



HP 126-in Diverter Roller Installation Guide

SUMMARY

How to install your product

Legal information

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1 Introduction

This guide describes the installation and use of the HP 126-in Diverter Roller.

The diverter roller can be installed in HP Stitch S1000 or HP Latex 2700 printers, with different functionality according to the printer:

- HP Stitch S1000 (output): Dual-roll applications for stretchable substrates
- HP Latex 2700 (input): Jumbo-roll applications

In the HP Stitch S1000 printer, you must configure the output roller depending on the application. Use the following table to decide whether to use the spread or plain roller, depending on the type of substrate to be loaded.

	Input spreader roller	Output spreader roller	Output plain diverter
Single roll Transfer paper	✓	✓	✗
Dual roll Transfer paper	✗	✓	✗
Single roll Direct-to-fabric <small>* Bypass with stretchable substrate</small>	✓	✓	✗
Dual roll Direct-to-fabric	✗	✗	✓

In the HP Latex 2700 printer, you can print single- or dual-roll applications with large rolls of substrate.

- Maximum roll width: 3.2m (126 in)
- Maximum roll diameter: 400 mm (15.75 in)
- Maximum total weight of both rolls: 300 kg (661 lb)

For further information on using your printer, see the appropriate user guide or maintenance and troubleshooting guide.

What you will need

Manpower	Tools	Time
2 people	Open wrench set or adjustable wrench, Torx screwdriver set, Allen key set, tube key set/ratchet (optional), nylon hammer, circlip remover pliers, forklift	10 minutes

Kit contents

A list of all the items included in the kit.

- Plain diverter
- Two plain-diverter supports
- Two plain-diverter support shims
- HP Stitch plain diverter support
- Four extra feet

2 Safety precautions

Before using your printer, read the following safety precautions and operating instructions to make sure you use the equipment safely.

You are expected to have the appropriate technical training and experience necessary to be aware of hazards to which you may be exposed in performing a task, and to take appropriate measures to minimize the risks to yourself and to others.

Operations must be supervised at all times.

General safety guidelines

Consider the following information as a recommendation for best practices for the operation of the printer.

⚠ WARNING! The information provided by the printer status light is only for functional information purposes and is not related to any safety provision or safety states. Warning labels on the printer must be always considered when operating the printer and prevail against any of the status indicated by the printer status lights.

- Turn off the printer, using the Branch Circuit Breakers located in the building's Power Distribution Unit (PDU), and call your service representative in any of the following cases:
 - The power cord is damaged.
 - The drying or curing enclosures are damaged.
 - The printer has been damaged by an impact.
 - Liquid has entered the printer.
 - There is smoke or an unusual smell coming from the printer.
 - The printer's built-in Residual Current Circuit Breaker (Ground Fault Circuit Interrupter) has been repeatedly tripped.
 - Fuses have blown.
 - The printer is not operating normally.
 - There is any mechanical or enclosure damage.
- Turn off the printer using the Branch Circuit Breakers in either of the following cases:
 - During a thunderstorm
 - During a power failure

- Take special care with zones marked with warning labels.

Electrical shock hazard

Turn off the printer using the Branch Circuit Breakers located in the building's Power Distribution Unit (PDU) before servicing the printer. The printer should be connected to earth at mains outlets only.

⚠ WARNING! The internal circuits and drying and curing modules operate at hazardous voltages capable of causing death or serious personal injury.

To avoid the risk of electric shock:

- Do not attempt to dismantle the drying and curing modules or e-cabinet during hardware maintenance tasks. Follow the instructions strictly.
- Do not remove or open any other closed system covers or plugs.
- Do not insert objects through slots in the printer.
- Do not attempt to replace a fuse yourself. A blown fuse may indicate malfunctioning electrical circuits within the system. Call your service representative to replace it.
- Test the functionality of the Residual Circuit Breaker (RCCB) every year (see the procedure below).

To test the Residual Circuit Breaker (RCCB):

1. Turn off the built-in computer using the Internal Print Server's **Shut down** button (or, in Print Care, select **Printer tools > Power options > Shutdown**). Do not turn off the printer from the mains switch or the circuit breakers.

⚠ CAUTION: The shutdown process takes some time to complete. Wait until the green Power Enabled light is off before proceeding.

2. Once the computer is off, test that the RCCB works correctly by pressing the test button.
 - If the RCCB does not trip when the test button is pressed, this indicates that it has failed. The RCCB must be replaced for safety reasons; call your service representative to remove and replace the RCCB.
 - If the RCCB trips, this indicates it is working correctly; reset the RCCB to its normal on state.

Heat hazard

The drying and curing subsystems of the printer operate at high temperatures and can cause burns if touched. LED's array supports, beam and enclosures can reach high temperatures. To avoid the risk of burns, take the following precautions:


- Do not touch the internal enclosures of the printer's drying and curing modules.
- Take special care when accessing the substrate path.
- Take special care with zones marked with warning labels.
- Do not place objects covering LED's arrays supports, beam and enclosures.
- Do not attempt to modify LED's array supports, beam and enclosures;
- Remember to let the printer cool down before performing some maintenance operations.

Fire hazard

The drying and curing subsystems of the printer operate at high temperatures. Call your service representative if the printer's built-in Residual Current Circuit Breaker (Ground Fault Circuit Interrupter) is repeatedly tripped.

To avoid the risk of fire, take the following precautions.

- Use the power supply voltage specified on the nameplate.
- Connect the power cords to dedicated lines, each protected by a branch circuit breaker according to the information detailed in the Site Preparations documentation.
- Do not insert objects through slots in the printer.
- Take care not to spill liquid on the printer. After cleaning, make sure all components are dry before using the printer again.
- Do not use aerosol products that contain flammable gases inside or around the printer. Do not operate the printer in an explosive atmosphere.
- Do not block or cover the openings of the printer.
- Do not attempt to modify the drying or curing module, or the e-cabinet.
- Make sure that the operating temperature of the substrate recommended by the manufacturer is not exceeded. If this information is not available, ask the manufacturer. Do not load substrates that cannot be used at an operating temperature above 125°C (257°F).
- Do not load substrates with auto-ignition temperatures below 250°C (482°F). See note below. No ignition sources are close to the substrate.

