HP Stitch S300 64in Printer
HP Stitch S500 64in Printer

User Guide

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1 Introduction

Welcome to your printer

Your printer is an HP dye-sublimation printer designed for printing on transfer paper and direct to the textile. Some major features of the printer are:

- Accepts paper or fabric rolls up to 42 kg (92.59 lb) for HP Stitch S300 or 55 kg (121.25 lb) for HP Stitch S500

- Spindle-less substrate input for the HP Stitch S500

- Accessible print-zone LED lighting and at-a-glance monitoring with status beacon signals (HP Stitch S500 only)

- 775 ml ink cartridges for HP Stitch S300 or 3 liter ink cartridges for HP Stitch S500

- Prints completely dry and tightly wound, ready for the calendering process

- Prints on a wide range of papers (>45 g/m²) and textiles (>90 g/m²)

- Consistent and repeatable print quality with the user-replaceable printheads

- Automatic maintenance to ensure nozzle health

- Optimal advance control with the embedded OMAS (Optical Media Advance System)

- Automatic nozzle compensation system

- Hot-air drying system to optimize paper control in the print zone

- Unique print-zone drying system for drop placement control

- X-cutter for roll-to-sheet workflows

- 8 inch intuitive front panel

- Easy-to-use color management tools for better color matching and consistency

To send print jobs to your printer, you will need Raster Image Processor (RIP) software, which should be run on a separate computer. RIP software is available from various different companies.

Printer models

	HP Stitch S300	HP Stitch S500
Supplied with the printer	HP 614 Stitch S Series Printheads (4)	HP 614 Stitch S Series Printheads (8)
	HP 614 Stitch S Series Printhead Cleaning Kit	HP 614 Stitch S Series Printhead Cleaning Kit
	HP Series 300/500 User Maintenance Kit	HP Series 300/500 User Maintenance Kit
	HP Series 300/500 Edge Holders Kit	HP Series 300/500 Edge Holders Kit
	HP Ergosoft RIP Color Edition	HP Series 300 Media Loading Accessory
		HP Stitch 300/500 Series Ink Collector
		2in core adaptor kit
Optional accessories	HP Series 300/500 Series Ink Collector	HP Series 300/500 Series Ink Collector
	HP Series 300/500 Edge Holders Kit	HP Series 300/500 Edge Holders Kit
	HP Series 300 64-in Printer 3-in spindle	HP Ergosoft Pro RIP Color Edition
	HP Series 300 64-in Printer 2-in spindle	

	HP Stitch S300	HP Stitch S500
	HP Series 300 Media Loading Accessory	
Consumables	HP 624 775ml Stitch S Series Ink Cartridges	HP 636 3L Stitch S Series Ink Cartridges
	HP 614 Stitch S Series Printheads	HP 614 Stitch S Series Printhead
	HP 614 Stitch S Series Printhead Cleaning Kit	HP 614 Stitch S Series Printhead Cleaning Kit
	HP Series 300/500 Ink Collector Foam Kit	HP Series 300/500 Ink Collector Foam Kit
	HP Series 300/500 User Maintenance Kit	HP Series 300/500 User Maintenance Kit

Documentation

The following documents can be downloaded from http://www.hp.com/go/StitchS30064in/manuals or http://www.hp.com/go/StitchS50064in/manuals:

- Site preparation guide

- Introductory information

- Printer assembly instructions

- User guide (this document)

- Legal information

- Limited warranty

The Quick Response (QR) code images found in some parts of this guide provide links to additional video explanations of particular topics. For an example of such an image, see Main printer components on page 9.

Safety precautions

Before using your printer, read the following safety precautions 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 take appropriate measures to minimize the risks to yourself and to other people.

General safety guidelines

There are no operator-serviceable parts inside the printer except those covered by HP's Customer Self Repair program (see http://www.hp.com/go/selfrepair/). Refer servicing of other parts to qualified service personnel.

Turn off the printer and call your service representative in any of the following cases:

- The power cord or plug is damaged.

- The printer has been damaged by an impact.

- There is any mechanical or enclosure damage.

- Liquid has entered the printer.

- There is smoke or an unusual smell coming from the printer.

- The printer has been dropped.

- The printer is not operating normally.

Turn off the printer in either of the following cases:

- During a thunderstorm

- During a power failure

Take special care with zones marked with warning labels.

Do not repair or replace any part of the printer or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that you understand and have the skills to carry out.

Do not attempt to repair, disassemble, or modify the device yourself. Do not use any part other than original HP spare parts.

To repair or reinstall the device, contact your nearest authorized service provider. Otherwise there is a risk of electric shock, injury, fire, or problems with the product.

Electrical shock hazard

⚠ WARNING!   Built-in power supply operates at hazardous voltages capable of causing death or serious personal injury.

Unplug the power cord before servicing the printer.

To avoid the risk of electric shock:

- The printer must be connected to earthed mains outlets only.

- Do not remove or open any other closed system covers or plugs.

- Do not insert objects through slots in the printer.

Heat hazard

To avoid personal injury, take the following precautions:

- Let the printer cool down when accessing the output platen in the event of a substrate jam.

- Let the printer cool down before performing some maintenance operations.

Fire hazard

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

- The customer is responsible for meeting the printer's requirements and the Electrical Code requirements according to the local jurisdiction of the country where the equipment is installed. Use the power supply voltage specified on the nameplate.

- Connect the power cord to dedicated lines, each protected by a branch circuit breaker according to the information detailed in the site preparation guide. Do not use a power strip (relocatable power tap) to connect the power cord.

- Use only the power cord supplied by HP with the printer. Do not use a damaged power cord. Do not use the power cord with other products.

- 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.

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:

- 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.

- While loading substrate, ensure that no-one else is close to the printer.

Light radiation hazard

Light radiation is emitted from the illumination of the print zone. This illumination is 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 at the LEDs while they are on. Do not modify the module.

Chemical hazard

See the safety data sheets available at http://www.hp.com/go/msds to identify the chemical ingredients of your consumables. Sufficient ventilation needs to be provided to ensure that potential airborne exposure to these substances is adequately controlled. 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 in the site preparation guide, available at: http://www.hp.com/go/StitchS30064in/manuals or http://www.hp.com/go/StitchS50064in/manuals.

Ventilation

Fresh air ventilation is needed to maintain comfort levels.

Air conditioning and ventilation should meet local Environmental Health and Safety (EHS) guidelines and regulations.

Follow the ventilation recommendations in the site preparation guide, available at: http://www.hp.com/go/StitchS30064in/manuals or http://www.hp.com/go/StitchS50064in/manuals.

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

Air conditioning

As with all equipment installations, to maintain ambient comfort levels, air conditioning in the work area should take into account that the equipment produces heat. Typically, the printer's power dissipation is 3.7 kW (12.7 KBTU/h).

Air conditioning and ventilation should meet local Environmental Health and Safety (EHS) guidelines and regulations.

NOTE: The air-conditioning units should not blow air directly onto the equipment.

Heavy substrate hazard

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

- Handling heavy substrate rolls may require more than one person. Care must be taken to avoid back strain and/or injury.

- Consider using a forklift, pallet truck, or other handling equipment.

- When handling heavy substrate rolls, wear personal protective equipment including boots and gloves.

- When loading rolls, remember to use the loading table.

Ink handling

HP recommends that you wear gloves when handling ink system components.

Warnings and cautions

The following symbols are used in this manual to ensure 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 printer.

Warning labels

Label	Explanation
	Printer label. To identify the printer's power cord.
	Electric shock hazard. Heating modules operate at hazardous voltages. Disconnect power source before servicing. **CAUTION:** Double pole. Neutral fusing. Equipment to be connected to earthed mains outlet only. Refer servicing to qualified service personnel. Disconnect all power cords before servicing. No operator serviceable parts inside the printer. Before starting, read and follow the operating and safety instructions. This label is located on the e-box.

Label	Explanation
	Crush risk. When you move the substrate input/output from the load position to the print position, there is a risk of crushing your hand between the substrate input/output and the stand. Ensure that no-one is near the printer when you move the substrate input/output.
	This label is located on the right side plate of the substrate input/output.
	Crush risk. Be careful with your fingers when moving the tension bar to the park position: you could crush your fingers against the side covers of the substrate input/output.
	This label is located on the right and left sides of the tension bar and behind the arms of the tension bar.
Tension bar HP Stitch S300 only	
	Crush risk. Be careful when loading rolls: your hand could be crushed between the roll and the substrate input structure.
	This label is located on the substrate input structure.
	You are recommended to wear gloves when handling the maintenance cartridge, the platen, or the ink collector.
	This label is located on the maintenance cartridge and on the ink funnel.
	Electric shock hazard. Power supplies operate at hazardous voltages. Disconnect the power cord before servicing.
	This label is located internally, close to the print-zone heating-coils enclosure between fans. For service personnel only.
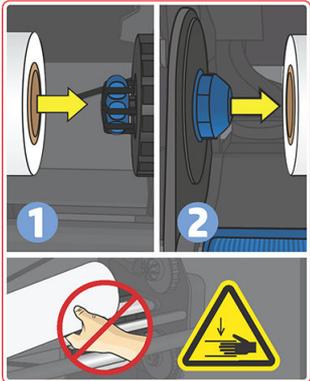
Label	Explanation
	Hazardous moving parts. Rotating fan blades. Keep hands clear.
	These labels are located internally, close to the print-zone fans: one near the vacuum fan, one near the aerosol fan. For service personnel only.
⚠ WARNING ⚠ 警告 **HAZARDOUS AREA** HEATING MODULES OPERATE AT HAZARDOUS VOLTAGES. **ELECTRIC SHOCK HAZARD** EQUIPMENT HAS INPUT POWER CORDS. DISCONNECT ALL POWER CORDS BEFORE SERVICING. DOUBLE POLE, NEUTRAL FUSING. **EQUIPMENT TO BE CONNECTED TO EARTHED MAINS OUTLET ONLY**	Hazardous area. Heating modules operate at hazardous voltages.
	Electric shock hazard. Disconnect the power cord before servicing. Power supplies operate at hazardous voltages.
	Double pole, neutral fusing.
	Equipment to be connected to earthed mains outlet only.
	This label is located in the scan and air-curtain heater control enclosure. For service personnel only.

📝 NOTE: The final label position and its size on the printer may vary slightly, but should always be visible and close to the potential risk area.

Main printer components

The following views of the printer illustrate its main components.

Front view, HP Stitch S300 Printer
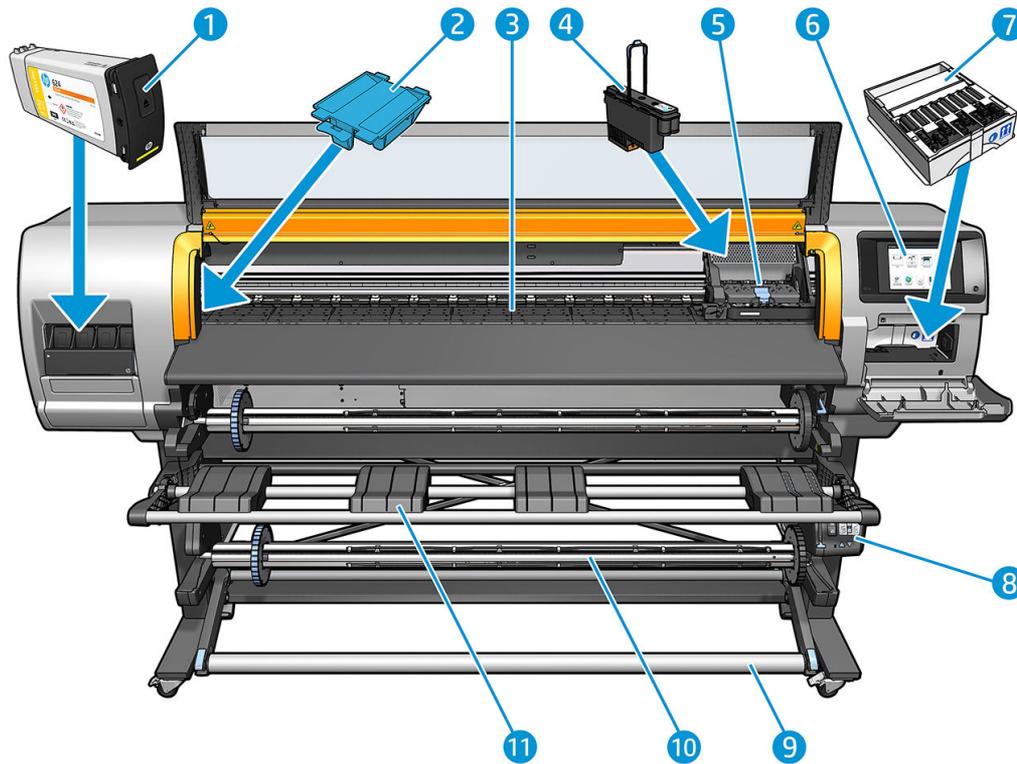
1. Ink cartridge
2. Ink funnel
3. Platen
4. Printhead
5. Printhead carriage
6. Front panel

7. Maintenance cartridge
8. Take-up reel motor
9. Tension bar
10. Take-up reel
11. Loading table

Front view, HP Stitch S500 Printer
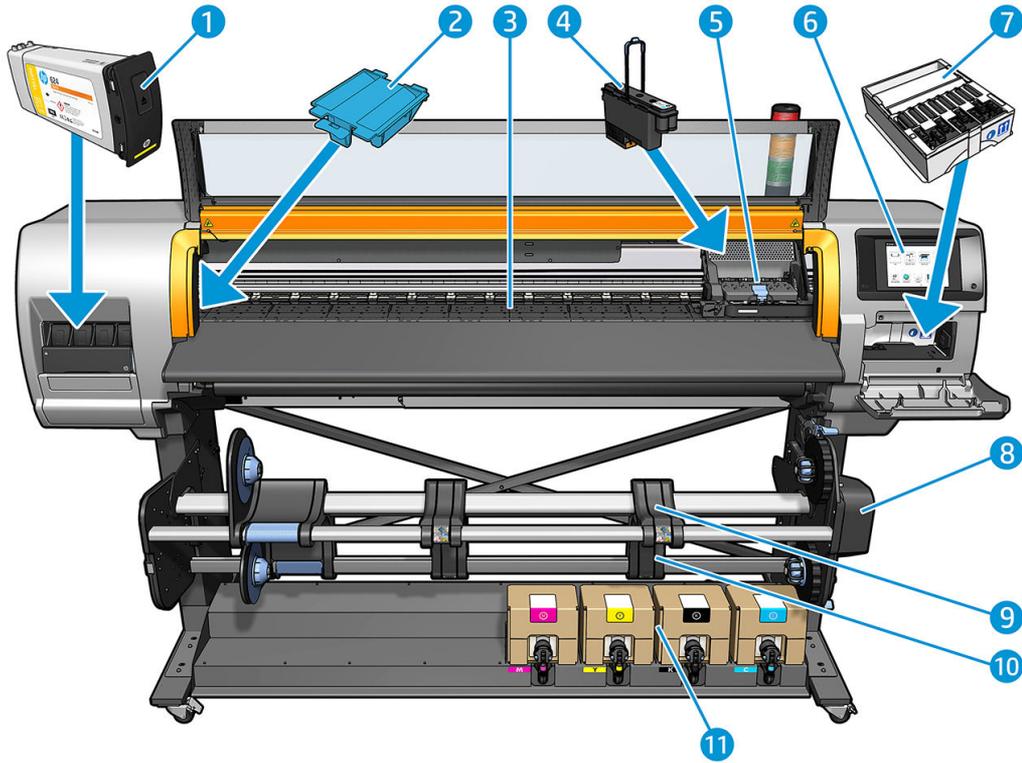
1. Intermediate tank
2. Ink funnel
3. Platen
4. Printhead
5. Printhead carriage
6. Front panel

7. Maintenance cartridge
8. Take-up reel motor
9. Loading table
10. Take-up reel
11. Ink cartridge

Rear view
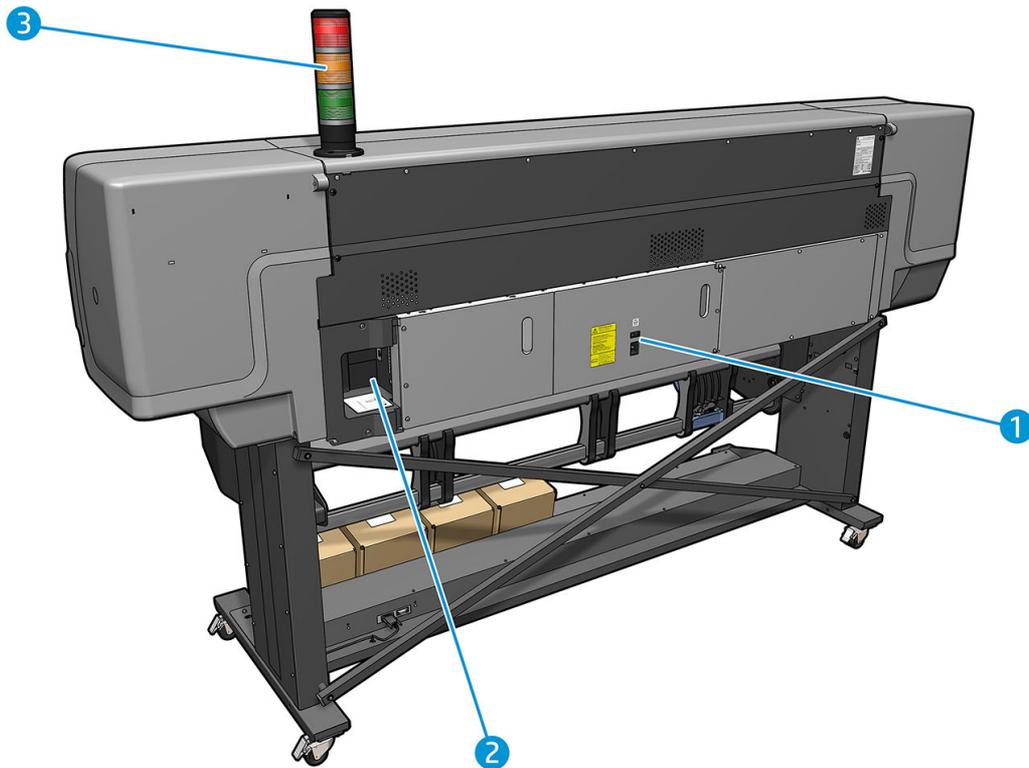
1. Power switch and power socket
2. Sockets for communication cables and optional accessories
3. Beacon (HP Stitch S500 only)

Loading accessory

The loading accessory helps you to load some substrate types that are difficult to load without it. See Loading accessory for HP Stitch S300 Printer on page 57.

Beacon for the HP Stitch S500 printer

The beacon provides a simple indication of printer status that is visible from a distance, so that you can easily see whether it is working normally. If there is a problem, the beacon color gives some indication of what kind of problem it is.

To install the beacon, see the printer assembly instructions.

Beacon color	Meaning
Green	Printer ready (may or may not have substrate loaded)
Blinking green	Printing without any warning if a 3-liter ink cartridge is out of ink
Yellow	3-liter ink cartridge not present or out of ink, window open, or maintenance cartridge cover open

Beacon color	Meaning
Blinking yellow	3-liter ink cartridge not present or out of ink while printing
Red	There is a problem that prevents printing: printhead cleaning roll exhausted or not present, intermediate tank or ink cartridge not present or out of ink, out of paper, window open, maintenance cartridge cover open, or printer engine failed
Blinking red	No case
All lit	Printer is temporarily engaged in an internal workflow, such as replacing the maintenance cartridge
All blinking	Printer is starting up

You can enable and disable the beacon from the ⚙ icon on the front panel.

Front panel

Introduction to the front panel

The front panel is a touch-sensitive screen with a graphical user interface; it is located on the front right of the printer. It gives you complete control of your printer: from the front panel, you can view information about the printer, change printer settings, perform calibrations and tests, and so on. The front panel also displays alerts (warning and error messages) when necessary.

There is an alternative home screen that you can see by sliding your finger across the screen to the left. It summarizes the status of the ink cartridges, the substrate, and the current print job.
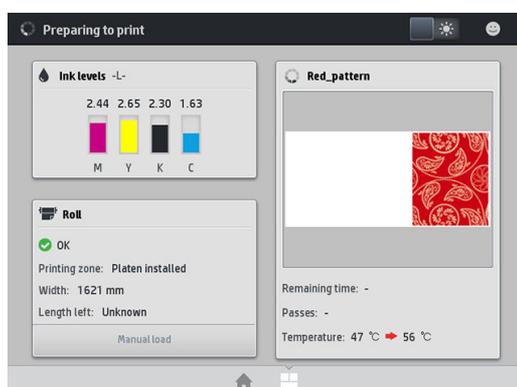
The front panel has a large central area to display dynamic information and icons. On the left and right sides you can see up to four fixed icons at different times. Normally they are not all displayed at the same time.

Left and right fixed icons

- Tap to return to the home screen.

- Tap to view help about the current screen.

- Tap to go back to the last-visited screen. This does not discard any changes made in the current screen.

- Tap to cancel the current process.

Home screen dynamic icons

The following items are displayed only on the home screen.

- At the top left of the screen is a message showing the printer status or the most important current alert. Tap this message to see a list of all current alerts, with an icon indicating the severity of each alert. You can tap an alert to get help in solving the problem.

  ⚠ OMAS not reading. Clean it or disable from RIP
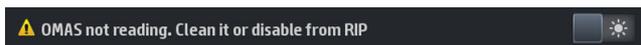
- At the top right, tap to turn on or off the print-zone illumination light.

- Tap to view substrate status and perform substrate-handling operations.

- Tap to open the Substrate Library and access the extensive online library of substrate presets.

- Tap to view information about the job that is currently printing.

- Tap to view ink-supply status and perform ink-cartridge and printhead operations.

- Tap for quick solutions to common problems.

- Tap to view network and Internet status and change related settings.

- Tap to view information about the printer.

- Tap for help.

- Tap to view and change printer settings in general.

If the printer is left idle for some time, it goes into sleep mode and switches off the front-panel display. To change the time that elapses before sleep mode, tap , then **Setup** > **Front panel options** > **Sleep mode wait time**. You can set a time between 5 and 240 minutes; the default is 20 minutes.

The printer wakes from sleep mode and switches on the front-panel display whenever there is some external interaction with it.

Information about specific uses of the front panel can be found throughout this guide.

Change the language of the front panel

Two methods are available to change the language that is used for the front-panel menus and messages.

- If you can understand the current front panel language, go to the front panel and tap ⚙, then **Setup** > **Front panel options** > **Language**.

- If you cannot understand the current front panel language, start with the printer turned off. Turn it on. As soon as the 🏠 icon appears, tap it for a few seconds. When all icons have appeared on the front panel, tap 🏠 followed by ↩. The front panel blinks briefly.

Whichever method you used, the language selection menu should now appear on the front panel.

Language	
English	●
Français	◉
Italiano	◉
Deutsch	◉
Español	◉
Português	◉
Català	◉
Русский	◉
日本語	◉
한글	◉
简体中文	◉
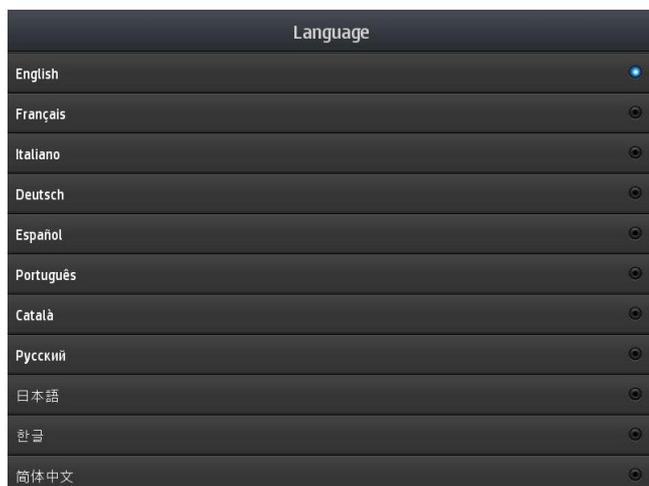
Tap the name of your preferred language.

View or set the date and time

To view or set the printer's date and time, go to the front panel and tap ⚙, then **Setup** > **Front panel options** > **Date and time options**.

Set altitude

If your printer is operating at more than 500 m (1640 ft) above sea level, go to the front panel and tap ⚙, then **Setup** > **Select altitude**.

Set time before standby

When there are no more jobs to print, or you want to pre-warm the printer (**Prepare printing** option in the RIP), the printer´s drying heaters remain on for the specified time and temperature in case another job arrives or in case you need to avoid any print-quality problem that could be caused by an incorrect temperature in the print zone. To choose how long the heaters will stay on in this situation, go to the front panel and tap ⚙ then **Substrate** > **Substrate handling options** > **Drying standby**. You can select from 5 to 120 minutes.

The drying temperature during this standby period is set automatically by the printer.

Change the sleep mode setting

If the printer is left turned on but unused for a certain period of time, it automatically goes into sleep mode to save power. The default period of time it waits is 25 minutes. To change the time the printer waits before it goes

into sleep mode, go to the front panel and tap ![gear icon], then **Setup** > **Front panel options** > **Sleep mode wait time**. Enter in minutes the wait time that you want, then tap **OK**.

Change the loudspeaker volume

To change the volume of the printer's loudspeaker, go to the front panel and tap ![gear icon], then **Setup** > **Front panel options** > **Speaker volume**, and select **Off**, **Low**, or **High**.

Turn audio alerts on or off

To turn the printer's audio alerts on or off, go to the front panel and tap ![gear icon], then **Setup** > **Front panel options** > **Enable audio alert** or **Disable audio alert**. By default, audio alerts are enabled.

Change the front panel display brightness

To change the brightness of the front-panel display, tap ![gear icon], then **Setup** > **Front panel options** > **Display brightness**, then select a value by moving the scroll bar. Tap **OK** to save the value.

Change the units of measurement

To change the units of measurement that appear on the front panel, tap ![gear icon], then **Setup** > **Front panel options** > **Unit selection**, then **English** or **Metric**.

The units of measurement can also be changed in the Embedded Web Server. See .

Restore factory settings

To restore the printer settings to their original values as set in the factory, go to the front panel and tap ![gear icon], then **Setup** > **Resets** > **Restore factory settings**. This option restores all of the printer settings except the Gigabit Ethernet settings and substrate presets.

Check printer status

The front panel and the Embedded Web Server both display the status of the printer, the loaded substrate, and the ink system.

Check the status of the ink cartridges

You can see the ink levels in your ink cartridges by tapping ![ink drop icon] on the front panel's home screen.
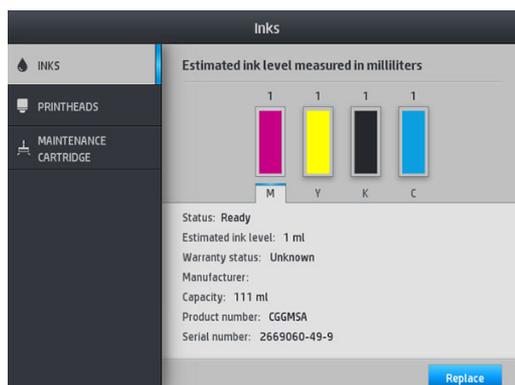
For more details about any particular ink cartridge, tap the rectangle representing that cartridge. The following information is shown.

- Status

- Estimated ink level

- Warranty status

- Manufacturer

- Capacity

- Product name

- Product number

- Serial number

- Expiration date

- Supported ink cartridges

These are the possible ink cartridge status messages that you can see on the front panel:

- **OK:** The cartridge is working normally, with no known problems.

- **Missing:** There is no cartridge present, or it is not correctly connected to the printer.

- **Low:** The ink level is low.

- **Very low:** The ink level is very low.

- **Empty:** The cartridge is empty.

- **Reseat:** You are recommended to remove the cartridge and then reinsert it.

- **Replace:** You are recommended to replace the cartridge with a new cartridge.

- **Expired:** The cartridge's expiration date has passed.

- **Incorrect:** The cartridge is not compatible with this printer. The message includes a list of compatible cartridges.

- **Non-HP:** The cartridge is used, refilled, or counterfeit.

You can also view the status of the ink cartridges in the Embedded Web Server. See Access the Embedded Web Server on page 22.

Check the status of a printhead

The printer automatically checks and services the printheads after each print. Follow these steps to get more information on your printheads.

1. On the front panel's home screen, tap .

2. Select the printhead for which you want to see information.

3. The front panel shows the following information:

   - Status

   - Warranty status

   - Product name

   - Product number

   - Serial number

   - Ink fired

   - Install date

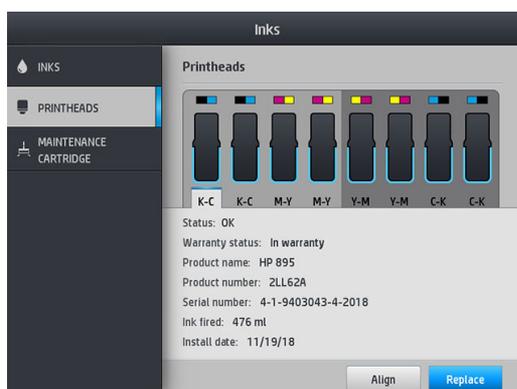These are the possible printhead status messages that you can see on the front panel:

- **OK:** The printhead is working normally, with no known problems.

- **Missing:** There is no printhead present, or it is not correctly installed in the printer.

- **Reseat:** You are recommended to remove the printhead and then reinsert it. If that fails, clean the electrical connections (see Printhead conflictive replacement on page 148). If that fails, replace the printhead with a new printhead (see Replace a printhead on page 142).

- **Replace:** The printhead is failing. Replace the printhead with a working printhead (see Replace a printhead on page 142).

- **Replacement incomplete:** The printhead replacement process has not completed successfully; restart the replacement process and let it finish completely.

- **Remove:** The printhead is not a suitable type for use with your printer.

- **Non-HP ink:** Ink from a used, refilled, or counterfeit ink cartridge has passed through the printhead. See the limited warranty document provided with your printer for details of the warranty implications.

You can also use the Embedded Web Server to check the printhead status and the warranty status. See Access the Embedded Web Server on page 22.

Check the file system

It is possible to check the integrity of the file system on the printer's hard disk, and automatically correct any errors. You are recommended to do this about once every six months, or if you notice any trouble in accessing files on the hard disk.

To execute the file system check, go to the front panel and tap ![gear], then **Preventive maint. tasks** > **File system check**.

If the printer is aware of damage to the file system, for instance after a severe software problem, it may start a file system check automatically. This can take about ten minutes.

Printer alerts

The above image is a QR code containing a link to a video; see Documentation on page 3.

The printer can communicate two types of alerts:

● **Errors:** When the printer is unable to print.

● **Warnings:** When the printer needs attention for an adjustment, such as a calibration, preventive maintenance, or ink cartridge replacement.

● **Advice:** When a firmware update is available or the downloaded firmware is ready to be installed.

Printer alerts appear in the front panel and in the Embedded Web Server.

● **Front-panel display:** The front panel shows the alerts in the upper left part of the screen (notification bar).

Only one alert is shown at a time. If you tap the notification bar, all the current printer alerts are shown. The list of alerts can be folded back by tapping or sliding up the bottom row of the list.
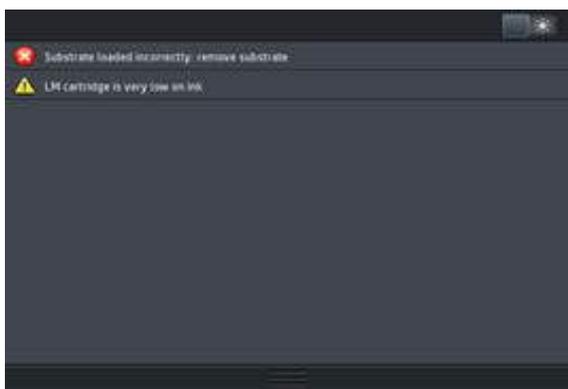
Tapping an alert opens the application that could help to resolve it. Firmware update advice is dismissed when entering the Printer application. Once dismissed, no other reminder will appear to give the same

advice (in the case of firmware updates, a new notification appears when there a new firmware release becomes available).

- **Embedded Web Server:** The Embedded Web Server shows only one alert at a time, which is judged to be the most important.

An alert may require you to perform a maintenance operation; see Hardware maintenance on page 128.

The following alerts require a service engineer:

- **Service Maintenance Kit 1**
- **Service Maintenance Kit 3**

Printer states

The printer may be in any one of the following states; some of them require waiting:

- **Ready (cold)**: The printer is powered on but has not printed yet, and the heaters are not turned on.
- **Preparing to print**: The printer is warming up the heaters and preparing the printheads to print. This takes 1 to 7 minutes.
- **Ready for substrate**
- **Printing**
- **Drying**: This takes 1.5 to 6 minutes.
- **Finishing**: The printer is cooling down and preparing for stand-by. This takes 0.5 to 5 minutes.

The printer offers an option called "continuous printing", which you can enable or disable from your certified RIP software; it is enabled by default.

Without continuous printing, the printer dries each job separately and then winds the substrate back into the print zone before starting to print the next job in the queue. This adds time to the printing process. Continuous printing saves time by continuing to print the next job in the queue without stopping (tailgating).

Notes

- The same print mode and resolution must be used for all jobs in the RIP queue selected for continuous printing, to optimize the overall drying time.
- Job status reporting might be affected when using continuous printing mode.
- For jobs with automatic cutting selected, the printer will cut instead of applying continuous printing.

Change margins

The printer margins determine the area between the edges of your image and the edges of the substrate. The printer with ink collector is capable of printing with no side margins (full bleed).

The side margins for a particular print job are selected in the RIP software; if the job exceeds the substrate width, it will be clipped.

The front panel offers additional settings for the top and bottom margins: see Margins on page 182. These settings apply only to single prints when the cutter is not in use.

To set the top margin at the front panel, tap ![gear icon], then **Substrate** > **Substrate handling options** > **Extra top margin**.

To set the bottom margin at the front panel, tap ⚙, then **Substrate** > **Substrate handling options** > **Extra bottom margin**.

📝 NOTE: The extra top/bottom margin set in the front panel is applied in addition to the top/bottom margin selected in the RIP.

📝 NOTE: The side margins can be adjusted in the RIP.

Request the printer's internal prints

The internal prints provide various kinds of information about your printer. Request these prints from the front panel, without using a computer.

Before requesting any internal print, make sure that substrate is loaded and that the **Ready** message appears on the front-panel display.

To print an internal print, tap ⚙, then **Setup** > **Internal prints**, then select the type of internal print that you want.

The following internal prints are available:

- Usage report: Shows estimates of the total number of prints, number of prints by substrate family, number of prints by print-quality option, and total amount of ink used per color. The accuracy of these estimates is not guaranteed.

- Service information: Provides information that service engineers require.

Check lifetime usage statistics

There are two ways of checking your printer's usage statistics:

- From the Embedded Web Server, go to the **Main** tab and select **History** > **Usage**. See Embedded Web Server on page 20.

- From the front panel, tap ⚙, then **Setup** > **Internal prints** > **User information prints** > **Print usage report**.

📝 NOTE: The accuracy of the usage statistics is not guaranteed.

Embedded Web Server

Introduction to the Embedded Web Server

The Embedded Web Server is a Web server running inside the printer. You can use it to obtain printer information, manage settings and presets, align printheads, upload new firmware and troubleshoot problems. Service engineers can use it to retrieve internal information that helps to diagnose printer problems.

You can access the Embedded Web Server remotely by using an ordinary Web browser running on any computer. See Access the Embedded Web Server on page 22.

The Embedded Web Server window displays five separate tabs. Buttons near the top of each page provide access to online help and supplies reordering.
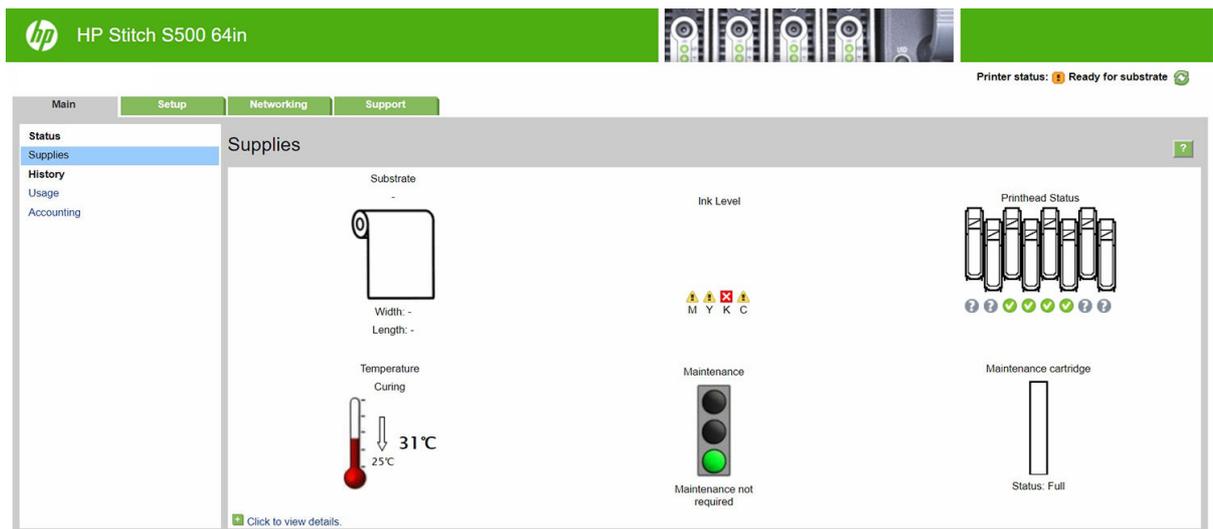
Main tab

The **Main** tab provides information about the following items:

- Substrate, ink, printhead and maintenance status

- Temperature of the drying module

- Substrate and ink usage and accounting

Setup tab

The **Setup** tab enables you to complete these tasks:

- Specify printer settings such as units of measurement and refresh date

- Specify network and security settings

- Set the date and time

- Update firmware

- Align printheads

- Upload substrate presets

- Configure e-mail notifications

Networking tab

The **Networking** tab enables you to change the printer's networking configuration.

Support tab

The **Support** tab offers various kinds of help with your printer:

- Browse helpful information from a variety of sources

- Troubleshoot problems

- Access HP links for technical support with your printer and accessories

- Access service support pages that show current and historical data on the usage of your printer

Printer Data Sharing Agreement tab

The **Printer Data Sharing Agreement** tab enables you to sign up for the Printer Data Sharing Agreement and configure your participation.

Access the Embedded Web Server

Use the Embedded Web Server to view printer information remotely through an ordinary Web browser running on any computer.

The following browsers are known to be compatible with the Embedded Web Server:

- Microsoft Internet Explorer 11 and later for Windows 7 and later

- Apple Safari 8 and later for OS X 10.10 and later

- Mozilla Firefox (latest version)

- Google Chrome (latest version)

To use the Embedded Web Server on any computer, open your Web browser and type the printer's IP address in the browser's address bar. The printer's IP address appears on the printer's front panel, after tapping the icon.

If you follow these instructions but fail to open the Embedded Web Server, see .

Change the language of the Embedded Web Server

The Embedded Web Server functions in the following languages: English, Portuguese, Spanish, Catalan, French, Italian, German, Simplified Chinese, Traditional Chinese, Korean, and Japanese. It uses the language that you specified in your Web browser options. If you specify a language that it cannot support, it functions in English.

To change the language, change your Web browser's language setting. For example, in Chrome, **Settings**, **Language** (in the advanced settings view), make sure that the language you want is at the top of the list in the dialog box; or, in Internet Explorer version 8, go to the **Tools** menu and select **Internet Options** > **Languages**. Make sure that the language you want is at the top of the list in the dialog box.

To complete the change, close and reopen your Web browser.

Restrict access to the printer

From the Embedded Web Server, you can select **Setup** > **Security** to set an administrator password. Once set, this password must be given in order to perform the following printer functions:

- Clear accounting information.

- Update the printer's firmware.

- Change security settings.

- View protected printer information.

- Change Internet connection settings.

- Change some networking settings.

- Run connectivity troubleshooting tests.

For more information, see the Embedded Web Server's online help.

If you forget the administrator password, you can delete the current password from the front panel: tap ⚙️, then **Setup** > **Connectivity** > **Advanced** > **Embedded Web Server** > **Reset EWS password**.

Check printer status

The front panel and the Embedded Web Server both display the status of the printer, the loaded substrate, and the ink system.

Check the status of the ink system

1. Access the Embedded Web Server (see Access the Embedded Web Server on page 22).

2. Go to the Supplies page on the **Main** tab.
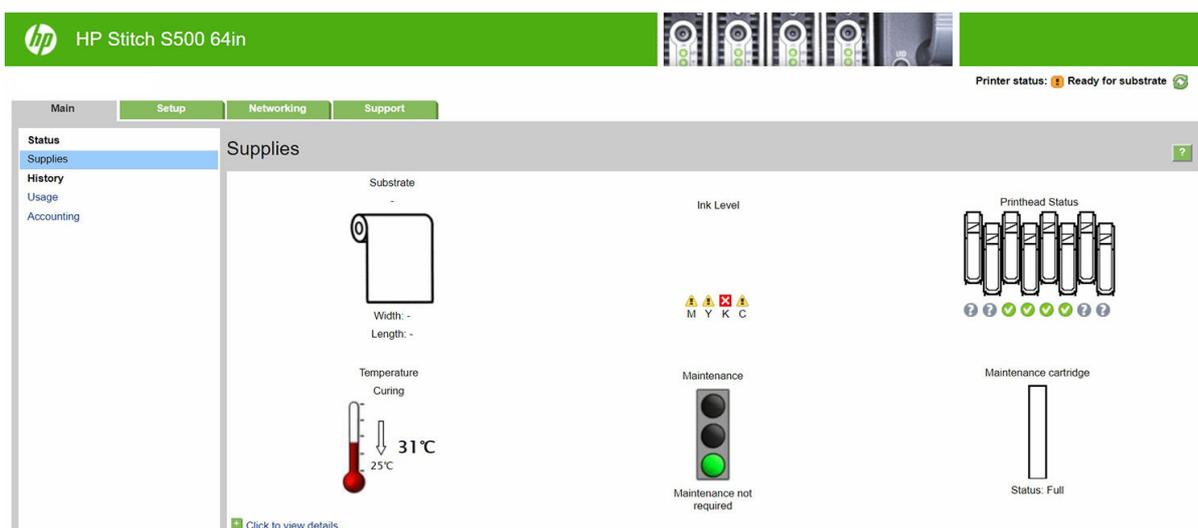
The Supplies page shows you the status of the loaded substrate, the ink cartridges, the printheads, the heater, and the maintenance cartridge.

The traffic light shows whether maintenance is required.

For further information, click **Click to view details**.

Request email notification of specific error conditions

1. In the Embedded Web Server (see Access the Embedded Web Server on page 22), go to the Email Server page on the **Setup** tab and ensure that the following fields are correctly filled in:

   - **SMTP server**. This is the IP address of the outgoing mail server (Simple Mail Transfer Protocol [SMTP]) that processes all email messages from the printer. If the mail server requires authentication, email notifications will not work.

   - **Printer email address**. Each email message that the printer sends must include a return address. This address does not need to be a real, functional email address, but it should be unique, so that recipients of the message can identify the printer that sent it

2. Go to the Notification page, which is also on the **Setup** tab.

3. Click the **New** icon to request new notifications, or click the **Edit** icon to edit notifications that have already been set up. Then specify the email addresses to which notifications are sent, and select the incidents that result in notification messages.

Get accounting information

There are various different ways of getting accounting information from your printer:

- View printer usage statistics for a particular job, see Check usage statistics for a job on page 24.

- View printer usage statistics for the whole lifetime of the printer, see Check lifetime usage statistics on page 24.

- Request accounting data by email. The printer sends data in XML at regular intervals to a specified email address; the data may be interpreted and summarized by a third-party application, or displayed as an Excel spreadsheet. See Request accounting data by email on page 24.

- Use a third-party application to request printer status, printer usage or job accounting data from the printer through the Internet. The printer provides data in XML to the application whenever requested. HP provides a Software Development Kit to facilitate the development of such applications.

By default, user names are not included in accounting information. If you would like to include them, check the box **Show user name in job accounting** in the **Security** menu.

Check usage statistics for a job

You can use the Embedded Web Server to check usage statistics for a particular job: go to the **Main** tab and select **History** > **Accounting**. You can also export the accounting jobs information to Excel.

NOTE: The accuracy of the usage statistics is not guaranteed.

Check lifetime usage statistics

There are two ways of checking your printer's usage statistics.

NOTE: The accuracy of the usage statistics is not guaranteed.

- From the Embedded Web Server, go to the **Main** tab and select **History** > **Usage**.

- From the front panel, tap ⚙, then **Setup** > **Internal prints** > **User information prints** > **Print usage report**.

Request accounting data by email

1. Obtain the IP address of the outgoing mail server (SMTP) from your IT department; this is required in order to send email messages.

2. Ensure that the outgoing email server is configured to enable relaying of email messages that the printer will send.

3. Open your Web browser and connect to the printer's Embedded Web Server.

4. Select the **Setup** tab.

5. From the Configuration menu in the left-hand column, select **Date & Time**.

6. Ensure that the printer's date and time have been set correctly.

7. From the Configuration menu, select **Email server**.

8. Enter the IP address of the outgoing mail server (SMTP).

9. Specify an email address for the printer. The latter does not need to be a valid email address, because the printer will not receive messages; but it should have the form of an email address. It serves to identify the printer when it sends email messages.

10. From the Configuration menu, select **Printer settings**.

11. Set **Send accounting files** to Enabled.

12. Set **Send accounting files to** to the email address (or addresses) to which you want the accounting information sent. This may be an address that you have created specifically to receive automatically generated messages from the printer.

