



# HP 126-in Dual Roll Kit User Guide

## **SUMMARY**

How to use your product.

## About this edition

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# 1 Introduction


This guide describes the installation and use of the HP 126-in Dual Roll Kit for the HP Latex 1500, the HP Latex 2700 series, the HP Latex 3000 series, and the HP Stitch S1000 printers. For information on using your printer, see the appropriate user guide or maintenance and troubleshooting guide.

To use the dual-roll kit with an HP Latex 3000 or 3200 printer, you need the two dual-roll center supports, which are provided with the printer.


To use the dual-roll kit with an HP Latex 1500, HP Latex 2700, or HP Stitch S1000 printer, you must order the HP 126-in Dual Roll Kit (4J0X0A), which includes the following items:

- Two dual-roll 126 in spindles
- Two center supports
- One shim kit

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 **IMPORTANT:** The edge holders supplied with the various printers are compatible with the HP 126-in Dual Roll Kit accessory.

 **IMPORTANT:** If your printer is an HP Stitch S1000, only transfer paper is supported.

 **TIP:** If you already have the HP Latex 1500 Dual-Roll Accessory (TOF91A), you can order the dual-roll shims kit (K4T88-67344) to make it compatible with the HP Latex 2700 Printer.

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## 2 Install the two dual-roll center supports

The following sections provide details for this topic.

### Assemble the center supports

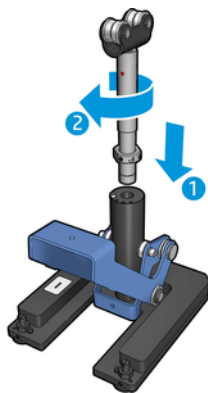
The following steps provide the complete procedure for this topic.

The support base marked “I” is for the input dual-roll spindle at the rear of the printer. The support base marked “o” is for the output dual-roll spindle at the front.

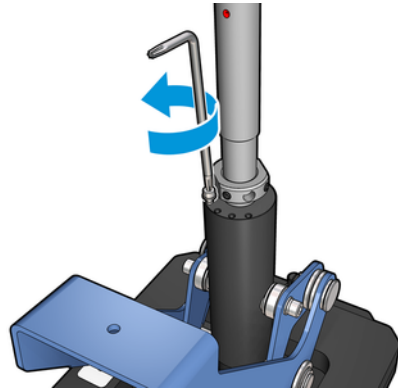
For the HP Latex 1500, HP Stitch 1000 and HP Latex 3000, use the longer support shaft with the support base marked “I” and the shorter support shaft with the support base marked “o”.

For the HP Latex 2700, use the shorter support shaft with the support base marked “I” and the longer support shaft with the support base marked “o”.

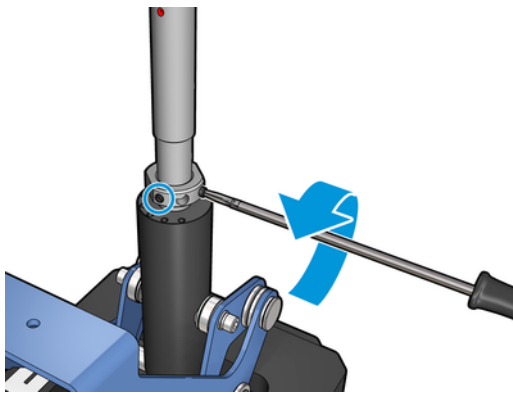
1. To assemble the input support (marked I), insert the shaft into the support base and turn.



2. Remove the screw in the support base. Keep the screw in a safe place to use later.



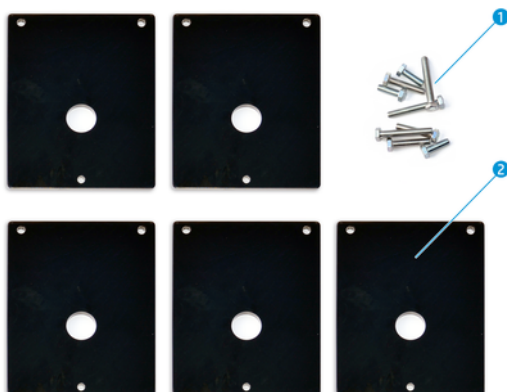
3. Loosen the two screws fixing the nut on the shaft.



4. Repeat the process for the output support (marked with an "o").

## Install the shims

You need to add shims at the bottom of the dual-roll center support. These shims are included in the kit.



1. Three M8x25, three M8x35, three M8x45, and three M8x55 screws
2. Shim for dual-roll center support

Install the shims as follows:

1. If the center support is installed in the printer, uninstall it.
2. Unscrew the three screws at the base of the center support to remove the base.
3. Add the correct number of shims as described below.

#### HP Latex 1500 and HP Stitch S1000

- Input center support: 1 shim
- Output center support: 2 shims

#### HP Latex 3000 and 3200

- Input center support: 2 shims
- Output center support: 3 shims

#### HP Latex 2700

- Input center support: 1 shim
- Output center support: 3 shims

4. Use the screws provided to attach the shims.
5. Reinstall the base.
6. Reinstall the center supports, if you intend to use them.

#### Configuration summary per printer model

Component	HP Latex 2700	HP Latex 3000, 3200	HP Latex 1500 HP Stitch S1000
Input shims	1	2	1
Input shaft	short	long	long
Output shims	3	3	2
Output shaft	long	short	short

## Calibrate the center supports

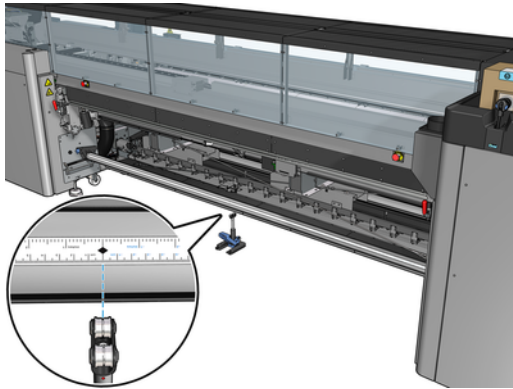
The following steps provide the complete procedure for this topic.

