AFINIA L301
LABEL PRINTER

USER MANUAL

Version 1.0.1

Afinia Label

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Edition

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FCC

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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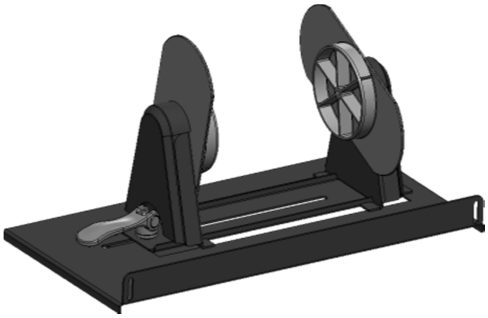
Chapter 1

Setting up the Printer

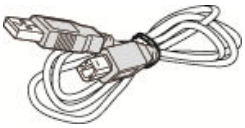
In the Box

Afinia L301 Label Printer

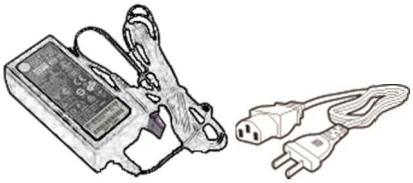


Standard Unwinder
(includes 2 thumbscrews)

Installation Disc



USB Cable

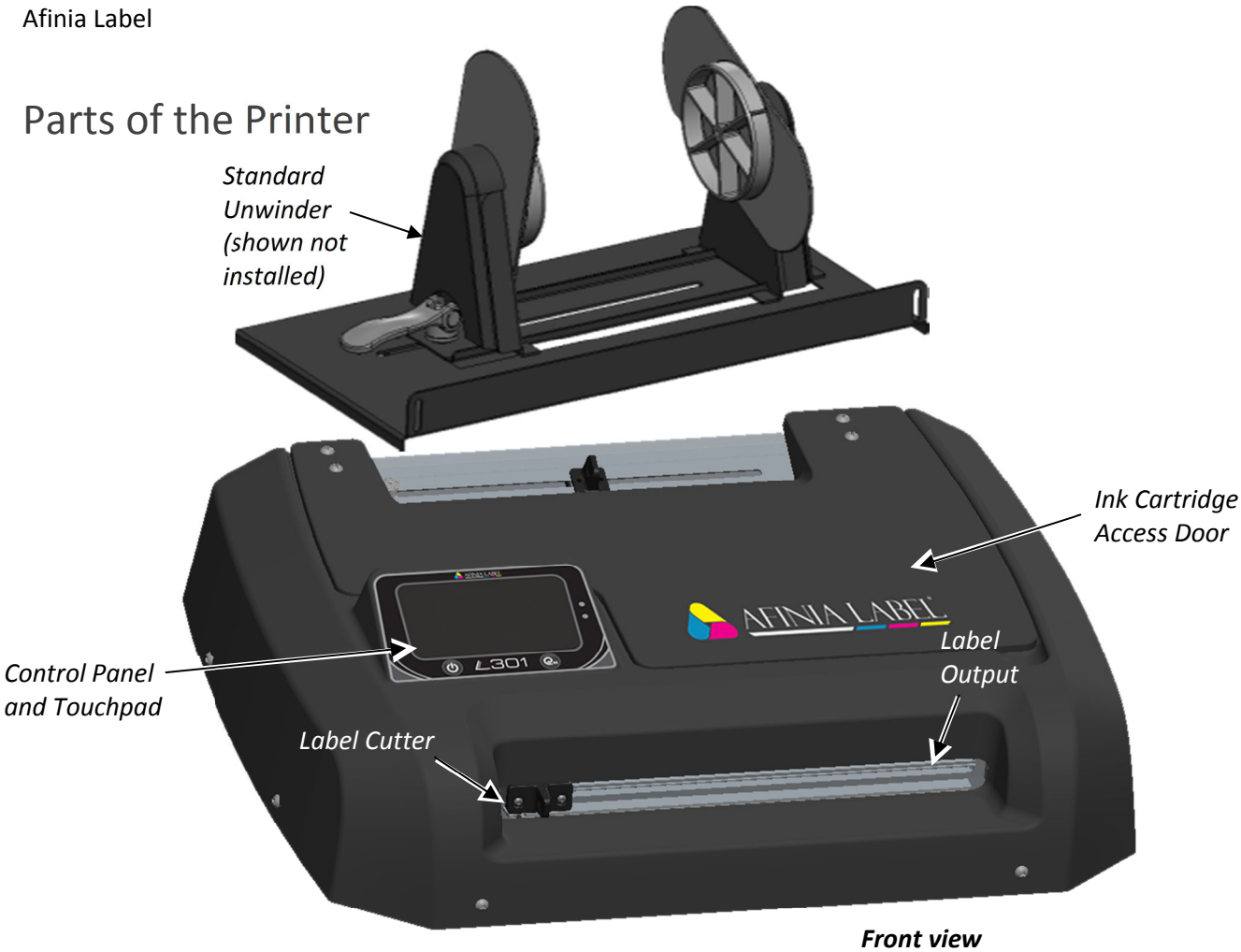


Power Supply and Cord

Ink Cartridges
(Tricolor 26548,
Black 26562)

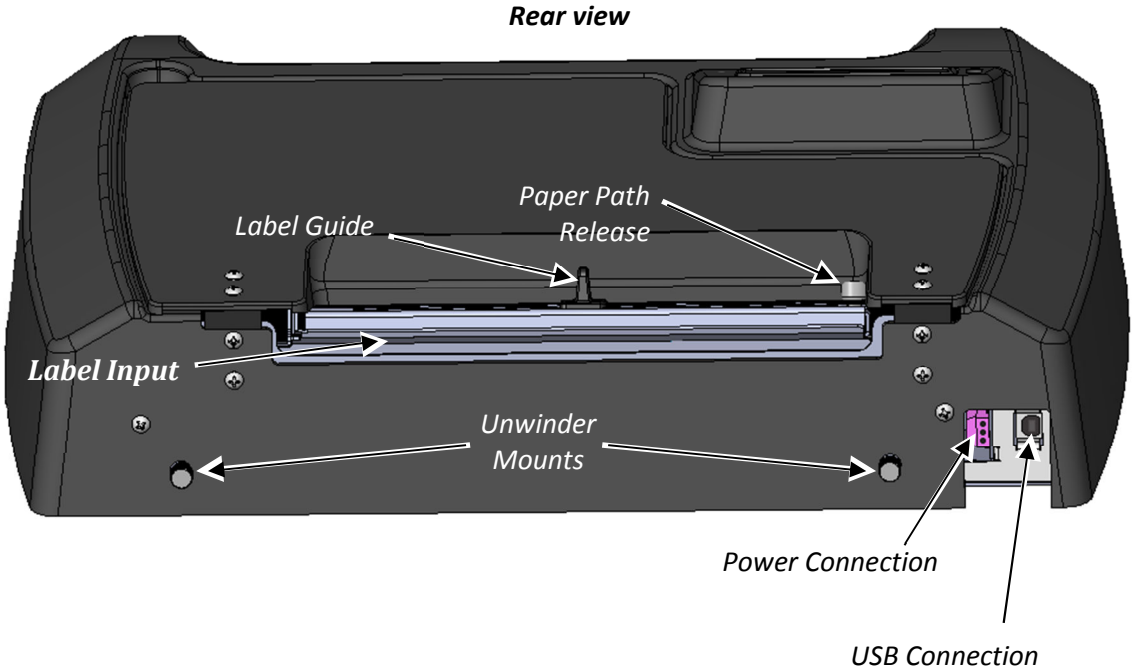
Quick Setup Guide

Parts of the Printer



Front view

Rear view



The Control Panel

The control panel includes the Power button, the Unload Media button, the two Status LEDs, and the Touch Panel including various controls and functions. For example:

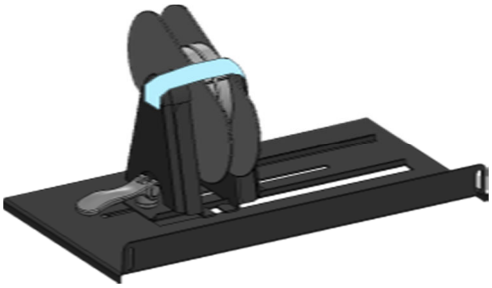
- Press **Help** on the Touch Panel.
- Press **Printer Information** to view the printer name, model, serial number, and firmware version.