13. Set **Send accounting files every** to the frequency with which you want the information sent, choosing a specific number of days or prints.

14. You may want to set **Exclude personal information from accounting email** to **On**, so that the accounting messages will not contain personal information. If this option is **Off**, information such as user name, job name, and account ID will be included.

When you have completed the above steps, the printer will send accounting data by email with the frequency that you specified. The data are provided in XML and can easily be interpreted by a third-party program. The data provided on each print job include when the job was submitted, when the job was printed, the printing time, the type of image, the number of pages, the number of copies, the paper type and size, the amount of each color of ink used and various other attributes of the job. Accounting data are also provided on scan and copy jobs.

You can download an Excel template from HP's Web site (http://www.hp.com/go/designjet/accounting/) that will enable you to display the XML data more readably in the form of a spreadsheet.

Analysis of the accounting data will enable you to bill customers precisely and flexibly for the use of your printer. You can, for instance:

- Bill each customer for the total amount of ink and paper used by that customer over a particular period.

- Bill each customer separately per job.

- Bill each customer separately for each project, broken down by job.

Connectivity and software instructions

Connection method

Your printer can be connected in the following way.

Connection type	Speed	Maximum cable length	Other factors
Gigabit Ethernet	Fast; varies according to network traffic	Long (100 m=328 ft)	Requires extra equipment (switches)

NOTE: The speed of any network connection depends on all the components that are used in the network, which can include network interface cards, hubs, routers, switches, and cables. If any one of these components cannot operate at high speed, you will have a low-speed connection. To get the expected performance from your printer, you should use equipment that supports 1000TX Full Gigabit. The speed of your network connection can also be affected by the total amount of traffic from other devices on the network.

Connect the printer to your network

The printer is able to configure itself automatically for most networks, in a similar way to any computer in the same network. The first time you connect it to a network, this process may take a few minutes. If necessary, see Advanced network configuration on page 27.

Once the printer has a working network configuration, you can check its network address from the front panel: tap .

Network configuration

For more details about the current network configuration, go to the front panel and tap ⚙, then **Connectivity** > **Network connectivity** > **Gigabit Ethernet** > **Modify configuration**. From here it is possible, though not normally necessary, to change the settings manually; this can also be done remotely using the Embedded Web Server.

☆ **TIP:** You may find it helpful to print out the full printer network configuration on paper. This can be done from the front panel: tap ⚙, then **Internal prints** > **Service information prints** > **Print connectivity configuration**. If you do not print out the full network configuration, consider making a note of the printer's IP address and network name.

If you accidentally misconfigure the printer's network settings, you can restore the network settings to their factory values from the front panel: tap ⚙, then **Connectivity** > **Network connectivity** > **Advanced** > **Restore factory settings**. Then you must restart the printer. This automatically provides a working network configuration for most networks. The printer's other settings remain unchanged.

Using IPv6

Your printer supports almost all network connectivity features using IPv6, just as it does using IPv4. To make full use of IPv6, you may need to connect your printer to an IPv6 network in which there are IPv6 routers and servers.

In most IPv6 networks, the printer will configure itself automatically as follows, and no user configuration is necessary:

1. The printer assigns itself a link-local IPv6 address (which starts with "fe80::").

2. The printer assigns itself stateless IPv6 addresses as indicated to it by any IPv6 routers on the network.

3. If no stateless IPv6 addresses can be assigned, the printer will try to obtain IPv6 addresses using DHCPv6. It will also do so if the routers instruct it to do so.

The stateless and DHCPv6 IPv6 addresses can be used to access the printer, and in most IPv6 networks this will be appropriate.

The link-local IPv6 address works only in the local subnet. Although it is possible to access the printer using this address, it is not recommended.

It is possible to assign a manual IPv6 address to the printer, using the front panel or the Embedded Web Server. It is also possible to disable IPv6 completely in the printer. However, it is not possible to disable IPv4 in the printer, and therefore it is not possible to configure the printer as IPv6-only.

📝 **NOTE:** In typical IPv6 use, your printer will have multiple IPv6 addresses, although it has only one IPv4 address.

☆ **TIP:** You are recommended to give a name to the printer. You can do this from the front panel or (more easily) from the Embedded Web Server.

☆ **TIP:** You will generally find it easier to use IPv4 unless you have a specific need to use IPv6.

Microsoft Windows Vista, Microsoft Windows Server 2008, later versions of Windows, and the new HP Printing and Imaging devices have IPv6 enabled by default. For further information on IPv6, see http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00840100/c00840100.pdf. This document discusses how name resolution plays a fundamental role in Dual-Stack transition methods. Using the name resolution algorithm in Windows, the document goes through various network environments and studies how the introduction of routable IPv6 addresses will affect network applications. It also discusses DHCPv6, SLAAC and the impact to DNS, and makes some recommendations.

Connect the printer to the Internet

To connect to the Internet, go to the front panel and tap ⚙️ , then **Connectivity** > **Connectivity wizard**. The connectivity wizard also checks that the printer's firmware is up to date. Normally you need to run the wizard only once, when first setting up the printer.

An Internet connection is needed for various printer functions described in this guide, such as the Embedded Web Server.

RIP software installation

Install the RIP software by following the instructions provided with the software.

RIP software uses the following ports for printer communication and job submission, so you must ensure that your RIP host system can connect to these ports: 80, 8085, 8086, 8090, 9100.

Advanced network configuration

You will probably not need to read this section, but the information is provided as it may be useful in some cases.

The printer provides a single RJ-45 connector port for a network connection. In order to meet Class A limits, the use of shielded I/O cables is required.

The embedded Jetdirect print server supports connection to IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX Fast Ethernet and 802.3ab 1000Base-T Gigabit Ethernet compliant networks. When connected and powered on, the printer auto-negotiates with your network to operate with a link speed of 10, 100, or 1000 Mbps, and to communicate using full- or half-duplex mode. However, you can manually configure the link using the printer's front panel, or through other configuration tools once network communication is established.

The printer can support multiple network protocols simultaneously, including TCP/IPv4 and TCP/IPv6. For security, it includes features to control IP traffic to and from the printer.

Verify correct operation

1. Print an IO Configuration page to check for status messages.

2. In the upper section of the IO Configuration page, look for the status message **I/O Card Ready**.

3. If **I/O Card Ready** appears, the print server is operating properly. Proceed to the next section.

    If a message other than **I/O Card Ready** appears, try the following:

    a. Turn the printer off and then on again to re-initialize the print server.

    b. Check that the status indicator lights (LEDs) are providing proper status.

    > 📝 **NOTE:** See Troubleshooting on page 28 for link configuration and troubleshooting information.

    See the *HP Jetdirect Print Servers Administrator's Guide* for your print server model to interpret and troubleshoot other messages.

Preconfigure network settings if required

If your network requires that you configure network settings before you add the printer to your network systems, you can do so now.

However, in most cases, you can skip this section. Instead, you can proceed directly to the next section to install the printer on your network computer systems. The network installation software will allow you to configure basic network settings and add the printer to your system configuration.

Tools for preconfiguration

The following tools can be used to preconfigure your network settings:

- The front panel

- The Embedded Web Server

- You can use an advanced configuration method, such as BootP, DHCP, Telnet, or the arp and ping commands. For instructions, see the *HP Jetdirect Print Servers Administrator's Guide* for your print server model.

After the printer is configured with network settings, the configuration values are saved and maintained even after it is turned off and on again.

Troubleshooting

IO Configuration page

The IO Configuration page provides comprehensive print server status. It is an important diagnostic tool, especially if network communications are not available. For a description of messages that may appear on the IO Configuration page, see the *HP Jetdirect Print Servers Administrator's Guide* for your print server model.

LEDs

The printer has status lights (LEDs) that indicate the link status and network activity:

- When the green light is on, the printer has successfully linked to the network.

- When the yellow light is blinking, there is network transmission activity.

Link troubleshooting

If the printer does not successfully connect to the network:

- Both LEDs will be off.

- **LAN Error – Loss of Carrier** will be indicated on the IO Configuration page.

If a link failure is indicated, try the following:

- Check cable connections.

- Print an IO Configuration page and check link settings.

Item	Description
Port Config	If the printer is properly linked, this item has one of the following values:
	• **10BASE-T HALF**: 10 Mbps, half-duplex
	• **10BASE-T FULL**: 10 Mbps, full-duplex
	• **100TX-HALF**: 100 Mbps, half-duplex
	• **100TX-FULL**: 100 Mbps, full-duplex
	• **1000TX FULL**
	If the printer is not properly linked, one of the following messages will appear:
	• **UNKNOWN**: The printer is in an initialization state.
	• **DISCONNECTED**: A network connection has not been detected. Check network cables. Reconfigure the link settings, or restart the printer.
Auto Negotiation	Indicates whether auto-negotiation for link configuration is on or off.
	• **ON** (default): The printer will attempt to automatically configure itself onto the network at the proper speed and communication mode.
	• **OFF**: You must manually configure the link speed and communication mode using the front panel. Your settings must match those of the network for proper operation.

Reset network parameters

Network parameters (for example, the IP address) can be reset to factory default values by a cold reset: turning the printer off and on again. After a cold reset, print an IO Configuration page to confirm that factory-reset values have been assigned.

⚠ CAUTION: A factory-installed HP Jetdirect X.509 certificate will be saved over a cold reset to factory default values. However, a Certificate Authority (CA) certificate that has been installed by the user to validate a network authentication server will not be saved.

Menu items

Menu item	Sub-menu item	Sub-menu item	Values and Description
TCP/IP	Host Name		An alphanumeric string, up to 32 characters, used to identify the device. This name is listed on the HP Jetdirect configuration page. The default host name is NPIxxxxxx, where xxxxxx is the last six digits of the LAN hardware (MAC) address.
	IPV4 Settings	Config Method	Specifies the method that TCP/IPv4 parameters will be configured on the HP Jetdirect print server.
			Bootp: Use BootP (Bootstrap Protocol) for automatic configuration from a BootP server.
			DHCP (default): Use DHCP (Dynamic Host Configuration Protocol) for automatic configuration from a DHCPv4 server. If selected and a DHCP lease exists, **DHCP Release** and **DHCP Renew** menus are available to set DHCP lease options.
			Auto IP: Use automatic link-local IPv4 addressing. An address in the form 169.254.x.x is assigned automatically.
			Manual: Use the **Manual Settings** menu to configure TCP/IPv4 parameters.

Menu item	Sub-menu item	Sub-menu item	Values and Description
		DHCP Release	This menu appears if **Config Method** was set to **DHCP** and a DHCP lease for the print server exists. **No** (default): The current DHCP lease is saved. **Yes**: The current DHCP lease and the leased IP address are released.
		DHCP Renew	This menu appears if **Config Method** was set to **DHCP** and a DHCP lease for the print server exists. **No** (default): The print server does not request to renew the DHCP lease. **Yes**: The print server requests to renew the current DHCP lease.
		Manual Settings	(Available only if **Config Method** is set to **Manual**) Configure parameters directly from the printer control panel: **IP Address**: The unique IP address of the printer (n.n.n.n). **Subnet Mask**: The subnet mask for the printer (n.n.n.n). **Syslog Server**: The IP address of the syslog server (n.n.n.n) used to receive and log syslog messages. **Default Gateway**: The IP address (n.n.n.n) of the gateway or router used for communications with other networks. **Idle Timeout**: The time period, in seconds, after which an idle TCP print data connection is closed (default is 270 seconds, 0 disables the timeout).
		Default IP	Specify the IP address to default to when the print server is unable to obtain an IP address from the network during a forced TCP/IP reconfiguration (for example, when manually configured to use BootP or DHCP). **Auto IP**: A link-local IP address 169.254.x.x is set. **Legacy**: The address 192.0.0.192 is set, consistent with older HP Jetdirect devices.
		Primary DNS	Specify the IP address (n.n.n.n) of a Primary DNS Server. **NOTE:** This item appears only if **Manual** configuration is a higher priority than **DHCP** in the **Config. Precedence** table, configured through the embedded Web server.
		Secondary DNS	Specify the IP address (n.n.n.n) of a Secondary Domain Name System (DNS) Server. **NOTE:** This item will appear only if **Manual** configuration is a higher priority than **DHCP** in the **Config. Precedence** table, configured through the embedded Web server.
	IPV6 Settings	Enable	Use this item to enable or disable IPv6 operation on the print server. **Off**: IPv6 is disabled. **On (default)**: IPv6 is enabled.

Menu item	Sub-menu item	Sub-menu item	Values and Description
		Address	Use this item to manually configure an IPv6 address.
			Manual Settings: Use the **Manual Settings** menu to enable and manually configure a TCP/ IPv6 address.
			Enable: Select this item and choose **On** to enable manual configuration, or **Off** to disable manual configuration.
			Address: Use this item to type a 32 hexadecimal digit IPv6 node address that uses the colon hexadecimal syntax.
		DHCPV6 Policy	**Router Specified**: The stateful auto-configuration method to be used by the print server is determined by a router. The router specifies whether the print server obtains its address, its configuration information, or both from a DHCPv6 server.
			Router Unavailable: If a router is not available, the print server should attempt to obtain its stateful configuration from a DHCPv6 server.
			Always: Whether or not a router is available, the print server always attempts to obtain its stateful configuration from a DHCPv6 server.
		Primary DNS	Use this item to specify an IPv6 address for a primary DNS server that the print server should use.
			NOTE: This item will appear only if **Manual** configuration is a higher priority than **DHCP** in the **Config Precedence** table, configured through the embedded Web server.
		Secondary DNS	Use this item to specify an IPv6 address for a secondary DNS server that the print server should use.
			NOTE: This item will appear only if **Manual** configuration is a higher priority than **DHCP** in the **Config Precedence** table, configured through the embedded Web server.
	Proxy Server		Specifies the proxy server to be used by embedded applications in the device. A proxy server is typically used by network clients for Internet access. It caches Web pages, and provides a degree of Internet security, for those clients.
			NOTE: If your local network has a proxy server, check that you have configured it correctly in your HP network settings at the printer's front panel.
			To specify a proxy server, enter its IPv4 address or fully-qualified domain name. The name can be up to 255 octets.
			For some networks, you may need to contact your Independent Service Provider (ISP) for the proxy server address.
	Proxy Port		Type the port number used by the proxy server for client support. The port number identifies the port reserved for proxy activity on your network, and can be a value from 0 to 65535.
Information	Print Sec Page		**Yes**: Prints a page that contains the current security settings on the HP Jetdirect print server.
			No (default): A security settings page is not printed.

Menu item	Sub-menu item	Sub-menu item	Values and Description
Security	Secure Web		For configuration management, specify whether the embedded Web server will accept communications using HTTPS (Secure HTTP) only, or both HTTP and HTTPS. **HTTPS Required**: For secure, encrypted communications, only HTTPS access is accepted. The print server will appear as a secure site. **HTTP/HTTPS optional**: Access using either HTTP or HTTPS is permitted. NOTE: The factory default setting depends on the print server model.
	Reset Security		Specify whether the current security settings on the print server will be saved or reset to factory defaults. **No** (default): The current security settings are maintained. **Yes**: Security settings are reset to factory defaults.
Link Speed			The link speed and communication mode of the print server must match the network. The available settings depend on the device and installed print server. Select one of the following link configuration settings: CAUTION: If you change the link setting, network communications with the print server and network device might be lost. **Auto** (default): The print server uses auto-negotiation to configure itself with the highest link speed and communication mode allowed. If auto-negotiation fails, either 100TX HALF or 10TX HALF is set depending on the detected link speed of the hub/switch port. (A 1000T half-duplex selection is not supported.) **10T Half**: 10 Mbps, half-duplex operation. **10T Full**: 10 Mbps, Full-duplex operation. **100TX Half**: 100 Mbps, half-duplex operation. **100TX Full**: 100 Mbps, full-duplex operation. **100TX Auto**: Limits auto-negotiation to a maximum link speed of 100 Mbps. **1000TX Full**: 1000 Mbps, full-duplex operation.

Embedded services

Key networking services embedded in the printer are listed below. For the latest features and services, visit http://www.hp.com/go/jetdirect.

- Configuration and Management

  - BootP/DHCP (IPv4 only)

  - DHCPv6

  - TFTP (IPv4 only)

  - Web Proxy (Automatic/Manual cURL)

  - LLMNR

- Telnet (IPv4 only)

- SNMP (v1, v2c, v3) agents

- Bonjour (for Mac OS X)

- FTP (File Transfer Protocol)

- Embedded Web Server, HTTP (TCP port 80)

- Embedded Web Server, HTTPS (TCP port 443)

● Printing

- Raw IP printing (HP-proprietary TCP ports 9100, 9101, 9102)

● Security

- SNMP v3

- SSL/TLS

- Firewall

Turn the printer on and off

To turn on the printer, ensure that the power switch at the rear of the printer is turned on, then press the power button beside the front panel.

You can leave the printer on without wasting energy. Leaving it on improves response time. When the printer has not been used for a certain period of time, it saves power by going into sleep mode. Pressing the power button returns it to active mode, and it can resume printing immediately.

IMPORTANT: To turn off the printer, the normal and recommended method is to press the power button beside the front panel.

When you turn off the printer this way, the printheads are automatically stored with the maintenance cartridge, which prevents them from drying out.

IMPORTANT: It is not recommended to use the button located on the back of the printer as it could damage the internal hard disk.

However, if you plan to leave the printer turned off for a long period of time, you are recommended to turn it off using the power button, and then turn off the power switch at the rear.
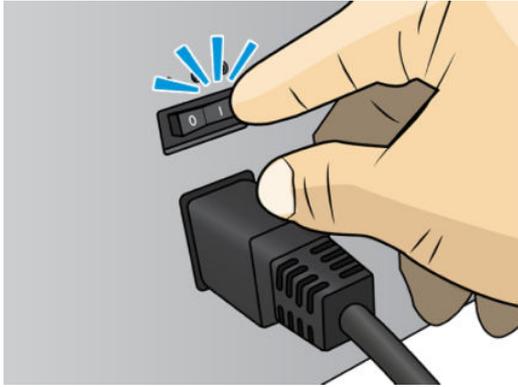
To turn it back on later, use the power switch at the rear. If the printer does not start automatically, press the power button.

When the printer is turned on, it takes 2–3 minutes to initialize itself.

Restart the printer

In some circumstances you may be advised to restart the printer.

1. Turn off the printer by pressing the power button and then turning off the power switch at the rear of the printer.

2. Wait for at least 10 seconds.

3. Turn on the power switch at the rear of the printer.

4. If the front panel does not activate, press the power button.

2 Useful links

Product documentation:

- http://www.hp.com/go/StitchS30064in/manuals

- http://www.hp.com/go/StitchS50064in/manuals

- http://www.hp.com/go/StitchS30064in/training

- http://www.hp.com/go/StitchS50064in/training

Videos about how to use the printer: http:/www.hp.com/supportvideos/ or http://www.youtube.com/HPSupportAdvanced

Information about software RIPs, applications, solutions, inks, and substrates: http://www.hp.com

Substrate presets: http://www.hp.com/go/mediasolutionslocator (see HP Media Locator on page 98)

HP Support: http://www.hp.com/go/StitchS30064in/support or http://www.hp.com/go/StitchS50064in/support

Embedded Web Server: Use the printer's IP address (see Access the Embedded Web Server on page 22)

When you need help

In most countries, support is provided by HP support partners (usually the company that sold you the printer). If this is not the case in your country, contact HP Support on the Web as shown above.

Help is also available to you by telephone. What to do before you call:

- Review the troubleshooting suggestions in this guide.

- Review your RIP's documentation, if relevant.

- Please have the following information available:

   - The printer you are using: the product and serial numbers

     📝 **NOTE:** This information is available from the front panel: tap ⓘ . You may also find it on a label at the rear of the printer.

   - If there is an error code on the front panel, note it down; see Front-panel error codes on page 176

   - The RIP you are using, and its version number

   - If you have a print-quality problem: the substrate reference, and the name and origin of the substrate preset used to print on it.

   - The service information report (see Service information on page 36)

Telephone number

Your HP Support telephone number is available on the Web: see http://welcome.hp.com/country/us/en/wwcontact_us.html.

Customer Self Repair

HP's Customer Self Repair program offers our customers the fastest service under either warranty or contract. It enables HP to ship replacement parts directly to you (the end user) so that you can replace them. Using this program, you can replace parts at your own convenience.

Convenient, easy to use

- An HP Support Specialist will diagnose and assess whether a replacement part is required to address a defective hardware component.

- Replacement parts are express-shipped; most in-stock parts are shipped the very same day you contact HP.

- Available for most HP products currently under warranty or contract.

- Available in most countries.

For more information about Customer Self Repair, see http://www.hp.com/go/selfrepair/.

Service information

The printer can produce on request a list of many aspects of its current status, some of which may be useful to a service engineer trying to fix a problem. There are two different ways to request this list:

- In the Embedded Web Server (see Access the Embedded Web Server on page 22), select the **Support** tab and then **Service support** > **Printer information**. You are recommended to request the whole list (select **All pages**).

- From any computer with Internet access, enter the URL of your printer into a Web browser, followed by `/hp/device/webAccess/allServicePlot.htm`. For instance, if the URL of your printer is **http://123.123.123.123**, enter:

  `http://123.123.123.123/hp/device/webAccess/allServicePlot.htm`

If you need to send the list by email, you can save the page as a file from your Web browser, and later send the file. Alternatively, from Internet Explorer you can send the page directly: select **File** > **Send** > **Page by email**.

3 Handle the substrate and troubleshoot substrate issues

Overview

You can print on a wide variety of printing materials, all of which are referred to in this guide as substrates.

Substrate tips

Choosing the correct substrate for your needs is an essential step in ensuring good print quality.

Here are some tips about substrate usage:

- To print on textile substrates, in most cases you should use the ink collector and loading accessory. See Ink collector on page 43.

- Using the take-up reel with some substrates, such as textiles, may give the printer better control of the substrate and is likely to improve print quality. See Take-up reel for the HP Stitch S500 Printer on page 82.

- Allow all substrates to adapt to room conditions, out of the packaging, for 24 hours before using them for printing.

- Handle film by the edges, or wear cotton gloves. Skin oils can be transferred to the substrate, leaving fingerprint marks.

- Keep the substrate tightly wound on the roll throughout the loading and unloading procedures. To make sure that the roll stays tightly wound, consider using tape to stick the leading edge of the roll to the core just before removing the roll from the printer. You can keep the roll taped during storage. If the roll starts to unwind, it can become difficult to handle.

  📝 NOTE: The use of tape to stick the leading edge of the roll to the core is especially important for heavy substrates, because the inherent stiffness of the substrate can cause it to loosen and unwind from the core.

- Print quality could be impaired if you use a substrate that is unsuitable for your image.

- Make sure that the appropriate print-quality setting is selected in the RIP.

- Whenever you load a roll, the front panel prompts you to specify the substrate type that you are loading. For good print quality, it is essential to specify this correctly. The RIP shows the transfer paper combination along with the textile substrate (i.e. transfer paper name + fabric name). Check that the substrate name in the front panel is the same as the first part of the substrate name in the RIP (transfer paper name).

  If the names are not the same, tap 🖼 on the front panel, then **Substrate library** > **Change loaded substrate**; or change the substrate in the RIP.

- Do not pull the printed substrate while the printer is printing: this can cause severe print-quality defects.
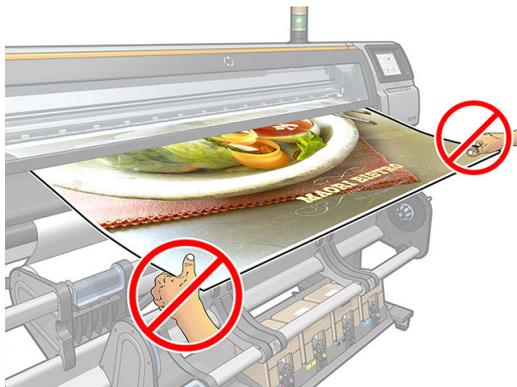
- When printing a series of jobs, do not let the printed substrate obstruct the output path: this can cause severe print-quality defects.
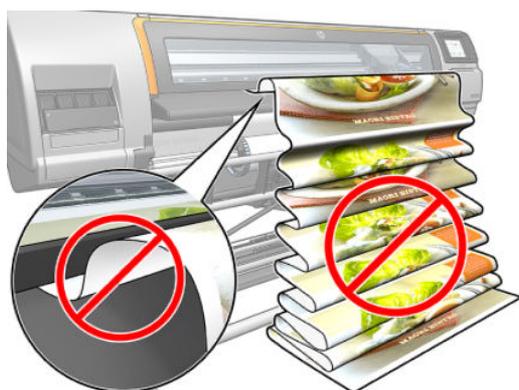
- For more substrate tips, see Load a roll into the HP Stitch S300 Printer on page 50, Load a roll into the HP Stitch S500 Printer on page 53 and Assisted manual load on page 63.

⚠ CAUTION: Removing the substrate from the printer manually without using the front panel could damage the printer. Do this only when necessary to clear a substrate jam.

Supported substrate categories

Substrate category	Substrate types	Generic substrate names
Direct	Coated woven polyester	Generic backlit fabric
	Treated knitted polyester	Generic backlit fabric
	Polyester flags	Generic bleed through fabric
	Coated woven polyester	Generic frontlit fabric
	Treated knitted polyester	Generic frontlit fabric
Transfer Film	3D Objects	Generic transfer Film
Transfer Paper	Standard	Generic backlit paper
	Standard	Generic >110 g/m² paper
	Standard	Generic 45 to 70 g/m² paper
	Industrial	Generic 45 to 70 g/m² paper
	Industrial	Generic <45 g/m² paper
	Sportline/Tacky	Generic backlit paper
	Sportline/Tacky	Generic >110 g/m² paper
	High speed	Generic backlit paper
	High speed	Generic >110 g/m² paper
	High speed	Generic 45 to 70 g/m² paper

Supported HP substrates

Portfolio summary for AMS

HP name	Main characteristics	Product category	Sizes	Key vertical
HP Stitch S Series 70 g/m² Sublimation Paper	High ink coverage Ideal for knitted and stretchy fabrics 70 g/m²	High speed Medium weight	44 in × 575 ft 64 in × 575 ft	
HP Stitch S Series Lightweight 56 g/m² Sublimation Paper	Low grammage for low transportation cost Starting with 56 g/m², then new 45 g/m²	High speed Light weight	64 in × 1640 ft (500 m) for S500 64 in × 656 ft (200 m) for S300	
HP Stitch S Series Tacky 95 g/m² Sublimation Paper	Tacky High ink coverage Ideal for sportswear 95 g/m²	Tacky High weight	44 in × 500 ft 64 in × 500 ft	

Portfolio summary for EMEA

HP name	Main characteristics	Product category	Sizes	Key vertical
HP Stitch S Series 105 g/m² Sublimation Paper	High ink coverage Ideal for knitted and stretchy fabrics 105 g/m²	High speed High weight	1320 mm × 110 m 1620 mm × 110 m	
HP Stitch S Series Lightweight 45 g/m² Sublimation Paper	Low grammage for low transportation cost 45 g/m²	High speed Light weight	1620 mm × 500 m for S500 1620 mm × 250 m for S300	
HP Stitch S Series Tacky 105 g/m² Sublimation Paper	Tacky High ink coverage Ideal for sportswear 105 g/m²	Tacky High weight	1320 mm × 120 m 1620 mm × 100 m	

HP trademark code FSC CO17543. See http://fsc.org.

Some recyclable HP substrates can be recycled through commonly available recycling programs.

Recycling programs may not exist in your area. See http://www.hp.com/recycle/ for details.

Application categories

1. Sportswear (95 g/m²)

2. Fashion (56 g/m²)

3. Soft signage (70 g/m² and 95 g/m²)

4. Household (70 g/m²)

For detailed information on the HP printing material portfolio, see http://www.hp.com/go/mediasolutionslocator.

Porous substrates

Porous substrates may be used with the printer and the ink collector, with which you must use the take-up reel.

Printing on porous substrates is optimized by using the loading accessory and checking the option in the Load Substrate screen.

To check the porosity of your substrate, proceed as follows.

1. If the printer has any substrate loaded, unload it.

2. Cut a piece of self-adhesive vinyl white gloss 9 x 50 mm (0.35 x 2 in) in size.

3. Stick it to the platen as shown.
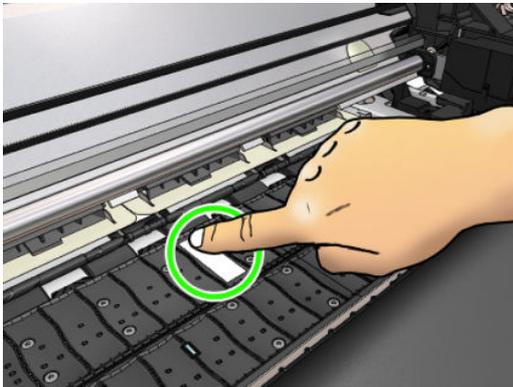
4. Load the substrate that you want to check.

5. Open your RIP software.

6. Download the test file from inside the printer: **http://**_printerIP_**/hp/device/webAccess/images/ Ink_trespassing_check.pdf**, where _printerIP_ is the IP address of your printer.

7. Print the test file using the number of passes and substrate preset that you intend to use in future with this substrate (or a similar profile in terms of ink limit).

8. Unload the substrate.

9. Remove the strip of self-adhesive vinyl from the platen.
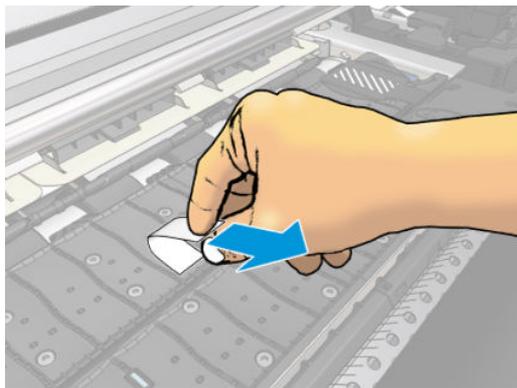
10. Look at the self-adhesive vinyl you have taken from the platen.

    ● If the strip is completely white (has no ink on it), the tested substrate is non-porous and can be used without the ink collector.

    ● If there some ink on the strip, the tested substrate is porous and should be used with the ink collector.

11. Clean the platen: see Clean the platen on page 161.

When using porous substrate, HP strongly recommends covering the substrate-advance sensor with a white gloss self-adhesive vinyl (an adhesive bandage is also acceptable) and disable the substrate-advance sensor from the **Advanced settings** tab in **Substrate presets**.

Ink collector

The ink collector should be used instead of the platen in the following cases:

● Whenever you intend to print on a porous substrate. See Porous substrates on page 42.

● Whenever you intend to print to the edges of the substrate without leaving any margin (full bleed printing).

The platen and the ink collector both come in two parts (left and right). To install the ink collector, first unlock and remove the two parts of the platen. Then install the two parts of the ink collector in their place.

The ink collector comes with blue consumable parts that should be attached to the ink collector. They can be attached before or after installing the ink collector in the printer; but before loading any substrate. To attach these parts, put them vertically into the ink collector and press until the two snaps on each part have clicked into place.

☆ **TIP:** You are recommended to use the take-up reel with the ink collector. See Take-up reel for the HP Stitch S500 Printer on page 82.

⚠ **WARNING!** Avoid moving parts. Handle fragile parts with care. You are recommended to wear gloves.

| Moving part | Fragile | Wear gloves |

For more safety information, see Safety precautions on page 3

Install the ink collector

1. The platen and the ink collector both come in two parts (left and right). Unlock the platen using the two blue locks, located at the left and right of the printer.
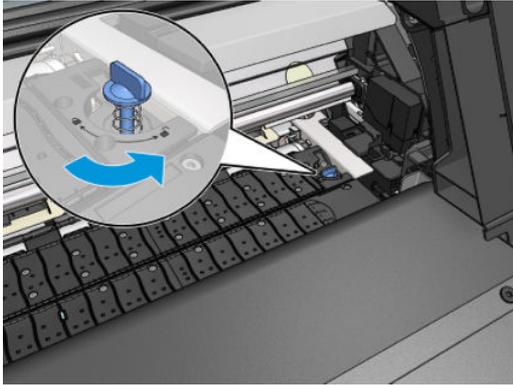
2. Remove both parts of the platen in the same way.
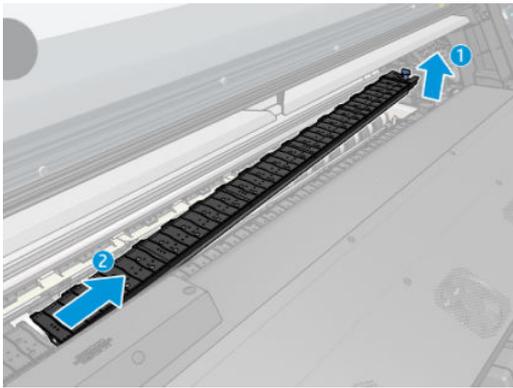
3. With care, smoothly place the two parts of the ink collector into the printer.
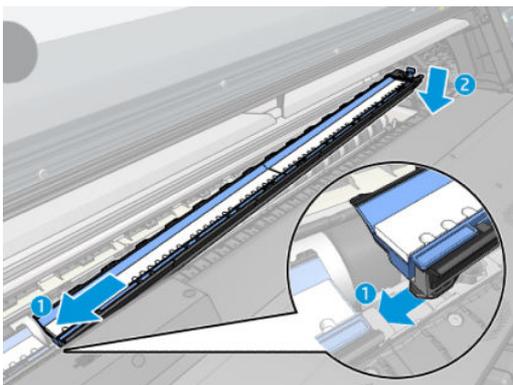
4. Ensure that the locks are locked and that there is no obstruction in the printing path.
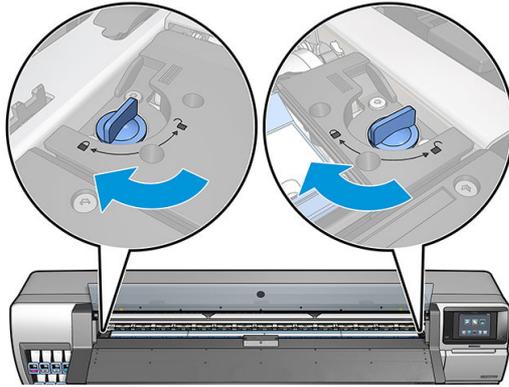
Follow the same method to reinstall the platen when required.

Replace the blue ink collector consumables

The length of substrate that you can print with the same ink collector consumables depends on the porosity of the substrate and the quantity of ink used on the print. If you see that the substrate is dirty when printing, stop printing and change the ink collector consumables. Failure to do so could cause some parts of the printer to malfunction.

1. You are recommended to wear the gloves that are included in the kit.

2. Press both snaps with your thumbs and lift the ink collector consumables vertically out of the printer.

3. Dispose of the dirty ink collector consumables.

4. Ensure that the ink collector is clean. If not, clean it with a damp cloth.

5. Place the new ink collector consumables into the printer vertically, starting on the right. You will hear a click when the snaps have been inserted.
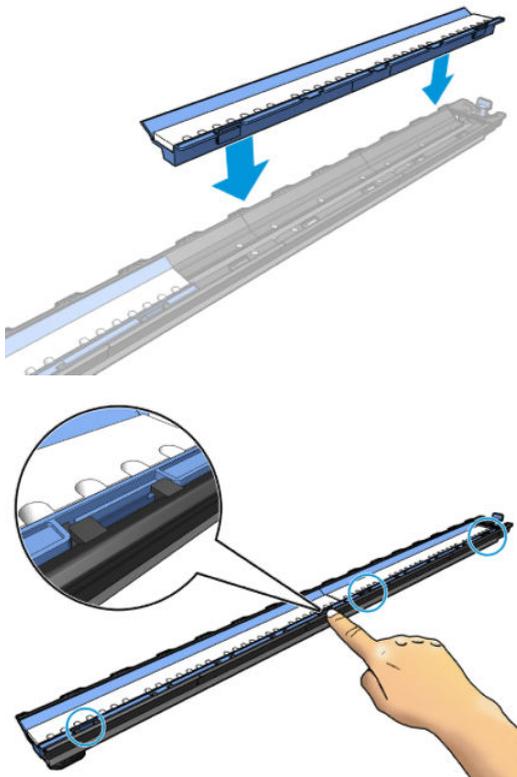
Load a roll onto the HP Stitch S300 spindle

TIP: As an alternative to the description here, you can see an animation of this procedure in the front panel: tap ⚙, then **Substrate** > **Substrate load** > **Learn how to load spindle**.

1. Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

2. Lift the spindle lock lever to disengage the spindle.
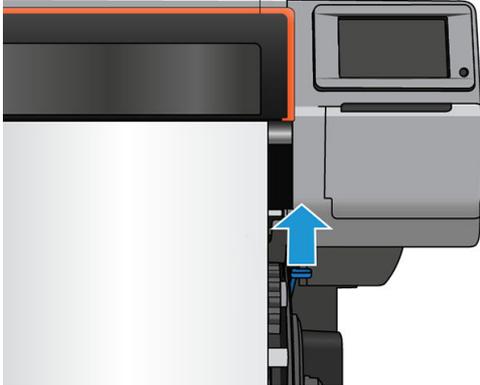
3. Remove the spindle from the printer.

CAUTION: Do not insert your fingers into the spindle supports.

The spindle has a stop at each end to keep the roll in position. Remove the blue stop at the left end to mount a new roll (the stop at the other end of a 76 mm (3 in) diameter spindle can also be removed, if you wish). The stop slides along the spindle to hold rolls of different widths.

4. Unlock the blue stop.
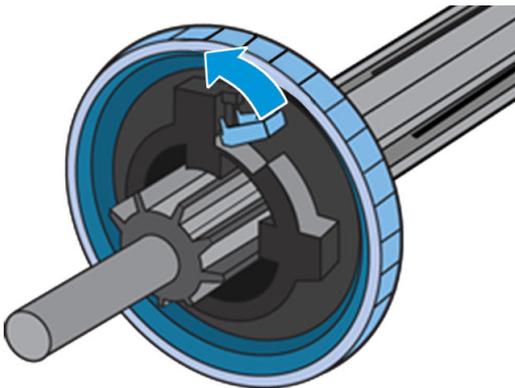
5. Remove the stop from the left end of the spindle.
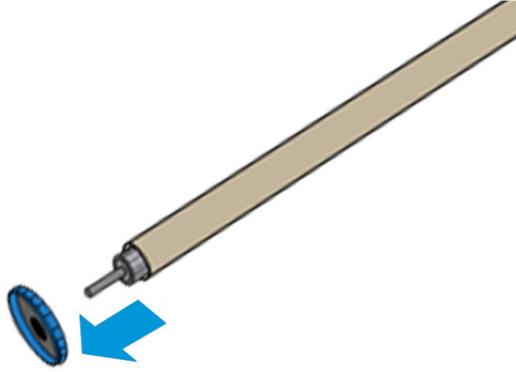
6. Place the roll onto the loading table.
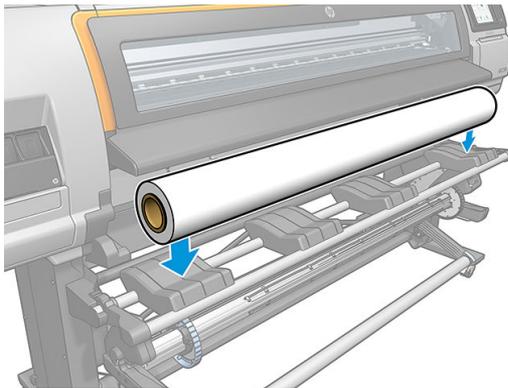
7. Slide the spindle into the roll.
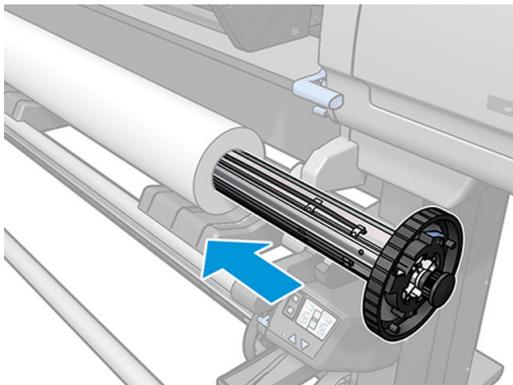
8. The right stop of the 76 mm (3 in) diameter spindle has two positions: one for rolls of the printer's maximum width, and another for narrower rolls. Remember to use the second position for narrower rolls, which allows higher printing speeds.
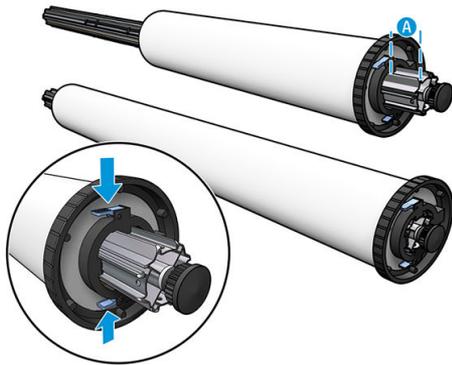
NOTE: The 76 mm (3 in) diameter spindle is supplied with the printer.

NOTE: The 51 mm (2 in) diameter spindle supplied with the printer has only one position for the right stop. There are blue lines on the loading table corresponding to two positions, but when using this spindle you can use only the outer position.
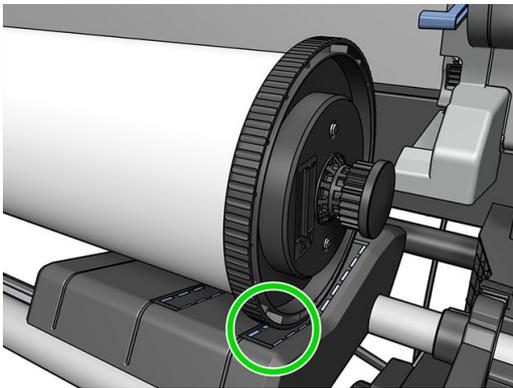
9. Put the blue stop on to the upper end of the spindle, and push it towards the end of the roll.
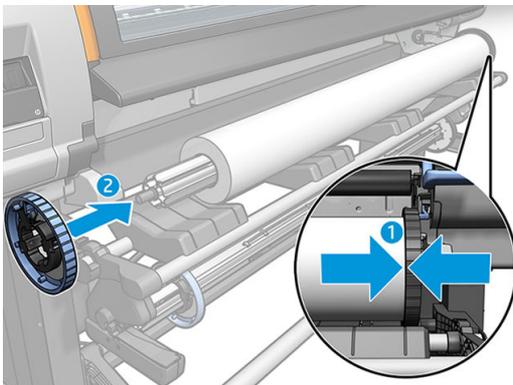
10. Lock the blue stop when it is in contact with the substrate.
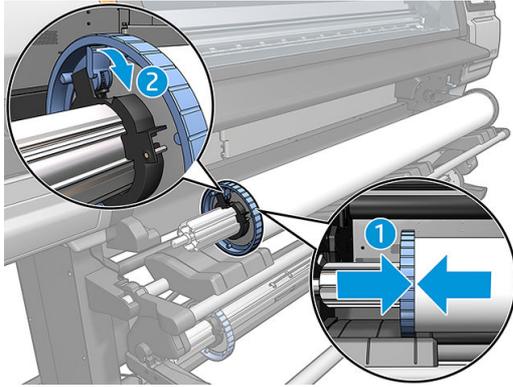
11. Insert the spindle carefully into the printer.

⚠ WARNING! Avoid trapping your fingers between the spindle and the spindle supports.

Risk of trapped fingers

For more safety information, see Safety precautions on page 3

⚠ CAUTION: Ensure that the sliders in the loading table are under the left hub, otherwise the spindle will not enter correctly into the left spindle support, and could fall on the floor.
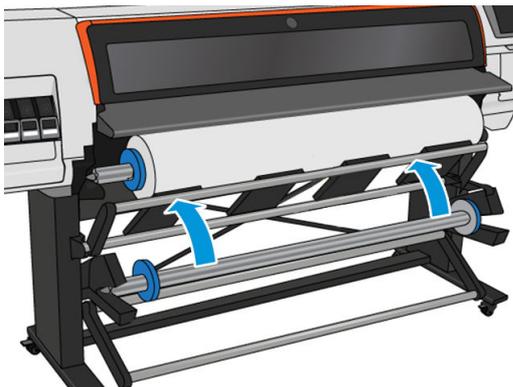
If you regularly use different substrates, you can change rolls more quickly if you pre-load rolls of different substrates on different spindles. Extra spindles are available for purchase.

Load a roll into the HP Stitch S300 Printer

To start this procedure, you need to have a roll loaded on the spindle. See Load a roll onto the HP Stitch S300 spindle on page 46.

The normal minimum substrate width is 23 inches (584 mm). To load substrates down to a minimum width of 10 inches (254 mm), go to the front panel and tap ⚙, then **Substrate** > **Substrate handling options** > **Enable narrow substrate**. With this option, print quality is not guaranteed.

💡 **TIP:** To load a roll of textile substrate, see Loading accessory for HP Stitch S300 Printer on page 57; and remember to use the ink collector if the substrate is porous (which textiles usually are).

TIP: When loading very thin or very thick substrates, or substrates with a tendency to curl, you should follow the manual loading procedure to reduce the risk of substrate jams and printhead crashes; see Assisted manual load on page 63.

