Afinia Label DLP 2100
Digital Label Press with L901 Printer

Instruction Manual

AFINIA LABEL

DLP-2100 Digital Label Press User Manual

Version 1.0

DLP-2100 Digital Label Press

MyBinding.com
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Toll Free: 1-800-944-4573
Local: 503-640-5920

Print, Laminate, Back-slit, Cut, Remove Matrix

The Afinia Label DLP-2100 is a digital label press that is powered by Memjet. The DLP-2100 prints in vibrant, 1600 DPI, photograph-quality color at 6 inches per second and requires no plates. The 15" diameter cylinder accepts flexible dies up to 12 inches in length allowing for fast, accurate die cutting of any shape, including perforations.

The DLP-2100 can also convert stock to blank labels, ready for printing. With a flexible die, it's possible to convert blank labels at a rate of up to a foot a second.

The DLP-2100 Digital Label Press brings the incredible "up to 12 ips" speed, quality and economical low cost-per-print of Memjet Technology together with the precision and performance of magnetic cylinders and dies. Finally, labels can be printed, laminated and cut in-line.

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Contents

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Features

Automatic
Use with the Afinia L901 Label Printer or use as a stand-alone finishing unit

Reliable
Solid Industrial Design

Fast
Variable speed up to 12” per second

Easy to use
Simple setup and touchscreen operation

Perfect Control
Adjustable tension clutches provide full control

Accurate
Precision sensor
Digital and mechanical cut adjustments available

Wide Appeal
Suits industrial and bureau label converters

Range of Uses
Provides high durability for your printed labels in a variety of finishes for a variety of uses.

If you need to print, laminate, and convert continuous material, the Afinia DLP-2100 offers the complete solution.

It may be used as a stand-alone unit or in-line with the Afinia L901 printer. Simply print your continuous labels with a black registration mark and easily laminate and die cut with this remarkable machine. The DLP-2100 uses a combination of an electronic mark sensor together with precision electronics and touchscreen to ensure an amazing +/- 0.3mm registration accuracy.

Die cutting is handled by a full rotary 15 inch circumference cylinder. It uses economical flexible steel cutting plates, for very high precision and long die life.

The use of high quality electronics for logic control ensures the DLP-2100 will produce high quality, accurate labels. When combined with back-slitters, post-slitters, dual output mandrels for easy finished roll separation, and an easy to navigate touchscreen control panel, the DLP-2100 is the complete solution to your laminating and die-cutting requirements.

Visit our website at www.afinialabel.com for detailed information and downloads.

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Specifications

Print Speed	Up to 12 in/sec.
Print Quality	1600 DPI full-color output
Cutting Speed	Max 7.87″/sec (200 mm/sec) re-registering or 140 ft/min full rotary for blank labels
Speed Control	Variable
Max. Web Width	9.65″ (245 mm): in-line prinitng will reduce this width
Max. Diecutting dimensions	9″ (230 mm) width; 12" (304.8 mm) length
Core Sizes	3″ (76 mm)
Unwinder	Integrated, 19″ (480 mm) max. outside diameter
Loop	Photoelectric distance sensor
Back Slitters	2 rotary knives
Laminate	Economical, self-wound and supported laminate (on a liner). Liner removal included for use with high quality, liner-supported laminate
Max. Laminate OD	11″ (280 mm)
Registration Sensor	Laser
Registration	+/-0.01″ (+/- 0.3mm)
Registration Sensor Adjustment	9″ (230 mm) x 12″ (304.8 mm)
Sensor Mark	0.2″ x 0.27″ (5 mm x 7 mm)
Cylinder	15" (381 mm)
Cutting Dies	Flexible steel – any size from 0.2″ (5 mm) to 12″ (304.8 mm) repeat
Lateral Cylinder Adjustment	0.5″ (12 mm)
Max. Waste Matrix Rewind	11.8″ (300 mm)
Razor Slitter Assembly	6 knives
Razor Slitter Lateral Adjustment	0.47″ (12 mm)
Max. Finished Label Rewind	11″ (280 mm)
Dimensions	65″ (1650 mm) x 41.33″ (1050 mm) x 33″ (840 mm)
Frame	0.4″ (10 mm) solid aluminum
Power	220 Volt 10 Amps required
Weight	420 lbs (190 kg)
Motors	2, 400 W / 90 W
Control	Touchscreen control panel, PCB. Inverter, Encoder

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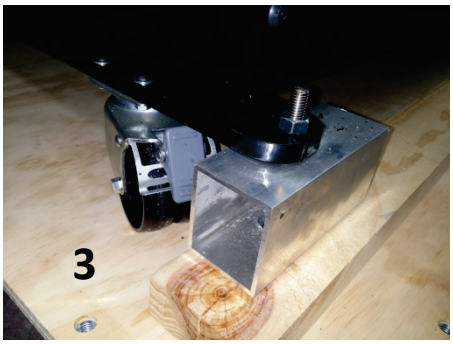
Installation

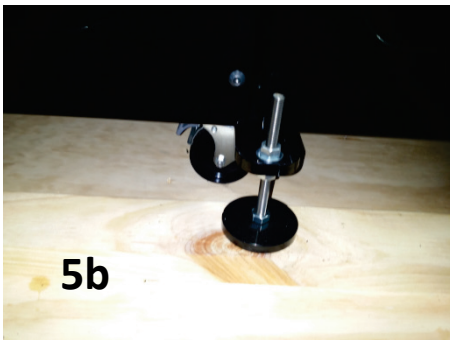
Unpacking

Caution: This machine is extremely heavy. Do not attempt to move the crate or machine without suitable lifting equipment. Failure to follow these instructions may result in serious injury.

1. Remove the top panel of the crate and then the 4 side panels
2. Inspect the DLP-2100 for damage prior to removing it from the base of the crate
3. Undo and remove the four M10 bolts holding the four corners of the DLP-2100 to the base of the crate
    a. You may need to lift the crate using a forklift to hold the nuts underneath the base that secure the bolts
4. Lift the DLP-2100 from the base plate using a forklift
    a. It is recommended that the front of the DLP-2100 be facing the forklift
5. Attach the feet to the four corners
    a. Install the feet so they are above the bottom of the wheel ; this will allow you to roll the DLP-2100 to the operating location
    b. The two center supports will have feet already attached
6. Move the DLP-2100 away from the crate base and carefully lower to the floor
7. Roll the DLP-2100 to the operating location
    a. Be sure the rollers are not locked before attempting to roll the unit
8. Lower the feet so the DLP-2100 is level and supported by the feet
9. Connect 220V power to the DLP-2100



View from underneath the crate



Caution: Use a forklift to remove the DLP-2100 from its crate. Do not attempt to lift the unit manually!

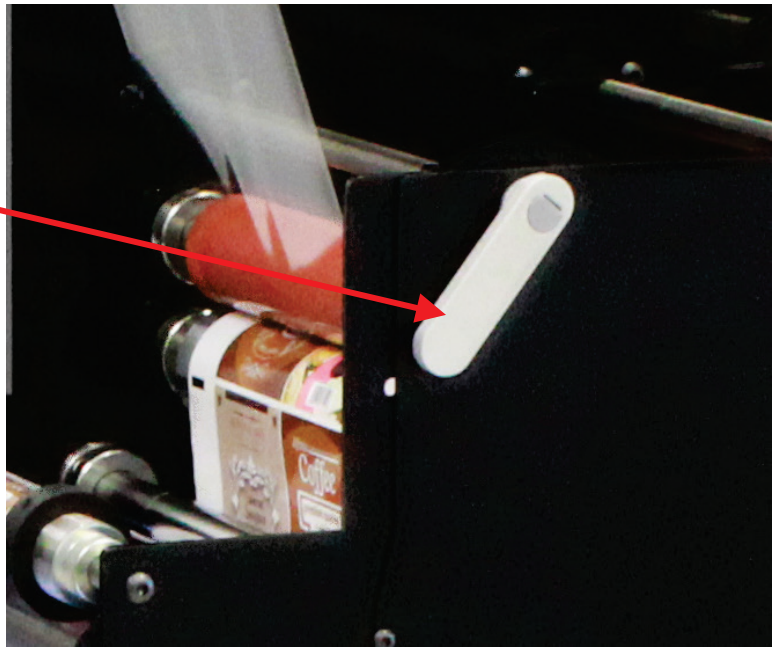
Adjusting Pinch Rollers

The DLP-2100 is supplied with pre-set maximum roller settings. If the machine is supplied with no roller pressure, simply rotate each arm clockwise until it stops.
Do not use excessive force.

The DLP-2100 is fitted with silicone rubber nip rollers. Do not use a knife on these rollers and clean with a mild solvent if required.

