SureColor SC-F7000

How To Demonstrate and Technical Guide

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Contents

Introduction

This guide will not only help you quickly set up the SureColor F7000, but also make sure you get the best print quality and take full advantage of the wealth of features integrated into this printer. The F7000 is using a new Epson Ink: Epson Ultrachrome DS Ink (Dye Sublimation).

The main process to print images on fabric is:

• Use transfer paper or equivalent.
• Print an image onto the paper.
• Using a heat press machine, press the printed image onto the fabric (sublimation process).
• The fabric is printed.

1. Sublimation dyes are loaded into the printer.

2. Images are printed onto transfer paper.

3. Heat is applied to transfer the ink to the any polyester coated surface.

4. Garment panels are cut from the fabric.

5. Panels are then sewn and pieced together.
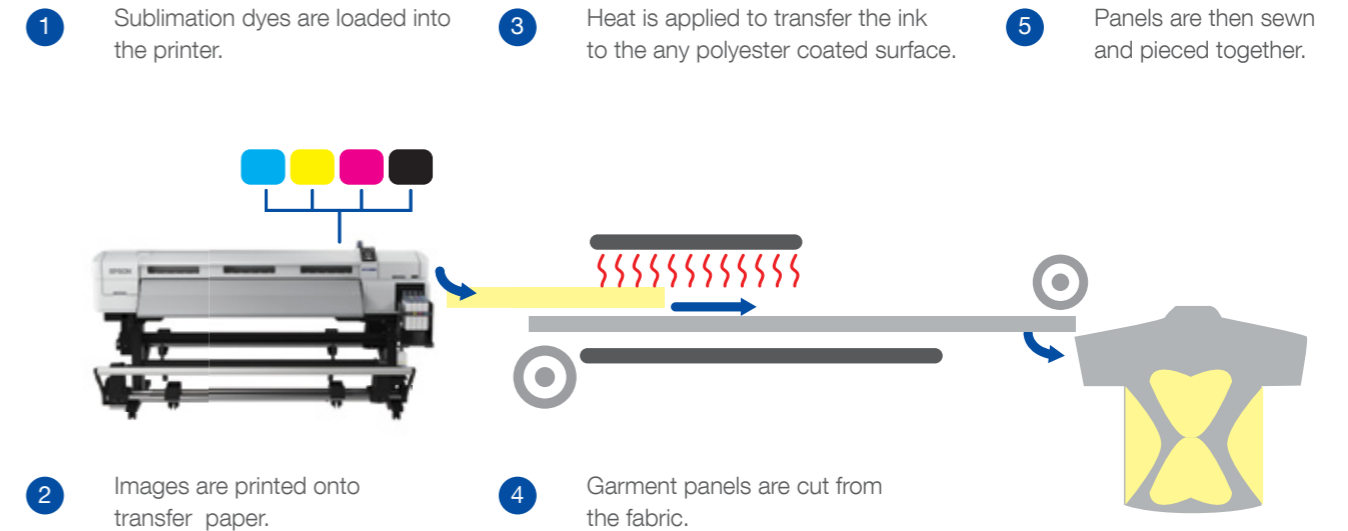
What is sublimation?

Sublimation is the name of a process that occurs when a material changes from a solid to a gas without going through a liquid phase.

Transfer paper

Polyester coated material
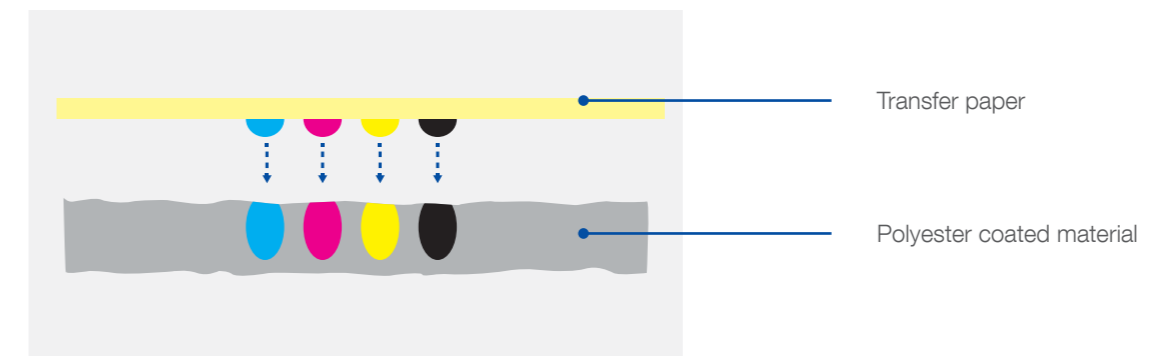
Heat press machines

