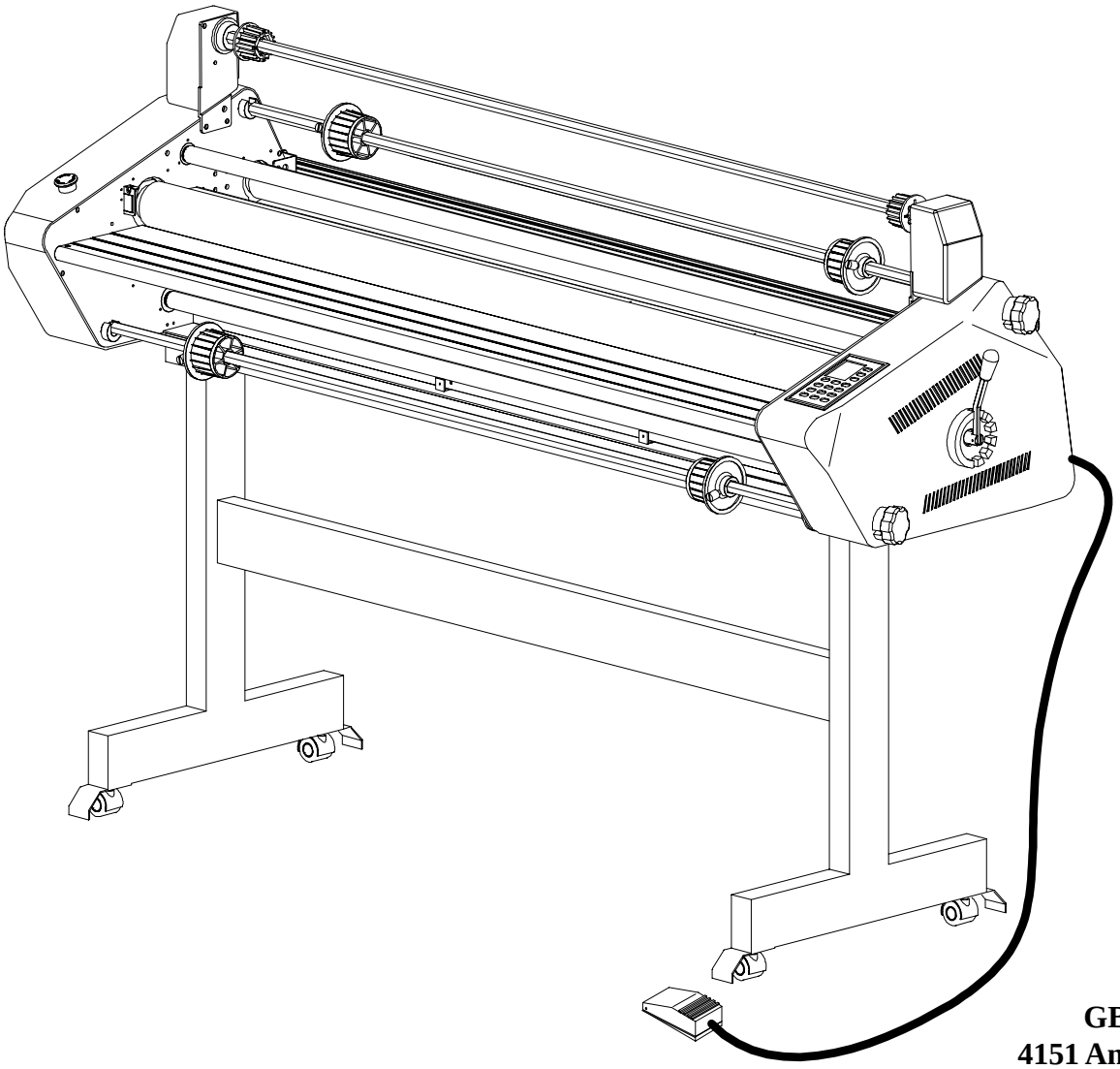
TITAN 110/ 165 OPERATION &

MAINTENANCE MANUAL



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Read Me File . . . . . .

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Fax Correspondence

Fax number : (608) 246 - 8645 **Date : _____**

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From : _____

Company : _____

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Phone number : (_____)_____ Fax number : (_____) _____

Re : Titan 110/ 165 Operations and Maintenance Manual (930046 Rev A)

Section #: _____ Page #: _____

Correction (s): _____

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Additional comments: _____

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Section 1 Safety

CAUTION

Do not attempt to operate your Titan 110/ 165 laminator until you have read this section carefully!

Your safety, as well as the safety of others, is important to GBC Films Group. This section contains important safety information.

The following symbols are used throughout this manual to indicate **Information, Caution**, **Warning**, **Danger** and **Electrical Shock** conditions.

1.1 Symbols

INFORMATION

Indicates helpful information that should be considered before, during, or after an action, step or procedure is given.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, or alerts against unsafe practices or alerts against actions which could damage the product.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in serious injury.

DANGER

Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.

ELECTRICAL SHOCK

Indicates an electrical shock situation which, if not avoided, could result in serious paralyzation of the body or death.

1.2 Safety features

The Titan 110/ 165 laminator has been designed with safety as a primary consideration; however, you must become thoroughly familiar with the controls, proper operation, proper service procedures and safety features of the laminator before using or servicing the unit.

In addition, the heating components of the Titan 110/ 165 can reach temperatures of over 200 °F (100 °C).

DANGER

At these temperatures there is a danger of severe burn if the rolls are touched during setup, operation or servicing.

INFORMATION

Only a qualified service technician should perform any procedure requiring the cabinet doors to be opened.

The word qualified is defined as;

Qualified ;

• Any engineer that has experience with electrical and mechanical design of lamination equipment. The engineers should be fully aware of all aspects of safety with regards to lamination equipment.

• Any commissioning or service engineer must be of competent nature, trained and qualified to GBC Films Group standards to fulfill that job. This person will have completed and passed the full service training course from GBC Films Group.

• Any GBC Technician, GBC Specialist, and / or GBC Films Group Technician that has been through the GBC Pro-Tech service training course.

An important feature of the Titan 110/ 165 laminator are the safety latches and the interlocks. The front safety shield (**Figure 1.2.1**) and the feed table (**Figure 1.2.2**) are both equipped with safety latches. When a safety latch is not in the locked position, the motor is disabled.

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

Figure 1.2.1 Safety shield

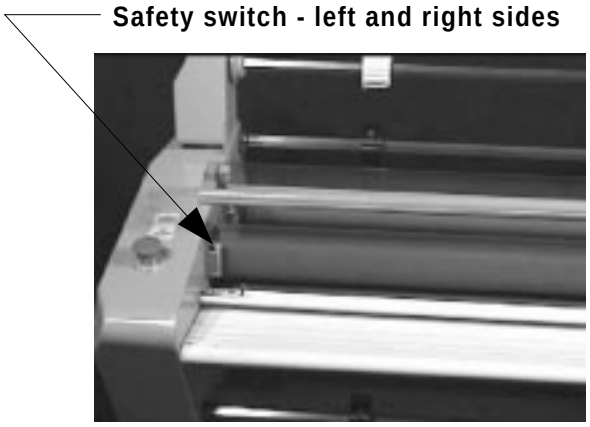
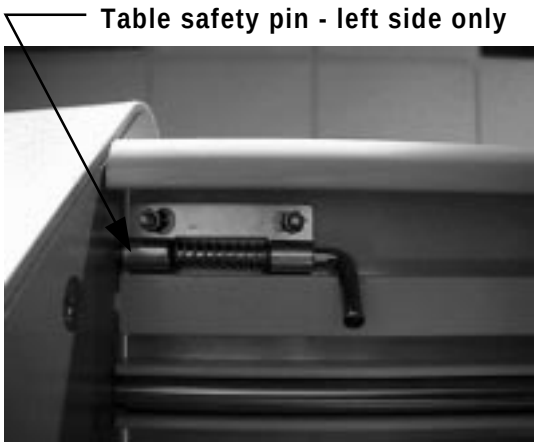
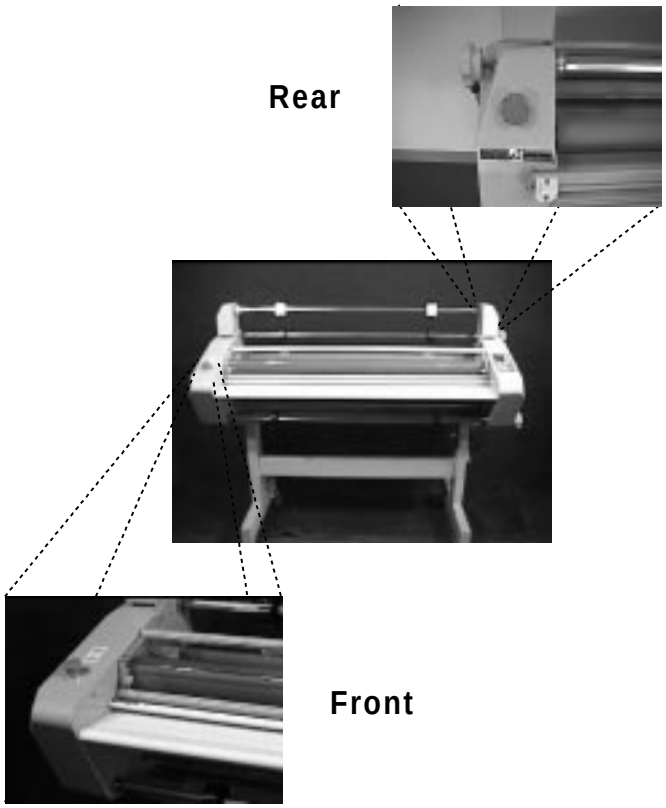


Figure 1.2.2 Feed table

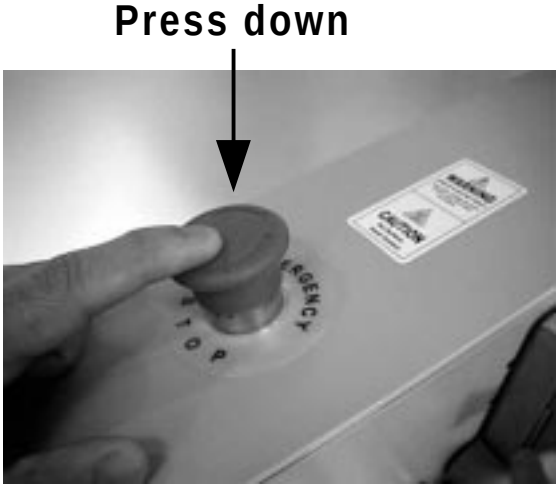


The laminator is equipped with two **EMERGENCY STOPS** (**E-STOP**).One is located on the left side from the front operating position and the second is located above machine **POWER**. Refer to **Figure 1.2.3**

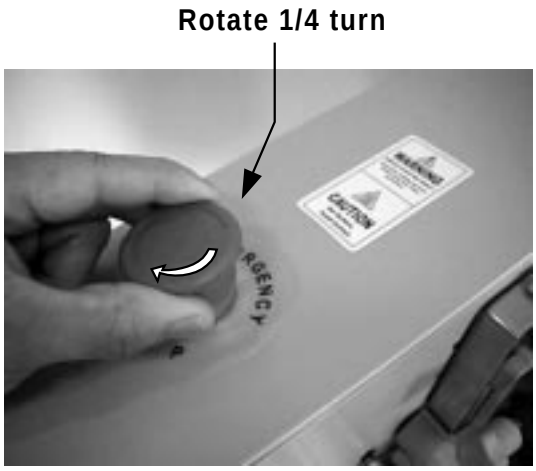
Figure 1.2.3 Emergency stops



To engage the **EMERGENCY STOP** feature, press down. Either of these, when engaged, removes power to the motor.



To continue operation, both **E-STOPS** must be in the up position. To reset the **E-STOP,** twist the button 1/4 turn clockwise.



INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

1.3 Installation

The following symbols are positioned at various points in **Section 4 Installation.**

CAUTION

Failure to follow the pre-installation check list can result in damage to the laminator.

WARNING

The operating environment must be free of dust, flammable liquids and vapors. You can be injured by inhaling chemical vapors.

WARNING

Vapor build up or stored flammable liquids can cause a fire. Excessive dust can damage the laminator.

CAUTION

Do not locate the laminator where air is blowing directly on the machine. The air flow can cool the rollers unevenly and result in poor quality output.

INFORMATION

Before signing the Bill of Lading, you should be sure to inspect the crate and / or pallet for signs of damage or missing items; if applicable, make note of this on the Bill of Lading.

INFORMATION

Depending on the destination and customer preference, the Titan 110/ 165 may be shipped in various ways. The laminator may arrive shrink wrapped or in a plywood crate on a skid. Please follow the unpacking procedure that pertains to your method of shipment.

WARNING

The Titan 110/ 165 Laminator is a large and heavy piece of equipment. It is necessary to employ LICENSED RIGGERS ONLY to move the laminator. The laminator is not designed to be tipped up or sideways in any way. Such action disturbs the exact alignment of the rolling parts of the machine and requires extensive realignment. You can be crushed or seriously injured.

CAUTION

Do not use a knife or other sharp object to remove the shrink wrap from around the laminator. You can cause irreparable damage to the rollers.

INFORMATION

*ALL SHIPMENTS ARE EX-WORKS.*At our dock, title passes to the buyer. Please review your insurance coverage prior to shipment, as you are responsible for all subsequent freight charges and risks.

WARNING

Do not attempt to move the laminator across anything other than a flat level surface without trained and qualified riggers. You can be crushed or seriously injured.

WARNING

The unpacking process requires at least two people. You can be severely injured, crushed or cause damage to the laminator.

INFORMATION

GBC Films Group's warranty does not cover malfunction of the equipment due to mishandling and / or tipping. GBC Films Group bears no responsibility for personal injury or damage due to moving the laminator improperly.

CAUTION

Do not allow the top to fall into the crate. It can damage the laminator.

INFORMATION

About recycling: The crate components can be reused for shipping the laminator again or can be disassembled and the wood and screws recycled. The shrink wrap is not recyclable, so it must be discarded.

INFORMATION

Do not put packing screws on the floor. They can cause problems when trying to roll the laminator into position or you can become injured if stepped on.

WARNING

Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

CAUTION

A second person must support the side labeled 5 in Figure 4.5.1 It can fall and damage the laminator or cause harm to you and others.

WARNING

If a safety feature is not functioning properly, contact your local service representative immediately

DANGER

At no time should you attempt to over ride any of the safety latches on the laminator.

INFORMATION

When any command is pressed on the control panel, an audible "beep" will be heard for each increment of change or each press.

INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

INFORMATION

Top and bottom set points are intentionally left at 320 ºF (160 ºC) for now.

INFORMATION

Locator pins on the pressure plate are not associated with an interlock switch. The laminator can operate without the pressure plate installed.

WARNING

Keep hands and fingers clear of the laminator roller nip when changing GAP. You can be CRUSHED or BURNED!

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

CAUTION

Never leave the rollers in the down position without rolling. Prolonged contact in one area can form flat spots on the rollers.

1.4 Operations

WARNING

Extreme caution should always be exercised working around the core gripper support, the gripper tabs can cut you!

The following symbols are positioned at various points in **Section 5 Operations.**

WARNING

Caution should always be exercised when using the rear cut-off blade. Sharp objects can cut you!

WARNING

Do not wear ties, loose fit clothing or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

WARNING

Keep hands and fingers away from the path of the rear cut-off blade. Sharp objects can cut you!

INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

INFORMATION

Job programming is explained in Section 5.7

INFORMATION

If COOLING is illuminated, the cooling fans are in the "on" position.

INFORMATION

When an EMERGENCY STOP is engaged, all motion stops. The nip will not change from the operating setting.

INFORMATION

Reverse speed is preset at 1 meter/ minute.

INFORMATION

When the E-STOP is disengaged, the rollers will begin turning. By pressing stop first, The rollers will not turn until RUN is pressed

INFORMATION

When the set point value is higher than actual temperature, " WAIT " is indicated at the bottom of the display.

INFORMATION

The Temperature control panel settings are not affected when an E-STOP has been pushed.

INFORMATION

When the input value for JOB is changed, the parameters stored within that number are displayed.

WARNING

Caution should always be exercised when using the laminator with the safety shields removed.
You can be seriously HURT or INJURED!

DANGER

At no time should you attempt to over ride any of the safety latches on the laminator.

WARNING

Extreme caution should always be exercised working around the 3 inch core grippers, the gripper tabs can cut you!

INFORMATION

All E-STOPS must be unlatched, safety shield fully closed and feed table properly installed before operating.

CAUTION

Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

INFORMATION

Locator pins on the pressure plate are not associated with an interlock switch. The laminator can operate without the pressure plate installed.

INFORMATION

For core grippers, turning the roll film in the same direction as the gripper tabs while sliding makes loading the film onto the unwind shaft easier.

WARNING

Extreme caution should always be exercised when removing an unwind shaft, the gripper tabs can cut you!

WARNING

Keep hands and fingers clear of the laminator roller nip when changing GAP. You can be CRUSHED or BURNED!

CAUTION

Never leave the rollers in the down position without rolling. Prolonged contact in one area can form flat spots on the rollers.

WARNING

Keep hands and fingers away from the bottom of the rear cut-off blade. Sharp blade can cut you!

WARNING

Caution should always be exercised when using the rear cut-off blade. Sharp blade can cut you!

1.5 Applications

The following symbols are positioned at various points in **Section 6 Applications.**

CAUTION

Stop the laminator before using the rear cut-off blade. Moving material can damage the rear cut-off blade!

WARNING

Do not wear ties, loose fit clothing or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

WARNING

Keep hands and fingers away from the path of the rear cut-off blade. Sharp blade can cut you!

INFORMATION

The Titan 110 is used for illustration purposes. The procedure is the same for the Titan 165.

CAUTION

Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

INFORMATION

The Titan 110 is used for illustration purposes. The procedure is the same for the Titan 165.

WARNING

Caution should always be exercised when using the laminator with the safety shields removed. You can be seriously HURT or INJURED!

INFORMATION

Avoid tacking at the ends first and pressing towards the center, you may create a tunnel once you have reached the center. This will make for a difficult mounting application.

WARNING

Keep hands and fingers clear of the laminator roller nip when changing GAP. You can be CRUSHED or BURNED!

CAUTION

Do not use the rear cut-off blade to trim the substrate! You can damage the blade.

INFORMATION

Speed can be increased during operation.

CAUTION

Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

INFORMATION

The temperature may differ with regards to your laminate. The temperature used is for instructional purposes only.

WARNING

**Keep hands and fingers away from the heat rollers.
You may be BURNED!**

INFORMATION

Use the appropriate diagram for the type of film you are using.

1.6 Troubleshooting

The following symbols are positioned at various points in **Section 7 Troubleshooting.**

1.7 Maintenance

The following symbols are positioned at various points in **Section 8 Maintenance.**

WARNING

Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

INFORMATION

Improper maintenance, can result in poor output quality.

INFORMATION

Below is a recommended maintenance schedule. Before performing any of the steps listed, read through the procedures first. Please follow the instructions pertaining to the step you are performing.

ELECTRICAL SHOCK

Remove power from the laminator before servicing. You can be severely shocked, killed or cause a fire.

CAUTION

Harden adhesive deposits on the rollers can cause damage to the rollers.

CAUTION

The following procedure is performed while the laminator is HOT! Use extreme caution!

CAUTION

Do NOT pick or pull heat activated adhesive off the rolls when they are cold. You can cause irreparable damage to the laminating rolls.

WARNING

Heating components are HOT! You can become severely burned !

INFORMATION

The most efficient time to clean the rollers is after a lamination process is completed.

CAUTION

Never clean the rollers with sharp or pointed objects. You may put irreparable cuts into the rollers.

INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

INFORMATION

If the rolls are heated, proceed to Removing adhesive build up..

INFORMATION

Rollers only turn in reverse while depressing REVERSE .

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

ELECTRICAL SHOCK

Do not use liquid or aerosol cleaners on the laminator. Do not spill liquid of any kind on the laminator. You can be severely shocked, killed or cause a fire. Use only a damp cloth for cleaning unless other wise specified.

CAUTION

Excessive pressure can destroy the silicone layer by pressing to hard or scrubbing too long in one spot.

ELECTRICAL SHOCK

Do not use liquid or aerosol cleaners on the laminator. Do not spill liquid of any kind on the laminator. You can be severely shocked, killed or cause a fire. Use only a damp cloth for cleaning unless other wise specified.

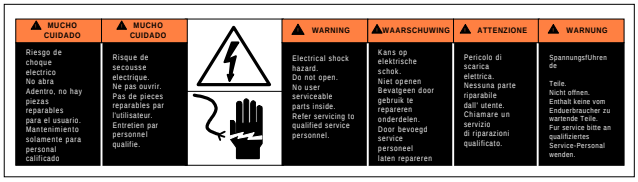
INFORMATION

Locator latches on the pressure plate are not associated with an interlock switch. The laminator will operate without the pressure plate installed.

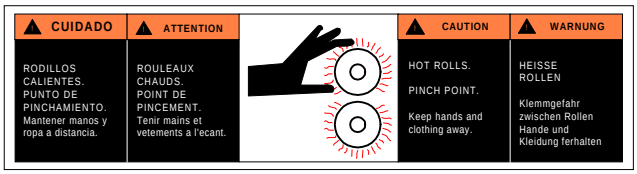
1.8 Label Explanations

Posted at various locations on the Titan 110/ 165 Laminator are important safety labels. **Pay careful attention to these labels at all times! Figure 1.8.1** illustrates the location of each of these labels.

(1) SHARP BLADE: Sharp blade comes down. Keeps hands and fingers away.

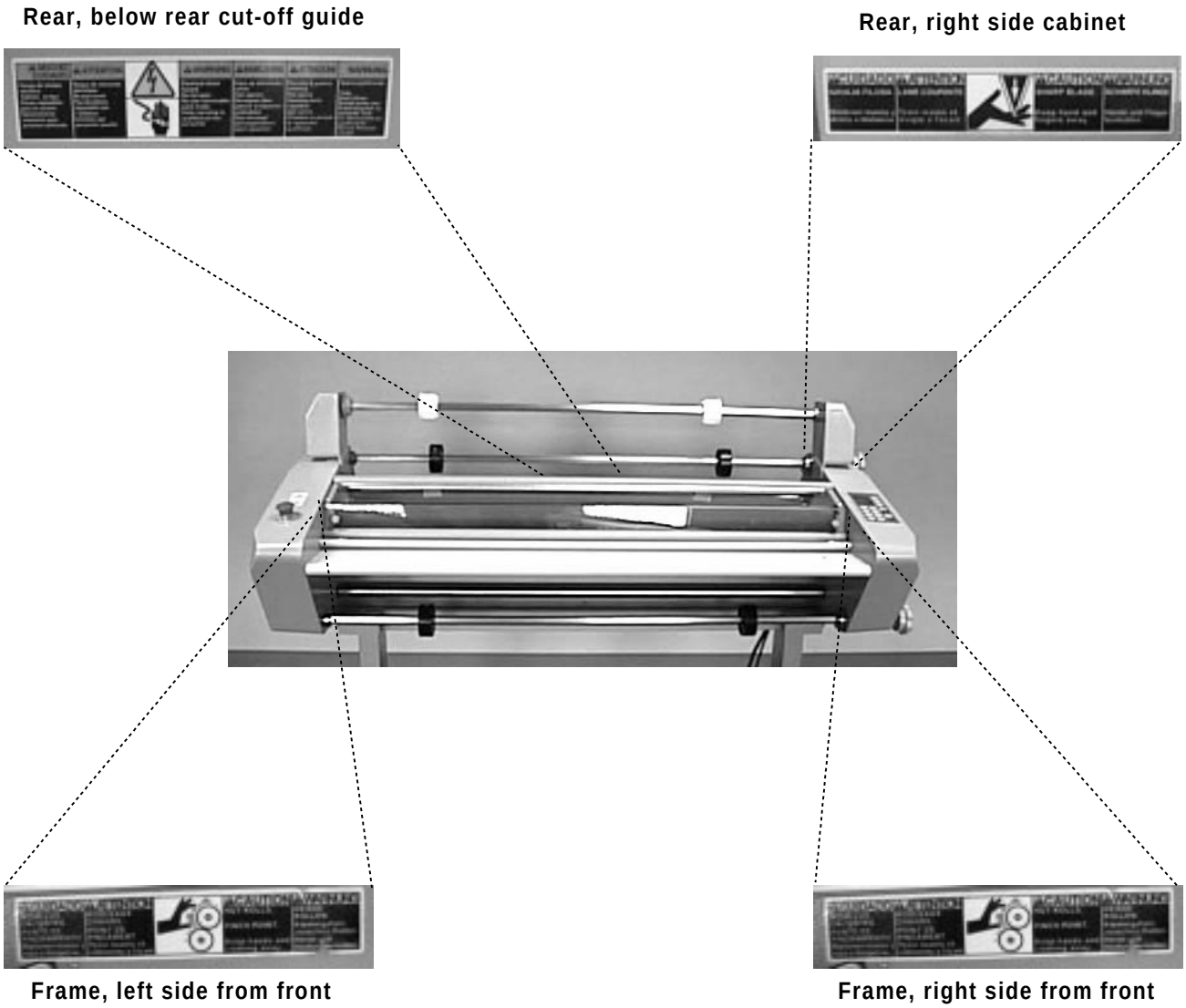


(3) ELECTRICAL SHOCK: Electrical shock hazard. Electrical voltage behind panel.



(2) Roller Pinch Point: Keep hands and fingers away. You may be crushed and/ or burned.

Figure 1.8.1 Label placement



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Section 2 Warranty

CAUTION

Unauthorized customer alterations will void this warranty.

GBC Films Group warrants the equipment sold is free from defects in material and workmanship for a period of **one (1) year parts and 90 days labor** from the date of installation. This warranty is the only warranty made by GBC Films Group and connot be modified or amended.

GBC Films Group's sole and exclusive liability and the customer's sole and exclusive remedy under this warranty shall be, at GBC Films Group's option, to repair or replace any such defective part or product. These remedies are only available if GBC Films Group's examination of the product discloses to GBC Films Group's satisfaction that such defects actually exist and were not caused by misuse, neglect, attempt to repair, unauthorized alteration or modification, incorrect line voltage, fire, accident, flood, or other hazard.

THE WARRANTY MADE HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. GBC PRO-TECH WILL NOT BE LIABLE FOR PROPERTY DAMAGE OR PERSONAL INJURY (UNLESS PRIMARILY CAUSED BY ITS NEGLIGENCE), LOSS OF PROFIT OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE EQUIPMENT.

2.1 Limited Warranty

This warranty specifically does not cover damage to the laminating rollers caused by knives, razor blades, other sharp objects, failure caused by adhesives or improper use of the machine. Warranty repair or replacement does not extend the warranty beyond the initial one year period from the date of delivery.

2.2 Exclusions to the Warranty

This warranty specifically does not cover;

1. Damage to the laminating rolls caused by knives, razor blades, other sharp objects or failure caused by adhesives.

2. Damage to the machine caused by lifting, tilting and/or any attempt to position the machine other than rolling on the installed castors on even surfaces.

3. Improper use of the machine.

4. Damage due from unqualified person(s) servicing the machine.

Qualified

• Any engineer that has experience with electrical and mechanical design of lamination equipment.The engineers should be fully aware of all aspects of safety with regards to lamination equipment.

• Any commissioning or service engineer must be of competent nature, trained and qualified to GBC Pro-Tech standards to fulfill that job. This person will have completed and passed the full service training course from GBC Pro-Tech.

• Any GBC Technician, GBC Specialist, and / or GBC Pro-Tech Technician that has been through the GBC Pro-Tech service training course.

Section 3: Specifications

Specifications provide all of the technical data for the Titan 110/ 165 Laminator. All specifications refer to both the Titan 110 and Titan 165, U.S. and Europe, unless otherwise specified.

Section 3.1 General

Description:

• A high speed laminator for the graphic arts professional as well as the manufacturer who produces promotional pieces in-house. A laminator with elegant design, low power consumption and first class safety and quality assurances.

Features:

• Roller heating technology
• Independent control of each heat roller
• Thermal and cold lamination capabilities
• Unique vented cooling system
• Mounting capabilites up to 1/2 in. (1.3 cm) thickness
• Easy to use computer interface control panel
• 9 Programmable job locations
• LCD temperature displays for each heating surface
• Rear output cut-off blade

Applications:

• Encapsulation - Promotional materials, posters, counter cards, POP displays, calendars, instructional displays, phone/ debit cards, blueprints, menus, placemats, maps, flipcharts, etc.

Section 3.2 Consumables

Film types:
- Poly-in films, thermal and pressure sensitive
- Poly-out films, thermal and pressure sensitive

Film diameters:
- Up to a 7 in. outside roll diameter (18 cm)

Core Size:
- 2-1/4 in. adapters included (57 mm)
- 3 in. core standard (76 mm)

Film widths

Titan 165:
- 61 in. Thermal films (155 cm)
- 62 in. Pressure sensitive films (157 cm)

Titan 110:
- 42 in. maximum paper width (107 cm)
- 42 in. Pressure sensitive films (107 cm)

Paper widths

Titan 165:
- 62 in. maximum paper width (155 cm)

Titan 110:
- 42 in. maximum paper width (107 cm)

Section 3.3 Function

Speed:

U.S.	• 0 - 10 fpm (0 - 3 m / min)
Europe	• 0 - 5 fpm (0 - 1.5 m / min)
Motor:	• DC Gear motor
Heating capabilities:	• Up to 320 °F (160 °C)
Controls:	• Operations control panel
Roll design:	• High release silicone nip rollers • High release silicone pull rollers

Section 3.4 Electrical

Requirements

Titan 165:	• 230 - 240 VAC, 60 Hz, single phase, 30 amps.
Titan 165 Europe:	• 230 - 240 VAC, 50 Hz, Single phase, 15 amps.
Titan 110:	• 230 - 240 VAC, 60 Hz, single phase, 20 amps.
Titan 110 Europe:	• 230 - 240 VAC, 50 Hz, Single phase, 15 amps.

B.T.U. output

Titan 165:	**U.S.**	• 30708 B.T.U. / hour
	Europe	• 22519 B.T.U. / hour
Titan 110:		• 20472 B.T.U. / hour

Heater wattages

Titan 165:	**U.S.**	• 4500 W/ heater
	Europe	• 3300 W/ heater
Titan 110:		• 3000 W/ heater

Amperage draw

Titan 165:	**U.S.**	• Drive motor = 3.3 amps • Fan motor = 0.5 amps • Motors and heaters = 25 amps
	Europe	• Drive motor = 3.3 amps • Fan motor = 0.5 amps • Motors and heaters = 13 amps
Titan 110:		• Drive motor = 3.3 amps • Fan motor = 0.5 amps • Motors and heaters = 12 amps

D/C Voltage used:

- 36 vdc motor voltage
- 24 vdc fan motor

A/C Voltage used:

- 230 vac (minimum)

Section 3.5 Dimensions

Weight

Titan 165:

- Crated : 750 lbs. (340 kg.)
- Uncrated : 600 lbs. (272 kg.)