NIP ROLLER PRESSURE

Rotate the Nip Roller levers counter-clockwise to release pressure.



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Components

Identifying major components

Caution: Do not proceed until you have a good understanding of the major components of your machine and their locations. Do not attempt to start or run the DLP-2100 before reading the instructions detailed on the following pages.

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Safely Features

Caution: The safety features included with your machine are for your protection. Never remove warning labels or disable cut out switches. Be aware of your emergency stop location and use common safety precautions and care at all times.

Following is an outline of the main safety features included with the DLP-2100. Please ensure that you are familiar with all of the safety features before proceeding.

- EMERGENCY STOP: Note the location of the emergency stop switch. The switch is designed to immediately stop the press and apply the motor brakes. Follow the on-screen instructions to resume operation after an emergency stop.
- ELECTRICAL CABINET: The cabinet is secured by 4 – 4mm bolts which should be kept tight at all times and removed by authorized technicians only.
- DRIVE BELTS: These are inside the back cover. If the back cover is open, ensure that hands, hair, or clothing cannot be caught in the drive belts.

- NIP ROLLERS: The orange rollers are driven by powerful motors. Never under any circumstances place fingers, hair, or clothing near the nip rollers while the machine is running.

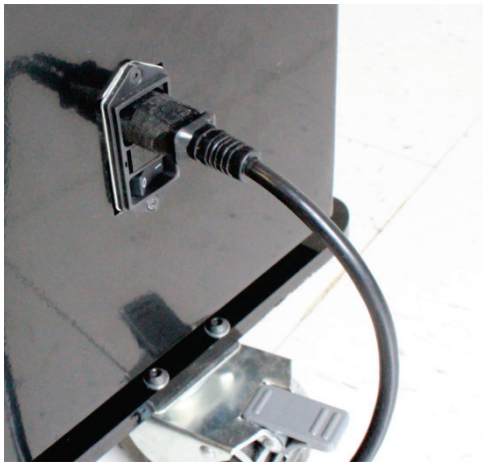
- WARNING LABELS: These labels indicate important safety considerations for your machine. Never remove, damage or obscure warning labels.

Connecting power

Caution: Do not proceed until you have a good understanding of the major components of your machine and their locations. Do not attempt to start or run the DLP-2100 before reading the instructions detailed on the following pages.

The DLP-2100 requires 220V power input for operation.

- Simply plug the power cord connected to the outlet directly into the power socket on the right-hand side of the DLP-2100.



- Once the Control Panel on the front of the DLP-2100 boots up, touch **Start** and follow the on-screen instructions to complete the power-up process (see next page)

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Overview

The Control Panel

The Control Panel includes a number of interactive touchscreen buttons and data entry fields.

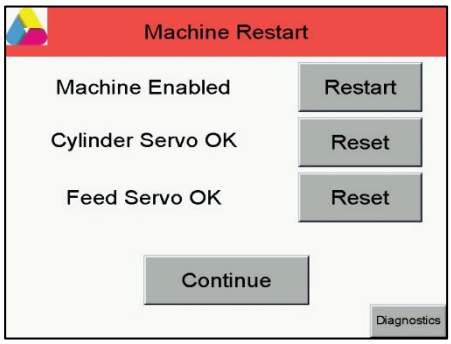
Startup Screen

The first screen seen on powering up the DLP-2100 is the Startup screen. Touch the **Start** button to continue with the boot process.

Restart Screen

The Restart screen will appear next. You can touch any of the **Restart** buttons to restart the indicated component, or **Continue** to complete the restart process.

This screen will also appear after the Emergency Stop button is released



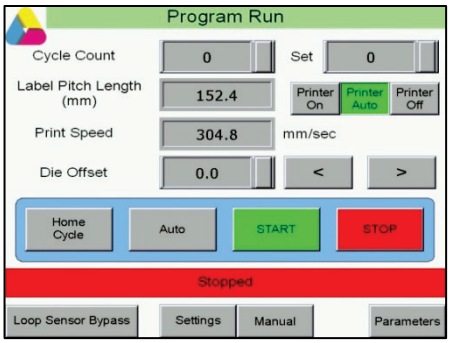
Program Run Screen

The Program Run screen, also referred to as the Main screen, is where most operation occurs.

Cycle Count

Indicates how many times the die has cut. This number does not include cuts made during manual media feeding.

The count can be changed or cleared; touch the small button to the right of the number to bring up the numeric keypad to clear the count or enter any number.



Set

Enter a number to auto-stop the cutter at a pre-determined count. Touch the small button to the right of the number to bring up the numeric keypad.

If set to zero, the auto-stop feature is disabled.

Label Pitch Length

Indicates the length of the die plate as entered in the Settings screen. This value can only be changed in the Settings screen.

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Printer On | Printer Auto | Printer Off

Set the printer operational state by touching one of the three buttons.

Printer On allows the printer to print at any point, regardless of the press operational status.

Printer Auto will pause the printer when the press is stopped and continue printing when it is changed to the running state.

Printer Off will pause the printer until this setting is changed to On or Auto.

Print Speed

Indicates the print speed as entered in the Settings screen.

Die Offset

Adjusts the top of cut position for fine-tuning position of the cut along the direction of media travel. Either touch the small button to the right of the number to bring up the numeric keypad or use the two arrow buttons to change the value.

Home Cycle

Touch this button if the message below the button line says ***Machine needs Homing*** to sync with the registration marks.

This is necessary after an Emergency Stop, at a splice point, or if the registration setting has been off but has been turned back on.

Auto | Semi-auto

Touch this button to toggle between **Automatic** and **Semi-automatic** mode. Semi-automatic mode will run 1 revolution of the cylinder after the **Start** button is touched and stop.

Start and *Stop*

Starts and stops the cutter operation. Stopping will always occur at the Home position.

Stop

Stops the cutting.

Loop Sensor status

If the Loop Sensor has been set to bypass mode, this button will read ***Loop Sensor Off***, and can be pressed to turn the loop sensor back on. The loop sensor cannot be turned off from this screen; touch **Settings** to open the Settings screen if the sensor needs to be bypassed.

Settings

Opens the Settings screen.

Manual

Opens the Manual operation screen.

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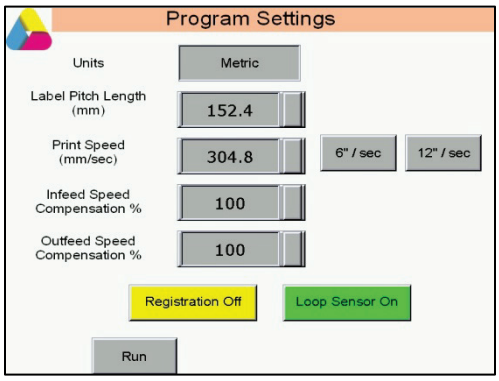
Parameters

Opens the first of two parameters screens. This button is password protected and should not be used unless directed to make changes by Afinia Label Support.

Settings Screen

This screen is used to modify the operational settings of the press.



Units

Set to either ***Metric*** (mm) or ***Inch***. Pitch Length and Print Speed values are converted when changing from one to the other.

Label Pitch Length

Touch the small button to the right of the number to open the numeric keypad to enter in the label pitch length. Measurements are from the top of one registration mark to the top of the next.

Print Speed

Enter the print speed in this field. You can also select the speed by touching the **6" / sec** or **12" / sec** buttons.

Infeed / Outfeed Speed

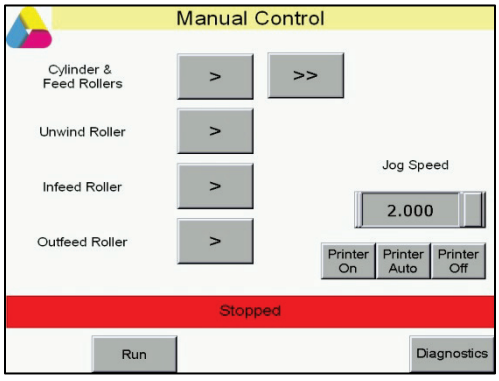
The Infeed and Outfeed speed settings can be changed, if necessary. It is not recommended that these speeds be changed unless issues are occurring.

Registration On / Off

Toggles the Registration Sensor on or off. Turn registration off when cutting blank labels.

Loop Sensor On / Off

Toggles the loop sensor between on and off.



Manual Screen

Use the buttons in the Manual screen to feed media through the DLP-2100. The top buttons operate all motors, or you can use the other buttons to activate a specific motor.