The sublimation process in printing occurs when heat is applied to transfer dye onto materials. Examples of such heat press machines are given in the table below:

Heat press type	Purpose	Ground Surface	Machine
Hand manual	Piece to piece and general purpose	Table: 0.7 × 1.0m	
Automatic flat bed	Piece to piece quick flow	1.95 × 2.8m	
Calender press	Roll to roll High production	2.8 × 1.7m	

Resolution – media - profile

Fabric industry guidelines stress the need to always ensure the printer is used WITHIN the requirements of the fabric.

There are:

- Limit the amount of media transfers to two or three per fabric
- Select the lowest resolution option rather than the highest
  - 360 × 720 1 pass — 54 m²/hr
  - 720 × 720 2 pass — 27 m²/hr
  - 720 × 720 3 pass — 21 m²/hr
- Dry the print out **before** sublimating, otherwise you risk the following:
  - The gassing effect (as there is no standard uniformity as to how ink is sublimated onto a wet surface).
  - For roll to roll, a slip effect between the paper and fabric may cause shadowing to appear.

Necessary items

- Sublimation printer (Epson SC-F7000/SC-F6000).
- Sublimation ink (Epson UltraChrome® DS Ink).
- Compatible RIP Software for Epson SC-F7000 / SC-F6000 printers.
- Suitable transfer paper (such as Coldehove, Beaver, Cham Group).
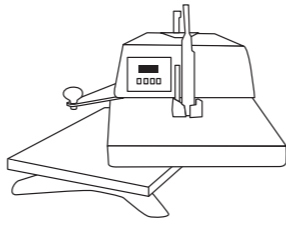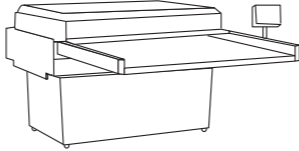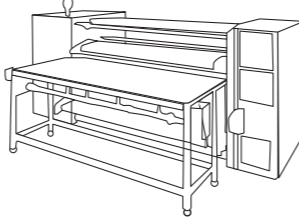- Substrates (fabrics with a minimum of 50% polyester or polyester pre-treated hard substrates).
- Heat press, calender or steamer (depending on the textile application).

Temperature and timing for sublimation

To make sure you get the best results, it's important to use the correct temperature and timing settings. Epson Dye Sub starts to sublimate around 90° – 100°.

Most polyester fabrics can cope with up to approximately **200°C** for a **45 – 55sec** duration (*please check individual fabric specifications first*).

Tips: when your sublimation print has completed, if the transfer media is clear white and some colours remains on the paper, either the temperature setting was too low or the timing too short. The transfer paper should have a light brown or yellowish colour and only a faint, transparent outline of the transferred images should be visible.

Note regarding rigid material:

The Dye Sublimation ink can also be used to transfer onto the following rigid materials:

- Aluminium plate*
- Steel plate*
- Hard wood plate*
- Ceramic*

* Pre-treated Polyester coating is required for Dye Sub transfer onto these rigid materials.

Sublimation settings summarised

Substrate type	Timing (sec)	Temp °C	Heat direction
Fabrics (50% polyester)	45 – 55	200°	Through the transfer media
Wood plate	80	200°	Through the rigid substrate
Steel plate	90	200°	Through the rigid substrate
Aluminium plate	90	200°	Through the rigid substrate

In conclusion we recommend that you use (as much as possible) the following rules and settings to achieve the best results without wasting time and consumables.

These are:

- One of the three most commonly used print modes (360 × 720, 720 × 720/2 pass, three pass and four pass).
- 720 × 1440 for rigid materials (steel / aluminium plates, wood, ceramic).
- Use a maximum of three media transfers to avoid complications or errors.
- A heat press: Calender (roll to roll) – Flat Bed (piece to piece) – Hand Press (job on-the-go).
- Ensure the surface area you want to print on is closest to the heat source of your particular heat press machine.