Titan 110:

- Crated : 350 lbs. (159 kg.)
- Uncrated : 275 lbs. (125 kg.)

Dimensions

Titan 165:

- Crated: 58 in. (H) x 87 in. (W) x 40 in. (D)
  (147 cm (H) x 221 cm (W) x 102 cm (D)
- Uncrated: 49 in. (H) x 77.25 in. (W) x 25.5 in. (D)
  (124 cm (H) x 196 cm (W) x 65 cm (D)

Titan 110:

- Crated: 57 in. (H) x 68 in. (W) x 38 in. (D)
  (145 cm (H) x 173 cm (W) x 97 cm (D)
- Uncrated: 49 in. (H) x 57.25 in. (W) x 25.5 in. (D)
  (124 cm (H) x 145 cm (W) x 65 cm (D)

Nip Height:

- 35.63 in. (91 cm)

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Section 4 Installation

GBC Films Group is committed to a program of ongoing product improvement. As a result, we are providing these instructions so that you can insure that your new Titan 110/ 165 Laminator is properly and securely unpacked, moved, and installed.

Before a Titan 110/ 165 Laminator can be installed, there are a few requirements that must be met. Make certain that each of the requirements listed in the following pre-installation checklist are met before beginning installation.

CAUTION

Failure to follow the pre-installation check list can result in damage to the laminator.

4.1 Pre-installation

☐ Are the doorways and hallways wide enough for the the laminator to be moved to the installation site?

☐ Is there ample room for the laminator?

☐ A work area must be established that allows for unrestricted movement around the laminator and provides space for efficient material flow. Figure 4.1.4 and Figure 4.1.5 illustrates a typical machine area layout.

☐ Is the enviroment appropriate for the laminator? The laminator requires a clean, dust and vapor free enviroment to operate properly. It must not be located where there is air blowing directly on the machine.

☐ Have you contatced a certified electrician to install a receptacle for the laminator and ensure that adequate power is being supplied, having the the appropriate capacity, over current protection and safety lockouts are available?

WARNING

The operating environment must be free of dust, flammable liquids and vapors. You can be injured by inhaling chemical vapors.

WARNING

Vapor build up or stored flammable liquids can cause a fire. Excessive dust can damage the laminator.

CAUTION

Do not locate the laminator where air is blowing directly on the machine. The air flow can cool the rollers unevenly and result in poor quality output.

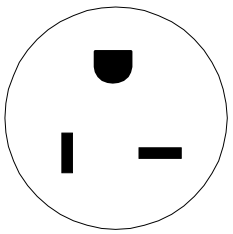
☐ **U.S. and Canada:** The laminator requires 220 to 240 vac, 60 hz, (Titan 165 - 30 amps) or (Titan 110 - 20 amps), single phase.

☐ **Europe:** The laminator requires 220 to 240 vac, 50 hz, 20 amps (110 & 165), single phase

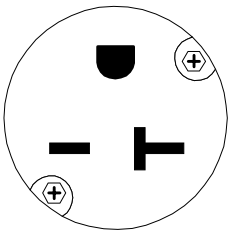
WARNING

The Titan 110/ 165 Laminator is a large and heavy piece of equipment. It is necessary to employ LICENSED RIGGERS ONLY to move the laminator. The laminator is not designed to be tipped up or sideways in any way. Such action disturbs the exact alignment of the rolling parts of the machine and requires extensive realignment. You can be crushed or seriously injured.

Figure 4.1.1 Connections - Titan 110

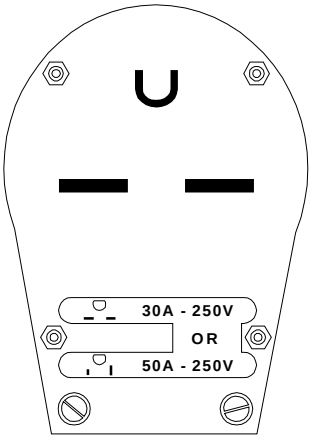


NEMA 6 - 20P

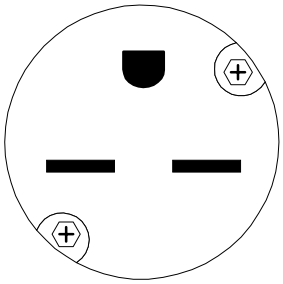


NEMA 6 - 20R

Figure 4.1.2 Connections - Titan 165 U.S.

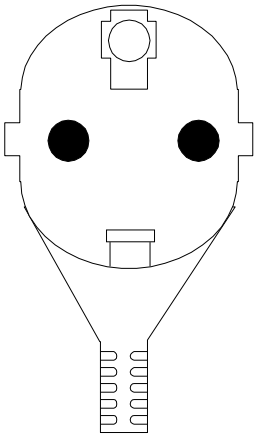


NEMA 6 - 30P

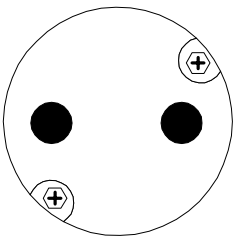


NEMA 6 - 30R

Figure 4.1.3 Connections - Titan 165 Europe



15A plug



15A receptacle

Figure 4.1.4 Suggested Floor Layout - Titan 110

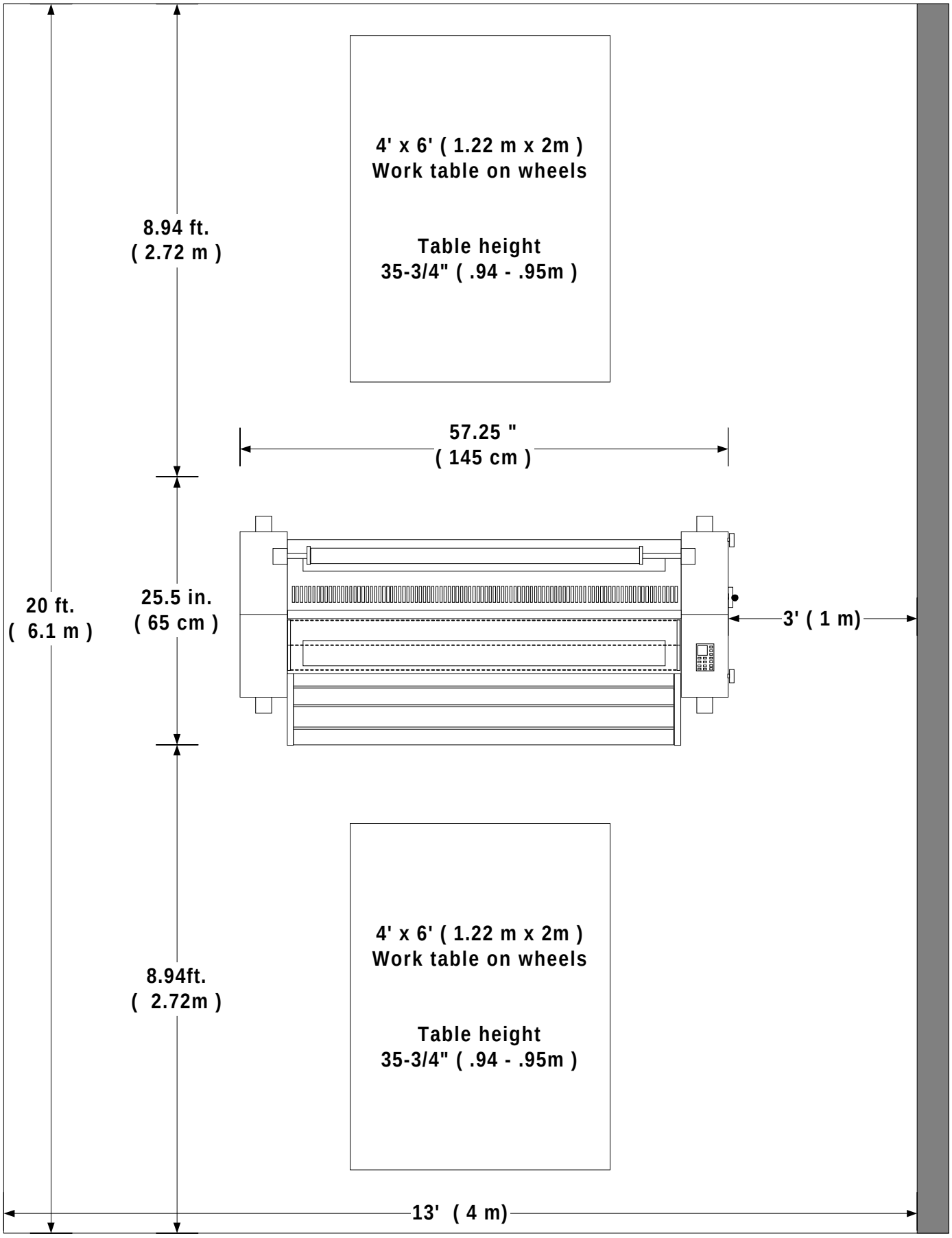
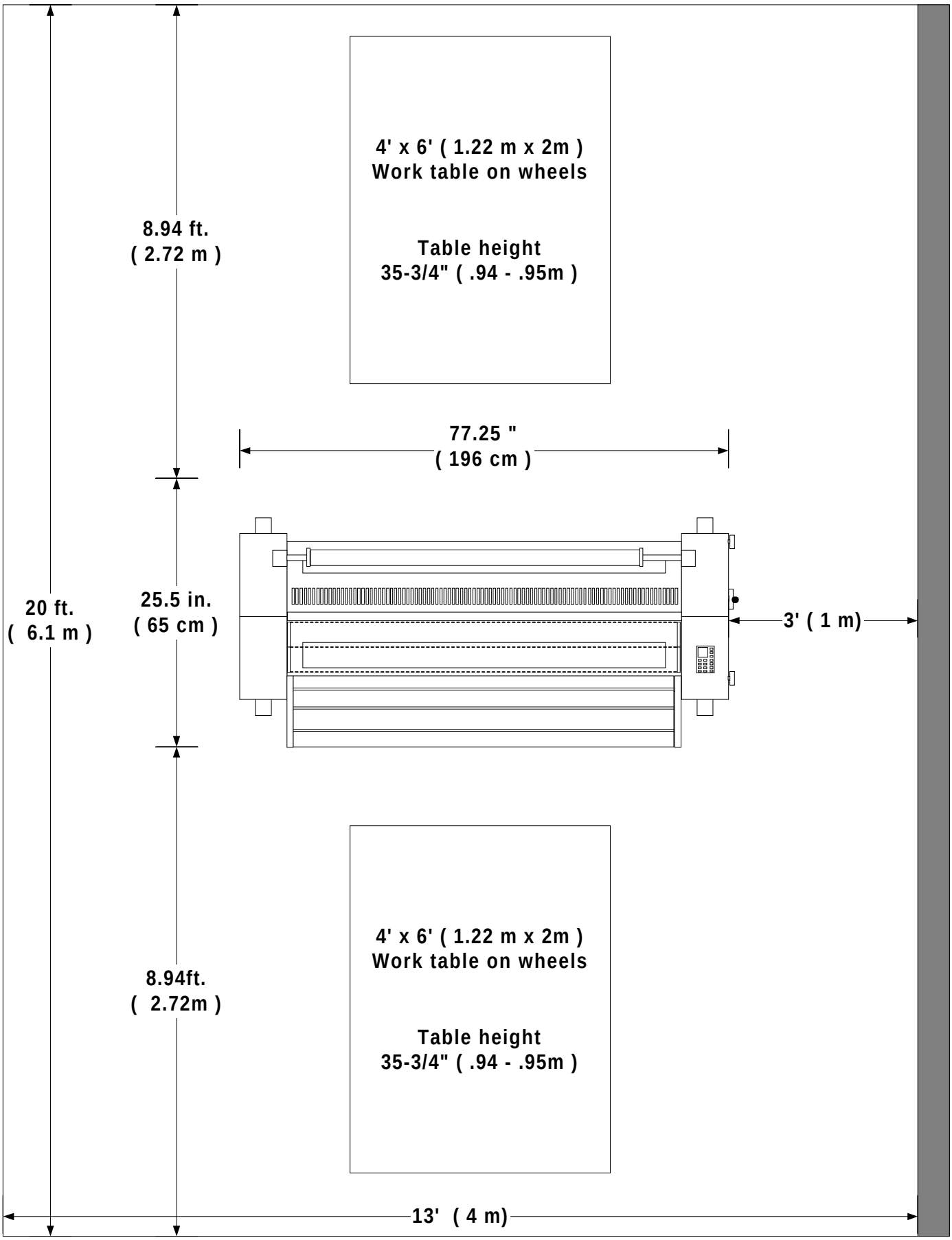


Figure 4.1.5 Suggested Floor Layout - Titan 165

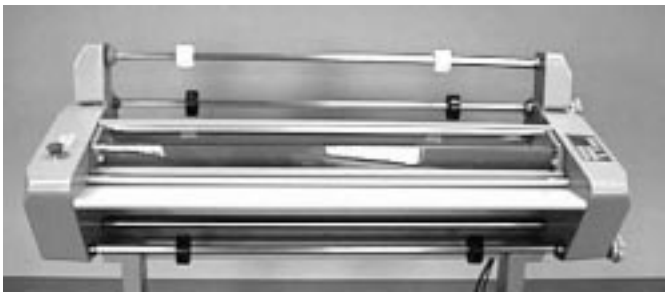


4.2 Know your machine

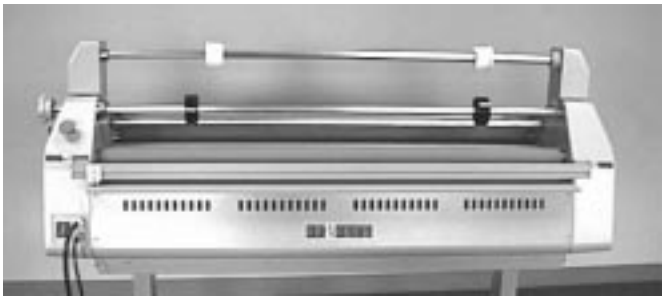
Before performing any procedure within this manual, it is recommended that you take time to know the parts of your new machine.