- Press to go back one level, or
- Press to return to the Home screen.
- Full list of touchpad functions on page 15

Unpacking, Setup, and Installation

Remove Tape and Foam

- Lift Printer and foam endcaps from the box
- Remove the foam endcaps from the printer and unwinder
- Remove the packaging tape from the printer cover (x2), label guide (rear), and cutter (front)
- Remove the packaging tape from the unwinder

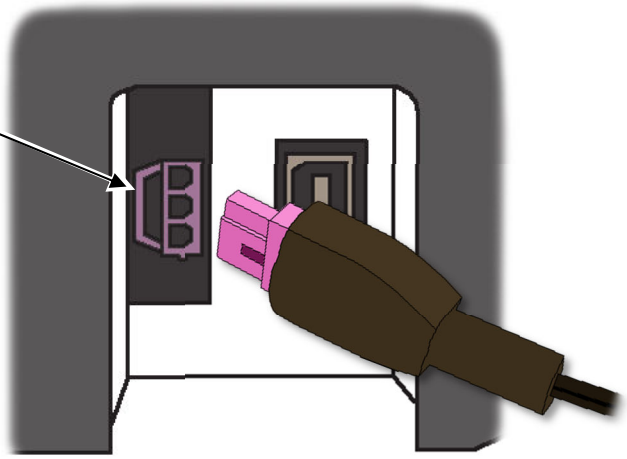


Connect Power

Rear of Printer, right side

Connect the Power Supply to the Printer

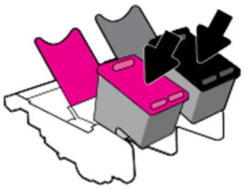
Press Power button on Control Panel



Install Ink Cartridges

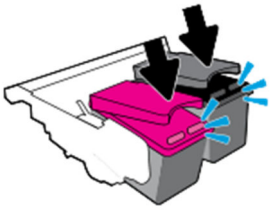
- Open the Ink Cartridge Access Door
    - Carriage will move left to expose both cartridges

- Remove plastic tape from cartridges using pull tab
- Lift the two cartridge latches after the carriage moves to the left



- Insert the two cartridges into the carriage
    - Tricolor: **#26548**
    - Black: **#26562**
    - Must be Afinia ink cartridges!

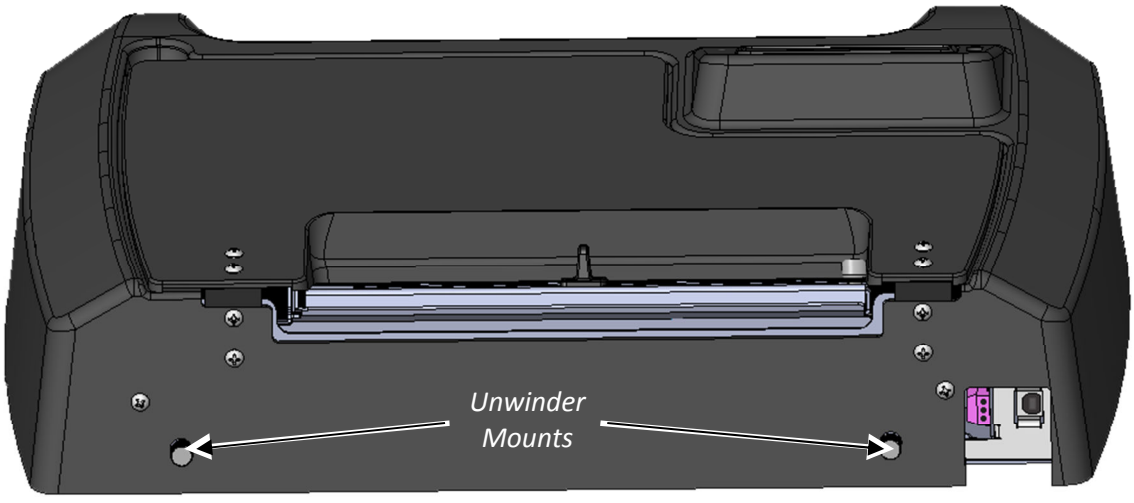
Lower the cartridge latches until they click



- Close the Ink Cartridge Access Door

Install Standard Unwinder

Connect the Standard Unwinder to the mounts on the rear of the printer using the two supplied thumbscrews.



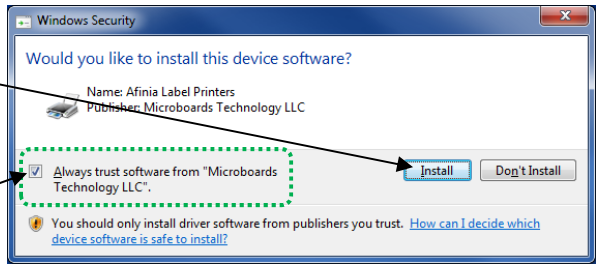
Install Printer Driver

Run **Setup.exe** from the included software CD to install the drivers and the Toolbox.

This should be done before connecting the printer to a PC.

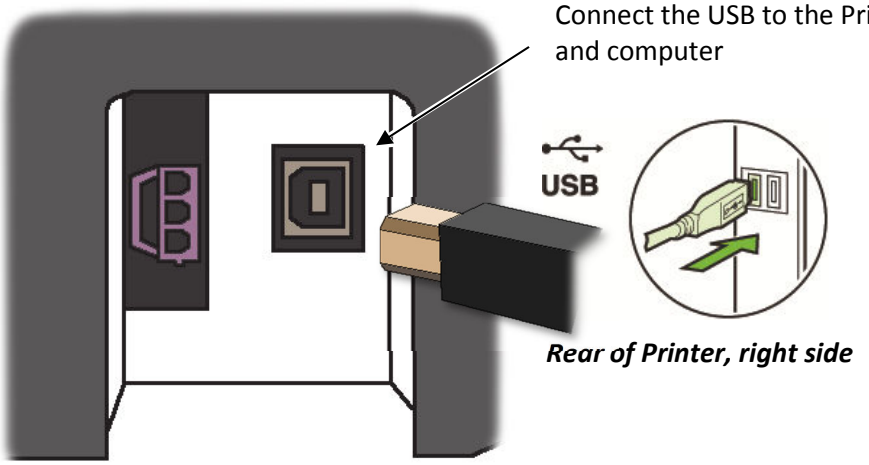
During installation, three windows may appear asking for confirmation before installing drivers. Click **Install** on each.

You can avoid the last two windows by checking the option to **Always trust software from Microboards Technology LLC** in the first window.



Connect USB

Install the Print Drivers and Toolbox *BEFORE* connecting to the computer



Chapter 2

Using the Printer

Choosing Label Media

Ensure that the label media meets the requirements for the printer:

Table 1: Media Specifications

Media Type and Dimensions		
Media type		***Inkjet-printable coating required*** Gloss, semi-gloss, and matte
Label width		Standard Unwinder: 2.0” to 6” (50.8mm to 152.4mm) Powered Unwinder*****: 2.0” to 8.5” (50.8mm to 215.9mm)
Label length		Minimum 2” (50.8mm) Maximum 48” (1.016 m)
Label thickness		Maximum 0.01” (0.3 mm, including liner) Minimum 0.005” (0.13 mm)
Media Handling		
Print mode		Roll to cut (manual cutter) Roll to roll
Roll Specifications		
Figure 1	**Minimum**	**Maximum**
I	Requires 3.0” (76.0 mm) cardboard core	
J	N/A	Standard Unwinder: Maximum 6” (152.4 mm) Powered Unwinder: See your unwinder specs