Applications and resolutions

Depending on your production requirements, different print resolution are required for different fabrics and textiles:

Application	Print resolution*				Example
	360 × 720		720 × 720		
	1 pass	2 pass	3 pass	4 pass	
Sportswear	✓	✓	✗	✗	
Advertising flags	✓	✓	✗	✗	
Fashion	✗	✓	✓	✓	
Ceramic, Wood, etc	✗	✗	✓	✓	

* Max resolution = 720x1440. Check your software solution (RIP) to access other printer resolutions.

What can I expect with these print modes?

In order to balance production with quality, it is important to remember that a piece of fabric doesn't have the same "resolution" as the media.

When using a two pass mode, printing at 27m² per hour, there may be some very slight banding visible between each pass of the print head. However, once the transfer media has been sublimated onto the fabric, this banding should disappear (the result may vary depending on the types of fabric used).

It is not recommended to print using a four (or higher) pass mode as the increase will not improve the finish of the final transfer on the fabric.

After each pass mode a gradual improvement is noticeable. An unevenness in tone can be visible on close inspection, the extent of which will depend on the actual image itself. For example large expanses of solid colour will show more imperfections then a busy halftone image.

The degree of unevenness can be minimised or accentuated by a number of factors, including the choice of substrate, setup of the printer, quality of the colour profile or setup of the RIP software.

The illustration below is intended as a guide to expected results:

1 Pass mode - 54m²/hr   **2 Pass mode** - 27m²/hr   **3 Pass mode** - 21m²/hr

What can I do to optimise my SureColor SC-F7000?

This User Guide has a wealth of useful tips and techniques for setting up the printer. However, there are some settings that will have an immediate effect on overall print quality and these are described in more detail after this section.

The Guided Tour

1 Ink Tank Supply. Four individual C/M/Y/K 1.5L Epson UltraChrome® DS ink tanks are filled and secured. On top of the ink tanks, an IC chip accurately monitors ink consumption and provides users with key information on ink levels. The new Epson UltraChrome DS Ink for the SureColor SC-F7000 builds on the strengths of the Epson UltraChrome GS inks with new formulations that increase longevity and performance.

2 Maintenance access cover. Printhead cap units and cleaning mechanisms can be easily accessed for simple and efficient maintenance.

3 2.5 inch colour control panel. The main interface for all printer setup and configuration options with easily navigable menus which make operation of the device intuitive to even novice users.

4 Epson Micro Piezo® Advanced TFP printhead access cover. Quick, easy access to printhead units that ensures preventative maintenance can be easily carried out to maintain efficient operations.

5 Auto take-up reel unit. Printed material is automatically and carefully rewound in user-configured directions. This can be cancelled for manual operation.

6 2L maintenance bottle. A consumable part that collects all waste ink from the SureColor printer, the bottle can be easily sealed and replaced avoiding any contact with the disposed ink. Replacements can be easily obtained through your local reseller.

7 Media roll holder and media loading station. With an easy to use 'jack system' the media loading station allows the operator to load media efficiently and safely into the SureColor Series printer. The media roll holder allows for spindleless operation and supports cores up to three inches in diameter.