Figure 4.2.1 Sides of the laminator

Front



Rear



Right Left

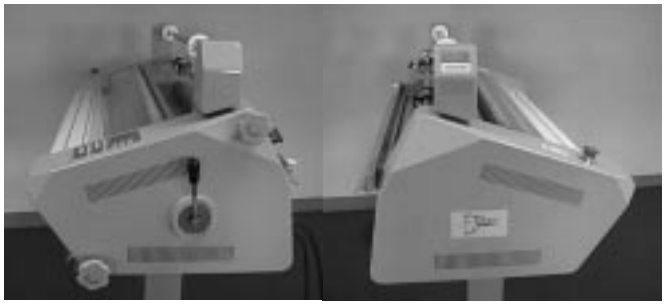


Figure 4.2.2 Safety

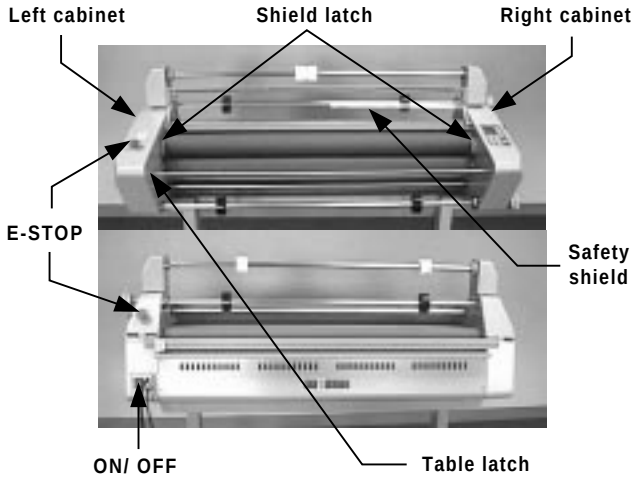


Figure 4.2.3 Rollers

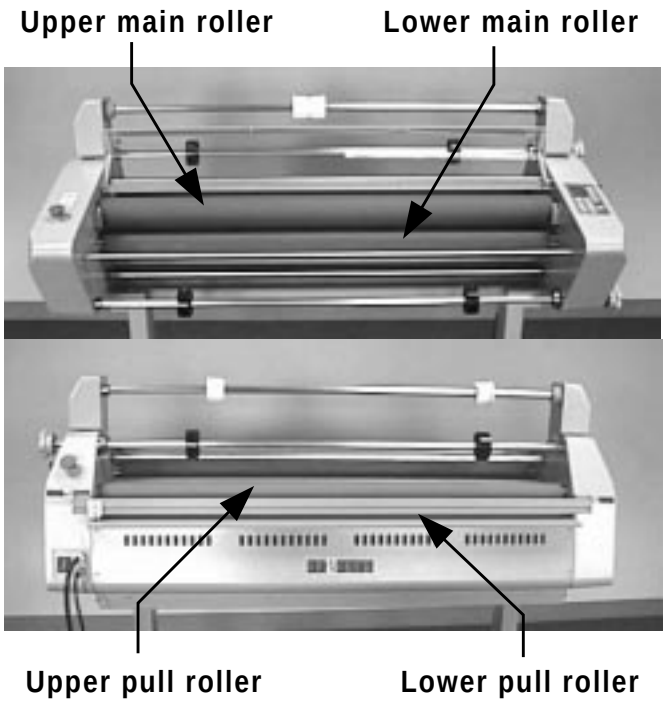


Figure 4.2.4 Idlers and shafts

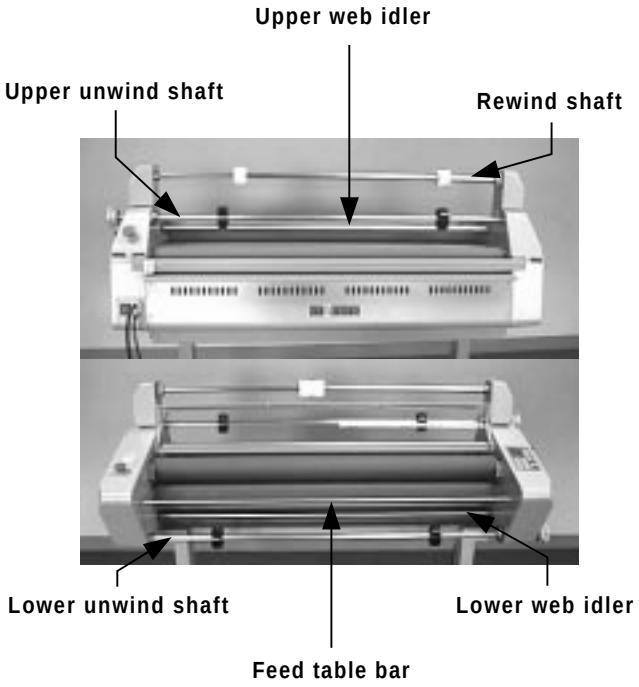


Figure 4.2.5 Hardware

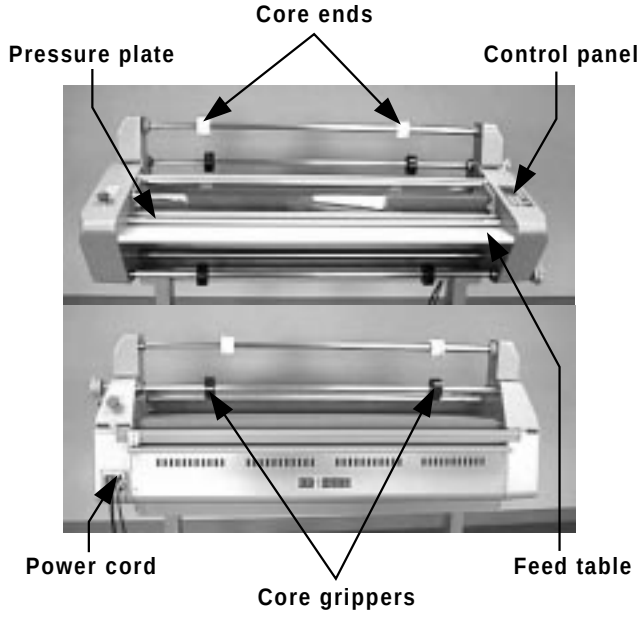


Figure 4.2.6 Right side

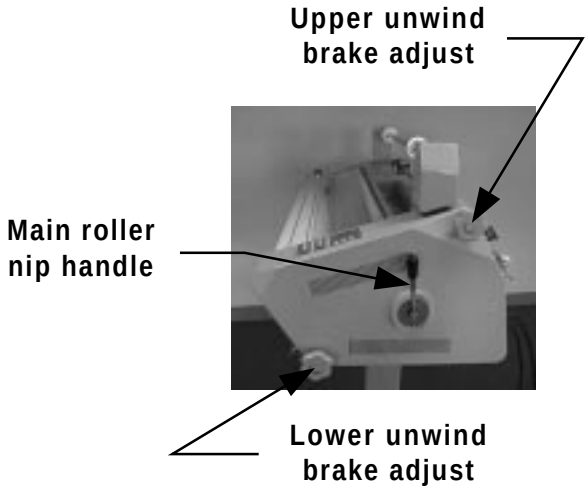
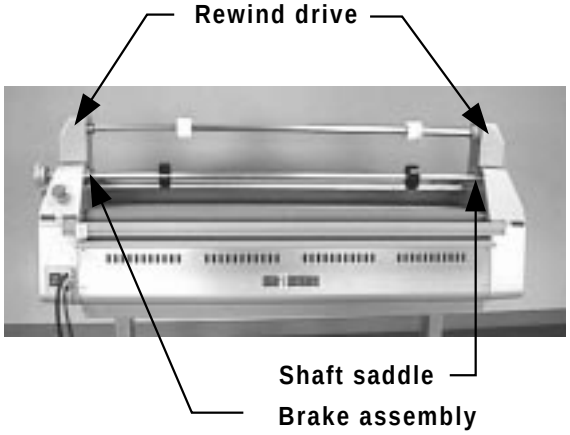
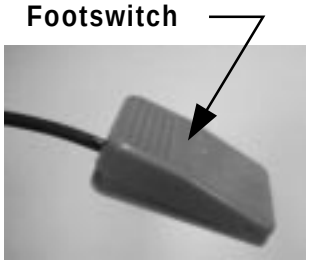


Figure 4.2.7 Miscellaneous





4.3 Unpacking

INFORMATION

ALL SHIPMENTS ARE EX-WORKS. **At our dock, title passes to the buyer. Please review your insurance coverage prior to shipment, as you are responsible for all subsequent freight charges and risks.**

INFORMATION

Before signing the Bill of Lading, you should be sure to inspect the crate and / or pallet for signs of damage or missing items; if applicable, make note of this on the Bill of Lading.

INFORMATION

Depending on the destination and customer preference, the Titan 110/ 165 may be shipped in various ways. The laminator may arrive shrink wrapped or in a plywood crate on a skid. Please follow the unpacking procedure that pertains to your method of shipment.

With regards to your shipping methods, use one of the following procedure described to safely and properly unwrap / uncrate your laminator.

4.4 Shrink Wrapped

a) Inspect the machine for any obvious shipping damages upon receipt.

b) Carefully unwrap the shrink wrap from around the laminator.

CAUTION

Do not use a knife or other sharp object to remove the shrink wrap from around the laminator. You can cause irreparable damage to the rollers.

c) With another person, carefully wheel your Titan 110/ 165 Laminator to the installation site.

WARNING

Do not attempt to move the laminator across anything other than a flat level surface without trained and qualified riggers. You can be crushed or seriously injured.

4.5 Crated

INFORMATION

Do not put packing screws on the floor. They can cause problems when trying to roll the laminator into position or you can become injured if stepped on.

WARNING

The unpacking process requires at least two people. You can be severely injured, crushed or cause damage to the laminator.

CAUTION

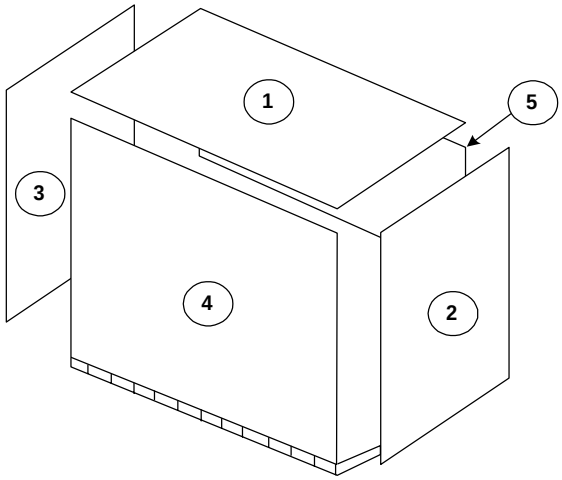
A second person must support the side labeled 5 in Figure 4.5.1 It can fall and damage the laminator or cause harm to you and others.

Tools required

- # 2 Phillips head screwdriver
- Large adjustable wrench
- Crow bar
- A second person

Figure 4.5.1 Disassembling of the crate

To uncrate the laminator



a) Remove the top of the crate and then the sides in the order shown in **Figure 4.5.1**

CAUTION

Do not allow the top to fall into the crate. It can damage the laminator.

Removing the shrink wrap

a) Gently unwrap the shrink wrap from around the laminator.

CAUTION

Do not use a knife or other sharp object to remove the shrink wrap from around the laminator. You can cause irreparable damage to the rollers.

WARNING

The Titan 110/ 165 Laminator is a large and heavy piece of equipment. It is necessary to employ LICENSED RIGGERS ONLY to move the laminator. The laminator is not designed to be tipped up or sideways in any way. Such action disturbs the exact alignment of the rolling parts of the machine and requires extensive realignment. You can be crushed or seriously injured.

INFORMATION

GBC Films Group's warranty does not cover malfunction of the equipment due to mishandling and / or tipping. GBC Films Group bears no responsibility for personal injury or damage due to moving the laminator improperly.

Moving the laminator

a) Have the laminator lifted off the skid and placed on the floor by licensed riggers.

WARNING

Do not attempt to move the laminator across anything other than a flat level surface without trained and qualified riggers. You can be crushed or seriously injured.

b) Remove any plastic strapping and/or packing paper taped to the machine.

CAUTION

Do not use a knife or other sharp object to remove the shrink wrap from around the laminator. You can cause irreparable damage to the rollers.

c) Move all packing materials to a safe distance from the laminator and dispose of properly.

d) Use two people to carefully roll the laminator to the desired location.

INFORMATION

About recycling: The crate components can be reused for shipping the laminator again or can be disassembled and the wood and screws recycled. The shrink wrap is not recyclable, so it must be discarded.

e) Use **Figure 4.1.1** for the suggested floor layout and plug the laminator into the proper receptacle outlet.

4.6 Safety check

The safety check will ensure that all safety devices and interlock switches are functioning properly.

WARNING

Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

WARNING

If a safety feature is not functioning properly, contact your local service representative immediately

DANGER

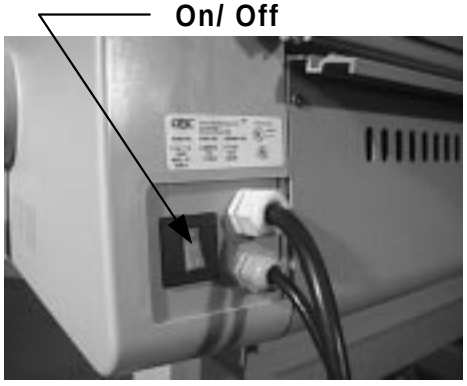
At no time should you attempt to over ride any of the safety latches on the laminator.

Feed table

INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

a) Press **POWER** to **" I "** .



c) Press **SPEED** (^) to " 5 ".

c) Press RUN .

d) Under the left side of the feed table, slide the safety latch to the right. Bottom rollers stop.

e) Release the safety latch, the bottom rollers revert to turning.

INFORMATION

Locator pins on the pressure plate are not associated with an interlock switch. The laminator can operate without the pressure plate installed.

Front safety shield

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

a) Raise the front safety shield. Bottom rollers stop.

b) Lower the front safety shield to its fully closed position, the bottom rollers revert to turning.

INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

Emergency stops

a) Press the front emergency stop **(E-STOP)** down. The bottom rollers stop turning.

b) Rotate the E-STOP clockwise to reset. The bottom rollers revert to turning

c) Repeat steps "**a**" and "**b**" for the rear **E-STOP**.

4.7 Control panel check

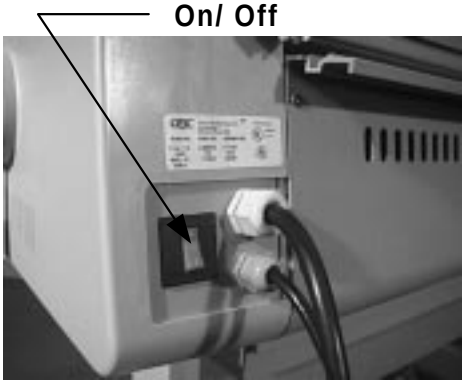
The control panel should be checked to ensure all controls function properly.

For a detailed explanation of the control panel and footswitch refer to **Section 5 Operations**.

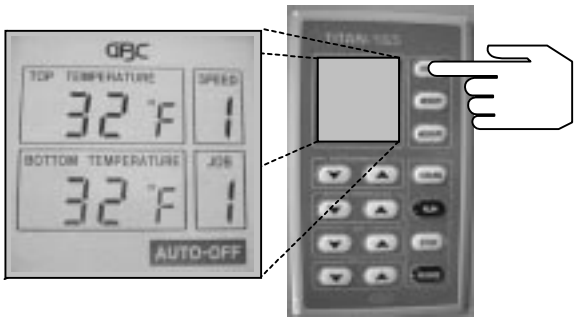
INFORMATION

When any command is pressed on the control panel, an audible "beep" will be heard for each increment of change or each press.

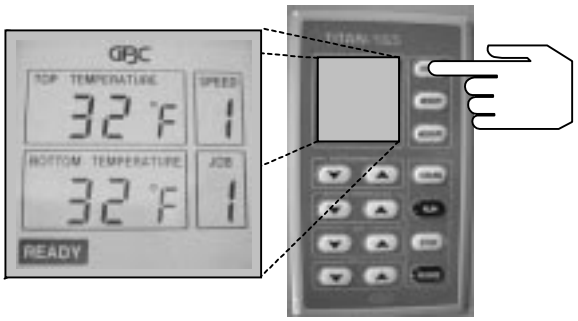
a) Press **POWER** to **" I "** .



b) Press STAND-BY. The display indicates **AUTO-OFF** mode in the lower right corner.



c) Press STAND-BY again**.** The display indicates **READY** mode in the lower left corner.



d) Press MEMORY. An audible beep is heard.