1. Load a single-roll spindle in the the printer.

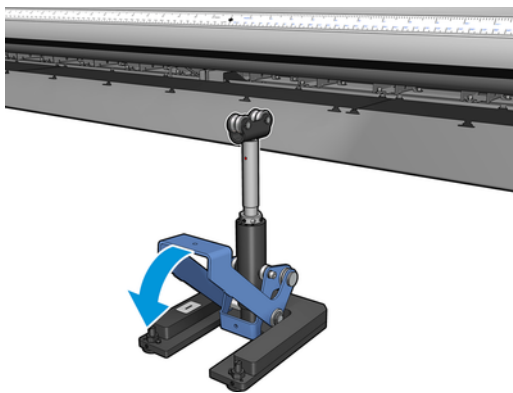


**TIP:** Use a single-roll spindle to calibrate the height of the dual-roll center support accurately. Do not use the dual-roll spindle, as it is heavier and it may not be level along its length.

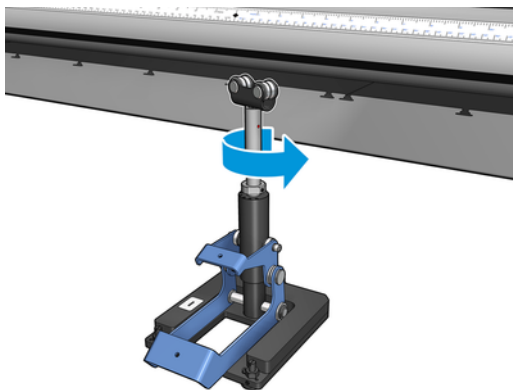
2. Place the dual-roll center support under the center of the spindle.



3. Pull down the lever.

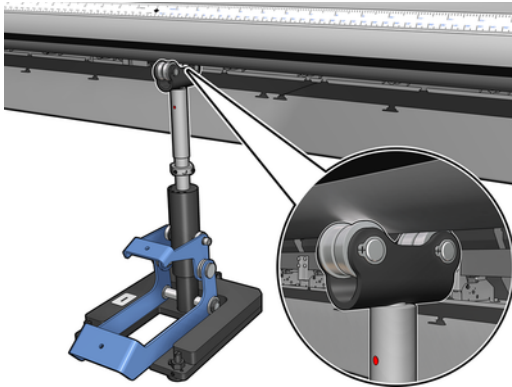



4. Adjust the height of the support by turning it counterclockwise. The bearings at the top of the dual-roll center support must touch the spindle



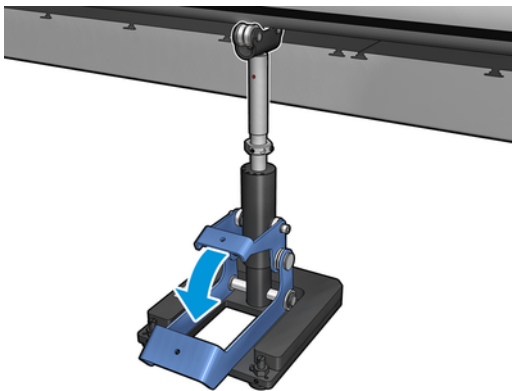


5. Manually turn the spindle 360 degrees. Make sure there is full contact between the bearings on the support and the face of the spindle except along the ruler groove and pneumatic groove. Turn the bearings on the support. If you cannot turn them, lower the height of the support.

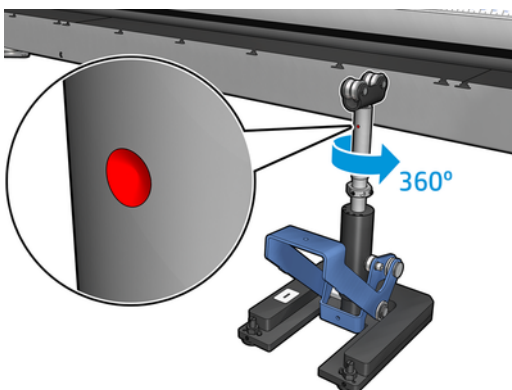


 **NOTE:** If a red groove is visible in the thread of the support shaft, it has reached its maximum limit. Do not turn. Adjust the height using another shim.

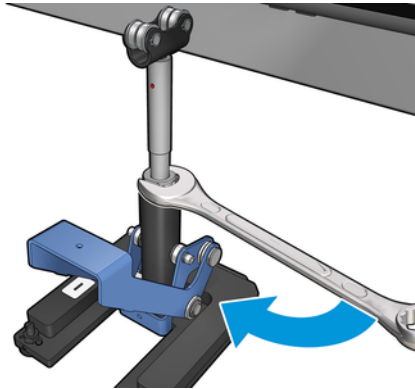
6. Pull down the small lever.




7. Lift the base nut one extra turn by rotating counterclockwise. There are two red dots in the central shaft for your reference.

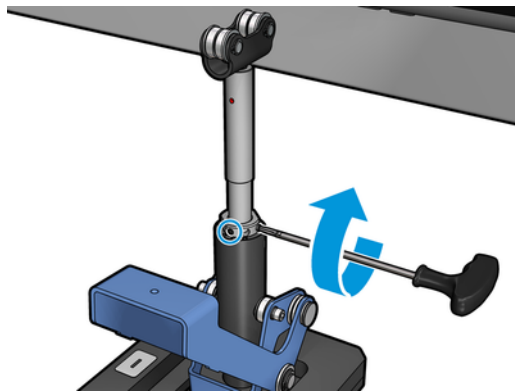


8. Tighten the base nut.

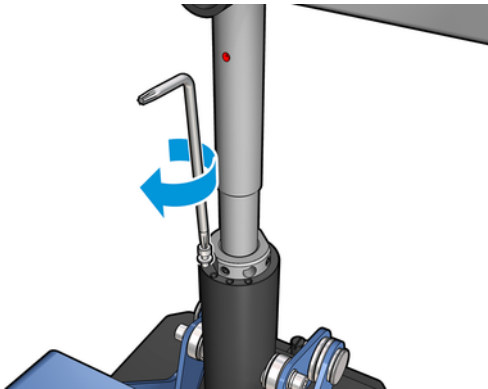


9. Tighten the two screws to fix the final position of the dual-roll center support.

 **NOTE:** Hold the support shaft firmly in position when tightening screws.



10. Insert the screw into the support base.




11. Remove the single-roll spindle.
12. Repeat the process for calibration of the front dual-roll spindle.

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## 3 Load and support the dual-roll spindle

