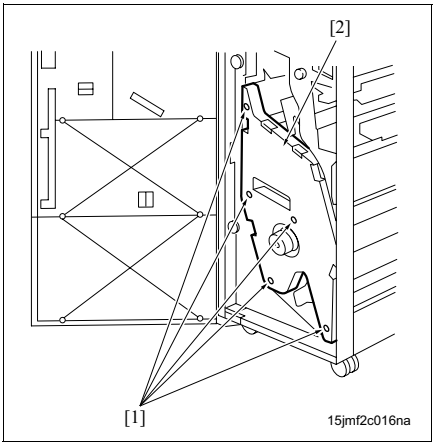
Note

- **Be sure to check the lift stay [3] is in the horizontal position. If it is in the tilt position, the main tray lift motor (M3) or the gear may be damaged due to the excessive force.**

14. Reinstall the above parts following the removal steps in reverse.

3.3.8 Removing/reinstalling the stacker unit cover

A. Procedure

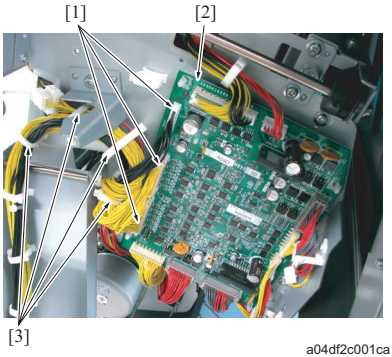


1. Open the front door.
2. Remove 5 screws [1], and then remove the stacker unit cover [2].
3. Reinstall the above parts following the removal steps in reverse.

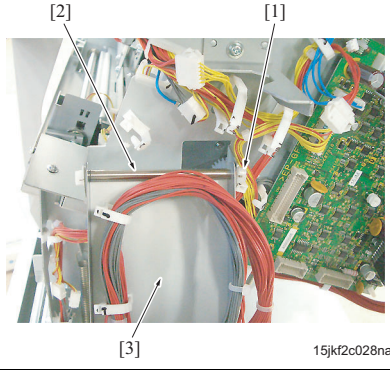
3.3.9 Removing/reinstalling the stacker unit

⚠Caution:
- **Be sure to conduct this operation with 2 personnel.**
- **Be sure to unplug the power cord of the main body from the power outlet.**
- **Be careful not to let FS fall down when removing FS from the main body and pulling out the stacker unit from FS. It may cause the injury.**

A. Procedure



1. Remove the following parts.
   - Booklet tray
   - Left cover (See P.21)
   - Front cover (See P.20)
   - Rear cover (See P.20)
2. Remove FS from the main body.
3. Pull out the stacker unit.
4. Disconnect 3 connectors [1] (CN22, CN23, CN24) from the relay board (RB) [2] on the back of the stacker unit.
5. Remove the wiring harness from the 4 clamps [3].



6. Remove the C-clip [1] and the shaft [2], and then separate the coupling arm [3].

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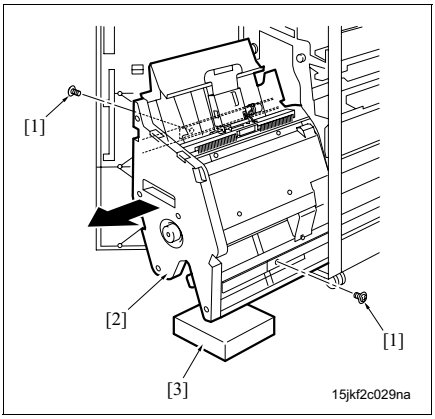
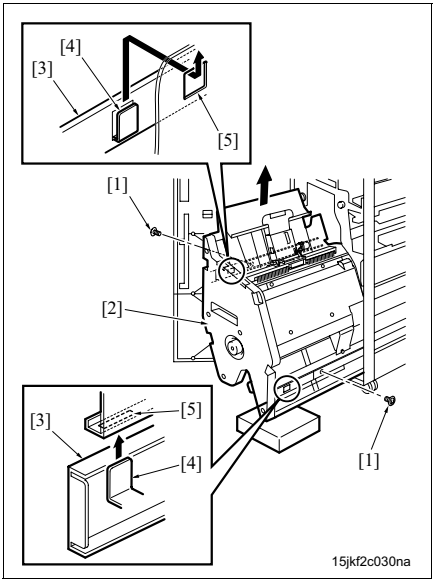


7. Remove 2 screws [1] from the rail stopper, and then pull out the stacker unit [2] further.

Note

- **Be sure to place a support [3] under the stacker unit to prevent FS from falling down.**



8. Remove 2 screws [1], and then lift up the stacker unit [2] and remove it from the guide rails [3].

Note

- **Be careful of your posture in order not to throw out your back when removing it.**

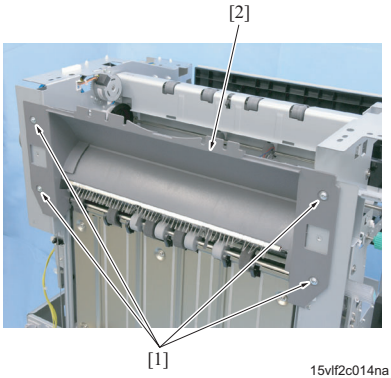
9. Reinstall the above parts following the removal steps in reverse.

Note

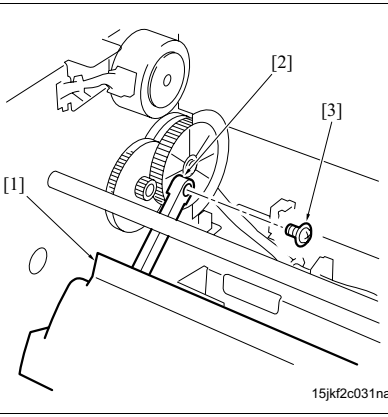
- **When reinstalling the stacker unit [2] to the guide rails [3], be sure to check that the hooks [4] are inserted into the mounting holes [5] securely.**

3.3.10 Removing/reinstalling the paper exit unit

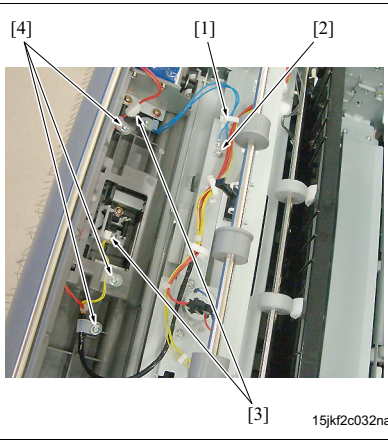
A. Procedure



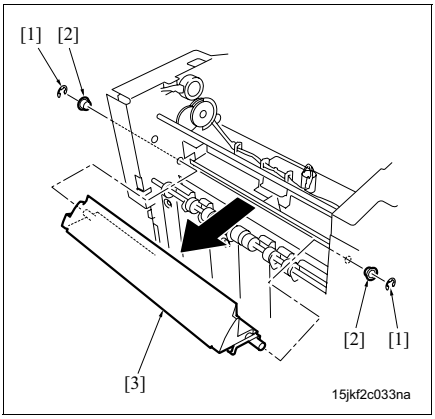
1. Remove the following parts.
   - Remove the upper cover /1 or optional PI (See P.19)
   - Upper cover /2 (See P.19)
   - Left cover (See P.21)
   - Rear cover (See P.20)
   - Main tray (See P.22)
2. Remove 4 screws [1], and then remove the main paper exit cover [2].



3. Remove the screw [3] from the paper exit open/close link [2] of the paper exit unit [1].



4. Remove the clamp [1], the screw [2] securing the ground wire, 2 connectors [3] and 3 screws [4] from the clamp.



5. Remove the E-rings [1], 1 each, and the bearings, 1 each, from both the front and the rear, and then remove the paper exit unit [3].
6. Reinstall the above parts following the removal steps in reverse.

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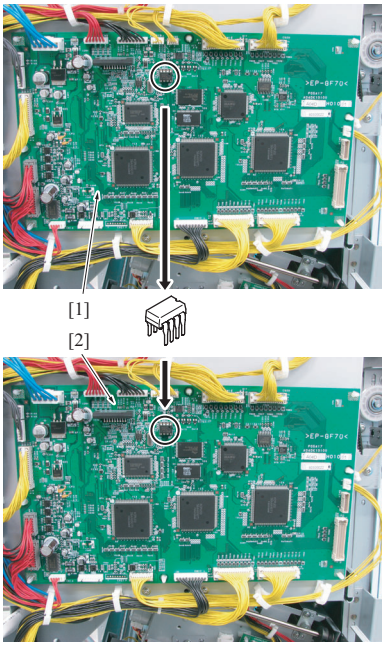
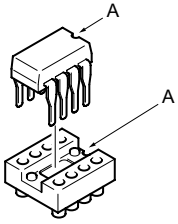
3.3.11 Note to keep in mind when replacing the board



a04df2e001ca

When the FNS control board (FNSCB) is replaced, be sure to remove the EEPROM (IC10) from the old control board [1] and install it into the new control board [2].



fd501fs2078c

Note

- **Be sure to set the "A" sections of the EEPROM (IC10) in the same direction for installation.**

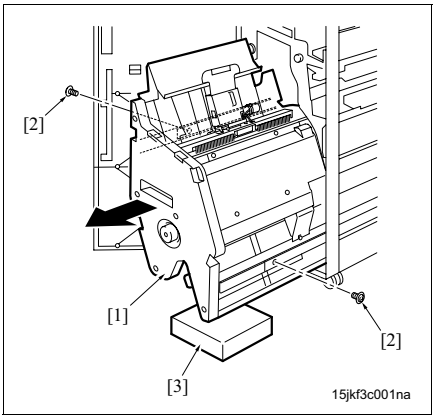
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

4.1 Adjusting the bypass gate

Conduct this adjustment when the paper gets jammed in the bypass gate.

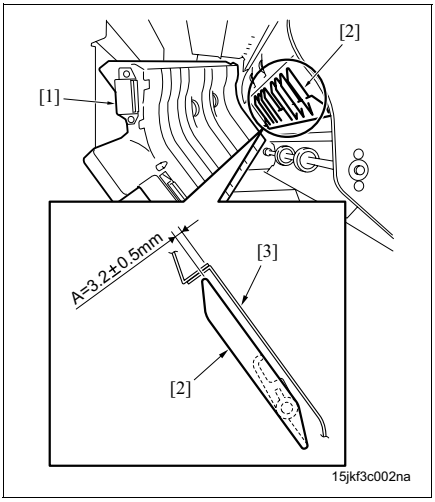
A. Procedure



1. Open the front door.
2. Pull out the stacker unit [1].
3. Remove 2 screws [2] from the rail stopper, and then pull out the stacker unit further.

Note

- **Be sure to place a support [3] under the stacker unit to prevent FS from falling down.**



4. Open the bypass transfer guide plate [1].
5. Check to see if the clearance between the bypass gate [2] and the bypass transfer plate [3] is within a standard value when the bypass gate solenoid (SD5) turns OFF.
   Standard value: A = 3.2 ± 0.5 mm
   When the value is not within the standard value, perform the following adjustment.

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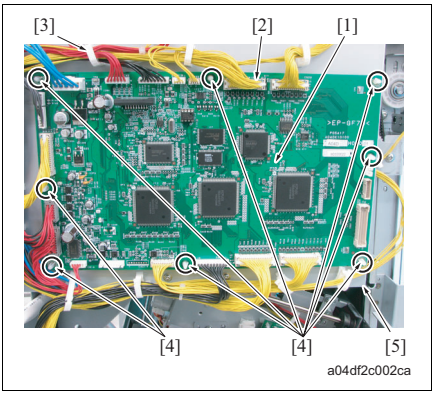
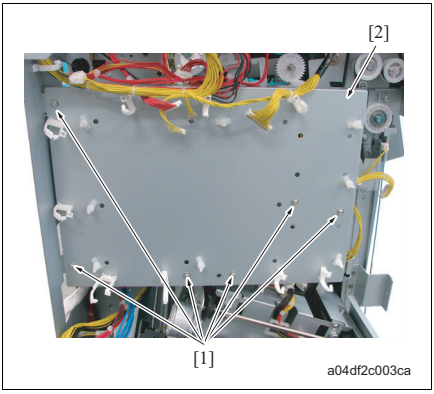
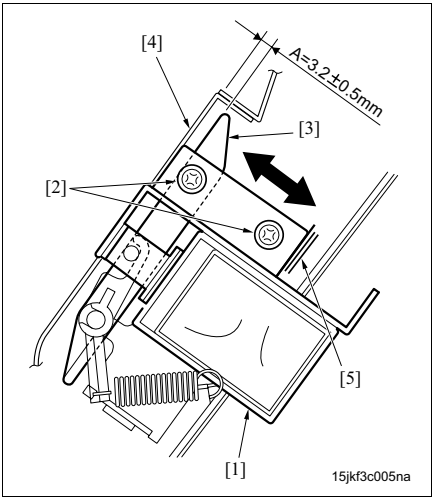


6. Remove the rear cover (See P.20)
7. Disconnect all connectors [2] from the FNS control board (FNSCB) [1], and then remove the wiring harnesses from the clamp [3].
8. Release 8 board supports [4] and remove FNSCB [1] from the board mounting plate [5].



9. Remove 6 screws [1], and then remove the board mounting plate [2].

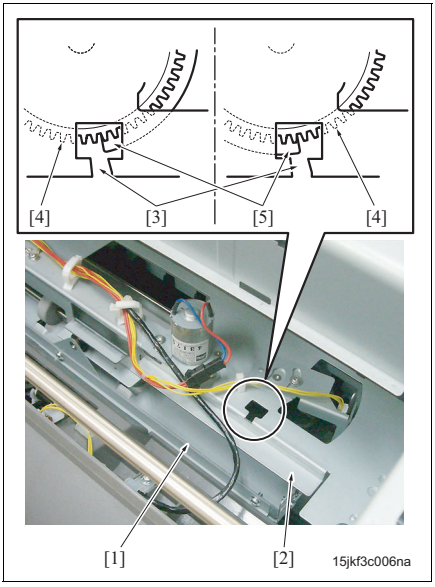


10. Loosen 2 screws [2] on the bypass gate solenoid (SD5) [1], and then, by referring to the markings [5], adjust the position of SD5 so that the clearance between the bypass gate [3] and the bypass transfer plate [4] gets to the standard value when SD5 turns OFF.
    Standard value: A = 3.2 ± 0.5 mm
11. Reinstall the above parts following the removal steps in reverse.

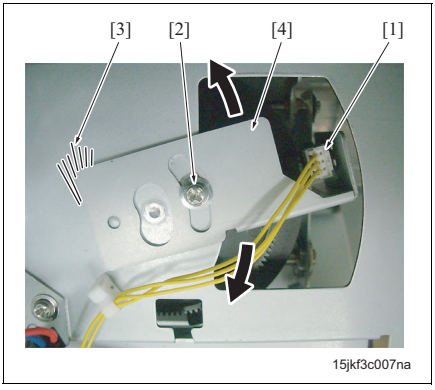
4.2 Shift position adjustment

Conduct this adjustment when the shift amount of the paper exited to the main tray is not within a standard value (30 mm).

A. Procedure



1. Remove the following parts.
   - Remove the upper cover /1 (See P.19)
   - Upper cover /2 (See P.19)
2. Turn ON the main body. And then enter the service mode and select [State Confirmation]- [I/O Check Mode]. Perform the output code 72-03 : Shift roller motor (M2) (home position search).
3. Turn OFF the main body.
4. Both in the home position and the shift position, check to see if the edge of the actuator [5] of the slide gear [4] is in the notch [3] of the slide stay [2] of the shift unit [1].
   When the edge of the actuator is in the notch of the slide stay, perform the following adjustment.



5. Loosen the screw [2] on the mounting plate [4] of the shift roller home sensor (PS18) [1], and then adjust the position of the mounting plate [4] by referring to the markings [3].
6. After completing the adjustment, tighten the screw [2].
7. Reinstall the above parts following the removal steps in reverse.

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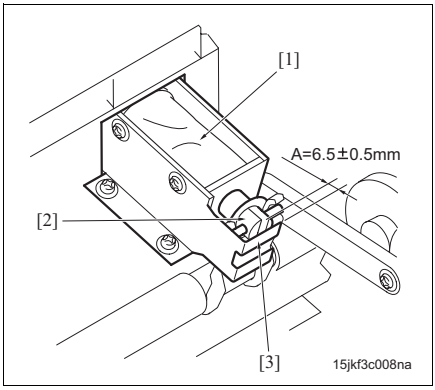
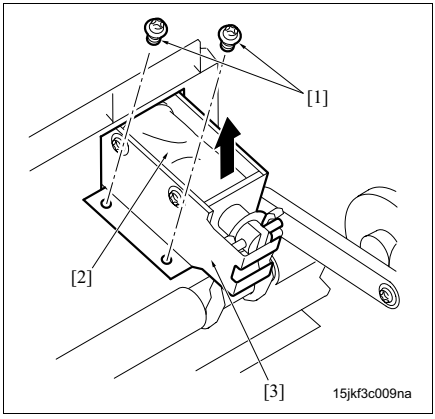
4.3 Adjusting the paper exit solenoid

Conduct this adjustment when the paper exited to the main tray is misaligned.

A. Procedure



1. Remove the following parts.
   - Remove the upper cover /1 (See P.19)
   - Upper cover /2 (See P.19)
   - Rear cover (See P.20)
2. Turn ON the main body. And then enter the service mode and select [State Confirmation]- [I/O Check Mode]. Perform the output code 72-45 : Paper exit opening solenoid (SD4).
3. Turn OFF the main body.
4. Check to see if the clearance between the plunger [2] of the solenoid and the stopper [3] of the mounting plate is within a standard value when SD4 [1] turns OFF.
   Standard value: A = 6.5 ± 0.5 mm
   When the value is not within the standard value, perform the following adjustment.



5. Remove 2 screws [1] from the solenoid mounting plate [3], and then remove the solenoid [2] with the mounting plate [3].

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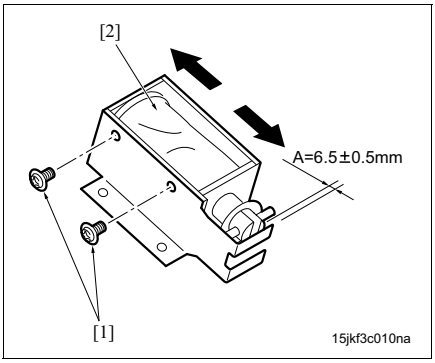

6. Loosen 2 screws [1] on the solenoid, and then adjust the position of the solenoid [2] and tighten the screws.
Standard value: A = 6.5 ± 0.5 mm

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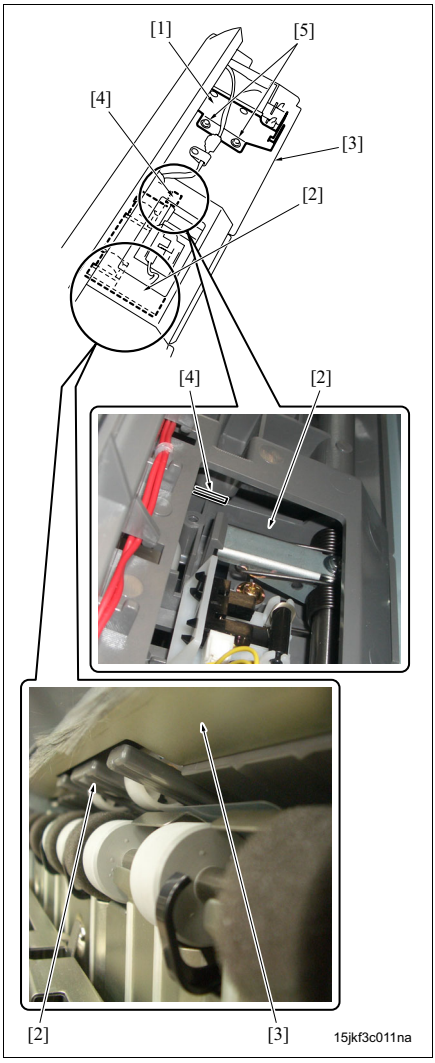

7. Reinstall the solenoid and the mounting plate [1], and then install the solenoid mounting plate at the position where the paper exit guide [2] contacts with the stopper (rubber) [4] of the paper exit guide stay [3] with 2 screws [5].

Note

- **There should be more than 1 mm of step between the paper exit guide [2] and the paper guide stay [3].**

8. Reinstall the above parts following the removal steps in reverse.

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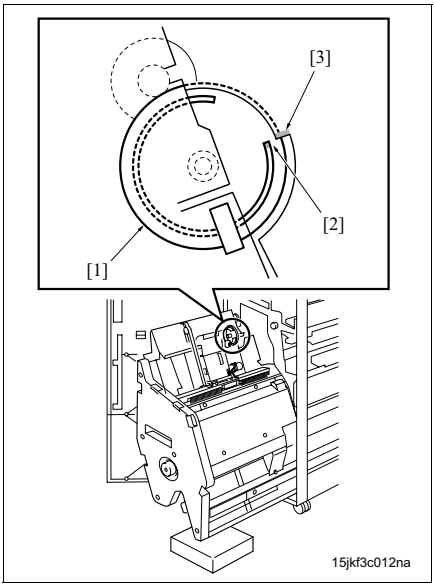
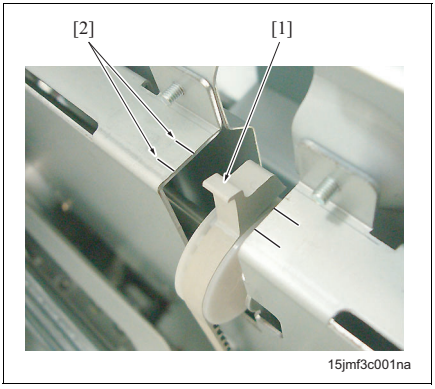
4.4 Adjusting the mounting position of the paper exit arm

Conduct this adjustment when there is problem with the paper exit during the stapling operation.

A. Procedure



1. Open the front door, and then pull out the stacker unit.
2. Rotate the belt detection gear to align the edge of the actuator [2] of the belt detection gear [1] with the notch [3] of the panel /Rr.



3. Check to see if the paper exit arm [1] is within the extent in the illustration [2].
   When the position is not within the standard extent, perform the following adjustment.
4. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

Note

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**

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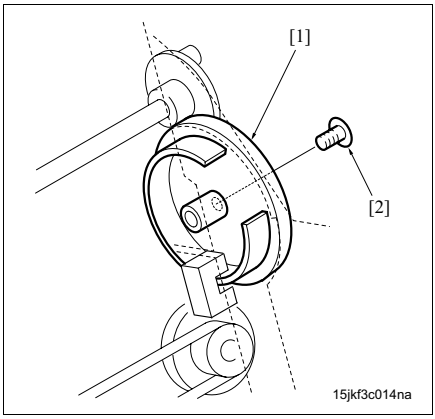

5. Remove the screw [2] from the belt detection gear [1] and adjust the position of the paper exit arm to the standard position, and then adjust the position of the belt detection gear [1] to the position in step 2 and secure it.

6. Reinstall the above parts following the removal steps in reverse.

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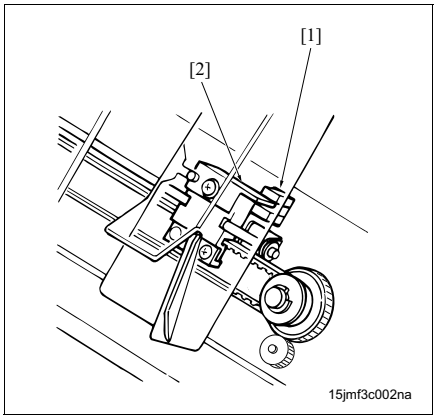
4.5 Adjusting the mounting position of the alignment plate /Up

Conduct this adjustment when there is misalignment in the flat-stapled paper bundle.

A. Procedure

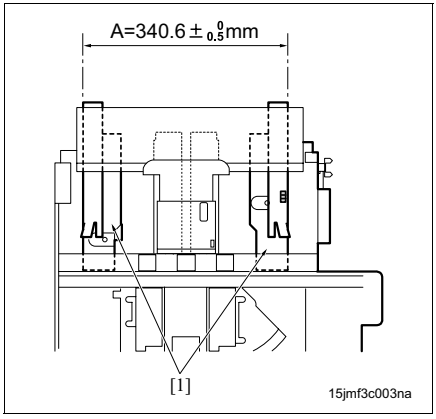


1. Turn ON the main body, and then turn OFF the main body after the FS initial operation.
2. Open the front door, and then pull out the stacker unit.
3. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

Note

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**

4. Check to see if the actuator [2] of the alignment plate home sensor /Up (PS8) [2] is aligned with the home position.



5. Check to see if the distance A between the alignment plates /Up [1] is within a standard value.

   Standard value: A = $340.6^{+0}_{-0.5}$ mm (inside to inside)

   When the value is not within the standard value, perform the following adjustment.