 **NOTE:** Test method based on EN ISO 6942:2002; Evaluation of materials and material assemblies when exposed to a source of radiant heat, method B. The test conditions, to determine the temperature when the substrate starts ignition (either flame or glow) were: Heat flux density: 30 kW/m², Copper calorimeter, K type thermocouple.

- Proper maintenance and genuine HP consumables are required to make sure that the printer operates safely as designed. The use of non-HP consumables (foams, filters, printhead cleaner roll, and inks) may present a risk of fire.

LED's array supports, beam and enclosures can reach high temperatures. To avoid the risk of fire, take the following precautions:

- Take special care with zones marked with warning labels.
- Do not place objects covering LED's arrays supports, beam and enclosures.
- Take care not to spill liquid on the accessory. After cleaning, make sure all components are dry before using the printer.
- Do not attempt to modify LED's array supports, beam and enclosures.

Mechanical hazard

The printer has moving parts that could cause injury. To avoid personal injury, take the following precautions when working close to the printer and (optional) In-line slitters.

- Keep your clothing and all parts of your body away from the printer's moving parts.
- Avoid wearing necklaces, bracelets and other hanging objects.
- If your hair is long, try to secure it so that it will not fall into the printer.
- Take care that sleeves or gloves do not get caught in the printer's moving parts.
- Avoid standing close to the fans, which could cause injury and could also affect print quality (by obstructing the air flow).
- Do not touch gears or moving rolls during printing.
- Do not operate the printer with covers bypassed.
- Do not open the printhead cleaning roll door during printing. While accessing this door, do not launch any carriage movement operations.

Light radiation hazard

UV radiation can be emitted from the LED's array in compliance with the requirements of the exempt group of IEC 62471:2006 Photobiological safety of lamps and lamp systems. However, you are recommended not to look directly for a long time at the output LEDs lights while they are on.

Sound pressure level

The sound pressure level could exceed 70 dBA in some print modes. Hearing protection may be required.

Chemical hazard

Sufficient ventilation should be provided to ensure that potential airborne exposure to these substances is adequately controlled.

See the safety data sheets available at <http://www.hp.com/go/msds> to identify the chemical ingredients of your consumables. Consult your usual air-conditioning or EHS specialist for advice on the appropriate measures for your location.

For more detailed information, see the "Ventilation" and "Air conditioning" sections of the site preparation guide, available from <http://www.hp.com/go/latex2700/manuals>.

Heavy substrate hazard

Special care must be taken to avoid personal injury when handling heavy substrates.

- Handling heavy substrate rolls always requires two people. Care must be taken to avoid back strain and/or injury.
- Always use a forklift, pallet truck, or other handling equipment to lift substrates. The printer has been designed to be compatible with many of these devices.
- Always wear personal protective equipment including boots and gloves.

Ink handling

HP recommends that you wear gloves when handling ink or the ink waste bottle.

Ventilation


Adequate ventilation needs to be provided to ensure that potential airborne exposure is adequately controlled according to Safety Data Sheets.

Consult the Safety Data Sheets available at <http://www.hp.com/go/msds> to identify chemical ingredients of your ink consumables.

Airborne materials can be readily identified and quantified by using established indoor air-quality testing protocols. HP performs these assessments during the development phase for all products. HP's assessment concluded that, to ensure that the room in which the system is installed meets local environmental, health, and safety (EHS) regulations, you need to provide a minimum of 10 ACH (air changes per hour) of fresh air ventilation and a minimum room volume of 140 m³.

These specifications are valid for the following conditions: one HP printer using a black area-fill plot at around 100 m²/h, 3 passes, and 90% of ink, assuming 8 hours of printing time a day.

Customers should recognize that actual levels in their facilities are dependent on workspace variables such as room size, ventilation performance, and duration of equipment use. Ventilation rate should be recalculated if customer installation parameters are different.

 **NOTE:** The ventilation and air conditioning units should not blow air directly onto the printer.

 **NOTE:** Maintaining positive air pressure in the print production room will help prevent dust from entering the room.

Local Exhaust

Pressure should be from -10 Pa to -45 Pa, and flow rate from 400 to 500 m³/h.

Environmental specifications

Information regarding operating temperature ranges, maximum altitude of installation, and local environmental considerations.

Environmental specifications

	Temperature range	Humidity range	Temperature gradient
Operating for optimal print quality	20 to 25°C (68 to 77°F)	30 to 60% relative humidity	10°C/h (18°F/h) or less
Operating for standard printing	15 to 30°C (59 to 86°F)	20 to 70% relative humidity	10°C/h (18°F/h) or less
Not operating, in transport or storage, ink in tubes	5 to 55°C (41 to 131°F)	90% relative humidity at 55°C (131°F)	10°C/h (18°F/h) or less
Not operating, in transport or storage, no ink in tubes *	-25 to 55°C (-13 to 131°F)	90% relative humidity at 55°C (131°F)	10°C/h (18°F/h) or less

* If the printer is going to be kept at a temperature of less than 5°C, call your service representative to empty the ink from the tubes.

Maximum operating altitude: 3000 m (10000 ft).

The printer should not be exposed to direct sunlight or any other strong light source, and it should not be used in a dusty environment. Try also not to expose the printer, especially the IDS side, to any heating elements at customer site.

Use of tools and keys

Users, maintenance personnel, and service personnel will encounter circumstances requiring different tools and keys.

- **Users:** Daily operations including printer settings, printing, substrate loading, replacement of ink reservoirs, and daily checks. Do not require any tool or maintenance key.
- **Maintenance personnel:** Hardware maintenance tasks and replacement of printheads, filters, ink waste bottles, foams, and printhead cleaning roll. Require maintenance key and flat screwdriver.
- **Service personnel:** Any repair or maintenance operation, running diagnostics, and troubleshooting. Require maintenance key, power box key, printer mains switch key, IPS switch key, e-box switch key, and Torx screwdriver set.


 **NOTE:** During the installation of the printer, the designated personnel receive training for the safe operation and maintenance of the printer. It is not allowed to use the printer without this training.

 **NOTE:** After using the maintenance key to open a door, remember to lock it afterwards, and return the key to safe and secure storage.

Warnings and cautions

The following symbols are used in this manual to make sure the proper use of the printer and to prevent the printer from being damaged. Follow the instructions marked with these symbols.