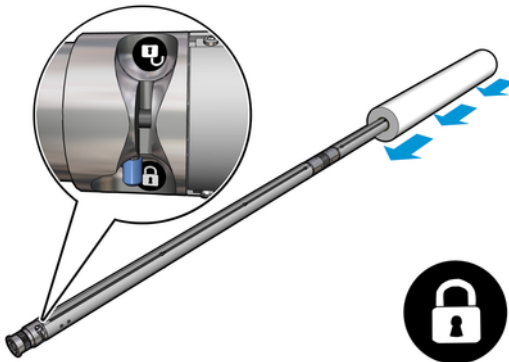
The following sections provide details for this topic.

 **TIP:** A dual-roll spindle can be used for single-roll printing. Lock the lever and inflate both valves.

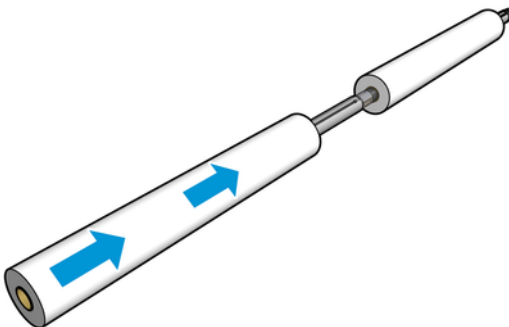
### Load the dual-roll spindle

The following steps provide the complete procedure for this topic.

1. Insert the first roll on the rear spindle.





2. Insert the second roll on the rear spindle.



3. Center both rolls, using the marks on both sides of the center of the spindle. The input and output rolls should be positioned identically on their respective parts of the spindle.


4. Inflate the valves at both ends by connecting the air gun to the pneumatic connectors.

 **TIP:** Before inflating, use the pneumatic gun to blow air around the valve area to remove any dirt.

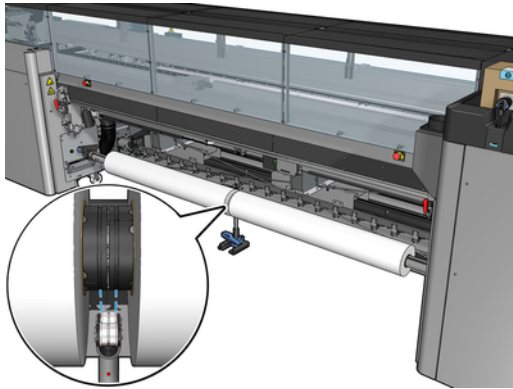
 **CAUTION:** The air gun provided with the printer is intended only to inflate the spindle. When recommended to use for cleaning purposes, make sure to do so according to local regulations since additional safety provisions may apply.

## Position the dual-roll center support

The following steps provide the complete procedure for this topic.

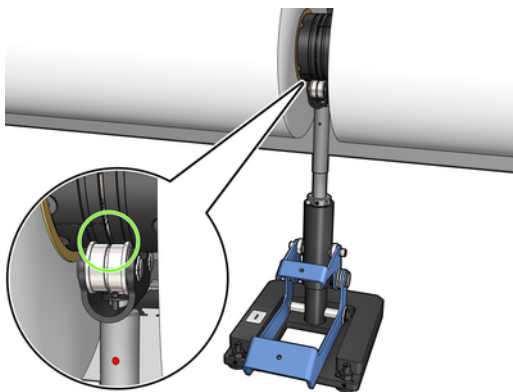
 **TIP:** The spindle and two rolls of substrate are heavy. You are recommended to use a forklift to move it into position.

1. Place the dual-roll spindle on the printer with the long lever up.
2. Position the dual-roll center support under the center of the dual-roll spindle.



3. Pull down the long lever.

When engaging the support, make sure that the position of the support bearings corresponds to the grooves of the differential cover and that the two sets of bearings are approximately the same distance from the middle of the spindle to maximize their contact.



4. Repeat the procedure for the output dual-roll spindle.
5. Feed the substrates into the printer.

6. Unlock the dual-roll spindle.
7. Once the substrates are aligned, automatic substrate-edge detection can be run. If this automatic process fails, or if you are using a roll width not within the [Dual-roll spindle specifications on page 26](#), introduce the substrate edge values manually. Physically measure the position of the substrate edges on the dual-roll spindle ruler. The dual-roll spindle ruler, in inches and centimeters, uses positive (+) signs on one side and negative (-) signs on the other side.

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## 4 Load a roll into the printer

The objective when loading substrate is to get a uniform tension across its width and length to minimize the risk of skew, wrinkles, and telescoping.

There are different ways in which the substrate can pass through the printer:

- Roll-to-roll configuration
- Dual roll-to-roll configuration

### Roll-to-roll configuration


The substrate roll is mounted on the input spindle (single or dual) and will be collected on the output spindle.

See a video here:



[http://www.hp.com/go/Latex3000/Roll\\_to\\_Roll\\_loading](http://www.hp.com/go/Latex3000/Roll_to_Roll_loading)


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 **NOTE:** This video applies to HP Latex 1500, HP Latex 2700 series, HP Latex 3000 series, and HP Stitch S1000 printers.

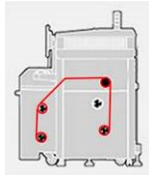
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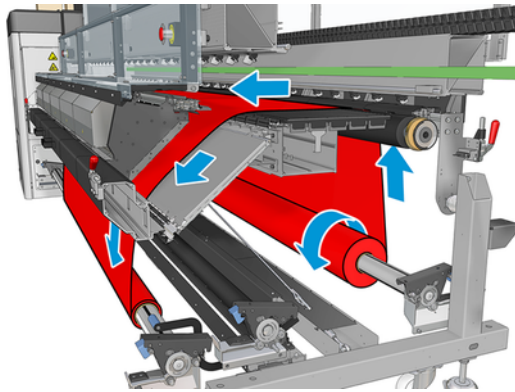
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 **NOTE:** If your printer is an HP Stitch S1000, you should bypass the input spread roller, as shown below.