***** Powered unwinder is an optional feature and is not included in the Standard package

Figure 1: Media Roll

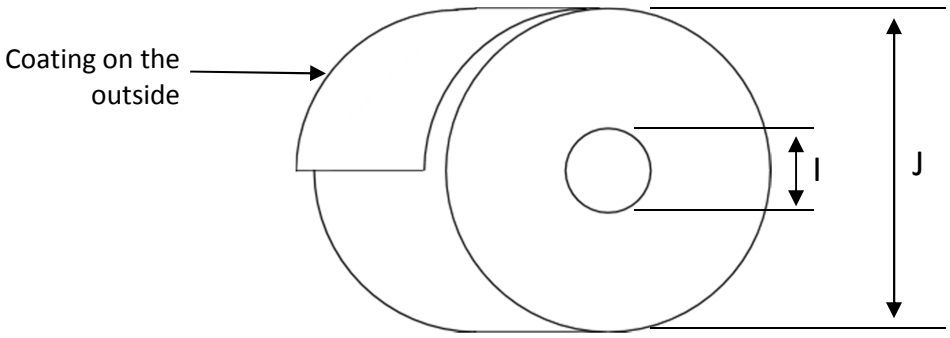
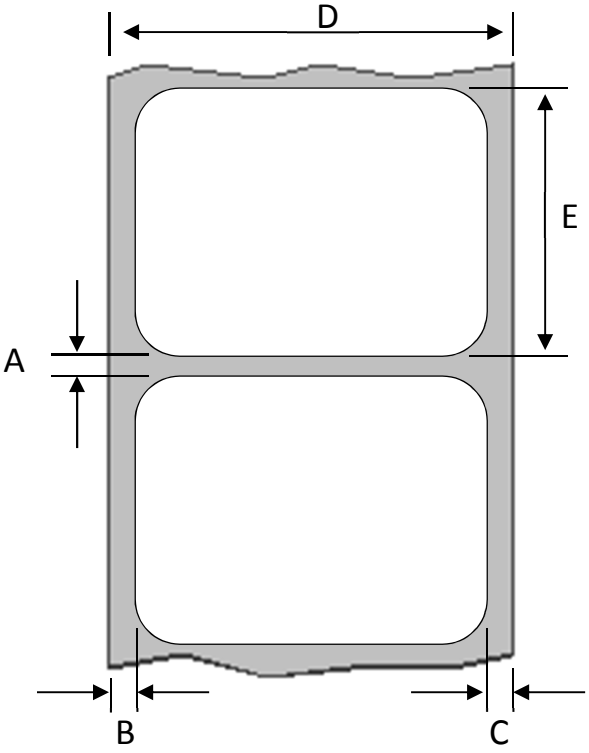


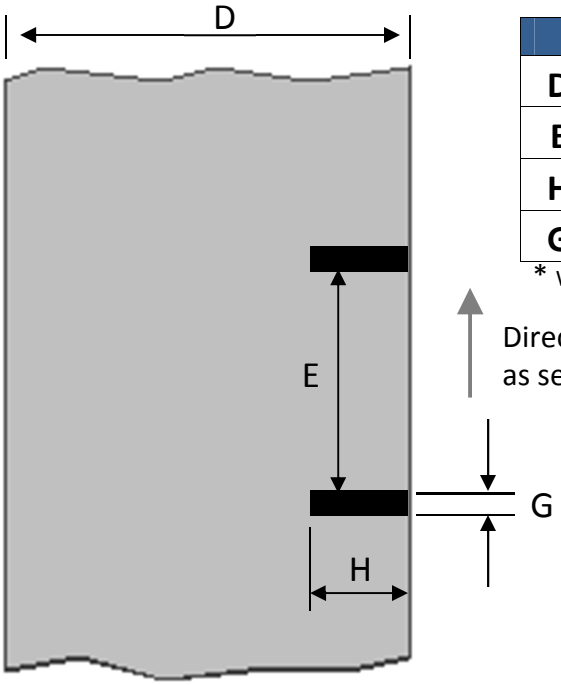
Figure 2: Gap (Transmissive) Media



	Minimum	Maximum
A	0.125” (3.0 mm)	0.3” (8.0 mm)
B	0.0	0.5” (12.7 mm)
C	0.0	N/A
D	2.0” (50.8 mm)	6” (152.4 mm)*
E	2.0” (50.8 mm)	48.0” (1.219 m)

* With a powered unwinder, maximum is 8.5” (216mm)

Figure 3: Black Mark (Reflective) Media



	Minimum	Maximum
D	2.0” (50.8 mm)	6” (152.4 mm)*
E	2.0” (50.8 mm)	48.0” (1.219 m)
H	1.25” (31.75 mm)	8.5” (216.0 mm)
G	0.125” (3 mm)	0.3” (8.0 mm)

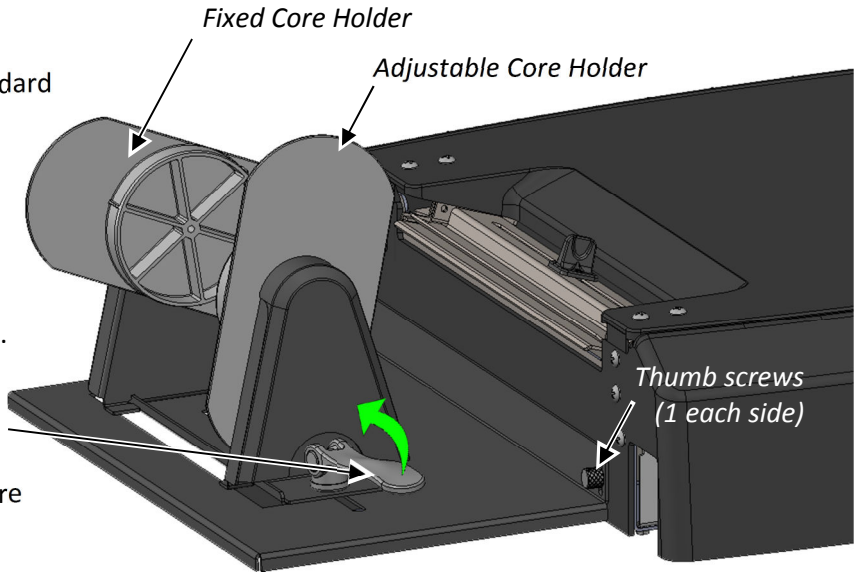
* With a powered unwinder, maximum is 8.5” (216mm)

Using the Unwinder

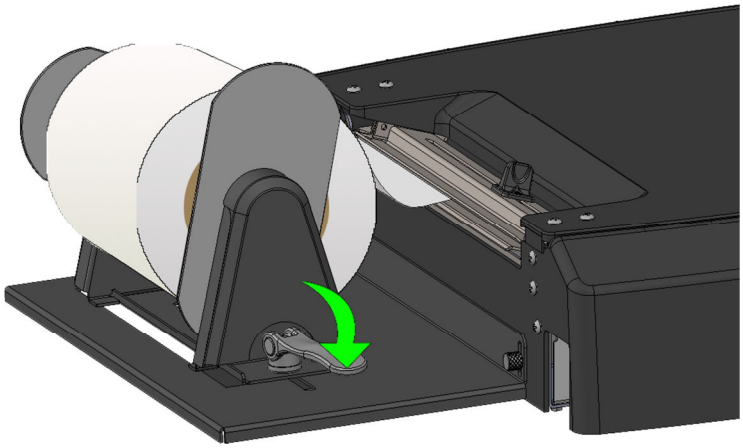
Use the Standard Unwinder (included with L301 Label Printer) for rolls of stock that are 6” or less in outer diameter.

For rolls with an outer diameter greater than 6”, you will need to use a powered unwinder (not included).

1. Connect Standard Unwinder to back of the L301 Label Printer using the two supplied thumbscrews.
2. Lift lever to release adjustable core holder.



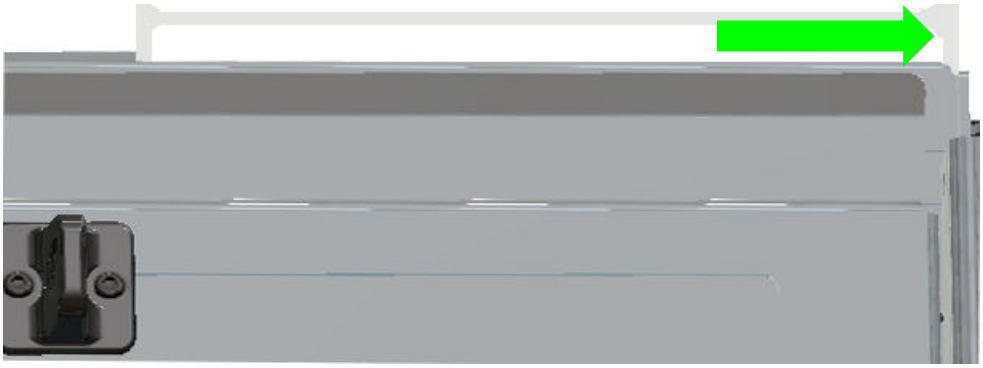
3. Slide adjustable core holder away from fixed holder.
4. Place roll onto fixed core holder with end of stock over the top towards the printer, stock tight against holder plate.
5. Slide adjustable core holder so core fits on holder and stock is tight against holder plate.
6. Press lever down to secure adjustable core holder.