 **WARNING!** Failure to follow the guidelines marked with this symbol could result in serious personal injury or death.

 **CAUTION:** Failure to follow the guidelines marked with this symbol could result in minor personal injury or damage to the product.

Warning labels

Users should be aware of the location and meaning of the following warning labels.

Warning labels

Label	Explanation
	<p>Electric shock hazard</p> <p>Heating modules operate at hazardous voltage. Disconnect power source before servicing.</p> <p>Caution! Double pole. Neutral fusing. Refer servicing to qualified service personnel.</p> <p>In case of operation of the fuse, parts of the printer that remain energized may represent a hazard during servicing. Turn off the printer using both Branch Circuit Breakers located in the building's Power Distribution Unit (PDU) before servicing.</p> <p>Warning</p> <p>High leakage current. Current leakage may exceed 3.5 mA. Earth connection essential before connecting supply. Equipment to be connected to earthed mains only.</p> <p>See installation instructions before connecting to the supply. Make sure that the input voltage is within the printer's rated voltage range. The printer requires up to two dedicated lines, each protected by a branch circuit breaker according to site preparation requirements.</p> <p>Read and follow the operating and safety instructions before starting the printer.</p>
	<p>Risk of burns. Do not touch the internal enclosures of the printer's drying and curing modules, universal support beam, and LED's array and enclosures when accessing substrate path.</p>
	<p>Crush hazard. Do not touch PPS while moving. When substrate has been loaded, the carriage descends into its normal position, and could crush your hand or anything else left underneath it.</p>
	<p>Risk of trapped fingers. Do not touch gears while moving. Danger that your hands may become trapped between gearwheels.</p>

Located on the e-cabinet.

Located on the curing modules and media output beam.



Located on carriage cover rear-left and right side, curing module right side (visible with curing opened), and below vapor removal curing output enclosure (visible with curing opened).

Located on each side of substrate path, and close to PPS gear

Warning labels (continued)

Label	Explanation
 <p data-bbox="248 470 823 520">Located internally on substrate path, on carriage, and on printhead cleaning roll (web wipe); for maintenance/service personnel only.</p>	<p data-bbox="855 260 1417 336">Hazardous moving part. Keep away from moving carriage printhead. When printing, the printhead carriage travels back and forth across the substrate.</p>
 <p data-bbox="248 772 718 802">Located on ink waste bottle and web wipe mechanism.</p>	<p data-bbox="855 541 1436 592">You are recommended to wear gloves when handling ink cartridges, printhead cleaning cartridges and the printhead cleaning container.</p>
 <p data-bbox="248 1054 536 1083">Located on rear side on left cover</p>	<p data-bbox="855 823 1426 873">Sound pressure level could exceed 70 dB(A) in certain print modes. Hearing protection may be required.</p>
 <p data-bbox="248 1310 807 1386">Located internally on heating modules, electrical cabinets, power box, vapor removal pump filter, vacuum fan enclosure, and scan beam rear part; for maintenance/service personnel only.</p>	<p data-bbox="855 1104 1417 1155">Electric shock hazard. Disconnect power before servicing. Heating modules and electrical cabinets operate at hazardous voltage.</p>
 <p data-bbox="248 1617 772 1667">Located internally, close to vacuum fan blades and Dryer PCA cooling fan; for maintenance/service personnel only</p>	<p data-bbox="855 1411 1398 1461">Hazardous moving parts. Keep away from moving fan blades. Internal close to Vacuum Fan Blades and Dryer PCA cooling fan.</p>
	<p data-bbox="855 1692 1388 1743">Risk of cutting your fingers. Do not touch in-line slitters during printing.</p> <p data-bbox="855 1768 1417 1818">Handle in-line slitters with care and store them safely in their box when not being used with the printer.</p>

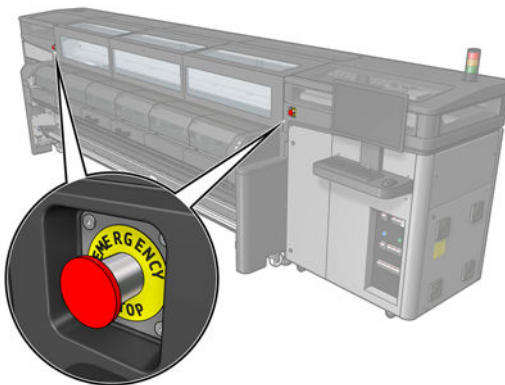
Warning labels (continued)

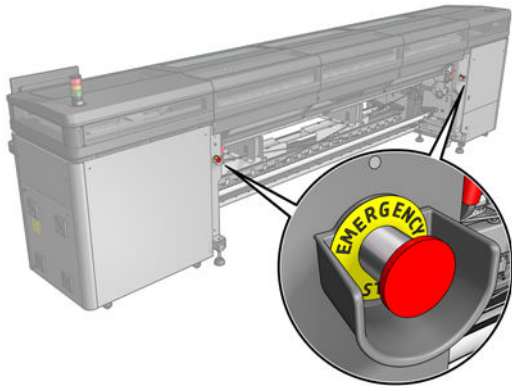
Label	Explanation
<p>Located on right side rear enclosure and scan beam frontal part.</p>  <p>Located on black bottom structure IDS and E-cabinet sides.</p>	<p>Identifies the Protective Earth (PE) terminal for qualified electrician, and bonding terminals for maintenance/service personnel only. Earth connection essential before connecting supply.</p>
 <p>Located near input terminals in E-cabinet.</p>	<p>Identifies the Protective Earth (PE) terminal for qualified electrician, and bonding terminals for maintenance/service personnel only. Earth connection essential before connecting supply.</p>
<div style="border: 1px solid red; padding: 5px; text-align: center;"> <p>WARNING! 6kA Short-circuit breaking capacity of printer's built-in supplementary circuit breakers</p> </div> <p>Located beside input terminals in E-cabinet.</p>	<p>Identifies the short-circuit breaking capacity of printer's built-in supplementary circuit breakers beside mains input terminal, for qualified electrician and maintenance/service personnel only. Earth connection essential before connecting supply.</p>

Emergency stop buttons

There are four emergency stop buttons distributed around the printer. If an emergency occurs, simply push one of the emergency stop buttons to stop all printing processes. A system error message is displayed, and the fans turn at maximum speed. Make sure that all emergency stop buttons are released before restarting the printer.