8 Media loading lever. Enables users to set the media from either the front or the rear of the machine.

9 Tensioner. Allows the operator to set the best substrate tension for rewinding by the 'auto take-up system'.

10 Connectors area. USB 1.1/High Speed — Giga Ethernet and Power connectors are located here for easy access.
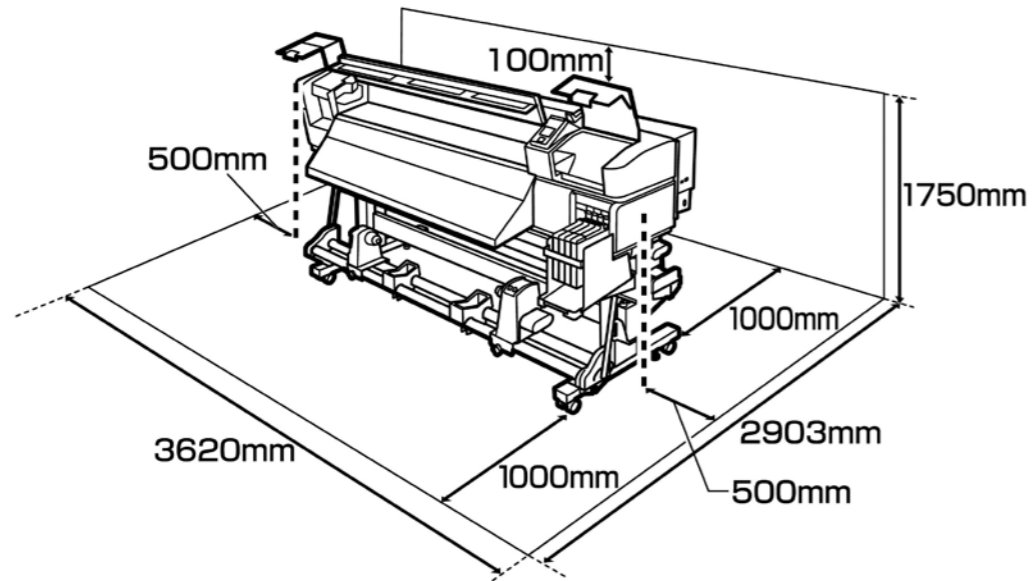
Setting up the printer

Having read the introduction and guided tour, you are now ready to run some prints or a demo.

Prepare your space

Make sure you have the minimum space requirements to run the printer or perform a demo. For more details, refer to the "Installation Space" section of the enclosed User Guide.


Load the media

Loading and unloading media from the SureColor highlights how efficient and easy to use it is. Once installed and operational, a single user can load substrate, correctly position and access operational features quickly and easily.