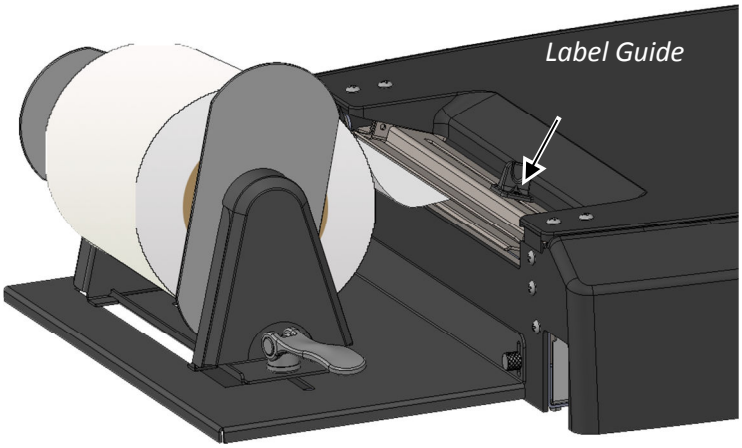
Loading Media

The printer can only be loaded when the green LED is slowly blinking and the red LED is off.

1. Cut a clean leading edge on media being loaded
    a. No partially peeled labels
    b. No folded edges
2. Slide label guide away from fixed core holder
3. With printer on, feed the stock into input slot
    a. Stock should be as far towards the fixed core holder side as possible



4. Once stock is in a few inches, printer will advance the stock
5. When stock starts loading, adjust label guide so it is against edge of stock.



Unloading Media

Cut off printed labels before unloading media.

Press the **Unload** button to roll media back to the rear of the printer.

Using the Control Panel

Home Screen

Help

Go to **Help** screen

Setup

Go to **Setup** screen

Check **ink Levels**

Help Screen

Printer Information: Displays Printer Name, Product Number, Serial Number, Service ID, and Firmware Version

Go to **Home** screen

Setup Screen

Touch **Tools** to show options

Clean Cartridges: Cleans cartridges

Print Quality Report: Prints a page to show if cartridges need cleaning or replacing. Requires 4” or wider labels

Go to **Home** screen

Check Ink Levels

Displays estimated ink levels for Tri-color Cartridge (left) and Black Cartridge (right)

OK

Go to **Home** screen

Go to **Help** screen

Printing Labels

The printer is ready to print when the Green status LED is solidly lit and the Red status LED is off.

If the red LED is *flashing*, move the cutter all the way right, then back left.

If the red LED is *on*, move the cutter all the way to the left.

1. Select the **Print** command from your application.
2. Select the L301 printer and click the **Setup**, **Properties** or similar button.
3. The print settings displayed are the defaults that were set in the printer driver.
4. Change the print settings if needed.

NOTE: Ensure the media settings (e.g. label size, type) match the media loaded in the printer.

5. Print the document.

Any changes to the settings only apply to the current print job. Make the changes in the printer driver to set the default for all print jobs.

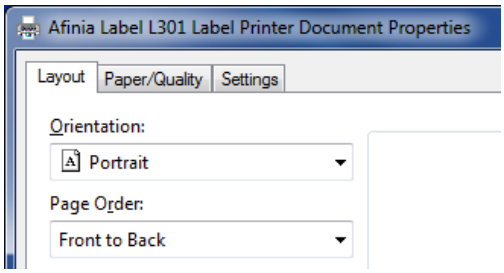
Printer Preferences

There are three main tabs in the Printer Preferences

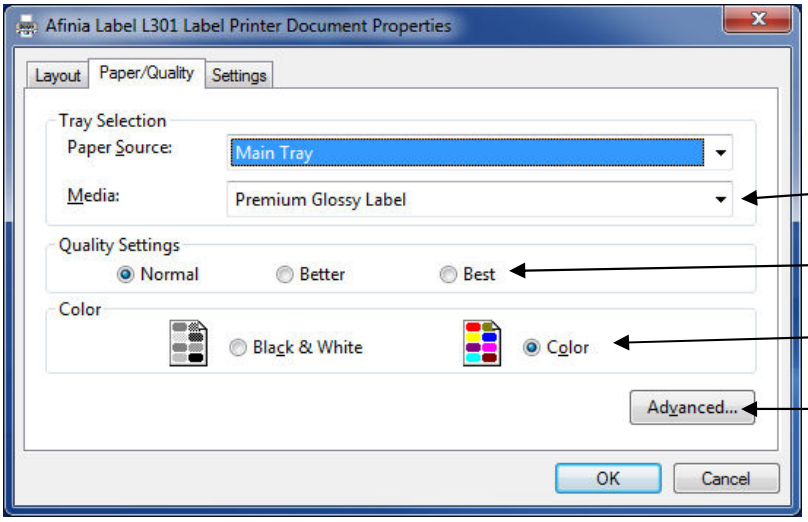
Layout

Select **Orientation** as **Portrait** or **Landscape**.

For multi-page documents, print order can be selected using **Page Order**.



Paper/Quality



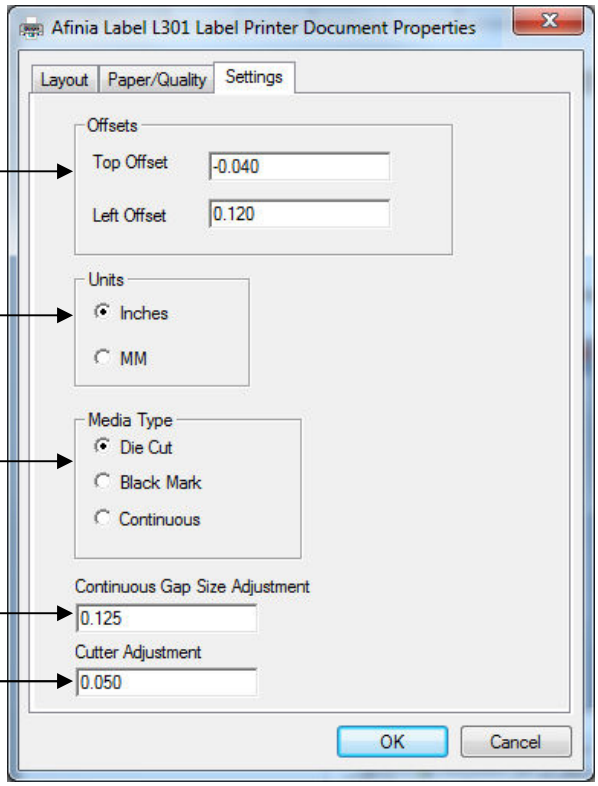
Select **Media** type

Select **Quality**

Select **Black & White** or **Color**

Select **Media** size (see page 17)

Settings



Set **Top** and **Left** print offsets (see below)

Select **Units** of measurement
- Inches
- Millimeters

Select **Media Type**
- Die Cut
- Black Mark
- Continuous

Set **Continuous Gap Size Adjustment**
Adds space between continuous labels

Set **Cutter Adjustment**
Shifts cutting stop position up or down
Increase offset to move stop position down, decrease offset to move stop position up