There are also three safety interlocks distributed around the printer structure: one at the carriage cover position, one at the top cover (front window) position, and one on the loading table.





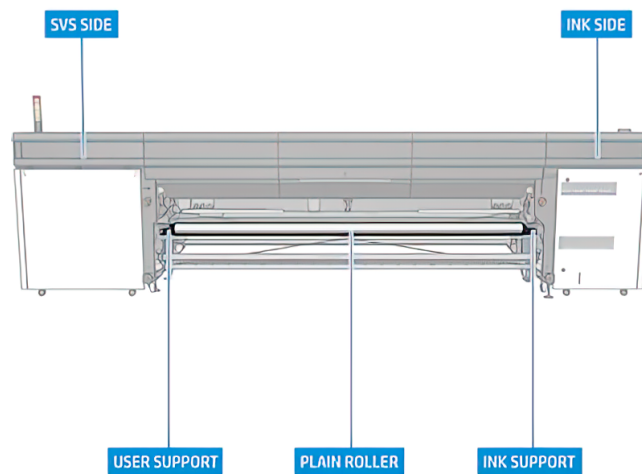
For safety reasons, access to the print zone is not permitted while printing is in progress. Therefore, if the front door or the loading table is opened, power to the carriage and to the drying and curing module is disconnected. The print is cancelled and a system error may be displayed.

3 Installation for the HP Latex 2700 Printer Series

The installation process consists of installing both supports at the substrate-input side of the printer, and then attaching the plain roller.

The instructions are the same for both User Support and Ink Support sides, but the spacers are different for both sides; they need to be checked before installing.

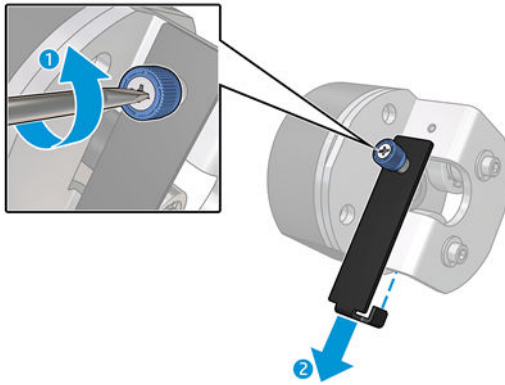
The instructions in this guide show the full process for the Ink Support side.



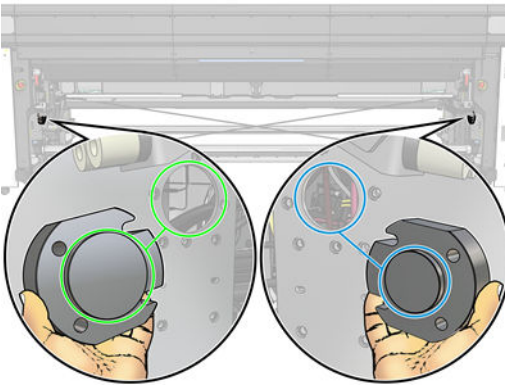
Installation steps

The following steps provide the complete procedure for this topic.

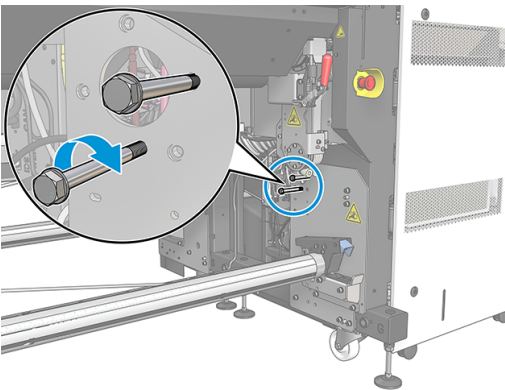
1. Remove the black plate of the support. This plate will be used to hold the plain roller.



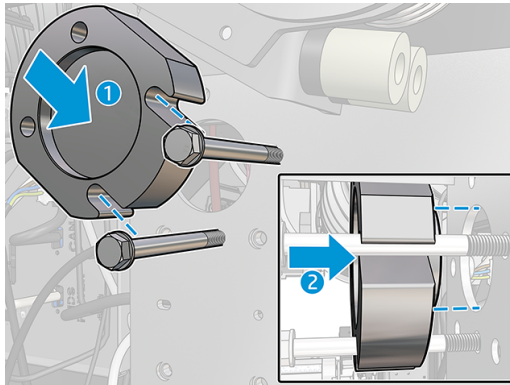
2. Check that the spacer fits in the side hole in which you will install it. The User Support and Ink Support sides have different hole sizes as a poka-yoke check.



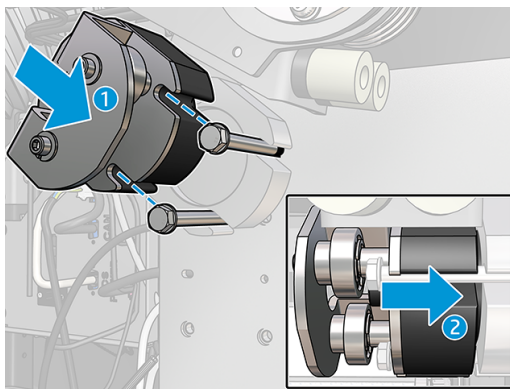
3. Partially insert two of the four bolts into the indicated holes.



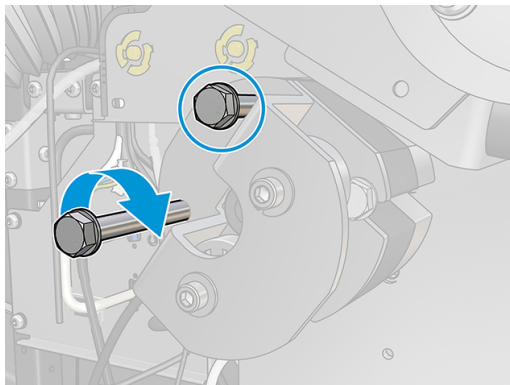
4. Introduce the ink spacer into the hole.