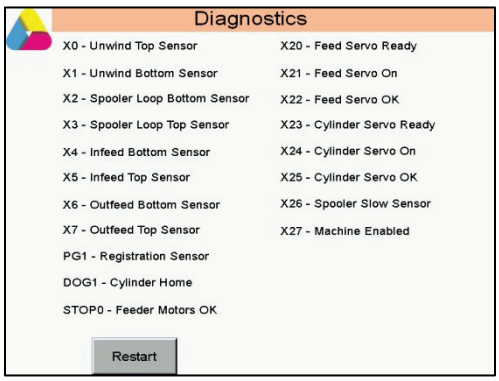
Operation is one-way only - you cannot back up the media.

Parameters Screen

The Parameters button is password protected. Changes should only be made to the parameters under the guidance of Technical Support.

Diagnostics Screen

The Diagnostics screen displays the current state of the sensors, motors, and servos.

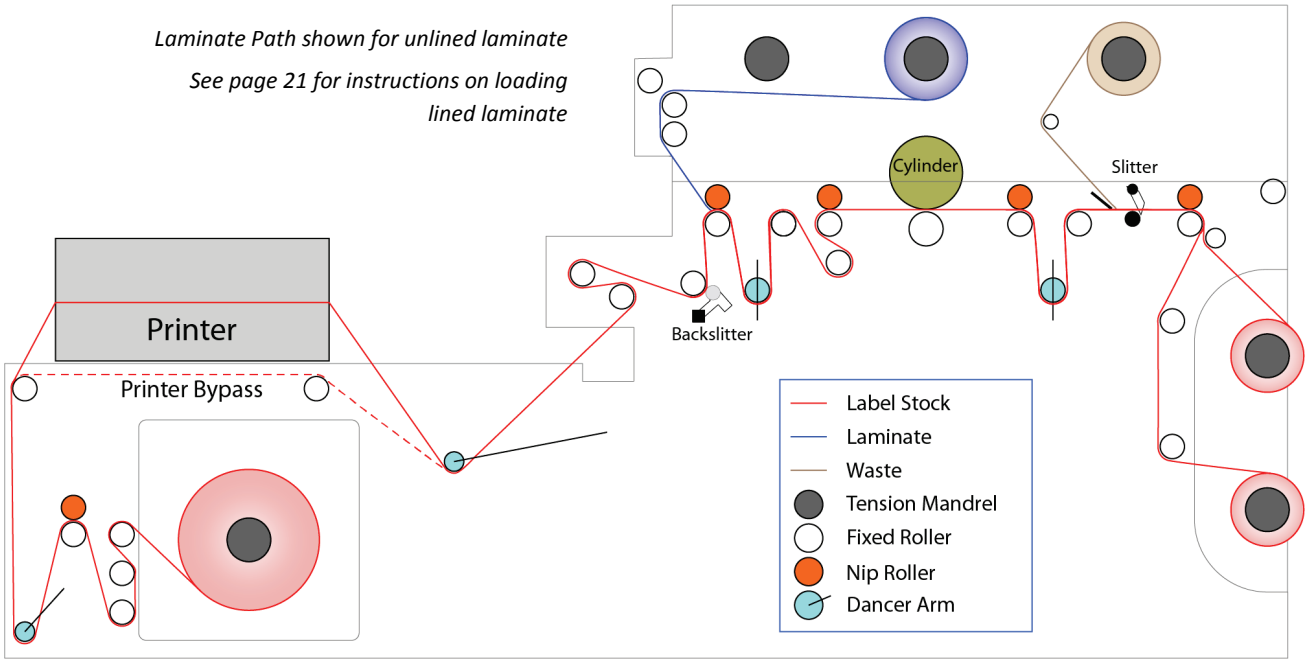


Loading media

Caution: Ensure that the power is disconnected before you begin to load your media for the first time unless you have a good understanding of the general operating procedures.

Laminate Path shown for unlined laminate

See page 21 for instructions on loading lined laminate



Load the unwinder with the desired media. Follow the path shown above, either through the printer for in-line operation or using the Printer Bypass path to cut blanks or pre-printed stock.

Once though the printer, use the printer to either feed or print media until you have enough media to feed through the DLP-2100 convert as shown above.

To use the inline method of production, the printer must not have an automatic cut off or sheeting mechanism active when the printer is paused. To stop and start the converting process, the printer is in control of both sections of the machine. Simply pause or stop the printer to stop the unwinder and the DLP-2100 converter.

It is also important that the speed of the printer not exceed the speed of the DLP-2100 converter.

If the printer is slower than the converter, the converter will stop and start automatically, keeping the loops at a constant level.

TIP: It is best to **not** unload the old media before loading new, even if changing media width. Splice the new media to the end of the old media to avoid having to re-thread the entire media path.

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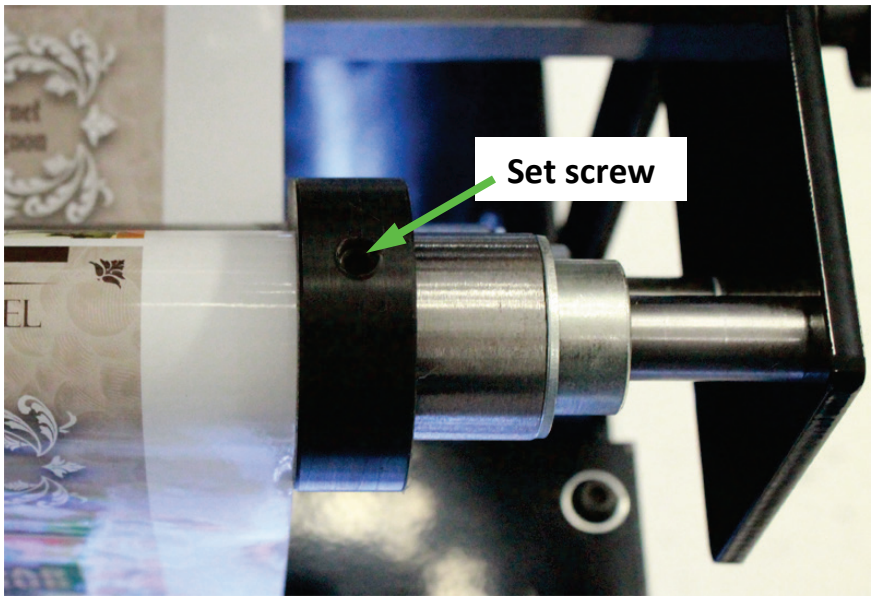
Adjusting the Guide Collars

Many of the metal rollers include adjustable guide collars to keep the media to a straight path. You will need to adjust the guide collars during the initial setup, and any time you change media widths.

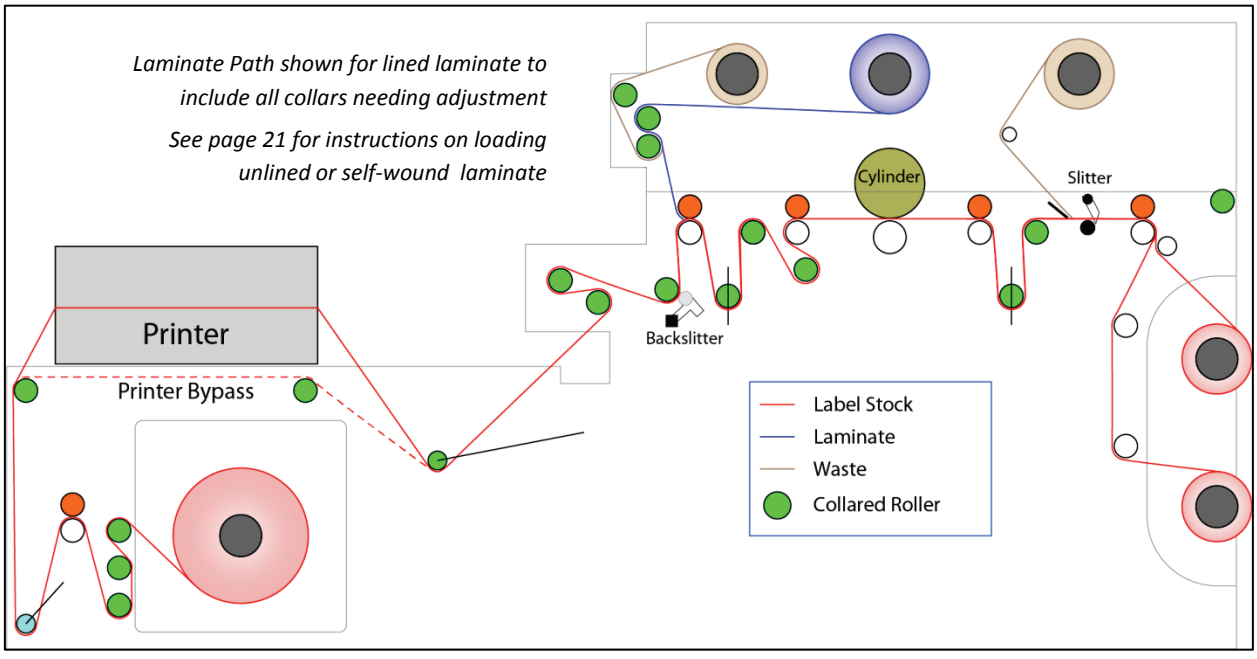
Only the collars on the operator side of the DLP-2100 should be adjusted. The collars to the rear of the DLP-2100 are in line with the unwinder back plate and should not need to be moved when the media has been correctly loaded.