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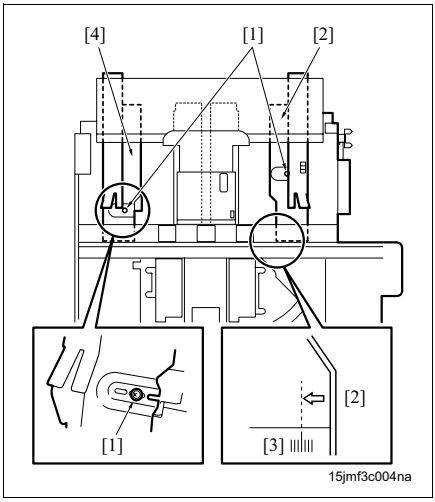

6. Loosen 2 screws [1] and adjust the alignment plate /UpRr [2] with the long center marking of the marking lines [3], and then adjust the position of the alignment plate /UpFr [4] by referring the back side to make the distance be the standard value.

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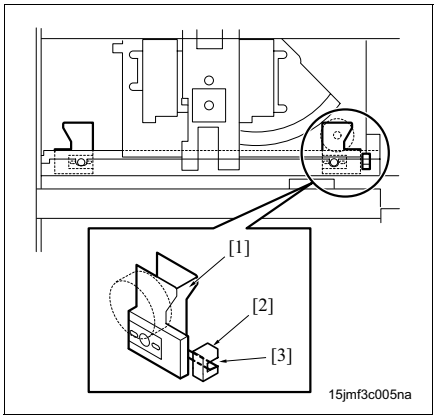
4.6 Adjusting the mounting position of the alignment plate /Lw

Conduct this adjustment when there is misalignment in the saddle stitched paper bundle.

A. Procedure

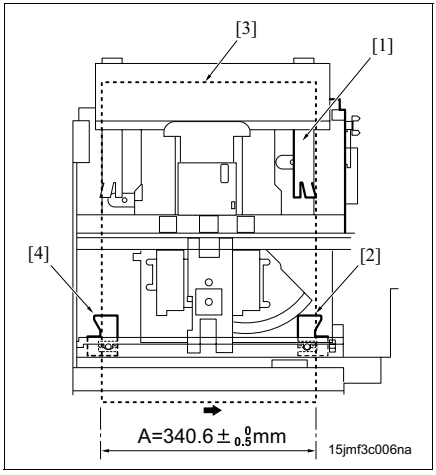


1. Check to see if "4.5 Adjusting the mounting position of the alignment plate /Up" has been completed.
2. Turn ON the main body. And then enter the service mode and select [State Confirmation]- [I/O Check Mode]. Perform the output code 72-41 : Saddle stitching stopper motor (M18) (home position search).
3. Turn OFF the main body.
4. Open the front door, and then pull out the stacker unit.
5. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

Note

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**

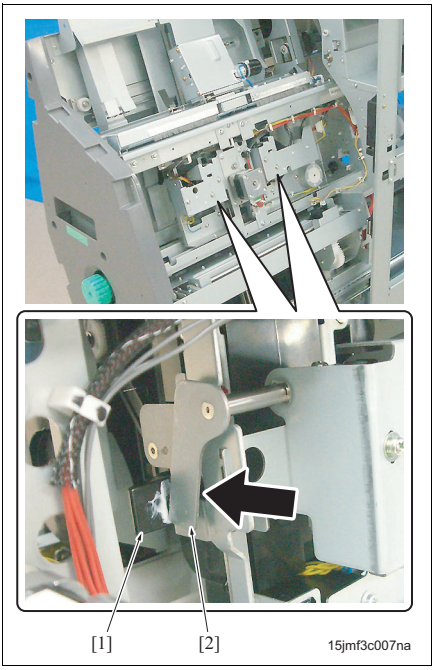
6. Remove the stapler unit cover. (See P.11)
7. Check to see if the actuator of the alignment plate home sensor /Up (PS8) is aligned with the home position.
8. Check to see if the actuator [3] of the alignment plate home sensor (PS24) [2] for the alignment plate /Lw [1] is aligned with the home position.



9. Set the paper that is larger than A4S in the stacker section, and then make the alignment plate /UpRr [1] and the alignment plate /LwRr [2] contact with the paper [3] and check to see if the they are aligned. Also, check to see if the distance A between the alignment plate /LwRr [2] and the alignment plate /LwFr [4] is within a standard value.

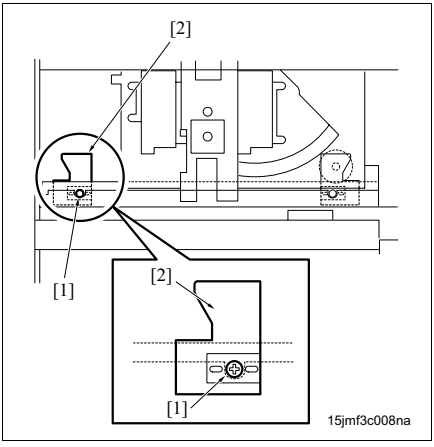
   Standard value: A = $340.6^{+0}_{-0.5}$ mm (inside to inside)

   When the value is not within the standard value, perform the following adjustment.



Note

- **When setting paper in the stacker, be sure to press the flat-stapling stopper release lever [2] with your finger to avoid the paper is placed on the flat-stapling stopper [1].**



10. Loosen the screw [1] and adjust the position of the alignment plate /Lw [2] to make the distance be the standard value.

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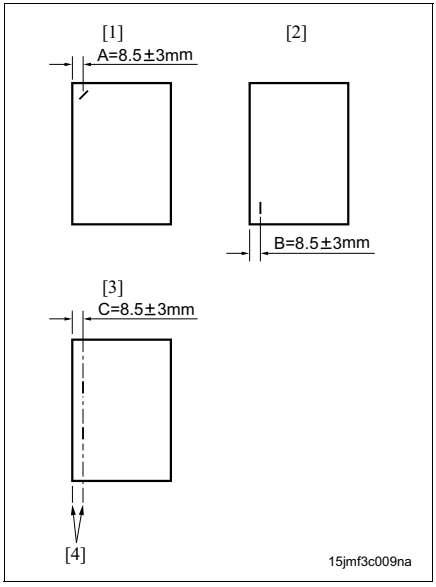
4.7 Staple position adjustment (flat-stapling)

Conduct this adjustment when the staple position is not within the standard value.

Note

- **Be sure not to move the stapler unit in the horizontal direction by hand. Otherwise, it may cause the belt and gear tooth skipping.**

A. Procedure



1. Perform the stapling operation and check to see if the staple position is within the standard value.
   - The standard value in the 1 staple/one-corner stapling at rear [1]: A = 8.5 ± 3 mm
   - The standard value in the 1 staple/front [2]: B = 8.5 ± 3 mm
   - The standard value in the flat-stapling [3]: C = 8.5 ± 3 mm
     (In the flat-stapling, the edge of the paper and the line connecting 2 staples [4] should be in parallel.)

   Conduct the following adjustment when the value is not within the standard value or when they are not in parallel.

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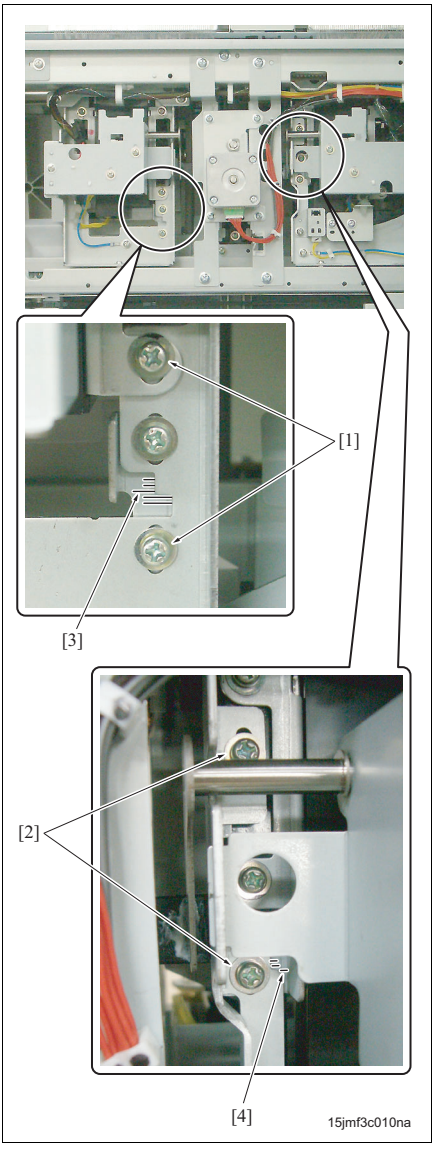

2. Turn ON the main body. And then enter the service mode and select [State Confirmation]- [I/O Check Mode]. Perform the output code 72-32 : Stapler movement motor (M11) (A4,1-stapling position). Then turn OFF the main body.
3. Open the front door, and then pull out the stacker unit.
4. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

NOTE

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**

5. Remove the stapler unit cover.
6. Loosen 2 adjusting screws [1] on the flat-stapling stopper /Fr and 2 adjusting screw [2] on the flat-stapling stopper /Rr, and then adjust the positions of the flat-stapling stoppers /Fr and /Rr by referring to the markings [3] and [4].
7. Perform the stapling operation and check to see if the staple position is within the standard value.

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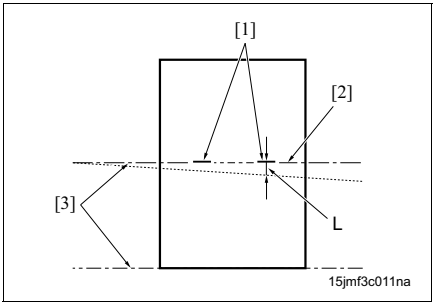
4.8 Staple position adjustment (flat-stapling)

Conduct this adjustment when the edge of the paper and the staple positions are not in parallel at the saddle stitching.

A. Procedure

Note

- **Be sure not to move the stapler unit in the horizontal direction by hand. Otherwise, it may cause the belt and gear tooth skipping.**



1. Check to see if the edge of the paper and the line [2] connecting 2 staples [1] should be in parallel [3] and the misalignment L is within the standard value.
   Standard value: misalignment L = 1 mm or less
   When the misalignment is not within the standard value, perform the following adjustment.

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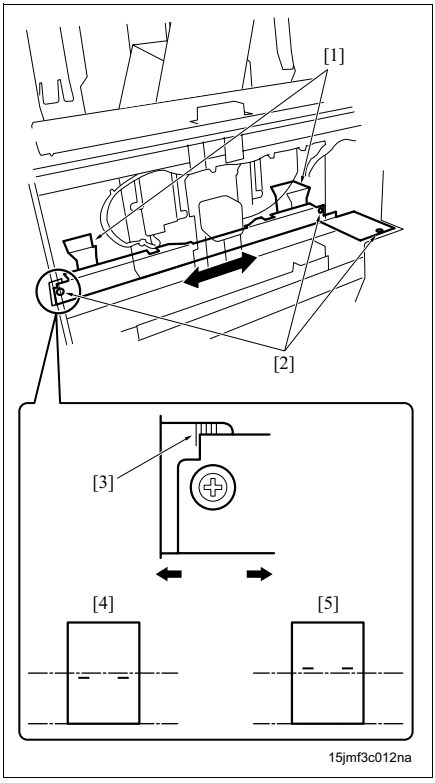

2. Check to see if "4.5 Adjusting the mounting position of the alignment plate /Up" and "4.6 Adjusting the mounting position of the alignment plate /Lw" have been completed.
3. Open the front door, and then pull out the stacker unit.
4. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

Note

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**

5. Remove the stapler unit cover.
6. Loosen 3 screws [2] on the alignment plate /Lw [1].
7. Adjust the position of the alignment plate /Lw to the front and the rear if [4] and [5] are the cases respectively.
8. Tighten the 3 screws, and then perform the stapling operation and check to see if the saddle stitching position is within the standard value.

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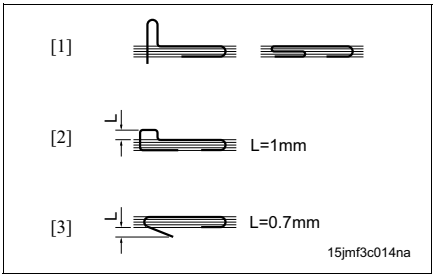
4.9 Stapler vertical position adjustment

Conduct this adjustment when there is a problem in clinching of the stapler.

Note

- **Be sure not to move the stapler unit in the horizontal direction by hand. Otherwise, it may cause the belt and gear tooth skipping.**

A. Procedure

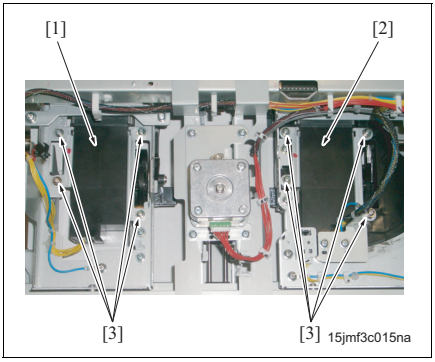


1. Perform the stapling operation and check to see if there is one of the following clinching problems.
   - There is the bucking [1] of the staple.
   - The floating of the staple is more than the standard value (L = 1 mm).
   - The bending height of the staple is more than the standard value (L = 0.7 mm).

   Conduct the following adjustment when one of the conditions is met.
2. Turn ON the main body. And then enter the service mode and select [State Confirmation]- [I/O Check Mode]. Perform the output code 72-32. Then move the stapler unit to the position for A4 and 1 staple in the service mode, and then turn OFF the main body.
3. Open the front door, and then pull out the stacker unit.
4. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

Note

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**



5. Remove the stapler unit cover.
6. Remove the cartridge.
7. Remove the flat-stapling stopper release units /Fr and /Rr. (See P.12)
8. Remove 4 screws [3] from each of the clincher /Fr [1] and the clincher /Rr [2].

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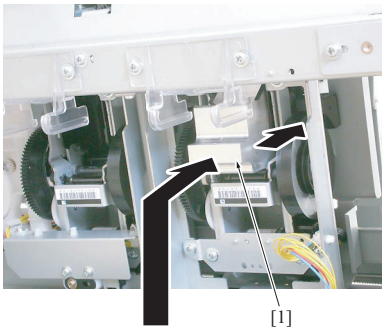

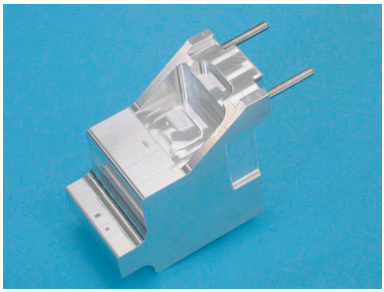

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9. Install the stapler positioning jig [1] onto the cartridge setting section.

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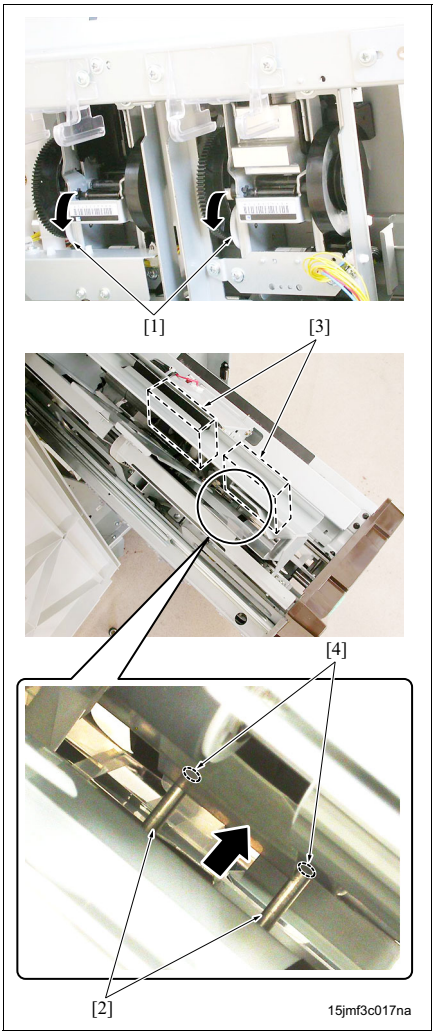

10. Rotate the gears [1] of the staplers downward and adjust the clinchers to the positions where 2 pins [2] of the stapler positioning jigs are inserted into the positioning holes [4] of the clinchers [3], and then rotate the gears [1] downward further to fully insert the pins into the positioning holes.

Note

- **Be sure to rotate the gears of the staplers carefully because the pins of the stapler positioning jigs may be clogged if they are inserted forcedly.**

11. Tighten 4 screws on each clinchers. (See step 8.)

12. Rotate the gears of the staplers upward to pull out the pins of the jig from the positioning holes of the clinchers, and then lift up and remove the jig.

13. Replace the cartridge.

14. Check the stapling operation.

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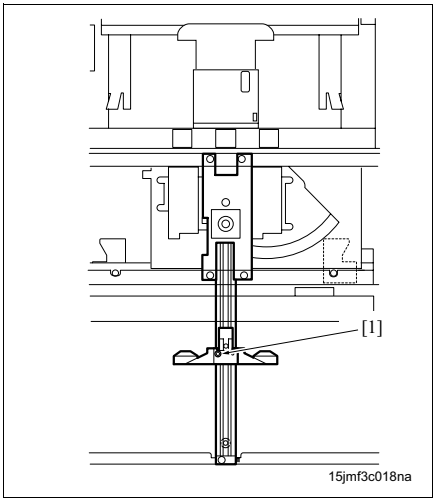
4.10 Folding stopper tilt adjustment

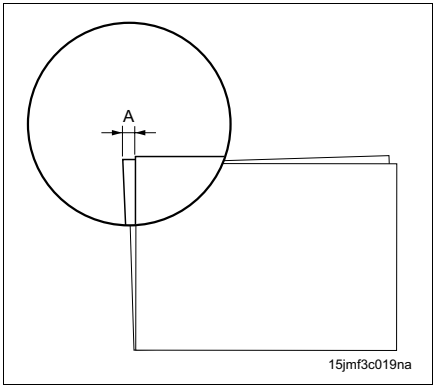
Conduct this adjustment when there is misalignment in the edges of the fold paper.



Note

- **Be sure not to move the stapler unit in the horizontal direction by hand. Otherwise, it may cause the belt and gear tooth skipping.**
- **Never loosen the screw [1] of the folding stopper. It is prohibited to be removed.**
- **For ease of understand, the position of the folding stopper is shown lower than the actual position in the illustration.**

A. Procedure



1. Perform the folding operation on A3 paper and check to see if the misalignment is within the standard value.
Standard value: A = 1 mm or less
When the misalignment is not within the standard value, perform the following adjustment.

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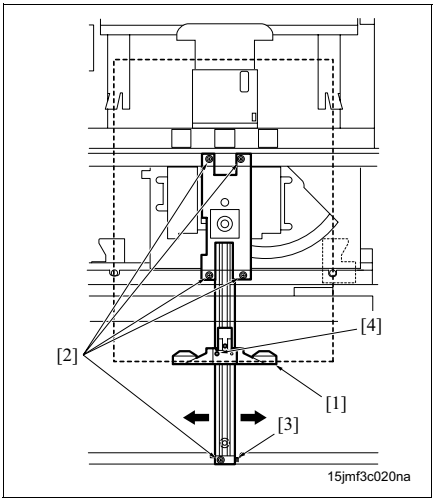

2. Open the front door, and then pull out the stacker unit.
3. Remove 2 screws from the rail stopper, and then pull out the stacker unit further. (See P.35)

Note

- **Be sure to place a support under the stacker unit to prevent FS from falling down.**

4. Remove the stapler unit cover.
5. Loosen 5 screws [2] on the folding stopper [1], and then adjust the tilt of the folding stopper by referring to the markings [3].

Note

- **Never loosen the screw [4] of the folding stopper. It is prohibited to be removed.**
- **For ease of understand, the position of the folding stopper is shown lower than the actual position in the illustration.**

6. Tighten 5 screws [2], and then perform the folding operation and check to see if the misalignment is within the standard value.

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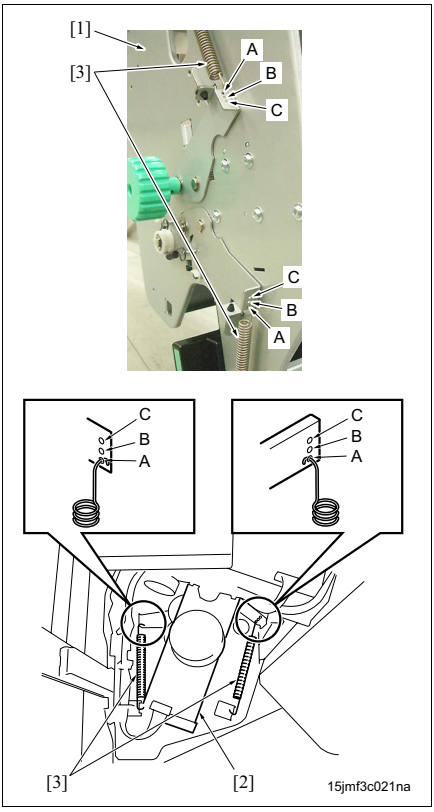
4.11 Adjusting the folding pressure

Conduct this adjustment if you want to change the power of the pressure of the folding roller.

A. Procedure



1. Remove the rear cover. (See P.20)
2. Open the front door.
3. Remove the stacker unit cover. (See P.29)
4. Change the mounting position of the each 2 pressure springs [3] at both the front [1] and the rear [2].
   The folding pressure is:
   A: weak B: normal C: strong

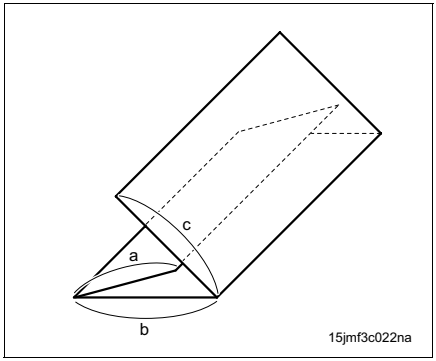
Note

- **Hook the 4 pressure springs [3] on the hook holes of the same mark.**

4.12 Adjusting the tri-folding position

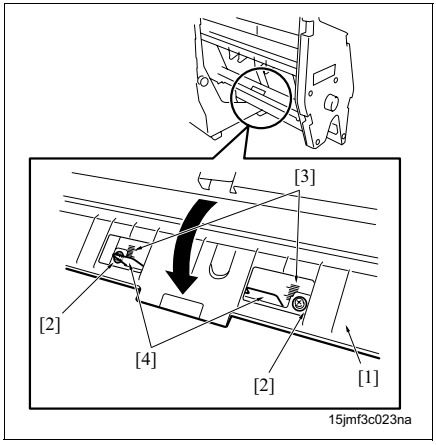
Conduct this adjustment when the 1st folding position or the 2nd folding position is not within the standard value.

A. Procedure



1. Check to see if "4.10 Folding stopper tilt adjustment" has been completed.
2. Perform the tri-folding operation and check to see if the tri-folding positions are within the standard values.
   When the tri-folding positions are not within the standard values, perform the following adjustment.

Folding position	Standard value		Standard
	A4S	8½ x 11S	
a	95 mm	89 mm	± 2 mm
b	101 mm	95 mm	± 2 mm
c	101 mm	95 mm	± 2 mm



3. Turn ON the main body, adjust the 1st folding position (standard a) with the "Try-folding position adjustment" of "FNS adjustment" in the service mode, and then perform the tri-folding operation.
4. If the 1st folding position a is within the standard, open the front door, and then pull out the stacker unit.
5. Open the tri-folding guide plate [1] and loosen 2 screws [2] from the tri-folding stopper, and then adjust the positions of the tri-folding stoppers [4] by referring to the markings [3].
6. Tighten 2 screws [2], and then perform the tri-folding operation and check to see if the 2nd folding position b is within the standard.