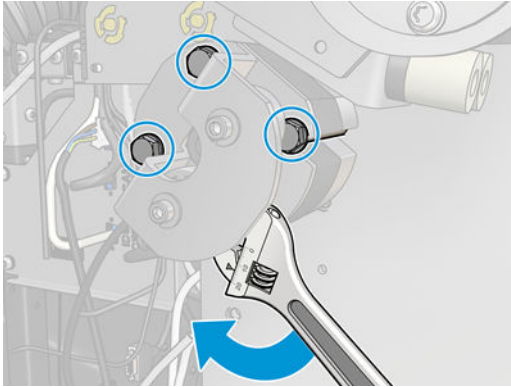
5. Insert the user support.



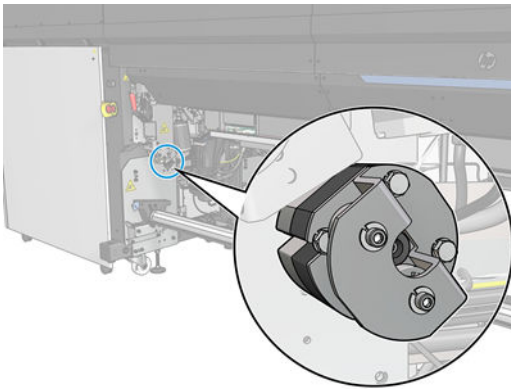
6. Insert the two remaining bolts.



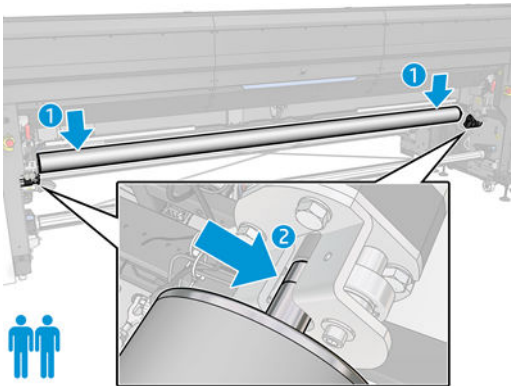
7. Tighten the four bolts following with an open wrench or an adjustable wrench.



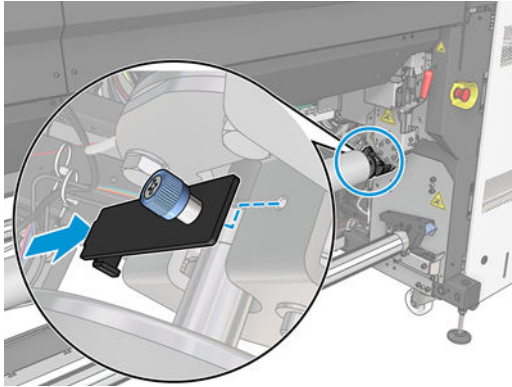
8. Install the support of the other side following steps 1-7.



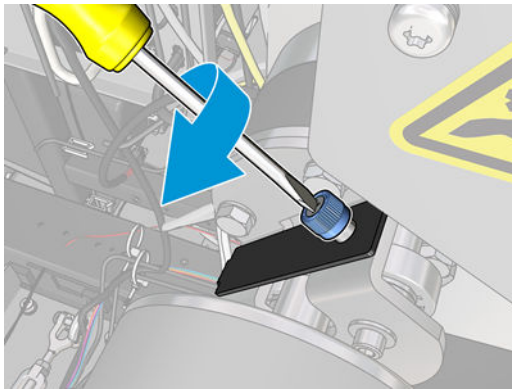
9. Insert the plain roller with the help of another person. Make sure that it fits at both sides.



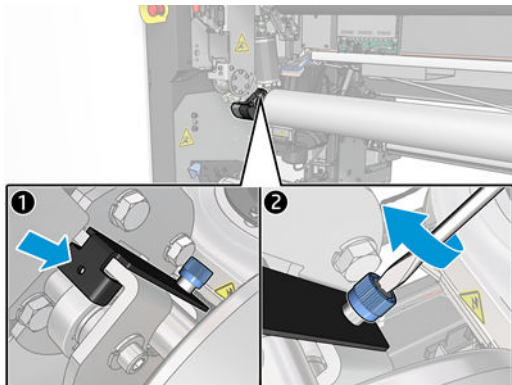
10. Put back the black plate of both supports once the plain roller is correctly inserted at both supports.



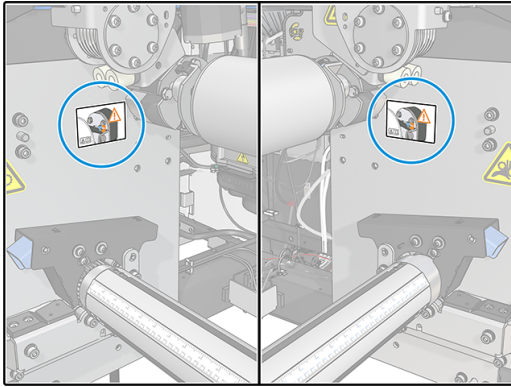
11. Tighten the screw of the black plate.



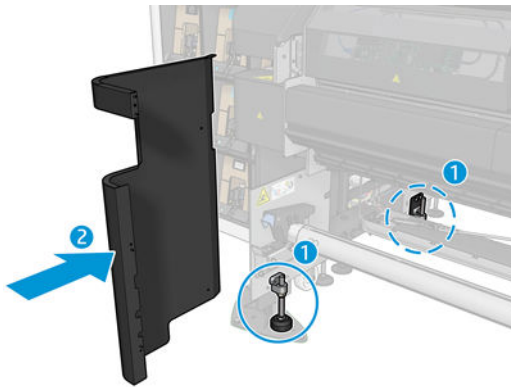
12. Put back the black plate of the user support and tighten the screw.



13. Put the new hazard stickers in place, as shown in the following picture.



14. Assemble the extra feet for the input and output sides. Assemble the cover removed from the output side. You will be asked to tighten the M20 bolts at both anchor supports once the printer feet have been lowered.



4 Installation for the HP Stitch S1000 Printer

The work can be done by one person.

Tools needed

1. Torx screwdriver set
2. Allen key set
3. Tube key set/ratchet (optional)
4. Nylon hammer
5. Circlip remover pliers
6. Forklift

Assembling the dual-roll lateral assembly

There are two kinds of rollers that can be used in the dual-roll configuration: the output spread roller and the plain diverter exchangeable roller.