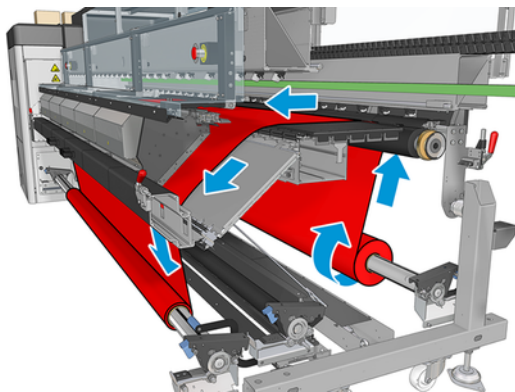
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The substrate goes from the input spindle over the main roller, over the platen, over the front diverters, and then to the output spindle.





The above illustration shows the substrate loaded with the printed face outwards on both input and output rolls. You can also load substrate with the printed face inwards on either or both rolls, in which case the spindle will turn in the opposite direction. The printer asks you for the winding direction if it cannot detect it automatically.



Each of the spindles has its own motor. The motors maintain tension on the substrate. Some vacuum is applied at the level of the platen to keep the substrate flat. The substrate is moved forwards by the drive roller motor, on which there is a pinch mechanism to prevent the substrate from slipping.

Before loading a roll into the printer, you must have a roll loaded onto a spindle (the input roll) and an empty core loaded onto another spindle (the output roll).

 **NOTE:** For the output roll, use a single empty core the same length as the input core. Do not place two or more shorter cores on the same spindle, which could cause substrate-advance problems.

 **TIP:** The spindle and a roll of substrate can be heavy. You are recommended to use a forklift or some other equipment to move it into position; otherwise, lift one end into the printer, and then the other end.

## Load a roll

The following steps provide the complete procedure for this topic.

1. Go to the Internal Print Server and select **Substrate Load/Unload**, then select the correct configuration.
2. In the Internal Print Server, choose from the list of substrate types the type that you have loaded.
3. If they are installed, remove the substrate edge holders from the print platen so that they do not get in the way while loading the substrate.

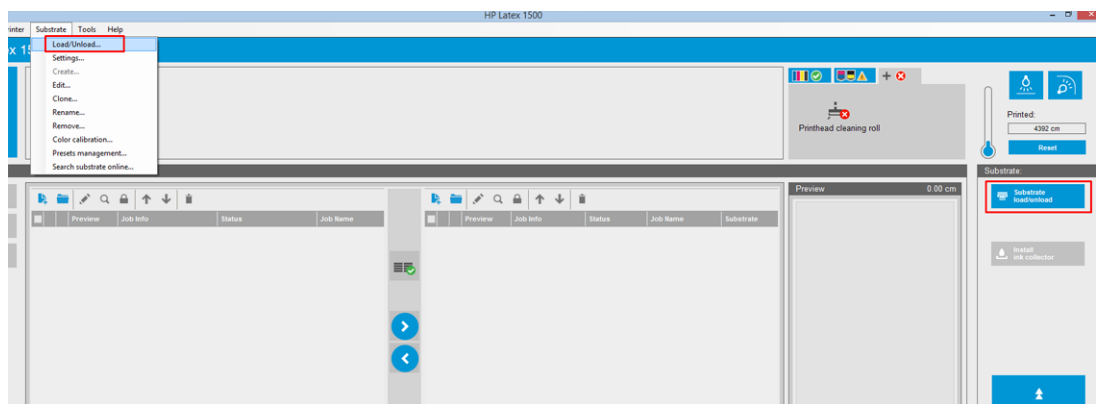
**CAUTION:** Loading the substrate on top of the edge holders could severely damage the printheads and carriage.

4. Bring the new roll on its spindle to the rear of the printer, with the geared end of the spindle on the left.
5. Rest the ends of the spindle on the platforms provided at the rear of the printer; plastic pads are provided to absorb the impacts.
6. In the same way, load the spindle with the empty core into the front of the printer. In this case, the geared end of the spindle should be on the right.

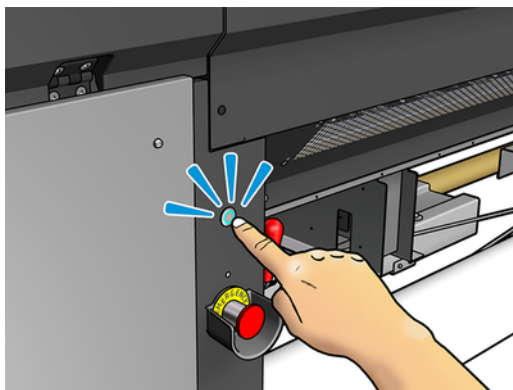
## Load substrate

The following steps provide the complete procedure for this topic.

1. Use the Internal Print Server to raise the carriage beam to its loading position...

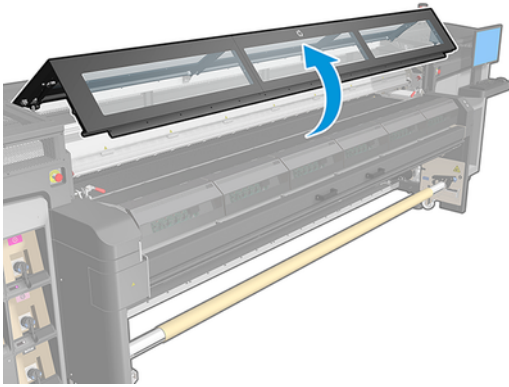


or start the loading process using the substrate button.