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KONICA MINOLTA

SERVICE MANUAL

Field Service

PI-502

2006.09

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

- To indicate clearly a section revised, show in the lower outside section of the corresponding page.
  A number within represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2006/09	1.0	—	Issue of the first edition

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

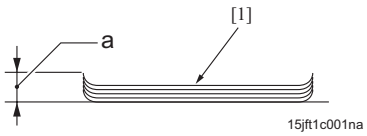
A. Type

Type	Torque limiter separation type seat feeding device

B. Functions

Auto sheet feeding (online operation)	Feeds the sheet to FS automatically under the instruction from the main body.
Manual sheet feeding (offline operation)	Feeds the sheet to FS under the instruction from the operation panel of PI. You can select the following 5 post processing modes: • 1 staple/back mode • 2 staples (flat-stapling) mode • Punch mode (when PK-512/513 is installed on FS) • Saddle stitching mode • Tri-folding mode **Note** • **The tray /Lw only supports the manual sheet feeding.**

C. Type of paper

Paper size	Tray /Up	A4, A4S, B5, B5S, A5 8½ x 11, 8½ x 11S, 5½ x 8½ 16K, 16KS Custom paper (Max.216 x 297 mm, Mln. 182 x 139 mm)
	Tray /Lw	A3, B4, SRA4S, A4, A4S, B5, B5S, A5 12 x 18, 11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½ 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K, 16K, 16KS Custom paper (Max.314 x 458 mm, Mln. 182 x 139 mm)
Paper type	Plain paper, recycle paper, color paper, special paper, coated paper, high-quality paper	
Paper weight	50 to 200 g/m^2	
Capacity	Tray /Up, /Lw	200 sheets (80 g/m^2) or 30 mm or less in height
Paper curling	 a Curling: 10 mm or less [1] 5 papers	

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D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source	24/5V DC (supplied from the main body)
Maximum power consumption	30W or less
Dimensions	511 (W) x 620 (D) x 220 (H) mm
Weight	Approx. 10.5 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80% RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**
-

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■ MAINTENANCE

2. PERIODIC CHECK

2.1 Procedure for the maintenance of the paper feed section

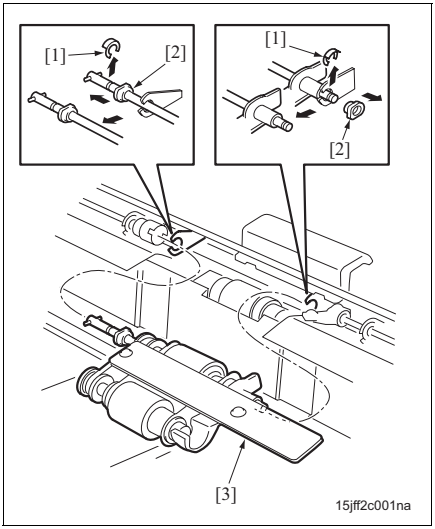
⚠Caution:
- **Be sure to unplug the power cord of the main body from the power outlet.**

2.1.1 Replacing the pick-up roller /Up and the paper feed roller /Up

A. Periodically replaced parts/cycle

- Pick-up roller /Up: Every 1,000,000 prints (actual replacement cycle: every 200,000 prints)
- Paper feed roller /Up: Every 600,000 prints (actual replacement cycle: every 100,000 prints)

B. Procedure



1. Remove the top cover (See P.9)
2. Remove 2 C-clips [1], and then slide the bearings [2] at the both sides and remove the paper feed roller assy /Up [3].

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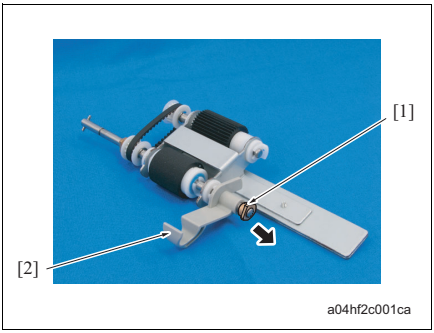
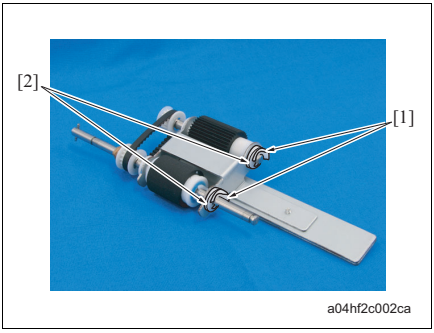
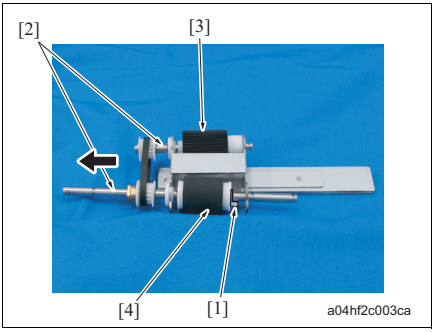


3. Remove the bearing [1] and then remove the actuator [2].



4. Remove 2 C-rings [1], and remove 2 bearings [2].

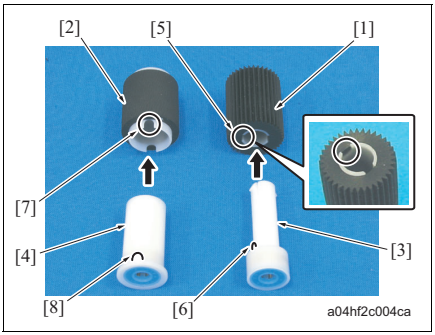


5. Remove the C-clip [1].

6. Slide 2 roller shafts [2] to the arrow-marked direction to remove the pick-up roller /Up [3] and the paper feed roller /Up [4].

Note

- **Reinstalling the pick-up roller and the paper feed roller with the blue faces of the one-way clutches of the pick-up roller and the paper feed roller face to the front.**



7. Remove the pick-up roller [1] and the paper feed roller [2] from the one-way clutches [3] and [4].

Note

- **When reinstalling the pick-up roller [1], be sure to insert its cutout [5] over the protrusion [6] of the one-way clutch [3].**
- **When reinstalling the paper feed roller [2], be sure to insert its cutout [7] over the protrusion [8] of the one-way clutch [4].**

8. Reinstall the above parts following the removal steps in reverse.

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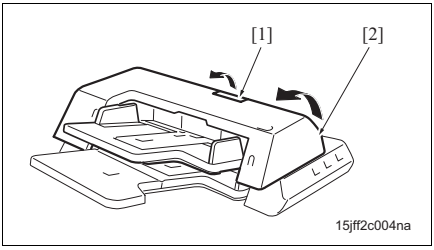
2.1.2 Replacing the pick-up roller /Lw and the paper feed roller /Lw

A. Periodically replaced parts/cycle

- Pick-up roller /Lw: Every 1,000,000 prints (actual replacement cycle: every 200,000 prints)
- Paper feed roller /Lw: Every 600,000 prints (actual replacement cycle: every 100,000 prints)

B. Procedure



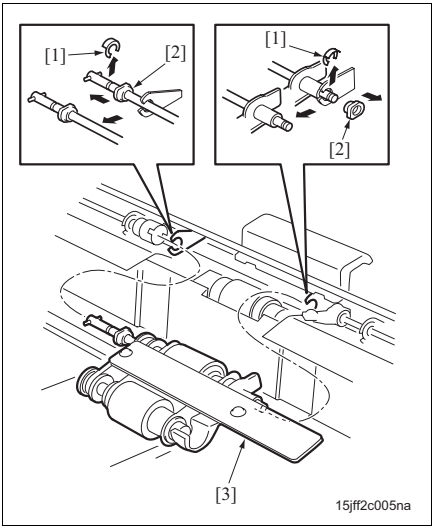
1. Pull the release lever [1] and open the top door [2].
2. Perform the steps 2 to 7 in "2.1.1 Replacing the pick-up roller /Up and the paper feed roller /Up."
3. Reinstall the above parts following the removal steps in reverse.

2.1.3 Replacing the separation roller /Up and the torque limiter /Up

A. Periodically replaced parts/cycle

- Separation roller /Up: Every 600,000 prints (actual replacement cycle: every 100,000 prints)
- Torque limiter /Up: Every 3,000,000 prints (actual replacement cycle: every 600,000 prints)

B. Procedure



1. Remove the top cover (See P.9)
2. Remove 2 C-clips [1], and then slide the bearings [2] at the both sides and remove the paper feed roller assy /Up [3].

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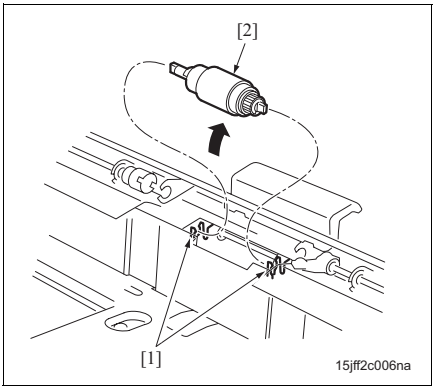
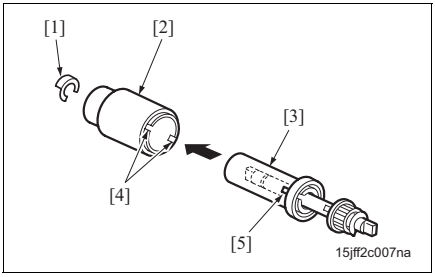


3. Release hooks [1] at the both sides, and then lift up and remove the separation roller assy /Up [2].



4. Remove the C-clip [1] from the separation roller assy /Up, and then remove the separation roller / Up [2] and the torque limiter /Up [3].
5. Reinstall the above parts following the removal steps in reverse.

Note

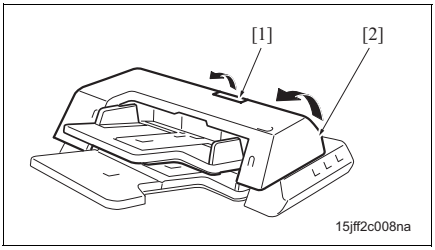
- **Install the separation roller with 2 notches [4] face to the front and be aligned with the prong [5].**

2.1.4 Replacing the separation roller /Lw and the torque limiter /Lw

A. Periodically replaced parts/cycle

- Separation roller /Lw: Every 600,000 prints (actual replacement cycle: every 100,000 prints)
- Torque limiter /Lw: Every 3,000,000 prints (actual replacement cycle: every 600,000 prints)

B. Procedure



1. Pull the release lever [1] and open the top door [2].
2. Perform the steps 2, 3, and 4 in "2.1.3 Replacing the separation roller /Up and the torque limiter / Up."
3. Reinstall the above parts following the removal steps in reverse.

EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

3. OTHER PARTS

3.1 List of parts to be disassembled and assembled

No.	Section	Part name	Page referred to
1	Cover	Top cover	P.9
2		Rear cover	P.9
3		Operation panel cover	P.10

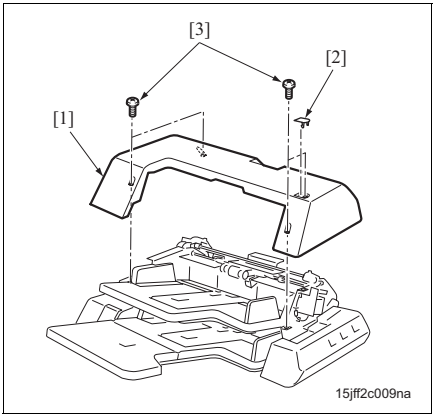
EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

3.2 Removal procedure of parts to be disassembled and assembled

⚠Caution:
- **Be sure to unplug the power cord of the main body from the power outlet.**

3.2.1 Removing/reinstalling the top cover

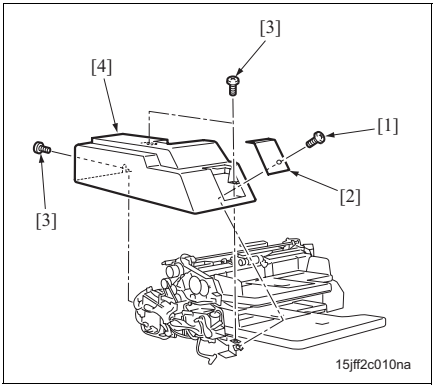
A. Procedure



1. Remove the cap [2] of the top cover [1].
2. Remove 4 screws [3], and then remove the top cover [1].
3. Reinstall the above parts following the removal steps in reverse.

3.2.2 Removing/reinstalling the rear cover

A. Procedure



1. Remove the top cover (See P.9)
2. Remove the screw [1], and then remove the connector cover [2].
3. Remove 3 screws [3], and then remove the rear cover [4].
4. Reinstall the above parts following the removal steps in reverse.

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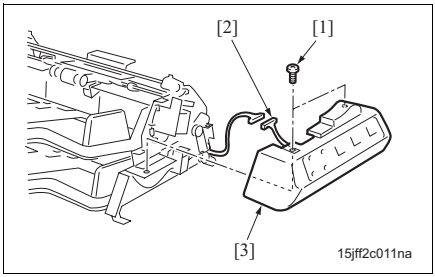
3.2.3 Removing/reinstalling the operation panel cover

A. Procedure



1. Remove the top cover (See P.9)
2. Remove 2 screws [1] and disconnect the connector [2], and then remove the operation panel assembly [3].
3. Reinstall the above parts following the removal steps in reverse.

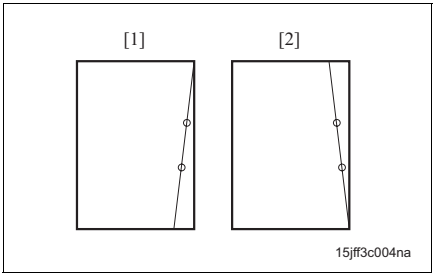
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

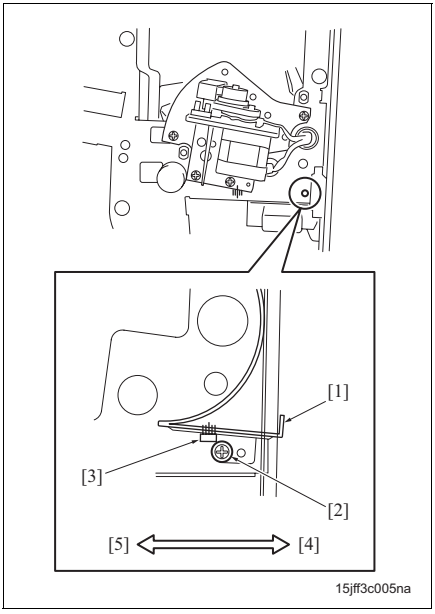
4.1 PI tilt adjustment (with PK installed)

Conduct this adjustment if the edge of the paper and the punch hole position of the paper fed from PI is not in parallel.

A. Procedure



1. Set 3 sheets of paper in the tray of the PI, and then feed them in the punch mode as samples.
2. Fold the sheets in half and check the tilt of the punch holes.
   [1]: The front is wider
   [2]: The back is wider



3. Open the front door of FS, and then loosen the screw [2] of the guide plate [1].
4. Adjust the guide plate [1] in accordance with the misalignment of the punch holes by referring to the markings [3].
   The back is wider: Move to [4]
   The front is wider: Move to [5]
5. Tighten the screw [2].
6. Repeat step 1 to 5 until the tilt of the punch holes is corrected.

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KONICA MINOLTA

SERVICE MANUAL

Field Service

PK-512/513

2006.09
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0
EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, show to the left of the revised section.
  A number within represents the number of times the revision has been made.

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2006/09	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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PK-512/513

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EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

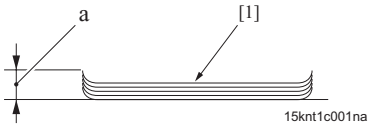
A. Type

Type	FS-integrated type punching operation device

B. Functions

Punching method	Stops and punches every paper	
No. of holes	PK-512:	2 holes/3 holes (inch) or 2 holes/4 holes (metric)
	PK-513:	4 holes
Hole diameter	ϕ 6.5 mm (2 holes/4 holes), ϕ 8.0 mm (3 holes)	
Hole pitch	PK-512:	80 mm (2 holes/4 holes), 108 mm (3 holes)
	PK-513:	21, 70, 21 mm
Supported mode	Punch mode, straight mode	
Applicable post processing mode	Sort, group, staple	

C. Type of paper

Paper size	PK-512 (2 holes):	A3, B4, SRA4S, A4, A4S, B5, B5S, A5, A5S
		11 x 17, 8½ x 14, 8½ x 11, 8½ x 11S, 5½ x 8½S
		8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13
		8K, 16K, 16KS
	PK-512 (3 holes/4 holes):	A3, B4, A4, B5
		11 x 17, 8½ x 11
		8K, 16K
	PK-513:	A3, B4, A4, B5
Applicable paper	Plain paper, high quality paper, color paper, coated paper (same as the main body)	
Paper weight	60 to 128 g/m^2	
Punch prohibited paper	Label paper, tab paper, transparency film, 2nd base paper, holed paper, and the other paper that may interfere with the operation of the punch unit or the punch blade.	
Paper curling	 a Curling (10 mm or less) [1] 5 sheets of paper	

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D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source	24/5V DC (supply from the main body)
Maximum power consumption	40 W or less
Dimensions	130 (W) x 470 (D) x 115 (H) mm
Weight	Approx. 3 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80% RH (with no condensation)

NOTE

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC CHECK

2.1 Maintenance procedure

Periodically replaced parts are not employed.

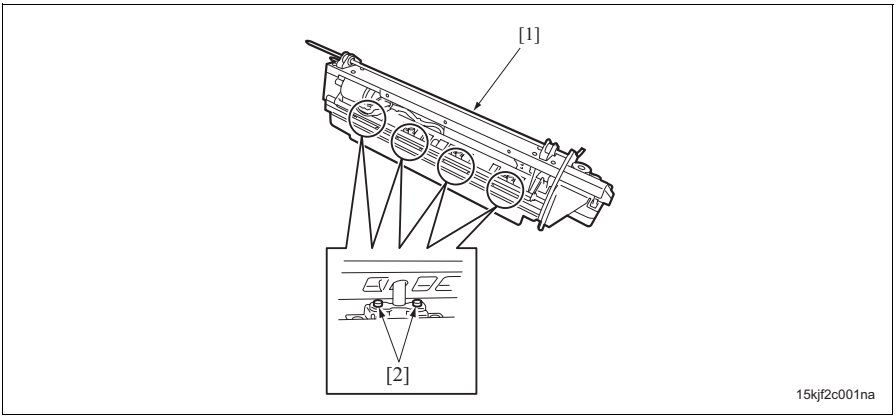
3. OTHERS

3.1 Items not allowed to be disassembled and adjusted

A. Screws not allowed to be removed

(1) Parts not allowed to be removed

Never loosen the following screws.



[1] Punch unit

[2] Screw not allowed to be removed

(2) Reason

The specified performance cannot be retained if the screw is loosen.

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3.2 List of parts to be disassembled and assembled

No.	Section	Part name	Page referred to
1	Punch unit	Punch unit	P.6

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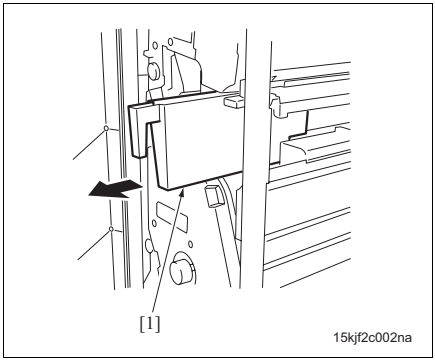
3.3 Removal procedure of parts to be disassembled and assembled

⚠Caution:

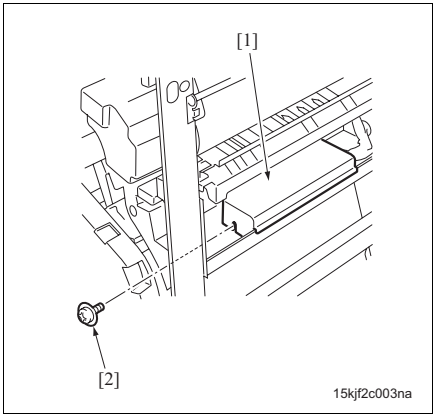
- **Be sure to unplug the power cord of the main body from the power outlet.**

3.3.1 Removing/reinstalling the punch unit

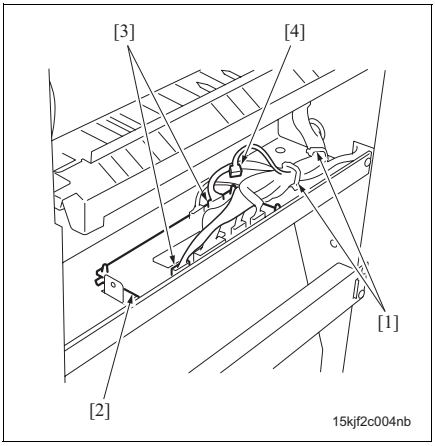
A. Procedure



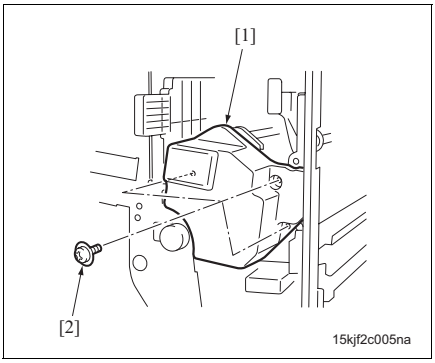
1. Remove the punch scraps box [1].



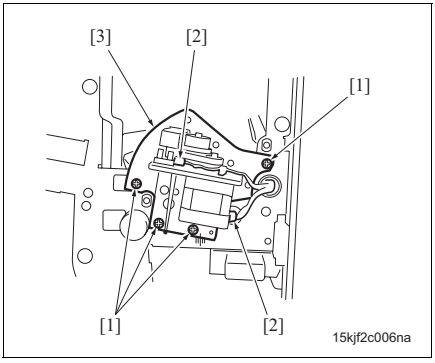
2. Remove the screw [2], and then remove the punch drive board cover [1].



3. Remove the 2 clamps [1].
4. Disconnect 2 connectors [3] and the relay connector [4] from the punch drive board (PDB) [2].



5. Remove 3 screws [2], and then remove the punch unit cover [1].



6. Disconnect 2 connectors [2].
7. Remove 4 screws [1], and then remove the punch unit [3] from FS.
8. Reinstall the above parts by following the removal steps in reverse.

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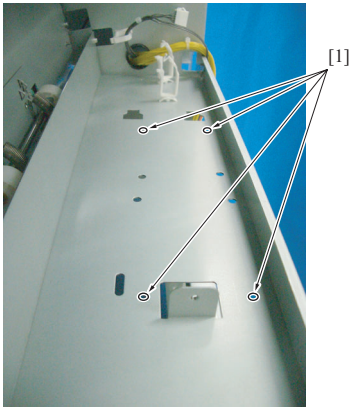

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Note

- **When reinstalling the punch drive board (PDB), attach the board supports of the punch drive board (PDB) at 4 positions [1] in the figure.**

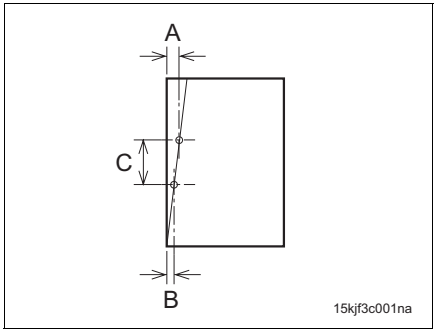
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

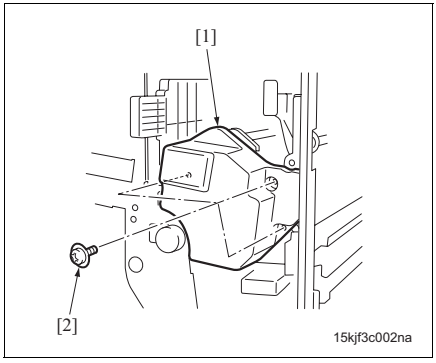
4.1 Punch hole position tilt adjustment

Conduct this adjustment if the edge of the paper and the punch hole position on the paper are not in parallel.

A. Procedure



1. Align the paper on the main body tray with the side guide plate and the rear edge guide plate, and then check the tilt with the platen copy or the service mode (DF is unavailable).
2. Conduct the paper tilt adjustment if it is tilted significantly.
3. Perform the punch mode printing for 3 sheets of paper in each of the single sided mode and the double sided mode as samples for checking the tilt of the punch hole position.
4. Measure the tilt of the punch hole position for the 3 sheets of paper.
   Tilt of the punch hole position (%) = (A - B)/C



5. Open the front door of FS.
6. Remove 3 screws [2], and then remove the punch unit cover [1].

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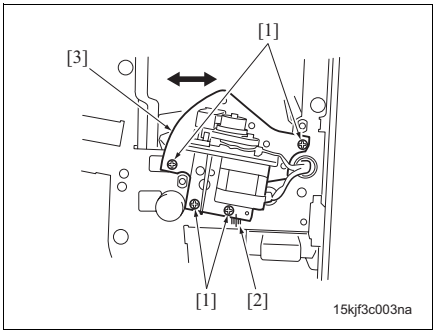

7. Loosen 4 adjustment screws [1] on PK.

8. Move the punch unit [3] in accordance with the tilt of the punch hole position by referring to the markings [2].
1 index: 0.5%

9. Tighten 4 adjustment screws [1].

10. Reinstall the punch unit cover.

11. Repeat step 3 to 10 until the tilt of the punch hole position is corrected.

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KONICA MINOLTA

SERVICE MANUAL

Field Service

SD-501

2006.09
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0
EDNord - Istedgade 37A - 9000 Aalborg - telefon 96333500

Revision history

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Date	Service manual Ver.	Revision mark	Descriptions of revision
2005/04	1.0	—	Issue of the first edition
2006/09	2.0	⚠1	Revision in relation to launching of C6500

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■ OUTLINE

1. PRODUCT SPECIFICATIONS

A. Type

Type	Saddle stitching unit with fore-edge trimming and multi-folding function

B. Functions

(1) Functions

Subtray exit	Exits paper to the subtray without any process.
Coupling exit	Conveys paper to the succeeding device without any process.
Saddle stitching	Exits paper to the bundle exit tray after being center folding and saddle stitching.
Saddle stitching with trimming	Exits to the bundle exit tray after being center folding, saddle stitching, and trimming processes.
Multi center folding	Exits to the bundle exit tray after being center folding on one or more sheets of paper.
Multi letter folding	Exits to the tri-folding tray after being letter folding process on one or more sheets of paper.