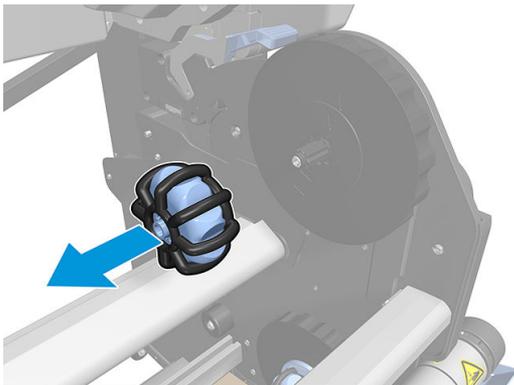1. At the printer's front panel, tap 🖨, then **Load**.
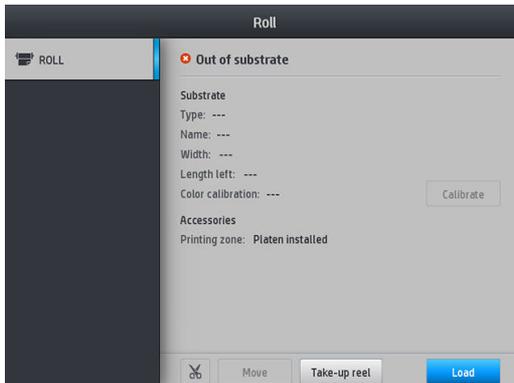
Alternatively, tap ⚙, then **Substrate load** > **Load roll**.

2. The load configuration screen appears.
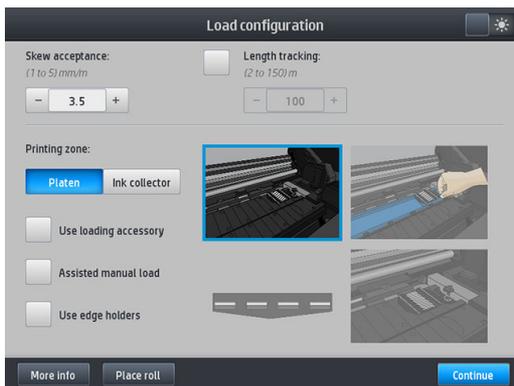
- Skew acceptance: The available values are between 1 and 5, default 3. The printer automatically tries to correct the skew, then warns you if the skew is over the limit you have set, but you can still choose to continue loading.

- Length tracking: If you check the box and give the length of your roll, the printer reduces the spare paper when printing and tells you the remaining length. See Substrate length tracking on page 88.

- Print zone: Choose **Platen** or **Ink collector**. See Ink collector on page 43.

- Use loading accessory. See Loading accessory for HP Stitch S300 Printer on page 57.

- Assisted manual load. See Assisted manual load on page 63.

- Use edge holders. See Edge holders on page 64.

When you have made your choices, instructions are displayed.

3. Carefully insert the leading edge of the substrate above the smooth black roller, making sure the substrate remains taut during the process. Avoid rewinding the substrate manually, unless the printer asks you to do so.

💡 **TIP:** If you open the window during the loading procedure, the pinches release the substrate and cause manual alignment and substrate wrinkle removal.
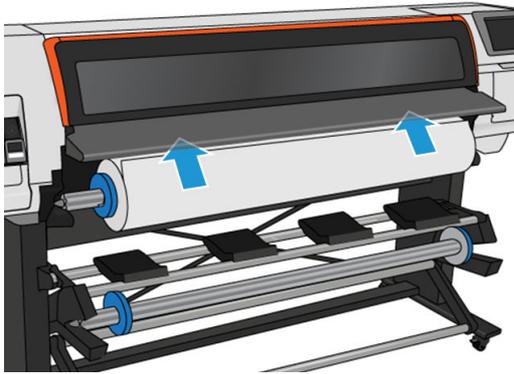
⚠ **WARNING!** Take care not to insert your fingers inside the printer's substrate path.

The printer beeps when it detects and accepts the leading edge of the substrate.

4. Select the category and name of the substrate you are loading.
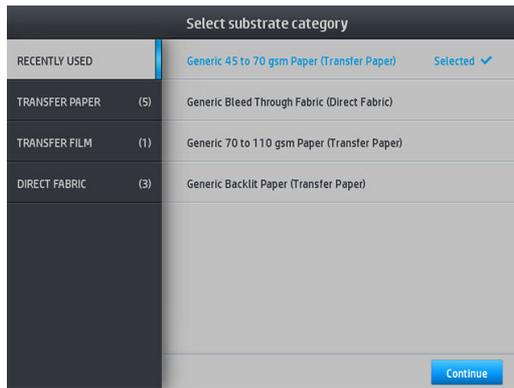
You can also search by favorites, or you can select **None of these, I will choose it later**: by accessing the substrate library after completing the loading procedure. See Substrate presets on page 97.

📝 **NOTE:** You should select the same substrate name that you are using in your RIP software.

In the case of a transfer substrate, the RIP shows the transfer paper combination along with the textile substrate (that is, transfer paper name + fabric name). Check that the substrate name in the front panel is the same as the first part of the substrate name in the RIP (transfer paper name).

5. The printer checks the substrate in various ways and may ask you to correct problems with skew or tension.

6. Wait until the substrate emerges from the printer, as shown below.
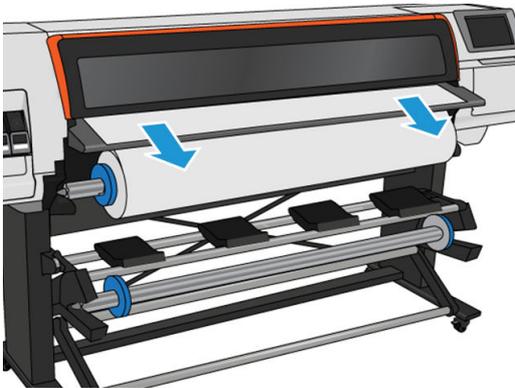
📝 **NOTE:** If you have an unexpected problem at any stage of the substrate loading procedure, see Substrate cannot be loaded successfully on page 89.

7. If you are loading transparent substrate without opaque borders, you are asked to enter the width of the substrate and the distance of the right edge from the printer's side plate.

8. The printer calibrates the substrate advance.

9. The printer indicates that it is ready for printing.
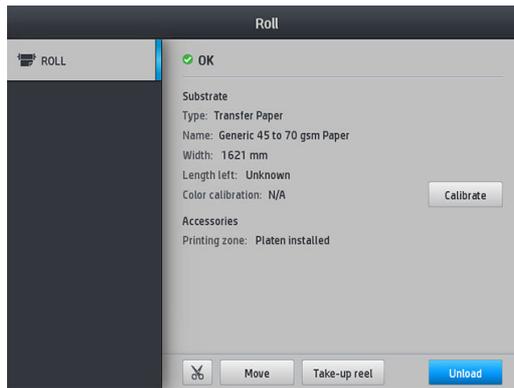
Take care not to cover the top fans.
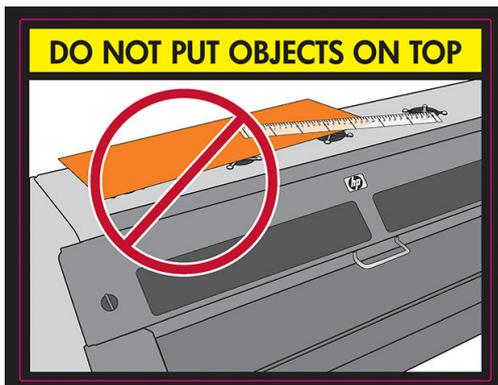
Load a roll into the HP Stitch S500 Printer

☼ **TIP:** To load a roll of textile substrate, see Loading accessory for HP Stitch S300 Printer on page 57; and remember to use the ink collector if the substrate is porous (which textiles usually are).

TIP: When loading very thin or very thick substrates, or substrates with a tendency to curl, you should follow the manual loading procedure to reduce the risk of substrate jams and printhead crashes; see Assisted manual load on page 63.

1. For roll diameters greater than 200 mm, remove the loading table spacers.
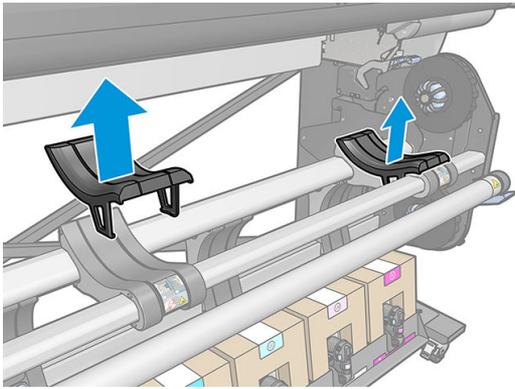
2. For rolls with a core diameter of 2 inches, install the 2 inch hub kit.

   a. Remove the central screw (manually or using a flat screwdriver) on both sides.
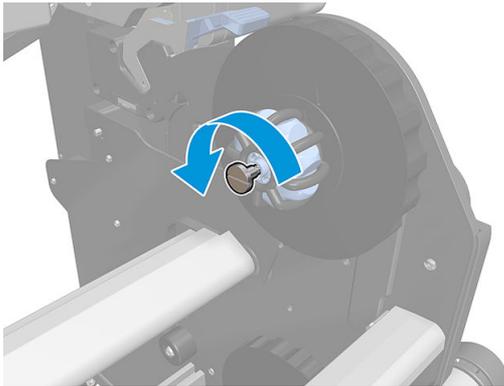
   b. Remove the right and left hub 3 inch assemblies.

   c. Install the right and left hub 2 inch assemblies.

   d. Install the central screws (manually or using a flat screwdriver) on both sides.

3. Put the roll onto the table and load it onto the right-hand hub.
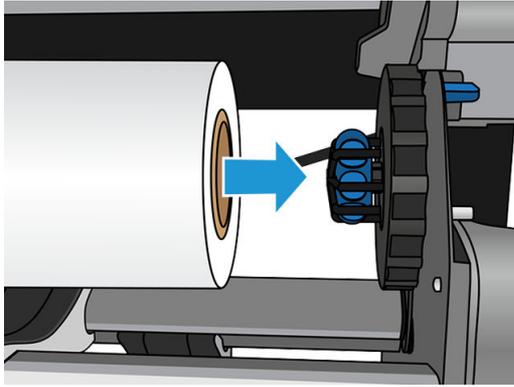
4. Lift the left-hand side of the roll and insert the left-hand hub. Press to ensure that it is tightly inserted.
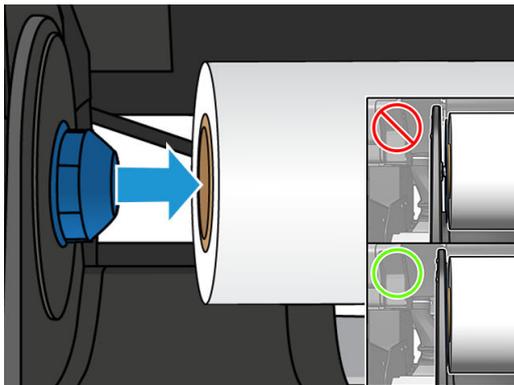
5. At the printer's front panel, tap , then **Load**.
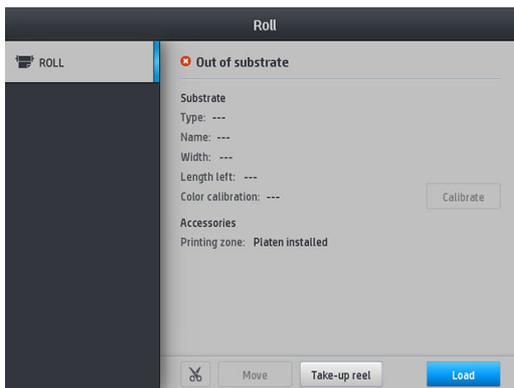
Alternatively, tap , then **Substrate** > **Substrate load** > **Load roll**.

6. The load configuration screen appears.

- Skew acceptance: The available values are between 1 and 5, default 3. The printer automatically tries to correct the skew, then warns you if the skew is still over the limit you have set; but you can choose to continue loading.

- Length tracking: If you check the box and give the length of your roll, the printer calculates the spare paper when printing and reports the remaining length. See Substrate length tracking on page 88.

- Printing zone: Choose **Platen** or **Ink collector**. See Ink collector on page 43.

- Use loading accessory for textile, flimsy, or high-friction substrates: See Loading accessory for HP Stitch S300 Printer on page 57.

- Assisted manual load for very rigid or curly substrates: See Assisted manual load on page 63.

- Use edge holders: See Edge holders on page 64.

When you have made your choices, instructions are displayed.

7. Insert the leading edge of the substrate into the printer's substrate path.

☆ TIP: If you open the window during the loading procedure, the pinches release the substrate and cause manual alignment and substrate wrinkle removal.

⚠ WARNING! Take care not to insert your fingers with the substrate.

The printer beeps when it detects and accepts the leading edge of the substrate.
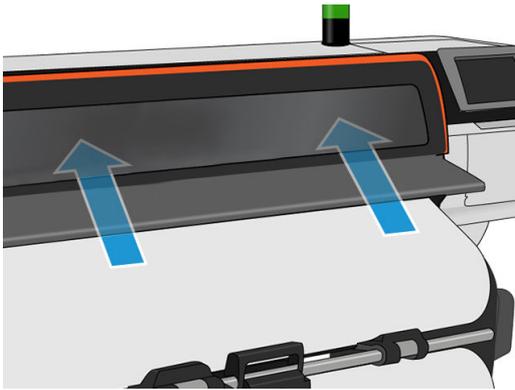
8. Select the category and name of the substrate you are loading.
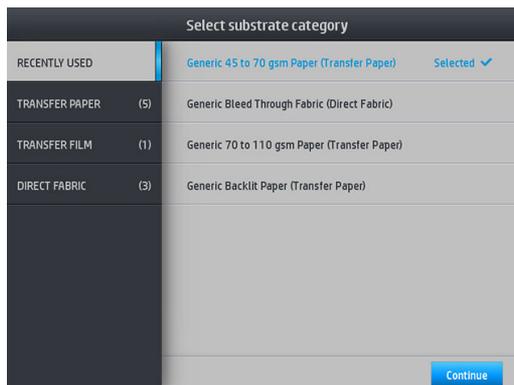
You can also search by favorites, or you can access any substrate category and select **None of these, I'll create or search for it later**: by accessing the substrate library after completing the loading procedure. See Substrate presets on page 97.

📝 NOTE: You should select the same substrate name that you are using in your RIP software.

In the case of a transfer substrate, the RIP shows the transfer paper combination along with the textile substrate (that is, transfer paper name + fabric name). Check that the substrate name in the front panel is the same as the first part of the substrate name in the RIP (transfer paper name).

9. The printer checks the substrate in various ways and may ask you to correct problems with skew or tension. In the case of a problem during this process, lifting the window will pause the load procedure and release the substrate so that you can correct its position manually.

10. Wait until the substrate emerges from the printer.
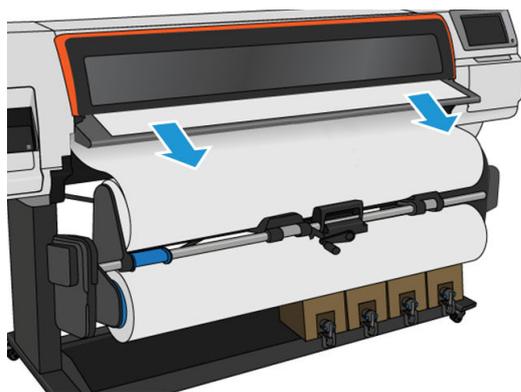
> **NOTE:** If you have an unexpected problem at any stage of the substrate loading procedure, see Substrate cannot be loaded successfully on page 89.

11. The printer calibrates the substrate advance.

12. The printer indicates that it is ready for printing.
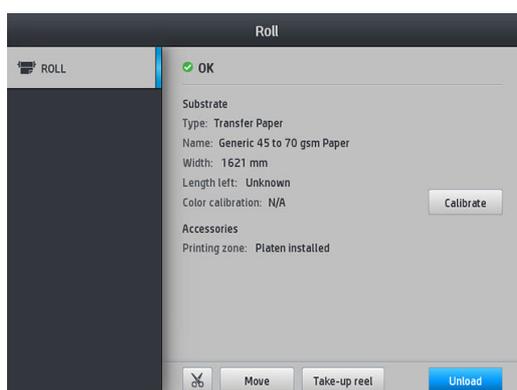
13. Rotate the substrate pivot system inside the printer.
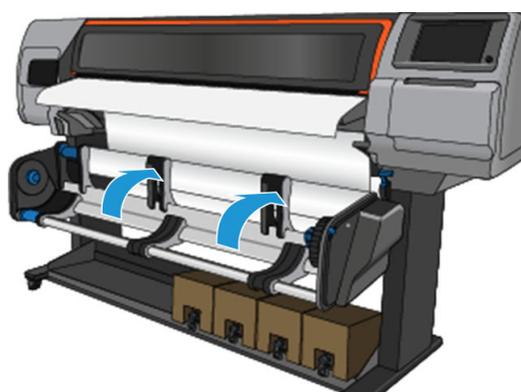
14. To print roll-to-roll, see Take-up reel for the HP Stitch S500 Printer on page 82.

Loading accessory for HP Stitch S300 Printer

The loading accessory is designed to help in loading all kinds of fabrics and transfer papers below 50gsm.

> **NOTE:** The edge holders can be used whether or not you decide to use the loading accessory.

1. Lay the textile loading accessory on top of the printer.

2. Pull some of the substrate from the roll and place the leading edge under the magnetized white flaps of the loading accessory.
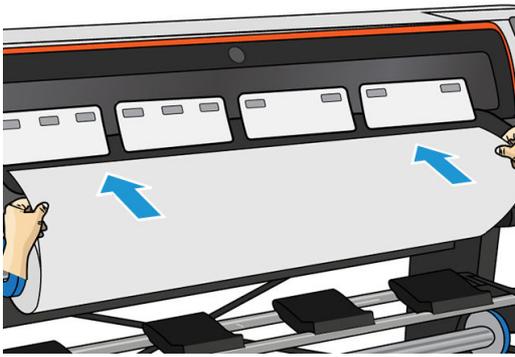
3. Flip the white flaps back to cover the leading edge of the substrate. The black patches are magnetic and grip the substrate.
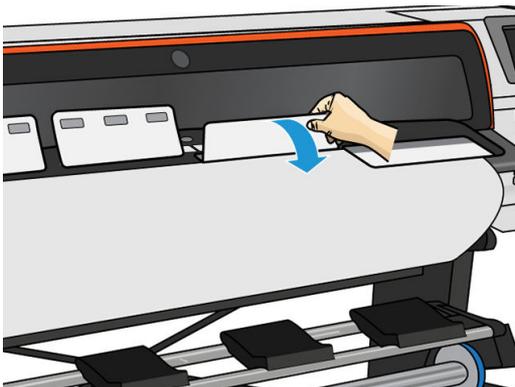
4. Check the **Use loading accessory** box in the Load Configuration screen on the front panel, so that you will have the correct loading sequence, and to set the correct mechanical settings for thin substrates.
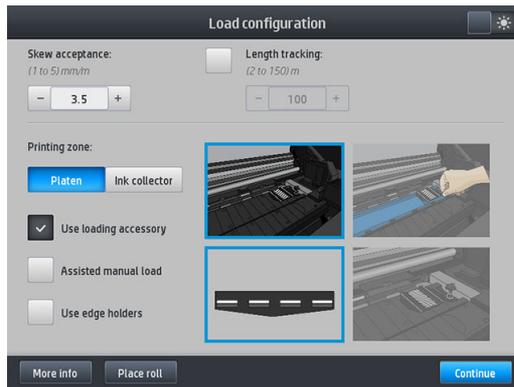
5. Feed the loading accessory into the substrate input.
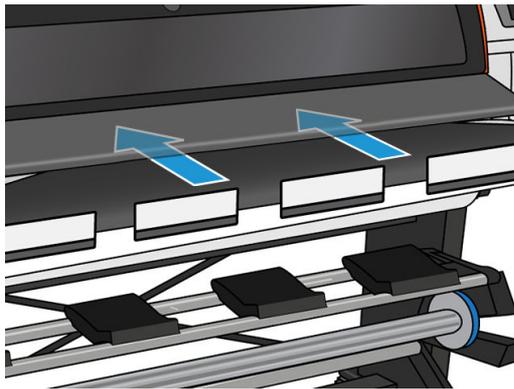
6. The loading accessory passes through the printer's substrate path with the substrate.
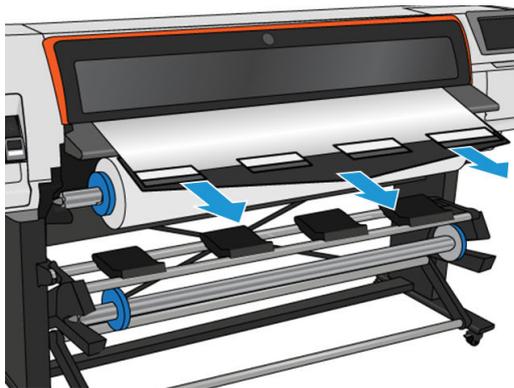
7. Select the category and name of the substrate you are loading.
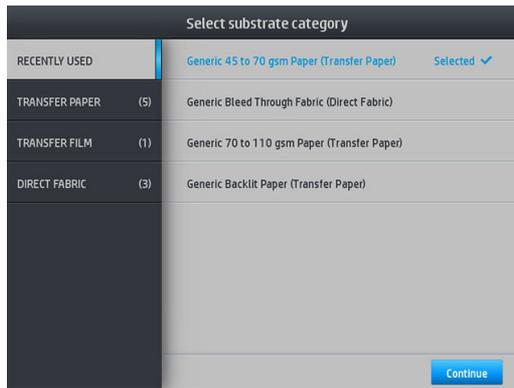
NOTE: You should select the same substrate name that you are using in your RIP software.

In the case of a transfer substrate, the RIP shows the transfer paper combination along with the textile substrate (that is, transfer paper name + fabric name). Check that the substrate name in the front panel is the same as the first part of the substrate name in the RIP (transfer paper name).

TIP: When loading very thin paper, always select the substrate type as **Generic Low Weight Paper (up to 75gsm)** to minimize the vacuum pressure applied while loading; when loading very thick paper, always select the substrate type as **Generic High Weight Paper (higher than 110gsm)** (in the Transfer Paper category) to maximize the vacuum pressure. After loading and before printing, go to the front panel and change to the correct type for the substrate you are loading: tap 🔧, then **Substrate** > **Change loaded substrate**.

8. After passing through the printer, the loading accessory can be removed by hand.

9. The printer does not check for skew when a porous or thin substrate is loaded with the loading accessory option checked. Follow the instructions in to minimize skew.

10. The printer calibrates the substrate advance.

**NOTE:** You are recommended to use the take-up reel; however, it is not obligatory.

Loading accessory for HP Stitch S500 Printer

1. Check the **Use loading accessory** box in the Load Configuration screen on the front panel, so that you will have the correct loading sequence, and to set the correct mechanical settings for thin substrates.
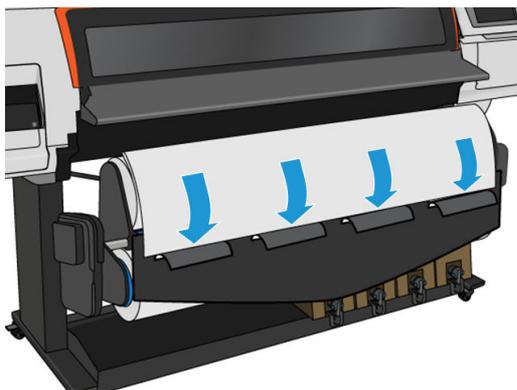
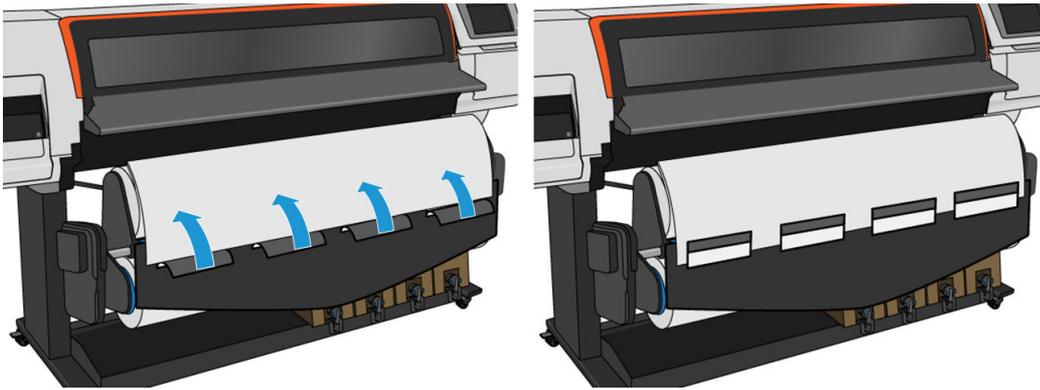2. Hang the textile loading accessory on the hooks.
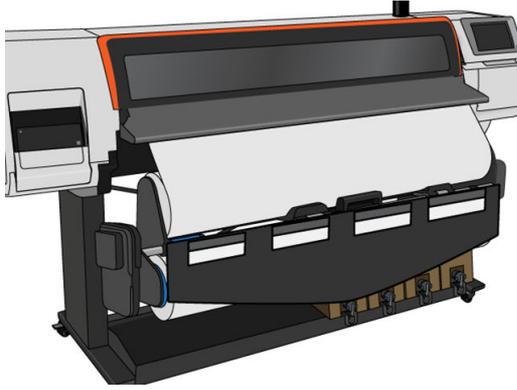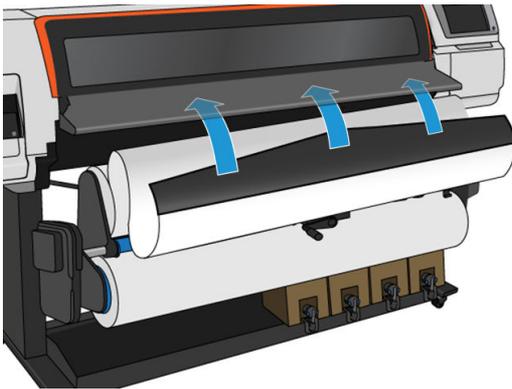

3. Flip the white flaps down.
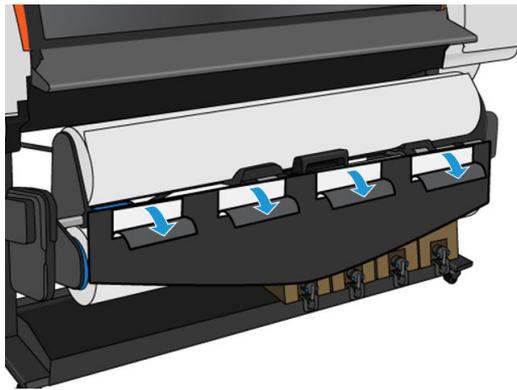
4. Pull some of the substrate from the roll and place the leading edge under loading accessory's magnetized white flaps.

5. Flip the white flaps back to cover the substrate's leading edge. The black patches are magnetic and grip the substrate.

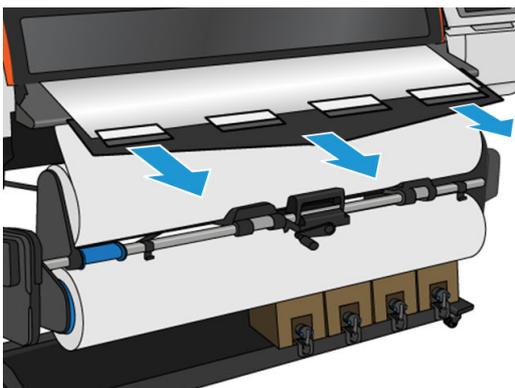6. Feed the loading accessory into the substrate input.

7. The loading accessory passes through the printer's substrate path with the substrate.

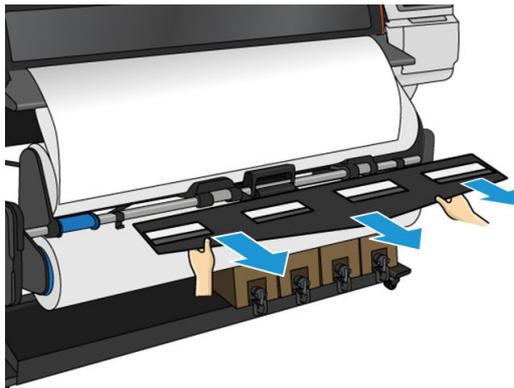⚠ **WARNING!** Do not touch the platen, which could be hot.

Risk of burns

For more safety information, see

8. Select the category and name of the substrate you are loading.
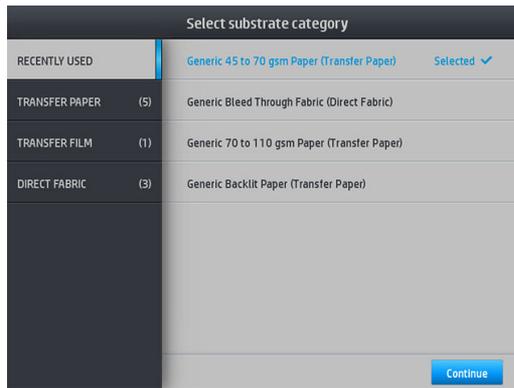
9. After passing through the printer, the loading accessory can be removed by hand.

10. The printer does not check for skew when a porous or thin substrate is loaded with the loading accessory option checked. Follow the instructions in Load a roll onto the HP Stitch S300 take-up reel on page 70 to minimize skew.

11. The printer calibrates the substrate advance.

Assisted manual load

The assisted manual load procedure should be used in the following cases:

- The substrate is unusually thin or unusually thick.

- The substrate has ragged edges.

- The substrate tends to curl at the edges.

- The printing side of the substrate faces outwards.

In other cases, you are recommended to use the normal loading procedure. See Load a roll into the HP Stitch S300 Printer on page 50 and Load a roll into the HP Stitch S500 Printer on page 53.

To start the assisted manual load procedure, you need to have a roll loaded on the pivot table rewinder.

The normal minimum substrate width is 23 inches (584 mm). To load substrates down to a minimum width of 10 inches (254 mm), go to the front panel and tap [icon], then **Substrate** > **Substrate handling options** > **Enable narrow substrate**. With this option, print quality is not guaranteed.

1. Start the substrate loading procedure as usual (see Load a roll into the HP Stitch S300 Printer on page 50 and Load a roll into the HP Stitch S500 Printer on page 53), and make sure to check the **Assisted manual load** box in the load configuration screen.
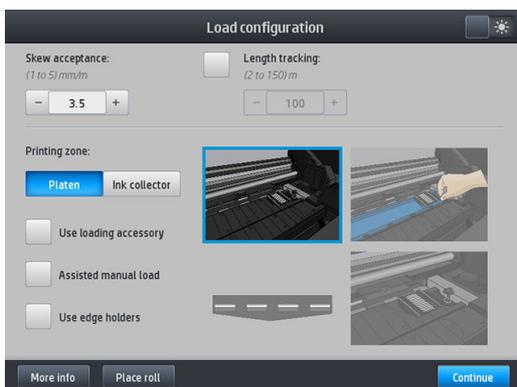
You can alternatively launch the manual load from the **Substrate** box in the front panel screen that you can see by sliding your finger to the left.

2. Carefully insert the leading edge of the substrate above the input roller, making sure the substrate remains taut during the process. Avoid rewinding the substrate manually, unless the printer asks you to do so.

3. Continue to feed the substrate until it reaches the printing platen. Open the window to help pull the substrate through, and keep feeding the substrate at least until the leading edge is at the same height as the substrate roll. Align the right edge of the substrate with the right edge of the roll.


Risk of trapped fingers

For more safety information, see Safety precautions on page 3

☼ **TIP:** If the substrate you are using tends to curl, keep feeding the substrate until the edge is out of the printer. You are also recommended to use the take-up reel, or to disable the cutter from the front panel if not using the take-up reel.

4. Select the category and name of the substrate you are loading.
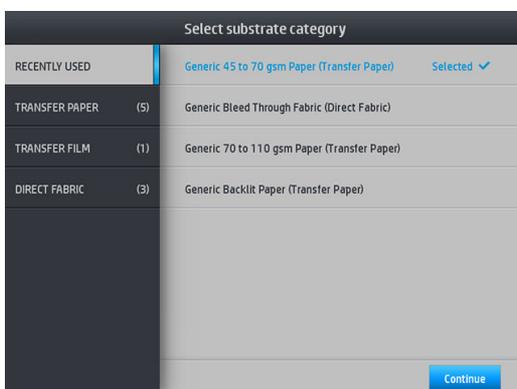
The rest of the assisted load procedure is the same as in the normal load procedure. See Load a roll into the HP Stitch S300 Printer on page 50 and Load a roll into the HP Stitch S500 Printer on page 53.

Edge holders

The edge holders are designed to prevent the edges of the substrate from rising while printing is in progress. They are recommended only when the edges of the substrate tend to lift up and touch or damage the

printheads. They can be used with the platen or with the ink collector. When not in use, they should be stored outside the printer.

If they are needed often, they can be stored inside the printer, to the left and right of the print platen, to avoid substrate jams when loading the next substate.

NOTE: The edge holders extend 7 mm over the edge of the substrate. You should set a minimum left and right margin of 7 mm (0.3 in) in the RIP when using edge holders, otherwise the printer could try to print on the edge holders.

If you choose to use them, you should move them into position when prompted by the front panel (this prompt appears when the **Use edge holders** checkbox has been checked). Open the window, place the edge holders, then close the window.

The edge holders should be placed on the platen so that they overlap the left and right edges of the substrate. Align the dotted line on the edge holder with the lateral edge of the substrate.

WARNING! Avoid moving parts. Handle fragile parts with care. You are recommended to wear gloves.
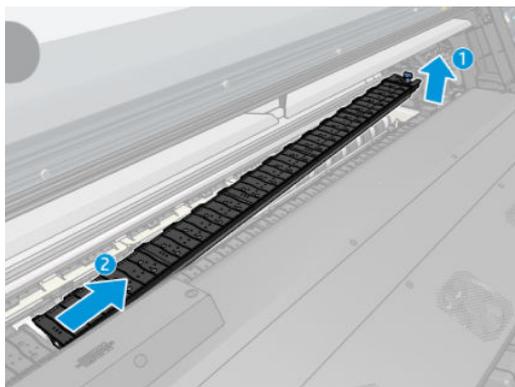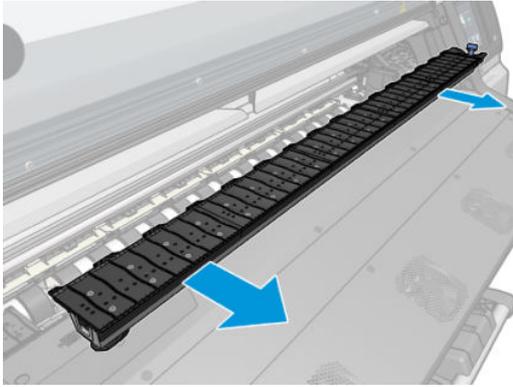
Moving part	Fragile	Wear gloves

For more safety information, see Safety precautions on page 3
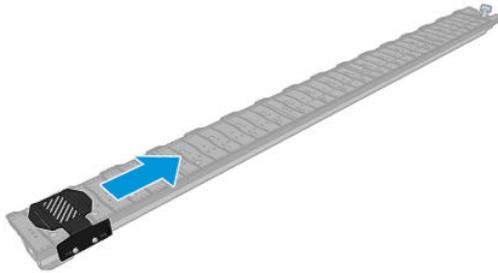
Place edge holders

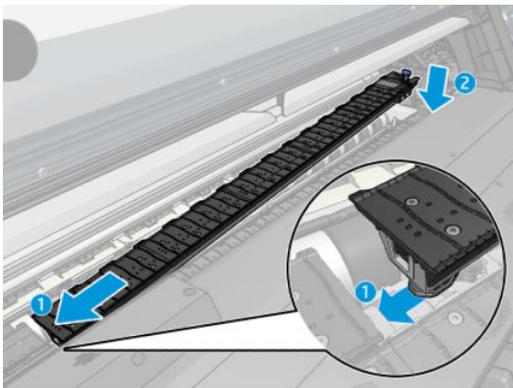1. Remove the platen module or ink collector on one side of the printer.

2. Slide the edge holder onto the platen module or ink collector, and adjust its position: on the left, as far to the left as possible; on the right, as far to the right as possible.
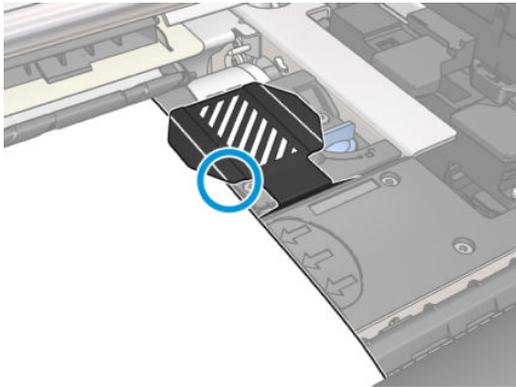

3. Put back the platen module or ink collector with the edge holder in place.

4. Repeat with the platen module or ink collector on the other side.

Align the substrate

When the substrate has been loaded, align it with the dotted line on the edge holder. Misalignment could result in a substrate jam, or damage to the substrate or to the printheads.

Unload a roll from the HP Stitch S300 Printer

1. If you used the take-up reel during printing, unload the printed roll from the take-up reel. See Unload the HP Stitch S300 take-up reel on page 77.
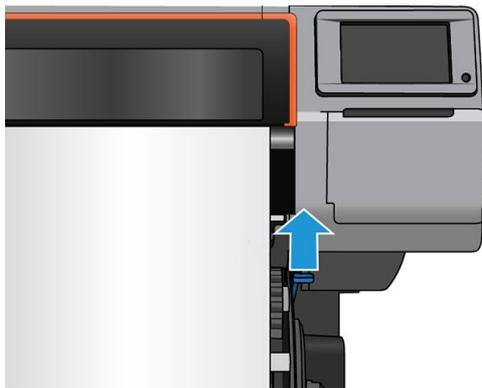
2. On the printer's front panel, tap , then **Unload**.

    Alternatively, you can tap , then **Substrate** > **Unload substrate**.

3. If the printer has been tracking the length of the substrate, the front panel displays the remaining length so that you can note it for future reference. See Substrate length tracking on page 88.

    Tap **OK** to continue.

4. When the printer has rewound the roll, lift the spindle lock lever.
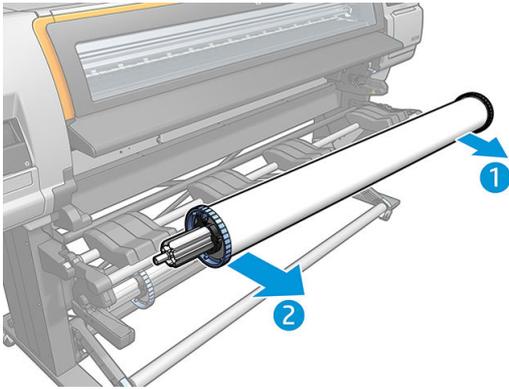

5. Remove the spindle from the printer, pulling out the right end on the right side of the printer first.

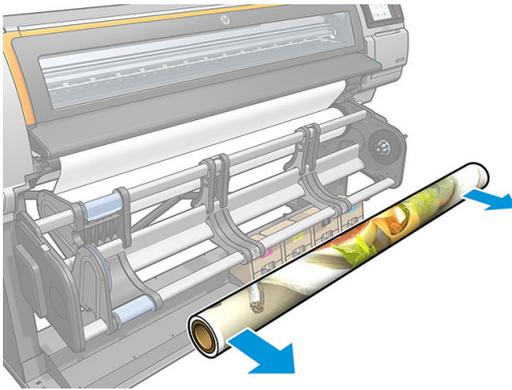   ⚠ WARNING!   Do not insert your fingers into the spindle supports while removing the spindle.

    Risk of trapped fingers

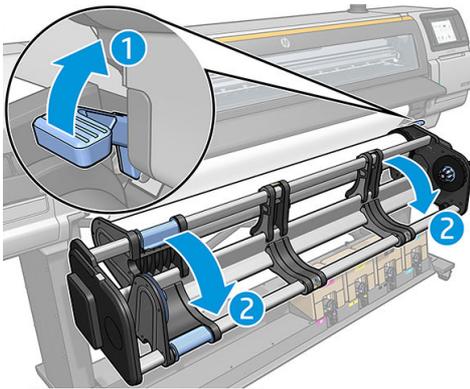   For more safety information, see Safety precautions on page 3

Unload a roll from the HP Stitch S500 Printer

1. If you used the take-up reel during printing, unload the printed roll from the take-up reel. See Unload the HP Stitch S500 take-up reel on page 86.

2. Rotate the pivot system so that the input roll is accessible.


3. On the printer's front panel, tap [ ], then **Unload**.

    Alternatively, you can tap [ ], then **Substrate** > **Unload substrate**.

4. If the printer has been tracking the length of the substrate, the front panel displays the remaining length so that you can note it for future reference. See Substrate length tracking on page 88.

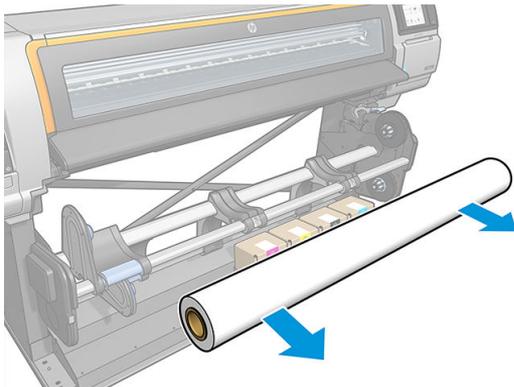   Tap **OK** to continue.

5.   When the printer has rewound the roll, remove the left hub from the roll.
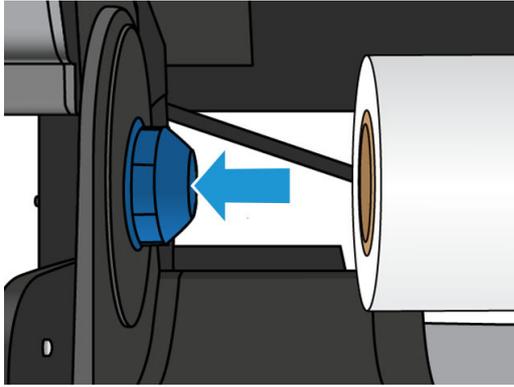
6.   Remove the roll from the right hub.
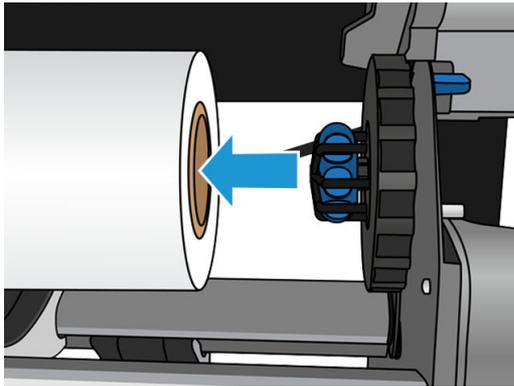
7.   Remove the substrate from the loading table.

# Take-up reel for the HP Stitch S300 Printer

Tension bar

When in use, the take-up reel requires a dangling loop of substrate weighed down by a tension bar. The tension bar can be moved with the take-up reel buttons or by using the **Move paper** or **Rewind paper** options in the front panel.

Load a roll onto the HP Stitch S300 take-up reel

📝 **NOTE:** Take-up reels with 51 mm (2 in) or 76 mm (3 in) diameter can be used.

1. On the printer's front panel, tap [icon], then **Take-up reel**.

   Instructions are displayed on the screen; slide your finger laterally across the front panel to follow the instructions to the end.
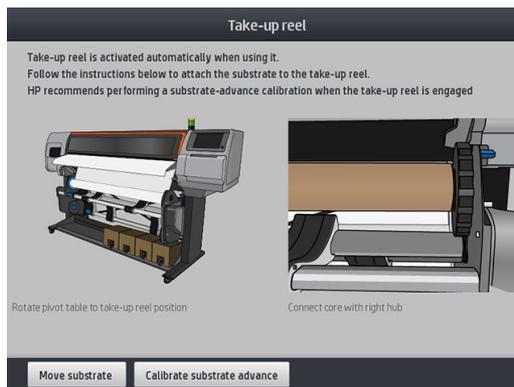

2. If you decide to load the take-up reel during printing, familiarize yourself with the procedural steps before tapping the **Enable** button. Loading the take-up reel during printing requires you to complete the procedure while the printer is feeding and printing substrate. Loading the take-up reel during printing saves approximately 1.5 m (4.9 ft) of substrate.

   💡 **TIP:** Loading substrate before printing (manually advancing the substrate) always improves attachment, fixing it correctly while printing is more difficult, and doing it wrong affects wind quality.

   TIP: You are recommended to keep the take-up reel winding-direction switch in the off position (see Unload the HP Stitch S300 take-up reel on page 77) to avoid unwanted movements when loading the take-up reel while printing. Once you have the leading edge of the substrate attached to the core, and the substrate is straight, switch the winding-direction switch to position 1 or 2, as you prefer. Setting 1 winds the substrate so that the printed image faces in, setting 2 winds the substrate so that the printed image faces out.

   The following steps assume that you have decided to load immediately. If you decide to load later, during printing, you must complete the same operations without guidance from the front panel.