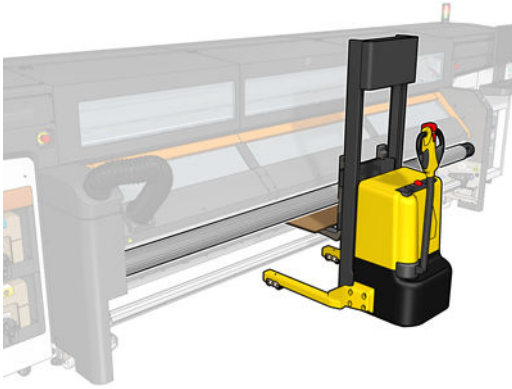
The kind of roller to be used depends on the kind of substrate to be printed. However, the printer hardware does not allow you to change the roller, the spread roller being the only one assembled.

This is not a problem if you want to print a transfer paper, as the spread roller helps in most cases to print transfer papers. If you need to print on a fabric, you need a plain roller; to install it, you have to make some modifications to the printer hardware.

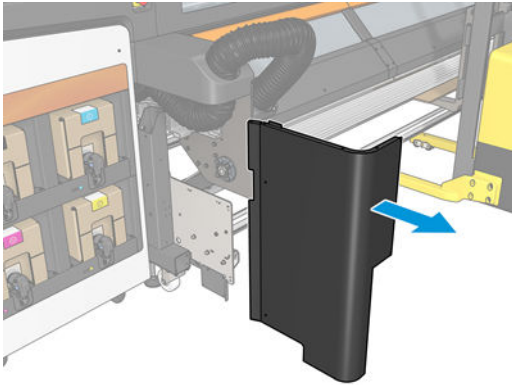
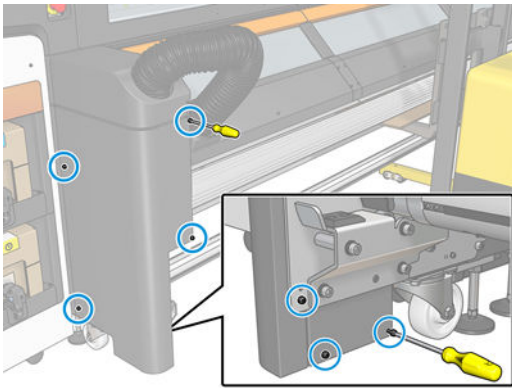
Assembly steps

The following steps provide the complete procedure for this topic.

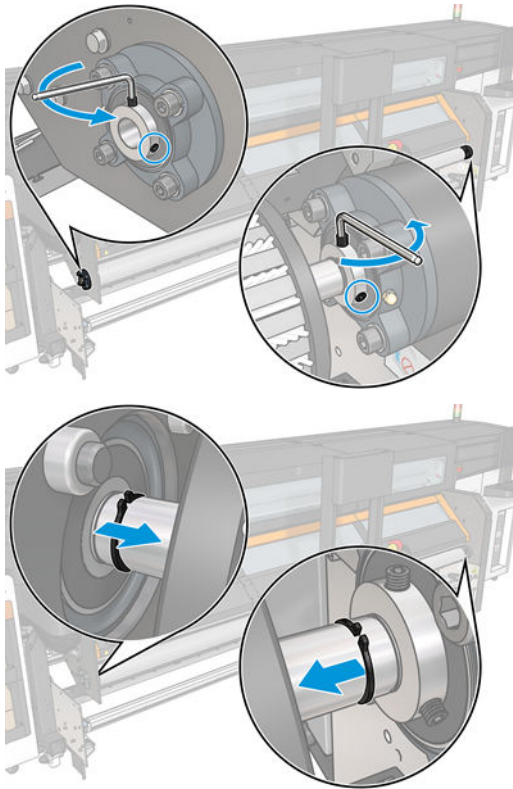
1. Use a forklift or something similar under the spread roller.



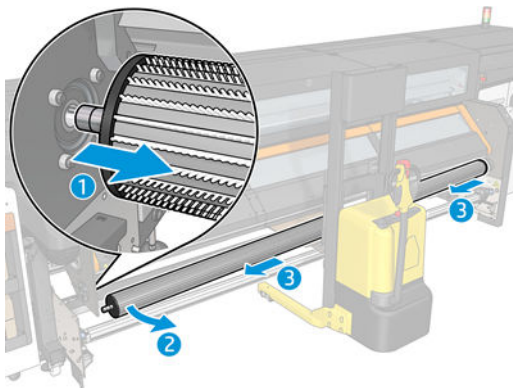
2. Remove the left side cover.



- From the far left and far right of the spread-roller axis, release the two screws that interact with the left/right spread-roller support in the printer and move the circlip in each case/side.

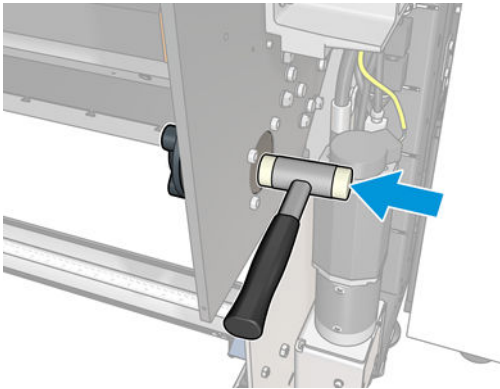
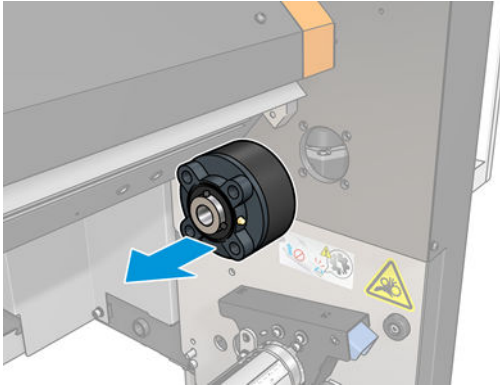
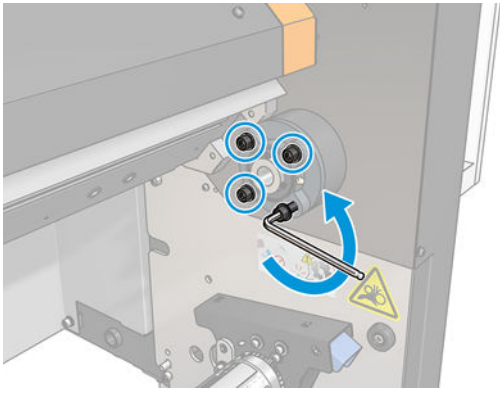


- From the left side of the spread roller, pull firmly to the right side and extract the axis of the spread roller outside of its location.