Recommended media loading method
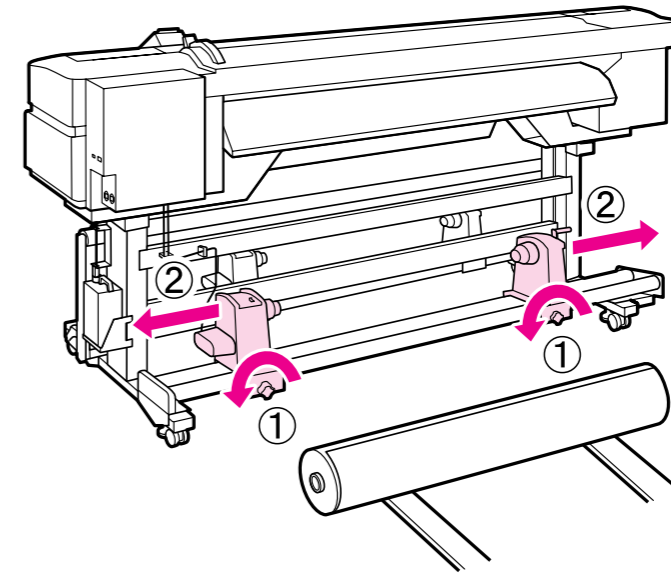
1   Loosen the roll holder fixing screws (1) and adjust the roll holders (2) to accommodate the substrate. Try to position the holders at equal distances from the centre.
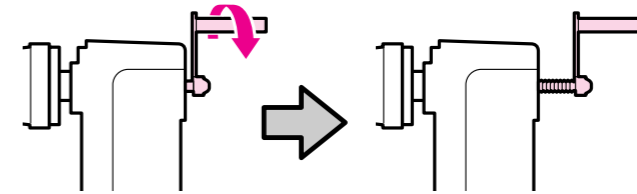
2   If you notice that the right holder handle shaft is not visible, rotate the holder forward until it stops.
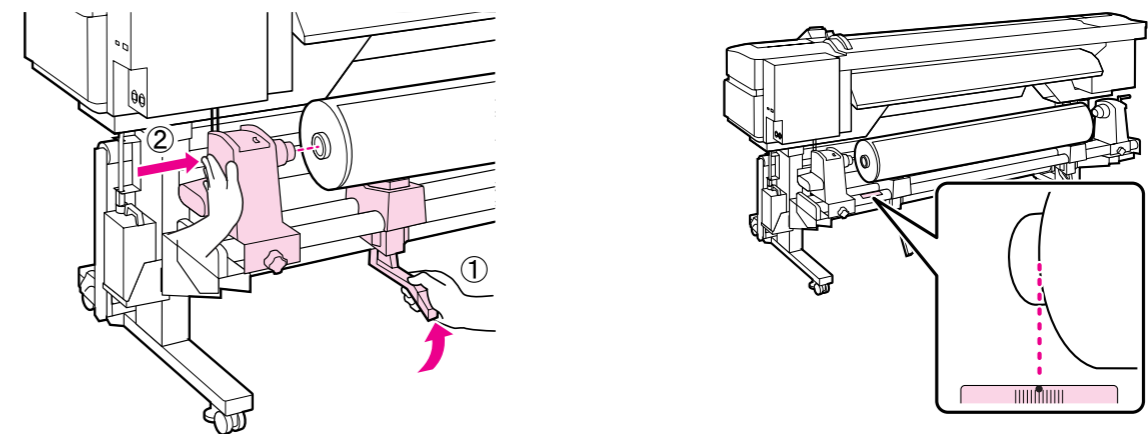
3   Align the left-hand edge of the substrate within the scale near the roll support, then using the left-hand 'Jack', lift the substrate to allow easy insertion of the left-hand roll holder.
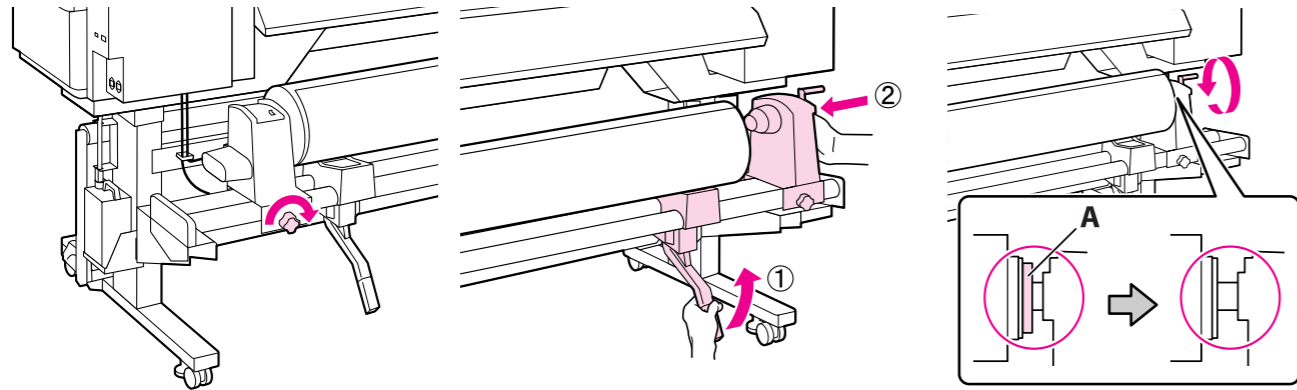
4   Tighten the roll holder fixing screws and repeat the process on the right-hand side. Rotate the right holder handle in the direction indicated to ensure the roll holder is fully inserted.