3. For easier access to the take-up reel, lift the loading table into its upright position.
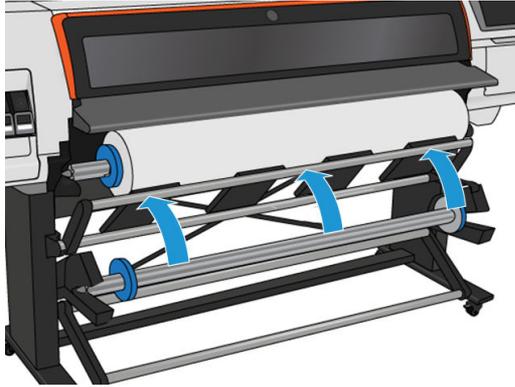
4. Unlock the take-up reel by pushing its lever to the uppermost position.
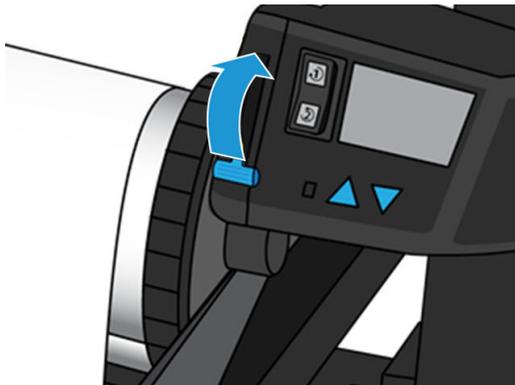
5. Remove the take-up reel.
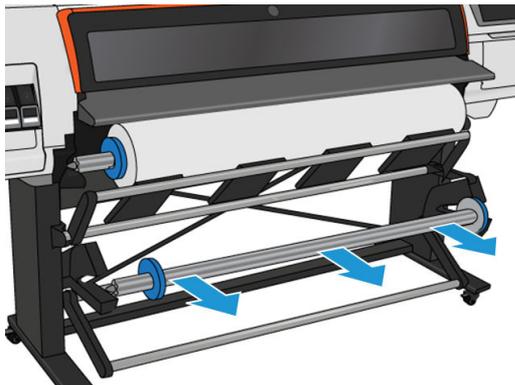
6. Lift the lever in each case to remove both of the stops from the take-up reel; they will not be used.
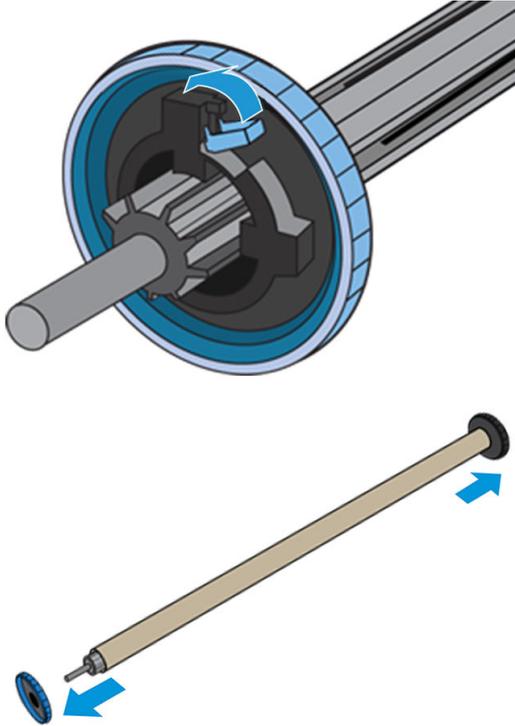
7. Load the core onto the take-up reel. The core should be at least as wide as the substrate.
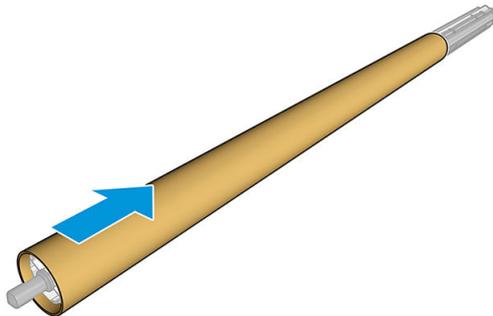
8. Load the take-up reel into the printer by pushing firmly on both ends.

⚠ **WARNING!** Take care not to get your fingers trapped.

Risk of trapped fingers

For more safety information, see Safety precautions on page 3
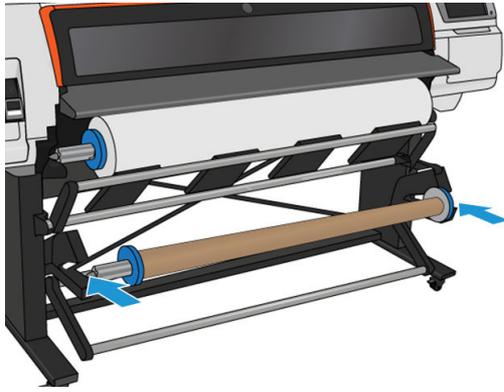
9. Advance the substrate by tapping the **Move substrate** button on the front panel. Make sure that the substrate passes in front of the loading table.
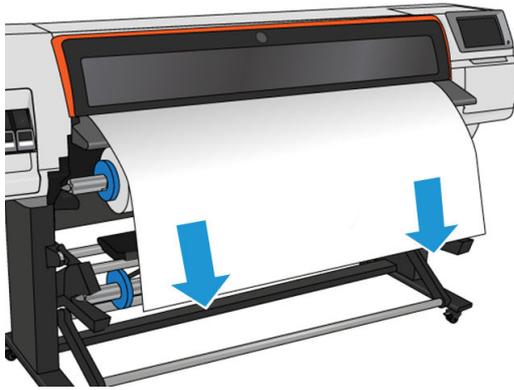
10. Pull down the center of the substrate's leading edge to straighten the substrate. Do *not* attempt to pull more substrate out of the printer.

    NOTE: If you are loading the take-up reel *during* printing, you do not need to pull the substrate taut. Tape the substrate to the core when an adequate length of substrate has fed from the printer after printing begins.

11. Adjust the position of the core on the take-up reel so that it is aligned with the substrate.

12. Tape the leading edge of the substrate to the core in the center, then at each side. Make sure that the substrate is straight.

TIP: Follow the order shown in the image to ensure substrate alignment.
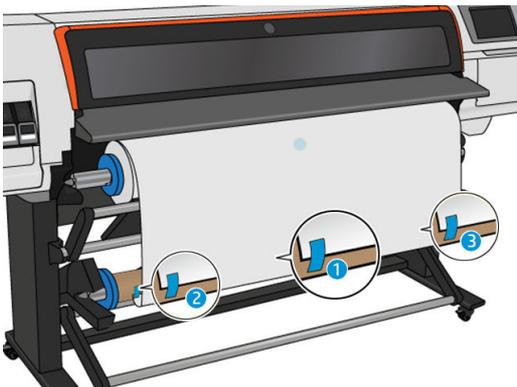
NOTE: Depending on whether you want to print the images facing in or out, place the tape accordingly. See below.
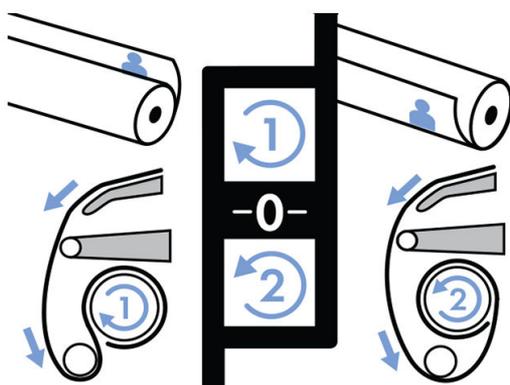
13. Tap the button on the front panel to advance the substrate, creating a loop.
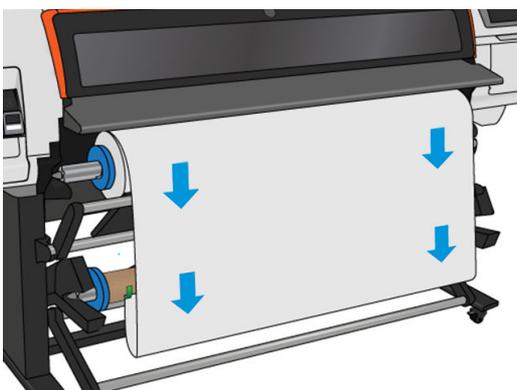
14. Press the blue arrow on the take-up reel motor to rotate the reel one full turn. This will help to support the weight of the tension bar.

15. Tap the button on the front panel to advance the substrate again.
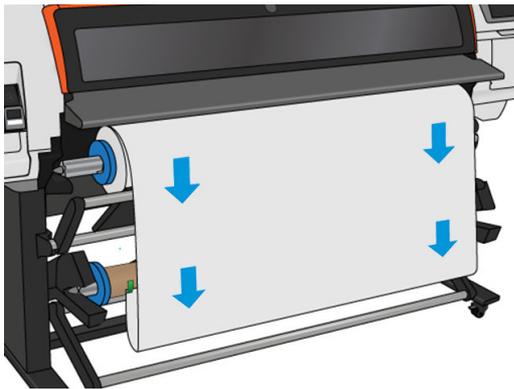
16. Gently lower the loading table, to avoid wrinkles and improve winding.
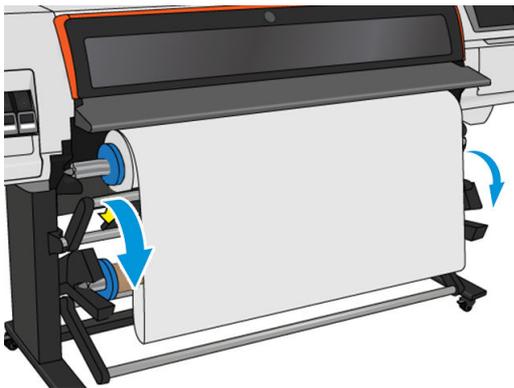
17. Carefully insert the tension bar. This is essential: the take-up reel will not function correctly without it.
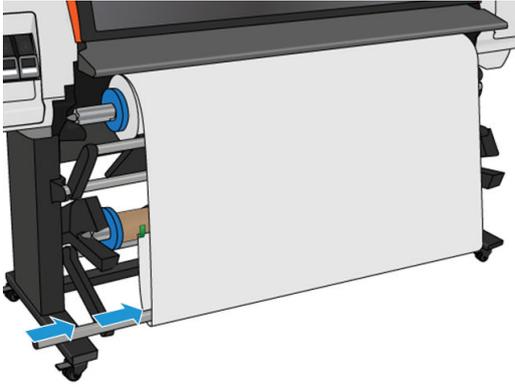
18. Fit the tension bar into the supports at either side.

⚠ WARNING! Take care not to get your fingers trapped.

Risk of trapped fingers

For more safety information, see
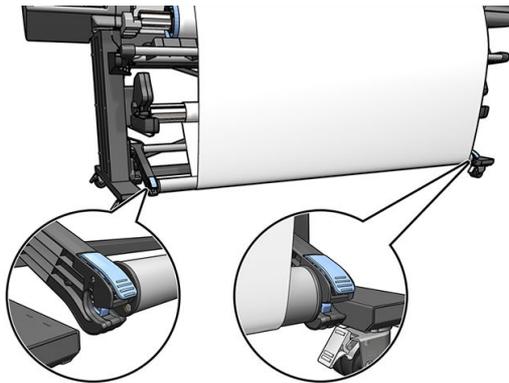
19. Use the winding-direction switch on the take-up reel motor to select the winding direction. Setting **1** winds the substrate so that the printed image faces in. Setting **2** winds the substrate so that the printed image faces out.

20. Tap the **Enable** button on the front panel. The printer advances and calibrates the substrate.

21. The following image shows how the printer looks when it is operating. As substrate is fed from the printer, it drops down to the tension bar, over the diverter, then down again to the take-up reel.
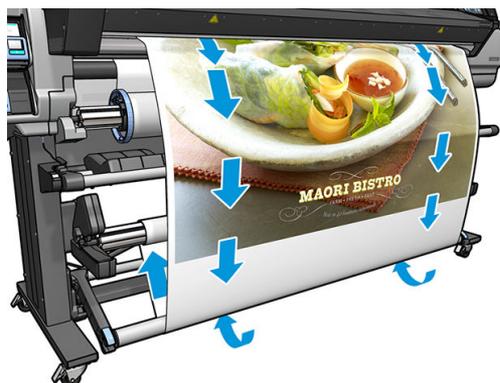
NOTE: When the take-up reel is in use, the substrate is not automatically cut after each print.

NOTE: If the take-up reel is loaded during printing, recalibrate the substrate-advance sensor for optimal print quality. At the front panel, tap ⚙, then **Image quality maintenance** > **Substrate advance calibration** > **OMAS calibration**.

TIP: In the case of large skew on the output roll, it is recommended to use a core with the same width as the substrate, and install lateral stops, to help align the substrate.

If the lateral stops cause a lateral substrate crash: reduce the front tension: See Variable front tension kit for the HP Stitch S300 Printer on page 79.

Unload the HP Stitch S300 take-up reel

WARNING! Take care not to get your fingers trapped.

Risk of trapped fingers

For more safety information, see Safety precautions on page 3

1. On the printer's front panel, tap , then **Take-up reel**.

   The printer allows you to move the substrate to facilitate cutting.

2. Switch the winding-direction switch to the off position. The switch is in the off position when it is centered (in other words, when the switch is neither in position 1 nor position 2).
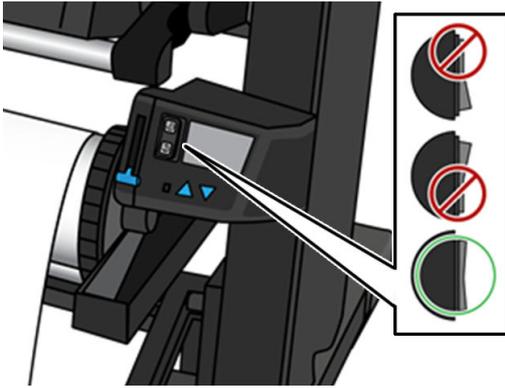
3. To remove the tension bar, first lift the support, then press the lever.

4. Use the winding button on the take-up reel motor to wind the excess substrate around the take-up reel.

5. Cut the substrate with scissors.
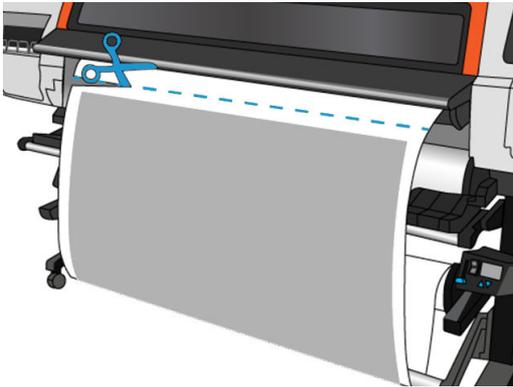
6. While holding the substrate, use the winding button on the take-up reel motor to wind the remainder of the substrate around the take-up reel.
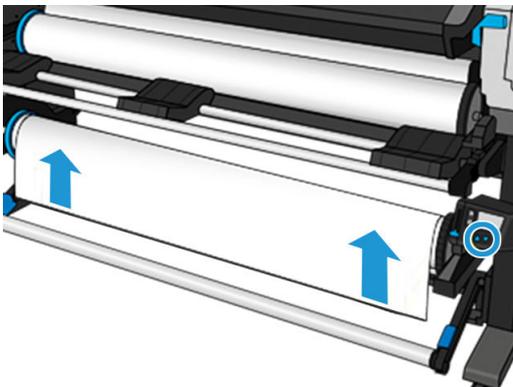
7. Unlock the take-up reel by pushing its lever to the uppermost position.
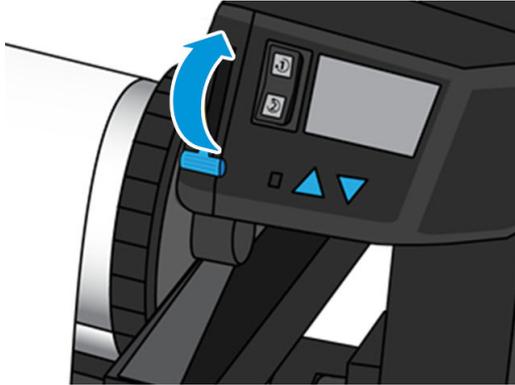
8. Remove the take-up reel from the printer, pulling out the end on the right side of the printer first.
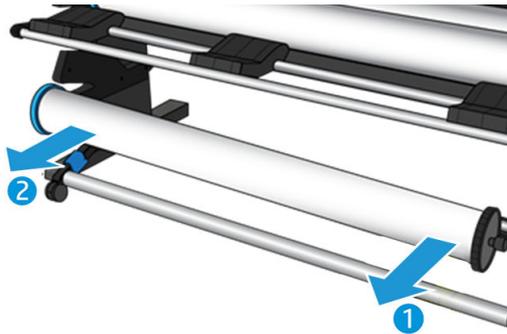
9. To remove the roll from the printer after you have unloaded the take-up reel, see Unload a roll from the HP Stitch S300 Printer on page 67.

Variable front tension kit for the HP Stitch S300 Printer

Depending on the loaded substrate, length inconsistency may be observed when comparing left- and right-side measurements in tiling applications using the take-up reel: measurements on the left being more inconsistent than on the right. This behavior is due to the front tension applied by the tension bar which can also cause a lateral crash with the take-up reel lateral stops, when there is a significant lateral movement of the substrate.

The variable front tension kit contains a pair of counterweights that you can attach to the arms of the tension bar, thus reducing the front tension and improving length consistency in tiling applications and the winding quality, although the compactness of the output roll may be reduced.

Installation

The variable front tension kit consists of left and right arms, two weights, two M10×180mm screws, six M10 nuts, and four washers.

Each arm and each counterweight weighs 1.4 kg.

1. Remove the weights from the right and left subassemblies.
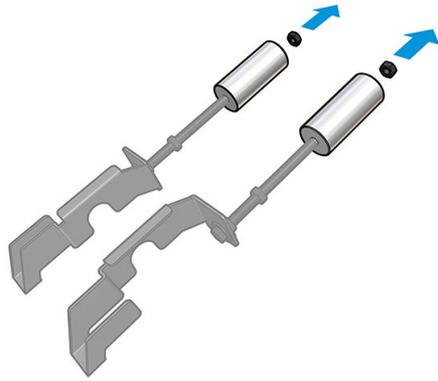
2. Remove the tension bar.
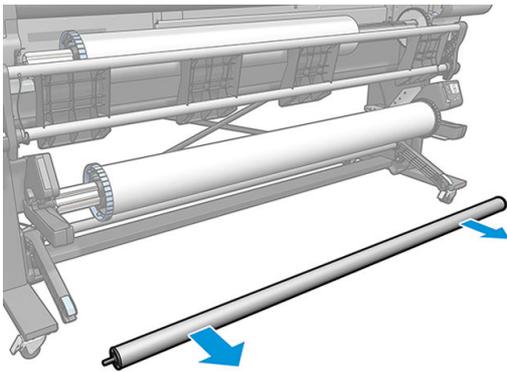
3. Remove the take-up reel to facilitate the installation of the new arms with counterweights.
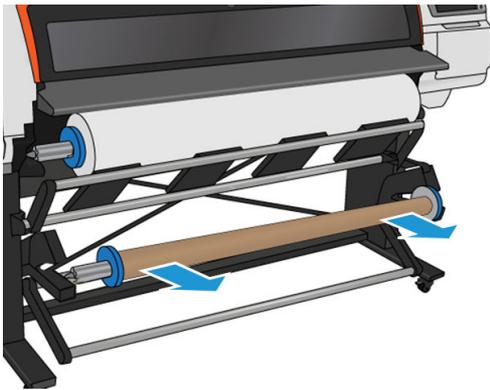
4. Install the subassembly on the left arm of the tension bar, by moving the arms upwards.
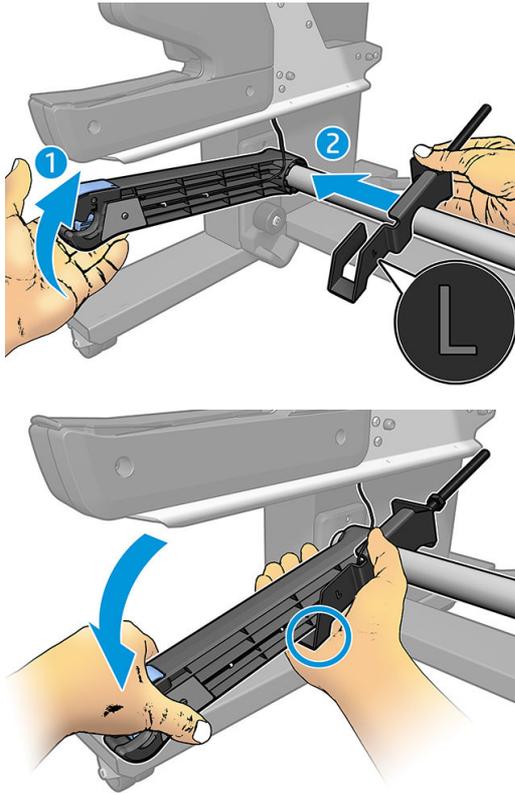
5. Install the subassembly on the right arm of the tension bar, by moving the arms upwards.
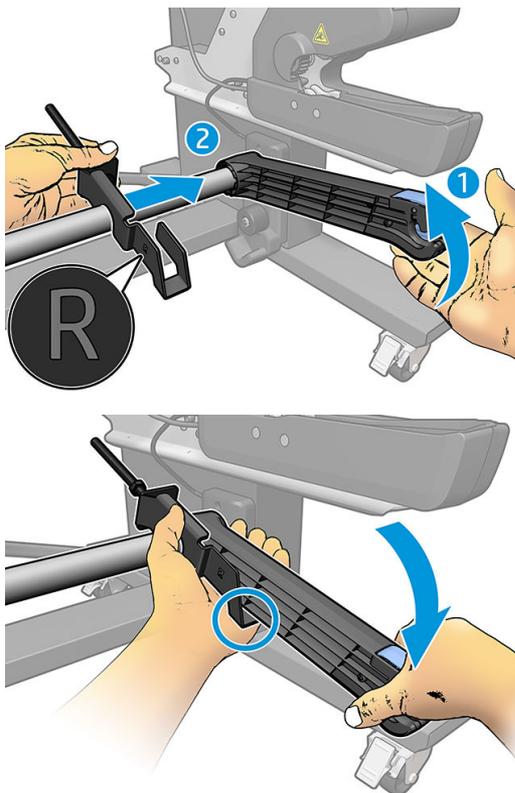
6. Correct the position of the tension bar after installing the arms.
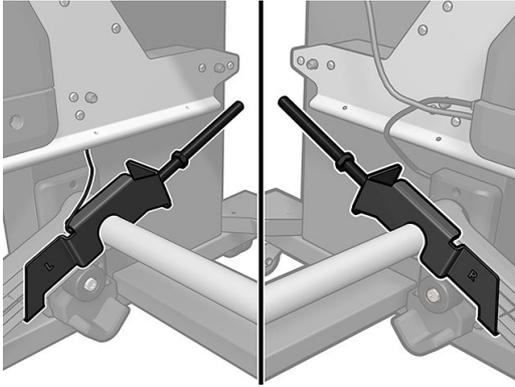
7. Install the weight at the end of the nut for most substrates. In some cases, you can move the weight forward to reduce the front tension for a particular substrate.
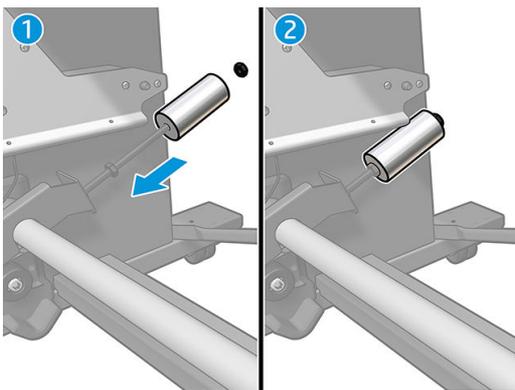
8. Keep the weights at the furthest position from the tension bar, to provide maximum counterweight torque.
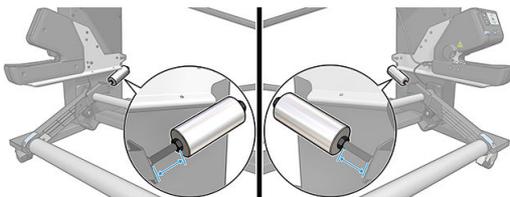
Take-up reel for the HP Stitch S500 Printer

Load a roll onto the HP Stitch S500 take-up reel

📝 **NOTE:** The take-up reel is enabled once the pivot system is rotated.

1. On the printer's front panel, tap , then **Take-up reel**.

   Instructions are displayed on the screen; slide your finger laterally across the front panel to follow the instructions to the end.

   💡 **TIP:** Loading substrate before printing (manually advancing the substrate) always improves attachment, fixing it correctly while printing is more difficult, and doing it wrong affects wind quality.

2. Load a core onto the take-up reel. Insert it first onto the right hub.
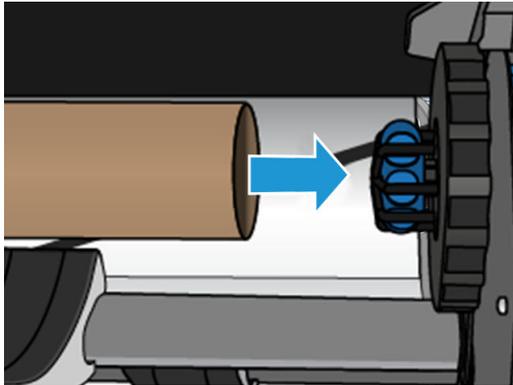
3. Insert the left hub into the core. Press laterally to ensure that it is tightly inserted.
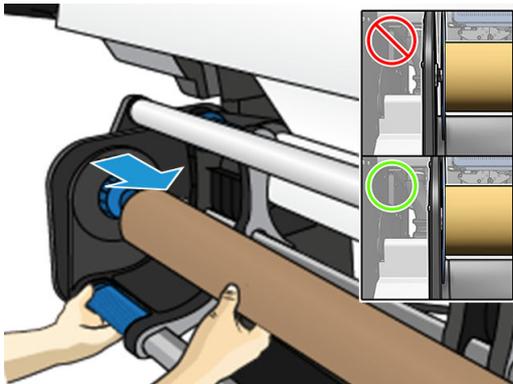
4. Advance the substrate until it reaches the take-up reel core.
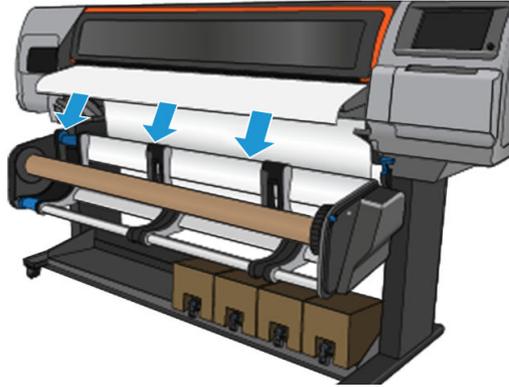
5. Pull down the center of the substrate's leading edge to straighten the substrate. Do not attempt to pull more substrate out of the printer.

6. Adjust the position of the core on the take-up reel so that it is aligned with the substrate.

7. Tape the leading edge of the substrate to the core in the center, then at each side. Make sure that the substrate is straight.
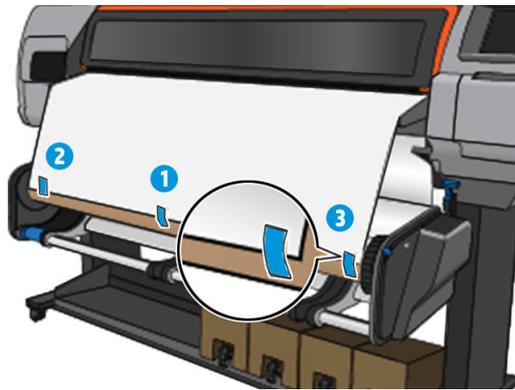
> **NOTE:** Depending on whether you want to print the images facing in or out, place the tape accordingly.

8. Tap the button on the front panel to advance the substrate, creating a loop.
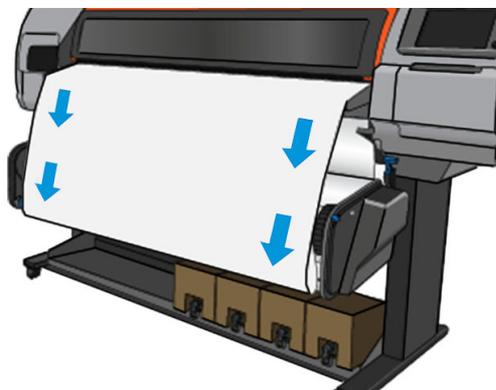
9. Move the blue lever on the take-up reel motor to rotate the reel one full turn.

   Rotate the reel in the appropriate direction to print the images facing in or out.

   IMPORTANT: Do not tighten the substrate before performing a full turn.
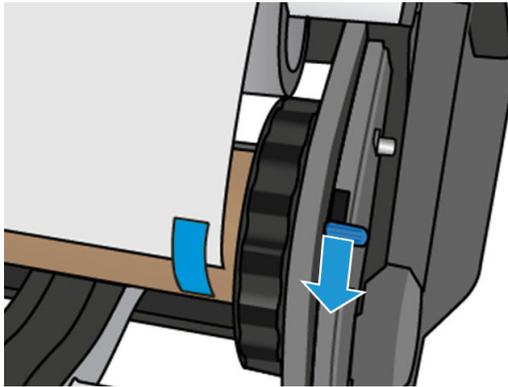
10. Keep pushing the blue lever until the substrate is tight and the automatic mode turns on, indicated by a front panel beep.

    IMPORTANT: Move the blue lever in the opposite direction to turn off the automatic winding at any moment.
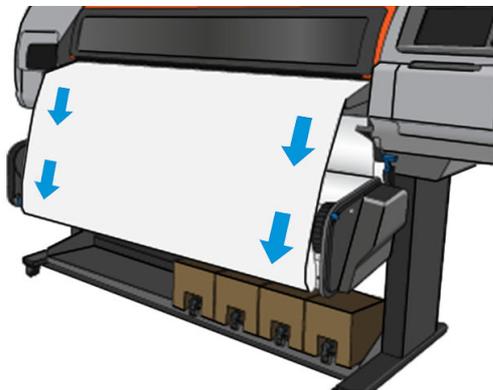
11. The following image shows how the printer looks when it is operating. As substrate is fed from the printer, it drops down to the take-up reel.
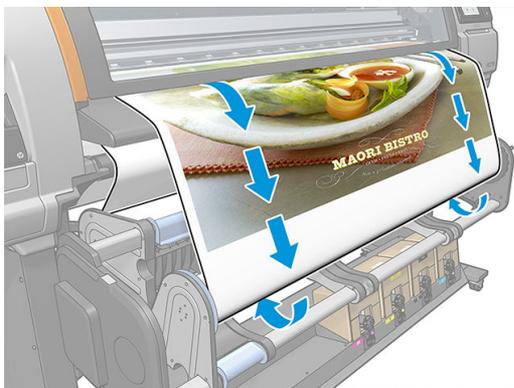
    NOTE: If the take-up reel is loaded before printing, recalibrate the substrate-advance sensor for optimal print quality. At the front panel, tap **Take-up reel** > **Calibrate substrate advance**.

Unload the HP Stitch S500 take-up reel

⚠ WARNING! Take care not to get your fingers trapped.

Risk of trapped fingers

For more safety information, see

1. On the printer's front panel, tap , then **Move**, then **Cut**.

    The printer allows you to move the substrate to facilitate cutting.

2. Move the blue lever in the opposite direction to winding to turn off the automatic mode.
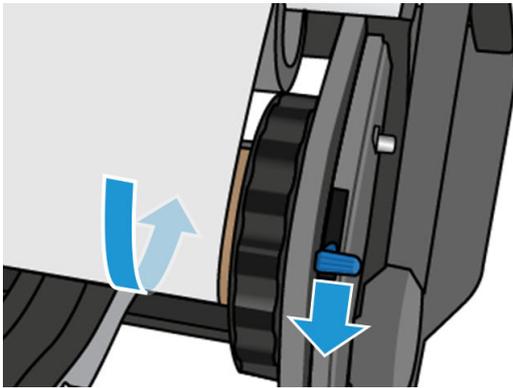
3. Cut the substrate with scissors.
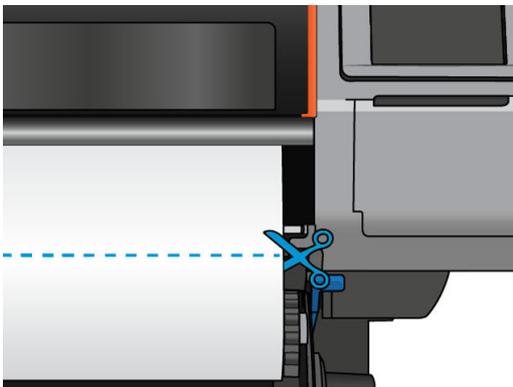
4. While holding the substrate, use the winding button on the take-up reel motor to wind the remainder of the substrate around the take-up reel.
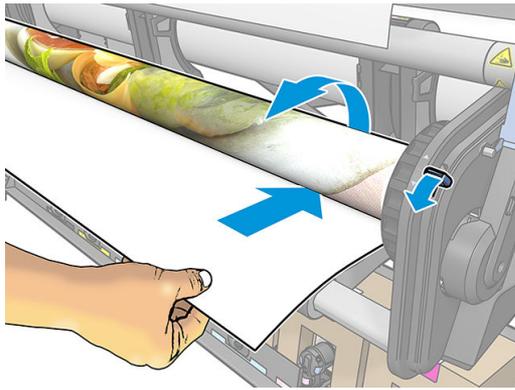
5. Remove the left hub from the roll, resting the roll on the table.
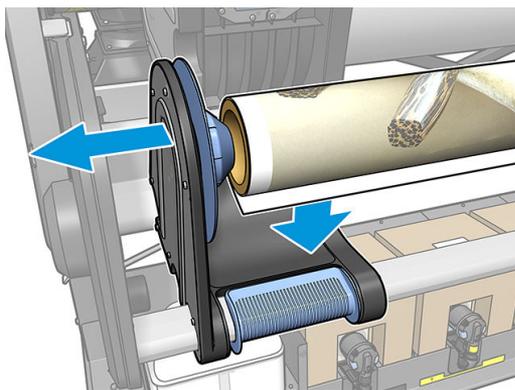
6. Remove the roll from the right hub.
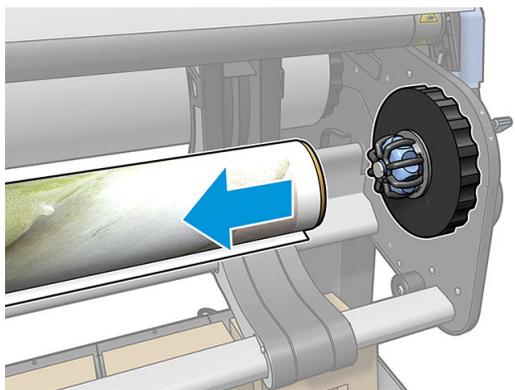
7. Remove the roll from the printer.
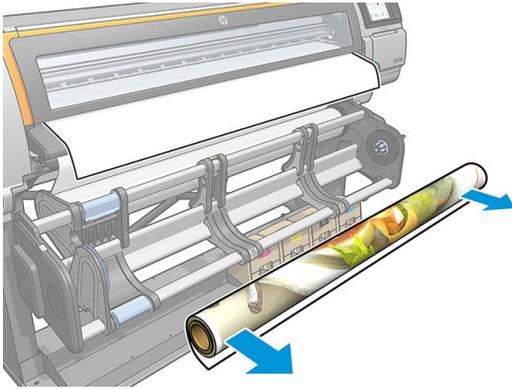
View information about the substrate

On the front panel's home screen, tap .

The following information appears on the front panel, if any substrate is loaded.

Substrate section

- The substrate type

- The substrate name

- The substrate width in millimeters (estimated by the printer)

- The remaining length of the substrate, if known, and whether length tracking is set to **Manual** in the loading configuration screen

- The color calibration status and a button to launch color calibration

Accessories section

- The printing zone (platen or ink collector)

The **More actions** button allows you to launch the following actions:

- Take-up reel instructions

If no substrate is loaded, the message **Out of substrate** appears.

The same information appears on the Embedded Web Server's Supplies page.

Change substrate width and right edge position

If the substrate edges are not correctly found by the printer, they can be changed from the front panel by tapping , then **Substrate** > **Substrate handling options** > **Substrate width**.

☼ **TIP:** Bear in mind that automatic edge detection will not be attempted again until the next substrate load.

Substrate length tracking

The substrate length tracking feature enables you to keep track of how much substrate remains on the roll.

1. When the roll is first loaded onto the printer, you have the option (in the Load Configuration screen) to enter the length of substrate on the roll. The amount of substrate that is subsequently used is then tracked.

2. When the substrate is unloaded, the front panel displays the amount remaining so that you can note it for future reference.

> **Unloading roll**
>
> Substrate remaining length: Unknown. Write down this value to track length accurately. Press OK to continue.
>
> **OK**
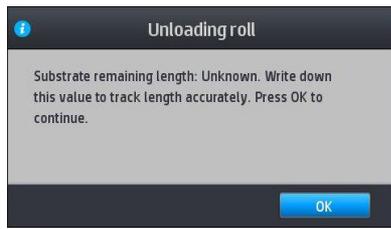
Cut substrate

This option is available from the printer's front panel. If you tap [icon], then the scissors icon, the printer normally advances the substrate 150 mm (5.9 in) and cuts it.

NOTE: If the cutter is disabled ([icon], then **Substrate handling options** > **Cutter** > **Off**), the printer advances the substrate but does not cut it.

NOTE: Some textiles cannot be cut.

Store the substrate

Tips

- Always keep unused rolls wrapped in the plastic wrap to prevent discoloration and dust accumulation. Rewrap partially used rolls if they are not being used.

- Do not stack rolls.

- Allow all substrates to adapt to room conditions out of the packaging for 24 hours before printing.

- Handle film and glossy substrates by the edges or wear cotton gloves. Skin oils can be transferred to the substrate, leaving fingerprint marks.

- Keep the substrate tightly wound on the roll throughout the loading and unloading procedures. If the roll starts to unwind, it can become difficult to handle.

Substrate cannot be loaded successfully

Suggestions

- Reread the loading instructions, and make sure that you are following them. See Handle the substrate and troubleshoot substrate issues on page 37.

- When loading a textile substrate, remember to use the loading accessory, and select **Use loading accessory** in the configuration screen.

- If automatic loading is unsuccessful, try assisted manual loading instead.

- The substrate might be loaded at an angle (skewed or mislocated). Make sure that the right edge of the substrate is aligned with the roll on the input module.

- The substrate might be crumpled or warped, or have irregular edges. See Substrate is deformed or wrinkled on page 93.

- If the substrate jams in the substrate path to the platen, the leading edge of the substrate might not be straight or clean. Remove the initial 2 cm (1 in) of substrate from the roll and try again. This might be necessary even with a new roll of substrate.

Substrate is mispositioned
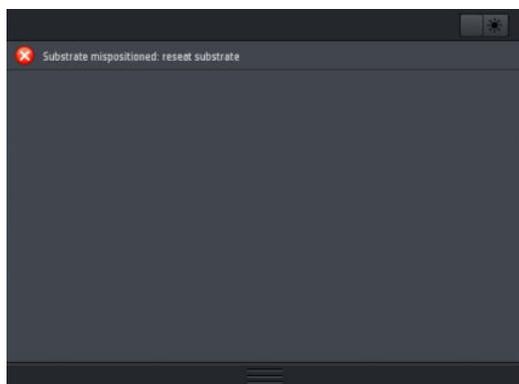
If you see the above display on the front panel, proceed as follows:

1. Tap ⚙, then **Substrate** > **Release substrate**.

2. Feed the substrate until it hangs in front of the printer, and align the right edge with the input roll.

3. Tap **OK**.

Substrate has jammed

When a jam occurs, the **Possible substrate jam** message usually appears in the front panel, with one of several error codes (see Front-panel error codes on page 176).
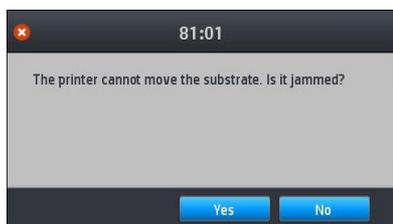
If you are trying to load a very thin or very thick substrate, or a textile, remember to follow the special procedure for loading such substrates. See Loading accessory for HP Stitch S300 Printer on page 57.

📝 **NOTE:** If the printer will not be used for more than 4 hours—for example, during the night—HP highly recommends unloading the substrate or, at least, leaving the substrate attached to the take-up reel. If this is not done, a substrate jam can occur due to the automatic service routines performed while the printer is idle.

Check the substrate path

This problem can occur when a roll has finished and the end of the roll is stuck to the cardboard core. If this has happened, cut the end of the roll away from the core. Then feed the substrate through the printer, and load a new roll.

Otherwise:

1. Turn off the printer at the front panel, then also switch off the power switch at the rear.

2. Open the printer window.
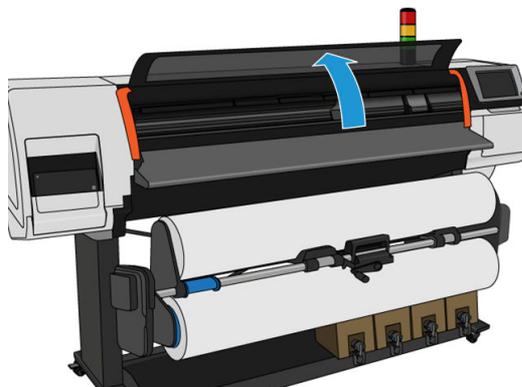
3. Cut the substrate where it enters the printer, and rewind the input roll.

4. Try to move the printhead carriage out of the way.
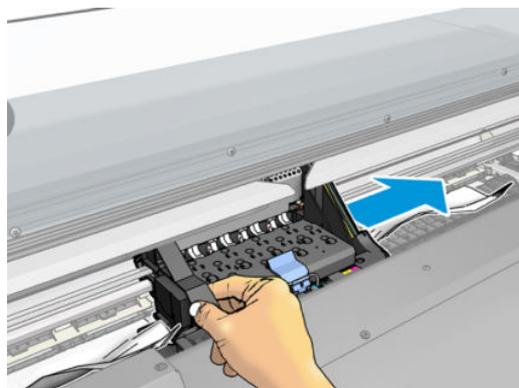
5. Carefully remove as much as possible of the jammed substrate from the top of the printer. Cut the substrate if necessary. The pinchwheels should have lifted to simplify clearing the jam. If this has not happened, restart the printer with the window open to force the pinchwheel movement and the release of the substrate.
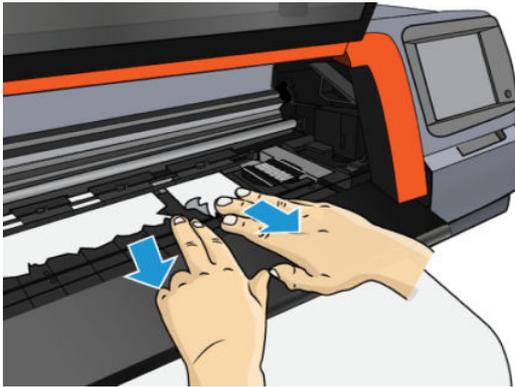
⚠ **CAUTION:** Try to avoid pulling the substrate out through the input path, because this reverses the normal direction of movement, and could damage printer parts.

6. Make sure that there are no pieces of substrate left in the printer.

7. Close the window.

8. Turn on the printer.

9. Reload the roll.

10. If some substrate continues to cause an obstruction within the printer, it can often be cleared by loading a rigid substrate type into the printer.

11. If you find that you have print-quality problems after a jam, try realigning the printheads. See .

Avoiding substrate jams while printing

Substrate jams may be caused by loading the substrate with too much skew: do not ignore the warning message that appears during the loading procedure in this case.

They may also be caused by not enough vacuum suction in the printing zone. If you decide to increase the suction, do not exceed the following limit: 50 mmH$_2$O.

If you experience jams only at the beginning of a print, try the following suggestions:

*   Disable the automatic cutter.

*   Go to the front panel and tap [icon] , then **Substrate handling options** > **Extra bottom margin** and **Extra top margin**. Set both margins to 100 mm. If that is not enough, try higher values.

*   Increase the vacuum level in steps of 10 mmH$_2$O. Do not exceed the following limit: 50 mmH$_2$O.

*   Increase the number of passes.

*   Make sure that the substrate is stored in the same room in which the printer is located.

*   Try using the substrate edge holders.

Substrate is deformed or wrinkled

If your substrate is deformed or wrinkled by the drying process, change the temperature settings before printing the next job, and advance the substrate, using the **Move substrate** option in the front panel's **Substrate** menu, so that the next job will be printed on undamaged substrate.

If the problem appears only at the beginning of the print, try the following suggestions:

- Disable the automatic cutter.

- Go to the front panel and tap ![icon], then **Substrate handling options** > **Extra bottom margin** and **Extra top margin**. Set both margins to 100 mm. If that is not enough, try higher values.

- Increase the vacuum level in steps of 10 mmH$_2$O. Do not exceed the following limit: 50 mmH$_2$O.

- Increase the number of passes.

- Make sure that the substrate is stored in the same room in which the printer is located.

Substrate has shrunk or expanded

During the printing process, some substrates may shrink, while others may expand. If this happens, the dimensions of the print will not be correct.

As a general rule, you can expect the following percentages of shrinkage:

- Paper: less than 0.5%

- PP & PE synthetics: less than 1%

The framing problem may be solved by printing a sample and adjusting the size of the image in the RIP. You may reuse this value for all your future prints with the same substrate.

You can expect the following variations from one print to another:

- Paper: less than 0.1%

- PP & PE synthetics: less than 0.4%

To solve the tiling problem and improve the repeatability of the printed size, you are recommended to ensure that the substrate-advance sensor is enabled in the RIP's substrate preset, as this will improve the stability of the prints over time. You are also recommended to tile together areas with similar amounts of ink. If this is not possible, print the areas with different amounts of ink as different jobs and modify the length of the job with less ink in the RIP to match its size with the job with high ink content.

Some RIPs may provide a scaling option that allows you to compensate easily for substrate shrinkage or expansion; see your RIP documentation.

If you experience tiling issues when using the take-up reel, try loading the take-up reel with the printed side inwards to reduce the deformations, or print without the take-up reel if possible.

Another option is to change the output tension working force. Some substrates are sensitive to front tension.