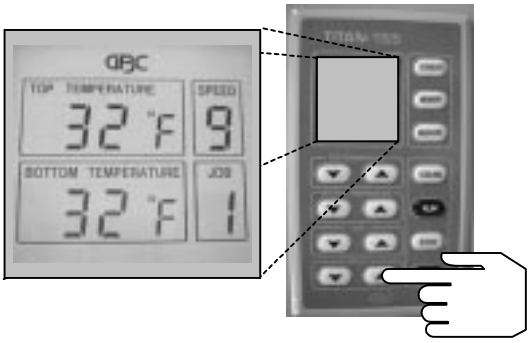
MEMORY is explained in **Section 5 Operations**

e) Press COOLING. The fans turn on.

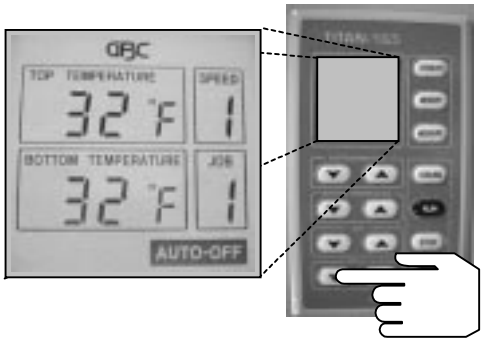
f) Press COOLING a second time. The fans turn off.

g) Press RUN. The bottom rollers begin turning towards the rear of the laminator.

h) Press **SPEED** ▲. Numeric value for **SPEED** increases with a maximum setting of 9. The rollers increase in speed with each increment



i) Press **SPEED** ▼. Numeric value for **SPEED** decreases with a minimum setting of 1. The rollers decrease in speed with each increment

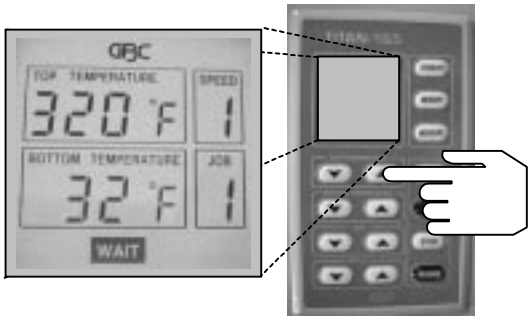


j) Press STOP. The bottom rollers stop turning.

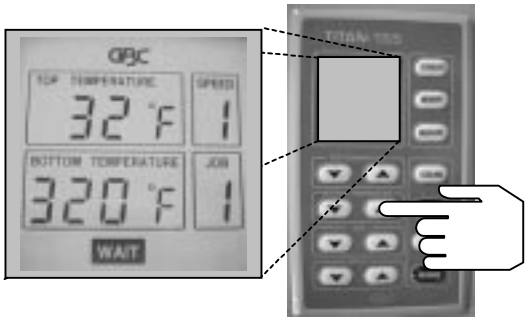
k) Press RUN **.** The bottom rollers begin turning towards the front of he machine.

l) Once confirmed, release. The bottom rollers stop turning in a reverse direction.

m) Press **TOP TEMPERATURE** ▲ **.** Numeric value increases with a maximum setting of 320 °F (160 °C).



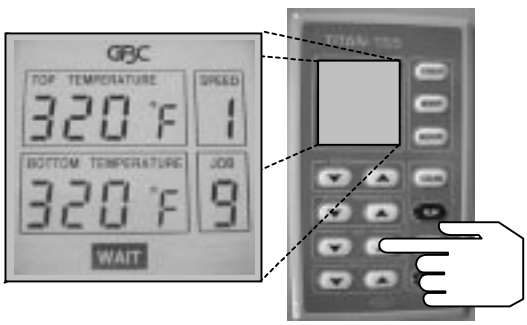
n) Press **BOTTOM TEMPERATURE** ▲ **.** Numeric value increases with a maximum setting of 320 °F (160 °C).



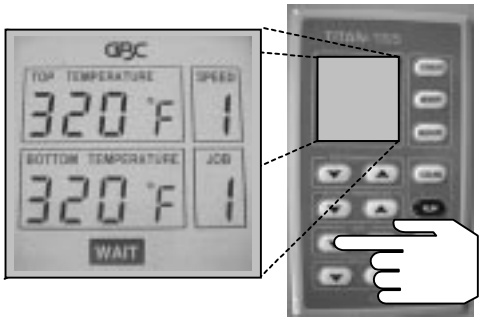
INFORMATION

Top and bottom set points are intentionally left at 320 °F (160 °C) for now.

o) Press **JOB** ▲ . Numeric value for **JOB** increases with a maximum setting of 9.



p) Press **JOB** (▼). Numeric value for **JOB** decreases with a maximum setting of 1.



r) Lower the front safety shield to its fully closed position.

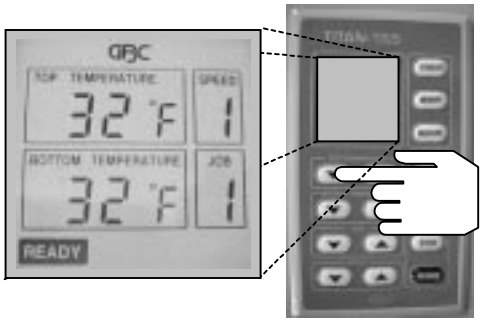
INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

s) Press **TOP TEMPERATURE** (▼) then **BOTTOM TEMPERATURE** (▼) . Numeric values decrease with a minimum setting of 32 °F (0 °C).



q) Raise the front safety shield and touch the upper and lower main rollers. They should feel warm to the touch.

4.8 Roller handle

CAUTION

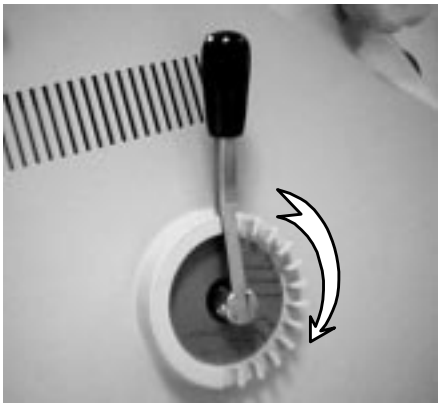
Never leave the rollers in the down position without rolling. Prolonged contact in one area can form flat spots on the rollers.

The roller handle raises and lowers the main rollers and the pull rollers simultaneously. The roller handle guide is notched with preset nip heights. The roller handle is located on the right side of the laminator.

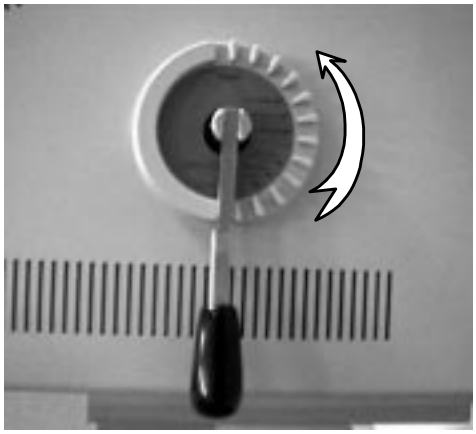
WARNING

Keep hands and fingers clear of the laminator roller nip when changing GAP. You can be CRUSHED or BURNED!

a) Pull the handle away from the notch and rotate toward the rear of the machine. The upper main roller and the upper pull roller lowers.



b) Rotate the handle towards the front of the machine. The upper main roller and the upper pull roller raise up.



4.9 Film brake adjustment

Perform each of the following steps for the upper and lower unwind shafts while standing to the right of the front operating position.

Illustrations are for the upper unwind. The lower unwind is identical to the upper unwind with the exception of the saddle for the film brake adjustment assembly.

WARNING

Extreme caution should always be exercised working around the core gripper support, the gripper tabs can cut you!

a) Use one hand to rotate the unwind shaft while the other hand is turning the film brake adjustment dial clockwise with the other hand.

- As you turn the film brake adjustment dial, you feel an increase in resistance while turning the unwind shaft.

b) Rotate the unwind shaft while turning the film brake adjustment dial counter clockwise.

- As you turn the film brake adjustment dial, you feel a decrease in resistance while turning the unwind shaft.

c) Perform the same steps for the lower unwind shaft and brake.

4.10 Rear cut-off blade

WARNING

Caution should always be exercised when using the rear cut-off blade. Sharp objects can cut you!

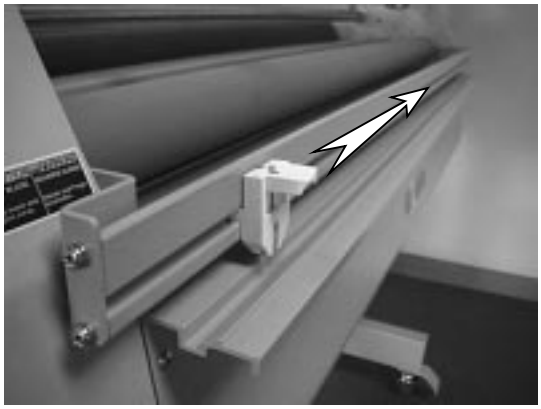
WARNING

Keep hands and fingers away from the path of the rear cut-off blade. Sharp objects can cut you!

a) Press down on the rear cut-off blade tab. The blade should extend from the housing smoothly.

b) Release the rear cut-off blade tab. The blade retracts into the housing.

c) Gently slide the rear cut-off blade from one side of the laminator to the other side. The movement should be smooth.



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Section 5 Operations

WARNING

Do not wear ties, loose fit clothing or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

This section discusses the function of the control panel, how the footswitch operates, how to react to an emergency, remove and replace the safety shield, remove and replace the pressure plate, remove and replace the feed table, how to load film on the unwinds, how to center the film, how to change the nip, use the rear cut-off and job programming.

The operations of the **Titan 110** do not differ from the operations of the **Titan 165**. For illustration purposes, the Titan 110 is used.

INFORMATION

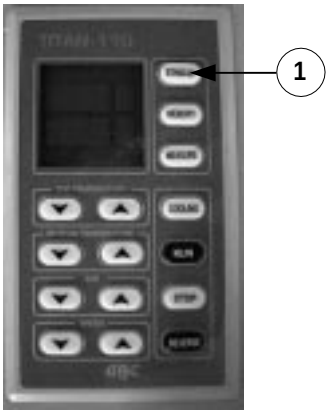
The laminator will operate only when all safety latches are in the fully latched position.

5.1 Control Panel

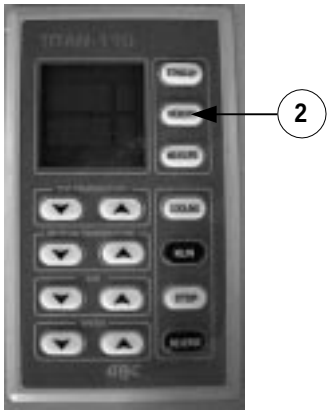
The control panel on the Titan 110/ 165 Laminator is located at the front operating position of the machine on the right side cabinet.

The control panel enables the operator to control motor run/ stop, motor direction, motor speed, cooling fans, top temperature, bottom temperature, job number selection, job programming and temperature reading.

(1) STAND-BY (STAND-BY)**:** When pressed, sets the laminator in the **AUTO-OFF** mode (indicated in the lower right corner of the display). Pressing (STAND-BY) again will set the laminator into **READY** mode. AUTO-OFF mode will automatically be set when no motor action occurs within a four (4) hour time span. After three (3) hours of no motor action, the laminator automatically drops the heater temperatures to 176 °F (80 °C).



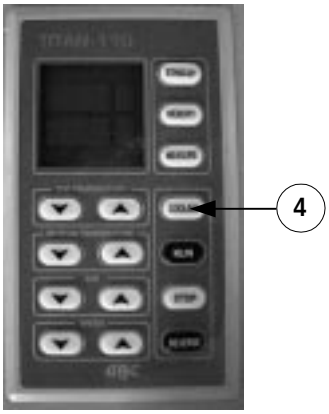
(2) MEMORY MEMORY **:** When pressed twice, stores the current parameter settings in the displayed job location.



INFORMATION

Job programming is explained in Section 5.7

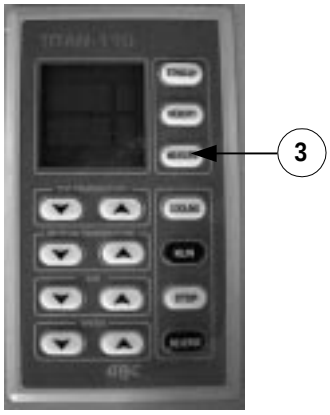
(4) COOLING COOLING **:** When pressed, turns the cooling fans on or off depending on the current state of the fans when pressed.



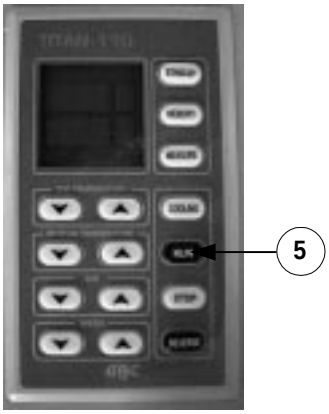
INFORMATION

If COOLING **is illuminated, the cooling fans are in the "on" position.**

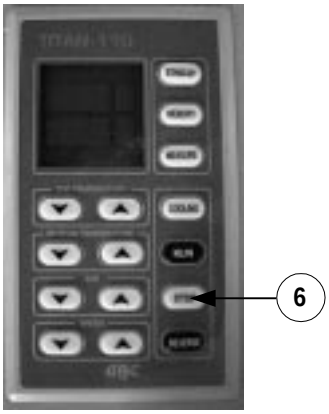
(3) MEASURE MEASURE **:** When pressed, changes the display for the top temperature and bottom temperature from set point to actual roller temperature. The display will only show actual temperature while MEASURE is depressed.



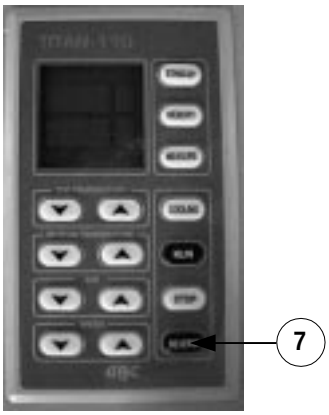
(5) RUN RUN **:** When pressed, supplies power to the motor and the rollers begin to turn in a forward direction at the current speed set in the display.



(6) STOP STOP **:** When pressed, removes power to the motor.



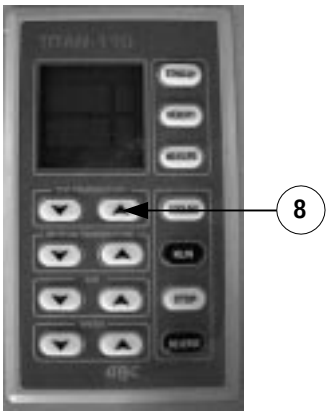
(7) REVERSE REVERSE **:** When pressed, supplies limited power to the motor and the rollers begin to turn in a reverse direction at a speed of 3.3 feet./ min. (1 meter/ min.) Reverse motion only occurs while REVERSE is pressed.



INFORMATION

Reverse speed is preset at 1 meter/ minute.