(2) Maximum tray capacity

Subtray	200 sheets		
Bundle exit tray	Center folding/ trimming	sheet	set
		2 to 10	More than 50
		11 to 20	More than 30
		21 to 40	More than 20
		41 to 50	More than 15
	Multi center folding	30 sets	
Tri-folding exit tray	Multi letter folding	20 sets	

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C. Type of paper

⚠ **(1) Coupling/subtray mode**

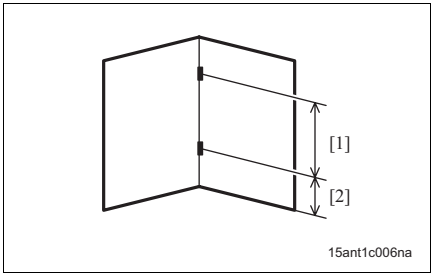
Paper size	SRA3*2, A3, B4, SRA4*2, SRA4S*2, A4, A4S, B5, B5S, A5, A5S*2, B6S*2, A6S*2 13 x 19*2, 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11, 8 1/2 x 11S, 5 1/2 x 8 1/2*1, 5 1/2 x 8 1/2S*2 8 1/2 x 13, 8 1/4 x 13, 8 1/8 x 13 1/4, 8 x 13 8K*3, 16K*3, 16KS*3 Tab paper*4 : A3, B4, A4, A4S, B5, B5S, 11 x 17, 8 1/2 x 11, 8 1/2 x 11S, custom size (Max. 324 x 460 mm, Min. 182 x 140 mm) Custom paper : 1050 (Max. 324 x 460 mm, Min. 182 x 140 mm), C6500 (Max. 330 x 487 mm, Min. 100 x 148 mm) Wide paper*1 : A3, B4, A4, A4S, B5, B5S, A5, 12 x 18, 11 x 17, 8 1/2 x 11, 8 1/2 x 11S, 5 1/2 x 8 1/2, size entry : (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China. *4 C6500: only A4 and 8 1/2 x11. Operation of paper exit with tab area at the trail edge side is not assured.
Paper weight	50 to 300 g/m^2

(2) Saddle stitching mode

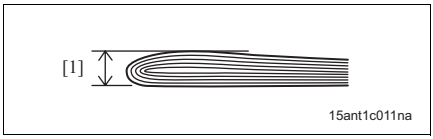
⚠	Paper size	SRA3*2, A3, B4, SRA4S*2, A4S, B5S 12 x 18, 11 x 17, 8½ x 14, 8½ x 11S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K*3, 16K*3 Custom paper : Max. 324 x 460 mm, Min. 182 x 257mm Wide paper*1 : A3, B4, A4S, B5S, 12 x 18, 11 x 17, 8½ x 11S, size entry: (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China.
	Paper weight	50 to 244g/m^2
⚠	Maximum saddle stitching sheets	Plain paper and coated paper:

Paper weight	Number of the sheets	
	Plain paper	Coated paper/ Color copy paper*1
50 to 81 g/m^2	50 *2	30 *2
82 to 91 g/m^2	30 *2	15 *2
92 to 130 g/m^2	20 *2	10 *2
131 to 161 g/m^2	15 *2	5 *2
162 to 209 g/m^2	10	—
210 to 244 g/m^2	5	—

*1 C6500 only
*2 One sheet can be switched to a thick paper (200 g/m^2)

	Staple position	Can be automatically changed (90 to 165 mm) in accordance with paper size.  [1] = [Paper size] /2 ± 2 mm [2] = [Paper size] /4 ± 2 mm

Folding height



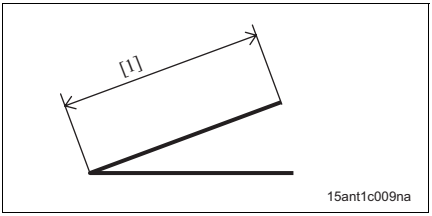
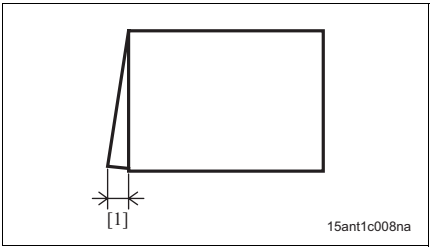
Folding sheets	[1] Folding height		
	A3 12 x 18 11 x 17 (401 mm or more)	B4 8½ x 14 (301 mm to 400 mm)	A4S 8½ x 11S (261 mm to 300 mm)
2 to 5	35 mm or less	40 mm or less	45 mm or less
6 to 15	45 mm or less	50 mm or less	Not defined
16 to 30	50 mm or less	55 mm or less	
31 to 50	60 mm or less	65 mm or less	

(The above information is applied when paper weight is 64 g/m^2 and no thick cover is not used.)

(3) Trimming mode

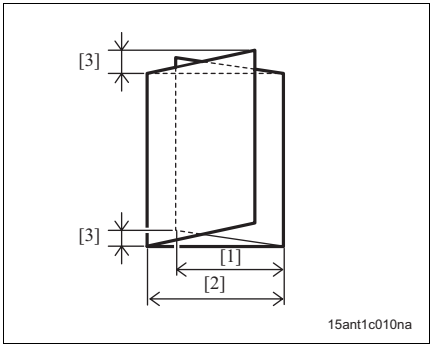
Paper size	SRA3*2, A3, B4, SRA4S*2, A4S, B5S 12 x 18, 11 x 17, 8 1/2 x 14, 8 1/2 x 11S 8 1/2 x 13, 8 1/4 x 13, 8 1/8 x 13 1/4, 8 x 13 8K*3, 16KS*3 Custom paper :1050 (Max. 324 x 460 mm, Min. 182 x 140 mm), C6500 (Max. 324 x 460 mm, Mln. 182 x 247 mm) Wide paper*1 : A3, B4, A4S, B5S, 12 x 18, 11 x 17, 8 1/2 x 11S, size entry: (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China.
Paper weight	50 to 244 g/m^2
Maximum trimming sheets	50 sheets (80 g/m^2) or 49 sheets (80 g/m^2) + 1 sheet (200 g/m^2) (The above is the number of the printed paper before folding. The number of fore-edge (after folding) is double.)

(4) Multi center folding mode

⚠ Paper size	SRA3*2, A3, B4, SRA4S*2, A4S, B5S 12 x 18, 11 x 17, 8½ x 14, 8½ x 11S 8½ x 13, 8¼ x 13, 8⅛ x 13¼, 8 x 13 8K*3, 16KS*3 Custom paper :1050 (Max. 324 x 460 mm, Min. 182 x 140 mm), C6500 (Max. 324 x 460 mm, Mln. 182 x 247 mm) Wide paper*1 : A3, B4, A4S, B5S, 12 x 18, 11 x 17, 8½ x 11S, size entry : (Max. 324 x 460 mm) *1 1050 only *2 C6500 only *3 C6500: supported in all the destinations. 1050: only supported in Taiwan and China.	
Paper weight	50 to 244 g/m^2	
Maximum folding sheets	Paper weight	Sheets
	50 to 81 g/m^2	5 sheets
	82 to 130 g/m^2	3 sheets
	131 to 244 g/m^2	2 sheets
Folding precision (for 1 sheet)	 [1] = [Paper size] /2 ± 1.5 mm  [1] = 1.5 mm or less	

(5) Multi letter folding mode

Paper size	A4S, 8½ x 11S			
Paper weight	50 to 91 g/m^2			
Maximum folding sheets	Paper weight	Sheets		
	50 to 81 g/m^2	5 sheets		
	82 to 91 g/m^2	3 sheets		
Folding precision (for 1 sheet)	Original size	[1]	[2]	[3]
	A4S	97.5 ± 4 mm	102.0 ± 4 mm	1.5 mm or less
	8½ x 11S	91.6 ± 4 mm	96.1 ± 4 mm	



D. Maintenance

Maintenance	Same as the main body.
Machine service life	Same as the main body.

E. Machine data

Power source	AC100 to 240V, DC5V (DC5V is supplied from the main body)
Maximum power consumption	270 W
Dimensions	When the bundle exit tray is stored: 1,170 (W) x 775 (D) x 1,020 (H) mm When the bundle exit tray is pulled out: 1,170 (W) x 1,441 (D) x 1,020 (H) mm
Weight	Approx. 263 kg

F. Operating environment

Temperature	10 to 30°C
Humidity	10 to 80%RH (with no condensation)

Note

- **The information herein may be subject to change for improvement without notice.**

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■ MAINTENANCE

2. PERIODIC CHECK

⚠**Caution:**
- **Be sure to unplug the power cord from the power outlet .**

⚠ 2.1 Maintenance procedure of the right angle conveyance section

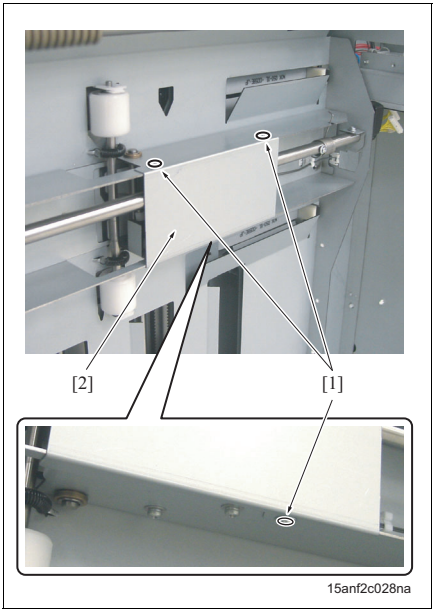
2.1.1 Replacing the roller release solenoid /1 (SD5)

A. Periodically replaced parts/cycle

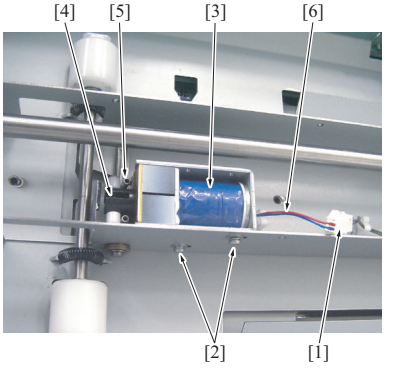
- Roller release solenoid /1 (SD5) : Every 20,000,000 prints (actual replacement cycle: every 5,000,000 operations) *1

*1 1050

B. Procedure



1. Remove SD from the main body.
2. Remove 3 screws [1] and then remove the cover [2].



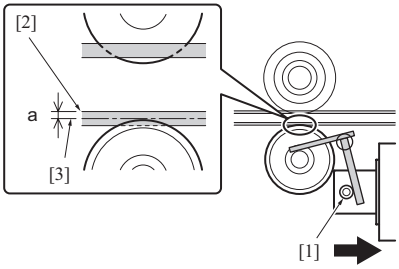
3. Remove the connector [1].

4. Remove 2 screws [2] and then remove the roller release solenoid/1 (SD5) [3].

Note

- **When reinstalling it, be sure to check that the pin [5] has been inserted into the hole on the plunger [4].**
- **When reinstalling it, place the wiring harness [6] on the side of the guide plate.**

⚠1



5. With the plunger [1] pulled, temporarily hold the new roller release solenoid /1 (SD5) and adjust the position so that the clearance "a" between the roller [3] and the guide plate [2] is at a standard value, and then fully tighten the screws.
Standard value a: 0 to 0.5 mm

6. Reinstall the above parts following the removal steps in reverse.

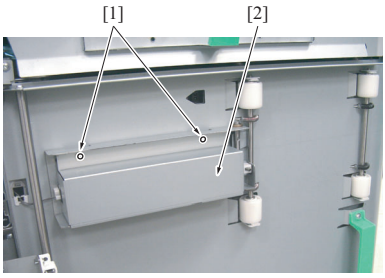
2.1.2 Replacing the roller release solenoid /2 (SD6)

A. Periodically replaced parts/cycle

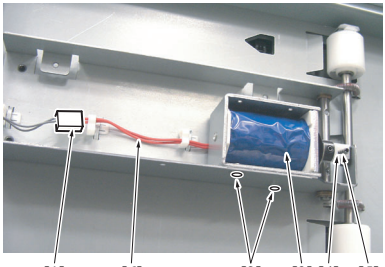
- Roller release solenoid /2 (SD6) : Every 20,000,000 prints (actual replacement cycle: every 5,000,000 operations) *1

*1 1050

B. Procedure



1. Open the front door /Rt.
2. Remove 2 screws [1] and then remove the cover [2].

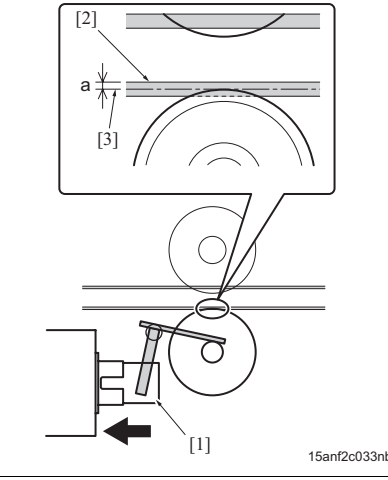


3. Remove the connector [1].
4. Remove 2 screws [2] and then remove the roller release solenoid/2 (SD6) [3].

Note

- **When reinstalling it, be sure to check that the pin [5] has been inserted into the hole on the plunger [4].**
- **When reinstalling it, place the wiring harness [6] on the side of the guide plate.**

⚠1



5. With the plunger [1] pulled, temporarily hold the new roller release solenoid /2 (SD6) and adjust the position so that the clearance "a" between the roller [3] and the guide plate [2] is at a standard value, and then fully tighten the screws.
   Standard value a: 0 to 0.5 mm
6. Reinstall the above parts following the removal steps in reverse.

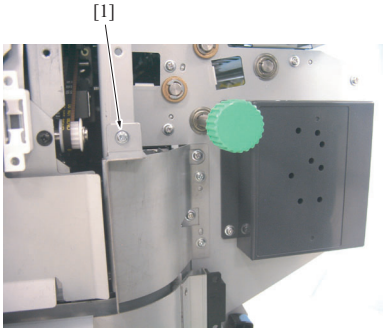
2.1.3 Replacing the right angle conveyance gate solenoid (SD2)

A. Periodically replaced parts/cycle

- Right angle conveyance gate solenoid (SD2): Every 20,000,000 prints (actual replacement cycle: every 5,000,000 operations) *1

*1 1050

⚠ **B. Procedure**



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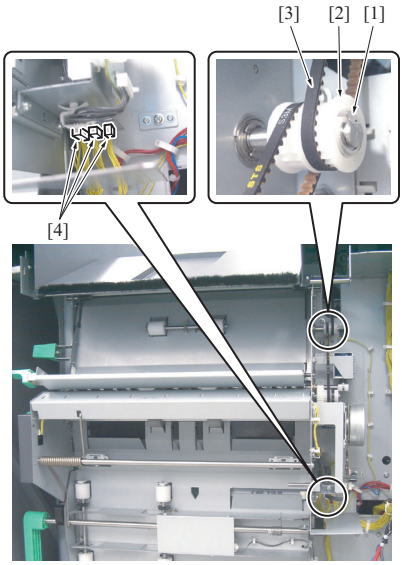
1. Open the front door /Rt and then remove the screw [1].
2. Remove the rear cover /Rt. (See P.45)
3. Remove the hex wrench (short, #2.5) from the trimmer section. (See P.25)



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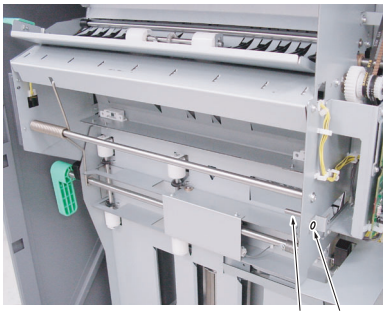
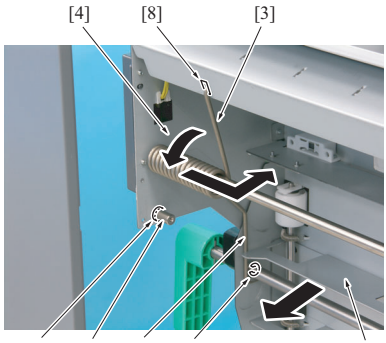
4. Remove the E-ring [1] and the pulley [2] and then remove the belt [3].
5. Remove 3 connectors [4].

⚠



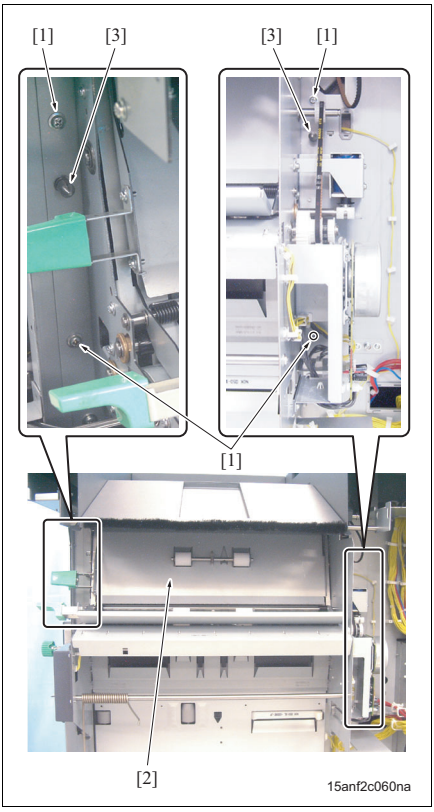
6. Remove the screw [1] and then remove the stopper [2].



7. Remove the screw [1] and then remove the stopper [2].
8. Pull the spring [3] in the arrow-marked direction [4] and release it, and then open the right angle conveyance guide plate [5].

Note

- **When reinstalling the spring [3], hook the long arm [6] on the position between the frame and the E-ring [7] of the jam release handle shaft and insert the tip of the short arm [3] into the hole [8].**

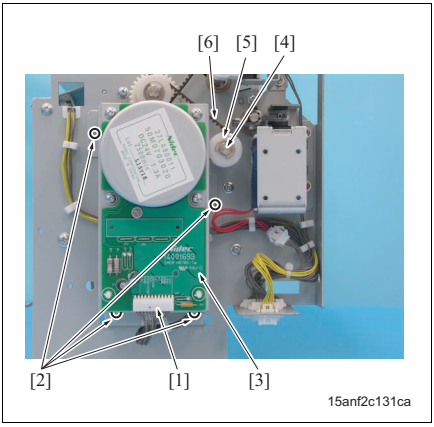


9. Remove 4 screws [1] and then remove the entrance conveyance unit [2].

Note

- **When reinstalling the entrance conveyance unit, be sure to fully insert the unit before tightening the screws [1] because 2 positioning pins [3] have anti-drop grooves.**

⚠1

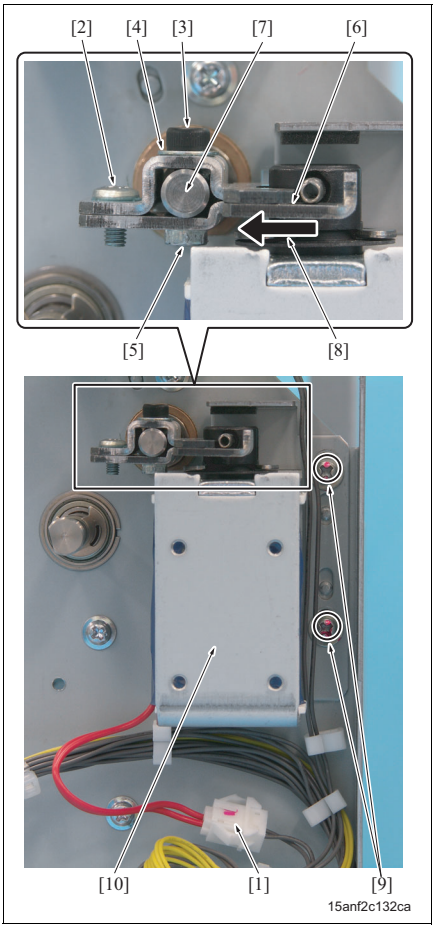


10. Remove the connector [1].

11. Remove the four screws [2] and remove the entrance conveyance motor unit [3].

12. Remove the E-ring [4] and then remove the belt retainer [5], the belt [6] and the pulley.

⚠



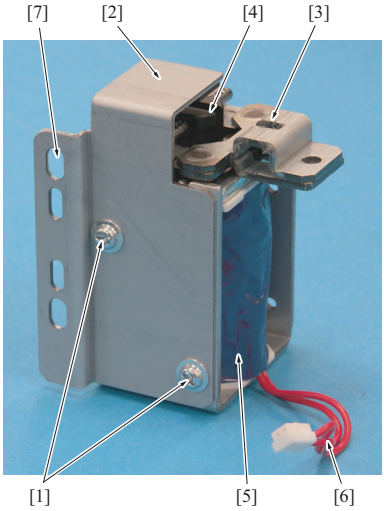
13. Remove the connector [1].
14. Remove the screw [2].
15. Remove the screw [3] and then remove the washer [4] and the nut [5].

Note

- **When removing the screw [3], be sure to use the hex wrench removed in Step 3.**
- **When installing the arm, press the arm [6] against the shaft [7] in the direction [8] of the arrow.**
- **After installing the washer [4] and the screw [3], be sure to tighten the nut [5]. The nut [5] is not secured by tightening the screw [3].**

16. Remove the two screws [9], pull out the arm [6] from the shaft [7], and remove the solenoid mounting plate assembly [10].

⚠

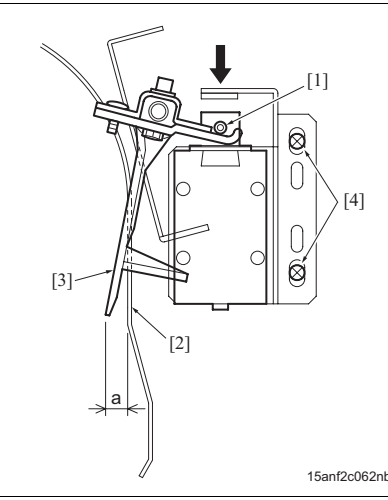


17. Remove the two screws [1], mounting plate [2], arm [3], plunger [4], and the right angle conveyance gate solenoid (SD2) [5].

Note

- **When installing the right angle conveyance gate solenoid, make sure that the wires [6] are located on the other side of the hole [7] in the mounting plate [2].**

18. Install a new right angle conveyance gate solenoid (SD2) by following steps 17 to 14, and perform the adjustment described in Step 19.



19. With the plunger [1] pulled, adjust the position so that the clearance "a" between the right angle conveyance gate [3] and the guide plate [2] is at a standard value a, and then fully tighten the screws [4].
Standard value a: 4.8 ± 0.5 mm

20. Reinstall the above parts following the removal steps in reverse.

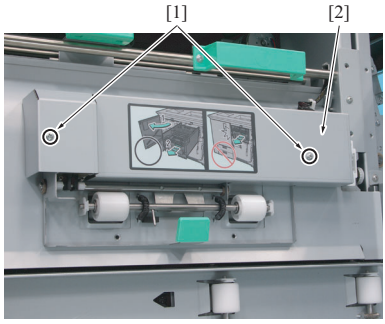
⚠ 2.1.4 Replacing the roller release solenoid/3

A. Periodically replaced parts/cycle

- Roller release solenoid/3 : Every 20,000,000 prints (actual replacement cycle: every 5,000,000 operations) *1

*1 1050

B. Procedure



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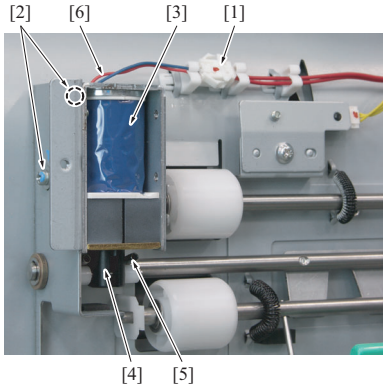
1. Open the front doors /Rt and /Lt.
2. Remove the two screws [1] and remove the cover [2].



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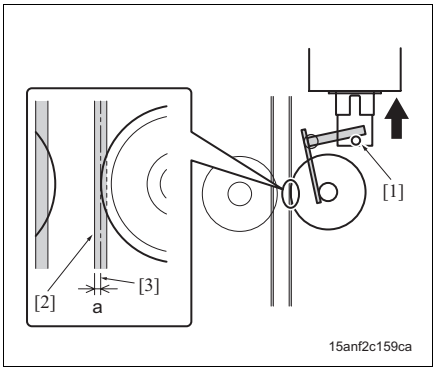
3. Disconnect the connector [1].
4. Remove the two screws [2] and remove the roller release solenoid/3 [3].

