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Titan Function

The Titan 110 laminator can:

- Hot (thermal) laminate
- Cold (pressure sensitive application) laminate

Control Panel

![Control panel image]

*Control panel*
Top half of control panel

- **STAND-BY:** When laminator is not in use, select Stand-by to set the machine into stand-by mode. Laminator will cool down to 20 degree.
- **MEMORY:** To store jobs in memory.
- **MEASURE:** To check current temperature of top and bottom main rollers.

Bottom half of control panel

- **TOP TEMPERATURE:** To select temperature for top main roller
- **BOTTOM TEMPERATURE:** To select temperature for bottom main roller
- **JOB:** To select job stored in memory
- **SPEED:** To select speed of operation
- **COOLING:** To activate the cooling fan while in operation
- **RUN:** To start operation
- **STOP:** To stop operation
- **REVERSE:** To run the machine in reverse.
Machine Hardware

**Front of machine**

A: Rewind Shaft  
B: Upper Unwind Shaft  
C: Core Gripper  
D: Upper Web Idler  
E: Upper Main Roller  
F: Lower Main Roller  
G: Lower Web Idler  
H: Lower Unwind Shaft  
I: Foot Switch

**Back of machine**

A: Pull Roller  
B: Cutter

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**Left side of machine**

A: Rewind Brake Adjust       B: Emergency Stop

**Right side of machine**

A: Upper Unwind Brake Adjust       C: Lower Unwind Brake Adjust

B: Main Roller Nip Handle
**Back left corner of machine**

A: Emergency Stop  
B: Main Power Switch

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**Front of Machine**

A: Safety Shield  
B: Pressure Plate  
C: Feed Table  
D: Control Panel
Changing the NIP

1) Handle in the raised position.

2) Pull handle away from the notch.

3) Lower handle to desired position.

4) Push handle into the notch.
Hot Lamination

Hot Lamine is used on Digital Prints on coated or bond Medias, or Medias designed for use in Thermal application. Hot laminate require heat, pressure and tension to produce optimal results.

**Temperature Range:** 80 – 120 degree depend on type of thermal laminate being used

**Application:** Trade show graphics, Menus, Poster, Display roll ups, Maps, and many more..

**Materials Required:**

- 2 rolls of laminate film
- An image to laminate
Before Loading Film

Before loading lamination film, remove safety shield, pressure plate and feed table.

1) Lift safety shield

2) Pull shield latch to the left to release

3) Lift safety shield and removed
4) Pull the left pressure plate latch to the right to release and remove pressure plate.

5) Pull the left feed table latch, lift the feed table and remove it from the laminator.
**Loading Bottom Main Roller**

1) Remove the lower unwind shaft

Lift left shaft

Pull shaft out and to the left to removed
2) Before loading film into unwind shaft, make sure the core gripper are symmetrical with the length of the roll.

IF they are not symmetrical, do the following:

Use allen key provided, undo the 3 allen key on the core gripper and move core gripper to required position.

3) Insert unwind shaft into film core. Note the leading edge of film direction, and the hexagonal edge of the unwind shaft goes into the core first.
4) Place the nip handle into second slot

5) Insert the hexagonal end of the unwind shaft into the right slot

6) Drop the left end of the unwind shaft into the left slot
7) Insert backing film under the lower web idler

8) Pull the film up and leave it on the roll of film
Loading Top Main Roller

1) Remove upper unwind shaft

Lift right end of unwind shaft

2) Pull unwind shaft to the right and removed
3) Insert unwind shaft into lamination film core. **Note the leading edge of film direction, and the hexagonal edge of the unwind shaft goes into the core first.**

4) Go to the back of the machine, insert the hexagonal end of the unwind shaft into the left slot. Drop the right end of the unwind shaft into the right slot.
5) Pull the film over the upper web idler

6) Place the bottom film over the main two main rollers
7) Place top film over bottom film. *Make sure that the two film match up; else glue will stick on main roller.* Adjust the position of the top roll of film if required.

8) Place the feed table back onto the machine

Place the right end of the feed table into the right slot of the machine
Place the left end of the feed table into the left slot of the machine.

Pull the feet table safety pin, drop the feet table and release the pin into the locator.

9) Place the pressure plate back onto the machine.

Insert the left safety pin into the locator.

Pull the right safety pin and insert into the locator.
10) Place the safety shield back onto the machine.

```
[Image of a safety shield being placed back onto a machine]
```

Insert the left end of the safety shield into the left locator

```
[Image of a safety pin being inserted into a locator]
```

Pull the right safety pin and insert into the locator

11) Turn laminator ON. Set to Job 1

12) Once laminator flash “**Ready**”, Insert a pieces of thick A3 paper between the main rollers and close the safety shield.

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[Image of papers being inserted between rollers]
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13) Step on the foot switch and make sure the paper feed in ok. Check the back of the laminator to make sure that the paper comes out ok.
Cold Lamination
Cold Lamination is used for Digital Prints and Prints that are sensitive to heat, such as Finished or Plastic Medias. Cold Lamination also offers a variance from Gloss or Matt finish. Ideal for most prints except Canvas and some Banner jobs.

*Temperature Range*: 0 – 50 degree dependant of finish and other factor

*Application*: Banners, Floor graphic, Window graphics and many more…

*Materials Required*:

- 1 roll of laminating film
- 1 roll of backing film
- An image to laminate
Before Loading Film

Before loading lamination film or backing film, remove safety shield, pressure plate and feed table.