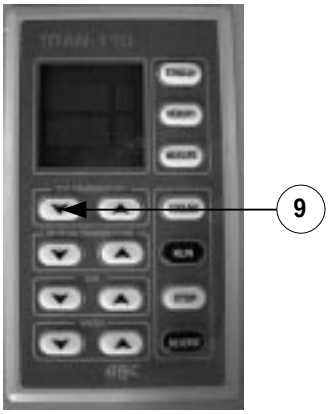
(8) TOP TEMPERATURE ▲ **:** When pressed, increases the set point of the top roller temperature. Maximum input value is 320 °F (160 °C).



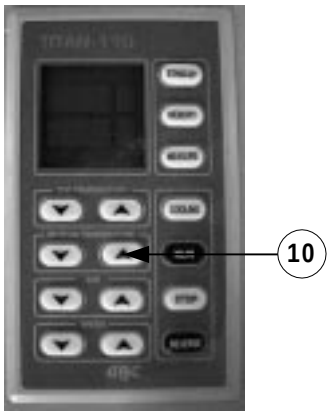
INFORMATION

When the set point value is higher than actual temperature, " WAIT " is indicated at the bottom of the display.

(9) TOP TEMPERATURE ▲ **:** When pressed, increases the set point of the top roller temperature. Maximum input value is 32 °F (0 °C).



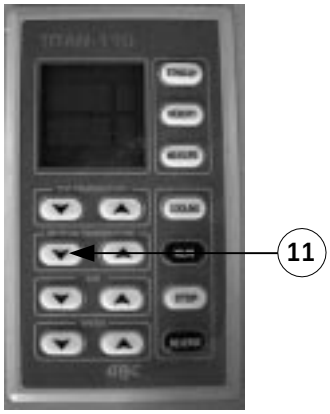
(10) BOTTOM TEMPERATURE ▲: When pressed, increases the set point of the bottom roller temperature. Maximum input value is 320 °F (160 °C).



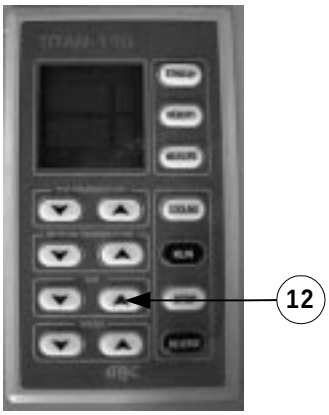
INFORMATION

When the set point value is higher than actual temperature, " WAIT " is indicated at the bottom of the display.

(11) BOTTOM TEMPERATURE ▼: When pressed, decreases the set point of the bottom roller temperature. Minimum input value is 32 °F (0 °C).



(12) JOB ▲: When pressed, increases the job location number displayed. Maximum input value is 9.

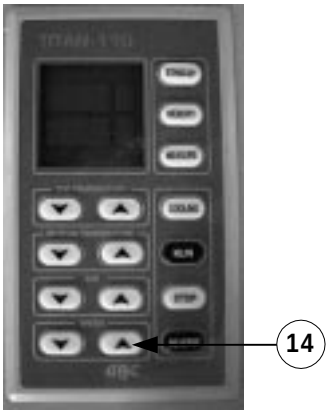


INFORMATION

When the input value for JOB is changed, the parameters stored within that number are displayed.

(13) JOB ▼: When pressed, decreases the job location number displayed. Minimum input value is 1.

(14) SPEED (▲): When pressed, increases the speed number displayed. Maximum input value is 9.

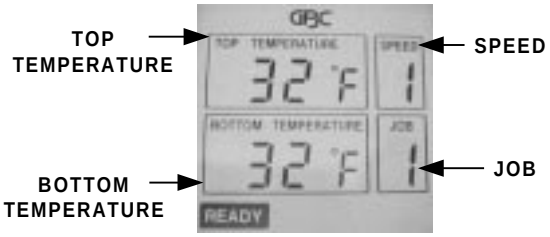


INFORMATION

When the input value for JOB is changed, the parameters stored within that number are displayed.

(15) SPEED (▼): When pressed, decreases the speed number displayed. Minimum input value is 1.

(16) DISPLAY: indicates what parameters are currently set at. Also indicates what mode the laminator is currently in.



READY - Heaters are at operating temperature.

WAIT - Heaters are not at operating temperature

AUTO-OFF - Laminator is stand-by mode.

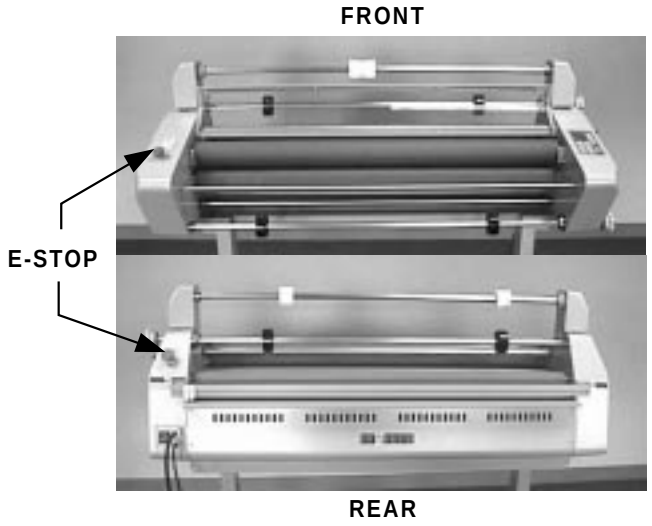
5.2 Reacting to an emergency

The Titan 110/ 165 Laminator has been designed with safety as a primary consideration; however, you must become thoroughly familiar with the controls, proper operation, proper service procedures, and safety features of the laminator before using or servicing the unit.

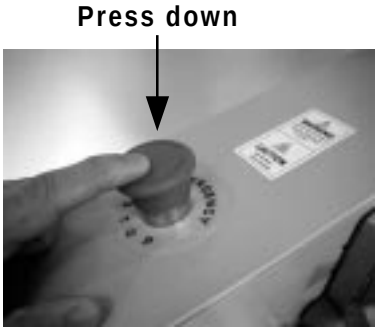
Use care in lowering the top laminating roller and know how to react quickly in an emergency. Before lowering the roller, ensure the nip area is clear.

One **E-STOP** is located on the left cabinet from the front operating position and the second is located above the main power ON/ OFF. Refer to **Figure 5.2.1**

Figure 5.2.1 E-STOPs



a) In the event of an emergency, press an **E-STOP.**



INFORMATION

When an EMERGENCY STOP is engaged, all motion stops. The nip will not change from the operating setting.

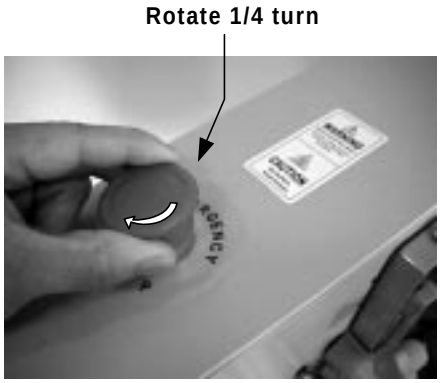
b) Resolve the emergency situation.

c) Press STOP.

INFORMATION

When the E-STOP is disengaged, the rollers will begin turning. By pressing stop first, The rollers will not turn until RUN is pressed

d) Reset the **E-STOP** by rotating 1/4 turn clockwise. The **E-STOP** will unlatch.



INFORMATION

The Temperature control panel settings are not affected when an E-STOP has been pushed.

e) Ensure that the front safety shield is located in the fully closed position.

INFORMATION

Power to the motor is removed when the safety shield is not in the fully locked position.

5.3 Safety shield

WARNING

Caution should always be exercised when using the laminator with the safety shields removed. You can be seriously HURT or INJURED!

DANGER

At no time should you attempt to over ride any of the safety latches on the laminator.

INFORMATION

All E-STOPS must be unlatched, safety shield fully closed and feed table properly installed before operating.

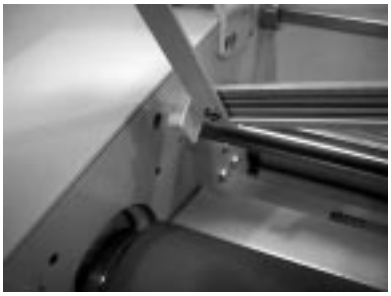
The only time the safety shield should be removed is when you are webbing the laminator. At no time should you operate your laminator with the safety shield removed.

To remove the shield

a) Raise the safety shield.

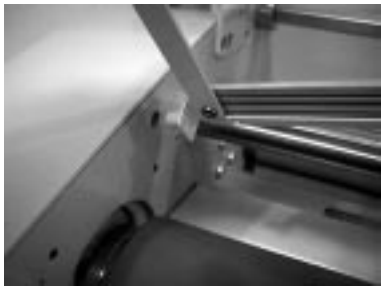
b) Pull on the locator pin on the right from the front operating position.

c) Lift the table up and out toward the right side of the laminator.



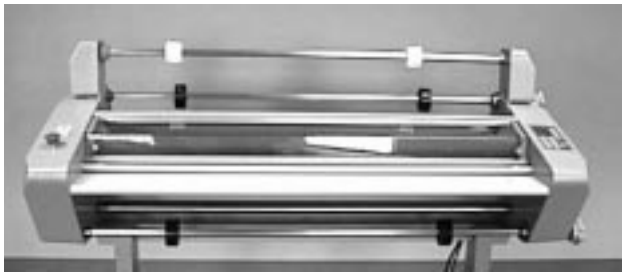
To replace the shield

a) Position the safety shield tab on the left with the shield positioning hole on the laminator.



b) Pull on the locator pin on the right from the front operating position.

c) Lower the safety shield to its fully closed position.



5.4 Pressure plate

INFORMATION

Locator pins on the pressure plate are not associated with an interlock switch. The laminator can operate without the pressure plate installed.

The pressure plate assists in keeping the leading edge and the trailing edge of the print flat when fed into the laminator. The pressure plate may be installed or removed depending on operator preference.

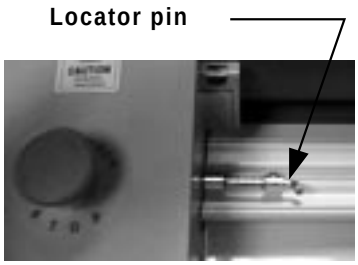
To remove the pressure plate

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

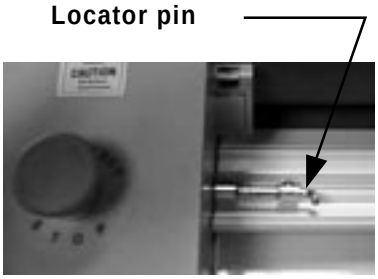
a) Raise the safety shield.

b) Pull on the locator pins on the right and left sides of the pressure plate and lift out



To replace the pressure plate

a) Pull on the locator pins on the right and left sides of the pressure plate and position with the pressure plate locator holes on the laminator.



b) Lower the safety shield to its fully closed position.

5.5 Feed table

The feed table is designed to be removable allowing for quick and easy film webbing. The laminator will only operate with the feed table in proper position.

WARNING

Caution should always be exercised when using the laminator with the safety shields removed. You can be seriously HURT or INJURED!

DANGER

At no time should you attempt to over ride any of the safety latches on the laminator.

INFORMATION

All E-STOPS must be unlatched, safety shield fully closed and feed table properly installed before operating.

To remove the feed table

a) Raise the safety shield and remove the pressure plate.

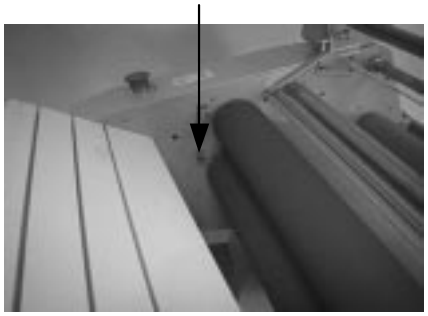
b) Pull the feed table safety pin located on the left side from the front operating position.

c) Lift the rear of the feed table up and pull the feed table out away from the laminator.

To replace the feed table

a) Align the front of the feed table with the front feed table support pegs.

Front feed table support peg



b) Pull the feed table safety pin. Set the rear of the table down on the rear table support bar.

Rear feed table support bar

c) Replace the pressure plate if needed and lower the safety shield to its fully closed position.

5.6 Film loading

The Titan 110/ 165 can accommodate Poly-In or Poly-Out films. Each film requires a different loading procedure. Refer to **Section 6 Applications** for webbing methods. With regards to webbing methods, both require the adhesive side of the film to face away from the heating components.

WARNING

Extreme caution should always be exercised when removing an unwind shaft, the gripper tabs can cut you!

Upper unwind

a) Lift the upper unwind shaft up from the shaft saddle.

b) Pull the upper unwind shaft out from the upper unwind shaft support.

WARNING

Extreme caution should always be exercised working around the 3 inch core grippers, the gripper tabs can cut you!

c) If using the 2 1/4 in. (5.7 cm) core adapters, go to step " **g** ". If using the 3 in. (7.6 cm) core grippers proceed with the next step.

2 $^{1}/_{4}$ inch (5.7 cm) adapters

3 inch (7.6 cm) gripppers

d) Ensure the gripper teeth are facing the proper direction for Poly-in or Poly-out film.Use the correct combonation to suit your film

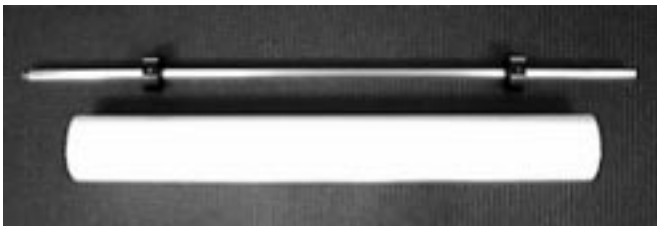
(1) Upper Poly - in

(2) Lower Poly - out

(2) Upper Poly - out

(1) Lower Poly - in

e) Use a 4 mm allen wrench to secure the core gripper to the shaft so the grippers fall close to the end of the roll of film.



f) Slide the unwind shaft into the roll of laminate. Proceed with step " **i** ".

g) If using the 2 1/4 in. (5.7 cm) adapters, insert one adapter into one end of the roll of film.

h) Slide the unwind shaft into the roll of film then the other core adapter.

i) Insert the brake assembly side of the unwind shaft in first. (Core grippers are used for illustration purpose only)

j) Set the rounded end of the unwind shaft into the upper unwind saddle.

k) Repeat steps " **a** " through " **j** " for the lower unwind shaft.

CAUTION

Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

INFORMATION

For core grippers, turning the roll film in the same direction as the gripper tabs while sliding makes loading the film onto the unwind shaft easier.

5.7 Film alignment

When using two rolls of laminate, the two rolls should be closely aligned to one another. This prevents exposed adhesive from contacting the rollers.

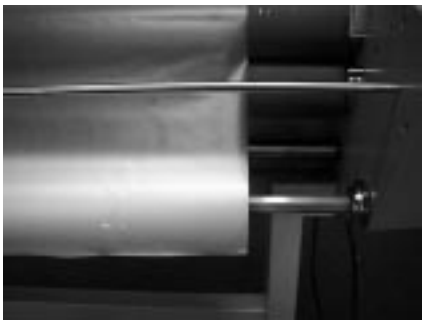
a) Make the necessary adjustments to the upper roll of laminate to center it to the main rollers.

b) Remove the safety shield by raising the shield and pulling the positioning pin out located on the right side from the front.

c) Remove the front feed table by pulling the safety pin located under the feed table on the left from the front.

d) Pull the laminate from the upper unwind down to the lower roll of laminate.

e) Make the necessary adjustments to the lower roll of laminate to match up with the upper roll of laminate.