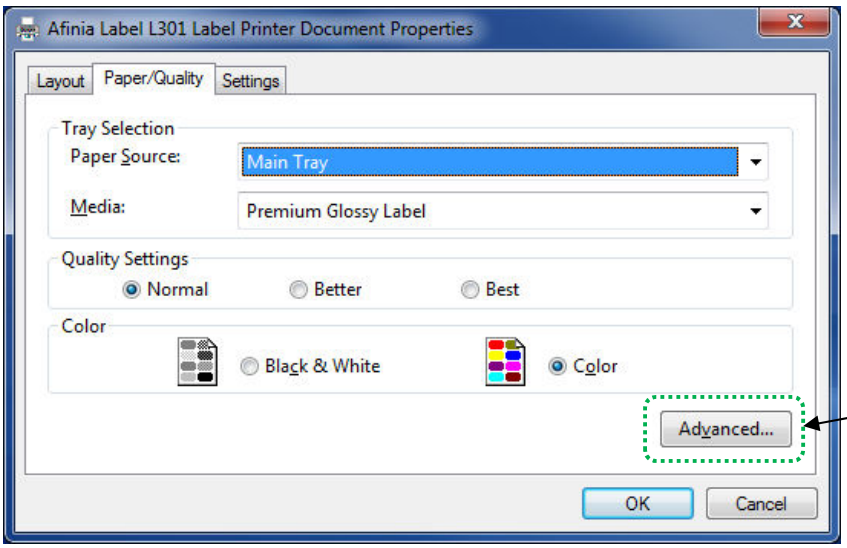
Adjusting Alignment for Printing

Top Offset:
Increase to move image down
Decrease to move image up

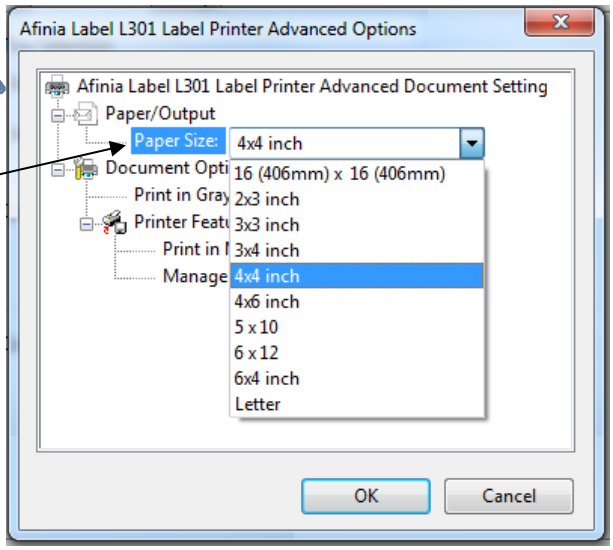
Left Offset:
Increase to move image right
Decrease to move image left

Selecting Media Size

Change the Media Size by going into the Printer Preferences.



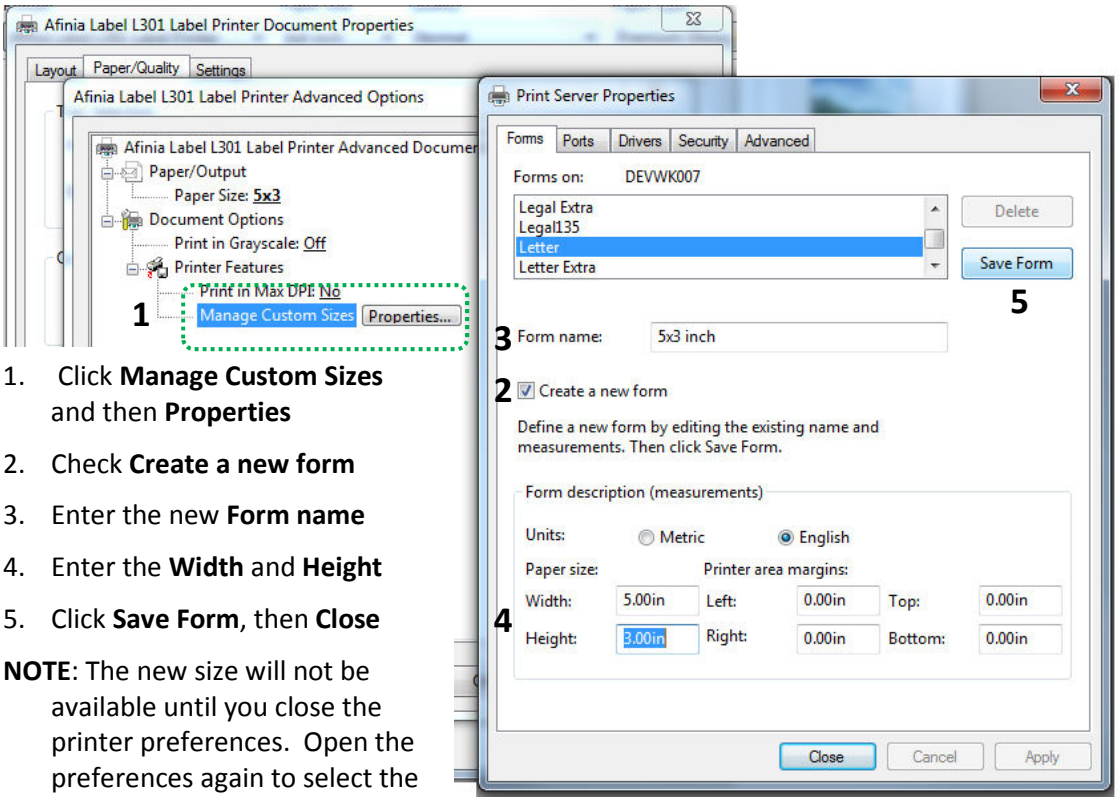
1. Click **Advanced** on the ***Layout*** or ***Paper/Quality*** tab



2. Select the correct entry from the **Paper Size** list and click **OK**

Creating Custom Media Sizes

From Advanced Options:

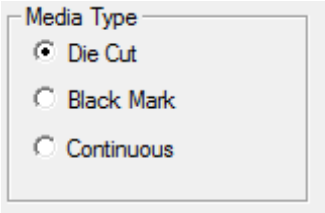


1. Click **Manage Custom Sizes** and then **Properties**
2. Check **Create a new form**
3. Enter the new **Form name**
4. Enter the **Width** and **Height**
5. Click **Save Form**, then **Close**

NOTE: The new size will not be available until you close the printer preferences. Open the preferences again to select the new size.

Selecting Media Type

Select the type of media accordingly from the **Settings** Printer Preferences tab.



Change Default Settings in Printer Driver

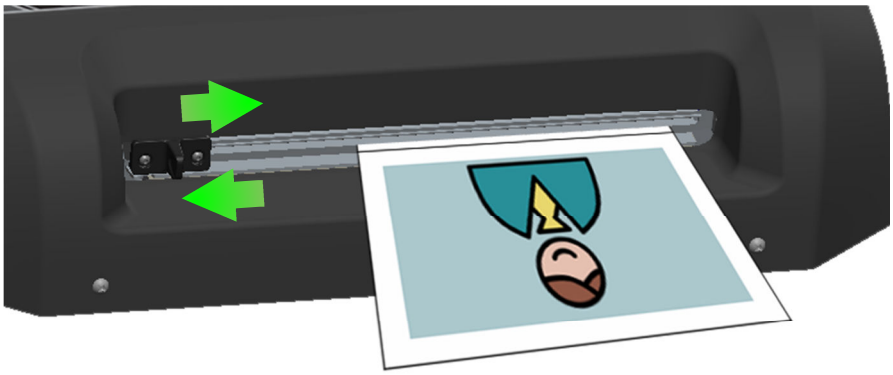
Make changes in the printer driver to set the default for all print jobs.

To select the default print settings that will be used for all print jobs:

1. From the Windows **Start** menu, select **Devices and Printers**.
2. Right-click the printer and select **Printing Preferences**.
3. The printing preferences contain three tabs as shown on page 17.
4. Make the changes and click **OK** to save.

It is recommended that any adjustments needed for individual print jobs be made during printing rather than changing the defaults.

Using the Manual Cutter



When the print job is complete and the labels have stopped moving, slide the cutter all the way right, then back to the left.

Tip: Change the **Cutter Adjustment** in the Printer Properties to move the cutting position up or down.

The cutter must be all the way to the left side for labels to print.

The red LED will be on if the cutter is out of position.

Canceling a Print

1. Display reads “Printing…”
2. Press cancel (**X**)
3. Display reads “Canceling…”
4. Wait for labels to eject and stop

Out of Paper

The display will give an out of paper message if a print job is sent without media loaded.

It will also be displayed at the end of roll and if the wrong media is loaded after media is unloaded.

1. Insert media into input until it reaches the white load rollers
2. Touch **OK** to load media to print zone. Print will begin.

To cancel the job, touch **Cancel** instead of **OK**.

Wrong Media

If the media loaded in the printer does not match the Media Type selected in the Preferences, the printer may not print. Media mismatches that will result in an error state are:

- **Continuous** loaded, **Die Cut** or **Black Mark** selected
- **Die Cut** loaded, **Black Mark** selected
- **Black Mark** loaded, **Die Cut** selected

The green LED will be blinking fast; the red LED will be blinking slowly. Media may feed through the printer past the cutter before the error state occurs.