5   Open the media loading lever and insert the media into the printer. If you encounter difficulties with the media feed, for example if it is a heavy substrate, use the media drive switch.
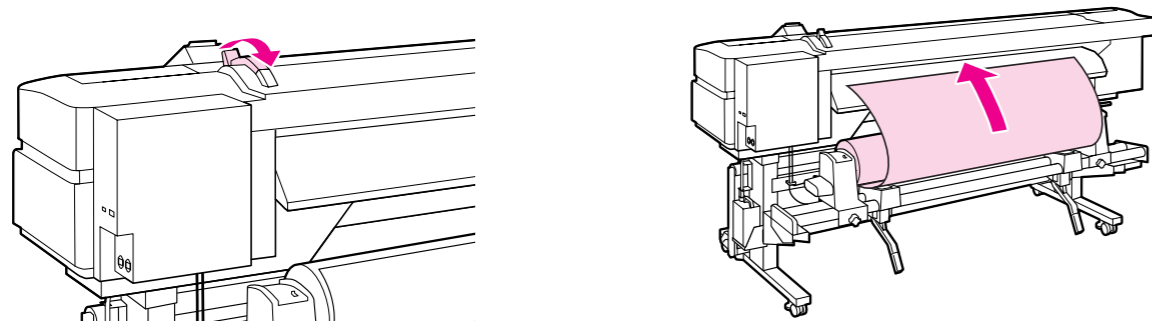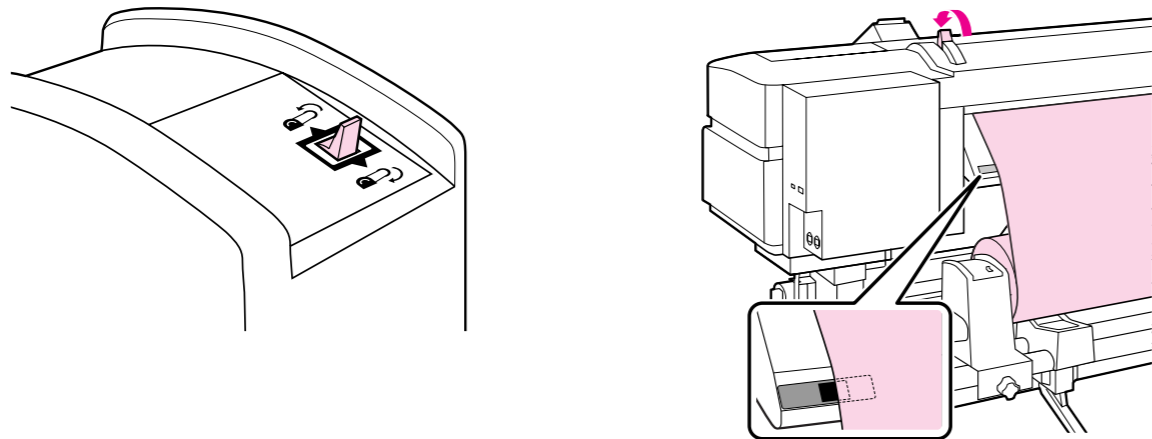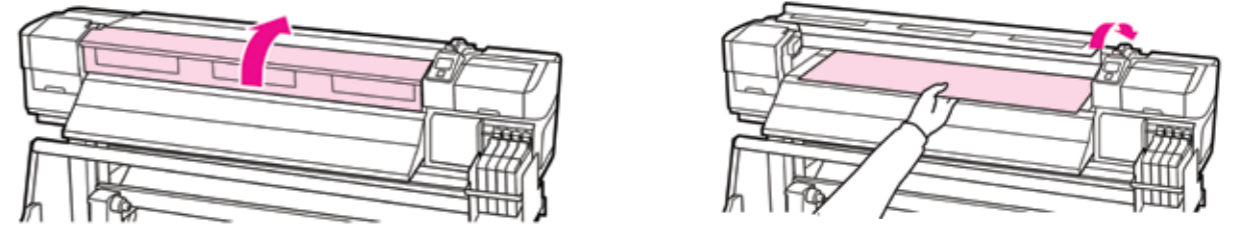

6   Insert the media past the pressure rollers and lower the media loading lever to hold it in place. At this point ensure that the left edge of the media passes over the centre of the square label on the pre-heater. If the left edge of the media is not in the range of the label indicator, repeat the loading process.