5.8 Change the nip

The roller handle raises and lowers the main rollers and the pull rollers simultaneously. The roller handle guide is notched with preset nip heights. The roller handle is located on the right side of the laminator.

Handle in the raised position.

Pull handle away from the notch.

Lower handle to desired position.

Push handle into the notch

WARNING

Keep hands and fingers clear of the laminator roller nip when changing GAP. You can be CRUSHED or BURNED!

CAUTION

Never leave the rollers in the down position without rolling. Prolonged contact in one area can form flat spots on the rollers.

a) To change the nip opening, pull the handle away from the notch and move to the desired setting and secure the handle in the appropriate notch.

b) To raise the rollers, follow the steps above in reverse order.

5.9 Rear cut-off blade

WARNING

Caution should always be exercised when using the rear cut-off blade. Sharp blade can cut you!

The rear cut-off blade is intended to cut the web output from the laminator and should not be used for any other purposes.

CAUTION

Stop the laminator before using the rear cut-off blade. Moving material can damage the rear cut-off blade!

WARNING

Keep hands and fingers away from the path of the rear cut-off blade. Sharp blade can cut you!

a) Slide the rear cut-off blade about six inches into the web.

WARNING

Keep hands and fingers away from the bottom of the rear cut-off blade. Sharp blade can cut you!

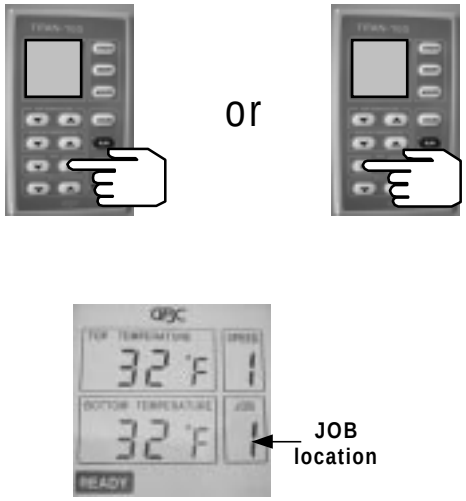
b) Press and hold down the blade engage lever.

c) Slide the rear cut-off blade from one side to the opposite side then release.

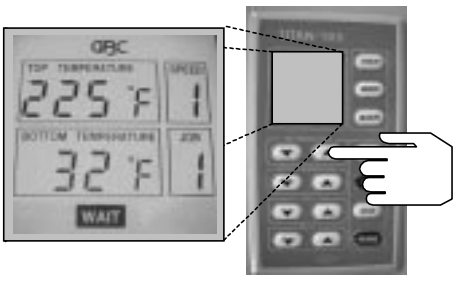
5.10 Job programming

Job programming enables the operator to store operating parameters for various frequent applications. 9 preset speed and temperature settings may be programmed.

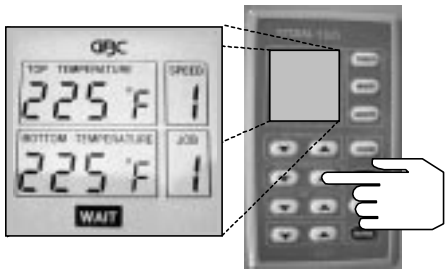
a) Press JOB (▲) or (▼) to select the desired job number location. The selected location is displayed.



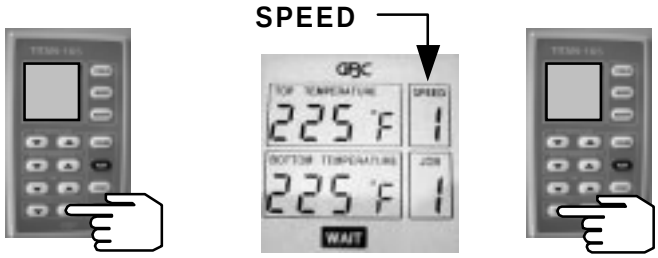
b) Enter the desired temperature for the upper main roller by pressing top temperature (▲) or (▼).



c) Enter the desired temperature for the lower main roller by pressing bottom temperature (▲) or (▼).



d) Enter the desired speed by pressing speed (▲) or (▼).



e) Press (MEMORY) twice. The parameters are now stored in the selected job location.

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Section 6 Applications

The Titan 110/ 165 can accommodate Poly-in or Poly-out films. Poly-out means the adhesive is on the outside of the roll. Each film requires a slightly different loading procedure. Refer to Web diagrams at the end of this section.

The shiny side of clear film must contact the heating components with the dull sides (adhesive side) facing out. Use caution when loading matte or delustered film since both sides appear dull.

The top and bottom rolls of laminating film must be of the same width and be present simultaneously.

The procedures and parameters described in this section are reference points only. Parameters will vary with regards to laminate thickness, laminate widths, laminate types, print types, ink or toner types, environment conditions and operator experience.

6.1 Pressure Sensitive

Follow the procedure below to web the Titan 110/ 165 for pressure sensitive laminate and pressure sensitive mount adhesive.

Materials need

- 1 roll of pressure sensitive laminate (Same width as mount adhesive)
- 1 roll of pressure sensitive mount adhesive (Same width as roll of laminate)
- Enclosed blade (i.e. Zippy™ knife)
- Leader board (approximately 24 in. in length (61 cm))
- Images (i.e. Inkjet, piezo, electrostatic, offset)

WARNING

Do not wear ties, loose fit clothing or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

INFORMATION

The Titan 110 is used for illustration purposes. The procedure is the same for the Titan 165.

CAUTION

Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

a) Press power to " ON ".

WARNING

Caution should always be exercised when using the laminator with the safety shields removed. You can be seriously HURT or INJURED!

b) Place the roll of pressure sensitive laminate on the upper unwind shaft and center on the main rollers.

c) Remove the safety shield and set aside for now.

d) Remove the feed table and position the roll of pressure sensitive mount adhesive onto the lower unwind shaft.

e) Bring the mount adhesive up to the roll of laminate and adjust to match and secure the upper and lower rolls in place. Rewind the mount adhesive.

f) Guide the upper laminate under the upper idler and separate the release liner from the laminate.

g) Tape the release liner to the rewind tube and allow the laminate to hang over the main rollers.

h) Pull the mount adhesive up to the nip and tack it to the laminate hanging over the rollers.

i) Grip the web and the upper main roll while turning towards the nip opening.

j) Manually turn the rewind tube to roll the release liner back to the upper idler.

k) Replace the feed table.

l) Replace the safety shield.

WARNING

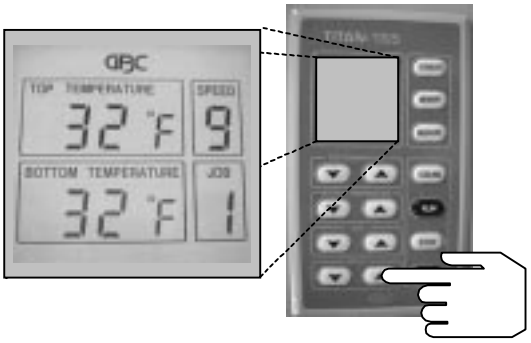
Keep hands and fingers clear of the laminator roller nip when changing GAP. You can be CRUSHED or BURNED!

m) Lower the rollers.

INFORMATION

Speed can be increased during operation.

n) Enter a comfortable working speed on the control panel.



o) Press RUN on the control panel.

p) Feed the images into the laminator.

q) After the last image has cleared the rear cut-off blade, trim the web from the laminator.

r) Raise the rollers.

s) Remove the web from the laminator and clean any adhesive that may have contacted the rollers.

6.2 Mounting

Follow the procedure below to use the Titan 110/ 165 for pressure sensitive mounting.

Materials need

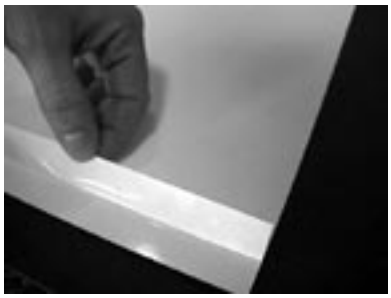
- Images with laminate and mount adhesive (typical decal)
- Substrate (compatible with the mount adhesive used)

INFORMATION

The Titan 110 is used for illustration purposes. The procedure is the same for the Titan 165.

a) Press power to " ON ".

b) Carefully pull back approximately 1 in. (2.5 cm) of the release liner from the back of the image



c) Align the edge of the image you just peeled the release liner from with the leading edge of the substrate and tack down.

INFORMATION

Avoid tacking at the ends first and pressing towards the center, you may create a tunnel once you have reached the center. This will make for a difficult mounting application.

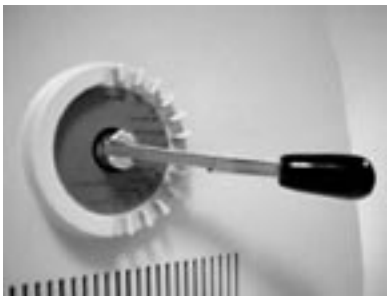
WARNING

Caution should always be exercised when using the laminator with the safety shield removed. You can be seriously HURT or INJURED!

d) Remove the safety shield.

e) Position the leading edge (the tacked image edge) of the substrate into the main roller nip and lower the roller.

f) Lower the rollers to the appropriate position with regards to the thickness of the substrate being used.



g) Position one hand on the image against the upper main roller and the use the other hand to grip the release liner.

h) Press on the footswitch and pull the release liner as the board enters the main roller nip. Do not let go of the image until it the edge reaches the center of the upper roller.

i) Release the footswitch once the board has passed through the pull rollers.

i) Raise the rollers.

CAUTION

Do not use the rear cut-off blade to trim the substrate! You can damage the blade.

6.3 Encapsulation

Follow the procedure below to web the Titan 110/ 165 for thermal encapsulation.

Materials need

- 2 rolls of thermal laminate (both must be of same width)
- Enclosed blade (i.e. Zippy™ knife)
- Leader board (approximately 24 in. in length (61 cm))
- Images (i.e. Inkjet, piezo, electrostatic, offset)

INFORMATION

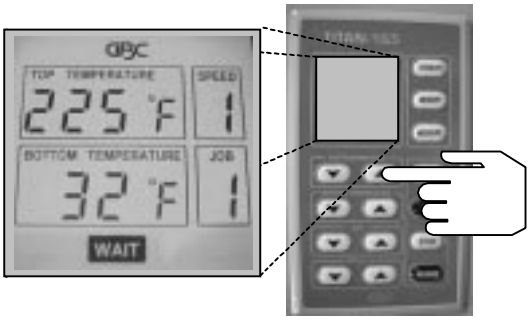
The Titan 110 is used for illustration purposes. The procedure is the same for the Titan 165.

CAUTION

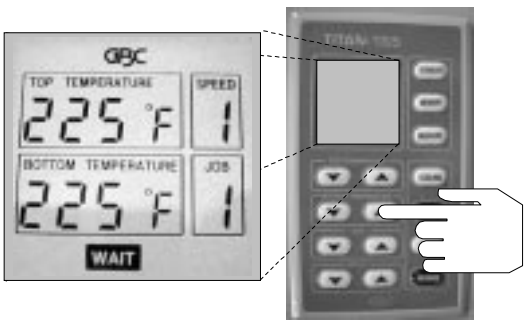
Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

a) Press power to " ON ".

b) Set **TOP TEMPERATURE** to 225 °F (107 °C).



c) Set **BOTTOM TEMPERATURE** to 225 °F (107 °C).



INFORMATION

The temperature may differ with regards to your laminate. The temperature used is for instructional purposes only.

CAUTION

Ensure the roll of laminate is loaded properly on the unwind shaft. Exposed adhesive should be facing away from the heated components. This will prevent hours of cleaning!

WARNING

Caution should always be exercised when using the laminator with the safety shield removed. You can be seriously HURT or INJURED!

f) Place one roll of film on the upper unwind and center it to the main rollers.

d) Remove the safety shield.

g) Place one roll of film on the lower unwind shaft.

e) Remove the feed table

h) Pull the laminate from the lower unwind up to the film on the upper unwind and adjust the lower to match the upper. Secure both rolls in place.

i) Pull the laminate from the upper unwind over the upper idler and place on top of the rollers.

WARNING

Keep hands and fingers away from the heat rollers. You may be BURNED!

j) Pull enough of the upper laminate so that it rests on both the upper and lower main rollers. Continue when the READY indicator is illuminated on the display.

k) Guide the laminate from the lower unwind around the back side of the lower idler.

l) Tack the lower film to the upper film resting on the main rollers.

m) Push the leader board into the main roller nip.

n) Replace the feed table.

o) Replace the safety shield.

p) Lower the rollers enough to move the board through the pull rollers.

q) Enter a comfortable working speed on the control panel.

r) Press RUN on the control panel.

s) Press STOP when the leader board has completely passed through the pull rollers.

t) Use the rear cut-off blade to separate the leader board from the web.

u) Set the roller nip handle to the appropriate positioning for the film being used.

v) Press RUN on the control panel.

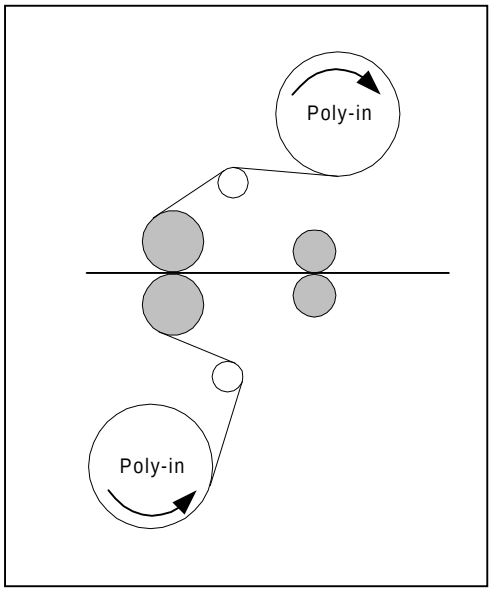
w) Feed the images into the laminator.

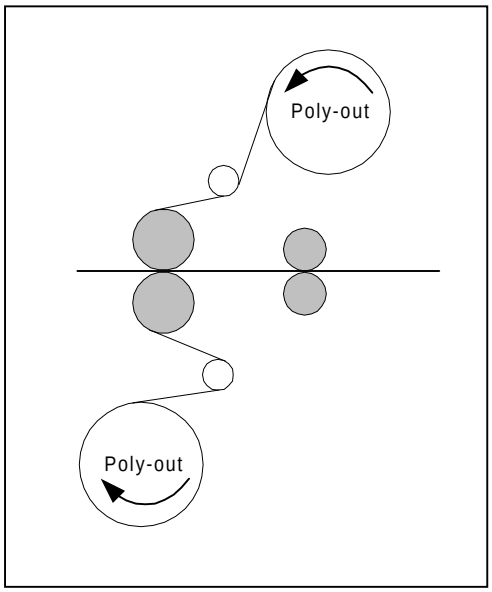
x) After the last image has cleared the rear cut-off blade, trim the web from the laminator.

y) Raise the rollers.

z) Remove the web from the laminator and clean any adhesive that may have contacted the rollers.

Figure 6.1.1 Poly-in / Poly-out





INFORMATION

Use the appropriate diagram for the type of film you are using.

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Section 7 Troubleshooting

WARNING

Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

As an operator, you can perform simple troubleshooting to correct typical output problems. Use the following guide for assistance.

7.1 Wave problems

Following is a list of common output wave problems you may encounter.