1. Loosen the set screw on any collar that needs to be repositioned
2. Position the collar so it is just out of contact with the media
    a. Do not position the collars closer together than the width of your media
3. Tighten set screw to hold collar in place
4. Repeat with each collar in the DLP-2100



It is recommended that you follow the paper path from the input media roll to the output roll(s) when adjusting collars to verify that all are in the correct positions.

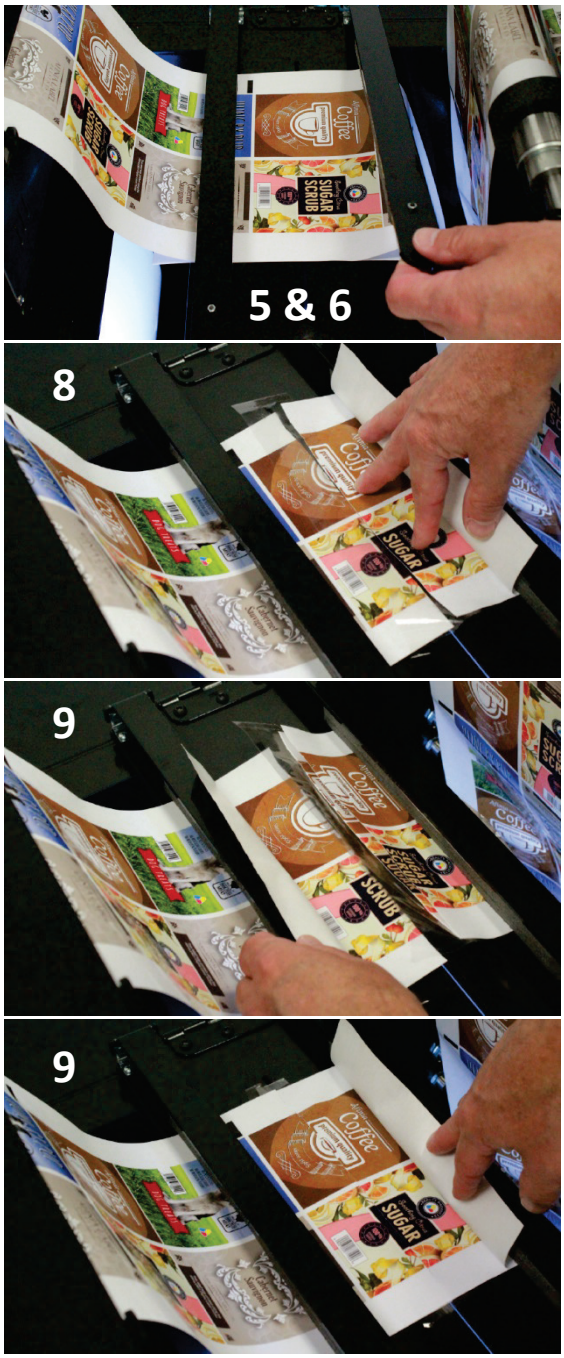
Note that there may be as many as 17 collars that need to be adjusted, depending on the media path and laminate. Rollers with collars are shown below (green).



Using the splicing table

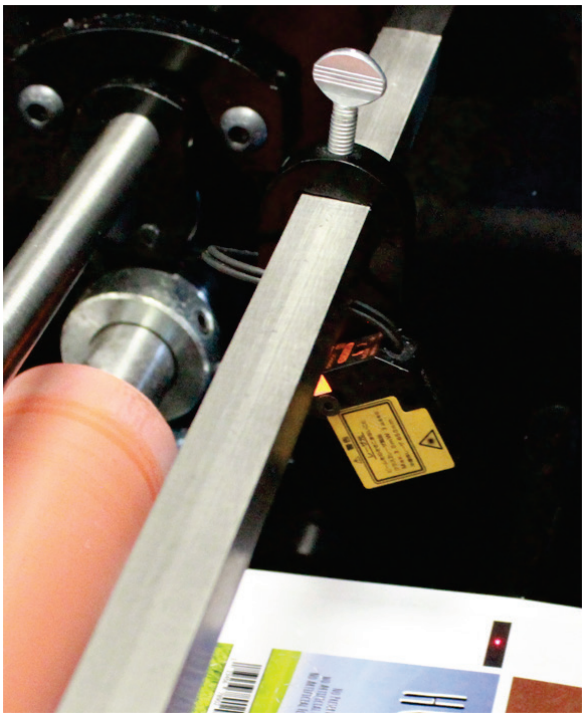
The splicing table enables the user to join rolls of media together neatly and correctly, to allow smooth passage through the die cutting, stripping, and slitting processes. Follow the instructions below on the use of the DLP-2100 splicing table.

1. When the current roll of media is finished, stop the DLP-2100 or the loop sensor will stop the machine when it sees no media.
2. Push the Emergency Stop button.
3. Load the new roll of media onto the unwind mandrel, with the media unwinding clockwise.
4. Load into the printer and print enough so the new media can be held in place by both locking arms.
5. Align the old and new media on the splicing table, with the new media on top of the old.
6. Lower both left and right locking arms.
7. Using a sharp knife, cut through both pieces of media, in the slot on the splicing table.
8. Lift **both** layers of media on **right side** and apply tape under the bottom layer, as smoothly as possible. Tape will be above left side.
9. Lift **top** layer of media on **left side** and apply to the tape as well aligned and as smoothly as possible.
10. If laminate is not being applied, place another piece of tape across the top of the splice; if laminate is being applied, the top tape is not required.
11. Lift both locking arms and remove the two sections of detached media.
12. Using scissors or a sharp knife, cut the excess tape on each side of the media, as close to the media as possible.
    a. **Do NOT wrap excess tape over the edges of the media!**
13. Print enough length to allow the splicing table to be lifted out of the media path.
14. Release the Emergency stop button and **Restart** the DLP-2100. You are now ready to continue.



Note: The printed images do not need to splice together perfectly, but you will need to perform a **Home Cycle** when the splice gets to the cutting cylinder.

Adjusting mark sensor position



The DLP-2100 machine is fitted with an amplified laser black mark sensor. It can be moved laterally within the die cutting area to reduce set up time for each job and minimize any setting changes. Follow these instructions when setting up a new job.

1. Open the **Manual** Control screen and advance the media until the laser sensor is aimed at a registration mark.
2. Loosen the thumbscrew and slide the sensor so the laser is at the center of the mark, laterally, if necessary.
3. Tighten the thumbscrew.
4. Return to the **Main** screen and touch **Settings**
5. Enter the **Pitch Length** and return to the **Main** screen.
6. Verify that you have enough slack between the printer and the press to perform at least two full cuts.
    a. Print more labels, if needed.
7. Touch the **Home cycle** button.

TIP: If you do not adjust the collars towards the back of the press and regularly place the registration mark at the same position in your artwork, the position of the sensor should not need to be changed.

Recalibrating the Mark Sensor

The mark sensor is sent already calibrated to read a black mark on white media.

Follow these instructions if the sensor needs to be recalibrated for different media.

Before carrying out this procedure you should have the sensor already positioned on the black mark on your media, as outlined above.

1. With the laser pointing directly onto the black mark, move the small switch on the right from **RUN** to **SET**.

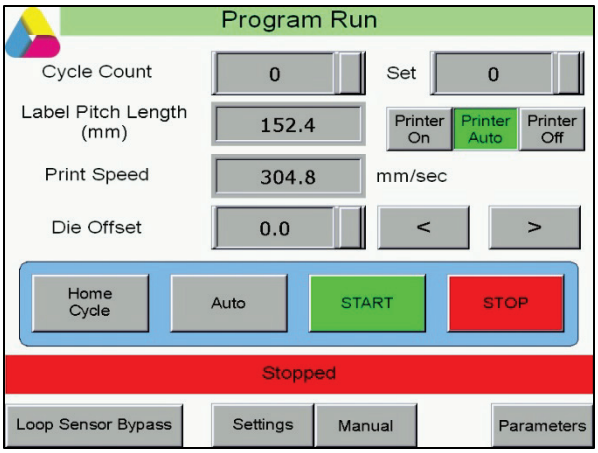
2. Press the orange button on the left ***once***. The display will flash and change to 2PntTch or something similar.