1. Cut required
    a. Move manual cutter all the way right, then back left to home position
2. Media will unload after cutting
3. Display will show Out of Paper message
    a. Use Out of Paper recovery steps from above

End of Roll

If the media runs out during printing, print will stop and the printer will enter an error state.

The green LED will be slowly blinking; the red LED will be blinking.

1. Cut required
    a. Move manual cutter all the way right, then back left to home position
2. Media will unload after cutting
3. Display will show Out of Paper message
    a. Use Out of Paper recovery steps from above

Shutting Down the Printer

To avoid damaging the printer or cartridges, always use the Control Panel power button to shut the printer down.

1. Press
2. Press **Shut Down**
3. To cancel, press

- or -

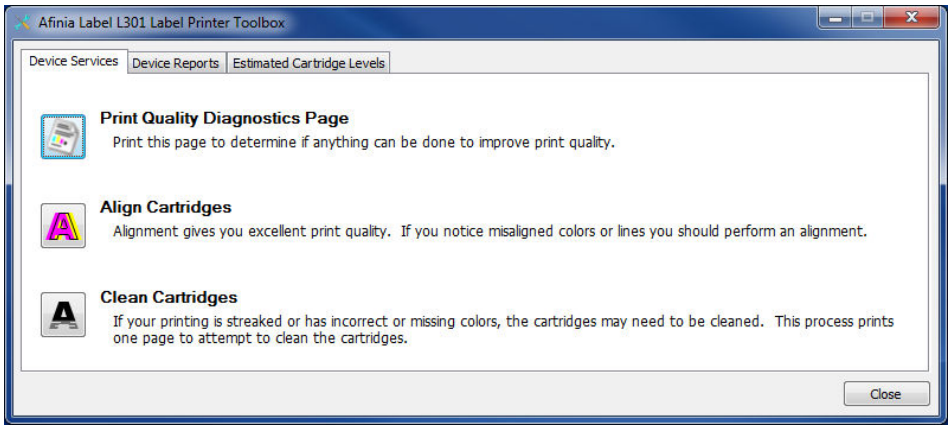
1. Press and HOLD for 5 seconds

Software Tools

Afinia Toolbox

Open the Afinia Toolbox using the desktop icon for printer utilities on the three application tabs.

Several of the utilities require label stock at least 4” wide, preferably continuous stock. If media is not loaded before sending the prints, an Out of Paper state will result (see page 21).



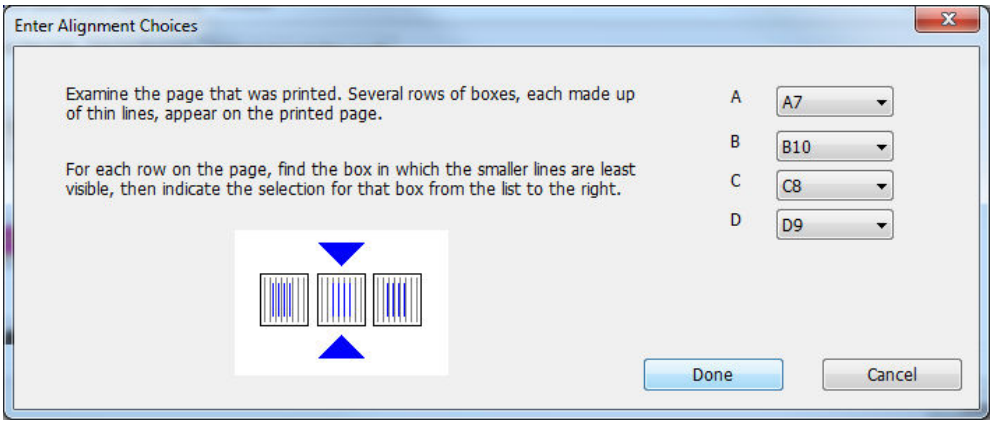
Device Services: Print Quality Diagnostics Page (requires stock)

This will print a small pattern to determine the general pen health and if the cartridges need aligning.

Device Services: Align Cartridges (requires stock)

Press this button to align the cartridges.

Four lettered rows of alignment grid patterns will be printed then the alignment window will be displayed.



Enter the pattern number that shows the best alignment for each of the four lettered grids.

Click **Done** in the window and **OK** on the L301 Touch panel when complete.

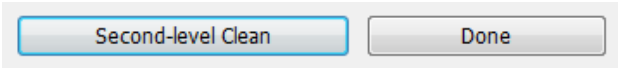
Device Services: Clean Cartridges (requires stock)

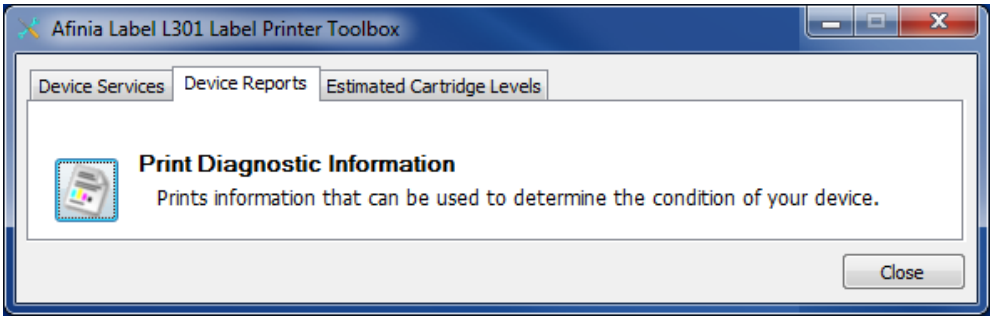
If the Print Quality Diagnostics Page shows gaps, press this button to clean the cartridges.

When the first cleaning round is complete, the Diagnostics pattern will print again.

Examine the pattern; if the problems are cleared up, press **Done**.

Click **Second-level Clean** if gaps in the printed pattern are still visible.





Device Reports: Print Diagnostic Information (requires stock)

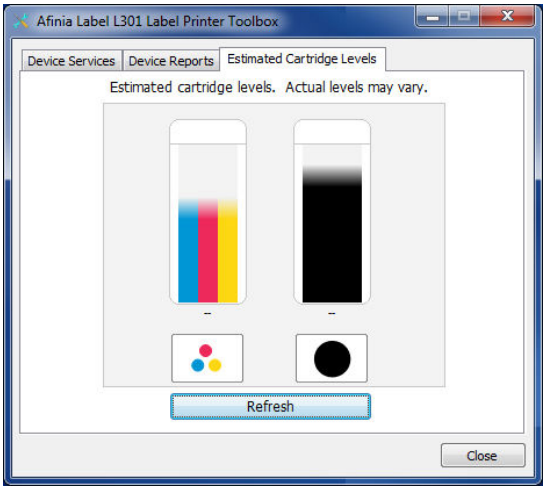
Click this button to print a grid showing the pen health of each color.

If any lines are missing in any of the colors, the cartridge cleaning should be run.

Estimated Cartridge Levels

This tab shows an estimate of the remaining ink in the cartridges.

The tri-color cartridge shows the level of the lowest of the three colors.



Chapter 3

Printer Maintenance

Guidelines for Preventative Maintenance

Occasional maintenance to remove dust and debris is required for best performance.

Do not substitute where lint-free cloth is called for. Using paper towels or regular cloth could damage the printer.

General dust and debris removal

Tools: Small low-suction hand-held vacuum or compressed air for electronics; tweezers or needle-nose pliers

1. Use a small low-suction hand-held vacuum for dust and debris removal
    a. If you do not have a small low-suction hand-held vacuum, use compressed air for electronics to blow as much dust or debris from printer as possible.
2. Use tweezers or needle-nose pliers to gently remove media debris that is not removed by vacuum.

Do not use a high-suction vacuum to avoid damaging the printer.