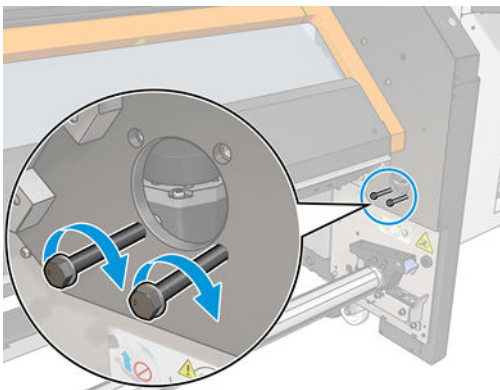


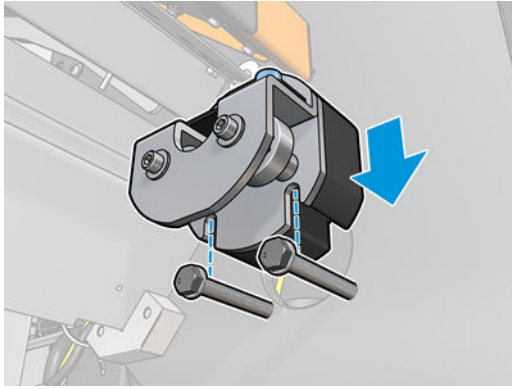
- Once the spread roller is out, remove the right spread-roller holder by loosening the four Allen screws. Afterwards, remove the right support.

 **NOTE:** If the right spread roller holder is blocked, remove the lateral right cover first. (If necessary, use a nylon hammer to gently hit it on the back to completely remove the support.)




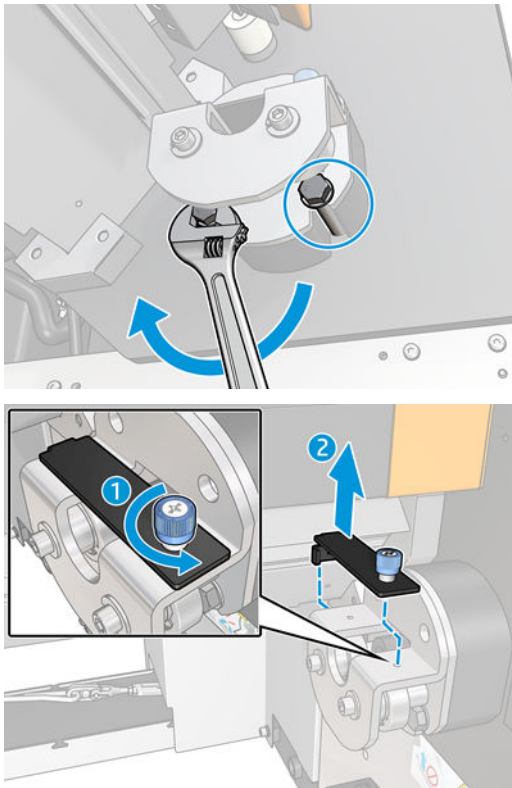
6. Insert the two bottom screws as illustrated in the following picture. These two screws will provisionally support the new right structure:

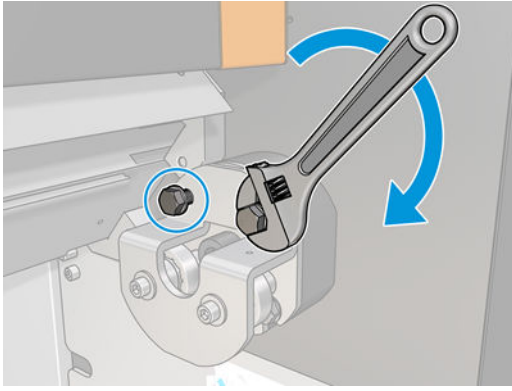




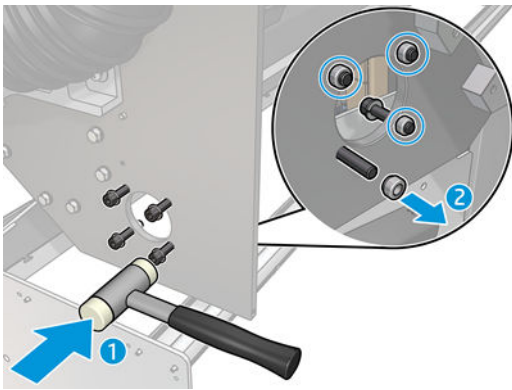
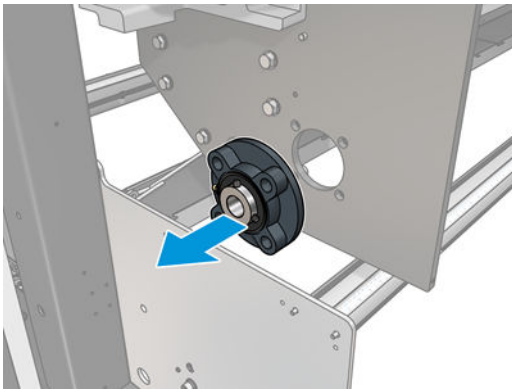
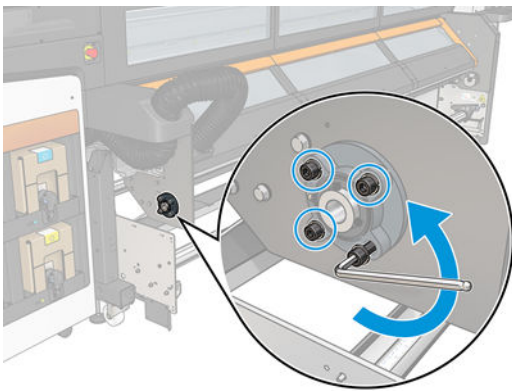
7. After locating the new structure, screw it fixing the two bottom screws completely, and then do the same with the upper ones.