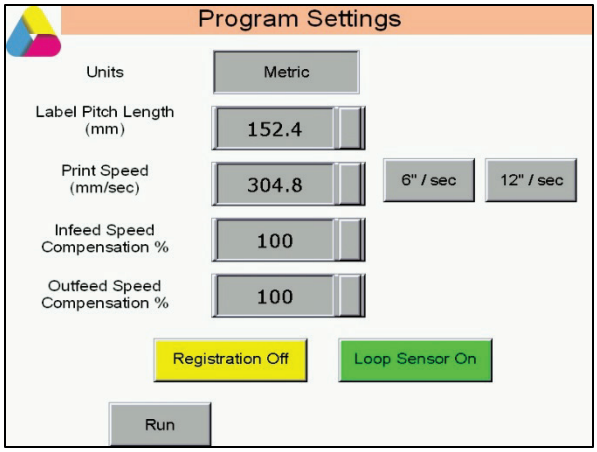
3. Manually move the media a little forward so the laser is pointing onto the media color only.
4. Press the orange button on the left once more.
5. Set the small switch from **SET** to **RUN**.
    a. Test that you have taught the sensor correctly by inching the machine slowly past the next mark. The laser indicator should flash orange when it sees the black mark. This indicates that you have taught the sensor correctly.
6. Return to the Main screen and touch the **Home cycle** button.

Cutting blank labels

Cutting blank labels requires that Registration be turned **Off**. The Printer Bypass media path should be used (see Loading media on page 15.

1. Touch the **Settings** button on the main screen.
2. The **Registration** button will show the current setting; touch the button to toggle the setting to **Off**.
3. Enter the **Label Pitch Length**.
    a. You should always have at least 0.125” (3mm) of gap between the bottom cut on one plate pass and the top of the next.
    b. If there’s more than one label vertically on the cut plate, set the length so the gap between die plate cuts is consistent with the gaps on the die plate.
4. Touch the **Run** button to return to the main screen when **Registration** is set as needed.
5. Touch the **Settings** button on the main screen.
6. The **Registration** button will show the current setting; touch the button to toggle the setting to **Off**.
7. Enter the **Label Pitch Length**.
    a. You should always have at least 0.125” (3mm) of gap between the bottom cut on one plate pass and the top of the next.





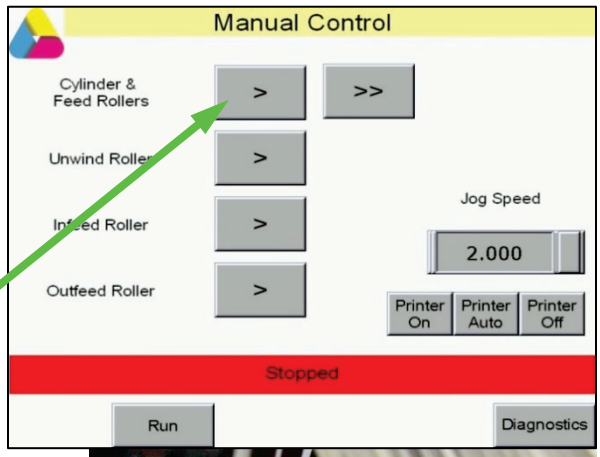
b. If there's more than one label vertically on the cut plate, set the length so the gap between die plate cuts is consistent with the gaps on the die plate.

8. Touch the **Run** button to return to the main screen when **Registration** is set as needed.

Removing Waste

Make sure your printer is stopped before removing your waste matrix. Follow the instructions below for the safe and effective waste removal on the DLP-2100

Use these instructions to remove your media waste.



1. Stop the DLP-2100.
2. Attached a cardboard core to the waste mandrel.
3. Break the waste to the right of the stripping bar.
4. Touch the **Manual** button in the main screen, then touch and hold the > button labeled ***Cylinder & Feed Rollers*** while keeping the waste taut **.**
5. Lead the waste around the idle roller and up to the core on the waste mandrel.
    a. Using the idle roller as shown will keep the waste at a constant stripping angle, regardless of the size of the waste roll.
6. Once the waste is attached to the core, touch the **Run** button to return to the main screen.
7. Touch the **Home Cycle** button if prompted.

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Loading laminate

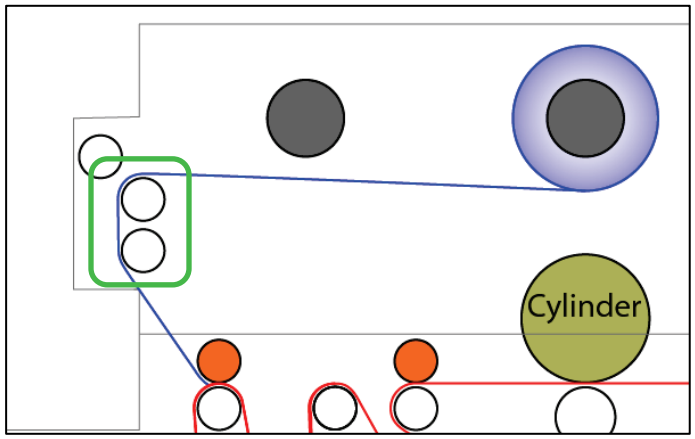
Caution: **Never** attempt to attach laminate while the machine is operating. Always keep the cutter idle until the laminate is past the Nip Rollers and you are well clear of the Nip Roller area.

The width of your laminate must be less than the width as your media roll.

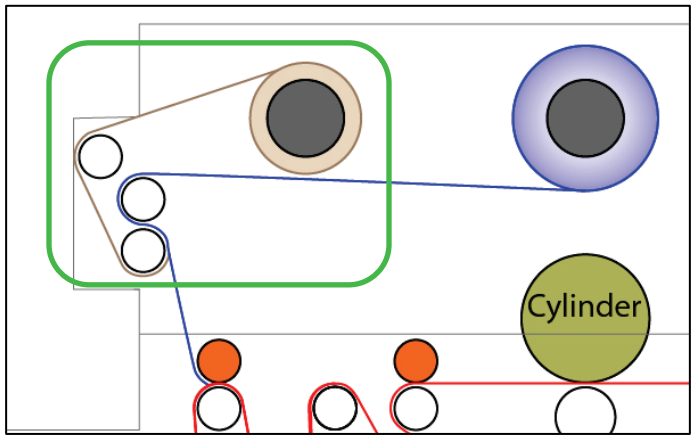
Use these instructions to load and thread lined or un-lined laminate.

1. With the machine STOPPED, attach a roll of laminate on the mandrel, centered on the media.
2. Remove the safety cover from the first nip roller.
3. Thread the laminate (blue line) until the laminate reaches the application point in front of the nip rollers.
    a. If using self-wound/non-lined laminate, follow the path in the top image below
    b. If using lined laminate, follow the path in the bottom image below, releasing the laminate backing and threading it to the laminate waste mandrel (brown line).
4. Attach the laminate neatly and squarely to your media.
5. Test run your machine as described on page 18 to verify that the laminate tracks correctly through the machine. If necessary, adjust your laminate roll, waste mandrel roll, and laminate guide collars until both your media and laminate track correctly.

Laminate Path for self-wound or unlined laminate



Laminate Path for lined laminate



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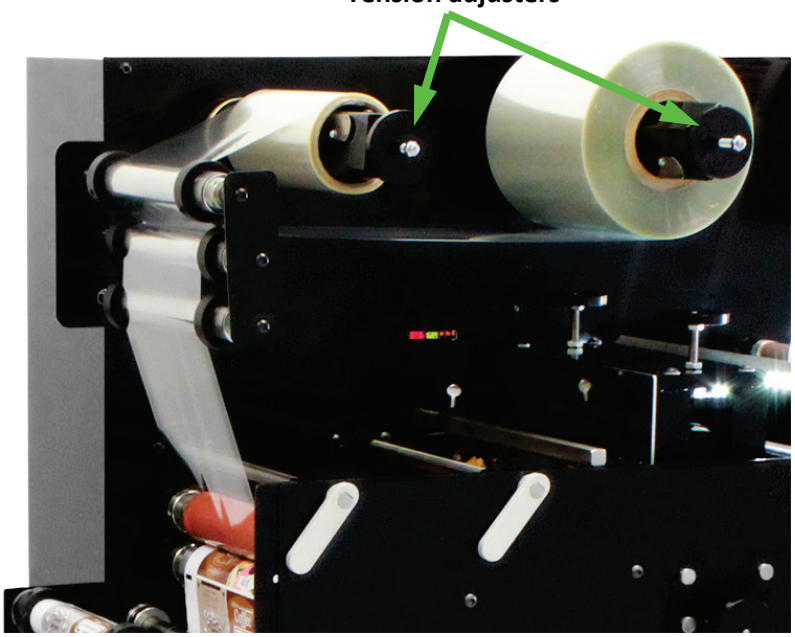
Laminate Adjustments

Tension adjustments are important when running lamination. Follow the instructions below to ensure that your laminate and media webs run in line consistently.