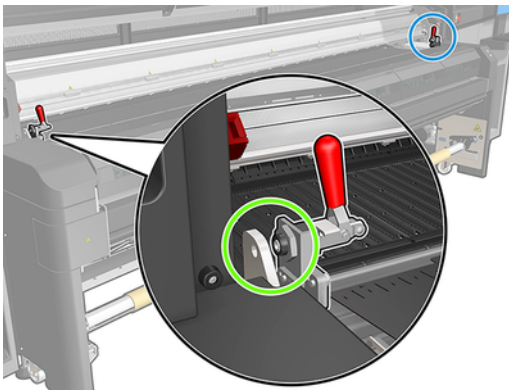
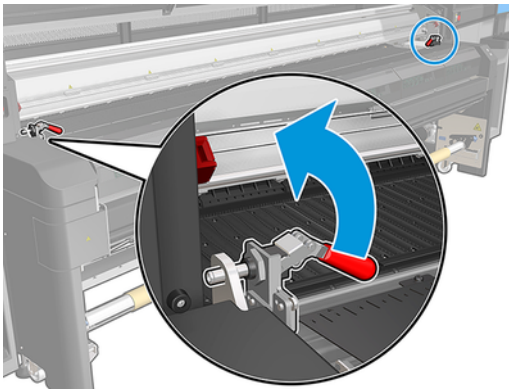




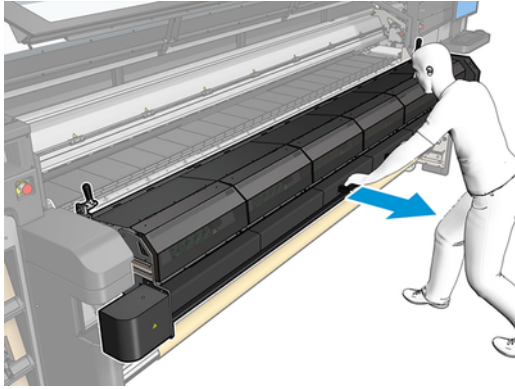
2. Open the window.



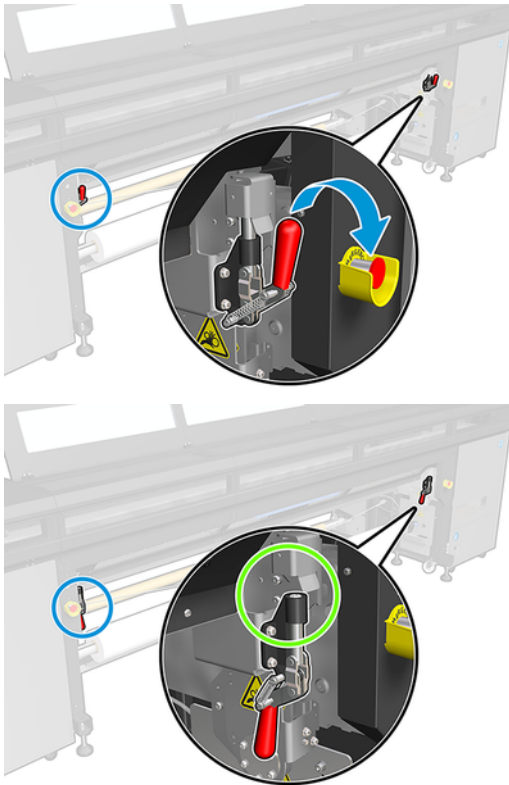
3. Open the curing module latches.



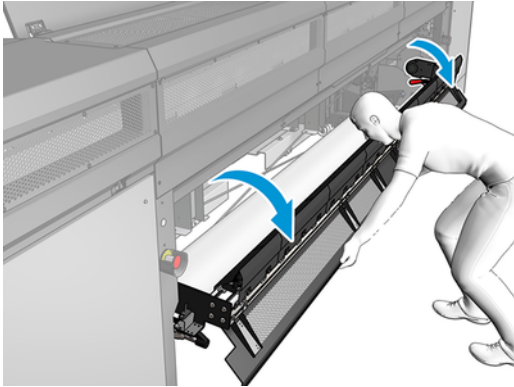
4. Open the curing module.



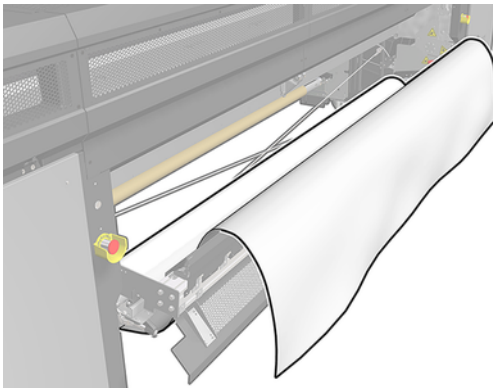
5. Open the loading table latches.



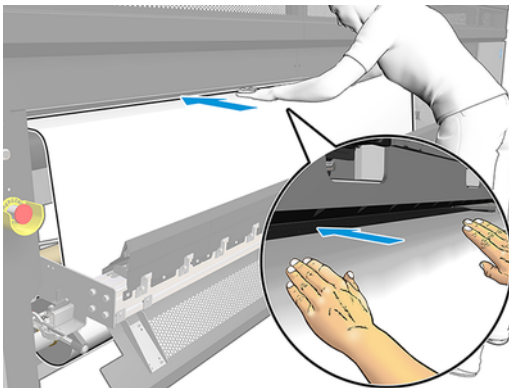
6. Open the loading table.



7. Unwind a length of substrate.

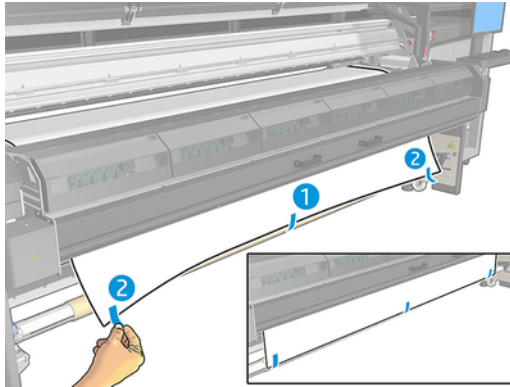


8. Place it in the print zone.




9. Push the substrate through the printer until it reaches the output spindle.
10. If the substrate saver is required, install it now.
11. Align the substrate by checking that the substrate edge is in the same position on the input and output spindles. This can be done by using the rulers on the spindles or by measuring the distance between the right edge and the side plate.