You can use the [Variable front tension kit for the HP Stitch S300 Printer on page 79](#) to reduce the front tension.

You can adjust the tension for the HP Stitch S500 from the **Substrates settings** in the front panel.

Substrate has bow deformation

Transfer papers may suffer from bow deformation during printing, as a result of which the print will appear curved.

This deformation may be particularly noticeable in the following applications.

- Printing images that will later be cut automatically or manually. When there is bow deformation, cutters that are aligned on the sides may lose alignment in the center.

The example below shows an original image, the substrate suffering from bow deformation, and the resulting print, also suffering from bow deformation.
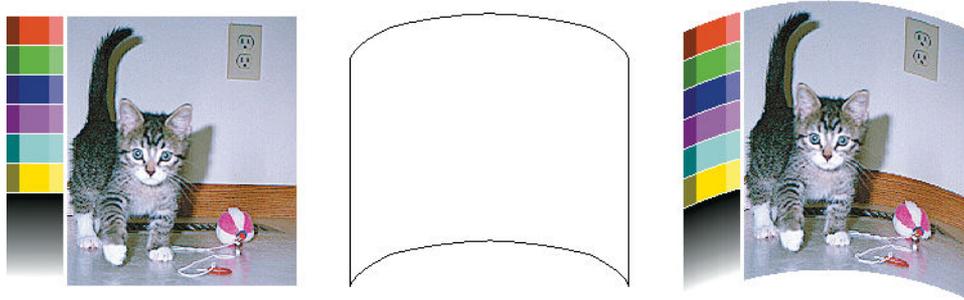
You can compensate for this effect and restore the original shape of your image: select a correction value from −6 to +6 in the substrate library. To make a change in the substrate library, go to **Substrate library**, choose the substrate you want to modify, and tap the edit icon, then **Advanced settings** > **Straightness optimization**.

The chosen value should represent the vertical distance that the centre of the substrate has moved with respect to the left and right edges. If the deformation moves the center of the substrate in the direction of substrate advance, the correction value should be negative; if in the reverse direction, the correction value should be positive. In practice, the required correction value is normally negative.

☼ **TIP:** You can use the diagnostic image provided in **http://**_IPaddress_**/hp/device/webAccess/diagnostic/ StraightnessOptimizationPlot.pdf** (where _IPaddress_ is the IP address of your printer) to help you to determine the correct value to apply.

Automatic cutter does not work

The automatic cutter is turned off in any of the following cases:

- When it has been manually disabled from the RIP or from the front panel. To disable the cutter from the

    front panel, tap , then **Substrate handling options** > **Cutter** > **Off**.

- When printing on textiles, or any other substrate types that it cannot cut, the RIP disables the cutter.

- When the take-up reel is enabled.

- When printing internal prints (see Request the printer's internal prints on page 20).

Take-up reel substrate jam

If the substrate is severely damaged on the take-up reel, do not use the printer's cutter to cut and remove the substrate. Instead, cut the substrate manually as close as possible to the printer window, then remove the roll.

If the problem remains after removing the substrate jam, unload the take-up reel from the front panel and load it again.

Take-up reel does not wind on the HP Stitch S300 Printer

Predictably, if the take-up reel is not winding as anticipated, the printed output is likely to end up on the floor. If the printer recognizes a problem with the take-up reel, it interrupts the print job until the issue is corrected. If the printer does not recognize a problem, the job continues to print. The following table highlights possible issues and solutions.

Take-up reel LED status	Issue	Print job interrupted?	Possible cause	Possible solution
Blinking quickly	Take-up reel is not winding	Yes	The tension bar is in its lower position because the winding direction is not correct.	Change the winding direction using the winding-direction switch on the take-up reel motor. You may need to use the blue arrow buttons to collect substrate from the floor.
Blinking slowly	Take-up reel is not winding	No	The sensor cables are loose or unplugged.	Ensure that the sensor cables are correctly secured.
Solid red	Take-up reel is not winding	No	There is too much resistance on the take-up reel motor.	Ensure that nothing is blocking the substrate path or the tension bar.
Solid green	Take-up reel is not winding	No	The winding-direction switch on the take-up reel motor is Off or in the wrong position.	Ensure that the switch is On, and select the correct winding direction (1 or 2).
Solid green	Take-up reel is winding in the wrong direction	No	The winding-direction switch on the take-up reel motor is in the wrong position.	Change the switch to the correct position.

4 Substrate settings

Substrate presets

Each substrate type has its own characteristics. To obtain the best print quality, the printer has to adapt its printing parameters to each different substrate type. For example, some may need more ink and some may require higher temperatures for drying. A specification of the correct printing parameters for a particular substrate type is called a *substrate preset*.

The substrate preset contains a color profile in International Color Consortium (ICC) format, which describes the color characteristics of the combination of printer, inks, and substrate. It also contains information about other parameters (such as drying temperature, vacuum pressure, and substrate-advance compensation) that are not directly related to color. Substrate presets (also known as Open Media System or OMES packages) are installed in the printer, and automatically copied to supported RIP software whenever it is connected to the printer.

You can find your substrate presets in your substrate library. There are two main categories:

- **Direct to fabric:** Each substrate preset is referred by its name and contains different print modes.

- **Transfer paper:** Each substrate preset is referred by its transfer paper name. When opened, you can find the different textiles associated to be sublimated with that transfer paper. Inside each associated textile different print modes are displayed.

The printer comes with substrate presets for the most commonly used generic substrates. Some presets may come preinstalled in your printer, use them only with the substrates for which they were created. For other substrates, presets named Generic are recommended over other preinstalled presets. However, the best performance can be achieved only with presets made specifically for your substrate. There are various ways to obtain more presets:

- Use the **Online search** function on the front panel or the HP Media Locator on the Web to browse, search, and download a specific preset for your substrate.

- Download a preset from the RIP vendor's website, or from the substrate vendor's website.

- Use a generic preset designed for your substrate category, even though it is not fine-tuned for the specific substrate type. Bear in mind that generic substrate settings cannot be modified; instead, the preset can be cloned and then modified.

- Clone (copy) a preset for a similar substrate, and edit it as necessary.

- Create a new preset, starting from scratch, using the **Add new** button.

If you can find a ready-made preset for your specific substrate, you are recommended to use it.

Online search

You can search online for a substrate preset by using the **Online search** function within the Substrate Library front-panel menu. The printer connects to the HP Media Locator database on the Internet and allows you to search all available substrate presets for your particular printer model, including HP and third-party substrate brands. Hundreds of different substrate presets may be available, and the database of substrate presets is continuously updated and expanded. You will always get the most up-to-date content in this way.
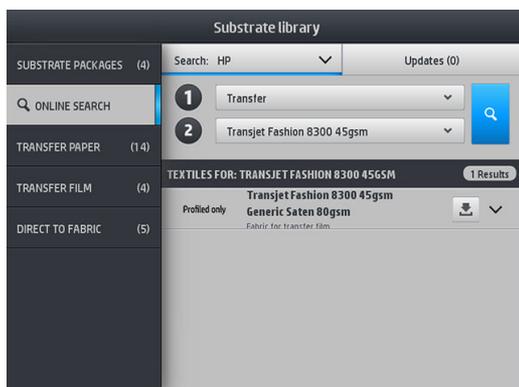
To begin an online search use the selectors displayed on the **to** part of the screen. This closes the scope of the search. Results are filtered and narrowed down. There are two selectors:

- The first selector enables you to search by substrate type. There are only two choices: **Transfer paper** or **Direct to fabric**. Depending on the printing technique you will use to print on the substrate, choose one or the other. If you select **Direct to fabric**, select from the second filter the fabric to download. Then, tap **Search** and the desired profile will appear for you to download.

- If you choose **Transfer paper** on the first filter, use the second filter to choose the transfer paper to use for printing. Once selection is made, tap the blue **Search** button to trigger the online search. From the list choose the textile profile to use.

> **NOTE:** The list of substrates displayed when the **Search** button is tapped always refers to textile substrates. If transfer paper profiles are required (i.e. you are going to start using a new transfer paper), select it from the second filter. When the search is triggered, a list of textiles substrates is displayed: download the ones to use with your transfer paper.

Once you have located the substrate preset of your choice, tapping its download icon will queue it for automatic download and installation in the background. You can select as many substrate presets as you want for download and installation (they will be processed in the order that they were selected). You can return to another part of the Media Manager or another front panel screen at any time after queuing presets for download, and this will not interrupt the download and installation process.

Once a substrate preset has been downloaded in the background, it is checked and installed on the printer's hard disk. During checking and installation, a full-screen message is shown on the front panel. This message disappears when checking and installation is complete.

The new substrate preset now appears in the appropriate section of the Substrate Library (Transfer paper, Direct to fabric), together with all previously installed and factory-provided presets, and is ready for use.

HP Media Locator

The HP Media Locator database of substrate presets can also be accessed from a Web browser by visiting http://www.hp.com/go/mediasolutionslocator. This provides access to the database for different regions, printer models, applications, suppliers, substrate types, and so on.

When you have located the substrate preset of your choice, you can download it to your computer. To install the preset into the printer with which you want to use it, use the printer's Embedded Web Server. Navigate to the **Setup** > **Substrate presets management** > **Import** screen.
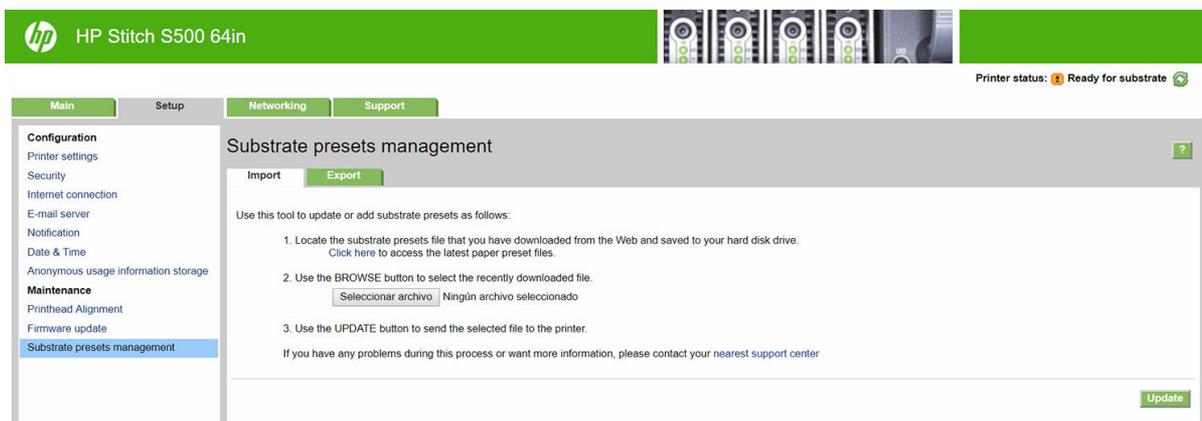
Click **Browse** to browse to the substrate preset file that you have previously downloaded to your computer, then click **Update** to install the preset in your printer.

The Embedded Web Server also allows you to export one or more substrate presets from your printer for use with another printer of the same model. To export more than one substrate preset at a time, click the substrate presets you want to export while pressing the Ctrl key. All exported presets will be saved in the same **paperpresets.oms** file.

When importing a previously exported substrate preset, you may see a message warning you that the package is not signed (only packages downloaded from the HP Media Locator internet database are digitally signed, as a form of authentication); you can either ignore the warning and continue with the installation, or abort the installation.

If you get an error message while exporting:

- Check that you have enough disk space available.

- Check whether importing multiple substrate presets will exceed the maximum permitted for the printer (10 presets).

Generic presets
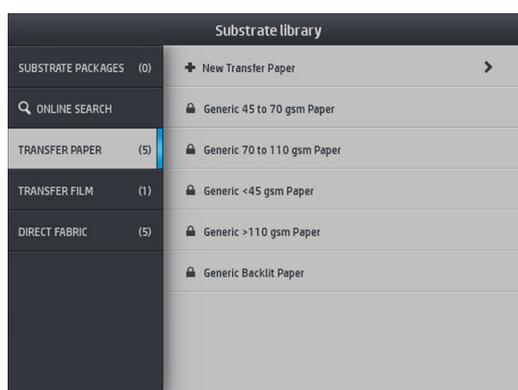
Generic presets are each designed for a whole substrate category, rather than for a particular substrate type. They cannot be edited, erased, saved, color-calibrated or ICC profiled; but they can be cloned. Therefore, if you would like to modify a generic preset in any way, you should first clone it and then work on the clone, which is fully editable.

The printer provides generic presets for the supported substrate categories: see Supported substrate categories on page 40.

Clone a substrate preset

You may wish to clone and edit a preset for various reasons:

- To assign a name of your own choice to the preset

- To adjust the preset to the precise characteristics of your substrate

- To adjust the preset to your intended use of the substrate, which may range from highest-quality printing to fast production output.

To clone a direct-to-fabric substrate preset, follow these steps:

1. Select a preset in the Substrate Library.

2. Tap **Clone** to clone the preset, and enter a name for the new preset.
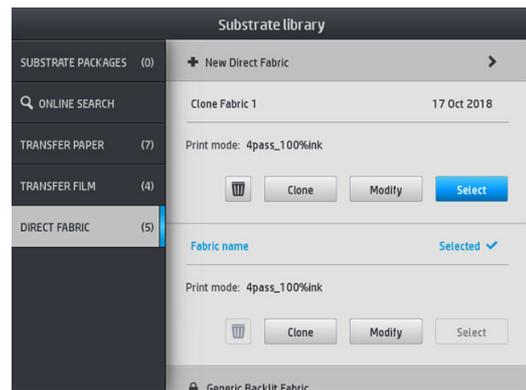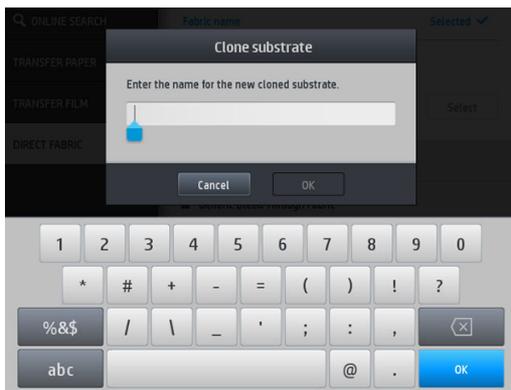
To clone a transfer-paper substrate preset, follow these steps:

1. Select a preset in the Substrate Library.

2. Tap **Clone** in the textile you want to clone, and enter a name for the new preset.
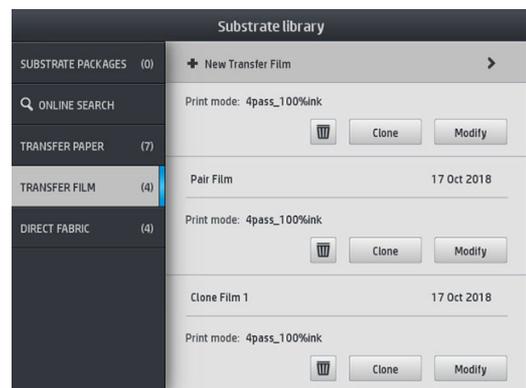
> **NOTE:** It is not possible to clone a complete transfer paper preset with all the textiles associated to it. Only the textiles associated can be cloned individually.

> **NOTE:** When you clone a substrate, the ICC profile is inherited from the previous one. It is recommended to generate a new ICC profile if the substrate to be used is different from the cloned one.

Modify a substrate preset

You can modify a preset by tapping **Modify**.

Then tap the ![pencil icon] icon of the print mode that you want to modify; or tap **Add new print mode**. You can delete or change the name of any print mode; although you should keep at least one print mode.
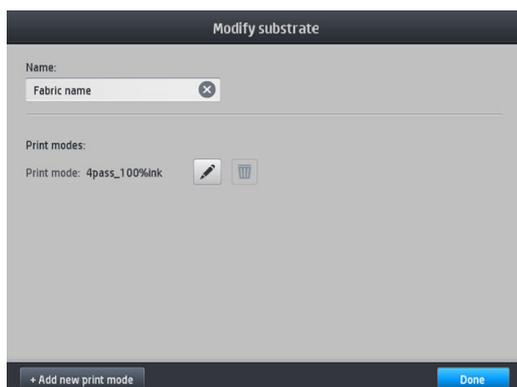
NOTE: The number of passes in an existing print mode cannot be changed. If you want to change the number of passes, create a new print mode.

NOTE: You are not allowed to create two print modes with the same number of passes, the same efficiency mode, and the same color saturation.

To change the values, you must print a test plot. Before sublimating the plot, use it to select the correct drying temperature and any of the advance settings if required. You may print the plot as many times as necessary. Once the temperature is set, you may sublimate the plot and use the post-sublimated plot to choose the right color saturation row.

NOTE: Calender settings affect the sublimated plot color. Sublimate the plot with fixed calender parameters to avoid color changes.

NOTE: To add a new print mode correctly: create a new ICC profile for it.
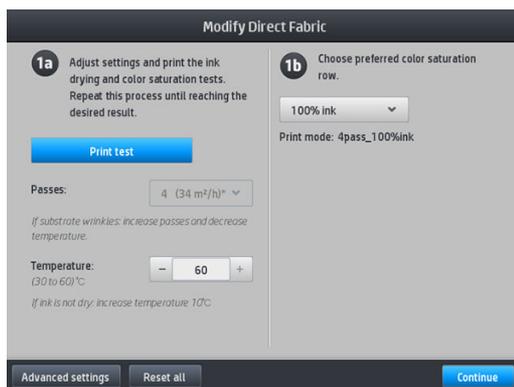
Add a new substrate

If you cannot find a ready-made preset for your substrate, and prefer not to use a generic preset or edit an existing preset, you can make your own preset from scratch.

The Add New Substrate wizard guides you to work out the best settings for your substrate. It first requests some information about the substrate and your intended use of it, then prints some test prints and asks you to evaluate them. From this information, it creates the new preset.

1. Ensure that the printer is in the Ready state.

2. Stop the job queue.

3. Load your new substrate, selecting the most similar substrate when asked to do so; or select **None of these**.

4. When the substrate has been loaded, go to the Substrate Library on the front panel, and choose the substrate category in the left column of the Substrate Library screen, then tap **+ Add new direct to fabric** at the top of the right column.
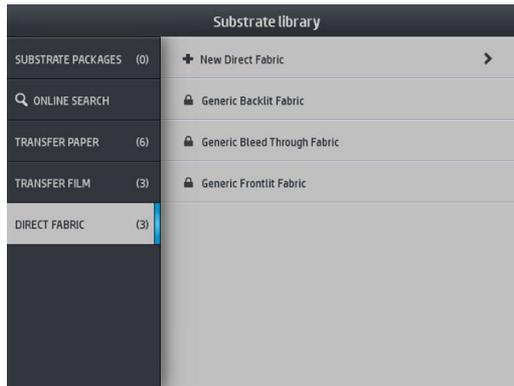
5. Your new preset will be based on a generic preset; If there are multiple generic presets in that category, the front panel asks you to choose one of them.
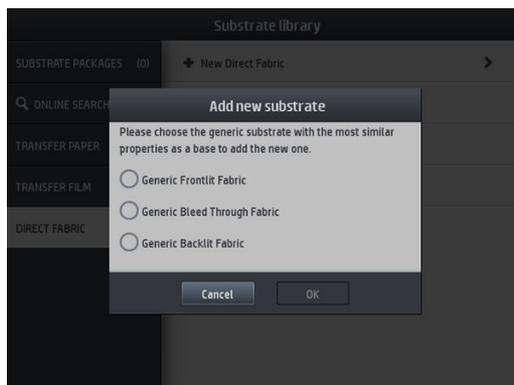
6. The front panel guides you through the subsequent steps to create your new preset.
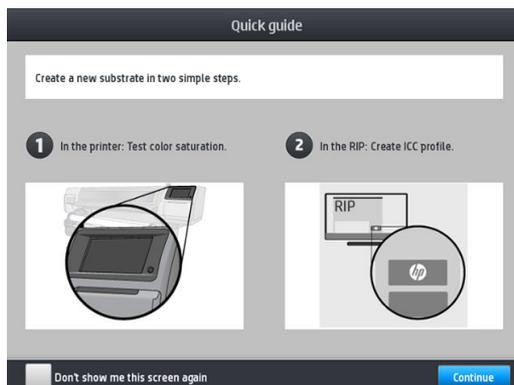
7. Adjust the number of passes and name the fabric.
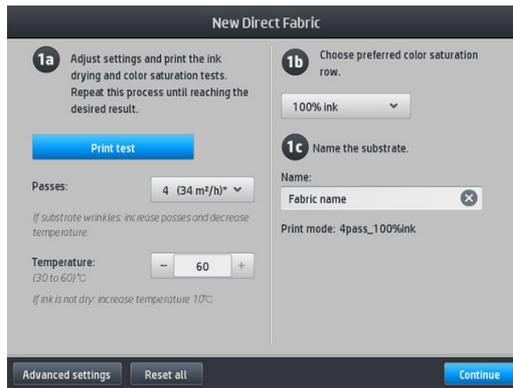
8. Tap the blue **Print test** button to generate the test print.

    IMPORTANT: Before using the substrate for the first time, an internal color calibration is launched automatically.
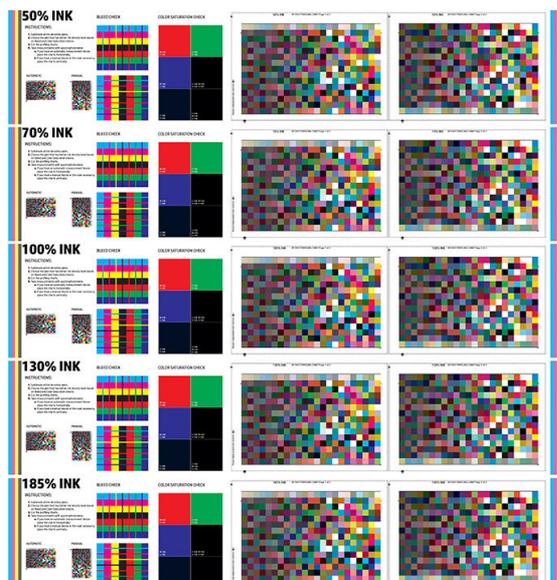
9. Sublimate the print test and choose the color saturation row that you are more satisfied with.

    NOTE: If you are printing direct to fabric: sublimate the plot, and choose the color saturation row from that plot.

    If you are printing transfer: sublimate the plot, and choose the color saturation row from the final fabric substrate, not the paper.

    NOTE: You can omit these steps (printing and calender) if you already know the settings that you want to use. Be aware that no profiling chart will be printed.

10. If you cannot reach a satisfactory result, you may want to tap **Advanced settings** and try adjusting those settings, which are intended for people who understand their implications.

    To go back to the previous screen, tap [icon].
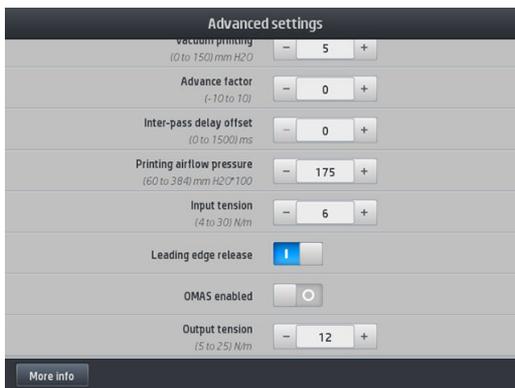
- Straightness compensation: Allows you to compensate for barrel-shaped substrate deformation. The value represents the distance that the centre of the substrate has moved with respect to the left and right edges. See Substrate has bow deformation on page 94.

- Vacuum printing: Sets the vacuum value in the print zone to hold the substrate flat. Increase if the substratre suffers from crashes or smears, decrease if you see banding or graininess.

- Advance factor: Use only when printing without the substrate-advance sensor, to increase or decrease the substrate advance in each carriage pass.

- Inter-pass delay offset: The time delay between passes to allow for smoother drying. Increase the delay if you have seen banding on your prints.

- Input tension: Substrate rewinder tension, increase in the case of wrinkled substrate in the print zone.

- Leading edge release: Disable this setting if the security top margin is not wanted in the first print after a paper cut. Enable this setting to advance the leading edge of the paper if a specific substrate is likely to be crushed under the carriage.

- OMAS enabled: Automatic substrate-advance tracking and correction. Disable only if advised to do so on the front panel at loading time.

- Output tension (S500 only): Increase the take-up reel tension if the output roll is not compact.

11. Tap **Continue**.

12. The following screen is displayed:

13. The ICC profile from the chosen generic substrate is applied to the new one.

NOTE: You can create a specific ICC profile if you have the following prerequisites:

- One of the following certified RIPs: HP Ergosoft RIP Color Edition, HP Ergosoft Pro RIP Color Edition, Caldera, Inèdit

- An X-Rite or Barbieri spectrophotometer

To do so, you are requested to go to the RIP and finish the process there. You must take measurements from the sublimated plot with a spectrophotometer. RIP instructions guide you through the process.

Change settings while printing

You can use the front panel to adjust the following settings while printing.

- To change temperature, vacuum, inter-pass delay offset, and substrate-advance settings while printing, tap **Adjustments** in the front panel's print job screen, and choose the setting that you want to adjust. The changes that you make take effect immediately, but they are not saved: the next job will use the settings in the substrate preset as usual.

  You can use the **Save** button to save settings, and the **Reset** button to restore the last saved settings.

  NOTE: The **Save** button is not available for a generic or non-editable preset.

- To change substrate advance calibration while printing (in case of banding): tap **Adjustments** > **Adjust substrate advance**. The changes that you make take effect immediately, but they are not saved for the next job. See also .

  To make permanent substrate-advance changes, use the front panel to modify the substrate preset.

Select the number of passes

Increasing the number of passes will tend to improve the print quality but reduce the speed of printing.

HP Stitch S300 Printer

Category	Substrate name	Available print modes		
Transfer Paper	Generic Transfer Paper for Backlit	8pass 100%ink	10pass 130%ink	
	Generic >100 g/m² Transfer Paper	4pass 100%ink	6pass 100%ink	8pass 100%ink
	Generic 70 to 100 g/m² Transfer Paper	4pass 100%ink	6pass 100%ink	8pass 100%ink
	Generic 45 to 70 g/m² Transfer Paper	2pass 70%ink	4pass 100%ink	6pass 100%ink
Transfer Film	Generic Transfer Film	6pass 100%ink	8pass 100%ink	10pass 150%ink
Textile	Generic Backlit Fabric	8pass 100%ink	10pass 130%ink	

HP Stitch S300 Printer (continued)

Category	Substrate name	Available print modes		
	Generic Bleed Through Fabric	6pass 100%ink	8pass 100%ink	
	Generic Frontlit Fabric	6pass 100%ink	8pass 100%ink	10pass 100%ink

HP Stitch S500 Printer

Category	Substrate name	Available print modes		
Transfer Paper	Generic Transfer Paper for Backlit	6pass 100%ink	8pass 130%ink	
	Generic >100 g/m² Transfer Paper	2pass 100%ink	4pass 100%ink	6pass 100%ink
	Generic 70 to 100 g/m² Transfer Paper	3pass 100%ink	4pass 100%ink	6pass 100%ink
	Generic 45 to 70 g/m² Transfer Paper	1pass 50%ink	2pass 100%ink	4pass 100%ink
	Generic <45 g/m² Transfer Paper	1pass 50%ink	2pass 50%ink	4pass 50%ink
Transfer Film	Generic Transfer Film	4pass 100%ink	6pass 100%ink	
Textile	Generic Backlit Fabric	6pass 100%ink	8pass 130%ink	
	Generic Bleed Through Fabric	4pass 100%ink	6pass 100%ink	
	Generic Frontlit Fabric	4pass 100%ink	6pass 100%ink	8pass 100%ink

📝 **NOTE:** More specific settings for many substrates from different vendors are available in the HP Media Locator at http://www.hp.com/go/mediasolutionslocator/.

📝 **NOTE:** After selecting the number of passes in the Add New Print Mode screen, make sure to reset your print mode to default category values for that print mode.

Tips

- 1 to 2 passes provide lower print quality. Also, the color gamut will be slightly reduced, as total ink is limited to allow for drying.

- 1200 dpi print resolution is available in the 18-pass print mode only. If you intend to use it, ensure that you have a specific substrate preset for this print mode, because reusing others may not deliver the expected print quality.

Delete a substrate preset

You can delete substrate presets that you have added yourself, but not those that were supplied with the printer.

To do so, just tap the 🗑 icon in the Substrate Library screen.
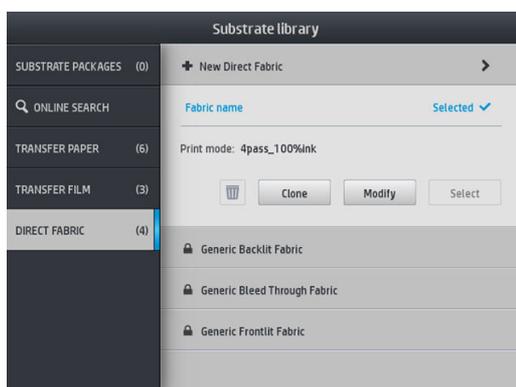
If you delete a preset, you will lose the reference to that substrate in the usage and accounting information. Instead of the name of the substrate, from that moment on you will see "Deleted substrate" in the usage and accounting information.

Color calibration

The purpose of color calibration is to produce consistent colors with the specific printheads, inks, and substrate that you are using, and in your particular environmental conditions. After color calibration, you can expect to get very similar prints from your printer on different occasions.

Each substrate must be calibrated independently. Calibration is applied to all print modes of the given substrate. In transfer papers that are used to transfer in several different textiles, the same calibration is applied to all the textiles belonging to the same transfer paper. This means that there is no need to run color calibration for each textile preset of the same transfer paper.

NOTE: Color calibration may not work correctly with non-HP ink.

There are cases in which a substrate may not be calibrated, in which cases the **Calibrate** and **Reset** options are not available:

- The loaded substrate has a generic preset.

- The loaded substrate has a preset that is not editable.

- The loaded substrate is not suitable for color calibration.

If necessary, during **Modify preset** or **Add new substrate** workflows, color calibration is launched automatically in the front panel. It can also be manually launched in the front panel from: **Image quality maintenance** > **Color calibration** > **Calibrate**.

In outline, the process consists of the following steps.

1. A calibration target is printed.

2. The colors on the calibration target are measured automatically.

3. The calibration target measurements are compared with an internal reference to calculate the necessary calibration tables for consistent color printing on the substrate in use.

Factory default calibration tables are used whenever color calibration has never been run. The first time color calibration is run, the current printing color is taken as a reference, and factory default calibration tables continue to be used. This means that, after the first color calibration, the printed colors do not change, but are recorded as the reference for future calibrations. Subsequent color calibrations compare calibration target colors with the recorded reference, in order to calculate new calibration tables for consistent color printing on that particular substrate type.

From the front panel, you can delete the current calibration reference and table, leaving the factory default calibration table active, as if that particular substrate had never been calibrated. Tap ⚙, then **Image quality maintenance** > **Color calibration** > **Reset to factory**.

Color calibration as described above is not recommended for porous substrates that require the use of the ink collector. It may be possible to calibrate some of these substrates by using an external color measurement device, driven by an external RIP.

Substrates suitable for color calibration include transfer papers and direct printing fabrics that do not require the ink collector.

The color calibration test chart is printed using a fixed print mode with a high number of passes and fixed drying settings to ensure printing consistency. However, parameters affecting substrate advance should be fine-tuned, and printheads should be aligned, before starting color calibration for the first time.

To start color calibration of the loaded substrate from the front panel, select ⚙, then **Image quality maintenance** > **Color calibration** > **Calibrate**. Color calibration can also be run while adding a new substrate (see Add a new substrate on page 101).

📝 NOTE: Only substrates at least 61 cm (24 in) wide can be calibrated.

📝 NOTE: The calibration of backlit fabrics and bleed-through fabrics is not supported.

The calibration process is fully automatic and can be performed unattended after you have loaded substrate of the type you wish to calibrate. The process takes about 10 minutes and consists of the following steps:

1.   The color calibration test chart is printed, which contains patches of different densities of each ink used in your printer.

2.   The test chart is scanned by the HP Embedded Spectrophotometer. If the scan cannot be completed successfully, a message is displayed on the front panel; see Front-panel error codes on page 176.

3.   From the measurements made by the spectrophotometer, the printer calculates the necessary correction tables to apply to your print jobs, for consistent color printing on that substrate type.

Calibration should be done in any of the following circumstances:

●   Whenever a new substrate type is introduced that has not yet been calibrated.

●   Whenever you notice excessive color differences between prints. Such color differences are mainly caused by aging and wear of the printheads, installing new printheads, and changes in substrate characteristics between one roll and another.

You can check the color calibration status of your substrate by tapping 🖨 on the front panel.

●   **Recommended** status indicates that this substrate has never been calibrated. In this case, the factory-default color tables will be applied to print jobs, as there is no reference state defined. After one or more color calibrations have been performed, tapping the **Reset** button returns the status to Recommended.

●   **OK** status indicates that a color calibration has been performed successfully at least once on this substrate, and therefore a color reference state is defined.

- **Obsolete** status indicates that the last color calibration may be out of date. For instance, color calibration status is set to Obsolete whenever a printhead is replaced. The color reference state remains defined.

- **N/A** indicates that this substrate cannot be color-calibrated.

> **NOTE:** Generic substrates cannot be color-calibrated, although such substrates may be suitable for color calibration. You can color-calibrate clones of most generic substrates.

> **TIP:** If color calibration fails, it is worth trying again.

> **TIP:** If the first color calibration of a new substrate fails, tap the **Reset** button before trying again.

Color consistency between different HP Stitch printers

It is possible to cross-calibrate color between two or more printers for particular substrates. After cross-calibrating a given substrate, you can expect to get very similar prints from either printer when using the same substrate.

1. Choose printer A to be the reference printer, and use it to perform color calibration on the substrate in question. See Color calibration on page 107.

2. Export the calibrated substrate preset. See HP Media Locator on page 98.

3. Import the substrate preset of step 2 into printer B. See HP Media Locator on page 98.

4. Color-calibrate the preset with printer B.

5. Colors printed with printer A and printer B, on that substrate, should now be very similar.

6. To add more printers (C, D, and so on), proceed as you did with printer B.

ICC profiles

Color calibration provides consistent colors, but consistent colors are not necessarily accurate. For instance, if your printer prints all colors as black, its colors may be consistent but they are not accurate.

In order to print accurate colors, it is necessary to convert the color values in your files to the color values that will produce the correct colors from your printer, your inks, your print mode, and your substrate. An ICC profile is a description of a printer, ink, print mode, and substrate combination that contains all the information needed for these color conversions.

An ICC can be easily created through the HP Easy Profiling workflow (see e-learning for further information) following these steps:

1. Print the ink densities test (see Add a new substrate on page 101 or Modify a substrate preset on page 100). The test image contains the HP Profiling Chart.

2. Transfer or calendar the chart to the final substrate.

3. Measure it with a spectrophotometer connected to your RIP, if your RIP can handle this task.

4. Once the measurements have successfully completed, an ICC is created with the HP Print Profiler engine, it is available in the RIP, and attached to the selected substrate.

5. You can now print accurate colors with this substrate.

ICC color conversion is applied by the RIP, not by the printer. For further information on the use of ICC profiles, see the documentation for your application software and for your RIP.

In addition to the ICC profiles used for printing, you may wish to calibrate and profile your monitor (display device), so that the colors you see on the screen relate more closely to those that you see on your prints.

5 Troubleshoot print-quality issues

General printing advice

Use the following approach when you have any print-quality problem:

- Make sure that the substrate type that you select on the front panel, and in your RIP software, is the same. In the case of a transfer substrate, the RIP shows the transfer paper combination along with the textile substrate (that is, transfer paper name + fabric name). Check that the substrate name in the front panel is the same as the first part of the substrate name in the RIP (transfer paper name). Make sure that the substrate type has been calibrated (including substrate-advance, printhead, and color calibration).

  ⚠ **CAUTION:** If you have the wrong substrate type selected, you could experience poor print quality and incorrect colors, and perhaps even damage to the printheads.

- Make sure that you are using the correct substrate preset for your substrate, with the correct ICC profile, or that you have followed the correct procedure to generate a new substrate preset (see Add a new substrate on page 101).

- Make sure that you are using appropriate print-quality settings in your RIP software.

- Make sure that your environmental conditions (temperature, humidity) are in the recommended range. See Environmental specifications on page 183.

- Make sure that your ink cartridges have not passed their expiration dates. See Check the status of the large ink cartridges on page 138.

- Avoid touching the substrate while printing is in progress.

- Trying to print jobs with a lot of ink in fast modes (commonly three passes or below) may result in not-completely-dry output and/or other print-quality problems. Consider using modes with higher passes when printing with a lot of ink, or increase the drying temperature. Note that increasing the drying temperature may deform your substrate (see Substrate is deformed or wrinkled on page 93).

Quick solutions application

This application can help you to adjust the printer when it is not performing as expected.

You can start the application by tapping on the front panel.

The application has six sections with different purposes:

- **Generic solutions**: This section has generic solutions to readjust the printer. Each generic solution is a set of actions launched all in one.

- **Test plots**: All available test plots can be run from this section.

- **Maintenance routines**: Maintenance routines for various printer assets are available in this section.

- **Image problems**: This section contains potential image problems that can be seen when the printer is wrongly adjusted. For each problem, there is a list of possible actions that can help to solve the problem. The actions are in order of likely effectiveness.

- **Color tips**: This section contains advice about color-related issues and calibrations.

- **Sublimation tips**: This section contains advice about the sublimation process.

Improve print quality

If you still experience print-quality problems after using the Quick solutions application on page 111, you can follow a more hands-on print-quality troubleshooting procedure, by printing, interpreting, and performing corrective actions.

1. Printhead status plot

The printhead status plot consists of patterns that are designed to highlight printhead reliability problems. It helps to determine whether any printhead is experiencing clogging or other problems.

To print this plot, go to the front panel and tap ⊞, then **Test plots** > **Printhead status plot**.

The plot consists of small dashes, one for each nozzle on each printhead.

HP Stitch S300
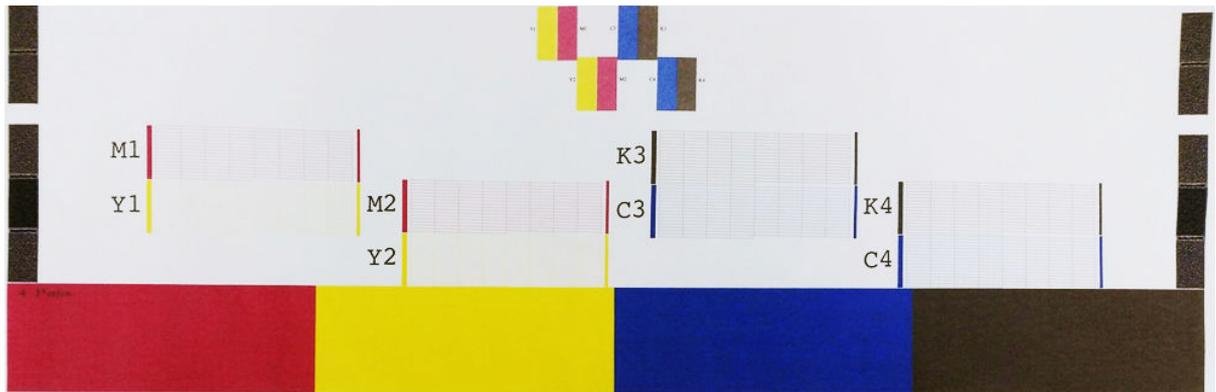
HP Stitch S500
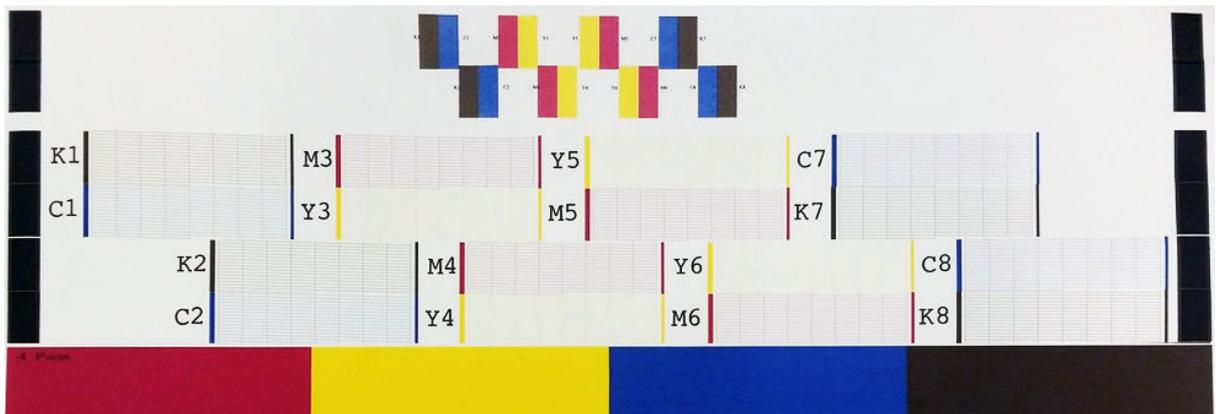
For each individual colored pattern, check that most of the dashes are present. If the first area fills have banding, compare with the respective color in dashes below.

Corrective action

1. Clean any faulty printheads. See Clean (recover) the printheads on page 140. Then reprint the printhead status plot to see whether the problem has been solved.

2. If the problem persists, clean the printheads again, and reprint the printhead status plot to see whether the problem has been solved.

3. If the problem continues to persist, replace any persistently faulty printheads. See Replace a printhead on page 142.

2. Printhead alignment status plot

To print the printhead alignment status plot:

1. Use the same substrate type that you were using when you detected a problem.

2. Go to the front panel and tap ![icon], then **Test plots** > **Printhead alignment status plot**.

HP Stitch S300

HP Stitch S500
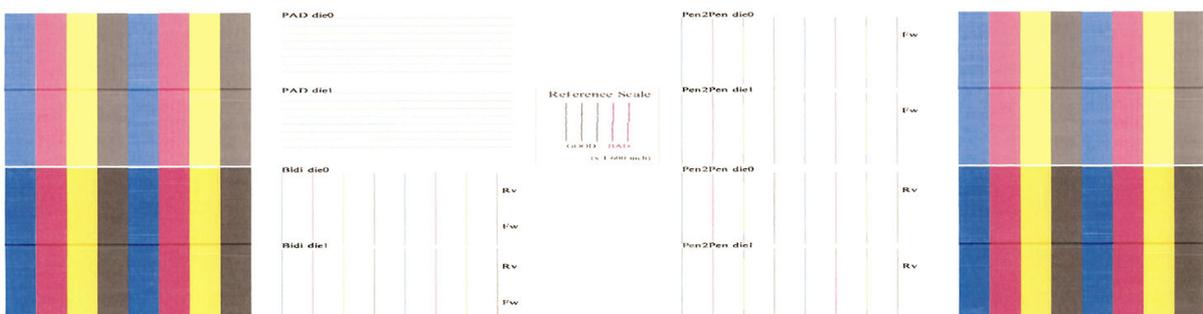
Check the continuity of the thin diagnostic lines on the alignment status plot. In one section, colored lines are printed in line with black lines to test the alignment from one color to another. In a another section, colored lines are printed such that one half is made with a forward pass and one half is made with a reverse pass to test the alignment between the two directions. In both sets of patterns, printhead misalignment will be visible as a step in the line at its center (marked with a short black line).

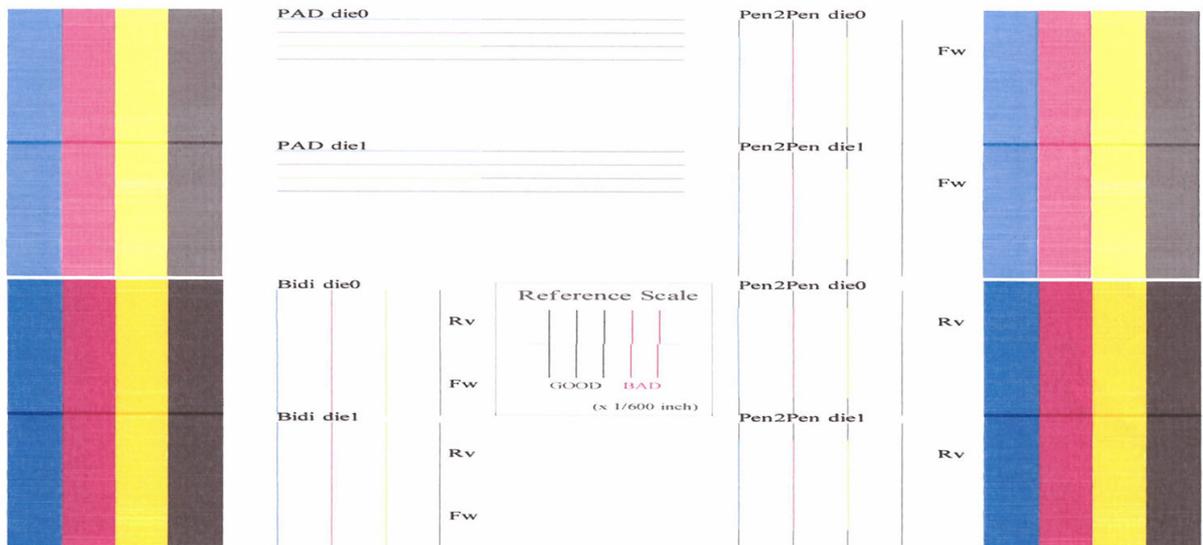Some models may have a different plot, but if the printheads are misaligned or you feel unsure about them—for example, because a substrate crash occurred—then align the printheads. See Align the printheads on page 140.