Note

- **When installing the solenoid, make sure that the pin [5] is hitched to the plunger [4].**
- **Install the solenoid with the wires [6] located on the guide plate side as shown in the figure.**



5. Slightly tighten the new roller release solenoid/3 with the plunger [1] pulled, adjust the position so that the gap between the paper feed surface [2] of the guide plate and the roller surface [3] falls within the standard value, and secure the roller release solenoid/3.
Standard value “a”: 1.3 to1.8 mm

6. Reinstall the above parts following the removal steps in reverse.

⚠ 2.2 Maintenance procedure of the saddle stitching section

2.2.1 Replacing the stapler assemblies /Rt and /Lt

A. Periodically replaced parts/cycle

- Stapler assembly /Rt : Every 20,000,000 prints (actual replacement cycle: every 1,000,000 staples) *1
- Stapler assembly /Lt : Every 20,000,000 prints (actual replacement cycle: every 1,000,000 staples) *1

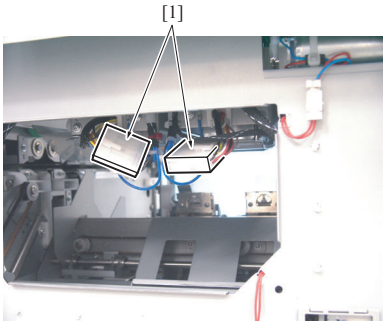
*1 1050

B. Spotted replaced parts/cycle

- Stapler assembly /Rt : Actual replacement cycle: every 1,000,000 staples *2
- Stapler assembly /Lt : Actual replacement cycle: every 1,000,000 staples *2

*2 C6500

C. Procedure



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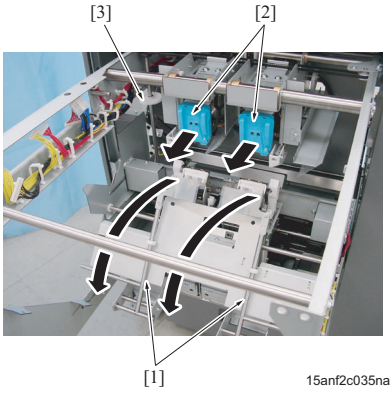
1. Remove the front door /Lt. (See P.49)
2. Remove the rear cover /Lt. (See P.45)
3. ⚠ Disconnect the two connectors [1] from the back side of the stapler, and release the wires on the stapler side from the clamps.



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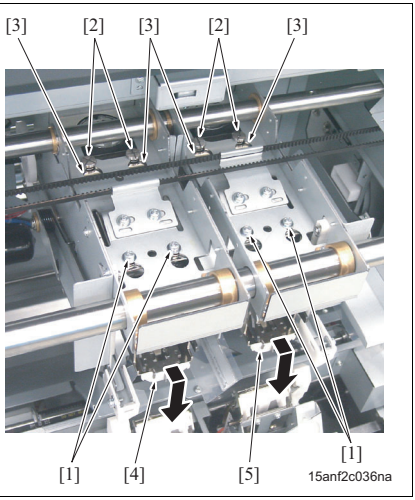
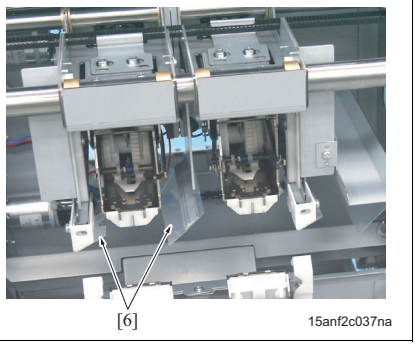
4. Pull out the saddle stitching unit. (See P.55)
5. Tilt the bundle arm [1] to the front.
6. Remove the staple cartridge [2] to the front.

Note

- **When moving the stapler assembly, be sure to move it by rotating the rotating knob [3] to prevent the belt tooth from skipping. Otherwise, it may cause the belt tooth skipping.**

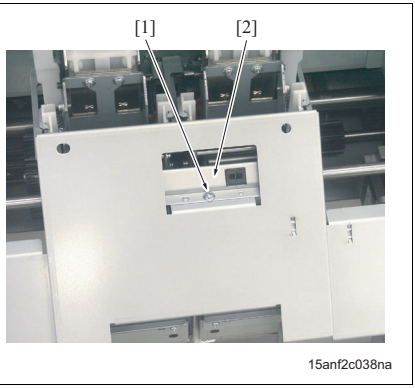


7. Remove 2 screws [1] on each stapler.
8. Move the staplers /Lt [4] and /Rt [5], and then remove 2 pins [2] from each 2 holes [3] on each stapler and remove the staplers /Lt [4] and /Rt [5] to downward.

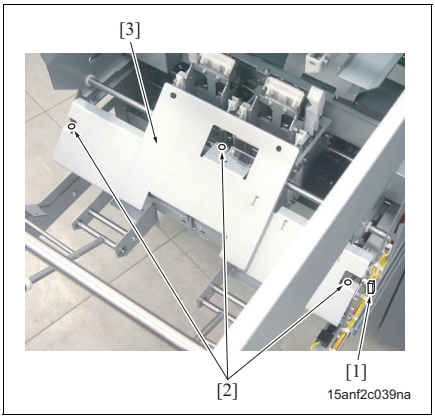


Note

- **When removing/reinstalling the stapler /Lt, be sure not to bend the guide sheet [6].**



9. Remove the screw [1] and then remove the sensor cover [2].

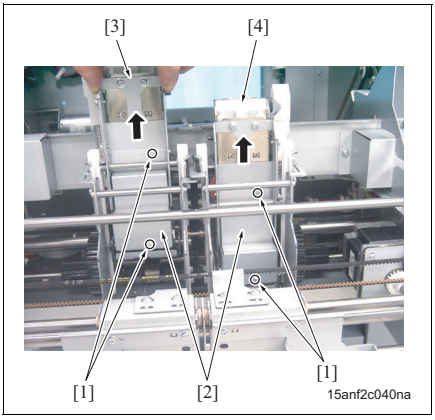


10. Remove the connector [1].

Note

- **When reinstalling the saddle stitching unit, be sure not to make the connector [1] contact with the main body.**

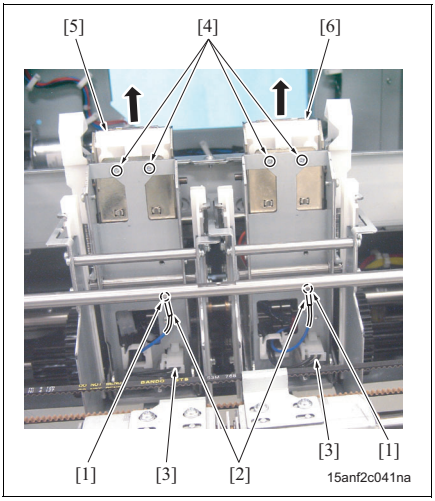
11. Remove 3 screws [2] and then remove the saddle stitching guide plate [3].



12. Remove 2 screws [1] each and then remove 2 connector covers [2].

Note

- **When removing the connector covers, while lifting up the clinchers /Lt [3] and /Rt [4].**



13. Remove the screw [1] each and then remove the ground [2].

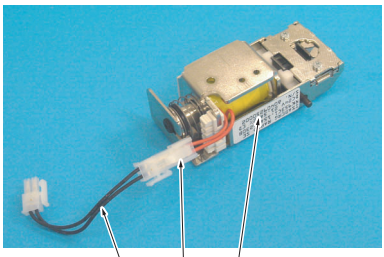
⚠ • **When installing the grounds, the wiring harness should be on the lower side.**

14. Remove the connector [3] each.

15. Remove the two screws [4] each, and then remove the clinchers /Lt [5] and /Rt [6].

⚠ **Note**

- **When installing the clinchers, slide them down as far as they will go, and secure them with screws.**



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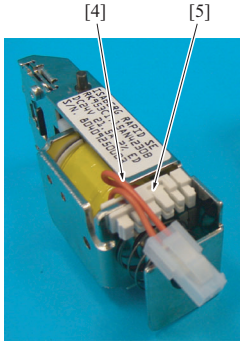
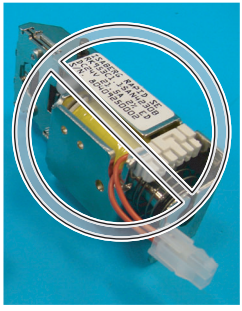
16. Remove the connector [1] and then remove the wiring harness [3] from the clincher [2].



[6]



[7]

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Note

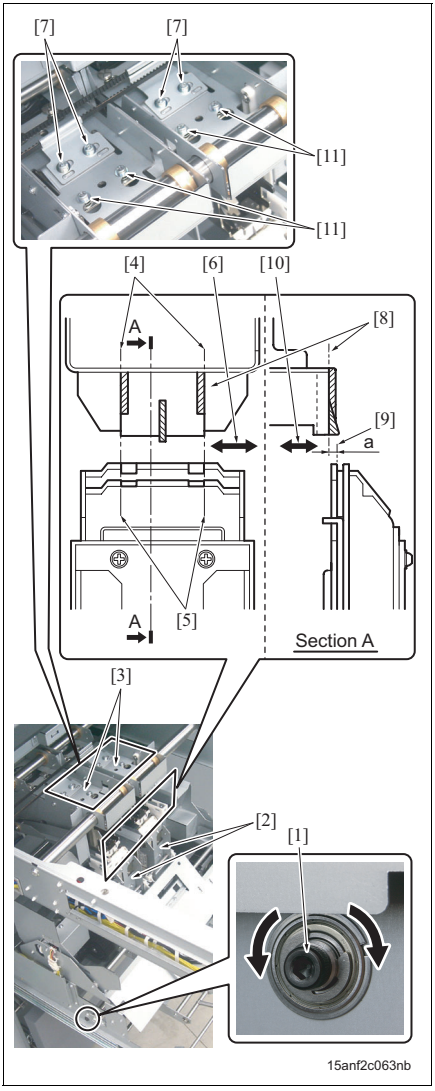
- **When reinstalling the wiring harness [4], be sure to wire the wiring harness to the guide (white) side [5] of the clincher.**

⚠1 • **Do not route the wiring harness as shown in the figure [7], or the wiring harness may break at the clincher operation.**

17. Reinstall the above parts following the removal steps in reverse.

18. Adjust the mounting position of the staplers and the clinchers. (See P.23)

D. Procedure for adjusting the mounting position



1. Rotate the screw [1] clockwise until clicked to make the clinchers [2] contact with the staplers [3] and lock the clinchers [2], and then check the step edges [4] of the staplers are aligned with the edges [5] of the clincher in the sub scan direction [6].
   Standard value: 0 ± 0.5 mm
2. When the value is not within the standard value, loosen 2 screws [7] each and move the staplers in the sub scan direction for adjustment while rotating the screw [1] counterclockwise to make the clinchers [2] and the stapler [3] closer, and then tighten the screws [7].

⚠1 3. Tighten the screw [1] clockwise until it clicks to make the clinchers [2] contact with the stapler [3] and lock it. Make sure that the standard surface of the stapler [8] is located in rear side in main scanning direction [10] compared to the inside plate inner surface [9] of the clincher.
   Standard value a : 0.2 ~ 0.3 mm

4. When the value is not within the standard value, loosen 2 screws [11] each and move the staplers in the main scan direction for adjustment while rotating the screw [1] counterclockwise to make the clinchers [2] and the stapler [3] closer, and then tighten the screws [11].

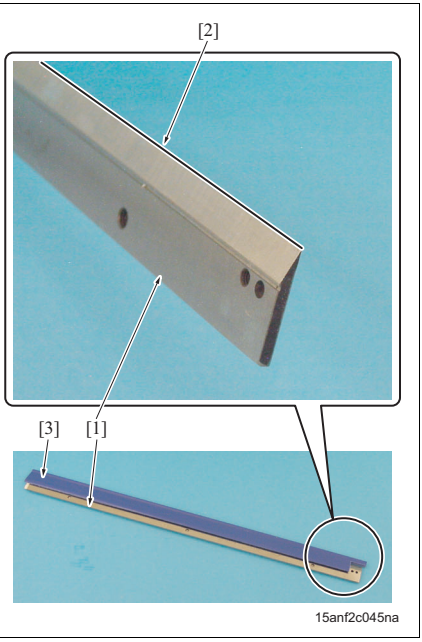
Note

- **After the reinstallation, perform the saddle stitching and check that the stapling is performed without problem.**

⚠1
- **After the adjustment, be sure to perform the adjustment between the fold line position and the staple position (See P.65), and tilt/gap adjustment of the clincher. (See P.68)**

⚠ 2.3 Maintenance procedure or the trimmer section

2.3.1 Replacing the trimmer blade assembly



⚠Danger:

- **Pay extra caution when holding the trimmer blade [1]. Never touch the edge [2] of the blade. You may suffer the injury.**
- **Remove the blade cover [3] only at the replacement. Otherwise, never remove the cover. You may suffer the injury.**

⚠Caution:

- **Dispose the used trimmer blade as specified by the local authority.**

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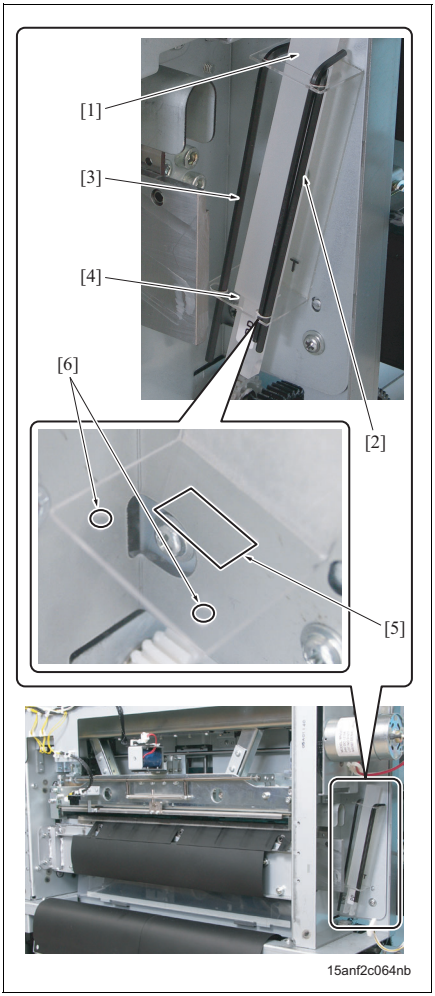
A. Periodically replaced parts/cycle

- Trimmer blade assembly : Every 1,500,000 prints (actual replacement cycle: every 37,500 cuts) *1
  : Every 1,400,000 prints (actual replacement cycle: every 37,500 cuts) *2

*1 1050
*2 C6500

⚠1 **B. Procedure**

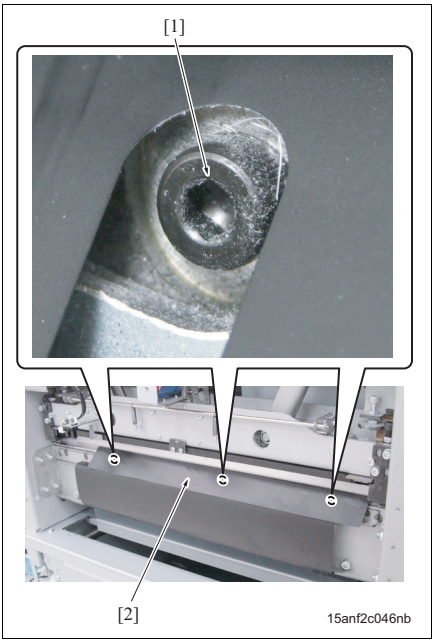


1. Remove the left cover. (See P.46)
2. Remove the rear cover /Lt. (See P.45)
3. Remove the trimmer paddle assembly. (See P.62)
4. Remove the mounting handle [1], 2 #2.5 hex wrenches [2] and the #3 hex wrench [3] from the holder [4].

Note

- **#3 hex wrench is for trimmer blade fixing screw, long #2.5 hex wrench is for removing/ installing trimmer blade, and short #2.5 hex wrench is for trimmer blade installation groove cleaning/trimming blade motor fixing screw.**
- **When returning the mounting handle [1] to the holder [4], put the handle through the holder hole [5] with the narrower side faces down.**
- **When returning 2 hex wrenches [2], [3] to the holder [4], put the wrenches through the holder circular hole [6].**

⚠



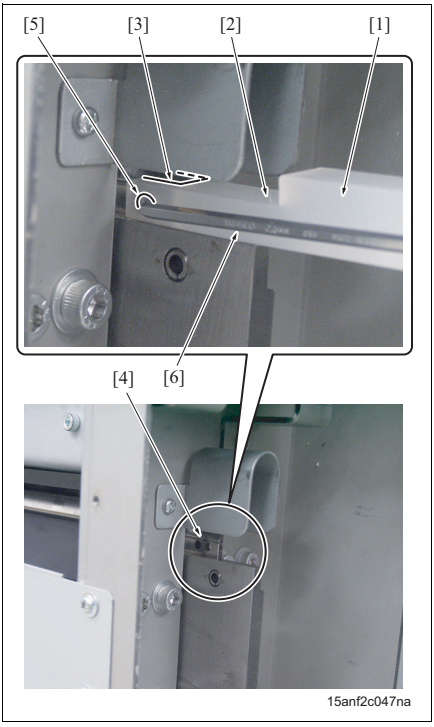
5. Remove 3 screws [1] with a #3 hex wrench.

⚠Caution:

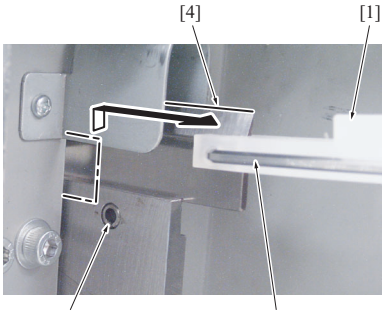
- **It cannot reuse the removed screws [1]. Install the new screws that are shipped with the trimmer blade assembly at the installation.**

Note

- **Be sure not to peel off or bend the cover sheet [2].**



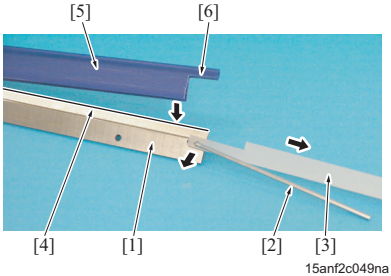
6. Insert the slit [3] to the trimmer blade [4] with the notch [2] of the mounting handle [1] faces up and align the hole [5], and then insert the long #2.5 hex wrench [6].



7. Hold the mounting handle [1] with the hex wrench [2], and then lift them up slightly and avoid the stopper [3] to remove the trimmer blade.

⚠Danger:

- **Pay extra caution when handling the trimmer blade [1]. Never touch the edge [4] of the blade. You may suffer the injury.**



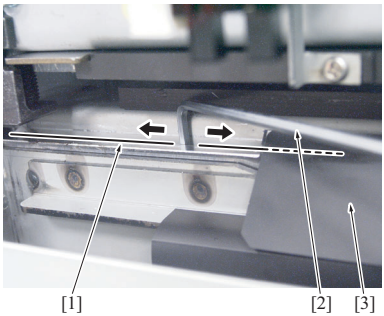
8. Place the trimmer blade [1] on the floor, and then pull out the hex wrench [2] and remove the mounting handle [3].
9. Put the blade cover [5] that is shipped with the trimmer blade assembly on the edge [4] of the trimmer blade [1].

⚠Danger:

- **When put the blade cover [5], place the trimmer blade [1] on the floor and put the cover under the stable condition. You may suffer the injury due to dropping or slipping if you put the cover while holding the blade in air.**

Note

- **Be sure to install the blade cover with its notch [6] faces the handle side.**

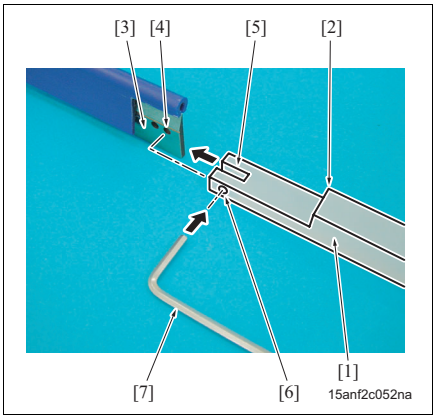


10. Insert the #2.5 hex wrench [2] onto the mounting slit [1] of the trimmer blade, and then slide it back and forth to clean the trimmer scraps.

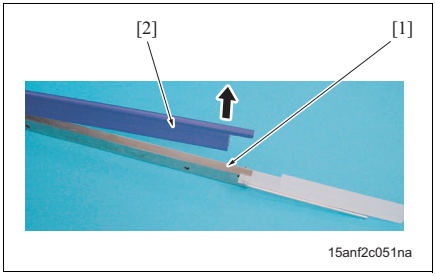
⚠Note

- **Be sure to use #2.5 hex wrench for cleaning. If you insert #3 hex wrench into the mounting slit, the slit may be deformed. To change the direction of the hex wrench [2], remove the wrench once and reinsert it again.**
- **While cleaning, be careful not to bend the sheet [3].**

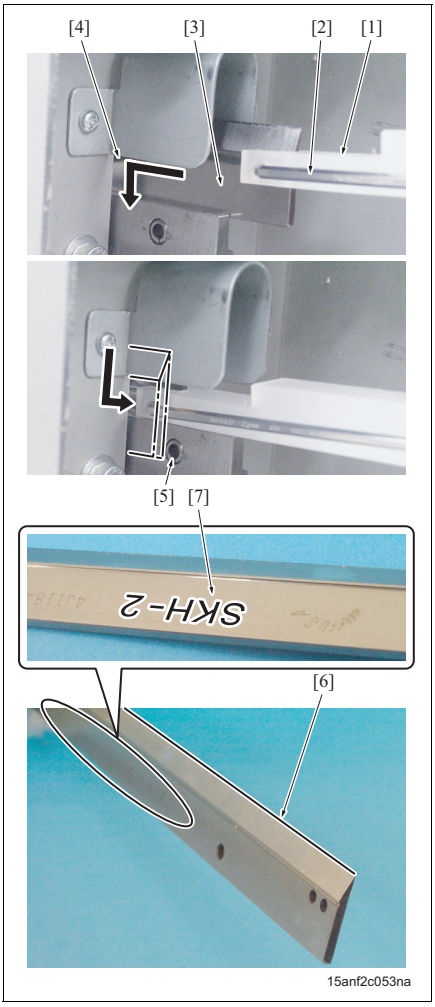
11. Clean the mounting slit [1] of the trimmer blade with the blower brush.



⚠1 *12.* Insert the new trimmer blade [3] end into the slit [5] with the notch [2] of the mounting handle [1] face up and the hole [6] aligned with the hole [4] of the trimmer blade, and then insert the long #2.5 hex wrench [7].



13. Remove the blade cover [2] from the new trimmer blade [1].

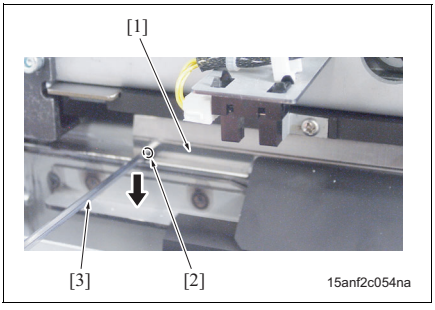


14. Hold the mounting handle [1] with the hex wrench [2], and then insert the trimmer blade [3] onto the mounting slit [4] of the trimmer section from above in the slanting direction.

15. Fully insert the trimmer blade (short head) [3], and then lower the mounting handle to the horizontal level and pull it until contacting with the stopper [5].

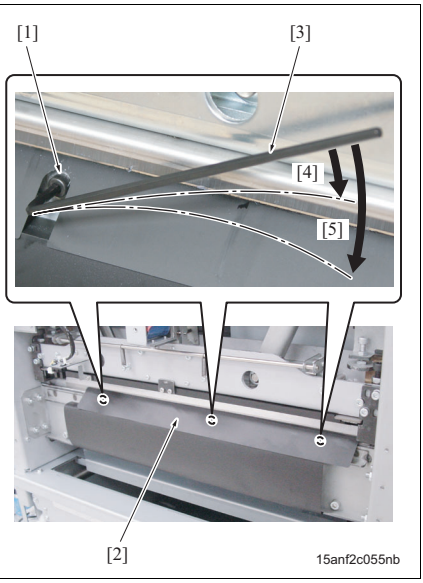
Note

- **Install the trimmer blade with its blade edge [6] faces up and the mark "SKH-2" [7] faces the side on which the screw is installed.**



⚠ *16.* Insert the short #2.5 hex wrench [3] into the hole [2] of the trimmer blade [1] at the opposite end of the end you have inserted the mounting handle, and then push the wrench downward until the trimmer blade [1] is contacted with the mounting slit.