Tension adjusters



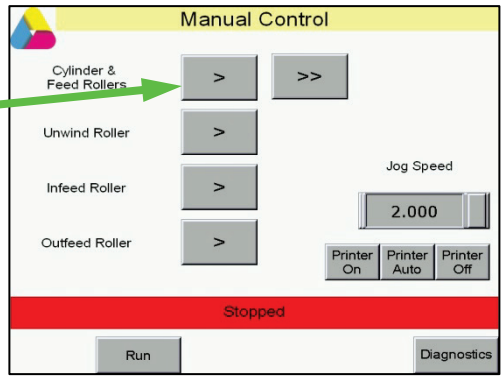
- **Clockwise: more tension, faster rotation**
- **Counter-clockwise: less tension, slower rotation**

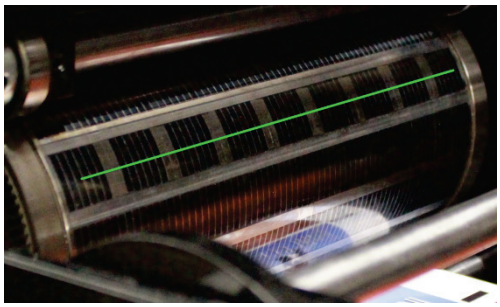
- Do not over tighten your laminate unwind clutch adjustment. Excess tension can cause the web to move and the labels to curl. There should be just enough tension to keep the laminate taut as it unwinds.
- Make sure that your laminate liner rewind has less tension than the laminate unwind. Excess tension may cause the laminate to run loose and follow the liner.
- Make sure the laminating rollers are adjusted down until they stop, using firm finger pressure
- The paper clutch must be used. It should create a firm tension on the printed media between the paper clutch and the laminating rollers. Without a good tension in this area the web may drift from side to side.
- Ensure that the paper guides are adjusted so that there is no room for the media to move from side to side. Your printed media roll should be straight and tight, to help avoid any web movement.

Attaching die plates

Use these instructions to attach a die plate to your magnetic cylinder. The DLP-2100 has adjustments for moving the label in relation to the die so that your plate does not need to be in the exact lateral position at this stage. Concentrate on getting the die plate square to the top-of-die line on the magnetic cylinder and as close as possible to the desired position across the web.

1. Touch the Manual button on the Main screen.
2. Watching the cylinder, touch and hold the > button labeled **Cylinder and Feed Rollers** until the top-of-die line on the cylinder (highlighted in green below) can be seen and is about two-thirds of the way up.





Note: The section of the cylinder with the die line will have wider vertical silver sections than the rest of the cylinder

3. Align the top of the die with the cylinder line, roughly in line with the printed media.
   a. If the die plate isn't aligned with the cylinder line, cutting will be skewed.
   b. Allow only the top edge of the die plate to contact the magnetic cylinder until the top edge and line are aligned.
4. Carefully allow more of the die plate to come in contact with the magnetic cylinder.
   a. Touch and hold the > button again to slowly rotate the cylinder, allowing more of the die plate to contact the magnetic cylinder.
5. Continue rotating the cylinder until the die plate is completely in contact with the cylinder
6. Touch **Run** to return to the Main screen and touch the **Home Cycle** button.
7. Touch the **Settings** button and set the **Label Pitch Length** and **Print Speed**.
8. Verify the **Registration** and **Loop Sensor** states are correct for your operation, then touch **Run** to return to the main screen.

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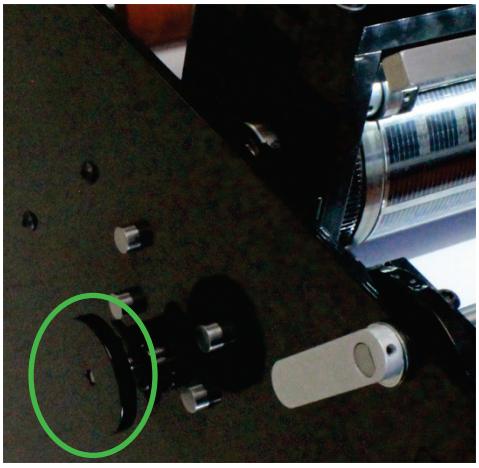
10. Run a few cuts to verify the die plate alignment.
    a. If the lateral alignment needs adjusting, try the lateral cylinder adjustment first; if there's not enough space for adjusting the cylinder position, remove and re-attach the die plate.
    b. If the die is cutting too soon or too late, use the **Die Offset** on the Main screen to adjust the position.
        i. Range: -10mm to +10mm
        ii. Increase the value to move the cut to a later position; lower the value to move to an earlier position.



11. Verify that the die plate is not skewed on the cylinder.
    a. If you see a consistent shift of position of the cuts between the bottom of one plate cut and the top of the next, the die plate is not straight on the cylinder. Remove and re-attach the die plate.
12. Once the die is aligned and the cut is positioned, you are ready to begin cutting.

Removing plates

Use these instructions to remove a cutting plate from your magnetic cylinder. The die tool is designed for removing cutting plates without damaging the surface of the magnetic plate. Never use other tools or instruments or you may damage the face of the magnetic cylinder which will cause serious damage to your DLP-2100.

1. Touch the **Manual** button on the Main screen.
2. Watching the cylinder, touch and hold the > button labeled **Cylinder and Feed Rollers** until the top of the die plate is about two-thirds of the way up.

3. Using the die tool, carefully lift one corner of the cutting plate until you are able to grasp the cutting plate.
4. Continue rotating the cylinder from the **Manual** screen while pulling the die away from the cylinder until the die is completely free.

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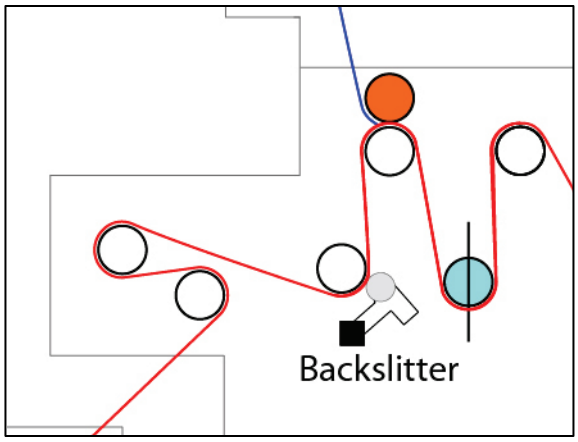
Back Slitting

The DLP-2100 comes with two rotary blade back slitters that can be used to back slit the liner prior to the media being cut by the die. The back slit liner will remain adhered to the waste material when the waste is removed.

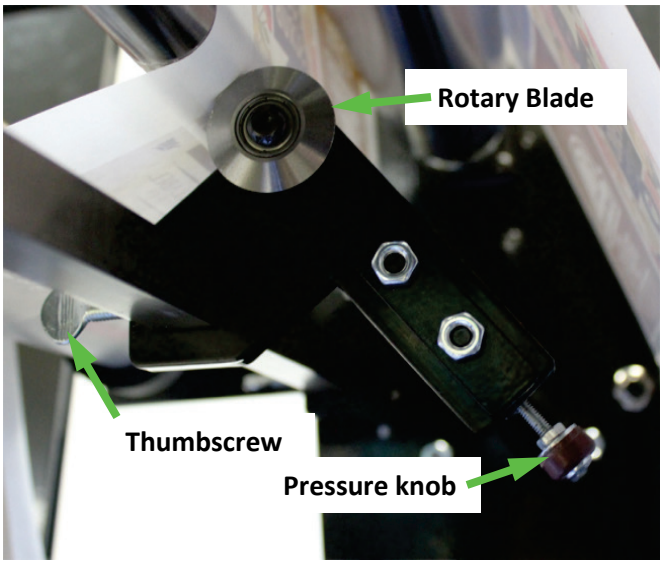


The back slitters are located on a bar just below the metal roller prior to the input nip roller.