3. Substrate-advance check plot

To fine-tune the quality of your print, you may need to adjust the rate at which the substrate advances. The substrate advance determines the placement of dots on the substrate. If the substrate is not advanced correctly, light or dark bands appear in the printed image and the grain in the print may increase.

You can modify the substrate advance from the front panel with the Substrate Advance parameter in the substrate preset.

To print the substrate-advance check plot:

1. Use the same substrate type that you were using when you detected a problem.

2. Check that the selected substrate type is the same as the substrate type that is loaded into the printer.

3. Go to the front panel and tap ![icon], then **Test plots** > **Substrate advance check plot**.

The substrate-advance check plot consists of several columns with a number at the bottom of each one. Locate the lightest of the columns and enter its number into the Substrate Advance parameter for the current substrate preset. The value chosen in this example should be "−6".
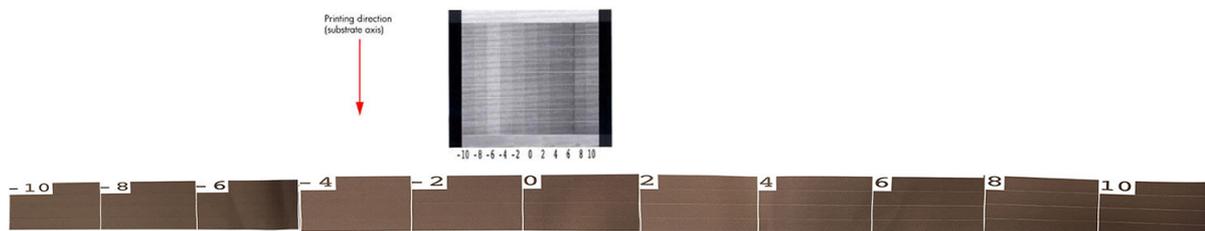
NOTE: This plot does not use the substrate-advance sensor to compensate for any substrate-advance error; it enables you to manually calibrate the substrate advance when the substrate-advance sensor is not able to track the substrate properly. To apply the correction shown in the plot, you must disable the substrate-advance sensor.

NOTE: Minor substrate-advance problems (±2 around the 0 value) are unlikely to result in any print-quality problem, especially with print modes of more than four passes.

Substrate advance adjustment while printing

If you are using print modes of few than four passes, you can fine-tune the substrate advance while printing: tap ![icon], then **Adjustments** > **Adjust substrate advance**. Select a value of change from −10 mm/m to +10 mm/m (or mils/inch). To correct light banding, decrease the value. To correct dark banding, increase the value.

If you are using print modes of four or more passes, a wrong advance adjustment will not produce banding but graininess, which is harder to assess visually. Therefore, in this case you are recommended to use only the adjustment plot.

When changing the advance factor while printing and clicking **Save changes**, this factor is saved for that substrate and print mode and, therefore, it will be used in every print made with these settings. If you don't save the settings, it is applied only to the job being printed.

What to do if problems persist

If you still experience print-quality problems after applying the advice in this chapter, here are some additional tips to consider:

● Try selecting a higher print-quality option in your RIP software, by increasing the number of passes.

● Check that your printer firmware is up to date. See Firmware update on page 167.

● Check that you have the correct settings in your software program.

● Call your service representative. See When you need help on page 35.

Most-common print-quality problems

Graininess

An image is said to be grainy when it contains perceptible grain, giving it a mottled appearance.

If you see this kind of problem:

- The printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see Align the printheads on page 140). You can check whether it is necessary by using the printhead alignment status plot (see 2. Printhead alignment status plot on page 113).

- Graininess may be attributable to substrate-advance problems. Try fine-tuning the substrate advance; see 3. Substrate-advance check plot on page 113.

- Use a higher number of passes: you will probably see less grain with six or more passes.

Horizontal banding

Try the following remedies if your printed image suffers from added horizontal lines as shown (the color may vary).

- If you are using a print mode with three or fewer passes, try increasing the number of passes. Some degree of banding can be expected with few passes.

- If bands affect all colors across the width of the printed image, the cause is probably a substrate advance problem. Use the front panel to adjust the substrate advance on the fly (see Substrate advance adjustment while printing on page 114). If you have dark bands, increase the substrate advance; if you have light bands, decrease it. When you find the right adjustment, store the value in the front panel for future prints on the same substrate.

  Another cause could be a fiber attached to one of the printheads. Turn off the printer, then remove the printheads one at a time and remove any fibers that you see attached to them.

- If bands affect only some colors, the cause could be a defective printhead.

  - Check the banding in area fills; if you can identify the defective printhead, clean it. See Clean (recover) the printheads on page 140.

  - Print the printhead status plot (see 1. Printhead status plot on page 112). If necessary, clean the printheads. See Clean (recover) the printheads on page 140.

  - Sometimes a single cleaning action may not completely clean every nozzle. Print the status plot and consider cleaning again.

  - Align the printheads (see Align the printheads on page 140). If necessary, align them manually.

  - Print the printhead status plot again. Identify the printhead with the greatest number of blocked nozzles, and replace it.

- If bands affect most of the colors, the printheads could be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see Align the printheads on page 140). You can check whether it is necessary by printing the printhead alignment status plot (see 2. Printhead alignment status plot on page 113).

- Due to the printhead servicing routines while printing, some fibers or small amounts of ink may be deposited on a nozzle, causing it to fail temporarily. This is very unlikely and may just cause a couple of isolated bands. It is also very unlikely for this to be repeated within the same or subsequent print jobs. However, if you notice it, try cleaning the printheads (see Clean (recover) the printheads on page 140).

If the problem persists, call your service representative (see When you need help on page 35).

Vertical banding

Different kinds of vertical bands may appear, for different reasons:

- Regular vertical bands matching the shape of the platen may be seen on paper-based substrates and in general on thin substrates in medium-density area fills such as grays or violets. Try the following suggestions to mitigate this problem:

  - Align the printheads. See Align the printheads on page 140.

  - Reduce the vacuum level in steps of 5 mmH$_2$O when printing. Do not exceed the lower limit of 15 mmH$_2$O to avoid crashes and/or smears. Consider using the substrate edge holders to avoid lateral crashes. See Edge holders on page 64.

  - Consider using the take-up reel, for better control of the substrate.

- Thick vertical bands not coinciding with the shape of the platen; can be seen in dense area fills

  - Tap [icon], then **Image quality maintenance** > **Printzone airflow**, and change the option from **High** (default) to **Low**. Graininess level may increase with the **Low** option, so you are recommended to revert to **High** when finishing the job.

- Irregular or isolated vertical bands with abnormal levels of graininess

  - Increase the vacuum level in steps of 5 mmH$_2$O.

  - If the banding appears only at the beginning of the print, disable the cutter and advance the substrate manually about 100–150 mm before the first print.

Print is deformed into a curved shape

This may occur as a result of substrate bow deformation. See Substrate has bow deformation on page 94.

Misaligned colors
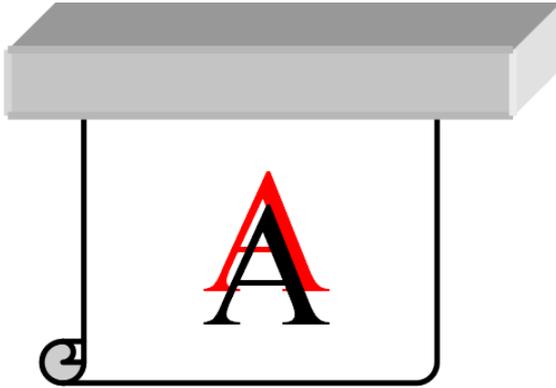
If the colors are misaligned in any direction, the printheads may be misaligned. This is likely if you have not aligned the printheads for a long time, or if there has been a substrate jam. Align the printheads if necessary (see Align the printheads on page 140). You can check whether it is necessary by printing the printhead alignment status plot (see 2. Printhead alignment status plot on page 113).

If the transfer paper moves during sublimation, the gases migrate to non-printed areas, causing text and edges of solid areas to be blurred or misplaced. This issue is commonly known as ghosting. Use a tacky transfer paper to reduce the risk of this issue. Alternatively, consider lowering the ink density, or increasing the temperature and time of the sublimation process, if the fabric allows it.

Local color variation

If some printhead nozzles are in use while others in the same printhead are not, water evaporates slowly from the ink in the unused nozzles, making the color more intense. Thus, in such cases you may notice variations in color intensity in areas where the color of the image should be constant.

If you notice such a problem, there are various possible solutions:

1. If you notice the variation in intensity near one side of the print, try rotating the image by 180 degrees before printing. This may solve the problem in some cases, as all the nozzles are refreshed whenever they enter the service station between passes.

2. Use your RIP to add lateral color bars on the side of the plot that is close to the ink supplies. The color bars are designed to exercise all the printhead nozzles, to prevent the problem from occurring.

NOTE: Not all RIPs provide this option.

3. Add lateral color bars to the image, manually, before printing. In this case, you can either use the standard colors, or decide to include a particular color in which you have noticed the problem. The recommended width of each color bar is 5 mm.

4. The HP Stitch S500 printer (only) offers the option to print without symmetric configuration, using only four printheads instead of eight. This increases the firing frequency of the printheads, which helps to reduce the time needed to develop the local color variation issue. By default, this parameter is set to off, and HP recommends not changing it, but you can try turning it on if the above-mentioned options (steps 1-3) do not work. It is then advisable to turn the setting off again if you no longer need it, or it does not solve the problem.

Ink smears

Ink smears may be seen on the print for the following reasons:

- The substrate is skewed. Do not ignore the warning message that appears during the loading procedure if there is significant skew.

- The substrate is not flat in the print zone. Try the following possible solutions.

    - Increase the vacuum level in steps of 5 mmH$_2$O.

    - Reduce the ink density and increase the drying temperature, to avoid substrate cockling.

    - Check whether there are fibers on the printheads.

If the problem appears only at the sides of the print, because the edges are uneven or the substrate is curled upward at the sides, consider using the edge holders (see Edge holders on page 64).

If the problem appears only at the beginning of the print, try the following suggestions:

- Increase the top margin of your print to give more room at the leading edge. Alternatively, or additionally, increase the bottom margin to provide a non-deformed leading edge for the next print. See Change margins on page 19.

- Increase the vacuum level in steps of 5 mmH$_2$O. If the vacuum level is too high, you may see an increase in graininess due to too much friction between the rear surface of the substrate and the platen while advancing the substrate during printing; you may also see vertical bands matching the contours of the print platen.

- Increase the number of passes.

- Make sure that the substrate is stored in the same room in which the printer is located.

NOTE: Several substrates are sensitive to ambient conditions (temperature and humidity): if the ambient conditions are outside the recommended range, this may affect loading and printing.

Ink smudges when touched

If the symptoms appear after reducing the number of passes: Increase the drying temperature, decrease the overall ink quantity, and/or modify the inter-pass delay offset (in the front panel) to allow better drying on consecutive passes.

NOTE: If you decrease the overall ink quantity, you may notice less color saturation.

Dimensions of the print are wrong

As the substrate is heated during the drying process, some substrates will shrink (and some may expand) after the image has been printed. This may be inconvenient if the print has to be framed or if several prints are to be to be tiled one next to the other.

See Substrate has shrunk or expanded on page 93.

Tiling issues

The most common problems when printing tiles are as follows.

- Color variation tile-to-tile

  In some cases, contiguous tiles with the same background solid color may show differences in color between the right side of the first tile and the left side of the second tile. This is a common issue of inkjet printers (both thermal inkjet and piezo inkjet), where there are slight color variations as the swath advances.

  To improve color consistency side-to-side and tile-to-tile, try adding color bars at the side of the print. These can be set from the RIP.

  Since the biggest color differences are between the left edge and the right edge, the effect may sometimes be seen when putting two tiles together. This issue can easily be overcome by inverting alternate tiles, which has the effect of placing the right side of the first tile next to the right side of the second tile and the left side of the second tile next to the left side of the third, so all contiguous areas have been printed in the same point of the swath and, hence, have the same color. This is a feature that all RIPs have available.

- Dimensional variations from tile to tile

  Some specific substrates may not have uniform dimensional stability when printing very long tiles. The result is that the length of the tile may be different between the left and the right side (for instance, a 9-meter-long tile may be about 1 cm longer on the right than on the left side). While this is not noticeable with individual plots, it affects the alignment between panels in tiling applications. Substrate types that show this behavior tend to show it constantly along the roll. So, when present, this issue can easily be overcome by inverting alternate tiles as described above.

- Length consistency

  When using the take-up reel, you can get better length consistency by loading it with the printed side inside. See Substrate has shrunk or expanded on page 93.

  You can also change the tension-bar working force. Some substrates are sensitive to front tension.

  High levels of vacuum can help to control the substrate in the print zone, but when the level is too high it can also affect the substrate advance. Therefore reducing the vacuum can help to improve length consistency. Take into account that, when the take-up reel is used, less vacuum is needed.

- In bidirectional printing, minor differences in tone may be noticed on close inspection

This happens because the drying times are not the same across the scan axis. Adding a small inter-pass delay offset of about 0.5–1 second may give better results.

6 Ink system

Ink cartridges for the HP Stitch S300 Printer

The printer's four ink cartridges provide magenta, black, yellow, and cyan ink to the printheads. Each cartridge has a capacity of 775 ml.
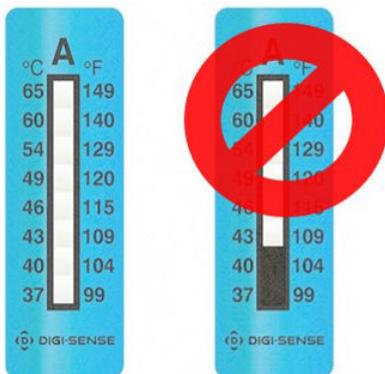

Ink cartridges require no maintenance or cleaning, but must be shaken before installation. Color cartridges should be shaken 6 times; black cartridges should be shaken 30 times.

High-quality printing results continue even when the ink levels are low.

CAUTION: Avoid touching pins, leads, and circuitry when handling ink cartridges because these elements are sensitive to electrostatic discharge, which can reduce the life expectancy of the cartridges. Such devices are called ESD-sensitive devices (see Glossary on page 191). Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

NOTE: Take into account that ink cartridges should always be stored at a temperature between 5 to 35°C (41 to 95°F) (transportation temperature) and 15 to 30°C (59 to 86°F) (storage/usage). Do not place or store cartridges outdoors, near heat sources, or in direct sunlight.

NOTE: There is a temperature label on the black ink cartridge. Inspect the label to make sure that the black ink cartridge has not been exposed to a non-recommended temperature before use.

NOTE: Dynamic security enabled printer. Only intended to be used with cartridges using an original HP chip. Cartridges using a non-HP chip may not work, and those that work now, may not work in the future. More at: http://www.hp.com/go/learnaboutsupplies.

Ink cartridges for the HP Stitch S500 Printer

The printer's four large ink cartridges provide magenta, black, yellow, and cyan ink to the printheads. Ink cartridges store the ink and are connected through the intermediate tanks to the printheads, which deposit the ink on the substrate.

Each cartridge contains 3 liters of HP Stitch S Series ink, and consists of a bag within a recyclable cardboard box.

Check the regulatory and safety information label on the cartridge to ensure that no special ventilation is needed and no hazardous waste is created.

CAUTION: Observe precautions when handling ink cartridges because they are ESD-sensitive devices. Avoid touching pins, leads, and circuitry.

Excessive pressure on a cartridge can cause ink leaks. Avoid putting pressure on cartridges while they are connected to the printer. In particular:
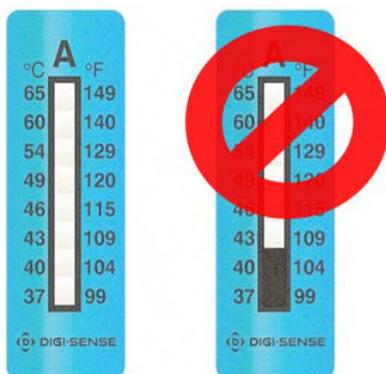
- Always disconnect cartridges from the printer before handling them.

- Never place anything heavy—more than 1 kg (2.2 lb)—on top of a cartridge.

- Take care not to drop a cartridge.

- Do not try to force the last of the ink out of an almost-empty cartridge by pressing the ink bag inside the cartridge.

Ink cartridges require no maintenance or cleaning, but you must follow the instructions on the label before installation. High-quality printing results continue even when the ink levels are getting low.

CAUTION: Non-genuine or altered cartridges or intermediate tanks are not supported by the printer; if they are detected, printing is stopped.

NOTE: Take into account that ink cartridges should always be stored at a temperature in the range 5 to 35°C (41 to 95°F) during transportation, and 15 to 30°C (59 to 86°F) during storage or use. Do not place or store cartridges outdoors, near heat sources, or in direct sunlight.

NOTE: There is a temperature label on the black ink cartridge. Inspect the label to make sure that the black ink cartridge has not been exposed to a non-recommended temperature before use.

NOTE: Dynamic security enabled printer. Only intended to be used with cartridges using an original HP chip. Cartridges using a non-HP chip may not work, and those that work now, may not work in the future. More at: http://www.hp.com/go/learnaboutsupplies.

# Intermediate tanks for the HP Stitch S500 Printer

The printer now has four intermediate tanks: magenta, black, yellow, and cyan.

⚠ **CAUTION:** Avoid touching pins, leads, and circuitry when handling ink cartridges because these elements are sensitive to electrostatic discharge, which can reduce the life expectancy of the cartridges. Such devices are called ESD-sensitive devices.

📝 **NOTE:** Take into account that ink cartridges should always be stored at a temperature in the range 5 to 35℃ (41 to 95°F) during transportation, and 15 to 30℃ (59 to 86°F) during storage or use. Do not place or store intermediate tanks outdoors, near heat sources, or in direct sunlight.

📝 **NOTE:** There is a temperature label on the black ink cartridge. Inspect the label to make sure that the black ink cartridge has not been exposed to a non-recommended temperature before use.
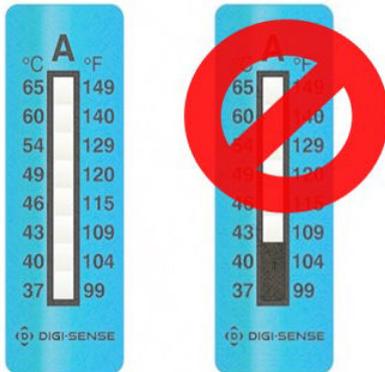

📝 **IMPORTANT:** The intermediate tanks cannot be transferred to be used as ink cartridges in another printer.

IMPORTANT: Shake intermediate tanks after long storage.

📝 **NOTE:** An intermediate tank must contain at least 500 ml of ink, otherwise it will be internally marked as 'stop refilling'. See .

Printheads

The printheads deposit ink on the substrate. The printheads are extremely durable and do **not** need to be replaced every time an ink cartridge is replaced. They provide excellent results even when the ink cartridges contain a low level of ink.
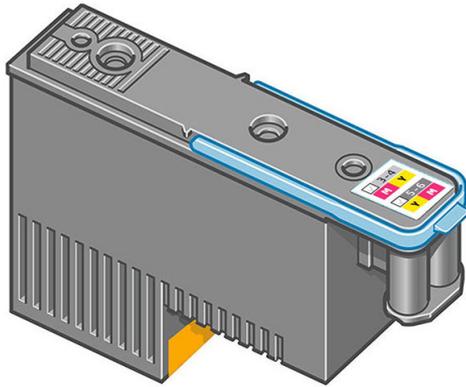
To maintain optimum print quality, the printheads are automatically tested at regular intervals, and automatically serviced when necessary. This takes a little time and can occasionally delay printing.

When a printhead eventually needs to be replaced, the front panel will display a message. See .

NOTE: Take into account that printheads should always be stored at a temperature between 5 to 35°C (41 to 95°F) (transportation temperature) and 15 to 30°C (59 to 86°F) (storage/usage).

Color label

- **HP Stitch S300:** There are two different printheads (CK and YM) which are each connected to two different color ink cartridges.

- **HP Stitch S500:** There are two different color configurations (CK or KC, and YM or MY) for each printhead, depending on which slot they are initially inserted in.

A printhead can be inserted in any of the assigned color slots. The printhead is designed to prevent you from accidentally inserting it into the wrong color slot. Always check the colored label on the printhead matches the colored label of the carriage slot into which it is to be inserted.

Once the printhead is inserted into a specific slot, it is set up to work only with that combination of colors. It is important to mark the label that comes with the printhead with its specific color, along with its corresponding slot number, and match it with the color of the carriage slot into which it is to be inserted.

Printheads use shipping fluid, which must be purged when a printhead is first inserted. For further information see .

CAUTION: Avoid touching pins, leads, and circuitry when handling printheads because these elements are sensitive to electrostatic discharge. Such devices are called ESD-sensitive devices. Electrostatic discharges are one of the main hazards to electronics products. This type of damage can reduce the life expectancy of the device.

CAUTION: If you want to remove a printhead from the printer and preserve it for later use, reinstall the cap and plug. Installing the wrong cap and plug can cause irrecoverable printhead damage.

Take care not to drop the printhead, which can cause irrecoverable damage. Insert and remove the printhead from the printer with care.

Maintenance cartridge

The maintenance cartridge cleans and maintains the printheads, and seals the printheads when they are not in use to prevent them from drying out. It is also used to store waste ink.

IMPORTANT: Keep the maintenance cartridge horizontal when removing it, to avoid spilling ink.
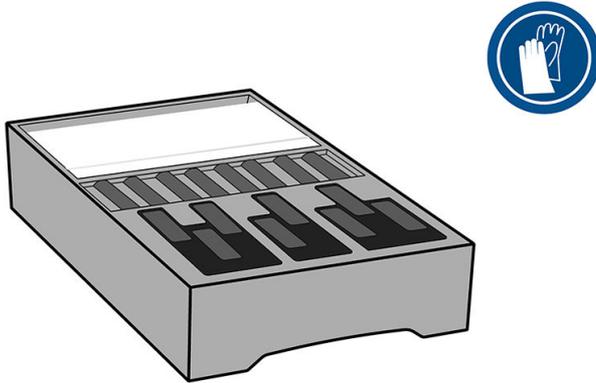
The maintenance cartridge contains a roll of cloth to clean the printheads. You are notified when 92% of the roll has been used, after which the cartridge will continue to function until the roll of cloth is completely finished.
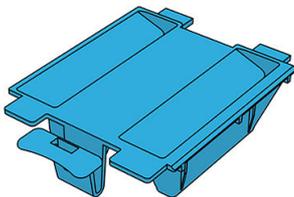
NOTE: The duration of the maintenance cartridge can vary considerably depending on the image density, the print mode, the ambient temperature, and the print job length. The cloth will be exhausted much faster with a high-density print, many passes, and short print jobs.

NOTE: The maintenance cartridge is checked to detect end of roll when the printer is turned on and at the end of each print job.

The printer will refuse to start a print job if it detects the end of the cleaning roll. You should then replace the maintenance cartridge with a new one.

Ink funnel

The ink funnel collects waste ink produced during printhead servicing. It is important that this funnel is installed, as it prevents significant deposits of ink over various other printer parts.
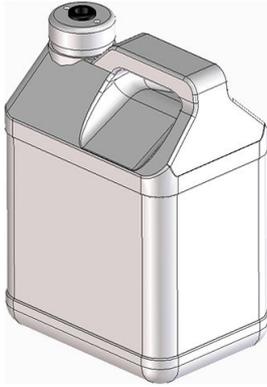
The ink funnel should be replaced every time you replace the maintenance cartridge.

CAUTION: The printer may be damaged if the ink funnel is not installed.

Ink waste bottle

The ink waste bottle stores waste ink collected by the ink funnel. Your support representative will replace the bottle when required.

Safe mode

Under certain conditions, including printer operation outside of environmental specifications, and when a used, refilled, or counterfeit ink cartridge has been detected, the printer will operate in 'safe' mode. HP is unable to warrant the performance of the printing system when operated outside of environmental specifications or when a used, refilled, or counterfeit ink cartridge is installed. Safe mode is designed to protect the printer and the printheads from damage due to unexpected conditions, and is in operation when the ⚠ icon is displayed on the front panel. For optimal performance, use Original HP ink cartridges. The HP Stitch printing system, including Original HP inks and printheads, are designed and engineered together to provide uncompromising print quality, consistency, performance, durability, and value—with every print.

7 Hardware maintenance

For the tasks in this chapter, you may need the user maintenance kit that was provided with your printer.

- Replace an ink cartridge in the HP Stitch S300 Printer
- Replace an ink cartridge in the HP Stitch S500 Printer
- Replace an intermediate tank in the HP Stitch S500 Printer
- Refill an intermediate tank manually
- Stop refilling an intermediate tank
- Check the status of the large ink cartridges
- Ink system tips
- Clean (recover) the printheads
- Align the printheads
- Front panel recommends reseating or replacing a printhead
- Replace a printhead
- Cannot insert a printhead
- Printhead conflictive replacement
- Printhead is not recognized by the printer
- Cannot insert an ink cartridge or intermediate tank
- Replace the ink funnel and maintenance cartridge
- Clean and lubricate the carriage rod
- Clean the encoder strip
- Clean the platen
- Clean the substrate-advance sensor window
- Clean the exterior of the printer
- Move or store the printer
- Service maintenance

Replace an ink cartridge in the HP Stitch S300 Printer

Ink cartridges should be replaced for the following two reasons:

- The ink cartridge is very low and you want to replace it with a full cartridge for unattended printing. You can use the remaining ink in the first cartridge at a more convenient time.

- The ink cartridge is empty or faulty, and you must replace it to continue printing.

NOTE: If an ink cartridge runs out of ink while printing, the front panel prompts you to replace the ink cartridge, the job is paused and will resume afterwards. This pause may affect the print quality of the job.

CAUTION: The procedure to remove an ink cartridge must be initiated from the front panel. Do not remove an ink cartridge until the front panel prompts you. If you remove an ink cartridge incorrectly, the printer may subsequently reject that cartridge.

CAUTION: Remove an ink cartridge only if you are ready to insert another one.

CAUTION: Observe precautions when handling ink cartridges because they are ESD-sensitive devices. Avoid touching pins, leads, or circuitry.

WARNING! Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

Remove an ink cartridge

1. On the printer's front panel, tap , then **Replace ink cartridges**.

   Alternatively, tap , then **Ink** > **Replace ink cartridges**.

2. Pull down the blue tab of the cartridge you want to remove, then pull it outwards towards you.

3. The cartridge comes out, in its drawer.

4. Lift the cartridge out of its drawer.

NOTE: Avoid touching the end of the cartridge that is inserted into the printer, because the connection might be coated with ink.

NOTE: If necessary, store a partially-used ink cartridge in the same position as if it were inserted in the printer. Avoid using a partially-used cartridge that has been stored on its end.

5. The front-panel display identifies the missing ink cartridge.

Insert an ink cartridge

1. Pick up the new ink cartridge and find the label that identifies the ink color. Hold the ink cartridge so that you can see the label at the top of the side that is facing you.

2. Check that the colored label above the empty slot in the printer matches the color of the label on the cartridge.

3. Shake the cartridge vigorously, 6 times for color cartridges, 30 times for black cartridges.
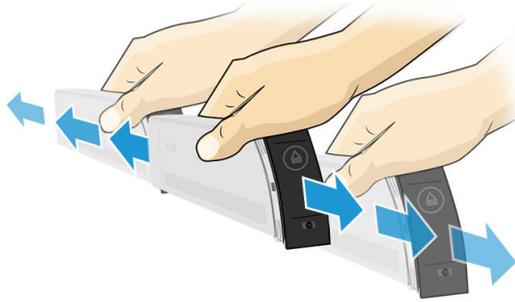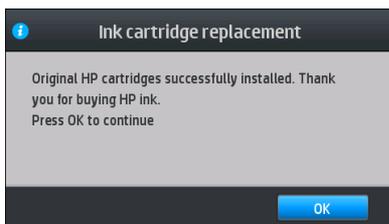
4. Insert the ink cartridge into the cartridge drawer.

5. Slide the drawer and cartridge into the slot until they lock into position.

6. The front-panel display confirms that all cartridges have been correctly inserted.

ℹ Ink cartridge replacement

Original HP cartridges successfully installed. Thank
you for buying HP ink.
Press OK to continue

OK

Refilled and non-HP ink cartridges

HP recommends that you replace an empty cartridge with a new HP cartridge.

The use of refilled or non-HP ink cartridges has several disadvantages:

- If printer failure or damage is attributable to the use of a non-HP or refilled ink cartridge, HP will charge its standard time and materials charges to service the printer for the particular failure or damage, even if the printer is within its warranty period.

- If failure or damage to printheads, ink cartridges, or other ink supplies is attributable to the use of non-HP, expired or refilled ink cartridge, HP is not responsible for the cost of replacement.

- Print quality may be impaired.

- The printer will be unable to estimate the ink level in the cartridge, and will report it as empty.

If you decide to use refilled or non-HP ink cartridges, you will need to follow these instructions to make the printer use a cartridge that it believes to be empty.

⚠ CAUTION: Running completely out of ink can damage the printheads. Damage attributable to printing with empty ink cartridges is not covered under the warranty. Forcing the printer to accept empty cartridges will empty the ink delivery system as well. Once emptied, ink must be used to refill the system and reprime the printhead when a new ink cartridge is installed.

1. Install the cartridge in the printer (see Replace an ink cartridge in the HP Stitch S300 Printer on page 129).

2. The front panel will complain that the cartridge is empty, and the cartridge removal process will start. Tap ❌ to stop this automatic process.

3. On the front panel's home screen, tap **Ink information** to display the following screen.
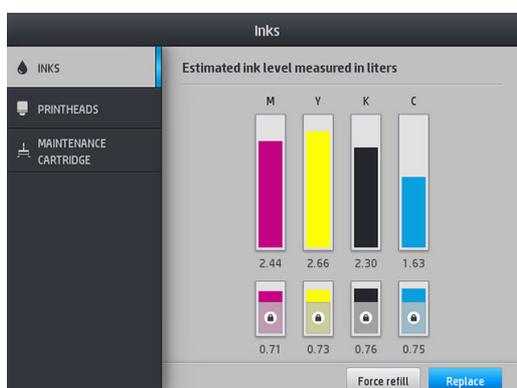
4. Tap any cartridge to see more detailed information.

5. On the right-hand side of the front panel, tap the following sequence: ❌, ❌, ❓, ❓. These icons are not illuminated; but, if you tap them successfully, the front panel displays a series of warning messages. In response to each message, tap **Cancel** to cancel the process, or **OK** to confirm that you wish to continue.

6. When you have tapped **OK** in response to all warning messages, the front panel gives the usual ink cartridge status display, but the cartridge is shown as empty with a warning sign.

Replace an ink cartridge in the HP Stitch S500 Printer

During the normal lifetime of a cartridge, no specific maintenance is required. You should replace a cartridge when it has reached its expiration date (18 months of life), or when the printer requests it. See the ink cartridge information on the front panel for the expiration date.
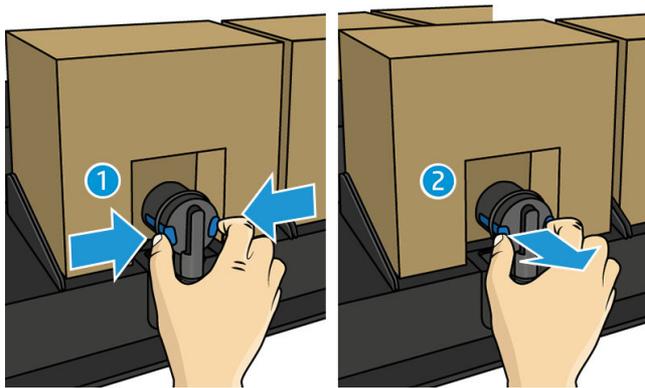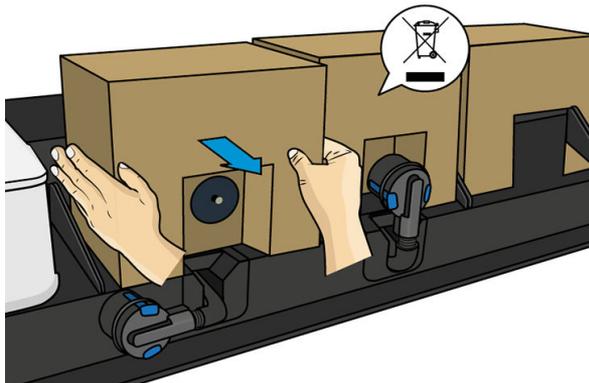
Remove an ink cartridge

1. On the printer's front panel, tap ![ink icon], then **Replace large cartridges**.

    Alternatively, tap ![settings icon], then **Ink supplies** > **Replace large cartridges**.

2. Disconnect the cartridge connector by pressing the tabs on each side of it and pulling it gently away from the cartridge.

3. Remove the empty cartridge from the printer.


Insert an ink cartridge

NOTE: The ink cartridge is supplied in an insulating bag; do not open it until you are ready to use the cartridge.

1. Check that the new cartridge is of the correct color.

2. Shake the cartridge vigorously, 6 times for color cartridges, 30 times for black cartridges.

3. Tear off the square and fold it inside the handle.

4. Put the new cartridge into its correct place on the printer.
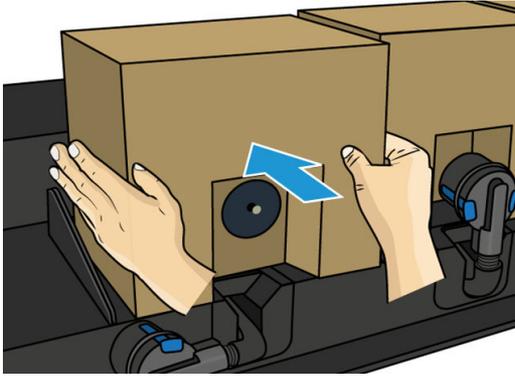
5. Check that the rubber part around the needle in the cartridge connector is clean. Clean gently with a cloth if necessary.

6. Connect the connector to the cartridge.
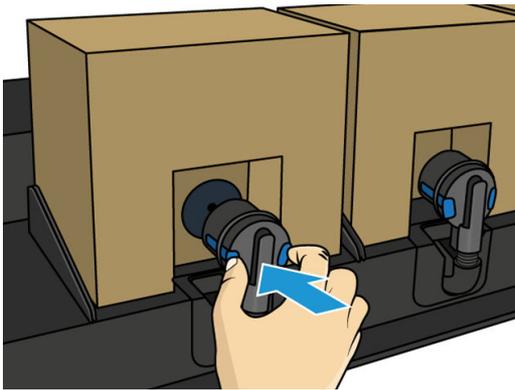
Replace an intermediate tank in the HP Stitch S500 Printer

Intermediate tanks should be replaced for the following reasons:

- The printer notifies you that the intermediate tank has reached the end of its life and will not be refilled. When it runs out of ink, it must be replaced.

  📝 NOTE: The pause to replace the tank may affect the print quality of the job.

- You want to continue printing without replacing an empty large ink cartridge. In this case, you must declare it in the front panel, and you will need to replace the intermediate tank with a new one when it, too, becomes empty. See .

⚠ WARNING!   Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

⚠ CAUTION: The procedure to remove an intermediate tank must be initiated from the front panel. Do not remove an intermediate tank until the front panel prompts you. If you remove an intermediate tank incorrectly, the printer may subsequently reject that tank.

CAUTION: Remove an intermediate tank only if you are ready to insert another one.

CAUTION: Observe precautions when handling intermediate tanks because they are ESD-sensitive devices. Avoid touching pins, leads, or circuitry.

NOTE: You cannot replace an intermediate tank while it has a padlock icon displayed on the front panel. You must tap **Replace intermediate tanks** as described below to remove the padlock.

Remove an intermediate tank

1. On the printer's front panel, tap ⚙, then **Ink supplies** > **Replace intermediate tanks**.

2. Remove the locking piece.
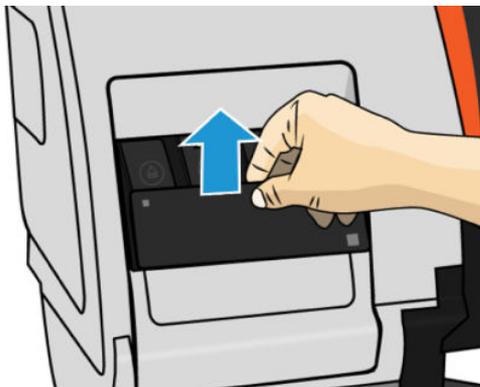
3. Grip the blue tab in front of the intermediate tank that you want to remove, pull the blue tab down and then pull it outwards towards you.

4. The intermediate tank comes out, in its drawer.

5. Lift the intermediate tank out of its drawer.

> 📝 **NOTE:** Avoid touching the end of the intermediate tank that is inserted into the printer, because the connection might be coated with ink.

Insert an intermediate tank

Remember that you should insert an HP 624 Stitch S Series Ink Cartridge as an intermediate tank, unaltered and containing more than 500 ml of ink.

1. Pick up the new intermediate tank and find the label that identifies the ink color. Hold the tank so that you can see the label at the top of the side that is facing you.

2. Check that the colored label above the empty slot in the printer matches the color of the label on the intermediate tank.

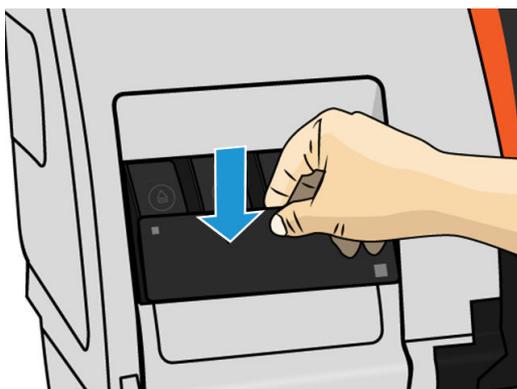3. Shake the intermediate tank vigorously for about 15 seconds.
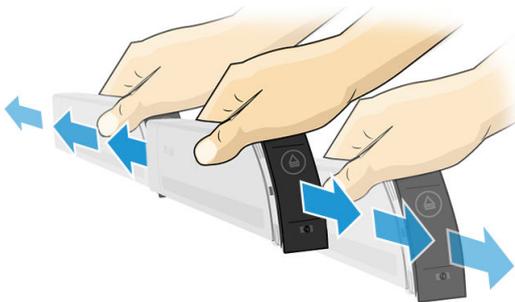
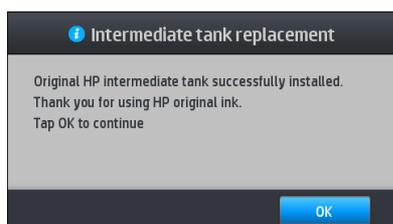4. Insert the intermediate tank into the drawer.

5.   Slide the drawer and intermediate tank into the slot until they lock into position.

6.   Place the locking piece.

7.   The front-panel display confirms that all cartridges have been correctly inserted.

> **NOTE:**   The front panel warns that intermediate tanks cannot be used in another printer. Acknowledge the warning.

Refill an intermediate tank manually

If the ink in the intermediate tank is not enough to complete the job, the job is not paused; the intermediate tank is refilled from the ink cartridge while printing continues. If you foresee that the ink in the cartridge plus the ink in the intermediate tank will not be enough to complete a job, you may want to insert a new cartridge. To force a transfer of the remaining ink in the cartridge to the intermediate tank, tap   , then **Force manual refill**.

Any intermediate tank with an ink level lower than 82% will be refilled if its cartridges are connected and functional.

> **NOTE:**   Manual refilling of intermediate tanks should be performed when the printer is in **Ready** status and not performing any printing or maintenance operation.

Stop refilling an intermediate tank

If a large cartridge runs out of ink, and you want to continue printing using the remaining ink in the intermediate tank without replacing the large cartridge, tap ⚙, then **Stop refilling intermediate tank** and select the color. The large cartridge will stop refilling the selected intermediate tank. Once the intermediate tank is completely empty, it must be replaced and cannot be used again.

📝 **NOTE:** In this mode, the printer does not use the 3 liter cartridge at all.

The intermediate tank must be replaced by a genuine HP 624 Stitch S Series Ink Cartridge of corresponding color, unaltered and containing more than 500 ml of ink. If this option is selected, the intermediate tank will be internally marked as 'stop refilling' and the status (see) will be one of the following:

- Intermediate tanks won't be refillable anymore: You can continue printing while there is ink in the intermediate tank.

- Intermediate tank is empty: You need to replace the intermediate tank to continue printing as there is no ink.

- Intermediate tank error: An error has occurred and you need to replace the intermediate tank.

Check the status of the large ink cartridges

You can see the ink levels in your ink cartridges by tapping 💧 on the front panel's home screen.
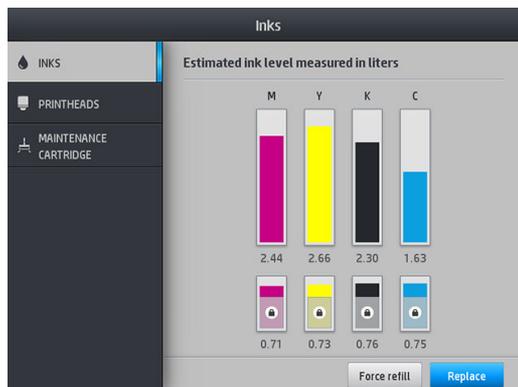
When grayed out, the 3 liter cartridge is refilling and cannot be used.

The area marked with a padlock cannot be normally be used, to preserve the ink in the intermediate tank. But you can use the **Stop refilling** option to unlock this ink. See .

For more details about any particular ink cartridge or intermediate tank, tap the corresponding rectangle. The following information is shown.
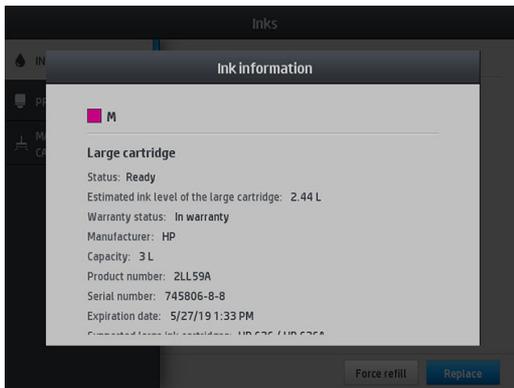
These are the possible large cartridge and intermediate tank status messages that you can see on the front panel:

- **OK:** The cartridge is working normally, with no known problems.

- **Missing:** There is no cartridge present, or it is not correctly connected to the printer.

- **Low:** The ink level is low.

- **Very low:** The ink level is very low.

- **Empty:** The cartridge is empty.

- **Reseat:** You are recommended to remove the cartridge and then reinsert it.

- **Replace:** You are recommended to replace the cartridge with a new cartridge.

- **Expired:** The cartridge's expiration date has passed.

- **Incorrect:** The cartridge is not compatible with this printer. The message includes a list of compatible cartridges.

- **Almost end of life:** The cartridge is near the end of its lifespan.

- **End of life:** The cartridge has reached the end of its lifespan, and should be changed whenever you have emptied it with **Stop refilling**.

Ink system tips

IMPORTANT: The printer performs automatic maintenance routines during periods of inactivity. If you contemplate printing inactivity of longer than 4 hours, unload the substrate roll to avoid crashes. Make sure all printheads are inserted.

For best results, always follow these guidelines:

- Follow the instructions on the front panel during installation.

- Avoid unnecessary removal of the ink cartridges and intermediate tanks.

- The intermediate tanks should never be removed while the printer is printing. They should be removed only when the printer is ready for you to replace them. The front panel guides you through the replacement procedure.

- Avoid removing a cartridge while it is refilling an intermediate tank.

- Make sure that you comply with all applicable laws and regulations when disposing of ink system consumables.

Clean (recover) the printheads

Periodic printhead cleaning is performed automatically, as long as the printer is kept turned on. However, you should clean the printheads if you are experiencing poor print quality and cannot resolve the issues by other methods. This ensures that there is fresh ink in the nozzles and helps to prevents nozzle clogs.

If you have printed the printhead status plot (see 1. Printhead status plot on page 112), you know which colors are failing. Clean any printhead that is not performing adequately. If you are not sure which printheads to clean, clean all of the printheads.

NOTE: A small number of blocked nozzles are unlikely to have any visible effect on your prints, as the printer has been designed to compensate for this problem during multi-pass printing.

To clean the printheads (which often enables them to recover from problems), go to the printer's front panel and tap [icon] , then select which printheads you want to clean. You can clean all of the printheads or only some of them. Select from the following options:

- Print test plot
- Clean all
- Clean K–C
- Clean M–Y

Cleaning all printheads takes about 5 minutes. Cleaning any two printheads takes about 3 minutes.

NOTE: Cleaning all printheads uses more ink than cleaning a single pair.

Align the printheads

The printer performs printhead alignment whenever printheads are replaced. If no substrate is loaded when a printhead is replaced, the printer will perform the alignment the next time you load substrate.

You may also be recommended to align the printheads to solve a print-quality problem.

Automatic alignment

First make sure that you have a roll of opaque, white substrate paper loaded in the printer. Generally textiles are not suitable for automatic printhead alignment. For these substrates, you should align the printheads manually (see Manual alignment on page 141) or perform the automatic alignment on a supported substrate first, then change to the special substrate. Alignment settings are retained through substrate changes until a new printhead alignment is performed.

To request printhead alignment from the front panel (if the alignment is not performed automatically), tap [icon] , then **Maintenance routines** > **Align printheads**.

Alternatively, to request printhead alignment from the Embedded Web Server, select the **Setup** tab, then select **Printhead alignment** > **Automatic printhead alignment** > **Print**.

The process takes about 10 minutes and starts immediately, unless an image is currently being printed. If a print job is in progress, the alignment will be done as soon as the current print job is finished.

Manual alignment

To request a manual printhead alignment from the front panel, tap , then **Maintenance routines** > **Print**.

Alternatively, to request manual printhead alignment from the Embedded Web Server, select the **Setup** tab, then select **Printhead alignment** > **Manual printhead alignment** > **Print**.