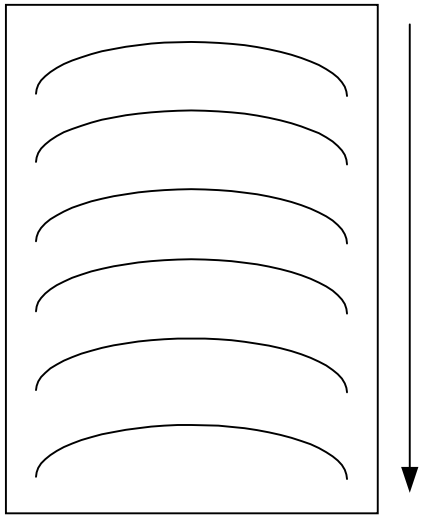
The arrow along the length of the web represents the direction of (travel).

INFORMATION

For optimal temperature settings of various laminates, contact your supplier or sales representative.

Problem: D waves in the image but not in the laminate

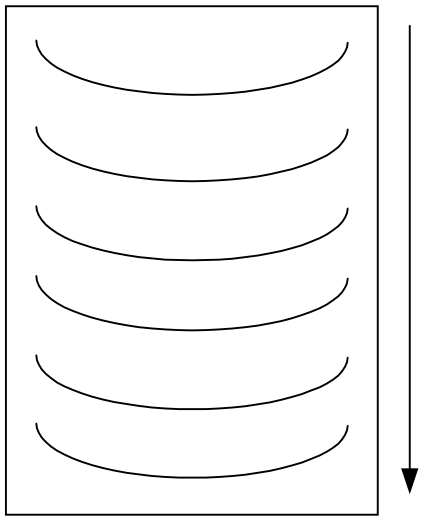
Cause: Excessive roller pressure.



Hints: • Check paper tension
• Check relative moisture content of the paper

Problem: D Waves in the laminate

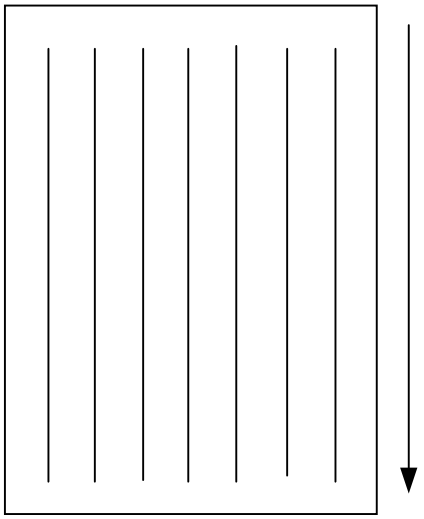
Cause: Insufficient roller pressure.



Hints: • Check the roll pressure
• Check the main roll nip settings
• Check the pull roll nip settings

Problem: Straight waves in the output

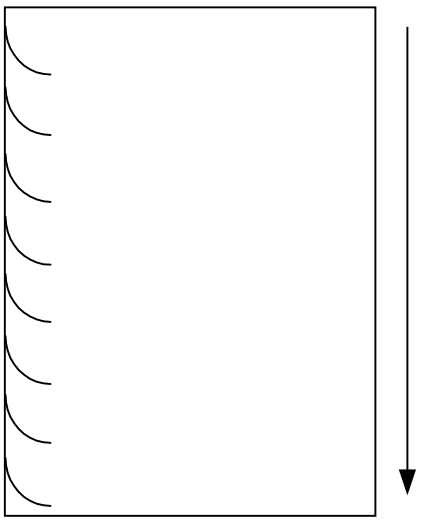
Cause: Excessive heat at the nip rollers



Hints: • Check operational settings for materials being used.

Problem: Waves on only one side of the output

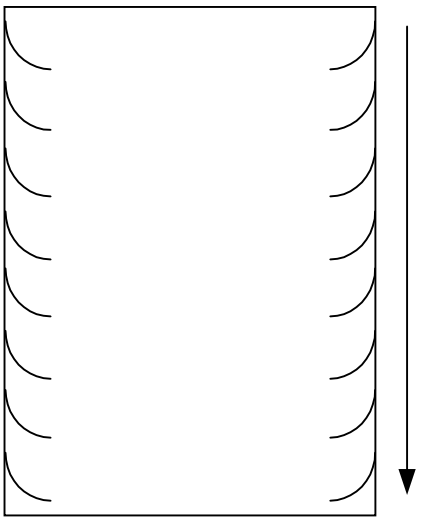
Cause: Insufficient roller pressureon one side.



Hints: • Check the nip setting of main rolls
• Check the nip setting of pull rolls
• Check for even paper tension

Problem: Angled waves in the output on both sides

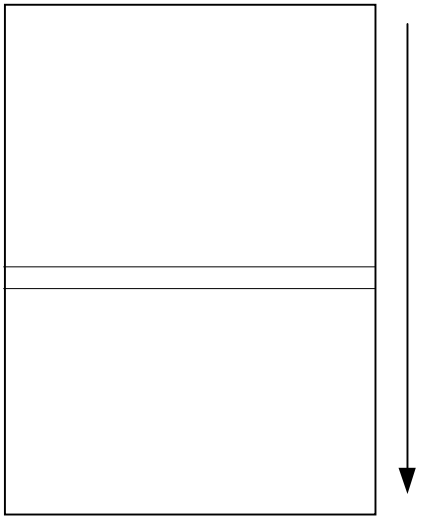
Cause: Slight amount of insufficient roller pressure.



Hints: • Check for insufficient main roller pressure
• Check for insufficient pull roller pressure
• Check the main roller nip settings
• Check the pull roller nip settings

Problem: Indent waves in output after the pull rollers

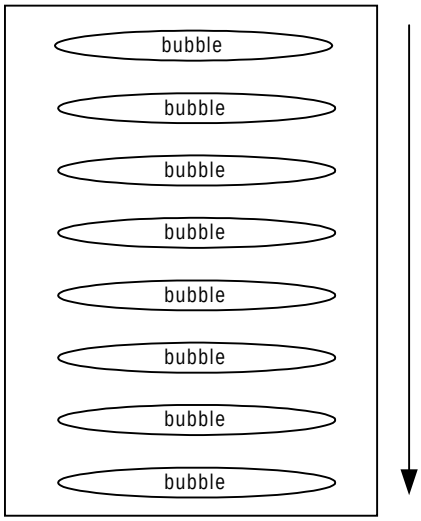
Cause: Handling the web before it has a chance to cool.



Hints: • Insufficient cooling time
• Allow output to cool before handling
• Check operating temperatures of material

Problem: Evenly spaced bubbles in the web.

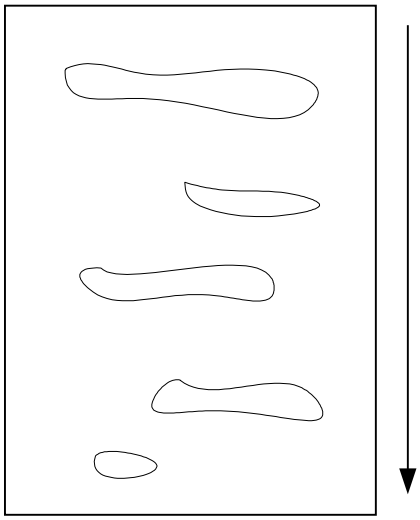
Cause: Bowed rollers



Hints: • Check for consistent distance between bubbles.
• Verifythat bubbles are present with and without paper in the web.

Problem: Sparatic bubbles in the web

Cause: Excessive moisture



Hints: Store prints in a dry place.

7.2 Troubleshooting chart

Symptom	Possible cause	Possible cause
Motor is not working	• E-STOP is pressed • Feed table not installed correctly •Safety shield is raised	• Unlatch E-STOP • Reinstall feed table • Close the safety shield
Roller has no heat	• Job parameter is set for no heat	• Select new job number or increase set point
Waves in output	• Cooling fans are off • Film tension is incorrect • Insufficient roller pressure • incorrect speed	• Turn cooling fans on • Adjust film tension • Adjust roller pressure • Adjust speed
Output looks cloudy	• Temperature is too low • Insufficient roller pressure	• Increase temperature • Adjust roller pressure

Section 8 Maintenance

GBC Films Group laminators require minimal maintenance. However, regular maintenance is essential to keep any piece of precision machinery at peak performance. A maintenance schedule and a section of procedures are included in this section.

WARNING

Do not wear ties, loose fitting clothes or dangling jewelry while operating or servicing the laminator. These items can get caught in the nip and choke you or you can be crushed or burned.

INFORMATION

Improper maintenance, can result in poor output quality.

GBC offers Cleaning kits (P/N 1711515) as well as Extended Maintenance Agreements.

The only maintenance required by the operator is to maintain clean and adhesive free nip rollers and overall cleanliness of the laminator itself.

8.1 Maintenance Schedule

INFORMATION

Below is a recommended maintenance schedule. Before performing any of the steps listed, read through the procedures first. Please follow the instructions pertaining to the step you are performing.

Daily

- Clean the rollers
  (See cleaning in this section)
- Inspect the electrical cord for damage.
  (If damaged, you should replace or repair it immediately)

Monthly

- Adjust the nip if needed.
  (Performed by a qualified Service Technician)
- Check the chain tension.
  (Performed by a qualified Service Technician)
- Inspect the area around the laminator for possible hazards
  (dust buildup, combustible items stored too close, etc.)

Semi-Annual

- Lubricate the chains, and gears.
  (Performed by a qualified Service Technician)
- Check wire termination tightness.
  (Performed by a qualified Service Technician)

ELECTRICAL SHOCK

Remove power from the laminator before servicing. You can be severely shocked, killed or cause a fire.

CAUTION

Never clean the rollers with sharp or pointed objects. You may put irreparable cuts into the rollers.

CAUTION

Harden adhesive deposits on the rollers can cause damage to the rollers.

8.2 Cleaning the rollers

CAUTION

The following procedure is performed while the laminator is HOT! Use extreme caution!

WARNING

Heating components are HOT! You can become severely burned !

CAUTION

Do NOT pick or pull heat activated adhesive off the rolls when they are cold. You can cause irreparable damage to the laminating rolls.

INFORMATION

The most efficient time to clean the rollers is after a lamination process is completed.

Tools required

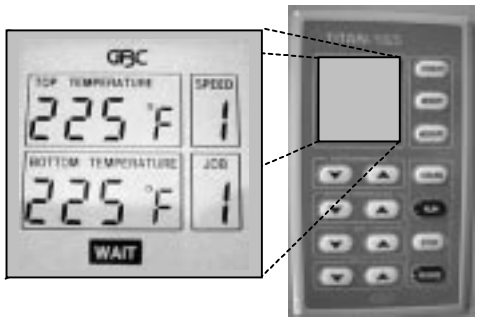
- Damp cloth
  (Use water only to dampen the cloth)
- Rubber cement eraser
  (a belt sander dressing block may be used instead)
- Several 100% cotton terry cloths
  (best for lint free cleaning)
- 3M™ Scotchbrite™ pad

INFORMATION

The laminator will operate only when all safety latches are in the fully latched position.

c) Press (^) on TOP TEMPERATURE and BOTTOM TEMPERATURE to 225 °F (107 °C)

Preparation of the laminator



a) Turn the **POWER** to the "**I** ".

INFORMATION

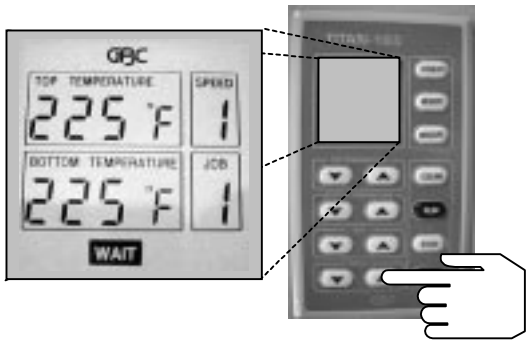
If the rolls are heated, proceed to Removing adhesive build up..

d) Lower the main rollers.

b) Ensure no **E-STOP** is depressed and all safety latches are in the fully locked position.

Removing adhesive build up

e) Set speed to “1”.



f) Press RUN.

g) When the **READY** is idicated on the display, proceed with Removing adhesive build up.

a) Raise the rollers.

b) Press STOP.

WARNING

Caution should always be exercised when using the laminator with the safety shields raised. You can be seriously HURT or INJURED!

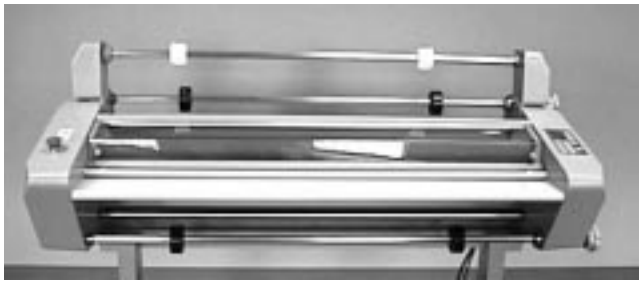
c) Raise the front safety shield, remove the pressure plate and the feed table.

d) Use the rubber cement eraser to clean the nip rollers.

CAUTION

Excessive pressure can destroy the silicone layer by pressing to hard or scrubbing too long in one spot.

e) Replace the feed table and lower the front safety shield.



INFORMATION

Locator latches on the pressure plate are not associated with an interlock switch. The laminator will operate without the pressure plate installed.

f) Press REVERSE.

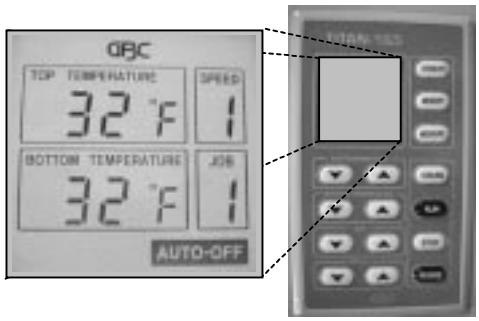
INFORMATION

Rollers only turn in reverse while depressing REVERSE .

h) Repeat steps " **a** " through " **f** " until the adhsive is beaded on the rollers.

Cleaning the beads of adhesives, dust and dirt

a) Press ▼ on both tenperature controls.



b) Use a damp cloth to clean the beads of adhesives off of the rollers.

c) Replace the feed table and lower the front safety shield.

INFORMATION

Locator latches on the pressure plate are not associated with an interlock switch. The laminator can operate without the pressure plate installed.

d) Press REVERSE .

8.3 Clean the cabinets and covers

INFORMATION

Rollers only turn in reverse while depressing REVERSE **.**

e) Repeat steps "**c**" and "**d**" until the rollers are clean.

f) Replace the feed table, pressure plate and front safety shield.

g) Press **POWER** to "**0**".

ELECTRICAL SHOCK

Remove power from the laminator before cleaning. You can be severely shocked, killed or cause a fire.

a) Use a damp cotton terry cloth (water only), clean the exterior of the laminator.

b) If water is not strong enough, you may use a mild dishwashing detergent with water and a cotton terry cloth.

ELECTRICAL SHOCK

Do not use liquid or aerosol cleaners on the laminator. Do not spill liquid of any kind on the laminator. You can be severely shocked, killed or cause a fire. Use only a damp cloth for cleaning unless other wise specified.

8.4 Cleaning the control panel

ELECTRICAL SHOCK

Remove power from the laminator before cleaning. You can be severely shocked, killed or cause a fire.

a) Use only a slightly damp (water only) non abrasive cloth.

ELECTRICAL SHOCK

Do not use liquid or aerosol cleaners on the laminator. Do not spill liquid of any kind on the laminator. You can be severely shocked, killed or cause a fire. Use only a damp cloth for cleaning unless other wise specified.