12. When the substrate is evenly tensioned and flat (no wrinkles or bumps), attach it to the empty core with adhesive tape. Tape it first in the center, and then at the left and right sides, making sure not to pull the substrate excessively or leave it wrinkled.



13. Close the window and the curing module.
14. Close the loading table.
15. If you are using the substrate edge holders, place them on the platen before closing the window.
16. Use the Internal Print Server to lower the carriage beam to its printing position.
17. Go to the Internal Print Server and press the **Finish** button. The printer rotates both rolls to check their diameters, and it also checks the width of the roll, the winding direction, the vacuum, and the substrate advance calibration (this takes about a minute).

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 **NOTE:** Some substrates (such as transparent substrates) cannot be measured by the printer in this way. In such cases, you will be asked to enter the Left Edge and Width fields yourself into the Internal Print Server. Use the ruler on the spindle to check these values.

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18. An alert about substrate-advance tracking may appear at this point.

The printer is now ready to print.

## Dual roll-to-roll configuration

The two substrate rolls are mounted on the rear dual-roll spindle and will be collected on the front dual-roll spindle.

See a video here:



[http://www.hp.com/go/Latex3000/Dual\\_roll\\_loading](http://www.hp.com/go/Latex3000/Dual_roll_loading)



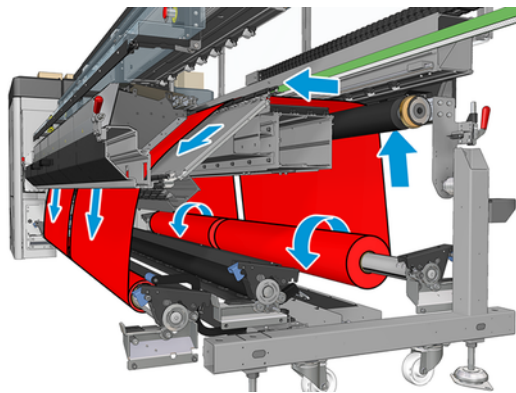
**NOTE:** This video applies to HP Latex 1500, HP Latex 3000 series, and HP Stitch S1000 printers.



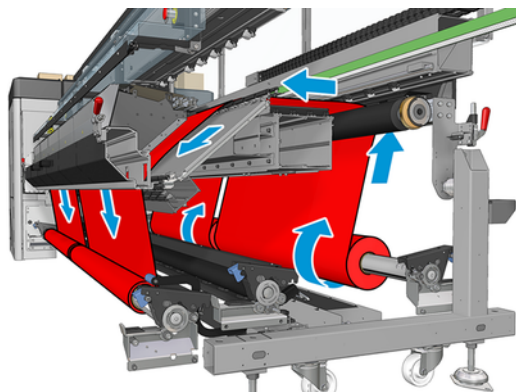
The substrate goes from the input spindle over the main roller, over the platen, over the front diverters and then to the output spindle.



**NOTE:** When using dual rolls, you have to use the roll-to-roll configuration as it is the only configuration supported.

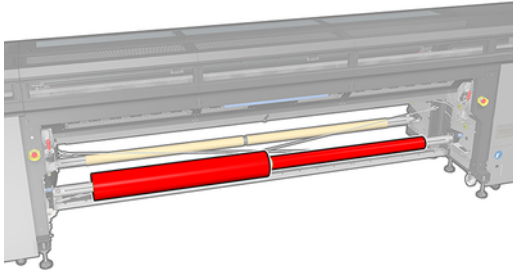


You can load substrate with the printed face inwards or outwards on the spindle, in which case the spindle will turn in the opposite direction. The printer asks you for the winding direction if it cannot detect it automatically.




Before loading two rolls into the printer, you must have both rolls loaded on the rear dual-roll spindle and two empty cores loaded on the front dual-roll spindle.

If the rolls are of unequal lengths, the longer roll should be on the right as seen from the front of the printer; on the left as seen from the rear. That way, when the shorter rolls runs out, you can continue printing on the other roll.



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 **NOTE:** When one roll runs out, you should lock the differential in the middle of the spindle, using the lever on the left-hand side.


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## Load dual rolls

The following steps provide the complete procedure for this topic.

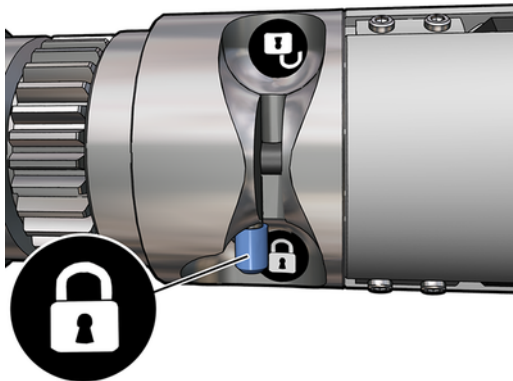
1. Go to the Internal Print Server and select **Substrate Load/Unload**, then select the correct configuration.
2. In the Internal Print Server, choose from the list of substrate types the type that you have loaded.
3. If they are installed, remove the substrate edge holders from the print platen so that they do not get in the way while loading the substrate.

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 **CAUTION:** Loading the substrate on top of the edge holders could severely damage the printheads and carriage.

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4. You may find it helpful to lock the differentials on the input and output spindles while loading.



5. Rest the ends of the spindle on the platforms provided at the rear of the printer; plastic pads are provided to absorb the impacts.
6. In the same way, load the spindle with the empty cores into the front of the printer. In this case, the geared end of the spindle should be on the right.

7. If you intend to use the dual-roll center supports, install them now, for both input and output spindles, and move them up to their calibrated positions to ensure that the substrate is later brought to the output spindle and properly wound.

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**⚠ CAUTION:** The calibrated position should be set following the instructions provided with the accessory. An incorrect position could cause the carriage to crash.