1) Lift safety shield

2) Pull shield latch to the left to release

3) Lift safety shield and removed
4) Pull the left pressure plate latch to the right to release and remove pressure plate

5) Pull the left feed table latch, lift the feed table and remove it from the laminator
**Loading Backing Film**

1) Remove the lower unwind shaft

Lift left shaft

Pull shaft out and to the left to removed
2) Before loading film into unwind shaft, make sure the core gripper are symmetrical with the length of the roll.

**IF** they are not symmetrical, do the following:

Use allen key provided, undo the 3 allen key on the core gripper and move core gripper to required position.
3) Insert unwind shaft into backing film core. **Note the leading edge of film direction, and the hexagonal edge of the unwind shaft goes into the core first.**

4) Place the nip handle into second slot

5) Insert the hexagonal end of the unwind shaft into the right slot
6) Drop the left end of the unwind shaft into the left slot

7) Insert backing film under the web idler

8) Insert the backing film in between the main rollers, and use your hand to manually turn the upper main roller to wind the backing film into the machine.
9) Keep turning the main roller with one hand and insert the baking film into the grey pull roller.

10) Go to the back of the machine, pull the backing film out of the pull roller and make sure the film is straight by pulling it tight.
Loading Lamination Film

1) Remove upper unwind shaft

Lift right end of unwind shaft

2) Pull unwind shaft to the right and removed
3) Insert unwind shaft into lamination film core. **Note the leading edge of film direction, and the hexagonal edge of the unwind shaft goes into the core first.**

4) Go to the back of the machine, insert the hexagonal end of the unwind shaft into the left slot. Drop the right end of the unwind shaft into the right slot.
5) Insert the lamination film under the upper web idler

6) Place the lamination film on top of the upper main roller and make sure that the lamination film **NOT** wider than the backing film.

7) Insert the lamination film in between the main rollers
8) Rotate the top main roller to wind the lamination film into the machine

9) Make sure that the lamination film is flat on the main roller by pulling it tight.
10) Drop the nip handle down to the second last slot

11) Tear the lamination film between the main roller and the web idler, and split the release liner.
12) Use the blade provided to cut the release liner, making sure that you **DON'T** cut the lamination film.

13) Place the feed table back onto the machine

Place the right end of the feed table into the right slot of the machine

Place the left end of the feed table into the left slot of the machine
Pull the feet table safety pin, drop the feet table and release the pin into the locator.

14) Place the pressure plate back onto the machine.

Insert the left safety pin into the locator.

Pull the right safety pin and insert into the locator.
15) Place the safety shield back onto the machine.

Insert the left end of the safety shield into the left locator.
16) With your hands holding the release liner, use one foot to step on the foot switch to run the machine.

17) Wrap the release liner under and around the rewind shaft.
NOTE: Make sure that the baking and lamination film comes out at the back smoothly. IF you have TWO people, the second person can stand behind the machine and pull the lamination and backing film out. Else stop the machine by releasing the foot switch, go to the back of the machine and pull the lamination and backing film out.

18) Use a piece of sticky tape and tape the centre of the release liner onto the rewind shaft.
Programming a Jobs

1) Press JOB or to select the desired job number location. The selected location is displayed.

Or

2) Enter the desired temperature for the upper main roller by pressing the TOP TEMPERATURE or

3) Enter the desired temperature for the lower main roller by pressing the BOTTOM TEMPERATURE or
4) Enter the desired speed by pressing **SPEED** or **MEMORRY** twice. The parameters are now stored in the selected job location.
Laminating Jobs

1) Select Job Number on the control panel.

**Hot Lamination**

- **Nap 2 film => Job 1** (top temperature = 115, bottom temperature = 115, speed = 3)
- **Low Melt film => Job 2** (top temperature = 95, bottom temperature = 95, speed =3)

**Cold Lamination**

- **Job 3** (top temperature = 35, bottom temperature = 20)

NOTE: If after selecting job number and the temperature does not match the above, change the temperature manually.

2) Wait until control panel display “Ready”
3) Press Run to run about 20cm of film through the machine, and press Stop.
4) Place the print on the feed table, and insert the print into the pressure plate until the leading edge of the print touch the laminate.

**Note:** It is best to place the print in the centre of the lamination film.
5) With one hand holding the print, the other hand reach over to the control panel and press Run.

6) While the machine is running, guide the print into the laminator with two hands.
7) Make sure the print come out OK from the back.

8) Job completed!!
Troubleshooting

**Problem:** D waves in the image but not in the laminate
**Caused:** Excessive roller pressure

**Hints:**
- Check paper tension
- Check relative moisture content of the paper

**Problem:** D waves in the laminate
**Caused:** Insufficient roller pressure

**Hints:**
- Check roller pressure
- Check main roller nip settings
- Check pull roller nip settings
**Problem:** Straight waves in the output

**Caused:** Excessive heat at the nip rollers

![Diagram of straight waves]

**Hints:**
- Check operational settings for material being used.

**Problem:** Waves on only one side of output

**Caused:** Insufficient roller pressure on one side

![Diagram of waves on one side]

**Hints:**
- Check the nip setting of main rollers
- Check the nip setting of pull rollers
- Check for even paper tension
**Problem:** Angled waves in the output on both sides

**Caused:** Slight amount of insufficient roller pressure

![Diagram of angled waves](image)

**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

**Problems:** Indent waves in output after the pull rollers

**Caused:** Handling the film before it has a chance to cool.

![Diagram of indent waves](image)

**Hints:**
- Insufficient cooling time
- Allow output to cool before handling
- Check operating temperature of material
**Problem:** Evenly spaced bubbles in the film  

**Caused:** Bowed rollers

**Hints:**
- Check for consistent distance between bubbles
- Verify that bubbles are present with and without paper in the film

**Problem:** Random bubbles in the film  

**Caused:** Excessive moisture

**Hints:**
- Stores prints in a dry place