⚠



17. Install 3 brand-new screws [1] with a #3 hex wrench.

Note

- **Be sure not to peel off or bend the cover sheet [2].**

⚠Caution:

- **Install the brand-new screws [1] that are shipped with the trimmer blade assembly.**
- **When tightening the screws [1], tighten 3 screws [1] temporarily with the torque that bents the tip of the #3 hex wrench [3] approximately 5° [4], and then fully tighten them with the strong torque that bends it approximately 15° [5].**

Note

- **Be sure to check and clear the foreign body that may obstacle the operation of the trimmer blade.**

18. Reinstall the above parts following the removal steps in reverse.

Note

- **After replacing the trimmer blade, perform the saddle stitch with trimming and check that the trimming is performed without problem.**

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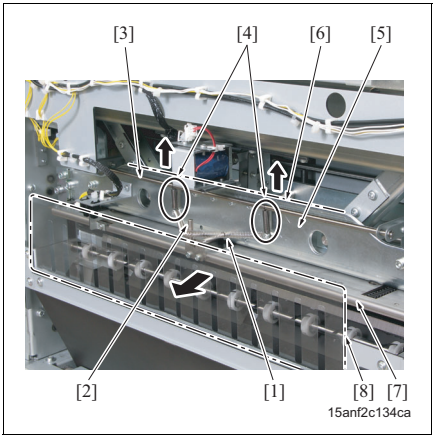
2.3.2 Replacing the trimmer board assembly

A. Periodically replaced parts/cycle

⚠1
- Trimmer blade motor: Every 750,000 prints (actual replacement cycle: every 18,900 cuts) *1
  : Every 600,000 prints (actual replacement cycle: every 18,900 cuts) *2

*1 1050
*2 C6500

⚠1 **B. Procedure**



1. Move the trimmer board to the release position.

Note

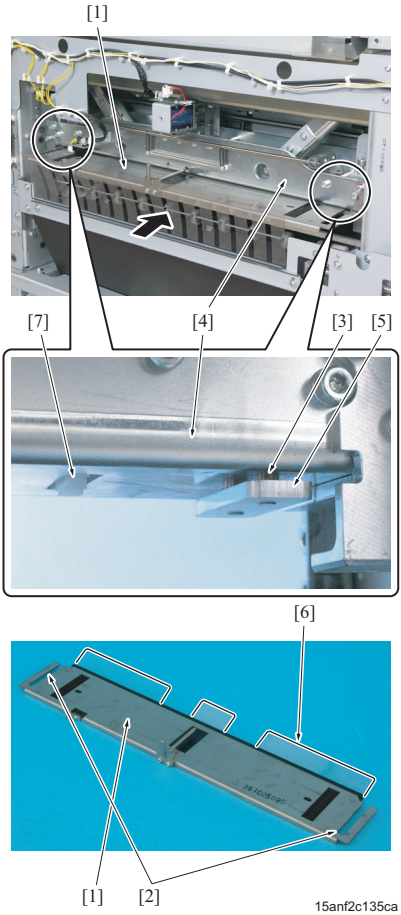
- **Search the home position of the trimmer board by the output check code "71-55" in the I/O check mode in the service mode, and then move the trimmer board to the release position by "71-58."**

2. Turn OFF the main power switch (SW1) and the sub power switch (SW2) of the main body, and then unplug the power cord from the power outlet.
3. Remove the rear cover /Lt. (See P.45)
4. Remove the spring [1] from the pin [2].
5. Holding the arm [3] where the two springs [4] are located, lift up the arm horizontally until the top [6] of the trimmer press plate [5] to release the lock of the gear, and then pull out the trimmer board assembly [7] horizontally backward.

Note

- **When removing/installing the trimmer board assembly [7], be sure not to bend the sheet [8].**

⚠

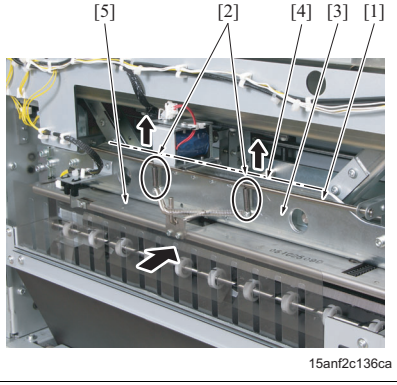


6. Aligning the slit [2] of the new trimmer board assembly [1] with the pin [3], insert the tip of the trimmer board assembly [1] horizontally to the space between the trimmer press plate [4] and the hold plate [5].

Note

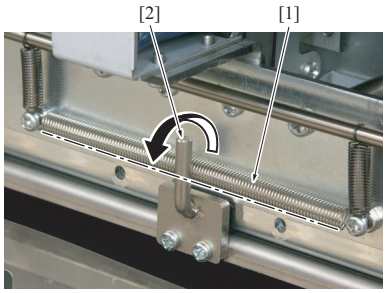
- **When inserting the trimmer board assembly, be sure not to bend the guide sheet [6] by pushing it against the gear [7] of the trimmer press plate [4].**
- **Do not insert the trimmer board assembly forcibly. Unlock the gear before the insertion.**

⚠



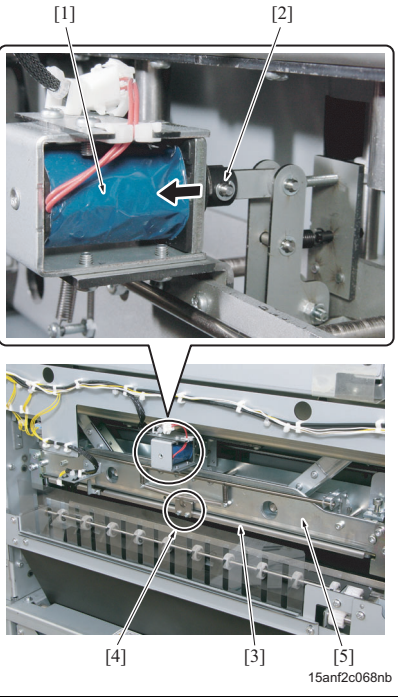
7. Holding the arm [1] where 2 springs [2] are located, lift up the arm horizontally until the top [4] of the trimmer press plate [3] and release the lock of the gear, and then fully insert the trimmer board assembly [5] in parallel.

⚠



8. Hitch the spring [1] to the pin [2].

⚠



9. Pull the plunger [2] of the trimmer board solenoid (SD11) [1] to mesh the gears.

Note

- **Check the mesh of the gears by pulling the plunger [2]. The trimmer board assembly [3] moves to the rear side of SD properly if they are meshed appropriately. It is properly installed if the guide pin mounting plate [4] is separated from the trimmer press plate [5].**
- **Keep the number to pull the plunger [2] to a minimum. Be noted that the replacing cycle will be shorten if the plunger is pulled meaninglessly.**
- **If you drove the trimmer board assembly [3] too much, repeat the installation from step 7.**

10. Reinstall the above parts following the removal steps in reverse.

11. Reset the trimmer board solenoid operation counter.

Note

- **Reset the trimmer board solenoid operation counter by the output check code "71-95" of the I/O check mode of the service mode.**
- **If the counter is not reset, the trimmer board solenoid (SD11) operating timing after the trimmer board is replaced becomes faster than specified timing (700/500/300 times of trimming). (In the first operation only)**
- **After replacing the trimmer board, perform the saddle stitch with trimming and check that the trimming is performed without problem.**

2.3.3 Replacing the trimmer blade motor

A. Periodically replaced parts/cycle

- Trimmer blade motor: Every 5,000,000 prints (actual replacement cycle: every 200,000 cuts)*1

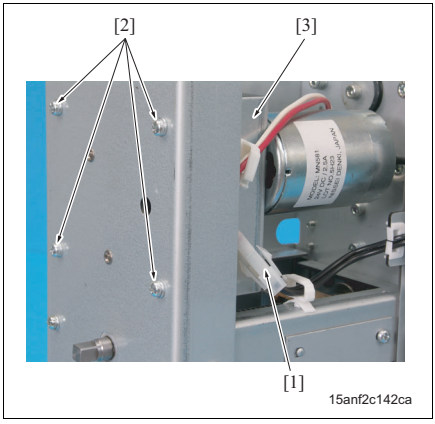
*1 1050

B. Spotted replaced parts/cycle

- Trimmer blade motor: Actual replacement cycle: every 200,000 cuts *2

*2 C6500

C. Procedure



1. Remove the rear cover/Lt. (See P.45)
2. Remove the trimmer paddle assembly. (See P.62)
3. Remove the trimmer unit. (See P.61)
4. Disconnect the connector [1].
5. Remove the four screws (with one washer each) [2], and remove the trimmer blade motor assembly [3].

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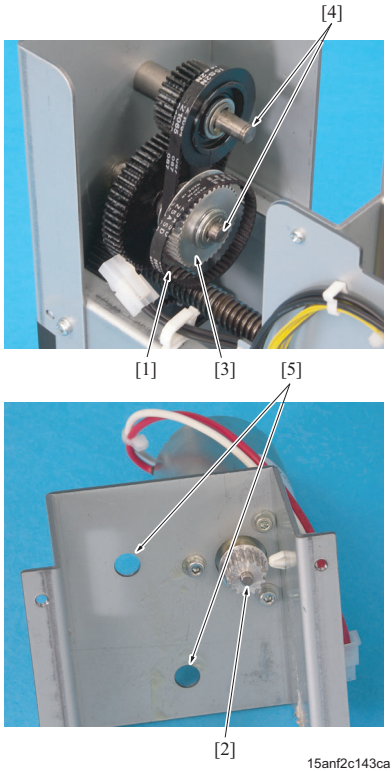
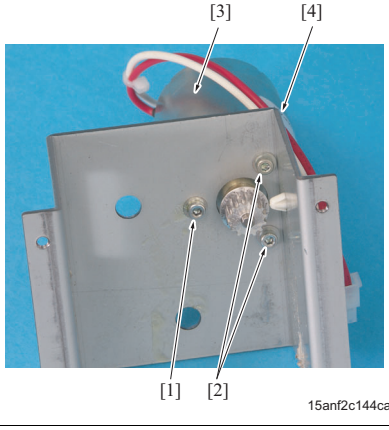


Note

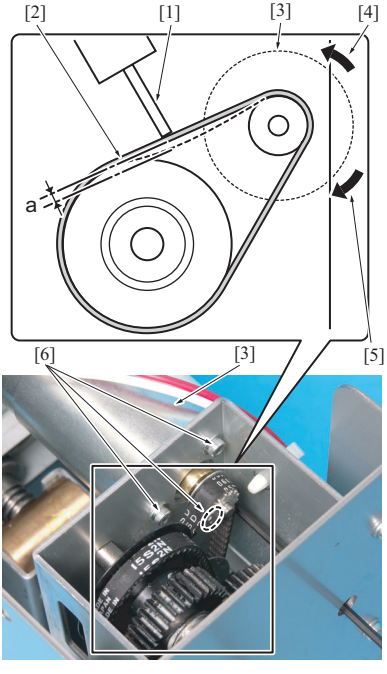
- **When replacing the trimmer blade motor assembly, the belt [1] may drop off from the motor. When installing the belt, be sure to hitch the belt to the gear of the motor shaft [2] and the drive gear [3].**
- **When installing the trimmer blade motor assembly, be sure that the gear shafts [4] is inserted into the holes [5] in the metal frame.**



6. Remove the screws [1] and two screws [2] (with one washer each) with the #2.5 hex wrench bundled with the trimmer unit, and remove the trimmer blade motor [3].

Note

- **When installing the trimmer blade motor, be sure that the product label [4] is in the position as shown in the figure. After that, slightly tighten the screw [1] and two screws [2], perform the adjustment in Step 8, and secure the screws.**



7. Install a new trimmer blade motor by following the steps 6 to 4 in the reverse order, and perform the adjustment described below.

8. Press the tension gauge [1] against the center of the belt [2] vertically, and adjust the tension so that the deflection amount falls within the Standard value.
Standard value “a”: 1 mm by 200gf tension

Note

- **Turn the trimmer press motor [3] in the direction of the arrow [4] to tighten the belt, and loosen the belt by turning the motor in the direction of the arrow [5].**

9. Tighten the three screws [6].

10. Reinstall the above parts following the removal steps in reverse.

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⚠ 2.3.4 Replacing the trimmer press motor

A. Periodically replaced parts/cycle

- Trimmer press motor: Every 5,000,000 prints (actual replacement cycle: every 200,000 cuts)*1

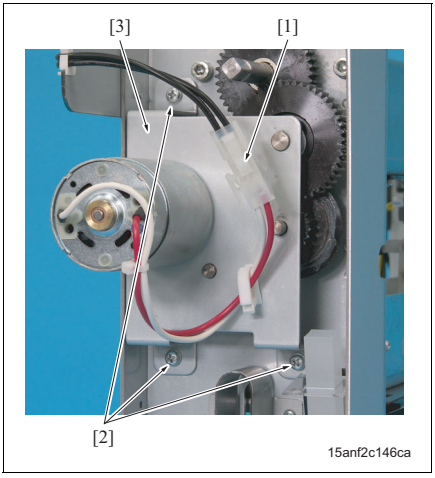
*1 1050

B. Spotted replaced parts/cycle

- Trimmer press motor: Actual replacement cycle: every 200,000 cuts *2

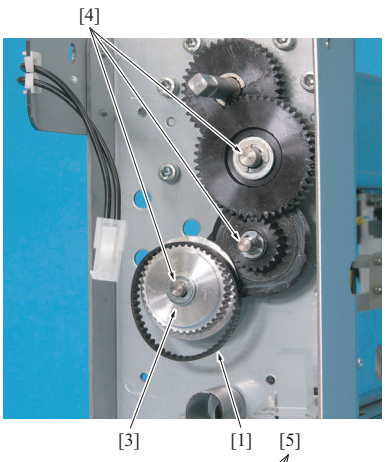
*2 C6500

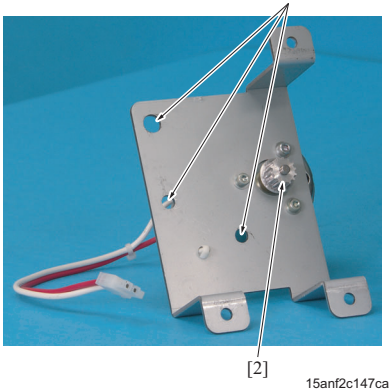
C. Procedure



1. Remove the rear cover/Lt.(See P.45)
2. Remove the trimmer paddle assembly. (See P.62)
3. Remove the trimmer unit. (See P.61)
4. Disconnect the connector [1].
5. Remove the three screws (with one washer each) [2] and remove the trimmer press motor assembly [3].

⚠





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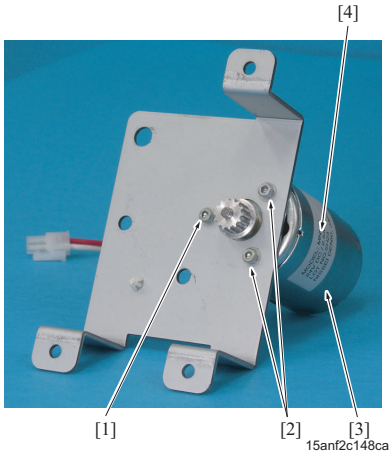
Note

- **When replacing the trimmer press motor assembly, the belt [1] may drop off from the motor. When installing the belt, be sure to hitch the belt to the gear of the motor shaft [2] and the drive gear [3].**
- **When installing the trimmer blade motor assembly, be sure that the gear shafts [4] is inserted into the holes [5] in the metal frame.**



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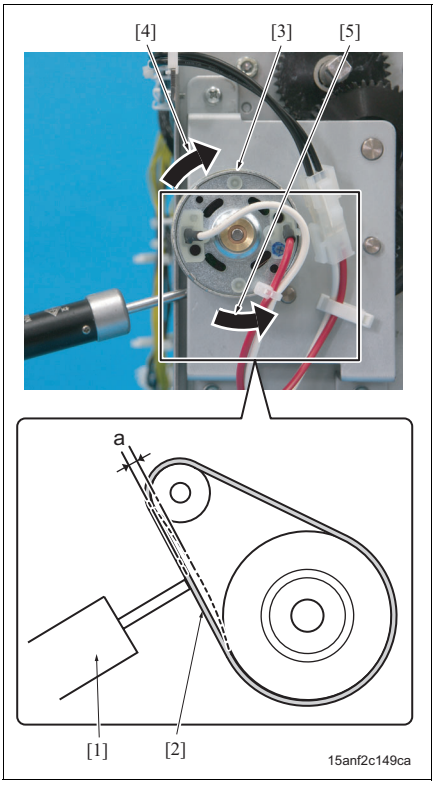
6. Remove the screw [1] and two screws [2] (with one washer each) with the #2.5 hex wrench bundled with the trimmer unit, and remove the trimmer press motor [3].

Note

- **When installing the trimmer press motor, be sure that the product label [4] is in the position as shown in the figure. After that, slightly tighten the screw [1] and two screws [2], perform the adjustment in Step 8, and secure the screws.**

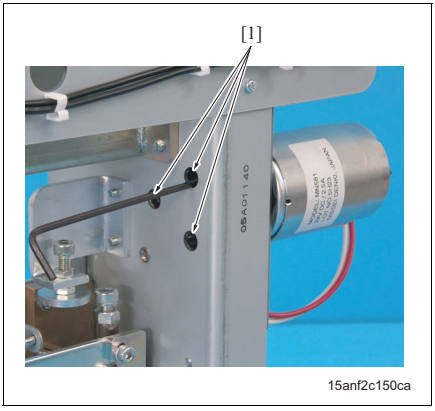
⚠1



7. Install a new trimmer press motor by following the steps 6 to 4 in the reverse order, and perform the adjustment described below.
8. Press the tension gauge [1] against the center of the belt [2] vertically, and adjust the tension so that the deflection amount falls within the Standard value.
   Standard value “a”: 1 mm by 200gf tension

Note

- **Turn the trimmer press motor [3] in the direction of the arrow [4] to tighten the belt, and loosen the belt by turning the motor in the direction of the arrow [5].**



9. Tighten the three screws [1].
10. Reinstall the above parts following the removal steps in reverse.

⚠ 2.4 Maintenance Procedure of the Bundle Processing Section

2.4.1 Replacing the bundle press stage gear

A. Periodically replaced parts/cycle

- Bundle press stage gear: Every 5,000,000 prints (actual replacement cycle: every 500,000 set (number of sets of sheets exited to the bundle tray.)) *1

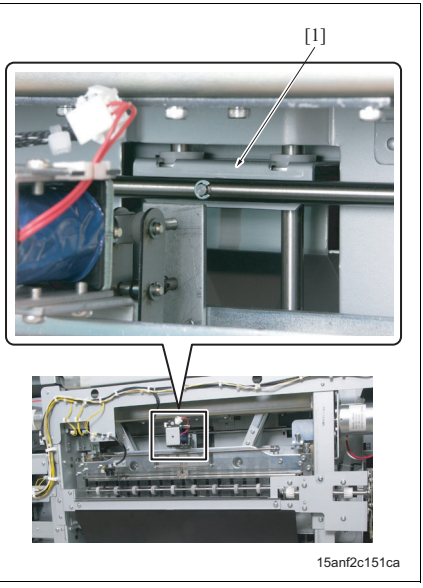
*1 1050

B. Spotted replaced parts/cycle

- Bundle press stage gear: Actual replacement cycle: every 500,000 set (number of sets of sheets exited to the bundle tray.) *2

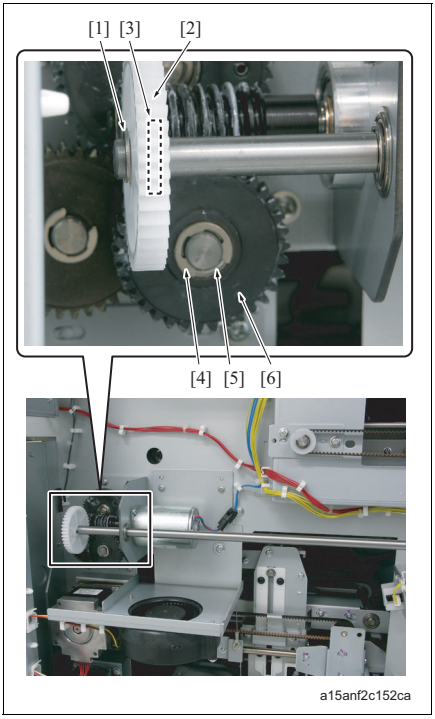
*2 C6500

C. Procedure



1. Remove the left cover. (See P.46)
2. Remove the rear cover/Lt. (See P.45)
3. Keep turning the knob in the bundle processing section counterclockwise until the bundle press stage goes down and the bundle registration plate [1] reaches the up position.

⚠



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4. Remove the E-ring [1], then remove the gear [2] and the pin [3].

Note

- **Be careful not to lose the pin [3] as it may drop off when removing the gear [2].**

5. Remove the E-ring [4] and the bearing [5], and remove the bundle press stage gear [6].

Note

- **After installing a new bundle press stage gear [6], be sure to apply plus guard No. 2 to the gear.**

6. Reinstall the above parts following the removal steps in reverse.

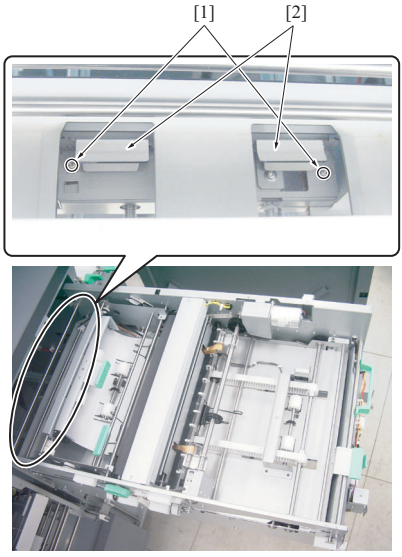
3. OTHERS

3.1 Items not allowed to be disassembled and/or adjusted

3.1.1 Alignment stopper /Rr

A. Items not allowed to be removed

- 2 fixing screws of the alignment stopper /Rr



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[1] Screw not allowed to be adjusted/removed [2] Alignment stopper /Rr

B. Reason of prohibition

- Parallelism of the alignment stopper/Rr and first folding blade has been adjusted in the manufacturing process to prevent the skew (gap) of folding. Accordingly, the alignment stopper /Rr is not allowed to be removed.
  If you change the mounting position of the alignment stopper /Rr you will lose the parallelism with the first folding blade and cannot return to the original position.

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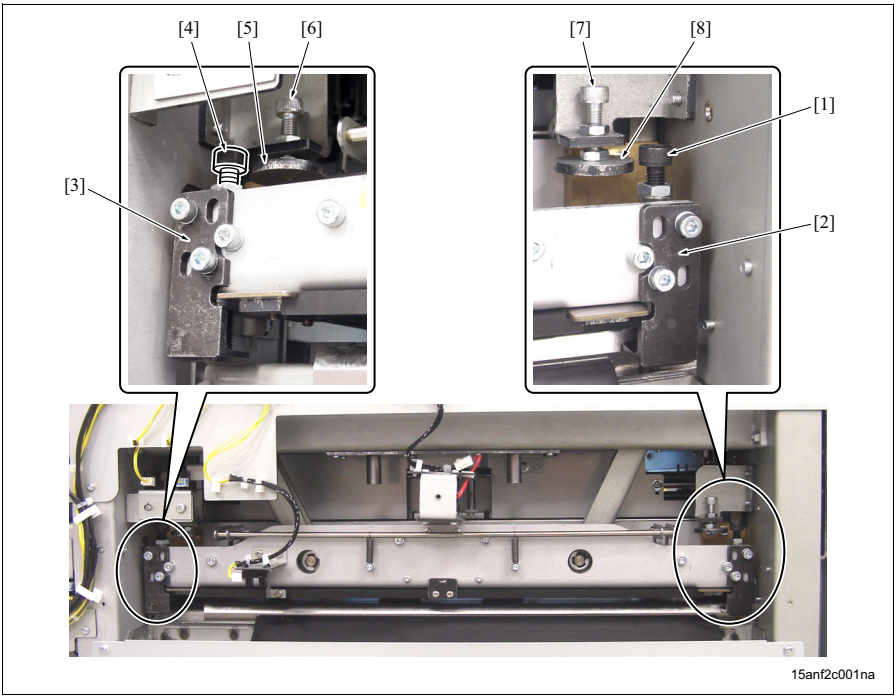
3.1.2 Trimmer press upper limit stoppers /Rt and /Lt and trimmer stoppers /Rt and /Lt

A. Items not allowed to be removed

- Each adjustment screw of the trimmer press upper limit stoppers /Rt and /Lt
- Each adjustment screw of the trimmer stoppers /Rt and /Lt



[1]	Screw not allowed to be adjusted/removed	[5]	Trimmer press upper limit stopper /Rt
[2]	Trimmer stopper /Lt	[6]	Screw not allowed to be adjusted/removed
[3]	Trimmer stopper /Rt	[7]	Screw not allowed to be adjusted/removed
[4]	Screw not allowed to be adjusted/removed	[8]	Trimmer press upper limit stopper /Lt

B. Reason of prohibition

- The trimmer press upper limit stoppers /Rt and /Lt releases the trimmer board. The trimmer board may be released without reaching to the required level of the opening for the operation if they are misaligned. Consequently, never change the position of the trimmer press upper limit stoppers /Rt and /Lt.
- The trimmer stoppers /Rt and /Lt determine the trimming amount of the trimmer blade to the paper and the parallelism between the trimmer blade and the paper. If the trimmer blade is misaligned, the paper may be failed to be trimmed or the trimmer board may be damaged because the trimmer blade cuts in the trimmer board deeply. Accordingly, the trimmer stoppers /Rt and /Lt are not allowed to be removed.