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## Manual loading

The following steps provide the complete procedure for this topic.

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**📝 NOTE:** Assisted loading is not recommended in a dual-roll configuration.

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1. Use the Internal Print Server to raise the carriage beam to its loading position, or use the physical button.
2. Open the front door and the curing module.
3. Open the loading table.
4. Unwind a length of substrate from the first input roll and place it in the print zone.
5. Push the substrate from the first roll through the printer until it reaches the output spindle.
6. Unwind a length of substrate from the second input roll and place it in the print zone.
7. Push the substrate from the second roll through the printer until it reaches the output spindle.
8. Align the substrate by checking that the substrate edge is in the same position on the input and output spindles. This can be done by using the rulers on the spindles or by measuring the distance between the right edge and the side plate.

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**📝 NOTE:** You are recommended to align the edges of both rolls by the lines on both sides of the spindle's center mark.

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**📝 NOTE:** The substrate-advance sensor must be covered by the substrate, from 252 to 310 cm on the ruler.

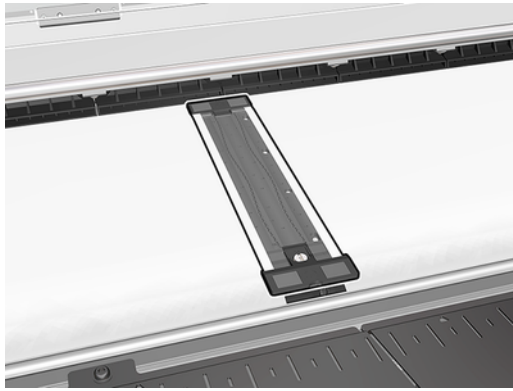
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9. When the substrate is evenly tensioned and flat (no wrinkles or bumps), attach it to each empty core with adhesive tape. Tape it first in the center, and then at the left and right sides, making sure not to pull the substrate excessively or leave it wrinkled.
10. If you are using them, place the four substrate edge holders into position and attach them at the front.

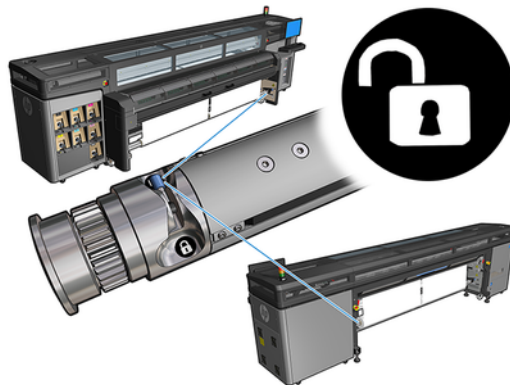
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**💡 TIP:** When aligning the roll edges with the marks on the dual-roll spindle, the center edge holder (if needed) is shared by both rolls. If you position the rolls differently, and you are using edge holders, take into account the distance required for the edge holders.

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11. Close the front door and the curing module.
12. If you are using them, attach the substrate edge holders.
13. Close the loading table.
14. Ensure that the spindle differentials are unlocked.



15. Use the Internal Print Server to lower the carriage beam to its printing position.
16. Go to the Internal Print Server and tap the **Finish** button. The printer rotates the rolls to check their diameters, and it also checks the width of the roll, the winding direction, the vacuum, and the substrate advance calibration (this takes about a minute).

---

 **NOTE:** Some substrates (such as transparent substrates) cannot be measured by the printer in this way. In such cases, you will be asked to enter the Left Edge and Width fields yourself into the Internal Print Server. Use the ruler on the spindle to check these values.

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17. An alert about substrate-advance tracking may appear at this point.

The printer is now ready to print.



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## 5 HP Stitch S1000 substrate-advance calibration


Accurate substrate advance is important to print quality because it is part of controlling the proper placement of dots on the substrate. If the substrate does not advance the proper distance between printhead passes, light or dark bands appear on the print, and there may be an increase in graininess.


The printer has a substrate-advance sensor and is calibrated to advance correctly with most of the substrates that appear in the Internal Print Server. When the substrate is loaded, the substrate-advance sensor checks the substrate and decides whether it can be adjusted automatically or not. If not, the automatic adjustment is disabled.

The printer is configured from the factory with a generic preset for the sensor, calibrated for generic substrates. To improve substrate-advance performance for each substrate, HP recommends adjusting the substrate advance for each specific preset. If you want to adjust several substrates, this must be done for each preset.

Substrate-advance calibration can help you to adjust the substrate advance more accurately. In the Internal Print Server, click **Substrate > Advance calibration**. The printer prints several repetitions of a special numbered pattern that help you to apply the correct substrate-advance adjustment.

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 **NOTE:** The printheads should be correctly aligned before calibration, and the substrate-advance sensor should be clean. Otherwise, you may need to repeat the calibration after cleaning the sensor and aligning the printheads.

 **IMPORTANT:** While you are loading the substrate, the printer automatically detects whether you are printing on one or two rolls; and you can use the same substrate preset in both cases. However, HP recommends performing substrate-advance calibration whenever you change from single to dual roll, or dual to single.

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### Calibration procedure


The following steps provide the complete procedure for this topic.


Accurate substrate advance is important to print quality because it is part of controlling the proper placement of dots on the substrate. If the substrate does not advance the proper distance between printhead passes, light or dark bands appear on the print, and there may be an increase in graininess.


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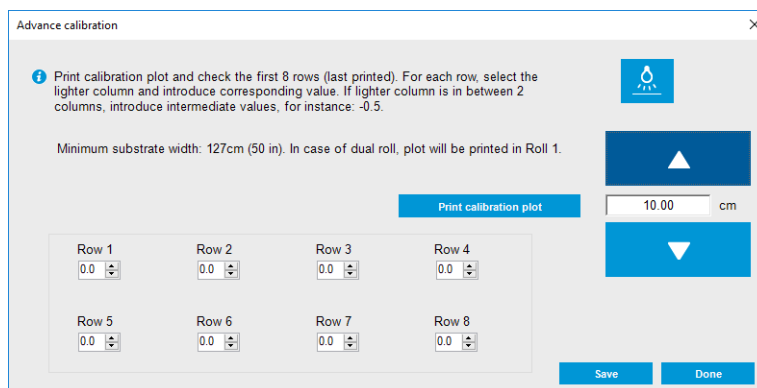
Substrate-advance calibration can help you to adjust the substrate advance more accurately. In the Internal Print Server, click **Substrate > Advance calibration**. The printer prints several repetitions of a special numbered pattern that help you to apply the correct substrate-advance adjustment.