 **TIP:** Remove the black metal holder, or the upper screws cannot be installed.

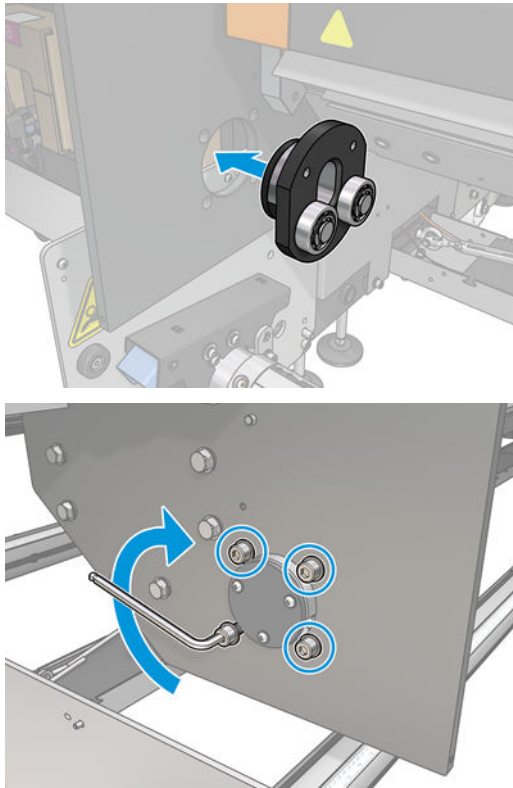




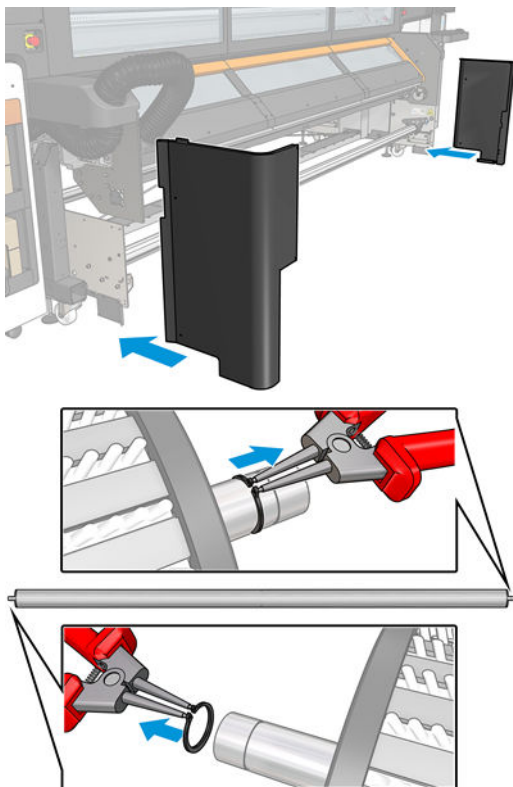
8. Remove the four Allen screws and the left support. Once the support is disassembled, remove the peanuts. Screw one of the screws a little bit, and gently hit it with the nylon hammer until the peanut comes off.



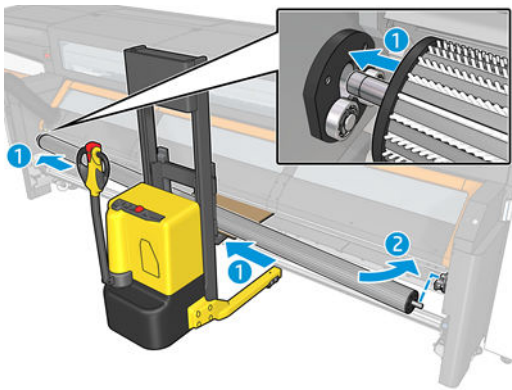
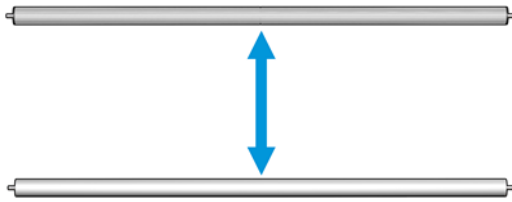
9. Once removed, install the left side structure, using the screws that come with the kit:



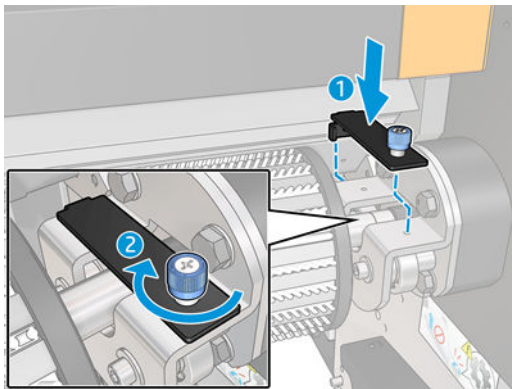
10. Install back lateral covers, permanently remove the circlips on the spread-roller axis.



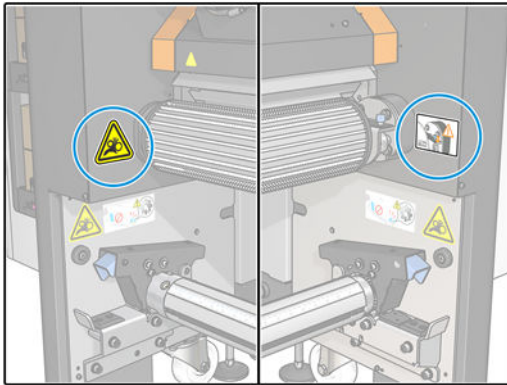
11. Install the spread roller or plain diverter, whatever is needed for each job. Use the forklift to raise whatever roller in place, first from the left and then from the right.



12. Install the black cover, which acts as a stop. This can be done by hand; a screwdriver is not needed.



13. Put the new hazard stickers in place, as shown in the following pictures.



Use the following table to decide whether to use the spread or plain roller, depending on the type of substrate to be loaded.

	Input spreader roller	Output spreader roller	Output plain diverter
Single roll Transfer paper	✓	✓	✗
Dual roll Transfer paper	✗	✓	✗
Single roll Direct-to-fabric	✓ <small>* Bypass with stretchable substrate</small>	✓	✗
Dual roll Direct-to-fabric	✗	✗	✓