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3.2 List of parts to be disassembled and assembled

No.	Section	Part name	Page referred to
1	Cover	Rear cover /Lt	P.45
2		Rear cover /Rt	P.45
3		Left cover	P.46
4		Upper cover /Fr	P.46
5		Upper cover /Rr3	P.47
6		Subtray cover	P.48
7		Front door /Lt	P.49
8		Front door /Rt	P.50
9	Folding section	Folding unit	P.51
10	Saddle stitching section	Saddle stitching unit (pull out)	P.55
11		Saddle stitching unit (remove)	P.60
12	Trimmer section	Trimmer unit	P.61
⚠1 13		Trimmer paddle assembly	P.62

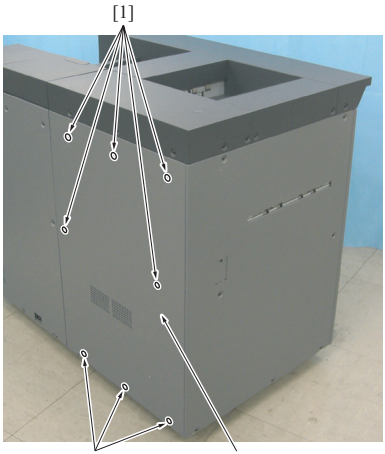
3.3 Removal procedure of parts to be disassembled and assembled

⚠Caution:

- **Be sure to unplug the power cord from the power outlet .**

3.3.1 Removing/installing the rear cover /Lt

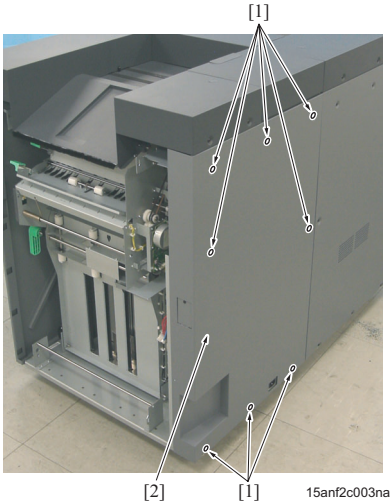
A. Procedure



1. Remove 8 screws [1], and then remove the rear cover /Lt [2].
2. Reinstall the above parts following the removal steps in reverse.

3.3.2 Removing/installing the rear cover /Rt

A. Procedure



1. Remove 8 screws [1], and then remove the rear cover /Rt [2].
2. Reinstall the above parts following the removal steps in reverse.

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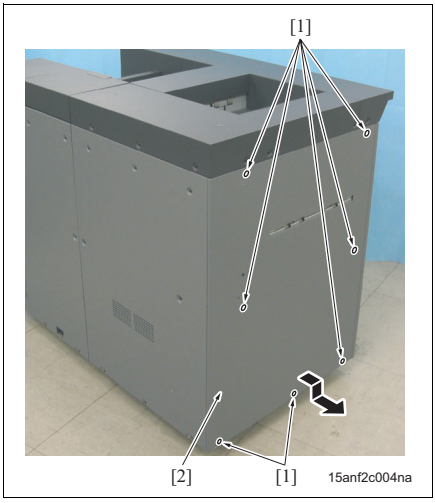
3.3.3 Removing/installing the left cover

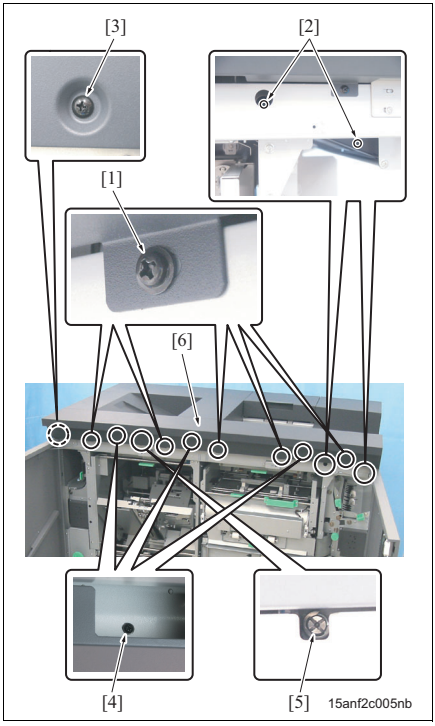
A. Procedure



1. Remove 7 screws [1], and then slide the bottom of the left cover [2] to the outside and remove it to the bottom.
2. Reinstall the above parts following the removal steps in reverse.

⚠ 3.3.4 Removing/installing the upper cover /Fr

A. Procedure



1. Open the front doors /Rt and /Lt.
2. Remove the five screws [1] on the front, two screws [2], one screw [3] on the left, and three screws [4] under the cover.
3. Loosen the screw [5].
4. Lift up and remove the upper cover /Fr [6].

Note

- **When removing the upper cover /Fr [6], pull the screw [5] to the front to avoid the top cover /Fr [6] being caught by the tip of the screw.**

5. Reinstall the above parts following the removal steps in reverse.

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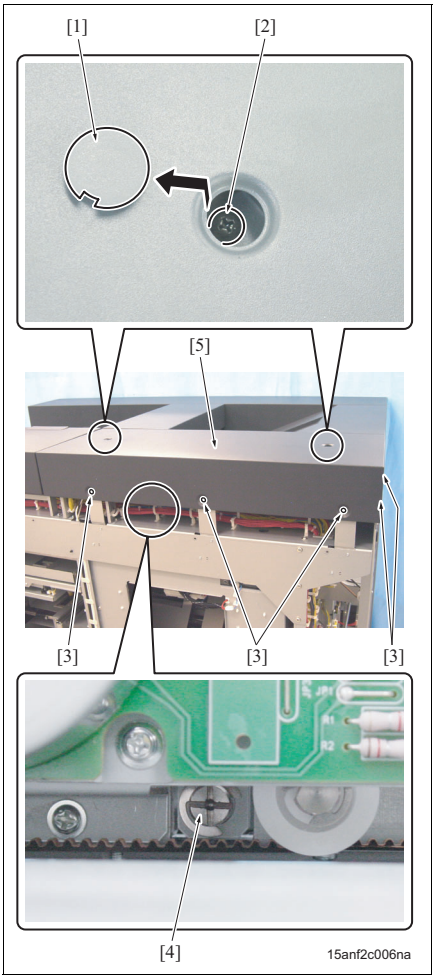
3.3.5 Removing/installing the upper cover /Rr3

A. Procedure



1. Remove the rear cover /Lt. (See P.45)
2. Remove 2 screw caps [1] and then remove 2 screws [2].
3. Remove 5 screws [3].
4. Loosen the screw [4] and then remove the upper cover /Rr3 [5].

Note

- **When removing the upper cover /Rr3 [5], pull the screw [4] to the front to avoid the upper cover /Rr3 [5] being caught by the tip of the screw.**

5. Reinstall the above parts following the removal steps in reverse.

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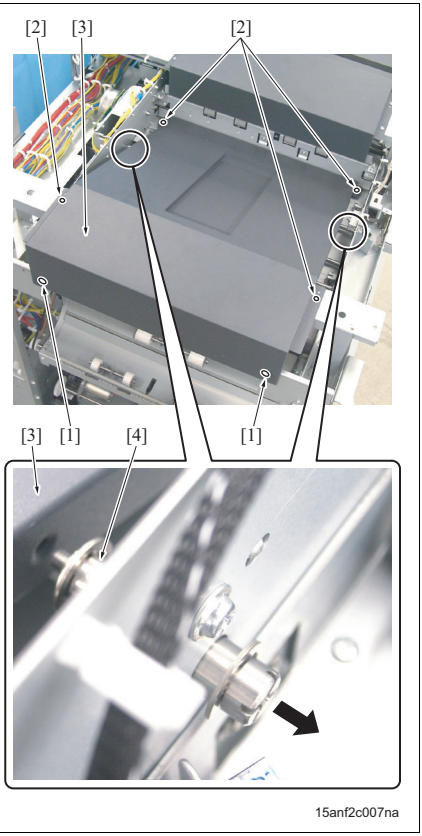
3.3.6 Removing/installing the subtray cover

A. Procedure



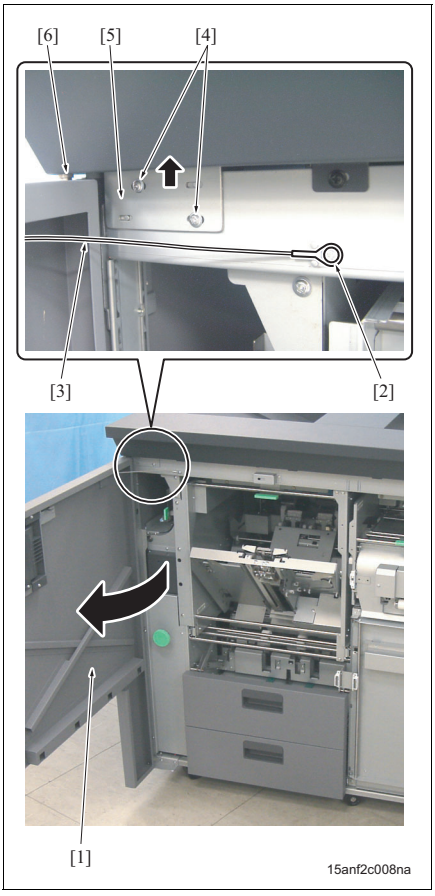
1. Remove the upper cover /Fr. (See P.46)
2. Remove the upper cover /Rr3. (See P.47)
3. Remove 2 screws [1] and 4 screws [2], and then remove the subtray cover [3].
4. Reinstall the above parts following the removal steps in reverse.

⚠ **Note**

- **When reinstalling the subtray cover [3], pull the screw [4] to the outside.**

3.3.7 Removing/installing the front door /Lt

A. Procedure



1. Open the front door /Lt [1].
2. Remove the screw [2], and then remove the front door stopper /Lt [3].
3. Remove 2 screws [4] and remove the fulcrum [6] by sliding the hinge [5] upward, and then remove the front door /Lt [1].

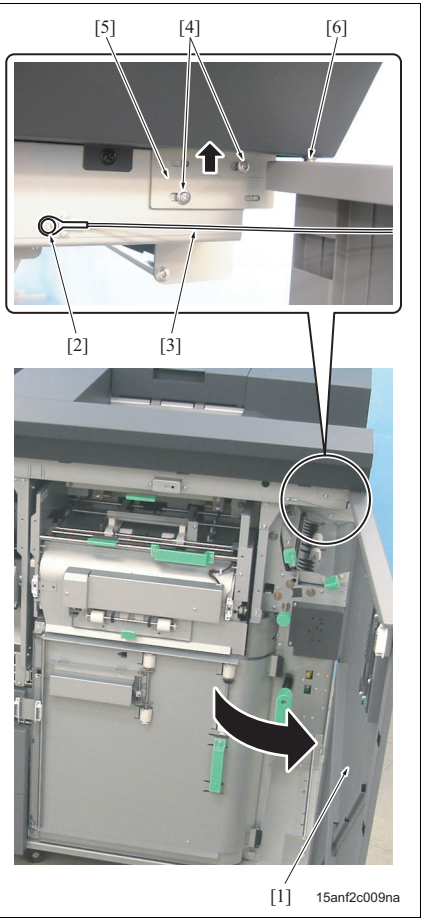
Note

- **Support the front door /Lt [1] with your hand so that it does not fall down when removing the screw [4].**

4. Reinstall the above parts following the removal steps in reverse.

3.3.8 Removing/installing the front door /Rt

A. Procedure



1. Open the front door /Rt [1].
2. Remove the screw [2], and then remove the front door stopper /Rt [3].
3. Remove 2 screws [4] and remove the fulcrum [6] by sliding the hinge [5] upward, and then remove the front door /Rt [1].

Note

- **Support the front door /Rt [1] with your hand so that it does not fall down when removing the screw [4].**

4. Reinstall the above parts following the removal steps in reverse.

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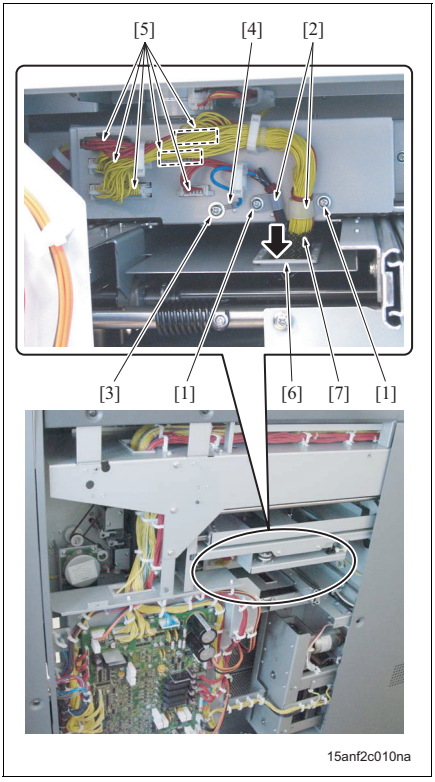
3.3.9 Removing/installing the folding unit

⚠Caution:
- **Be sure to perform this operation with 2 people because the folding unit is heavy.**

A. Procedure



1. Remove the front door /Rt. (See P.50)
2. Remove the rear cover /Rt. (See P.45)
3. Remove 2 screws [1] and 2 clamps [2] from the rear of the folding unit.

Note
- **Be sure not to let the clamps [2] fall down.**

4. Remove the screw [3] and the ground [4].
5. Remove 6 connectors [5].
6. Remove the clamps, and then put the wiring harness [7] through the wiring harness guide hole [6].

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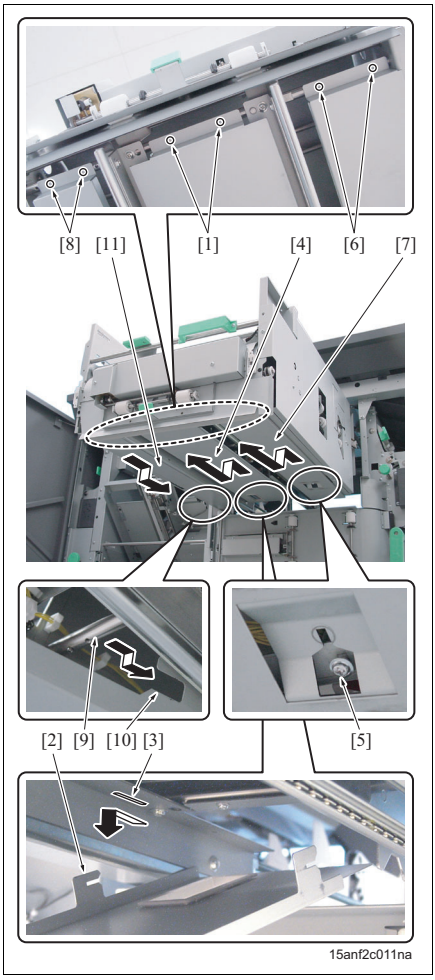
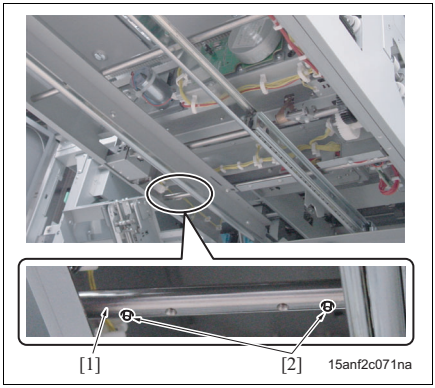
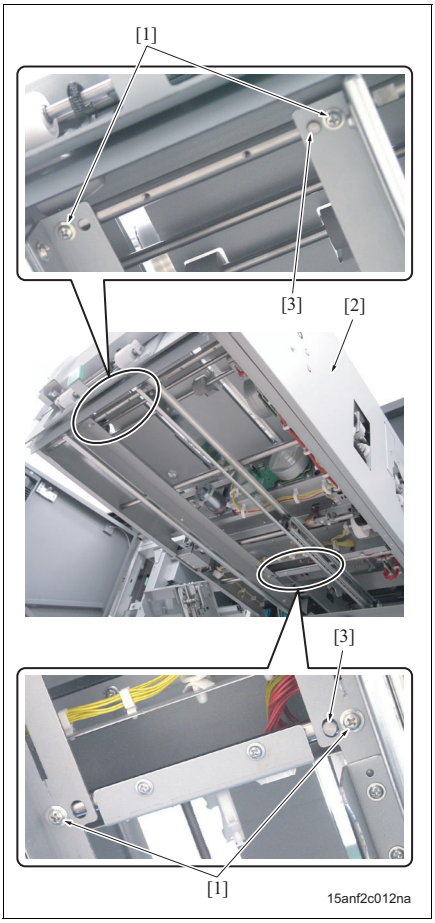


7. Pull out the folding unit.
8. Remove 2 screws [1], separate the notch [2] from the hole [3] and remove the lower cover/2 [4].
9. Loosen the screw [5], remove the 2 screws [6] and remove the lower cover/1 [7].
10. Remove 2 screws [8], separate the notch [10] from the shaft [9] and remove the lower cover/3 [11].



Note

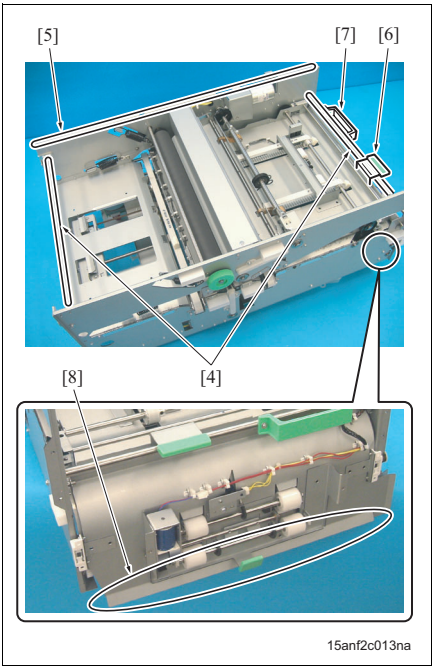
- **Install the lower cover/3 [11] between 2 pins [2] of the shaft [1]. If it is installed at an improper position, other parts may be damaged when the folding unit is stored.**



11. Remove 4 screws [1], and then lift up and remove the folding unit [2] upward with 2 people.

Note

- **When reinstalling it, be sure to align the positioning pin [3] with the hole.**



Note

- **When holding the folding unit, be sure to hold the shafts [4] at front and rear or the upper top of the side plate [5]. Never hold at the jam release lever [6] or the handle [7]. They may be damaged.**
- **When placing the folding unit, place it on the table to avoid the guide plate [8] on the front being contacted with the floor because it is projected from the bottom of the unit.**

12. Reinstall the above parts following the removal steps in reverse.

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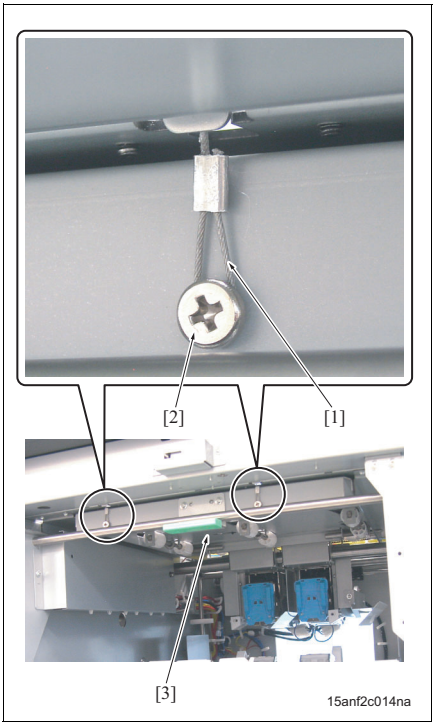
3.3.10 Pull out the saddle stitching unit

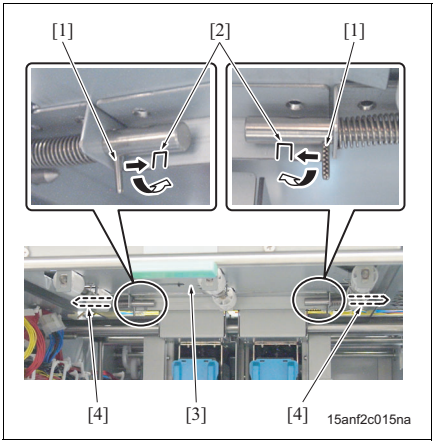
A. Procedure



1. Remove the front door /Lt. (See P.49)
2. Remove the wire [1] from the screw [2].

Note

- **When remove the 2nd wire [1], support the horizontal conveyance guide plate /Lt [3] with your hand so that it does not fall down.**



3. Slide 2 pins [1] to the arrow-marked direction and hook into the notches [2] to release the horizontal conveyance guide plate /Lt [3], and then remove the guide plate.

Note

- **When reinstalling the horizontal conveyance guide plate /Lt [3], align the positions of the shafts [4], and then slide the pins [2] from the notches.**

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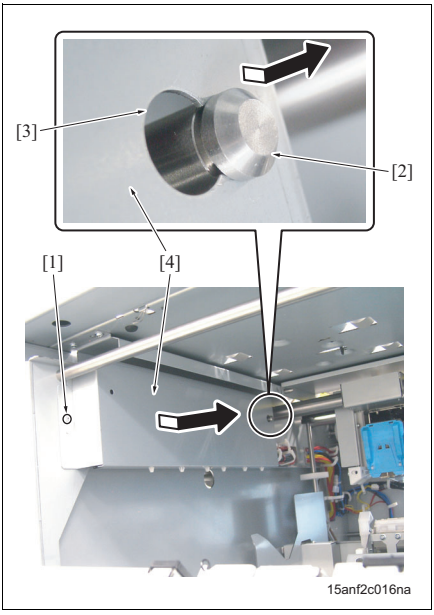
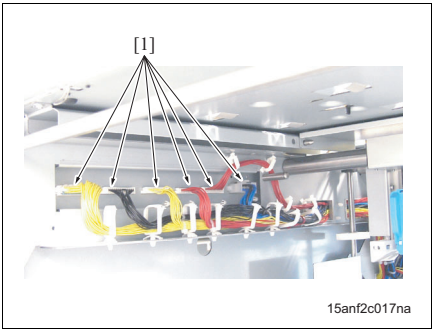
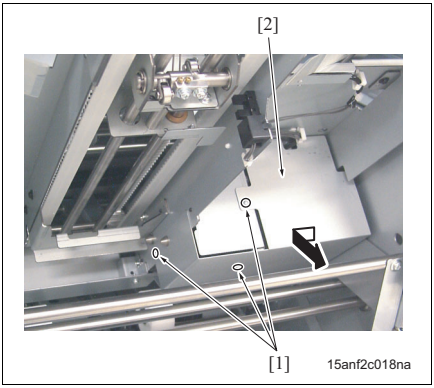


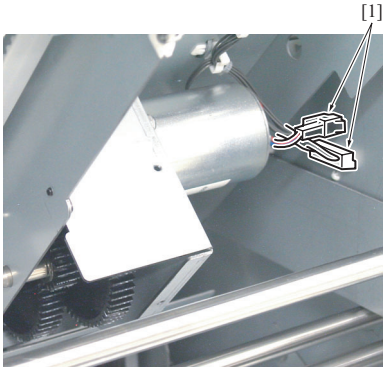
4. Remove the screw [1], move the wiring harness cover [4] to the rear, and unplug the pin [2] from the hole [3], and then remove the wiring harness cover [4].



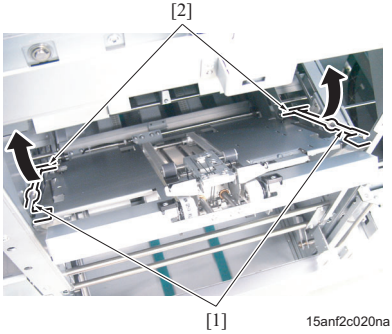
5. Remove 6 connectors [1].



6. Remove 3 screws [1], and then remove the motor cover [2].



7. Remove 2 connectors [1].



8. Holding the bundle arms [1] on both sides in the vicinity of the fulcrum shaft [2], push them to the rear simultaneously and move the bundle arms [1] approximately 30 mm.