Cutter Maintenance

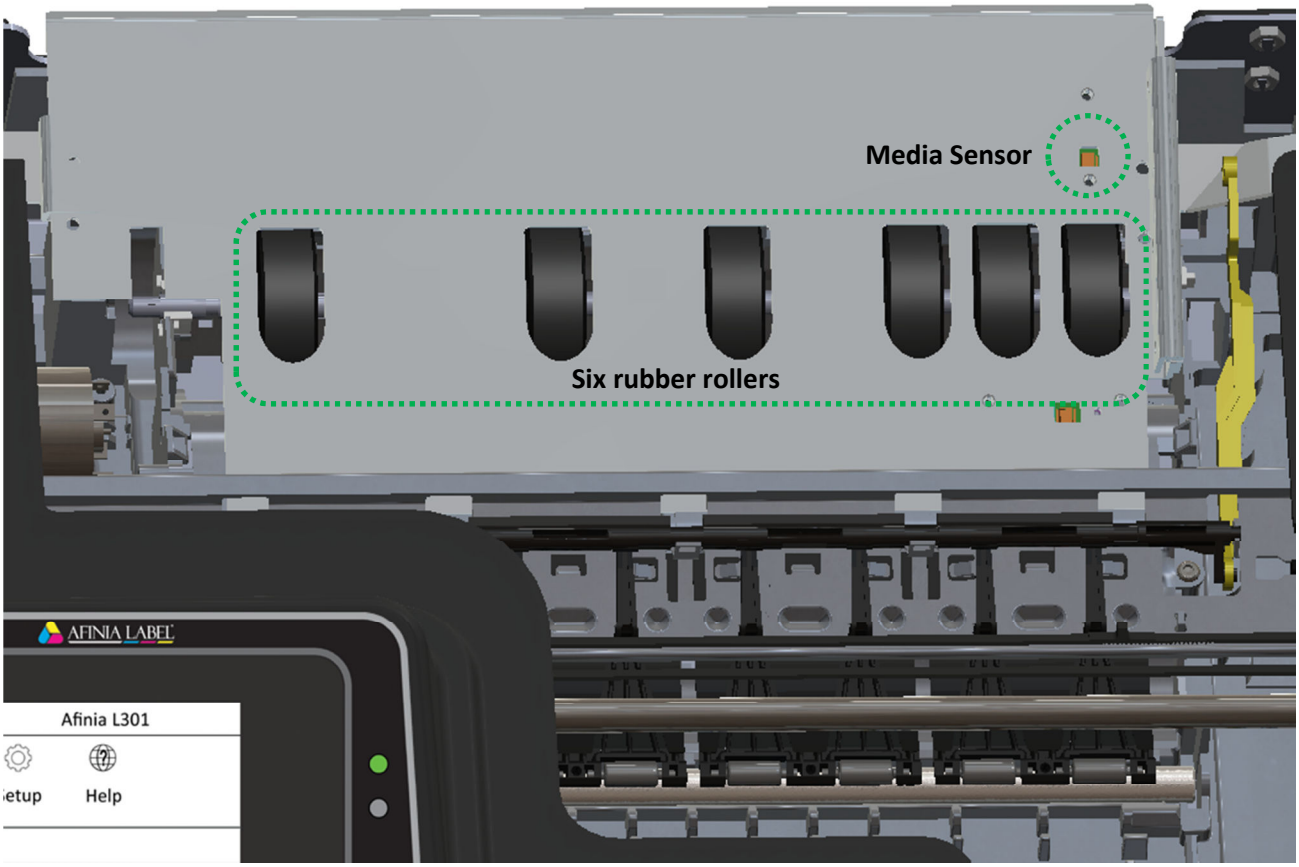
Tools: #1 Phillips screwdriver; lint-free cloth; isopropyl alcohol

1. Remove the two screws on the front of cutter handle
2. Remove spring from cutter axle
3. Pull cutter axle and cutting wheel out of cutter
4. Using a lint-free cloth and isopropyl alcohol, clean any adhesive or debris from wheel
    a. Note that the axle is not fixed in the wheel and may fall out
5. Using a lint-free cloth and isopropyl alcohol, wipe any adhesive or debris from cutting edge
    a. Located below rail cutter rests on
    b. Move the position of cutter to clean entire cutting edge
6. Replace wheel in cutter
7. Replace spring on cutting wheel axle
8. Replace the handle
    a. Do not over-tighten the two screws

Media Path Roller Maintenance

Tools: Lint-free cloth; rubber roller cleaner (if you do not have rubber roller cleaner, compressed air for electronics)

1. With printer on, unload media and open Cartridge Access door
2. Unscrew Media Path screw on left side and lift upper path plate out of the way
3. Dampen lint-free cloth with cleaner
4. Briefly cover media sensor to start media feed while holding cloth gently over each of the six black rubber rollers
5. Repeat step 4 as needed to clean all six rollers
    a. If performing ***Sensor Maintenance*** next, skip step 6
6. Lower Media Path plate and re-secure with screw
    a. Ensure screw is not cross-threaded before tightening
    b. Hand-tighten only



Sensor Maintenance

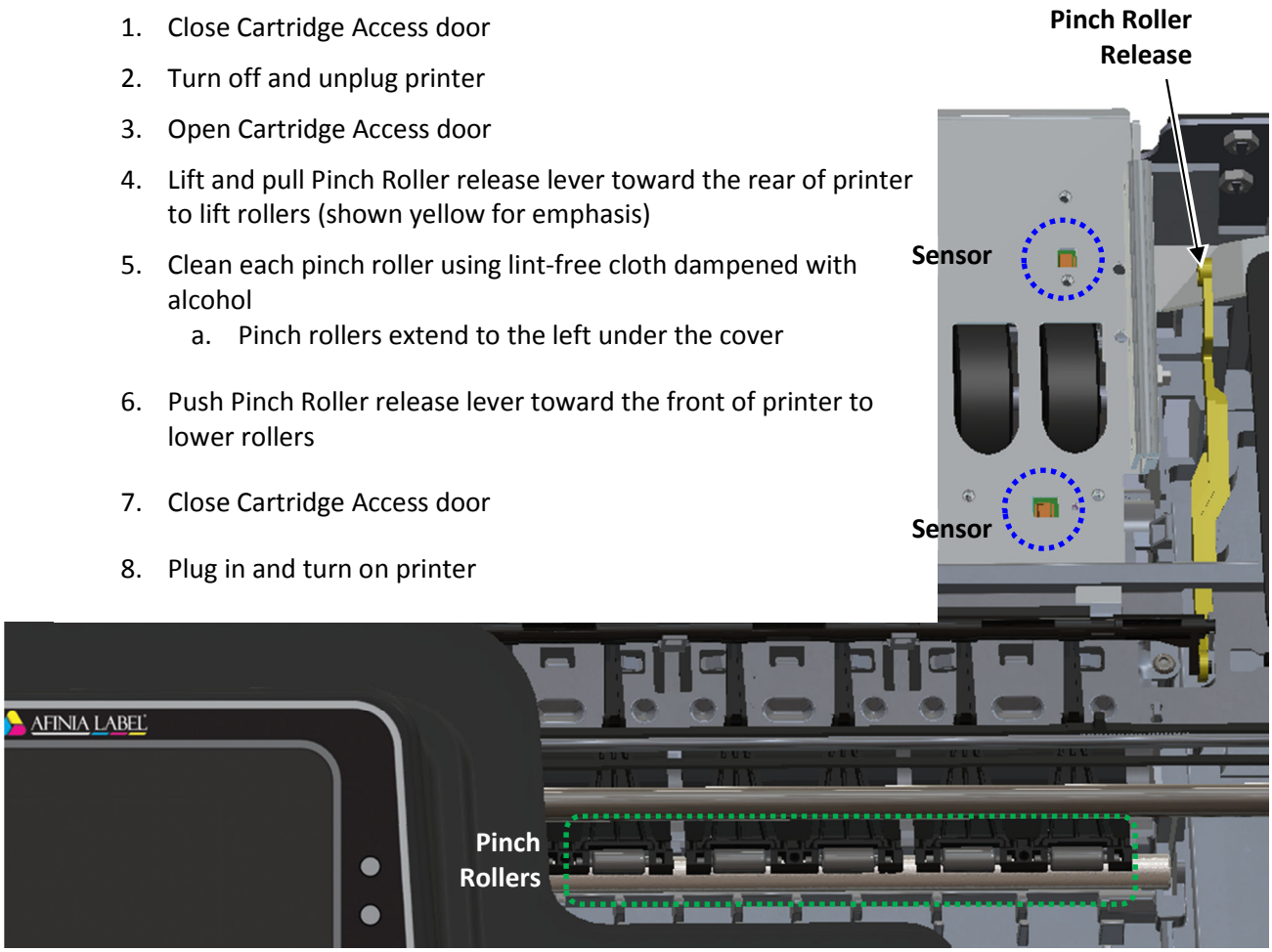
Tools: Compressed air for electronics

1. Turn off and unplug printer
2. Open Cartridge Access door
3. Unscrew Media Path screw on left side and lift upper path plate out of the way
4. Blow dust or debris from two sensors (circled below in blue)
5. Lower Media Path plate and re-secure with screw
   a. Ensure screw is not cross-threaded before tightening
   b. Hand-tighten only
6. Close Cartridge Access door