7   Open the front cover, release the media securing lever and pull the centre of the media towards you. After pulling the media through the printer, ensure you position it with the alignment marks on the right hand side of the printer.
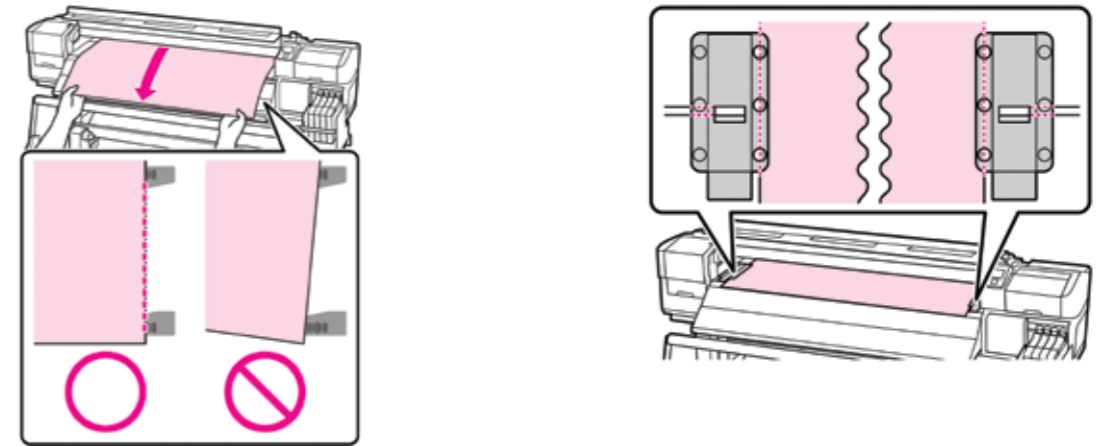
8   Lower the media loading lever to hold the media in place. Attach the media holding plates at either side of the media.

Position the plates so that the edges of the media are in the centres of the round holes. Then slide the plates until the white line is visible in the square window and push the plates down to lock them in place. Close the front cover, and the lower the grey levers on either side as directed to lock the paper.
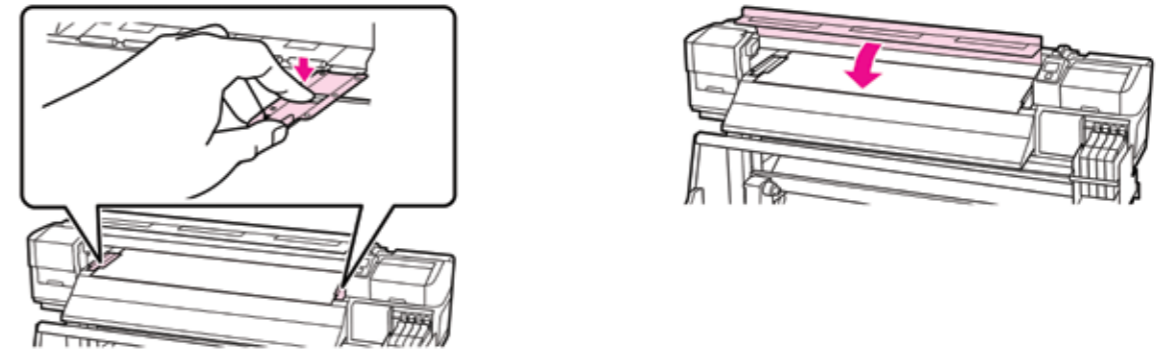
9   At this stage, the SureColor will automatically ask the operator to confirm the media setting via the control panel.
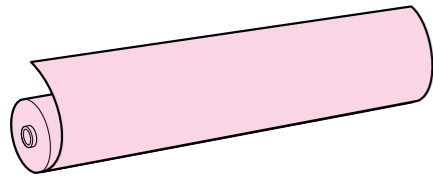
For times when you wish to use a different printable surface (e.g : Surface IN), it's very important to modify the settings (**RIP Settings** or **Custom Media**) and set the **"Printable Surface IN"** to **ON**. Otherwise, the Roll Unit will return an abnormal torque error.

! Information
Remaining Setup :   ON
Select Media
0 RIP Settings
☐ Keep Settings Above
☐ Change Settings
[OK] Proceed

RIP Settings :
☐ Platen Gap (1,5, 2, 2,5)
☐ Head Alignment
☐ Roll Type (Side In, Side Out)
☐ Tension Measurement
☐ Media Tension
[OK] Proceed   [↰] Back

Select Media :
☐ RIP Settings
☐ Media 1
☐ Media 2
☐ Media 3
☐ etc up to 30
[OK] Proceed