Note

- **When rotating the bundle arm [1] manually, be sure to gently rotate it with both hands because the bundle arm is driven simultaneously by the belts on the both sides. Otherwise, it may cause the belt tooth skipping.**
- **Never rotate the bundle arm [1] by holding its tip. It may cause the deformation. Be sure to rotate it by holding the bundle arm [1] in the vicinity of the fulcrum shaft [2].**

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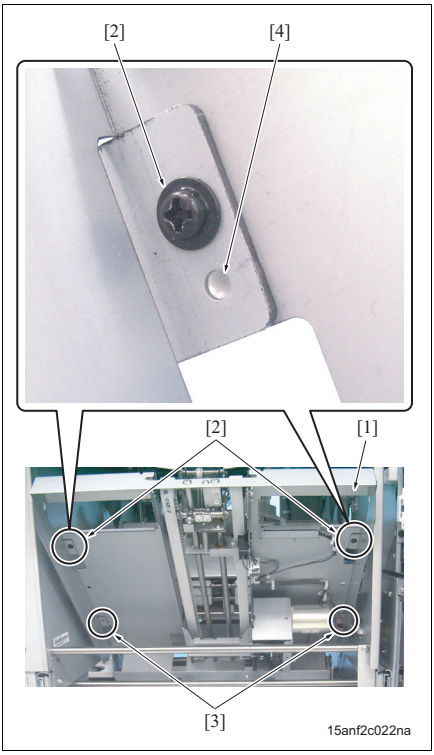
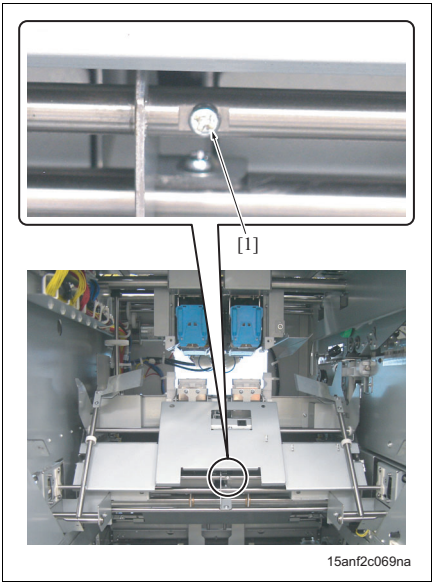


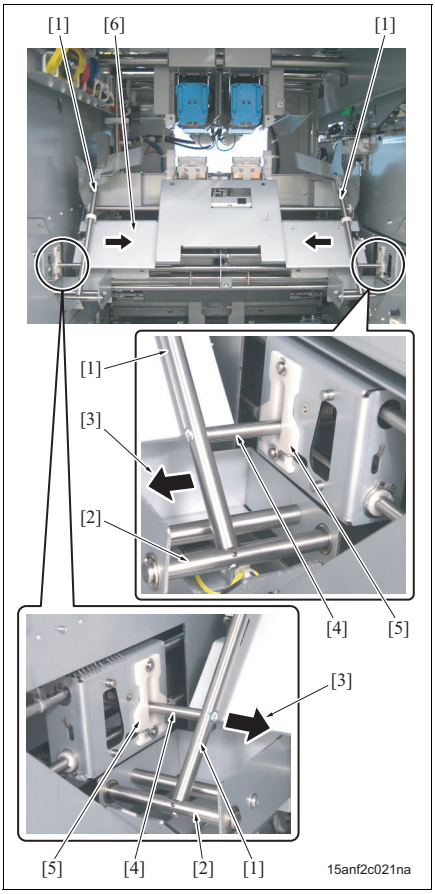
9. Remove 2 screws [2] and 2 screws [3] for the slope [1] from the bottom and top respectively, and then remove the slope [1].

Note

- **When reinstalling the slope, be sure to align 2 positioning projections [4].**



10. Remove the screw [1].

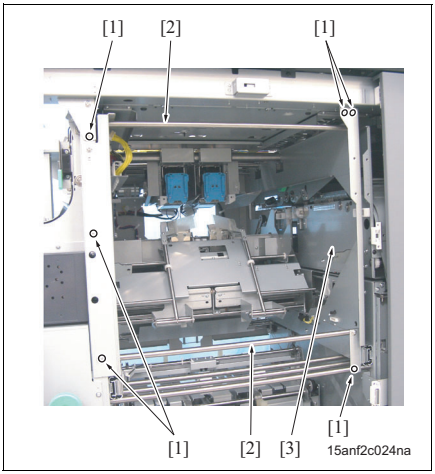


11. Holding the bundle arms [1] on the both sides in the vicinity of the fulcrum shaft [2], gently move them to the inside [3], and then remove the guide shaft [4] from the hole of the shock absorbing guide [5].

Note

- **When narrowing the space between the bundle arms [1], be sure to move them gently and simultaneously.**
- **When reinstalling them, be sure to check that the guide shaft [4] has been inserted into the shock absorbing hole [5].**

12. Rotate the bundle arms [1] to the guide plate [6] on the stapler side.



⚠*13.* Remove the six screws (with one washer each) [1], and then hold the shafts [2] to pull out the saddle stitching unit [3].

Note

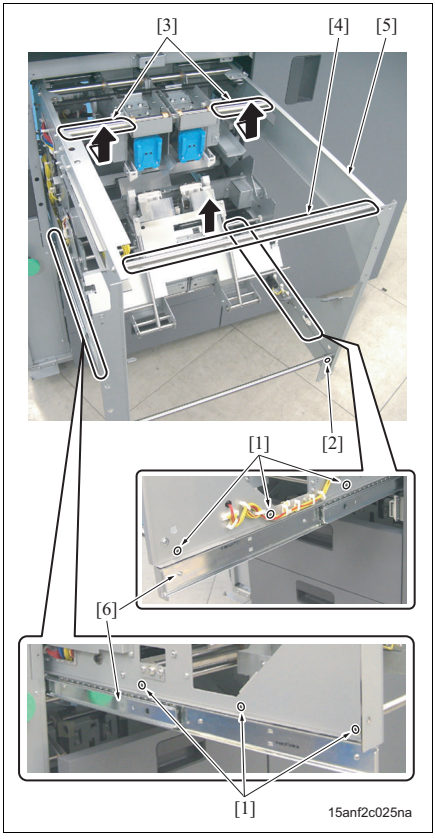
- **When pull out the saddle stitching unit, be sure not to snap the wiring harness of the removed connector contact with SD.**

14. Reinstall the above parts following the removal steps in reverse.

3.3.11 Removing/installing the saddle stitching unit

⚠Caution:
- **Be sure to perform this operation with 2 people because the saddle stitching unit is heavy.**

A. Procedure



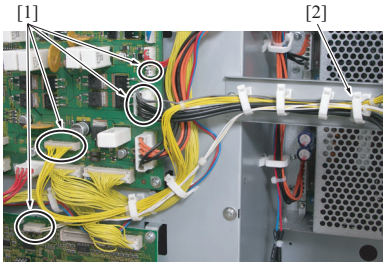
1. Pull out the saddle stitching unit. (See P.55)
⚠2. Remove 6 screws [1], 1 screw [2], and remove the saddle stitching unit [5] with 2 people by holding the shafts [3] and [4] while lift up the shaft [3] slightly and shift the saddle stitching unit to the front side.

Note
- **Be sure to hold the saddle stitching unit at the shafts [3] and [4].**
- **When reinstalling the saddle stitching unit, check that the unit is surely placed on the rails [6] before releasing the unit.**

3. Reinstall the above parts following the removal steps in reverse.

⚠ 3.3.12 Removing/installing the trimmer unit

A. Procedure



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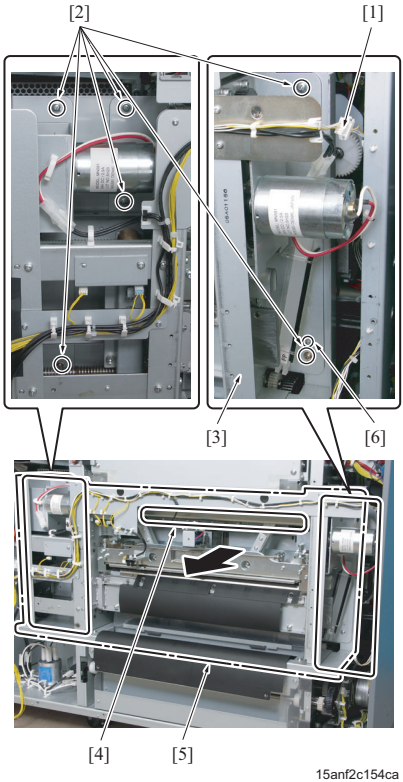
1. Remove the rear cover/Lt. (See P.45)
2. Remove the rear cover/Rt. (See P.45)
3. Remove the trimmer paddle assembly. (See P.62)
4. Disconnect the four connectors [1] and release the wiring harness from the clamps [2].



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5. Disconnect the connector [1].
6. Remove the six screws [2], slide the trimmer unit [5] toward rear of the main body holding the thick metal plate position [3]. Then, holding the stay [4] remove the trimmer unit [5] toward rear of the main body.

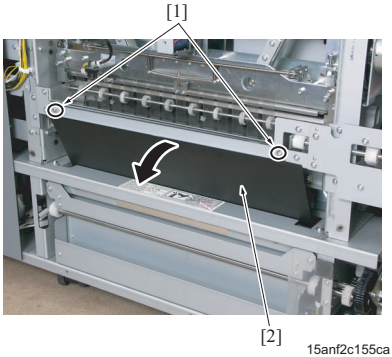
Note

- **As the trimmer unit is heavy, be careful not to drop it off.**
- **When reinstalling the trimmer unit, be sure to align the projection [6].**

7. Reinstall the above parts following the removal steps in reverse.

⚠ 3.3.13 Removing/installing the trimmer paddle assembly

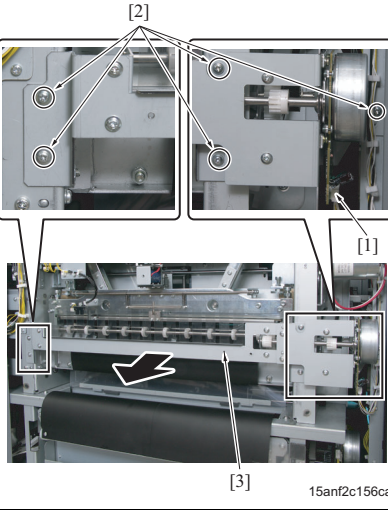
A. Procedure



1. Store the trimmer scraps box completely in the SD.
2. Remove the rear cover/Lt. (See P.45)
3. Remove two screws [1], and remove the trimmer scraps guide [2].

Note

- **When installing the trimmer scraps guide, be sure that the trimmer scraps box is stored completely in the SD, and the trimmer scraps guide [2] is fully stretched. If you stretch the trimmer scraps guide with the trimmer scraps box is not stored completely, the trimmer scraps guide may be broken during operation.**



4. Disconnect the connector [1], remove five screws [2], and remove the trimmer paddle assembly [3].
5. Remove the above parts following the removal steps in reverse.

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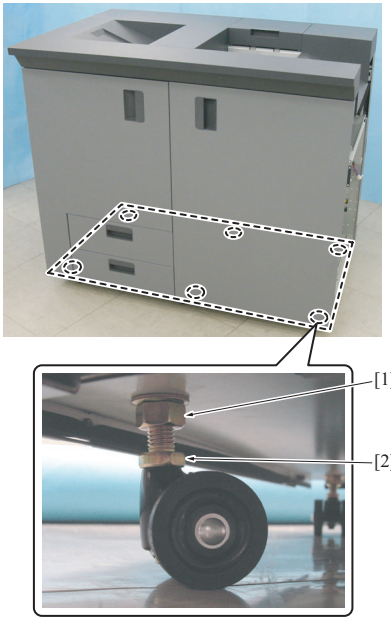
■ ADJUSTMENT/SETTING

4. MECHANICAL ADJUSTMENT

4.1 SD horizontal adjustment

Conduct this adjustment when SD is not in a horizontal position.

A. Procedure



1. Loosen the nuts [1] at the 6 places.
2. Rotate the screws [2] at the 6 places and make horizontal adjustments of the device.

Note

- **Be sure to make adjustments while taking into consideration the height between the main body and other optional devices.**

3. Rotate the screws [2] by hand provided at the 6 places to check to see if there is any caster that is raised.

Note

- **When any caster is found raised, rotate the screw [2] with a wrench to extend the length of the caster until it feels secure.**

4. Fasten the screws [2] with a wrench and tighten up the nuts [1].

Note

- **Be careful that when the nut [1] is tightened up without fastened the screw [2], the screw [2] also rotates together with the nut [1], thus resulting in an incorrect positioning.**

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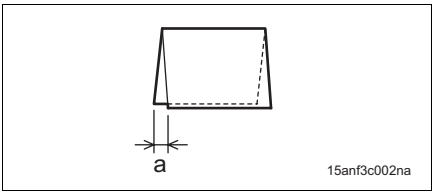
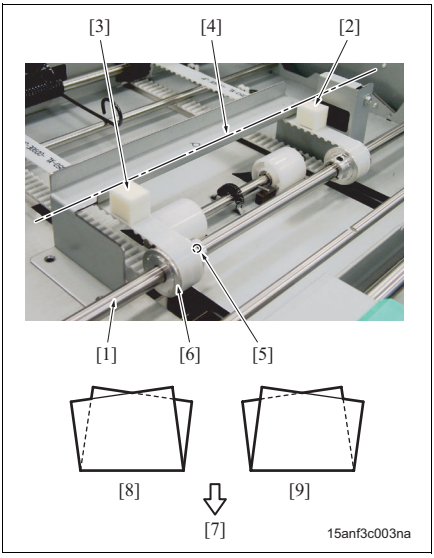
4.2 Folding skew adjustment

Adjust the skew in the center folding.

A. Procedure



1. Perform the center folding operation for 5 sheets of A3 or 11 x 17 paper and check their skew "a".
   Standard value a = ± 1.5 mm
   When the value is not within the standard value, perform the following procedure.



2. Open the front door /Rt and pull out the folding unit.
3. Rotate the shaft [1] to hit the alignment claws /Fr1 [2] and /Fr2 [3] against the stopper plate [4]. And with the stopper plate [4] as a standard, check the relative position of the alignment claw /Fr2 [3] to the alignment claw /Fr1 [2].
4. Loosen the screw [5] and turn the pulley [6] to adjust the position of the alignment claw /Fr2 [3] to the alignment claw /Rr1 [2] and tighten the screw [5].

Note

- **In case of the paper that has been exited in the front direction [7] of the bundle exit tray in the folding skew pattern [8], move the alignment claw /Fr2 [3] to the front side of SD.**
- **In case of the folding skew pattern [9], move the alignment claw /Fr2 [3] to the rear side of SD.**

5. Return the folding unit to the original position and repeat the steps 1 through 4 until the standard value can be obtained.

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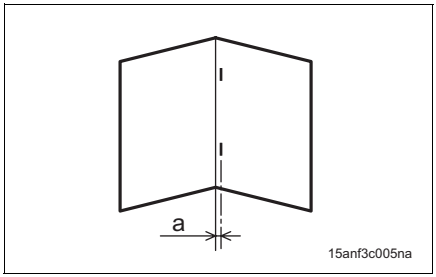
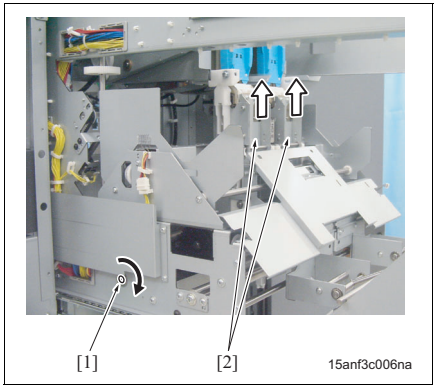
4.3 Staple position adjustment

Adjust the misalignment between the staple position and the folding position.

A. Procedure



1. Perform the saddle stitching operation for 25 to 30 sheets of A3 or 11 x 17 paper and check the misalignment "a" between the staple position and the folding position.
   Standard value a = ± 1 mm
   When the value is not within the standard value, perform the following procedure.



2. Pull out the saddle stitching unit. (See P.55)
3. Rotate the screw [1] clockwise until clicked to make the clinchers [2] contact with the staplers and lock the clinchers [2].

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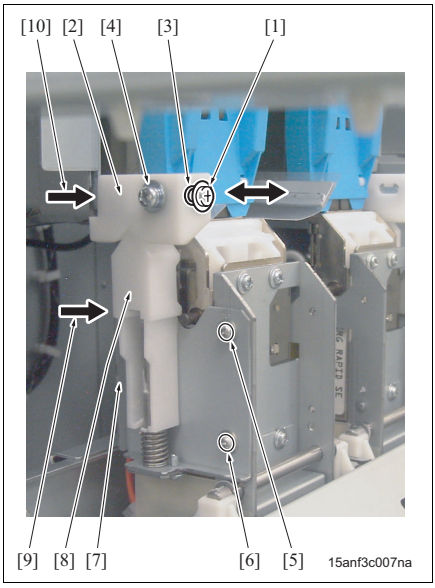

4. Install the M4 screw [1] obtained from the exterior and so on into the adjustment screw hole [3] of the saddle stitching hold /Up [2] with your fingers and tighten it lightly until it is contacted.

Note

- **Do not the screw [1] too tight. Stop tightening when it is contacted.**

5. Loosen the screw [4], [5] and [6].

6. Rotate the screw [1] to move the position of the saddle stitching hold /Up [2] for the length of the misalignment "a".

Note

- **Rotating the screw [1] one revolution moves the saddle stitching hold /Up 0.7 mm (same width with staple).**
- ⚠ **When the screw [1] is tightened, the staple position moves forward. When the screw [1] is loosened, the staple position moves backward.**

7. While pushing the mounting plate [7] to the arrow-marked direction [9] and contacting the saddle stitching hold /Up [2] to the screw [1], tighten the screws [5].

8. While pushing the saddle stitching hold /Up [2] to the arrow-marked direction [10] and contacting the saddle stitching hold /Up to the screw [1], tighten the screw [4], and then tighten the screw [6].

9. Remove the screw [1] and return it to the original position.

10. Return the saddle stitching unit, and then repeat steps 1 to 9 until the standard value can be obtained.

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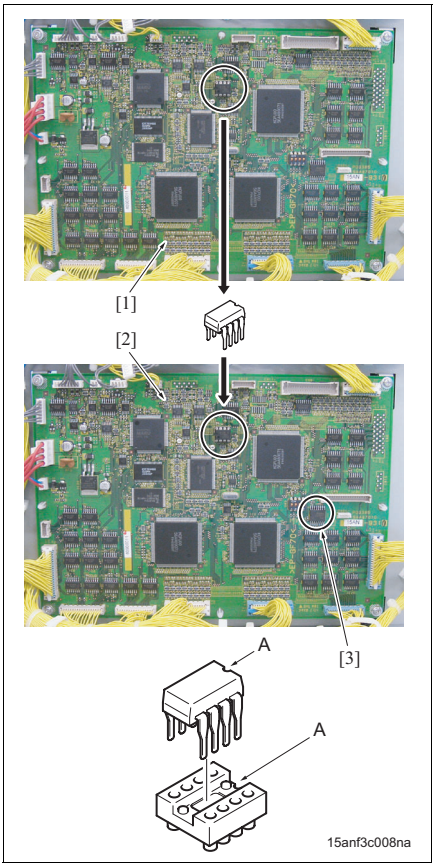
4.4 Note to keep in mind when replacing the board

When the SD control board (SDCB) is replaced, be sure to replace the EEPROM (IC68).

A. Procedure



1. Remove the EEPROM (IC68) from the old SD control board (SDCB) [1] and install it into the new SD control board (SDCB) [2].

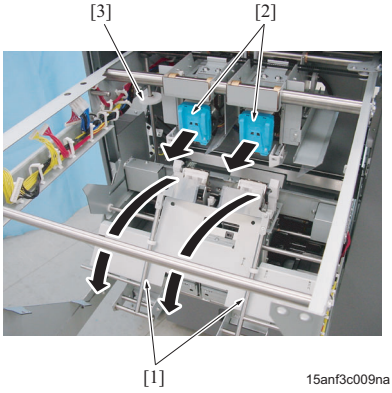
Note

- **Be sure to install the "A" sections of the EEPROM (IC68) in the same direction.**
- **Settings of the SW3 [3] should be the same as that of the old SDCB (See P.645 in Field Service for the main body.)**

⚠ 4.5 Tilt/gap adjustment of the clincher

Perform this adjustment when the staple break through the paper by stapling a few pages of booklet.

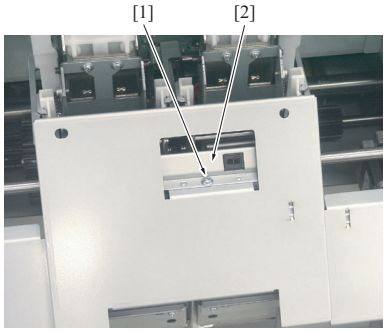
A. Procedure



1. Carry out stapling operation with two sheets of papers, and check if the staple break through the paper. If the paper is broken through, perform the following steps.
2. Pull out the saddle stitching unit. (See P.55)
3. Tilt the bundle arm [1] to the front.
4. Remove the staple cartridges [2] to the front.
5. Rotate the rotating knob [3] to move the stapler assemblies inward, then move them outward by approx. 30 mm (the interval between the stapler becomes approx. 60 mm).

Note

- **When moving the stapler assemblies, be sure to move them by rotating the rotating knob [3] to prevent the belt tooth from skipping. Otherwise, it may cause the belt tooth skipping.**



6. Remove the screw [1] and remove the sensor cover [2].

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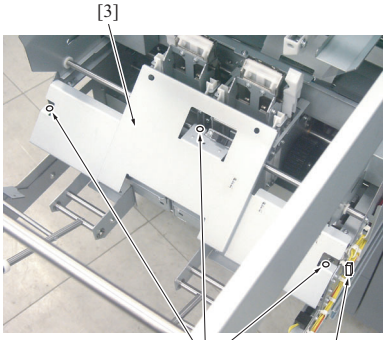


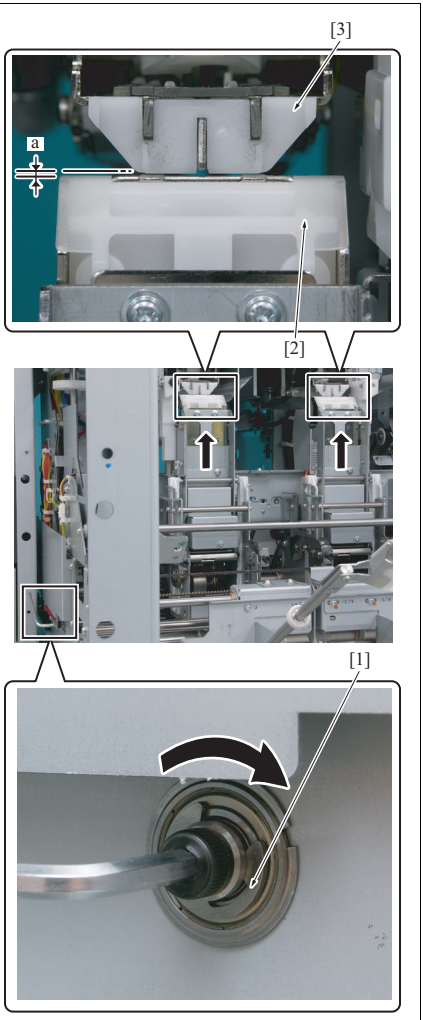
7. Disconnect the connector [1].

Note

- **When reinstalling the saddle stitching unit, be careful not to let the connector [1] make contact with the main body.**

8. Remove the three screws [2], and then remove the saddle stitching guide plate [3].

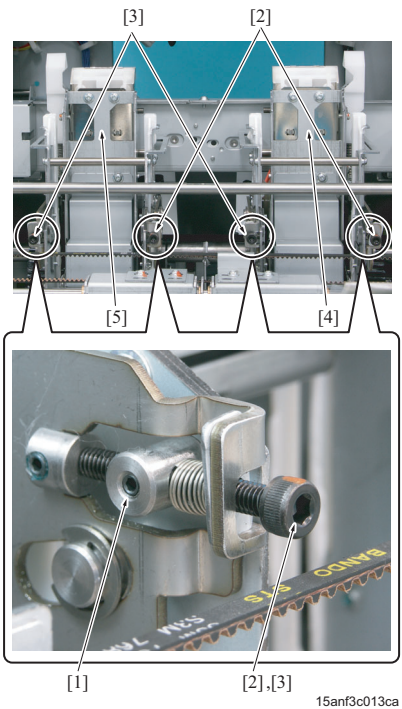
⚠



9. Rotate the screw [1] clockwise until clicked to make the clinchers [2] contact with the staplers [3] and lock the clinchers [2]. At the moment the clinchers are locked, check if the clinchers do not roll from side to side and the gap between the staplers and the clinchers equals to the standard value.

Standard value "a": 0.3 ± 0.1 mm (Two sheets of 80 g/m^2 papers can pass through the gap while three sheets cannot.)

10. When the gap is out of the standard value, loosen the screw [1] counterclockwise and lower the clinchers once. Then perform the adjustment following the procedure below.



11. Loose the four screws [1].

12. Adjust the gap between the staplers and the clinchers so that the gap equals the standard value while loosening (gap becomes narrower) / tightening (gap becomes wider) the adjusting screw/Rt [2] and /Lt [3] in the same manner.

Note

- **Be sure to perform the adjustment for both left and right side of each clincher/Rt [4] and / Lt [5] so that the stapler and the clinchers are parallel to each other.**
- **When the adjustment is completed, be sure to tighten the the four screws [1].**

13. Put the saddle stitching unit back. Then carry out stapling operation with two sheets of papers, and check if the staple does not break through the paper.

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