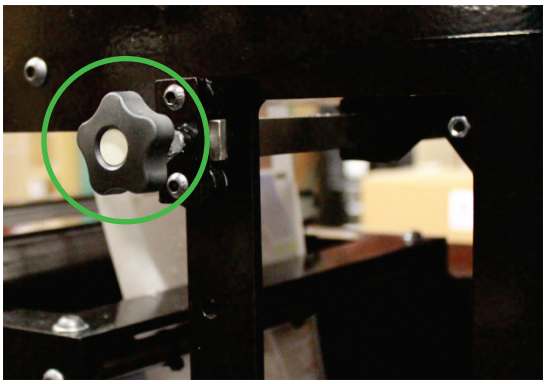
Adjusting the back slitters

Each back slitter is positioned independently, but fine position adjustments to both at the same time can also be made.

1) With the DLP-2100 ***stopped***, loosen the pressure on the rotary blade by turning the pressure knob counter clockwise.
2) Loosen the thumbscrew on the left side of the back slitter.
3) Reposition the back slitter and tighten the thumbscrew on the left side.
4) Tighten the thumbscrew on the right to increase the pressure on the rotary blade.
5) **Apply only enough pressure to the rotary blades to cut through the liner.**
6) Run the DLP-2100 to verify that the liner is being cleanly slit without slitting the media itself, adjusting pressure as needed.
   a) If the blades are cutting all the way through the media, reduce the pressure.
   b) If the liner is not being cleanly cut, increase the pressure slightly on the blades.



7) You can fine adjust the lateral position of the entire back slitter assembly using the adjustment knob on the front of the DLP-2100.
   a) This adjustment will move both back slitters at the same time without changing the distance between them.



Slitting

The DLP-2100 is fitted with shear knives for slitting.

Follow the directions below for the correct use of your slitting knives

The knives are most effective when slitting liner only, although they can be used to slit stock.

The knife should be positioned with the blade against the right side of the slitting bar.

Use the sideways adjuster to move the knives from left to right once set. A clockwise movement of the adjustment knob will move the knives away from the operator.

Remove and reverse blades if they become dull. Replacement blades are supplied.

When not in use, slide and lock the knives out of the way against the left edge of the slitter bar. Always use caution when using the knives as they are very sharp.

Always operate the machine with the safety guards on.

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Designing labels

The best way of designing labels will depend on your printer and your label design software. The following information may be helpful although it may not be relevant in all cases.

- **If possible, use the file that was sent to the die manufacturer as the template for your artwork file.** The cut lines will be positioned and sized correctly for you already, allowing easier alignment of the artwork.
    - **Do not move the cut lines!** Align the artwork to the cut lines.
- Set the page length to the die plate length as indicated.
- Set the page width to your media width, which should be wider than the die plate width to allow for a black mark that is at least 7mm wide.
- Most graphics packages use guidelines or grids that can be used to separate the artboard into sections that relate to the die to allow for better sizing and alignment.
    - The example below shows a die that is 2 across, 2 up. The blue guidelines in the artwork split the screen area into four quadrants, one for each individual label.
- For full bleed labels, create artwork that extends beyond the cut lines.
- Place your black mark, which should be at least 7mm across the web and 5mm along the web, at the top of the label, left side.
- There cannot be any artwork in a vertical line with the mark as this will interfere with registration!
    - A good practice is to always place the mark in the same position when creating new artwork. This will reduce the sensor position adjustments needed for cutting.
    - A wider registration mark will also reduce the need for sensor adjustments.
- Hide the cut lines (in black below) for the print file.

TIP: Create a page template with your software program for each die plate that you use. Include all details such as page size and black mark size and position. Once you have a template you will find label design extremely simple.

Troubleshooting

Media problems

My media is moving from side to side

- Make sure the roller collars are fitted correctly against the media,
- Check to make sure there is not too much pressure on the laminating rollers
- Use the minimum tension possible on your laminate roll
- Make sure your paper clutch is clean
- You must use the Loop roller

My media is breaking when the paper is indexing

- Your die may be cutting through the liner
- Is the media threaded correctly?
- Is there adhesive build up on the guides , rollers or anvil?
- There may be something on your anvil or under the die

My media is creasing as it enters the feed rollers

- Make sure your printer or roll of printed media is aligned correctly with the roller collars
- Lighten the tension on the unwind mandrel clutch.

My label waste matrix keeps breaking

- You may be using too much tension on the waste rewind clutch
- Are your labels cutting correctly?
- Is there too large a gap between your labels?
- Do you have at least 5mm of waste on each side of the media?
- Make sure your stripping bar is clean
- If you are using an irregular shape, you may need to remove the waste at a different angle or position or possibly change the orientation of your cutting die to make stripping easier.

My cores are slipping on the mandrel.

- Do not use cores with a wall thickness less than 3mm

My machine will not start when I press the start button

- Is your Loop sensor turned on but not seeing media?
- Has your pre-determined count been reached?
- Try pressing the Emergency Stop and resetting the machine
- Try turning the machine off and restarting the machine

My slitting waste keeps going into my label roll or nip roller

- Try running the waste up into the label area of the waste matrix
- Use the slitting waste aids to encourage the waste to fall to the floor.
- Attach some thin copper wire to one of the steel shafts and drape the wire over the labels, to reduce static

My lamination is bubbling or creasing as it is applied

- You may have too little tension on your laminate roll
- The laminating nip roller pressure may be set too lightly
- Make sure the top and bottom laminating pinch rollers are clean and free of dirt and adhesive

My media is jumping out of the paper guides at the infeed

- Your guides may have an adhesive build up on the inside
- Verify the media is webbed through the media path correctly
- Verify you are using the Loop roller
- Your guides may be set too tightly against the media
- Is your media a slit roll? It may be an end roll with varying roll width.

My labels keep wrapping around the nip roller

- You may have an adhesive build up, or part of a label on your nip roller
- Your labels may be lifting slightly and sticking to the nip roller as they pass through
- Your labels may have a heavy coating weight of adhesive, which may be bleeding from the edges of the label, causing them to stick to the roller

Registration problems

I have changed my media and now the sensor is not reading the mark

- You may need to re-teach your sensor as outlined on page 18.
- Is your sensor mark in line with the sensor?

I have added laminate and the sensor is not reading the mark correctly

- If your laminate now covers the sensor mark, you may have to re-teach your sensor

I am using a colored media and the sensor is reading both the mark and the media

- You will have to re-teach your sensor.

My register is moving in and out

- Slow your machine down, or lengthen your electronic black mark setting
- Your printer's label pitch may be moving.
- Re-teach your sensor (page 18)
- Is your machine set to Blank label mode? See page 19.

The machine is timing out before it reaches the mark

- Your front drive nip roller may not be pressed firmly enough against the paper.
- Increase the pressure of the front nip roller you are using to drive the paper through to rectify this problem.

Cutting problems

Some of my labels between the marks are cut and some are not

- You may need to increase your die stroke as it may not be long enough to cut the whole die

My die cuts everywhere except one area on one side

- There could be something stuck to the bearings of the magnetic cylinder or the ends of the anvil preventing cutting in that area. Always inspect the anvil and cylinder to make sure they are clean.

My die has gone blunt (or is slightly damaged) in one small spot

- You can underlay the die plate with a very thin material, like a 15 micron BOPP or similar, but the easiest and most permanent way is to find the low spot and paint a small amount of nail polish underneath it. Only a small amount will be required. It must be dry before re-attaching the die.

My die is cutting through.

- You will need to order your dies for a particular material, and importantly, for the thickness and type of liner. If you use it on a thicker material than it was made for, it may cut through.

My die is new and will not cut properly.

- Remove the die and test another die that you know works on the media you are using. If there is no problem with the other die, check the instructions you have given the die maker for the new die.
- If all is in order, do not attempt to make the die work by underlaying or any other method. A new die should cut perfectly and you should contact your supplier and request a replacement immediately.

My die cuts along the web, but not across the web.

- Are you cutting the specified material for which the die was ordered.
- How old is the die? If it has been cutting polyester or another abrasive material, it may simply be blunt.
- The across the web cuts work a lot harder than the along the web cuts, so they are generally the first to wear.
- Double check that you have enough pressure on the die adjusters as well, as the cross cuts require more pressure to cut through the face stock than the along the web cuts.
- Do not use excessive force when tightening the die adjusters. You may damage the bearings or drive motor.

My die cuts through intermittently, about ever 6-7"

- You need to check your anvil, as most likely there is something stuck to it.

Electrical problems

My machine will not start at all and there is no display on the screen

- Is your machine plugged in?
- Is your machine switched on?
- Is there power to the wall socket?
- If so, check the fuse inside the power supply where the plug goes into the machine.