- HP Stitch S300: The printer prints 9 rows labelled from A to I. Inspect the print and write down the number of the straightest line in each row (for example, A:9).
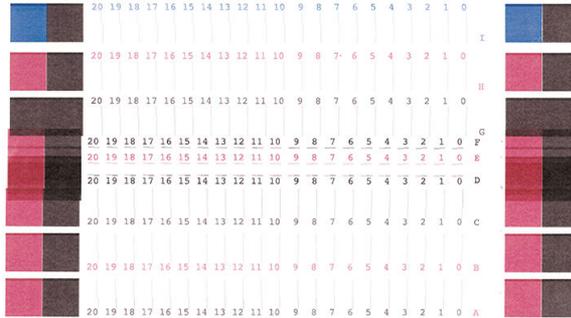
- HP Stitch S500: The printer prints 20 rows labelled from A to T. Inspect the print and write down the number of the straightest line in each row (for example, A:9).
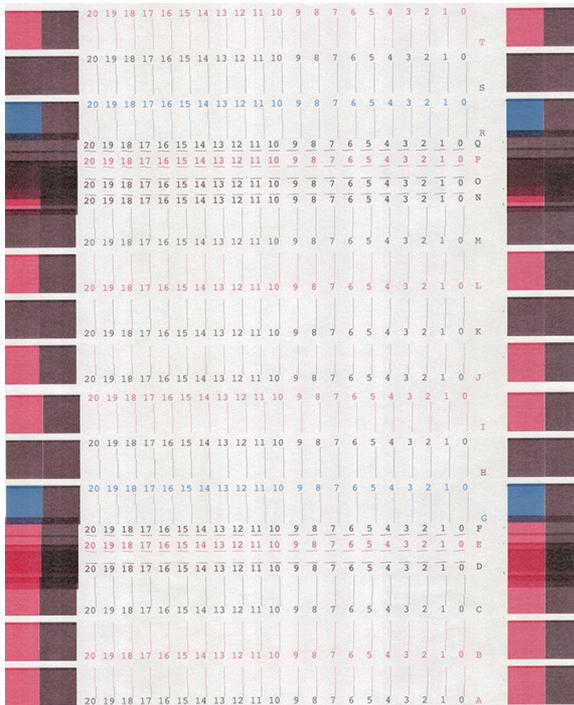
When you have made notes on each row, enter the correction values into the front panel or the Embedded Web Server.

To enter the correction values in the front panel, tap , then **Image-quality maintenance** > **Align printheads** > **Manual printhead alignment** > **Enter correction values**. Enter each value into the window labelled with the same letter as the corresponding pattern.

To enter the correction values in the Embedded Web Server, select the **Setup** tab, then select **Printhead alignment** > **Manual printhead alignment**, and enter each value into the window labelled with the same letter as the corresponding pattern.

Front panel recommends reseating or replacing a printhead

1. Remove the printhead and check that it is free from physical damage and from ink stains on the electrical connections.

2. If necessary, clean the electrical connections between the printhead and the carriage. See Printhead conflictive replacement on page 148.

3. Reinsert the printhead into the carriage and check the front panel message.

4. If the problem persists, insert a new printhead.

Replace a printhead

Remove a printhead

1. On the printer's front panel, tap ![icon], then **Replace printheads**.

2. The carriage moves to the removal position.

   ⚠ **CAUTION:** If the carriage remains in the removal position for more than 3 minutes without inserting or removing any printheads, it will attempt to return back to its home position to the right.

   CAUTION: Observe precautions when handling printheads because they are ESD-sensitive devices. Avoid touching pins, leads, or circuitry.
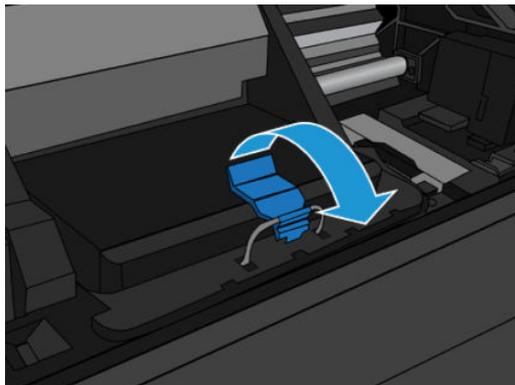
3. When the carriage has stopped moving, the front panel prompts you to open the printer window.
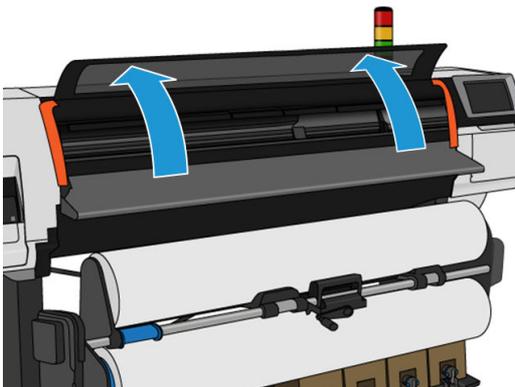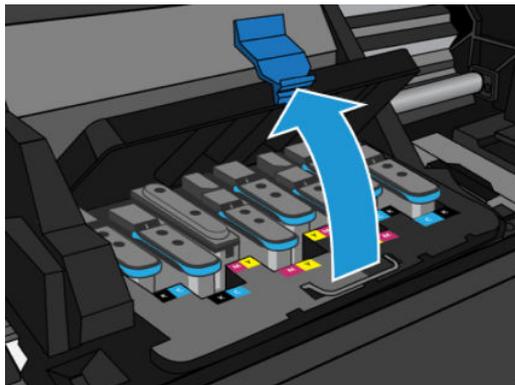
4. Locate the carriage on the right side of the printer.
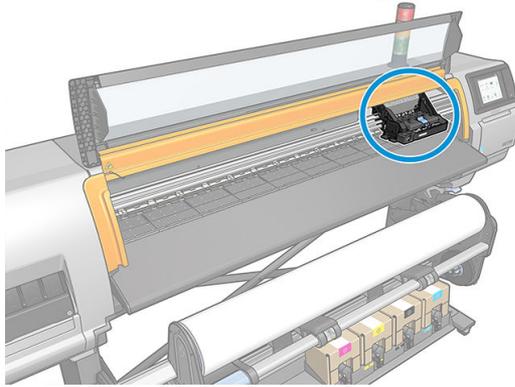
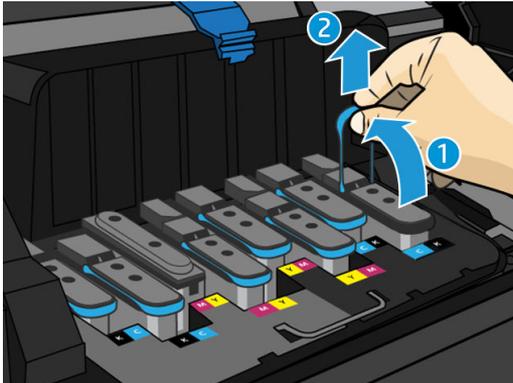5. Pull up and release the latch on top of the carriage.

6. Lift up the cover. This provides access to the printheads.

7. To remove a printhead, lift up the blue handle, and gently disengage the printhead by pulling the blue handle upward until it is released from the carriage.

⚠ **CAUTION:** Do not pull brusquely as it can damage the printhead.

⚠ **CAUTION:** If you want to preserve the old printhead for later use, reinstall the cap and plug. Installing the wrong cap and plug can cause irrecoverable printhead damage. Make sure that the label has been marked with the number of the slot where it was first inserted; and make sure the printhead is in an upright position with the cap facing up, to avoid any print-quality issues.

8. The front-panel display identifies the missing printhead.
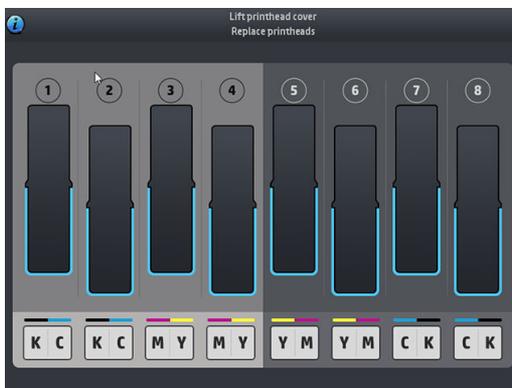
Insert a printhead

1. If the printhead is new, hold it upright and shake vigorously in a smooth up and down motion for about 15 seconds.

📝 **NOTE:** Be careful not to strike the printhead against anything while shaking it, because this could cause damage.

⚠ **CAUTION:** Avoid touching pins, leads, and circuitry when handling printheads, because these elements are sensitive to electrostatic discharge.

2. Remove the orange protective caps by pulling them down.
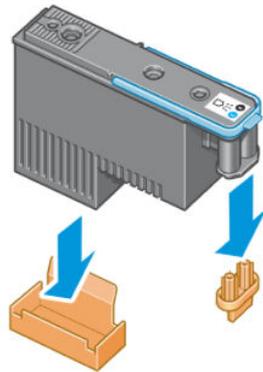
3. The printhead is designed to prevent you from accidentally inserting it into the wrong slot. Check that the colored label on the printhead matches the colored label of the carriage slot into which the printhead is to be inserted.

4. Insert the new printhead into its correct slot in the carriage.

⚠ CAUTION: Insert the printhead slowly and vertically, straight down. It can be damaged if you insert it too quickly, or at an angle, or if you rotate it as you insert it.
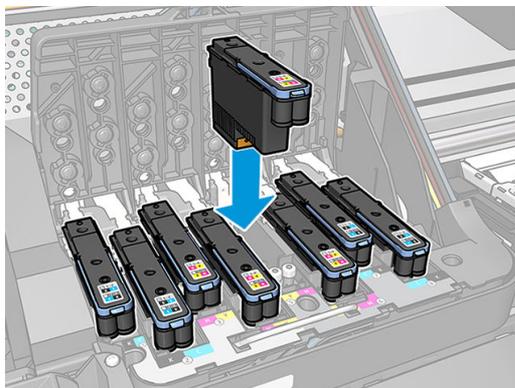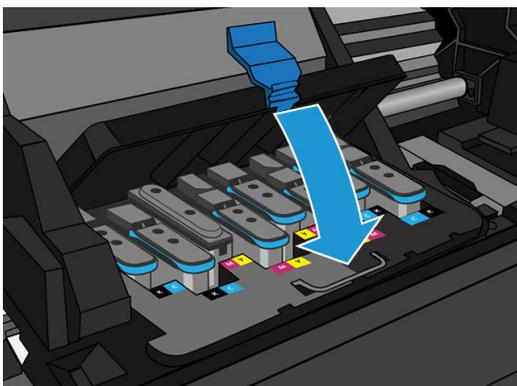
5. Push down as indicated by the arrow.
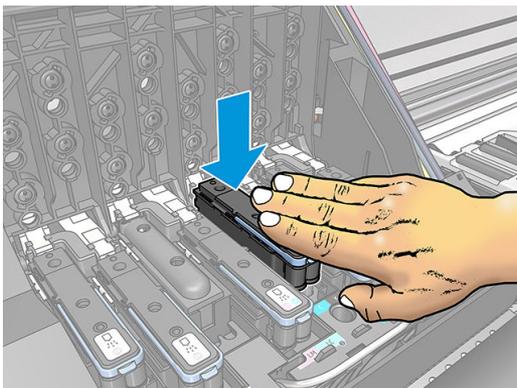
⚠ CAUTION: You might feel some resistance when installing the new printhead, so you need to press it down firmly but smoothly. You should hear a beep and see confirmation on the front-panel display that the printhead has been inserted.
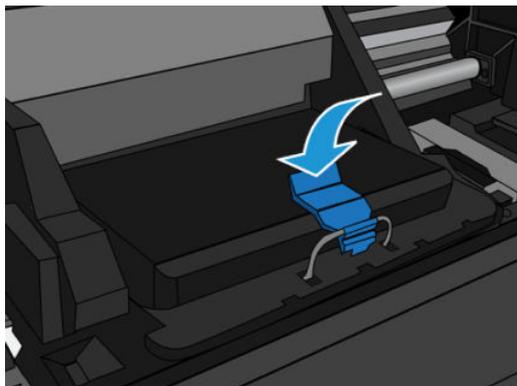
6. Insert all of the other printheads that need to be installed, and close the carriage cover.

7. Make sure that the end of the latch catches the wire loop on the near side of the carriage.
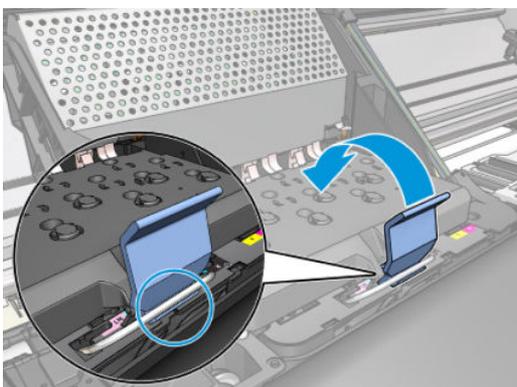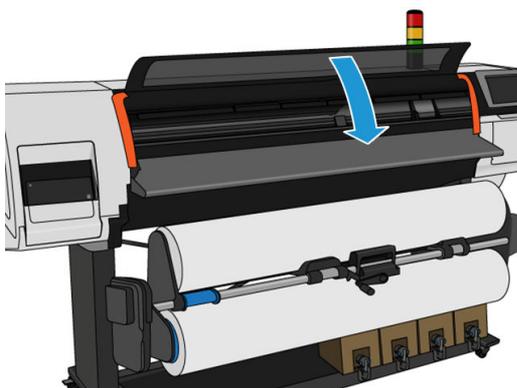
8. Lower the latch to rest on the carriage cover.

When all of the printheads have been inserted correctly and the printer has accepted them, the printer beeps.

NOTE: If the printer does not beep when you insert the printhead and the **Replace** message appears on the front-panel display, you might need to reinsert the printhead.

9. Close the printer window.

10. The front-panel display confirms that all of the printheads are correctly inserted. The printer starts checking and preparing the printheads. The default routine process, when all printheads are changed, takes up to 20 minutes. If the printer identifies a problem when preparing the printheads, carefully follow the front panel instructions, the process will take longer, up to 30 minutes. For a single printhead insertion, the time varies between 10 and 20 minutes. After all printheads are checked and prepared, the printhead realignment procedure runs automatically if substrate is loaded.

Shipping fluid purging process: The front-panel display confirms that all printheads are correctly inserted. The printer starts checking and preparing the printheads. The default routine process, when all printheads are changed, takes 10 minutes. If the printer finds problems preparing the printheads, carefully follow the front panel instructions, it takes longer (up to 45 minutes). For a single printhead insertion the times vary between 2 and 45 minutes. After all printheads are checked and prepared, if paper is loaded, the printhead realignment procedure runs automatically.

Cannot insert a printhead

1. Check that you have the correct type of printhead (model number).

2. Check that you have removed the orange protective caps from the printhead.

3. Check that the colored label on the printhead is the same color as the label on the slot.

4. Check that the printhead is correctly oriented (compare with the others).

5. Check that you have closed and latched the printhead cover.

Printhead conflictive replacement

This is the current printhead layout in the carriage:
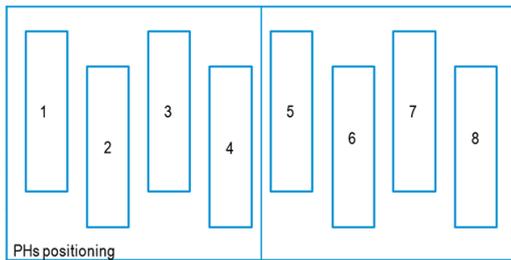
When replacing multiple printheads at the same time, there are some combinations that may cause a problem of identification.


The printer will try to identify the printheads correctly. During the process, you will be asked to extract and re-insert some of the replaced printheads.

Any multiple replacements, including any of the combinations shown above, will cause a conflict no matter what number of printheads are being replaced. If in any doubt, follow the front-panel instructions.

Printhead is not recognized by the printer

It is possible that the printer will not recognize a printhead after it has been installed. This can happen when ink builds up on the electrical connections between the printhead and the printhead carriage. Under these circumstances, HP recommends that you clean the electrical connections on the printhead. However, routine cleaning of the connections when no problems are apparent is *not* recommended.

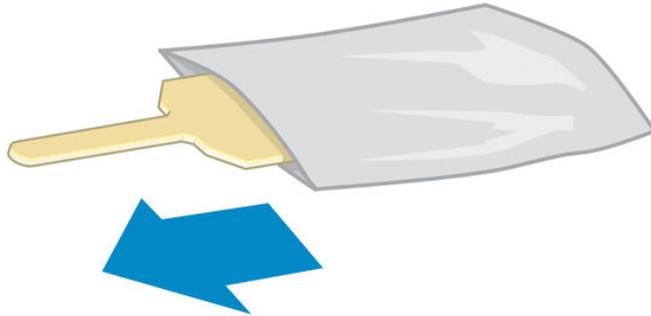A carriage interconnect wiper is included with your printer in the user maintenance kit.
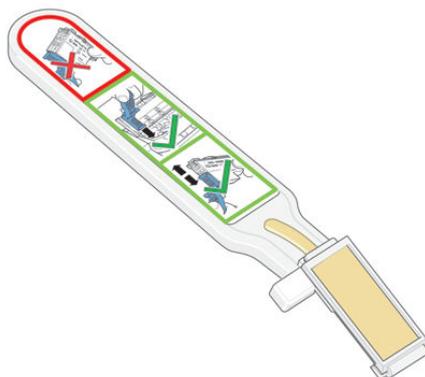
Use this to clean the electrical interconnects on both the printhead carriage and the printhead if the **Reseat** or **Replace** message persists next to the printhead on the front-panel display.

1. Remove a new pre-moistened replacement sponge from its pouch.

   A supply of sponges is included in the box with the wiper. If all sponges have been used, more can be obtained by calling your service representative.
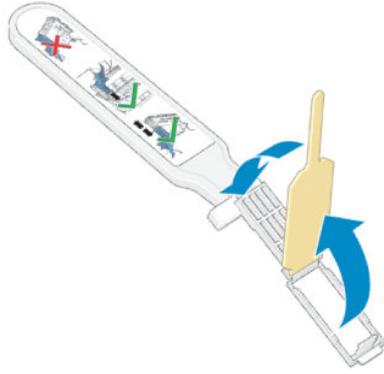
2. Open the carriage interconnect wiper.

3. Load the sponge by positioning the sponge on the face of the carriage interconnect wiper with the shorter tab in the locating slot.
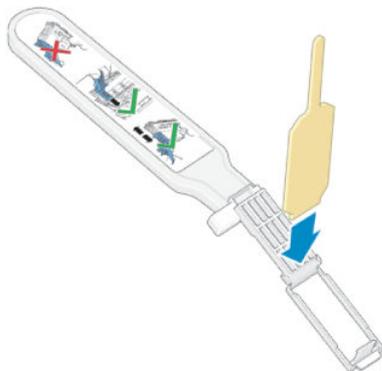
4. Close the carriage interconnect wiper, trapping the sponge in place.

5. Open the printhead carriage latch and extract the printhead that is causing the problem, as indicated on the front panel. See Replace a printhead on page 142.

6. Insert the carriage interconnect wiper into the printhead slot at the back. Wipe the electrical contacts by inserting the tool between the electrical connections at the back of the slot and the steel spring, with the sponge facing away from you and towards the electrical contacts. Try to avoid picking up any ink deposit that may have accumulated on the bottom surface of the slot.

    ⚠ CAUTION: If the carriage remains in the central part of the printer for more than 7 minutes, it attempts to return to its home position to the right.
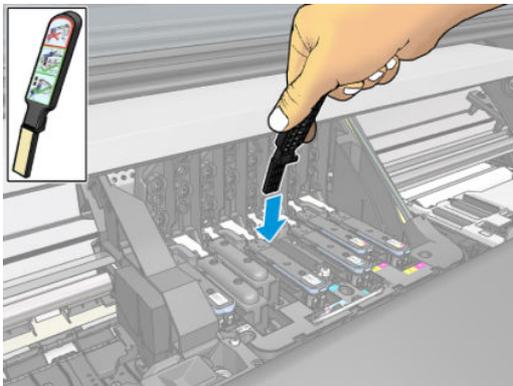
7. Rub the sponge against the contacts with a *light* force along the entire depth of the flex connector, inserting the wiper as far as allowed by the mechanical stop on the tool.
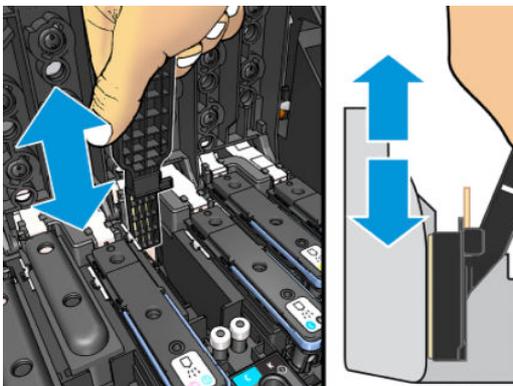
8. Take special care to clean all contacts thoroughly, including the ones at the lowest point of the connector.
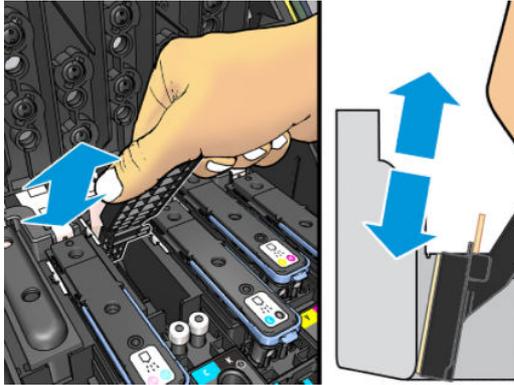
9. Using the same sponge, clean the lower strip of electrical contacts on the printhead (unless the printhead is new). Avoid touching the upper set of electrical contacts.


⚠ **CAUTION:** Do not touch the surface of the printhead that contains the nozzles, because the nozzles are easily damaged.

10. After waiting a few moments to allow both connectors to dry, replace the printhead into the printhead carriage. See Replace a printhead on page 142.

11. After completing the cleaning process, open the carriage interconnect wiper by pulling on the sponge tab.

12. Remove the soiled sponge from the carriage interconnect wiper.
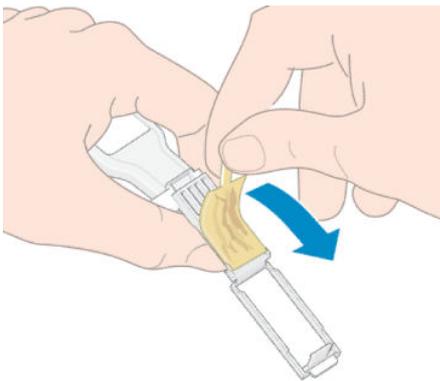
13. Dispose of the soiled sponge in a safe place to prevent the transfer of ink onto hands and clothing.
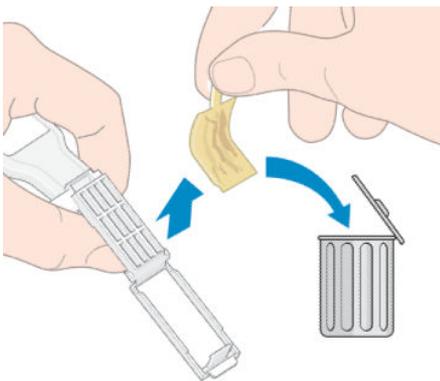
If the front panel continues to show the **Reseat** or **Replace** message, replace the printhead or call your service representative.

Cannot insert an ink cartridge or intermediate tank

1. Check that you have the correct type of cartridge or tank (model number).

2. Check that the colored label on the cartridge or tank is the same color as the label on the slot.

3. Check that the cartridge or tank is correctly oriented, the arrow on its front should face upwards.

⚠ CAUTION: Never clean inside the intermediate tank slots.

Replace the ink funnel and maintenance cartridge

You should replace the ink funnel and maintenance cartridge when prompted to do so by the front panel.

📝 NOTE: In extremely dry conditions, some dry ink may accumulate on the ink funnel, creating a crust. This crusting can be removed easily with a cloth.

⚠ CAUTION: A high level of crusting in the ink funnel can damage the printheads and other parts of the printer. HP strongly recommends that you promptly change the ink funnel when alerted.

An ink funnel and disposable plastic gloves are included in the user maintenance kit.
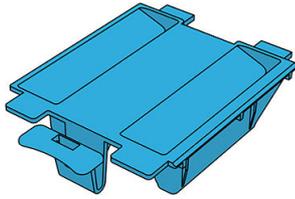
IMPORTANT: When removing a maintenance cartridge and ink funnel, remember that they are full of ink. Therefore:

- Wear gloves.

- Remove the maintenance cartridge and the ink funnel carefully and horizontally to avoid splashing.

- Always handle and store the replaced maintenance cartridge upright.

⚠ **WARNING!** Make sure that the printer wheels are locked (the brake lever is pressed down) to prevent the printer from moving.

To replace the ink funnel or maintenance cartridge:

On the printer's front panel, tap , then **Replace printhead cleaning kit**.

Remove the ink funnel

1. Open the printer window.
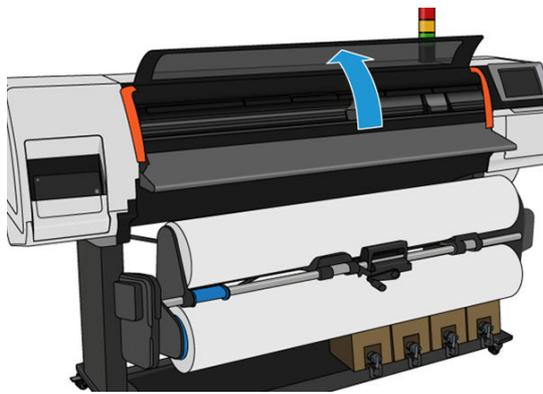
2. Identify the ink funnel.
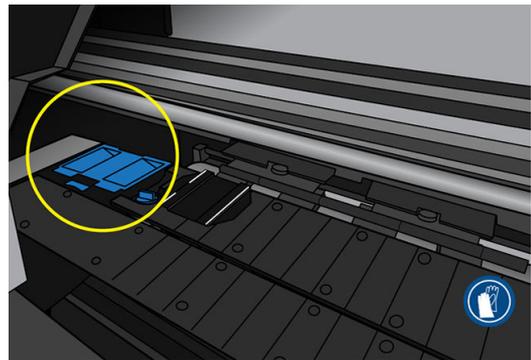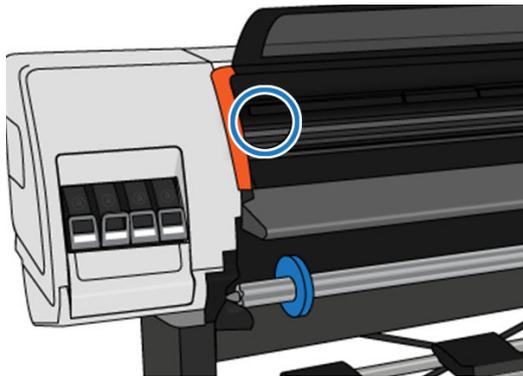
3. Lift the tab on the ink funnel until it can be easily removed.

   📝 NOTE: Use the disposable plastic gloves to avoid getting ink on your hands.
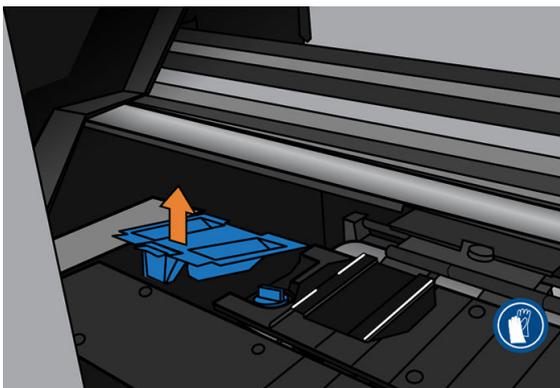
4. Dispose of the ink funnel according to your local regulations.

Insert the ink funnel

1. Insert the two rear tabs of the ink funnel.
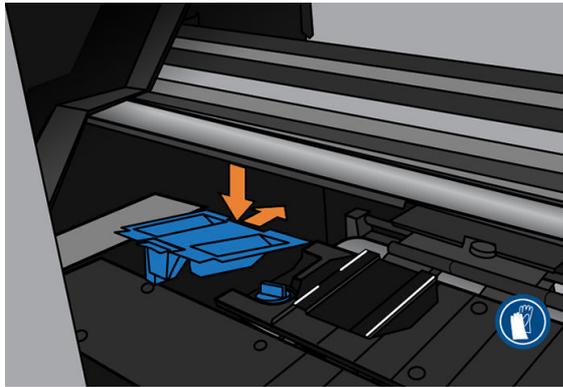
2. Use your thumb to slide the ink funnel fully into position.

3. Push down on the tabbed edge until you hear the ink funnel click into place. Make sure that the top of the ink funnel is seated flatly and that none of the corners are higher than the plane of the platen.
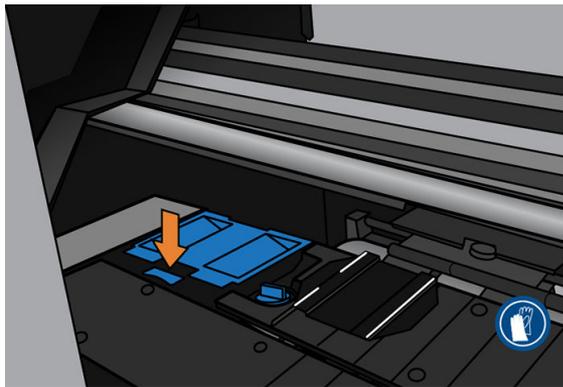
4. Close the window. The cartridge moves to check if there is any mechanical interference. If there is no issue, continue with the following steps. If there is an issue, you are asked to repeat the process and reinsert the ink funnel.

Replace the maintenance cartridge

1. The maintenance cartridge is located in a slot underneath the front panel, at the front of the printer. Open the door.
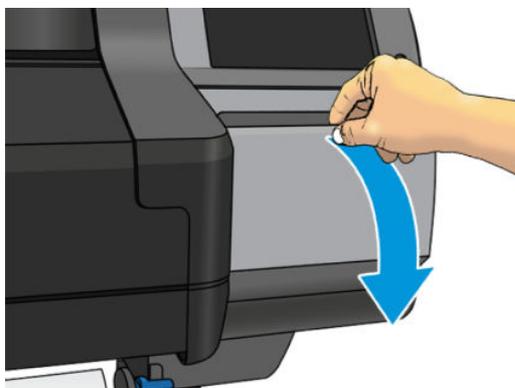
2. The maintenance cartridge has a handle on the front. To remove the cartridge, just slide it out.

3. When you have slid it out partway, hold it on each side with both hands: it is heavy.

IMPORTANT: Slide it out horizontally to avoid spills, as it is full of ink.

Dispose of the maintenance cartridge according to your local regulations.

4. Remove the plastic cover from the new maintenance cartridge.
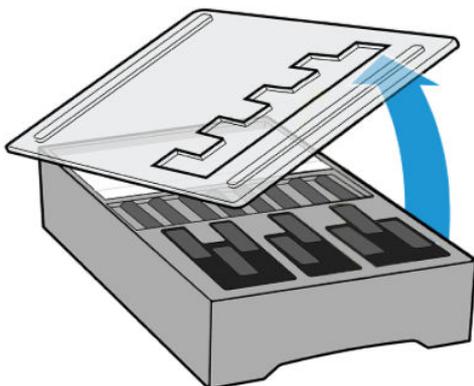
5. Insert the maintenance cartridge into the slot, in the direction indicated by the arrow.

6. Push the maintenance cartridge in until it does not protrude from the slot. You will notice that the printer takes it; do not use excessive force.

    📝 **NOTE:** The front panel will not show the new maintenance cartridge until the door is closed.

7. When you have inserted the maintenance cartridge into the printer, close the door.
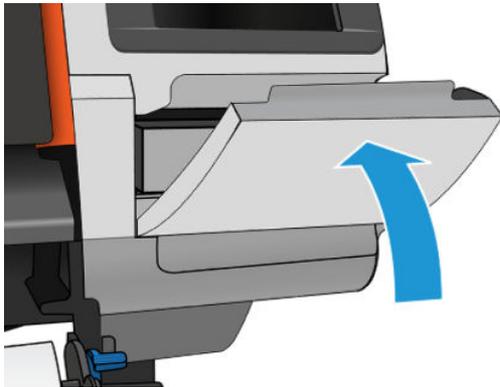
📝 **NOTE:** Before it can resume printing, the printer needs all the ink cartridges, printheads, and maintenance cartridge to be installed, and the printer window and maintenance cartridge door to be closed.

🖉 **IMPORTANT:** If the maintenance cartridge cannot be inserted, check it has the right model number, and is correctly oriented.

💡 **TIP:** If you want to remove and inspect the maintenance cartridge at any time, you can start the Replace the maintenance cartridge on page 155 procedure. If you put the old maintenance cartridge back into the printer after inspecting it, the procedure ends at that point.

Clean and lubricate the carriage rod

📝 **NOTE:** In some circumstances, such as in ambient temperatures above the printer's operational specification (see Environmental specifications on page 183), or if there is a significant amount of dust in the air, the lubrication of the slider rods may be impaired, which can affect the performance of the printer.

The following procedure can also be found as a video here: http://www.hp.com/go/latex300/videos.

1. At the front panel, tap ⚙, then **Preventive maint. tasks** > **Carriage rod lubrication**.

2. Open the window.

3. Clean the carriage rod using a lint-free cloth dampened with 95% ethanol. Take care to clean the whole rod, including the part under the left cover.

    📝 **NOTE:** 95% ethanol is not provided in the user maintenance kit.

    ⚠ **CAUTION:** Ethanol is highly flammable. Observe the manufacturer's safety precautions.

    CAUTION: Do not use commercial cleaners or abrasive cleaners.

    ⚠ **WARNING!** Avoid moving parts. You are recommended to wear gloves.

Moving part	Wear gloves

    For more safety information, see

    ⚠ **CAUTION:** While cleaning, be careful not to damage the plastic encoder strip located on top of the rod.
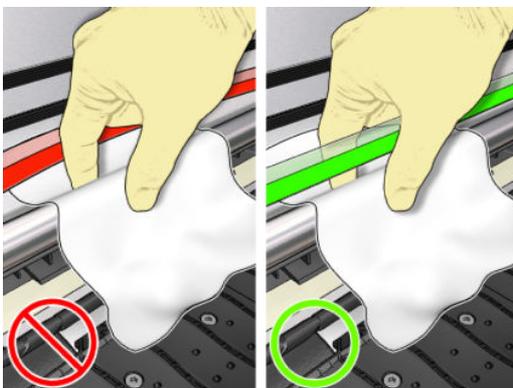
4. Wait until the rod is dry, then close the window. The carriage moves to the left side of the printer so that you can reach the part of the rod under the right cover.

5. Open the printer window.

6. Clean the carriage rod area under the right cover as described in step 3.

7. Take the bottle of oil from the user maintenance kit that is supplied with your printer (a replacement kit can be ordered if necessary).

8. Deposit a very thin zig-zag trickle of oil along the rod.
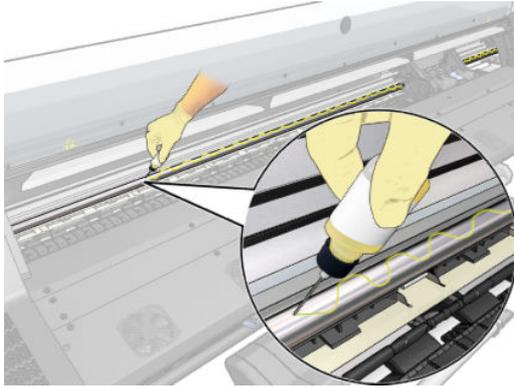
📝 **NOTE:** While lubricating, be careful not to drop oil on the encoder strip located on top of the rod.

9. Tap **OK** at the front panel.

10. Close the window.

11. The carriage moves from one side of the printer to the other to distribute the oil along the rod.

12. The front panel asks you to confirm that lubrication has been completed. Tap **OK** to confirm.

Clean the encoder strip

Cleaning the encoder strip is a vital part of the printer's maintenance and can clear a variety of system errors:

- 86:01 or 87:01 system errors and related mispositioning of the carriage assembly errors, such as the carriage bumping into the side of the printer.

- 42:10 system errors, related to failures starting and homing the carriage on the scan axis.

- 29:01 system errors that cannot be cleared even after installing new maintenance cartridges.

- There are occasions when a dirty encoder strip can cause substrate loading issues, as the carriage cannot correctly detect the position of the substrate.

The encoder strip should be cleaned when requested by the printer. The front panel displays a message when cleaning is required: **For optimal printer performance follow the Clean the encoder strip process as described in the User Guide.**

📝 **NOTE:** When the message is displayed on the front panel, a silent warning message is added within the system error log 8:01. This helps when reviewing the error log history.

📝 **NOTE:** If the message is not displayed on the front panel, but you see this defect on the print, clean the encoder as described below.
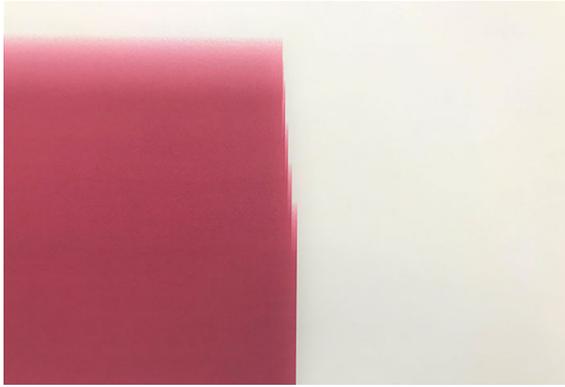
Cleaning procedure

1. At the front panel, tap , then **Preventive maintenance tasks** > **Clean scan axis encoder**.

2. Open the window.
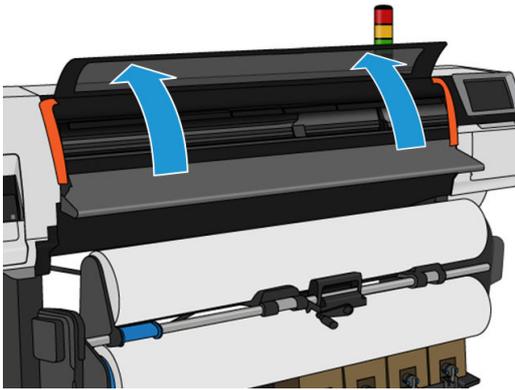
3. Clean the encoder strip on both sides with a cloth dampened with water, as instructed in the front panel, and tap **Continue** when finished.
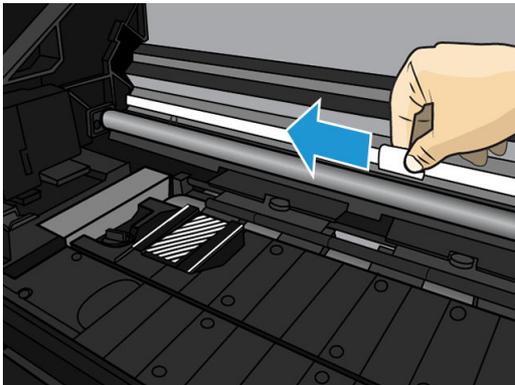
4. Close the window. The carriage moves to the left-hand side of the printer.
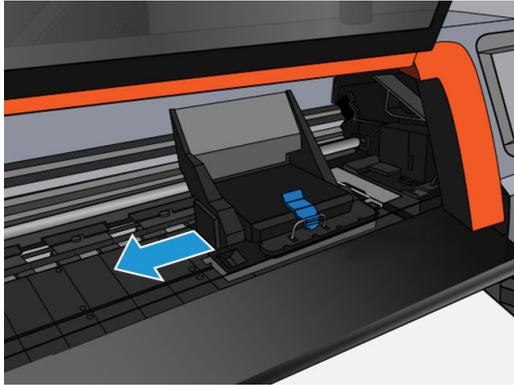
5. The front panel prompts you to reopen the window and clean the right-hand side of the encoder strip (inside the service station). Tap **Continue** when finished.
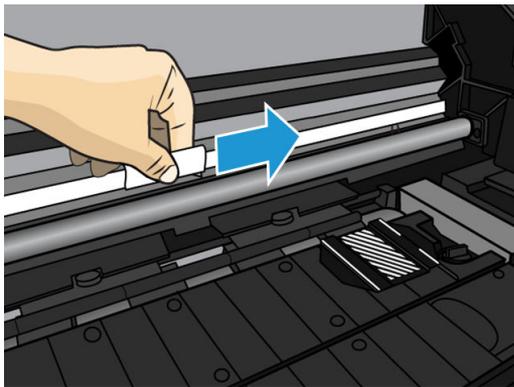
6. Close the window. The carriage returns to its ready position in the service station.
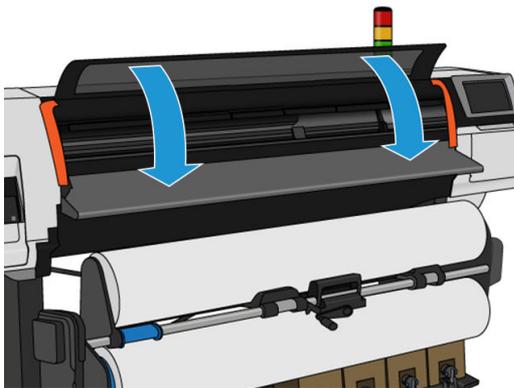
Clean the platen

You should clean your print platen after every 40 liters of ink used (the front panel will remind you with an alert), and additionally when you notice any of the following symptoms:

- Ink smearing when printing with presets that used to work well (vacuum loss)

- More frequent substrate jams

- Ink stains and marks on the back of your prints

- Advance issues even when using the substrate-advance sensor

NOTE: If you print on wide substrate after having printed on narrower substrate, you may find that the left side of the platen has become dirty. If this contaminated section of the platen is not cleaned, it could leave marks on the back of the substrate.

NOTE: Do not print on porous substrates when using the platen, as it will get dirty. Use the ink collector for porous substrates.

CAUTION: Be careful not to damage the substrate-advance sensor when cleaning the platen. The sensor is the very small rectangular window (less than 1 cm²) found close to the third pinchwheel from the right. See Clean the substrate-advance sensor window on page 164.

TIP: You are recommended to wear gloves.

Follow these instructions to clean the platen.

1. Unload all substrate from the printer. See Unload a roll from the HP Stitch S300 Printer on page 67 and Unload a roll from the HP Stitch S500 Printer on page 68.

2. Turn off the printer.

3. Open the printer window.
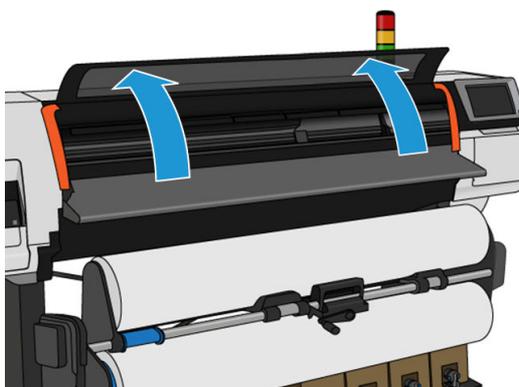
4. Use a 1 mm pin to unclog every hole in the print platen. Make sure to push the pin all the way through. Remains of ink and substrate fibers tend to accumulate in the holes and diminish the vacuum effect.
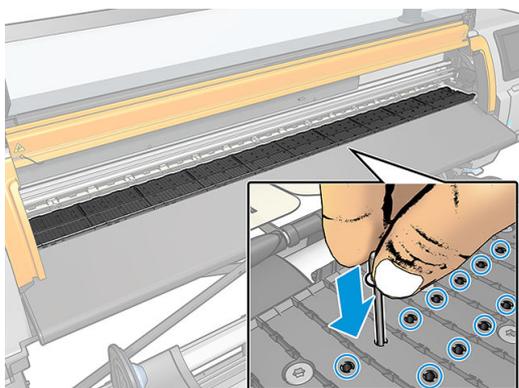
5. Remove the platen or ink collector. See Ink collector on page 43.

6. With the same 1 mm pin or tweezers, remove all remains of ink and substrate fibers inside the vacuum suction cups.
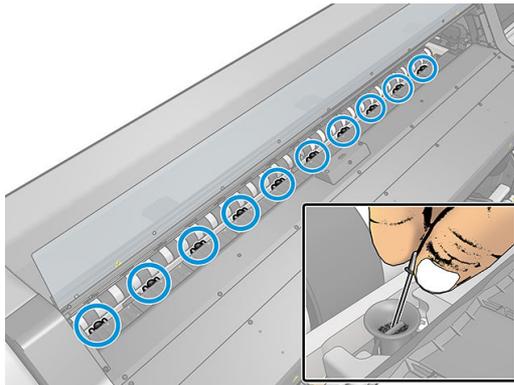
7. Reinstall the platen or ink collector.

If you find ink stains on the back of your prints or have trouble with the substrate-advance sensor, continue with the following steps:

1. Use a clean, absorbent lint-free cloth to wipe any wet ink thoroughly from the cutter groove, cutter ramp, and platen.