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 **IMPORTANT:** While you are loading the substrate, the printer automatically detects whether you are printing on one or two rolls; and you can use the same substrate preset in both cases. However, HP recommends performing substrate-advance calibration whenever you change from single to dual roll, or dual to single.


 **NOTE:** Substrate-advance calibration is not available for generic substrates. If you want to calibrate such a substrate, you will have to clone the generic preset and then calibrate the clone.

1. Load the substrate that you intend to calibrate.
2. In the Internal Print Server, click **Substrate > Advance calibration**.
3. Click **Print calibration plot**. The printer starts to print.





4. Enter the last eight values from the diagnostic plot. Select the lightest column and enter the corresponding value. Follow the instructions on the screen.

 **NOTE:** The values from row 1 to row 4 correspond to the left roll and the values from row 5 to row 8 correspond to the right roll.

 **TIP:** If the plot shows two possible values (two continuous columns), the value to use is the average of the two. For example, if the plot indicates that the value could be +2.0 or +3.0, you can use +2.5.

5. Click **Save** to complete the calibration. Every time this preset is loaded, the printer will apply this calibration result.

 **NOTE:** The calibration obtained is only usable with the loaded substrate type.

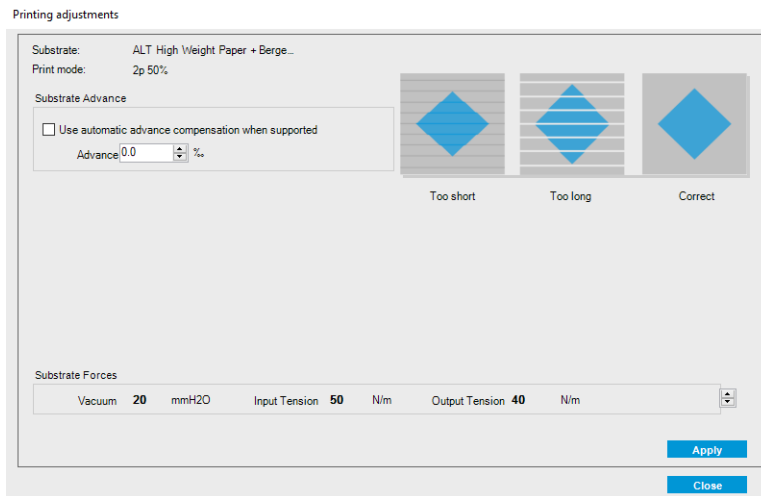
 **IMPORTANT:** The calibration value cannot be used on another printer. If you intend to use the same substrate on multiple printers (even of the same model), you should go through the complete process on each printer.

## Manual substrate-advance calibration

The following steps provide the complete procedure for this topic.

While printing, you can view and change the substrate-advance calibration of the currently loaded substrate at any time from the Internal Print Server by selecting the print job and then the **Printing Adj.** button, or by clicking **Printer > Printing adjustments**.

Alternatively, you can use the **Print adjustment** button in the Internal Print Server main window. This opens a dialog box with an advance calibration section, in which there are three main areas:



1. Check the box to enable the substrate-advance sensor. If it is disabled automatically while loading, you cannot enable it. However, if you disable it yourself, you can re-enable it.
2. If the substrate-advance sensor is disabled, you can increase or decrease the substrate-advance calibration.
3. Three images of possible defects due to substrate-advance issues, to help to you decide whether the substrate-advance calibration should be increased or decreased.

In order to apply and save the values, click the **Apply** button in the dialog box before closing it. Then the substrate-advance calibration value is saved for that particular substrate. Other substrates are not affected.

If you are using a generic substrate preset, you are recommended to clone the preset (**Substrate > Clone**) and work with that before adjusting the substrate-advance calibration, as the print adjustment is not available for generic presets.

## Calibrations specific to one substrate preset

This topic explains the concepts involved in this subject.

Some calibrations that the printer performs are specific to the substrate preset in use at the time the calibration was performed and some are not. The calibrations that are specific to one substrate must be performed again if the substrate or preset is changed. Shown below are the calibrations showing which ones are specific to one preset and which ones are not:

- **Printhead alignment:** This is applied to all presets and print modes. Usually, when switching from one substrate to another, there is no need to realign the printheads. However, if the printhead-to-paper spacing has changed significantly (different thickness, for example), then the printheads should be realigned.
- **Substrate-advance calibration:** This is specific to each substrate preset.
- **Color calibration:** This is specific to each substrate preset.

## Recommended calibrations after particular events

This topic provides a full set of reference information for this subject.

### Recommended calibrations

Events	Calibrations		
	Printhead alignment	Substrate-advance calibration	Color calibration
Printhead replacement	Recommended	Not needed	Recommended
New substrate created	Not needed unless new substrate has different thickness	Recommended	Recommended
New substrate imported	Not needed	Recommended	Recommended
New substrate loaded	Not needed unless carriage beam has moved	Not needed	Not needed, unless never done before
Print mode changed	Not needed	Not needed	Not needed
Poor print quality	Recommended if relevant	Not needed	Recommended if relevant
Changed from single to dual roll, or dual to single	Not needed	Recommended	Not needed

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## 6 Dual-roll spindle specifications

This topic provides a full set of reference information for this subject.

### Dual-roll spindle specifications

Characteristic	Specification
Minimum roll width	635 mm (25 in)
Maximum roll width	2 × 1.52 m (2 × 60 in)
Minimum gap between rolls	40 mm (1.6 in)
Maximum roll diameter	300 mm (11.8 in)
Maximum total weight of both rolls	2 × 70 kg (2 × 154 lb)