My display screen is on, but the machine won't start

- Check the Main screen for a message that the Home Cycle needs to be run
- Does the Loop sensor "see" any paper
- Has the pre-determined counter reached its setting?
- Is the Emergency Stop depressed?
- Verify you are either connected to a 220V power source or to the internal power converter.

My machine stopped suddenly

- Check that the unwind is working and feeding paper to the loop sensor properly
- Check the label count in case it has reached its target setting
- If the display reads "Time Out", you have missed a mark and will have to restart the machine
- If the paper feed motor is under undue stress for a period of time, the machine can shut down as a safety thermal overload is activated.
- Shut the machine down and wait a couple of minutes, then re-start.

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Maintenance

Maintenance Schedules

The following are recommended maintenance schedules to ensure the continued trouble free running and operation of your DLP-2100 machine. Following these schedules is strongly advised as they will ensure your machines longevity.

Daily

- Each morning, clean the anvil and also the end bearers of the magnetic cylinder thoroughly and apply a thin layer of spray lubricant with a cloth to all of these areas.
- Apply a few drops of oil to the gears of the magnetic cylinder and the carriage rails.
- Using the Feed button, inch the machine over and clean the entry and exit nip rollers. Do not wipe these rollers while the machine in in motion.
- Clean any adhesive residue from the paper infeed rollers, paper guides and anywhere else it may have built up along the web paths.
- Check that the mark and look sensors are connected and operating correctly.

Weekly

- Apply a drop of oil to each of the clutch adjustment know threads.
- Apply a drop of oil to the thread of the paper carriage adjustment knob.
- Apply a drop of oil to each of the brass roller carriage ends.
- Apply a drop of oil to the thread of the slitter adjustment if applicable.
- Gently clean any paper / glue residue from the paper infeed clutch pads with a dry cloth.

Monthly

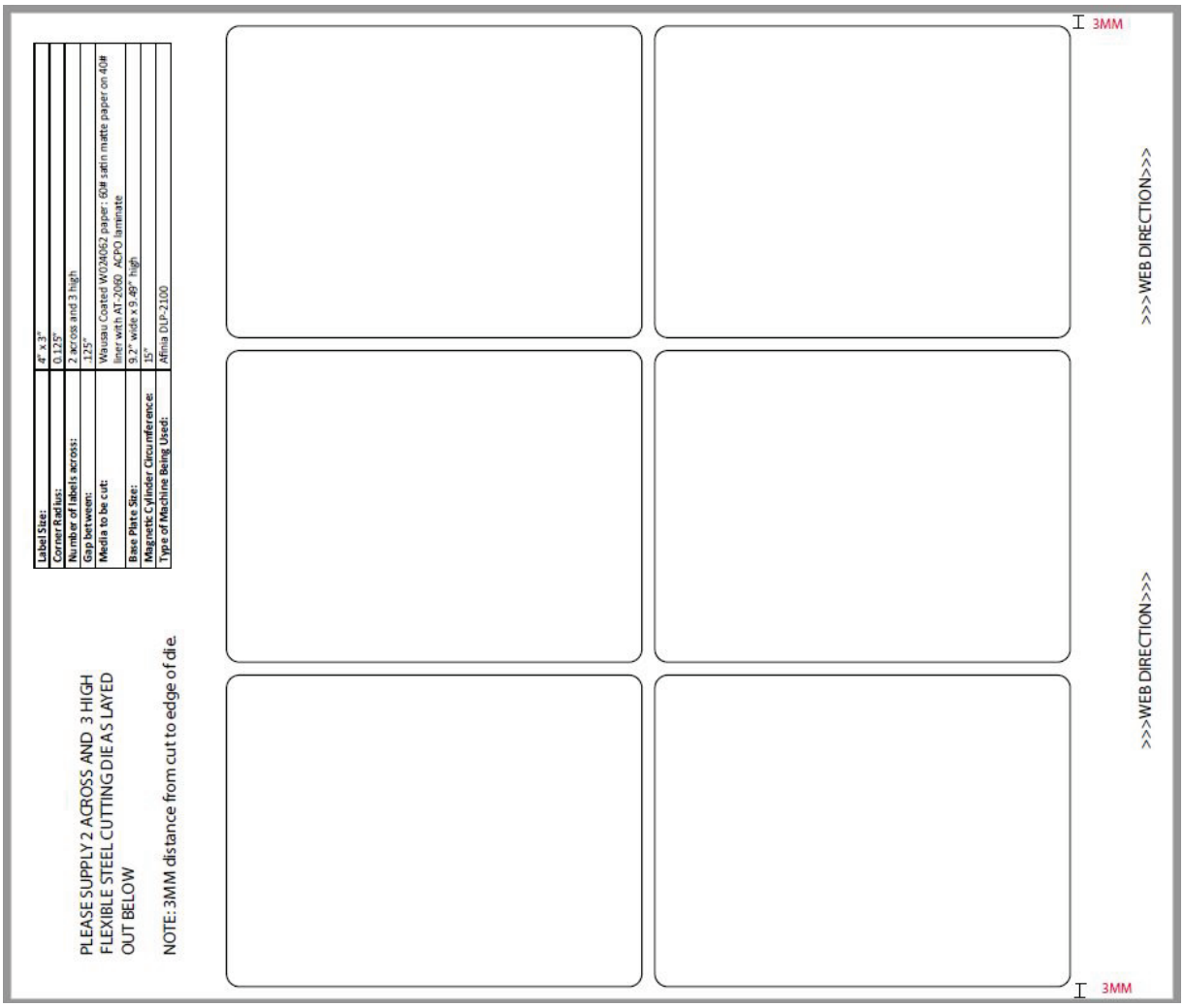
- Carry out a visual inspection of the entire machine to check for any parts that may have been tampered with, loosened or adjusted improperly and rectify these.
- Use a mild cleaning detergent; clean the entire body of the DLP-2100.
- Report any damaged or work parts for replacement.

Buying Die Plates

What and how to order

Important: The following information should be used as a guide only. Please consult your die maker for their specific requirements.

Below is an example of the information that will be required by your die maker when ordering a die. The example is of a 3 high by 2 across 4" x 3" rectangle, 0.125" corner radius, 0.125" gap, 3mm distance between cuts and top and bottom edges. It is advisable to supply a sample of the material to be used with your order if you do not have specifics on the label material.



You will see from this example that the following are required when ordering a die:

- Label size
- Number across and around
- Gaps between labels across and around
- Corner radius
- Specifics of the media to be cut or supply a sample
- Detailed layout you require
- Base plate size you require
- Web direction
- Magnetic cylinder circumference (15")
- Type of machine being used (DLP-2100)

Magnetic Cylinder Information

AFINIA LABEL

Magnetic Cylinder
Certificate of Conformity

The enclosed item(s) conform to the following specifications within standard tolerances.
(Metric Units)

DLP2100

Customer: Microboards Technology, LLC

Customer Number: 12571

PO:

Order Placed By:

Sales Order Number:

Salesperson:

Serial Number: DLP P1801

Product: Magnetic Cylinder

Press Type: 9.5 SPECIAL

Number of teeth on Gear: 120

PPA: 1/8" CP 20°

Roll Repeat: 381mm (15")

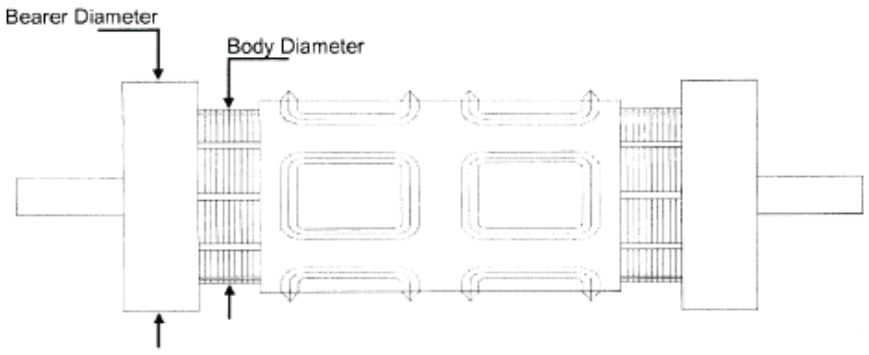
Measured Bearer Diameter: 121.330

Measured Body Diameter: 120.365

Lift Bolts: N

Final Diff:

Bearer Diameter - Body Diameter = Diff



Mirror-finish tight-tolerance magnetic cylinder:
Difference of body and bearer diameters held to +.0000/-.0001"(2.5 microns).

Date: OCT 2016

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