2. With a dry brush, remove dry, loosened ink deposits from the cutter groove and cutter ramp.
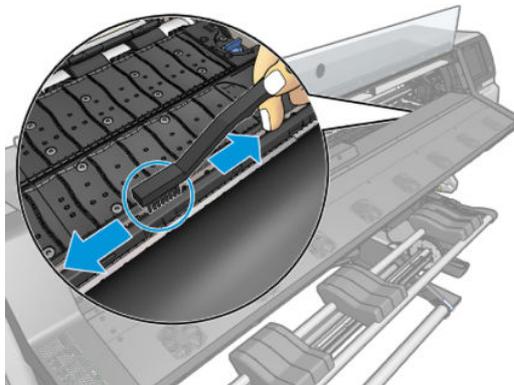
3. With the same dry brush, remove dry, loosened ink deposits from the platen surface.
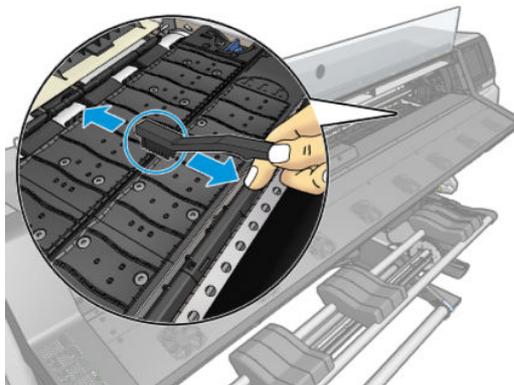
4. Slightly dampen the used cloth with 95% ethanol to wipe the remaining dry ink deposits from the platen.

📝 **NOTE:** Dry ink deposits take longer to remove.

📝 **NOTE:** 95% ethanol is not provided in the user maintenance kit.

⚠ **CAUTION:** Ethanol is highly flammable. Observe the manufacturer's safety precautions.

CAUTION: Do not use commercial cleaners or abrasive cleaners. Do not wet the platen directly, because you will leave too much moisture behind, which could damage the substrate advance sensor.
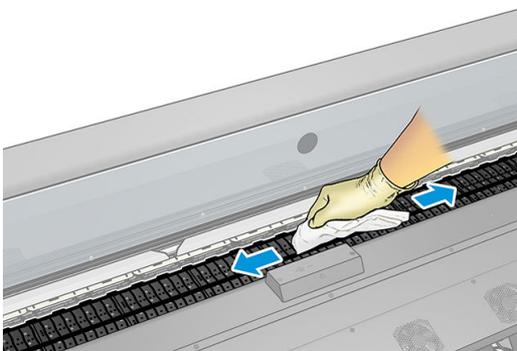
5. Use the damp cloth to remove remaining dry ink deposits from the cutter ramp.
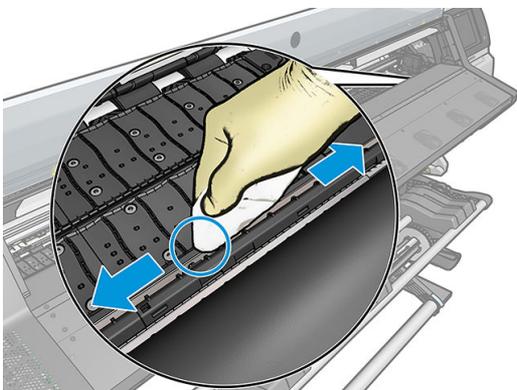
6. Close the 95% ethanol container and remove it and the cloth from the vicinity of the printer.

7. Wait 3 or 4 minutes to let the ethanol evaporate, before turning on the printer and reloading the substrate.

Clean the substrate-advance sensor window

The substrate-advance sensor is the very small rectangular window (less than 1 square centimeter in size) close to the third pinchwheel from the right.

HP recommends that you clean the substrate-advance sensor window whenever you clean the print platen and if you are experiencing print quality issues.

1. Unload the substrate by using the front panel procedure. See Unload a roll from the HP Stitch S300 Printer on page 67 and Unload a roll from the HP Stitch S500 Printer on page 68.

2. Turn off the printer and wait until it has cooled down.

3. Wipe the sensor with a cotton swab to remove wet ink.
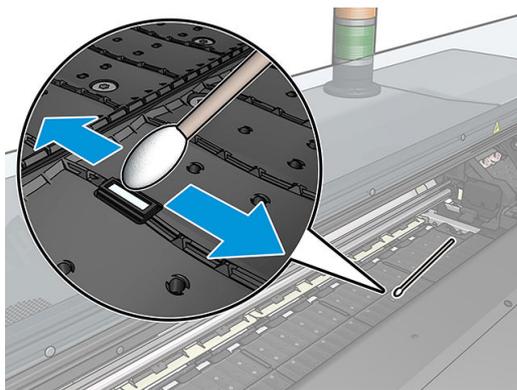
4. Wipe the sensor with a cotton swab, slightly dampened with 95% ethanol, to remove dried ink.

NOTE: 95% ethanol is not provided in the user maintenance kit. Please follow the manufacturer's safety precautions when handling ethanol.

If the sensor window is heavily coated with dried ink, you may need to apply some pressure while wiping, helping the cotton to absorb the ink. Continue cleaning with fresh swabs until the cotton stays clean and the sensor window looks clean. When reflecting ambient light, a clean sensor shows a blue-colored reflection that should extend uniformly across its whole surface. You can see this reflection by moving closer and slightly changing your angle of view.

5. Remove the closed 95% ethanol container and the cotton swabs from the vicinity of the printer.

6. Wait three or four minutes to let the ethanol evaporate, before turning on the printer and reloading the substrate.

Clean the exterior of the printer

Use a damp sponge or a soft cloth and a mild household cleaner such as non-abrasive liquid soap to clean the outside of the printer and all other parts of the printer that you regularly touch as part of normal operation.

WARNING! To avoid an electric shock, make sure that the printer is turned off and unplugged before you clean it. Do not let water get inside the printer.

CAUTION: Do not use abrasive cleaners on the printer.

Move or store the printer

If you need to move your printer or store it for an extended period of time, prepare it correctly to avoid possible damage.

1. Do not remove the ink cartridges, printheads or maintenance cartridge.

2. Make sure that no substrate is loaded.

3. Make sure that the printhead carriage is located in the service station (at the right end of the printer).

4. Make sure that the **Ready** message appears on the front panel.

5. Turn off the power by using the power button on the front panel.

6. Also switch off the power switch at the rear of the printer.

7. Disconnect any cables that connect the printer to a network, a computer, or a scanner.

8. If you intend to turn the printer upside down or on its side, first remove the maintenance cartridge (see Replace the maintenance cartridge on page 155).

9. For correct environmental storage conditions, see Environmental specifications on page 183.

NOTE: If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condense on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensation to evaporate.

NOTE: Take into account that ink cartridges should always be stored at a temperature between 5 to 35°C (41 to 95°F) (transportation temperature) and 15 to 30°C (59 to 86°F) (storage/usage).

Service maintenance

During the life of your printer, components that are used constantly can wear out.

To avoid having these components degrade to the point that the printer breaks down, the printer keeps track of various parameters such as the line sensor degradation, the number of cycles that the carriage makes across the axis of the printer, and the total quantity of ink used.

The printer uses these numbers to track the need for service maintenance, and displays one of the following messages on the front panel:

- **Service Maintenance Kit 1**

- **Service Maintenance Kit 3**

These messages mean that some components are nearing the end of their lives. You can continue printing for quite some time, depending on your use of the printer. However, HP strongly recommends that you call your service representative and arrange for a service maintenance visit. The service engineer can then replace the worn parts on-site, which will prolong the life of the printer.

The benefits of arranging a service engineer's visit when these messages appear on the front panel are two-fold:

- The printer components can be replaced at a time that is convenient for you, and so will not disturb your daily workflow.

- During a service maintenance visit, the service engineer replaces several parts at once. This eliminates the need for repeat visits.

8 Firmware update

The printer's various functions are controlled by software that resides in the printer, also known as firmware.

From time to time, firmware updates become available from HP. These updates increase the printer's functionality and enhance its features.

Firmware update using a USB flash drive

When installing the printer for the first time you may be asked to update the firmware. For this purpose, you need a USB flash drive with the following specifications:

- USB 2.0-compatible
- 2 GB capacity
- FAT32 preformatted
- No hardware encryption

Perform the firmware update

1. Download the firmware update from http://www.hp.com/go/StitchS30064in/support/ or http://www.hp.com/go/StitchS50064in/support/ and store it on the USB flash drive.

    IMPORTANT: The USB flash drive should contain only one firmware file (.fmw) in the drive's root folder, and no other files.

2. Turn off the printer.

3. Connect the USB flash drive to the USB connector at the rear of the printer.

4. Turn on the printer.

5. Follow the instructions on the front panel.

Subsequent firmware updates can be installed in your printer in the same way, or by using the printer's Embedded Web Server.

Firmware update using the Embedded Web Server

1. To access the Embedded Web Server from any computer, see Check printer status on page 23.

2. In the Embedded Web Server, select the **Setup** tab and then **Firmware update** > **Manual firmware update**.

3. Follow the on-screen instructions to download the firmware file from http://www.hp.com/go/StitchS30064in/support/ or http://www.hp.com/go/StitchS50064in/support/, and store it on your hard disk. Then select the downloaded **.fmw** file and click **Update**.

    If you experience very slow progress while uploading the firmware file to the printer, the reason could be that you are using a proxy server. In that case, try bypassing the proxy server and accessing the Embedded Web Server directly.

    ●   In Internet Explorer for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and select the **Bypass proxy server for local addresses** check box. Alternatively, for more precise control, click the **Advanced** button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.

    ●   In Firefox for Windows, go to **Tools** > **Options** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

    ●   In Firefox for Linux, go to **Edit** > **Preferences** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

Automatic firmware updates

Automatic firmware updates are a convenience that is possible with Web-connected printers. Your printer can automatically download the latest firmware release and install it for you.

Important notes

●   Your printer must be connected to the Internet.

●   To configure automatic firmware updates, you can use the front panel or the Embedded Web Server (**Setup** > **Firmware update** > **Firmware update settings**).

●   If an administrator password has been set, it will be required to change these settings.

●   A firmware update package can be large; you may want to consider whether there are any implications for your network or Internet connection.

●   A firmware update is downloaded in the background: the printer can be printing at the same time. However, it cannot be installed in the background: printing must stop.

●   To activate or to disable the automatic check or download, go to the front panel and tap , then **Updates** > **Firmware updates**.

9 Accessories

There are two alternative ways to order supplies or accessories:

- Visit http://www.hp.com/go/StitchS30064in/accessories or http://www.hp.com/go/StitchS50064in/accessories on the Web. There you will also see the latest list of supplies and accessories for your printer.

- Contact HP Support (see When you need help on page 35), and check that what you want is available in your area.

The rest of this chapter lists the available supplies and accessories, and their part numbers, at the time of writing.

Order ink supplies

You can order the following ink supplies for your printer.

Ink cartridges for HP Stitch S300, used as intermediate tanks for HP Stitch S500

Cartridge	Part number
HP 624 775ml Black Stitch S Series Ink Cartridge	2LL53A
HP 624 775ml Cyan Stitch S Series Ink Cartridge	2LL54A
HP 624 775ml Magenta Stitch S Series Ink Cartridge	2LL55A
HP 624 775ml Yellow Stitch S Series Ink Cartridge	2LL56A

High-volume ink cartridges for HP Stitch S500

Cartridge	Part number
HP 636 3-liter Black Stitch S Series Ink Cartridge	2LL57A
HP 636 3-liter Cyan Stitch S Series Ink Cartridge	2LL58A
HP 636 3-liter Magenta Stitch S Series Ink Cartridge	2LL59A
HP 636 3-liter Yellow Stitch S Series Ink Cartridge	2LL60A

Printheads

Printhead	Part number
HP 614 Cyan and Black Stitch S Series Printhead	2LL62A
HP 614 Magenta and Yellow Stitch S Series Printhead	2LL63A

Other supplies

Item	Part number
HP 614 Stitch S Series Printhead Cleaning Kit	2LL61A
HP Series 300/500 Ink Collector Foam Kit	T7U74A
HP Series 300/500 User Maintenance Kit	5QG72A

Order accessories

The following accessories can be ordered for your printer, depending on which printer model you have: see .

Accessories for HP Stitch S300 and S500

Name	Part number
HP Stitch 300/500 Series Ink Collector	5JX30A
HP Series 300/500 Edge Holders Kit	F0M64A

Accessories for HP Stitch S300 only

Name	Part number
HP Series 300 Media Loading Accessory	F0M63A
HP Series 300 64-in Printer 3-in Spindle	F0M58A
HP Series 300 64-in Printer 2-in Spindle	F0M56A

Accessories for HP Stitch S500 only

Name	Part number
HP Ergosoft Pro RIP Color Edition	5QG59S

Disposal instructions

HP provides many free and convenient ways to recycle your used original HP ink supplies. Additionally, HP provides a free program for business customers to return signage printed using selected recyclable HP large-format substrates. For more information about these HP programs, see http://www.hp.com/recycle.

For your printer, the following items can be recycled by the HP supplies recycling program:

● HP 624 775ml Stitch S Series ink cartridges

● HP 614 Stitch S Series printheads

HP 636 3-liter Stitch Dye Sublimation Ink Cartridges for the HP Stitch S500 printer should be disposed of following the instructions on the cartridge packaging. The ink back should be removed and disposed of in compliance with federal, state, and local regulations. The other ink cartridge parts (plastic retainer and packaging box) can be recycled through commonly available recycling programs.

Remove ink bag and dispose of in compliance with federal, state and local laws and regulations.
www.hp.com/recycle
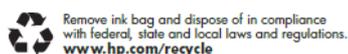
Dispose of the following supplies and accessories in compliance with federal, state, and local regulations:

- HP Stitch 300/500 Series Maintenance Cartridge
- HP Stitch 300/500 Series Ink Collector
- HP Stitch 300/500 Series Ink Funnel

HP recommends that you wear gloves when handling ink-system components.

10 Troubleshoot other issues

Printer cannot get an IP address

If your network has no DHCP server, the printer cannot automatically retrieve an IP address. In this case, you must set the printer's IP address manually, in the following way.

1. From the front panel, tap ![icon], then **Setup** > **Network connectivity** > **Gigabit Ethernet** > **Modify configuration** > **TCP/ IP** > **IPV4 settings** > **Config method** > **Manual**.

2. From the IPV4 Settings menu, select **Manual settings** > **IP address**.

3. Enter the IP address that you wish to use, and tap **OK** when finished.

Cannot access the Embedded Web Server

If you have not done so already, please read the instructions in .

1. Go to the front panel and tap ![icon], then **Connectivity** > **Network Connectivity** > **Advanced** > **Allow EWS** > **On**.

2. Tap ![icon], then **Connectivity** > **Network information**.

3. The information should read: **IP enabled: Yes**. If it does not, you might need to use a different connection.

If you still cannot access the Embedded Web Server, turn the printer off with the power button on the front panel and then turn it on again.

If you experience very slow progress while trying to access the Embedded Web Server, the problem could be that you are using a proxy server. Try bypassing the proxy server and accessing the Embedded Web Server directly:

● In Internet Explorer 6 for Windows, go to **Tools** > **Internet Options** > **Connections** > **LAN Settings**, and select the **Bypass proxy server for local addresses** check box. Alternatively, for more precise control, click the **Advanced** button and add the printer's IP address to the list of exceptions, for which the proxy server is not used.

● In Firefox 3.0 for Windows, go to **Tools** > **Options** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

● In Firefox 2.0 for Linux, go to **Edit** > **Preferences** > **Network** > **Connection** > **Settings**, and select the **Direct connection to the Internet** check box. Alternatively, when the **Manual proxy configuration** check box is selected, add the printer's IP address to the list of exceptions, for which the proxy server is not used.

Printer is not printing

If a file you have sent from your computer is not printing when expected, the possible reasons include the following:

● There may be a problem with the electrical power. If the printer is not performing and the front panel does not respond, check that the power switch at the rear is on, the power cable is correctly connected, and the electrical socket is providing power.

● The network cable is disconnected, or you have problems with your communications setup. See , or contact your IT department or communications system provider.

● Check all the alerts on the front panel—there may be more than one, hidden under the first—by dragging down the top bar of the home screen. The alerts may explain why printing has stopped, such as:

- – An ink supply is empty.

- – A printhead is missing or damaged.

- – The substrate is mispositioned.

- Check that the substrate name in the front panel is the same as the one in the RIP. In the case of a transfer substrate, the RIP shows the transfer paper combination along with the textile substrate (that is, transfer paper name + fabric name). Check that the substrate name in the front panel is the same as the first part of the substrate name in the RIP (transfer paper name). Check that the loaded substrate is wide enough for your image plus the required margins.

- The roll has a length tracking option activated. Check that the remaining length of your roll is enough for your job. This information can be found from the icon in the front panel or in your RIP software (the location of the menu may vary depending on your RIP software).

- The printer and your RIP software have a special feature to predict the ink consumption of your job and estimate whether there is enough ink in your supplies to print the job. Check in your RIP software whether the ink estimation option is activated, and the estimation status for your job (the details of this operation may vary depending on your RIP software).

- In some very unlikely scenarios, the substrate preset you are using may be corrupted due to transfer synchronization issues. Try printing with a generic preset; if this prints well, you can fix the problem by deleting the troublesome preset from the substrate library in the front panel and the RIP software. Then reinstall the substrate, either manually or from the online search in the front panel.

- Unusual electromagnetic phenomena may exist, such as strong electromagnetic fields or severe electrical disturbances. Such occurrences can cause the printer to behave strangely, or even stop working. Turn off the printer by using the power button on the front panel, wait until the electromagnetic environment has returned to normal, then turn the printer on again. If the problems persist, call your service representative.

Program slows down or stalls while generating the print job

Check that your host system meets the RIP software system requirements.

Large quantities of data are required to generate a high-quality large-format print job, which can cause your software to slow down significantly or stall. Lowering the print resolution may help to avoid this problem; however, lowering the print resolution reduces print quality.

Printer seems slow

Here are some possible explanations:

- If you request the highest possible print quality in the RIP, printing will be relatively slow compared with draft-quality printing.

- Check that the substrate loaded in the printer belongs to the substrate family that appears on the front panel.

- Is your printer connected to a network? Check that all components used in the network (network interface cards, hubs, routers, switches, and cables) are capable of Gigabit Ethernet operation. Is there a lot of traffic from other devices on the network? Is the proxy server configured correctly in your printer? Are the printer's required ports accessible from your RIP host?

- Are the printheads in good condition? Printing time tends to increase when a printhead needs cleaning. Check the printhead status on the front panel or through the Embedded Web Server. Clean or replace printheads if necessary.

- Does your image contain high-density black fills? That may increase printing time.

See also <u>Printer states on page 19</u>.

Communication failures between computer and printer

Some symptoms are:

- The front-panel display does not show the **Receiving** message when you have sent an image to the printer.

- The printer displays an error message while printing, such as error 61:09 or 63:05. See <u>Front-panel error codes on page 176</u>.

- Your RIP stalls when transferring data.

To solve a communication problem:

- Make sure that you have selected the correct printer in your RIP.

- Check that your printer network settings are correctly configured: run the connectivity wizard from the printer's front panel. See <u>Connect the printer to the Internet on page 27</u>.

- Check that the printer's required ports are accessible from your RIP host.

- Remember that large images usually require more time to receive, process, and print.

- If the printer is connected to your RIP through any other intermediate devices, such as switch boxes, buffer boxes, cable adapters, or cable converters, remove the intermediate device and try connecting the printer directly to your computer.

- Try changing the I/O timeout, which specifies the time that an idle connection is allowed to remain open when the printer is waiting for a remote computer. The default value is 270 seconds. To change the I/O timeout, go to the Embedded Web Server and select the **Networking** tab, then the **Advanced** tab.

If these suggestions do not solve your problem, try connecting your RIP host system directly to the printer, with a point-to-point connection. Use the DHCP network configuration in the printer.

Cannot connect to services such as firmware update, online search, or the Printer Data Sharing Agreement

If your printer has difficulty in connecting to the Internet, it may start the Connectivity Wizard automatically. You can also start the wizard manually at any time.

- From the front panel: Tap [icon], then **Connectivity** > **Connectivity wizard**.

- From the front panel: Tap [icon], then **Internal prints** > **Service information prints** > **Print connectivity config**. In this case, the results are printed out.

> **NOTE:** The results printed out are from the last run of the Connectivity wizard, so you must already have run the Connectivity wizard in order to get any results.

The Connectivity Wizard performs a series of tests automatically. You can also choose to perform individual tests. From the front panel, tap [icon], then **Connectivity** > **Diagnostics & troubleshooting**. The following options are available:

- **All tests**

- **Network connectivity test**: Check the printer's connection to the local area network.

- **Internet connectivity test**: Check the printer's connection to the Internet.

- **Firmware update test**: Check the printer's connection to HP's firmware update servers.

- **Email server test**: Check the printer's connection to the configured email server.

- **Printer data sharing agreement test**: Check the printer's connection to the CIP.

- **Substrate-presets server test**: Check that you can access the online substrate preset library.

Alternatively, these tests can be launched from the Embedded Web Server: select **Support** > **Connectivity troubleshooting**.

If any test fails, the printer describes the problem and recommends how to solve it.

Front-panel error codes

Under certain circumstances, a numeric error code appears on the front panel. Follow the advice in the Recommendation column to resolve the error. If the recommendation does not seem to solve the problem, call your service representative. See .

If an error code appears on the front panel that is *not* included in this list, turn off the printer and then turn it back on. If the problem persists, call your service representative.

Keep your printer up to date with the latest firmware. New firmware versions include fixes to most common errors.

Error code	Recommendation
14.73:01	Very low voltage detected
	1. Turn off the printer and unplug the power cord.
	2. Check that the power cord is are not visibly damaged.
	3. Ensure that the input voltage is within specifications (180–264 V AC).
	4. Plug in the power cord and make sure they it is fully inserted.
	5. Turn on the printer.
14.74:01	Low voltage detected
	1. Turn off the printer and unplug the power cord.
	2. Check that the power cord is not visibly damaged.
	3. Ensure that the input voltage is within specifications (180–264 V AC).
	4. Plug in the power cord and make sure they it is inserted.
	5. Turn on the printer.
14.75:01	Excessive voltage detected
	1. Turn off the printer and unplug the power cord.
	2. Check that the power cord is not visibly damaged.
	3. Ensure that the input voltage is within specifications (180–264 V AC).
	4. Plug in the power cord and make sure it is fully inserted.
	5. Turn on the printer.

Error code	Recommendation
14.78:01	AC frequency out of range
	1. Turn off the printer and unplug the power cord.
	2. Check that the power cord is not visibly damaged.
	3. Ensure that the input frequency is within specifications (50–60 Hz).
	4. Plug in the power cord and make sure it is fully inserted.
	5. Turn on the printer.
15.01:00	Printer is unable to warm up in the expected amount of time
	1. Ensure the unit is within its operation conditions.
	2. Ensure there is nothing preventing the air flow from the back of the unit.
	3. Ensure the input voltage is within specifications.
16.10:01	Ambient temperature sensor measurement out of recommended range
	1. Turn off the printer.
	2. Check that the ambient temperature is within printer specifications (15–35°C).
	3. Check that the electronic enclosures at the rear of the printer are properly ventilated.
	4. Turn on the printer.
19.10:04, 19.11:04, 19.12:04	Generic firmware error. Update the printer's firmware. See Firmware update on page 167.
21:13	Unable to move the maintenance cartridge along its whole path
	1. Turn off the printer.
	2. While the printer is off, remove the maintenance cartridge manually.
	3. Make sure that the maintenance cartridge path is clear. Remove any visible obstacles (paper, plastic parts, and so on) restricting the movement.
	4. Reinstall the maintenance cartridge.
	5. Turn on the printer.
	6. If the error persists, replace the maintenance cartridge.
21.2:10	Maintenance cartridge error
	1. Turn off the printer.
	2. Remove and reinsert the maintenance cartridge.
	3. Turn on the printer.
	4. If the error persists, replace the maintenance cartridge.
21.5:03	The part that advances the maintenance cartridge cleaning roll is blocked.
	1. Turn off the printer.
	2. Remove and reinsert the maintenance cartridge.
	3. Turn on the printer.
	4. If the error persists, replace the maintenance cartridge.
25.n:10 (where n = the ink cartridge number)	A possible error in the ink cartridge pressure sensor has been detected. The ink level reported may not be accurate. Call your service representative if feasible.

Error code	Recommendation
27.n:01 (where n = the printhead slot number)	A large number of blocked nozzles have been detected in one or more printheads. Calibration may have failed due to low printhead performance. Clean all the printheads and check their status.
29:00	The maintenance cartridge (part number 2LL61A) is almost full. It will need to be replaced soon.
29:01	The maintenance cartridge is not inserted correctly. 1. Open the maintenance cartridge door on the right of the printer. 2. Make sure that the maintenance cartridge is correctly seated, then close the door. 3. If the error persists, replace the maintenance cartridge.
29.1:01	Unable to track the maintenance cartridge status. Check, visually, that the maintenance cartridge has a correct status pattern on it.
29.2:00	Unable to advance the printhead cleaning roll. Replace the maintenance cartridge.
32:01	The take-up reel is disconnected. If you want to use the take-up reel, turn off the printer and ensure that all take-up reel cables are connected (sensor cables, printer cable). If you do not want to use it, you may need to unload the substrate manually from the take-up reel. Remember to cut the substrate first.
32:01.1, 32:01.2	This error occurs when the tension bar stays in one of its sensor trigger positions for more than 8 seconds. The most likely causes of this error are as follows: ● The winding-direction switch on the take-up reel motor is activated, but the substrate has not been taped to the take-up reel yet. ● The wrong take-up reel winding direction has been selected. ● Something is blocking the movement of the tension bar. ● The substrate is not following the correct path between the tension bar and the diverter.
41:03	Electrical current limit in paper motor 1. Turn off the printer. 2. Open the window and check for any visible obstacles restricting the advance of the substrate. If there is a wrinkled mass of substrate inside the substrate path, carefully remove as much as possible of the jammed substrate from the top of the printer. Cut the substrate if necessary. See also Substrate has jammed on page 90. 3. Turn on the printer.
42:03	Scan-axis motor electrical current limit 1. Turn off the printer. 2. Open the window, observing all safety procedures, and check for any visible obstacles restricting the advance of the substrate. Clear the obstruction, if any. 3. Turn on the printer.

Error code	Recommendation
47.3n:01 HP Stitch S500 only	3 litre ink-cartridge pump unable to supply ink (color n) to the intermediate tank n: 1-Magenta 4-Cyan 6-Yellow 7-Black 1. Reseat the cartridge. If the error code appears again, proceed with the next steps. 2. Open the cardboard box of the faulty 3 litre cartridge, leaving the inner bag exposed. You may want to remove the cardboard completely to ensure good access. 3. Connect the cartridge that you just opened. 4. At the front panel, tap , then **Force refill** (not available while printing). 5. While the manual refill is taking place, strongly squeeze the ink bag to ensure that ink flows into the pump (push with strong pulses rather than with constant pressure). 6. Check at the front panel that the status of the cartridge is no longer **Error** or **Reseat**
54.03	Automatic pinchwheel-lifter current limit 1. Turn off the printer. 2. Clear any substrate jam. 3. Make sure there are no fibers entangled in the pinchwheels. 4. Restart the printer.
63:04	An input/output problem has occurred in the network card. 1. Make sure that the network cable is correctly connected to the network card. 2. Check that your printer firmware is up to date. See Firmware update on page 167.
63:05	The job is reaching the printer too slowly. The printer cancels the job if there are long pauses of more than 20 s. 1. Make sure that a 1 Gigabit Ethernet card is correctly installed in the computer with the RIP. 2. Check the RIP for any error messages. Check that the computer with the RIP is working correctly and has the minimum specification required by the RIP. Check that the hard disk is neither full nor excessively fragmented. 3. Try reducing the resolution of the job or increasing the number of passes. 4. Check that all the components of your LAN are operating at Gigabit speed. 5. Check whether the option **RIP while printing** is enabled. This option can cause slow printing if the computer is not sufficiently powerful.
68:03	There has been a loss of permanent data, such as configuration or accounting data. This can happen after a firmware update with a data structure not compatible with the older version.
74:01	An error occurred when uploading the firmware update file. 1. Turn off the printer by using the power key on the front panel and the power switch at the rear of the printer. Disconnect the power cord, then reconnect the power cord and turn on the printer. 2. Try again to upload the firmware update file to the printer. See Firmware update on page 167.
78:08	Borderless printing is not possible. Install the ink collector and send the job again. See Ink collector on page 43.
78.1:04	The printer has no substrate preset for this substrate. Follow the firmware update procedure to update the printer with the latest substrate presets. See Firmware update on page 167.
78.2:01	The back tension is lost. This could be due to a loose roll core or an imminent end of roll. If these are not the causes, try unloading and reloading the substrate.

Error code	Recommendation
78.3:08	Printing with the ink collector is not available in this print mode.
79:03, 79:04, 79.2:04	Generic firmware error. Update the printer's firmware. See Firmware update on page 167.
81:01, 81.1:01, 81:03	It was impossible to stop the servo correctly before setting the encoder position. 1. Turn off the printer. 2. Open the window, observing all safety procedures, and check for any visible obstacles restricting the movement of the drive roller. If there is a wrinkled mass of substrate inside the substrate path, clear the obstruction. See also Substrate has jammed on page 90. 3. Turn on the printer.
86:01, 86.2:01	There is a problem in the carriage assembly. 1. Turn off the printer. 2. Open the window, observing all safety procedures, and check for any visible obstacles restricting the movement of the carriage. If there is a wrinkled mass of substrate inside the substrate path, clear the obstruction. See also Substrate has jammed on page 90. 3. Turn on the printer.
87:01	The scan-axis encoder strip is detecting errors in the carriage position. Clean the encoder strip by following the correct procedure in the front panel. See Clean the encoder strip on page 159.
89:11, 89.1:10, 89.2:10	Some print-zone LEDs may be failing or disconnected. The printer will continue operating normally, with only this functionality affected.
94:01	Color cannot be calibrated on this substrate. White substrate measurement is out of range.
94:02	Inconsistent colors found. 1. Check that the substrate-type selection in the front panel corrresponds to an actual substrate loaded. 2. Retry calibration.
94:08	Color calibration failed. Try again. See Color calibration on page 107.
98:03	One or more printheads are malfunctioning. Use the printhead status plot to find out which printheads are malfunctioning, and replace them. See 1. Printhead status plot on page 112.

Printer logs

If you go to the front panel and tap ![gear icon], then **Setup** > **Printer logs**, you can choose to display on the front panel a log of recent system errors, warnings, or printhead or ink cartridge events.

11 Printer specifications

Functional specifications

Ink supplies

Printheads	Cyan/black, and yellow/magenta
Ink cartridges	Yellow, black, magenta, and cyan
	HP Stitch S300 cartridges contain 775 ml of ink
	HP Stitch S500 cartridges contain 3 liters of ink, and use 775 ml intermediate tanks
Maintenance cartridge	Non-color-specific

Substrate sizes

	Minimum	Maximum
Width	584 mm (23 in)	1626 mm (64 in)
	Narrow substrate: 254 mm (10 in)	
Length	1.5 m (59 in)	Roll with maximum external diameter of 275 mm (10.8 in)
Weight		S300: 42 kg (93 lb)
		S500: 55 kg (121 lb)

The printer supports a substrate core diameter of 76.2 mm (3 in); it requires an accessory to support 50.8 mm (2 in) cores.

Printing speeds

Passes	Approximate printing speed (m²/h)
1	110 (HP Stitch S500 Printer only)
2	62
3	43 (HP Stitch S500 Printer only)
4	34
6	22
8	17
10	14

NOTE: Environmental conditions, job length, and ink density influence the maximum speed you can achieve with a particular print mode. Special-purpose options such as the use of the ink collector also have an effect on printing speed.

The maximum print resolution of the printer is 1200 × 1200 dpi. See your RIP documentation to find the resolutions supported by your RIP.

Margins

Side margins	5 mm (0.2 in), or 10 mm (0.4 in) with edge holders
Top margin (leading edge)	5 mm (0.2 in)
Bottom margin (trailing edge)	5 mm (0.2 in) (none)
	100 mm (3.9 in) (small)
	150 mm (5.9 in) (normal)
	200 mm (7.9 in) (extra)
	300 mm (11.8 in) (extra)
	400 mm (15.7 in) (extra)
	500 mm (19.7 in) (extra)

NOTE: When the ink collector is in use, and you are using a print mode with more than 10 passes, full bleed is available (no side margins).

Physical specifications

Printer physical specifications

	HP Stitch S300	HP Stitch S500
Weight (including stand)	194 kg (428 lb)	235 kg (518 lb)
Width	2550 mm (100.4 in)	2550 mm (100.4 in)
Depth	680 mm (26.8 in)	750 mm (29.5 in)
Height	1350 mm (53.1 in)	1400 mm (55.1 in)
Weight with packaging	312 kg (688 lb)	431 kg (950 lb)
Width with packaging	2800 mm (110.2 in)	2740 mm (107.9 in)
Depth with packaging	760 mm (29.9 in)	1070 mm (42.1 in)
Height with packaging	1240 mm (48.8 in)	1700 mm (66.9 in)

Memory specifications

Memory specifications

Physical memory (DRAM)	1 GB
Hard disk	128 GB

Power specifications

Single phase line specifications

Number of power cords	1
Input voltage	200–240 V ±10% (two wires and protective earth)
Input frequency	50 / 60 Hz
Maximum load current (per power cord)	8 A
Power consumption per power cord in printing mode	1kW
Power consumption in ready mode	85 W

Environmental specifications

Printer environmental specifications

Relative humidity range for best print quality	40–60%, depending on substrate type < 50% for papers
Relative humidity range for printing	20–80%, depending on substrate type
Temperature range for best print quality	20 to 25°C (68 to 77°F), depending on substrate type
Temperature range for printing	15 to 30°C (59 to 86°F), depending on substrate type
Temperature range when not in operation	−5 to +55°C (23 to +131°F)*
Temperature gradient	no more than 10°C/h (50°F/h)
Maximum altitude when printing	3000 m (10000 ft)

* Printer temperature range with no supplies. For printhead, ink cartridges, and other supplies, see Ink system on page 121

If inoperative for an extended period of time, printhead nozzles may become obstructed. See Clean (recover) the printheads on page 140 to solve the issue.

NOTE: The printer must be kept indoors.

NOTE: If the printer or ink cartridges are moved from a cold location to a warm and humid location, water from the atmosphere can condense on the printer parts and cartridges and can result in ink leaks and printer errors. In this case, HP recommends that you wait at least 3 hours before turning on the printer or installing the ink cartridges, to allow the condensation to evaporate.

Acoustic specifications

Printer acoustic specifications

	Specification	HP Stitch S300	HP Stitch S500
Sound pressure	Sleep mode	< 16 dB (A)	< 16 dB (A)
	Idle mode	38 dB (A)	38 dB (A)
	Operating mode	53 dB (A)	55 dB (A)
Sound power	Sleep mode	< 3.5 B (A)	< 3.5 B (A)

Printer acoustic specifications (continued)

Specification	HP Stitch S300	HP Stitch S500
Idle mode	5.7 B (A)	5.6 B (A)
Operating mode	7.1 B (A)	7.3 B (A)

12 Post-processing

Images printed with sublimation inks require a special process to fix them onto fabric. High temperature is applied to cause pigment sublimation at a certain pressure for a certain time, which is called residence time.

The sublimation process for high-volume production is performed with a calender machine that allows processing whole rolls of paper and fabric. For production with less volume, such as clothing personalization (shirts), a heat press is used.

When a calender for printing is used, the parameters of both the calender and the materials must be taken into account.

Calender

- Pressure

  - Depends on each fabric. Inadequate pressure can cause image ghosting, which is seen on fabric as a shadow of the original image. Excess pressure can deform some materials (such as spandex), making it difficult to calender.

- Temperature

  - Ink pigment sublimation requires high temperatures. Optimum color is obtained between 193.3°C (380°F) and 215.5°C (420°F). Temperature selection depends strongly on the materials, both the paper and the fabric used. Excessive temperature can burn fabric, leaving it a yellowish color. Insufficient temperature could cause low efficiency in the transfer from the paper.

- Residence time

  - Calender or printing plate residence time depends mainly on the printing paper, the fabric to which the image is transferred, and the ink density with which the image is printed. Residence time in the calender can last from half a minute to more than a minute. Insufficient time results in not all the ink transferring to the image. Excessive time causes the ink to penetrate the fabric, leaving the image pale. Excessive time can result in burned fabric, and leaves a yellowish color.

- Roll speed

  - Some calender manufacturers offer the possibility to control the fabric roll advance speed. This parameter is directly proportional to the fabric residence time in the calender. If for ease of use it is more comfortable to work at speed, take into account that residence time is being modified, which is the most important sublimation parameter.

Optimum temperature, pressure, and residence time should be used according to the fabric, and transfer paper being used.

Materials

- Pressure

  - Printed paper (in case of image transfer).

- The fabric (both for transfer and direct printing).

- – Depending on the fabric, it may be necessary to adjust the temperature and residence time to ensure that the fabric does not turn yellowish.

- The protective paper, whose selection depends on the materials used.

  - – Higher grammage of printed paper, lower grammage of protective paper.

  - – Some fabrics may have a special coating that can adhere to the protective paper. In these cases it is convenient to use silicone protection paper, which prevents this adhesion.

  - – For direct fabric printing it is necessary to use protective paper on both sides of the fabric. For paper printing, use the protective paper on the side of the fabric, although it is recommended to use it on the printed paper side too, at least during the first transfers.

- Roll speed

  - – Some calender manufacturers offer the possibility to control the fabric roll advance speed. This parameter is directly proportional to the residence time of the fabric in the calender. If, for ease of use, it is more comfortable to work at speed, take into account that the residence time is actually being modified, this being the most important parameter when sublimating.

Starting point

Calender settings

Substrate type	Temperature	Time (seconds)	Pressure	
			Pressing roll	Fabric tension
Transfer	205°C (401°F)	32	2 bar	Max. 2 bar
Flags	220°C (428°F)	107		If textile is stretchable 0 bar
Direct Signage Backlit	205°C (401°F)	107		

Clamshell press settings

	Temperature	Time (seconds)	Pressure
1. Fabric pre-heating	205°C (401°F)	10	7-8 PR
2. Sublimation		32	

Sublimation job repeatability tips

- Time the sublimation process correctly.

  - – It is recommended to wait 24 hours after printing before calendering.

- Maintain the sublimation tool correctly.

- Control the substrates.

  - – Have substrates (paper, fabric) acclimate to a controlled environment at 20°C and 40% RH for at least 24 hours before printing or sublimating, to avoid paper cockling and print-quality artifacts.

- Store sublimated textiles correctly: if exposed to higher temperatures than room, even for a relatively short time, the colorant can transfer from one area of the textile to another. It is recommended to ship textiles

with protective tissue paper to avoid re-sublimation. This issue could be particularly problematic in the case of large signs and displays.

- It is not recommended to repeat a thermal treatment onto a sublimated image: it causes color changes, and optical density will dramatically decrease.

A Summary of common printing problems

This is a table of common problems and the parameters that can be changed in order to solve the problem. Some possible side-effects are also shown. For a more detailed treatment of any particular problem, see the relevant chapter in this guide.

Problem	Solution	Change
Ink smudges	Increase drying temperature	Substrate jam, substrate damage, ink smears
	Increase number of passes	Slower printing
	Increase inter-pass delay offset	Slower printing
Substrate jam, substrate damage, ink smears	Decrease drying temperature	Ink smudges
	Increase vacuum	Substrate skew, vertical banding if increased too much
	Increase top and/or bottom margins	Waste of substrate
	Use edge holders	The minimum side margins increase slightly, reducing the maximum width of the printed image
Vertical banding	Decrease vacuum level	Substrate jam
	Use take-up reel	
Horizontal banding	Clean printheads	
	Increase number of passes	Slower printing
	Clean substrate-advance sensor	
	Increase inter-pass delay offset	Slower printing
Graininess, color misregistration or lack of sharpness	Align printheads	
	Clean substrate-advance sensor	
	Disable the substrate-advance sensor and calibrate the substrate advance manually	NOTE: Some substrates (porous/translucent) are not compatible with the substrate-advance sensor, which should be disabled before printing on these substrates.
	Increase number of passes	Slower printing
Bleeding between inks or wicking into white areas	Align printheads	
	Decrease ink limits	Reduced color gamut
	Increase drying temperature	Substrate jam, substrate damage, ink smear.
Lack of sharpness in text or solid areas	Align printheads	
	Add color bars, manually or in RIP	Some waste of substrate and ink

Problem	Solution	Change
	Increase drying temperature	Substrate jam, substrate damage, ink smear.
Subtle color variations in solid areas	Add color bars, manually or in RIP	Some waste of substrate and ink

B Summary of common sublimation problems

This is a table of common sublimation problems and the parameters that can be changed in order to solve the problem. Some possible side-effects are also shown. For a more detailed treatment of any particular problem, see the relevant chapter in this guide.

Problem	Symptom	Cause	Solution
Ghosting	A faint image on a printed sheet in a place not intended	Motion of paper during sublimation	Increase pressure or apply more tension to the paper.
Yellowness	Textile becomes yellowish	Temperature too high	Use lower temperature for this material.
Stickiness	Support paper or transfer paper stuck over the textile	Coating of textile and paper not compatible	Use correct paper and textile configuration.
Worming	Vertical marks with lower gamut or white marks	Wrinkles on transfer paper, textile, or support paper	Ensure good positioning of paper and textile, apply correct tension. Use sticky paper.
Image deformation	Image smaller than expected	Temperature shrinkage	Calculate shrinkage and print larger image.
Bleed through	Side-to-side color differences	Too low residential time or temperature for this material	Improve calender condition, raise residential time, and increase temperature.
Pinholes	White point on image	Dust over paper or textile	Ensure clean environment.
Cloudiness	Text quality with smaller definition	Residential time too high	Increase pressure or decrease residential time.
Low color saturation	Image with less gamut than expected	Bad calendering conditions	Look for best calender configuration for this material.

Glossary

Airflow

Air is blown through the printing zone to speed up the drying process.

Back tension

The backwards tension applied to the substrate by the input spindle, which must be constant across the width of the substrate. Too much or too little tension may cause substrate deformation and print quality defects.

Bidirectional

Bidirectional printing means that the printheads print while moving in both directions. This increases the speed of printing.

Bleeding

A print-quality defect that occurs when the ink spreads on the substrate across areas of different colors.

Coalescence

A print-quality defect that occurs when the ink coalesces on the substrate within an area of the same color.

Cockle

A substrate condition in which it is not lying perfectly flat, but rises and falls slightly in shallow waves.

Color accuracy

The ability to print colors that match the original image as closely as possible, given the fact that all devices have a limited color gamut and might not be able to match certain colors precisely.

Color consistency

The ability to print the same colors in a particular print job, from print to print and from printer to printer.

Cutter

A printer component that slides from left to right across the platen to cut the substrate.

Edge holder

A metal piece designed to prevent the edge of the substrate from rising while printing is in progress.

ESD

ElectroStatic Discharge. Static electricity is common in daily life. It is the spark when touching the car door, or the cling of clothing. Although controlled static electricity has some useful applications, uncontrolled electrostatic discharges are one of the main hazards to electronic products. Therefore, to prevent damage some precautions are needed when setting up the product, or handling ESD-sensitive devices. This type of damage may reduce the life expectancy of the device. One way to minimize uncontrolled ESDs, and therefore to reduce this type of damage, is by touching any exposed grounded part of the product (mainly metal parts) before handling ESD-sensitive devices, such as the printheads or ink cartridges. To reduce the generation of electrostatic charge in your body, try to avoid working in a carpeted area, keep your body movements to a minimum when handling ESD-sensitive devices, and avoid working in low-humidity environments.

Firmware

Software that controls your printer's functionality and is stored semi-permanently in the printer (it can be updated).

Gamut

The range of colors and density values reproducible on an output device, such as a printer or monitor.

I/O

Input/Output: this term describes the passing of data between one device and another.

ICC

The International Color Consortium, a group of companies that have agreed on a common standard for color profiles.

Ink density

The relative amount of ink that is deposited on the substrate per unit of area.

IP address

A unique identifier that identifies a particular node on a TCP/IP network. It consists of four integers separated by dots.

LED

Light-Emitting Diode: a semiconductor device that emits light when electrically stimulated.

Loading accessory

A flexible plastic accessory that fits over the leading edge of the substrate while it is being loaded into the printer. Some substrates are difficult to load without this accessory.

Nozzle

One of many tiny holes in a printhead through which ink is deposited onto the substrate.

OMAS

The Optical Media Advance Sensor, otherwise known as the substrate-advance sensor. The sensor located in the print platen that tracks the substrate movement and increases its accuracy.

Passes

The number of print passes specifies how many times the printheads will print on the same area of substrate. A higher number of passes tends to improve print quality and printhead health, but reduces the speed of printing.

PES

Polyester.

Platen

The flat surface within the printer over which the substrate passes while it is being printed on.

Printhead

A removable printer component that takes ink of one or more colors from the corresponding ink cartridge(s) and deposits it on the substrate, through a cluster of nozzles.

Substrate

A thin, flat material designed to be printed on, made of paper or other materials.

Substrate preset

The substrate preset contains the ICC color profile, which describes the color characteristics of the substrate. It also contains information about other characteristics (RIP and printer settings, such as drying temperatures, vacuum pressure, and substrate-advance compensation) and requirements of the substrate that are not directly related to color.

Substrate-advance compensation

A slight adjustment to the amount of substrate advance between print passes, to compensate for the characteristics of different substrate types. The printer normally performs this adjustment automatically, but may need to be recalibrated for substrates not supported by HP, or for an unusual ambient temperature or humidity. Incorrect substrate-advance compensation may cause banding with fewer than 8 passes, or graininess with 8 passes or more.

Substrate-advance sensor

The sensor located in the print platen that tracks the substrate movement and increases its accuracy. Also known as OMAS (Optical Media Advance Sensor).

Tension bar

A cylindrical weight inserted into the loop of substrate required by the take-up reel.

Vacuum pressure

The substrate is held flat against the platen by vacuum suction. Too much or too little suction may cause print quality defects. Too little suction may also cause a substrate jam or damage the printheads.

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