Pinch Roller Maintenance

Tools: Lint-free cloth; isopropyl alcohol

1. Close Cartridge Access door
2. Turn off and unplug printer
3. Open Cartridge Access door
4. Lift and pull Pinch Roller release lever toward the rear of printer to lift rollers (shown yellow for emphasis)
5. Clean each pinch roller using lint-free cloth dampened with alcohol
   a. Pinch rollers extend to the left under the cover
6. Push Pinch Roller release lever toward the front of printer to lower rollers
7. Close Cartridge Access door
8. Plug in and turn on printer



Top view, Cartridge Access Door open, Media Path Plate up

Replacing an Ink Cartridge

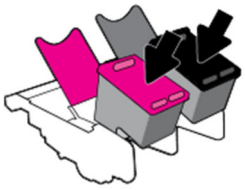
Only Afinia Tricolor (part #26548) and Black (part #26562) cartridges can be used!

Cartridges should be replaced when a cartridge reports being out of ink or if you are experiencing nozzle health issues that can't be corrected by running the Clean Cartridges (see page 24).

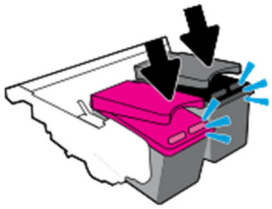
- Open the Ink Cartridge Access Door

- Lift the latch over the cartridge that needs replacing after the carriage moves left and stops

- Remove the ink cartridge
- Remove plastic tape from new cartridge using pull tab
- Insert the new cartridge into the carriage



- Lower the cartridge latch until it clicks



- Close the Ink Cartridge Access Door

Tip: For the best print results, run the **Toolbox *Cartridge Alignment*** (see page 23) when you replace either cartridge.

Chapter 4

Troubleshooting

Control Panel LEDs

The LEDs on the control panel indicate a number of printer states:

Green LED	Red LED	Display	
Off	**Off**	Off	1. Power cable not plugged in 2. Plugged in, but power button not pressed
Slow Blink	**Fast Blink**	Off	Power cable was just plugged in
Always On	**Fast Blink**	On	Printer powering up
Blink Slow	**Off**	On	Printer on, no stock loaded
Always On	**Off**	On	Printer on, stock loaded (ready)
On or Blink	**Always On**	On	Cutter not in Home position (fully left) ***Printer is paused in this state***
On	**Blink**	"Printing…", "Cancelling…"	Cut required. Perform cut and move cutter to home position
Fast Blink	**Slow Blink**	Incorrect Media	Cut and Unload media

Poor Print Quality or Incorrect Printout

Print Problem	Possible Cause	Resolution
Colors not aligned with black	Cartridge alignment needed	1. **Toolbox** : Device Services : Print Quality Diagnostic Page 2. If alignment on the Diagnostics Page is off, run **Align Cartridges**
Low or poor print quality	**Quality** setting too low for your artwork	**Printer Preferences** : Change **Quality** setting to ***Normal*** or ***Best***
	Cartridge cleaning needed	1. **Toolbox**: Device Services : Clean Cartridges 2. Run **Second Level Clean** if needed
	Cartridge needs to be replaced	1. **Toolbox**: Device Report : Print Diagnostic Information 2. If report shows missing lines, **Toolbox**: Device Services : Clean Cartridges 3. Print Diagnostic Information again; if lines still missing, replace
Colors not correct	Cartridge cleaning needed	1. **Toolbox**: Device Services : Clean Cartridges 2. Run **Second Level Clean** if needed
	Wrong label stock selected	**Printer Preferences** : Check the **Media** selected before printing
Ink not drying or smearing	Wrong media coating	Only use media with inkjet-compatible coating
Print not correct size	Print settings incorrect	1. Verify label size selected is correct 2. Verify scaling is not set when printing
	Label and Image not same size	Resize image or load correct label size
Print not aligned to label	Offsets not correct	**Printer Preferences** : Adjust the **Top** or **Left Offsets** as needed
Print alignment is shifting during printing	Label is not moving in straight path	1. Verify label stock is inserted correctly 2. Verify adjustable core holder is secure 3. Verify core holders are tight against sides of core 4. Verify Label Guide is in correct position 5. Verify input roll is wound straight
Label not stopping in correct cut position	Cutter Offset not correct	**Printer Preferences** : Adjust the **Cutter Offse**t as needed

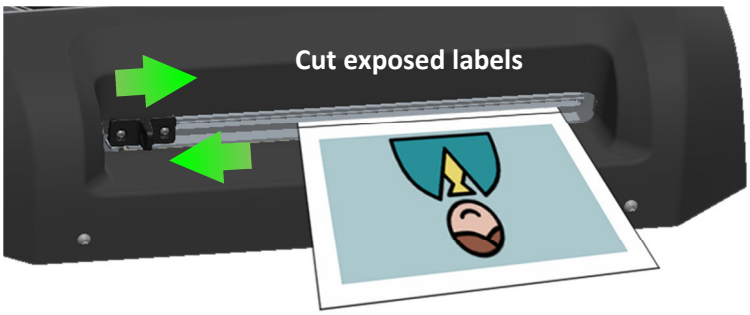
(continued…)

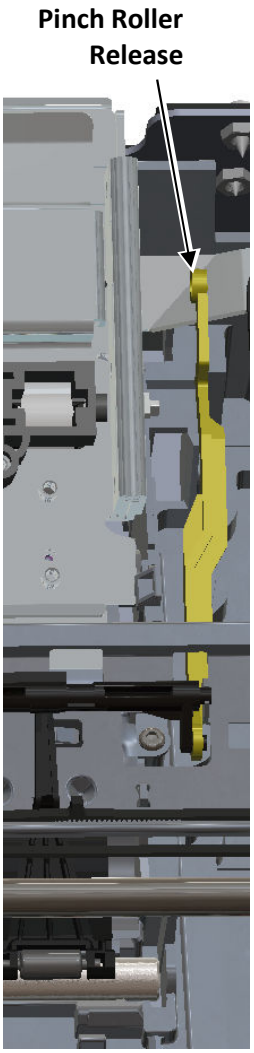
Print Problem	Possible Cause	Resolution
4’ of blank stock fed through, red LED blinking	Wrong **Media Type** selected in **Settings**	Cut and move cutter to left side to trigger an unload. Load correct media type and touch **OK**, or touch **Cancel**.
Printer not printing	No paper in printer when job is sent	Cancel job or load media and touch **OK** *If using Die Cut or Black Mark media, the first label will be left blank*
	Cut required (red LED flashing)	Cut and move the cutter all the way to the left
	Cutter not at home position (red LED on)	Move the cutter all the way to the left
Printer stops printing mid-job	End of Roll	Cancel job or load media and touch **OK** *If using Die Cut or Black Mark media, the first label will be left blank*
	Media jam	Clear media jam (see page 32)
	PC disconnect	Verify PC is connected to printer and on
Media does not load	Printer still initializing	Wait until green LED is flashing slowly
	Media Guide in the way	Move the media guide to the left and reload
	Media sensor dirty or covered	Green LED will be solid if sensor is dirty or covered. Clean sensor (see page 27)
Media slipping during printing	Pinch rollers not down	Push the Pinch Roller release lever towards the front of the printer to lower the rollers (see page 27)

Clearing a Media Jam

If the media jams, follow these steps to clear the printer.

1. Turn off printer from control panel and unplug
2. If labels are exposed past the output, cut labels



3. Open Cartridge Access door
4. Lift and pull Pinch Roller release lever toward the back of the printer to raise the pinch rollers
5. Release Media Path screw

6. Remove media by gently pulling stock back toward unwinder, then re-secure media screw
7. Push Pinch Roller release lever toward the front of the printer to lower pinch rollers
8. Close Cartridge Access door
9. Plug in power cord and turn on printer