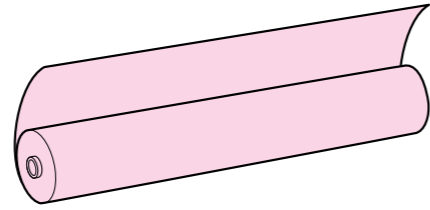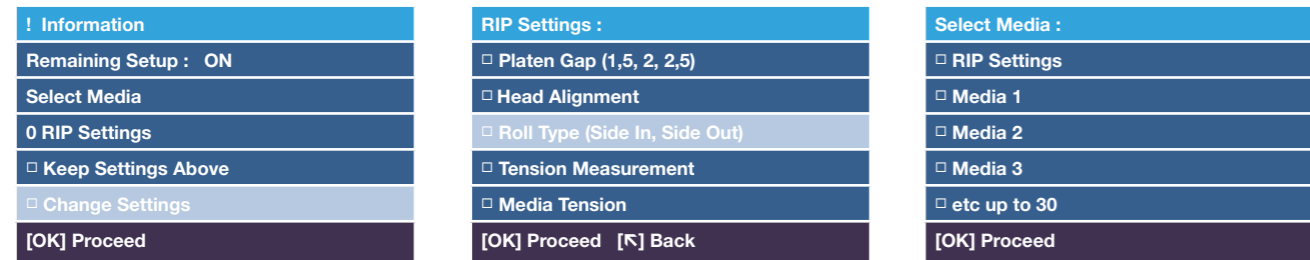Once the Paper pressure has been lowered, select **"Change Settings"**, **"Roll Type"** and set the Side In to **ON** or select **"Media 1"** to set the printing option to Surface In.
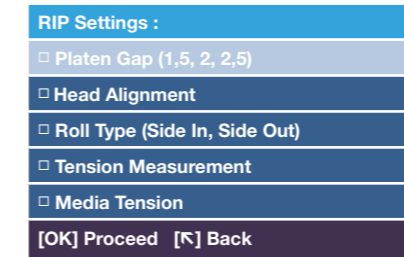
Select rip settings or paper n°x

Each time you load a media roll, the printer will prompt a message to keep the previous settings or change the settings. You have two options: **[RIP Settings]** or **[Media N°x]**. Whichever option you choose will affect the quality and reliability of your print run. Below, you'll find a step by step sequence to set and adjust your printer according the type of loaded media.

- Selecting **RIP settings**, manages all media settings and quality settings FROM the RIP. The image and media settings previously set in the RIP software will be sent to the printer.
- Selecting **Media N°x**, means the printer manages all media settings. The RIP will send only the job data chosen in the RIP software.
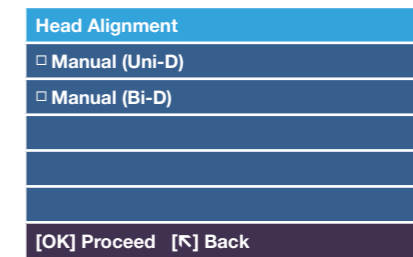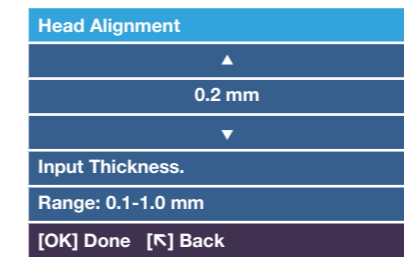
Proceed to media adjustments

By using [RIP Settings] management

1. Choose the printable surface (In or OUT).
2. Set the platen Gap according your media thickness.

RIP Settings :
☐ Platen Gap (1,5, 2, 2,5)
☐ Head Alignment
☐ Roll Type (Side In, Side Out)
☐ Tension Measurement
☐ Media Tension
[OK] Proceed   [↰] Back

3. Perform the Print Head manual alignment.

Head Alignment
▲
0.2 mm
▼
Input Thickness.
Range: 0.1-1.0 mm
[OK] Done   [↰] Back

Head Alignment
☐ Manual (Uni-D)
☐ Manual (Bi-D)
[OK] Proceed   [↰] Back

Input the correct media thickness (e.g. 0.2mm)   Run the Uni-Directional alignment

After selecting the Uni-D or Bi-D, the printer will print patterns using all colour rows.

Note: the Print Head alignment in **[RIP Settings]** Menu will affect only the settings from the section **[RIP Settings]**. If you select **[Media N°x]**, the print head settings will over-ride whatever settings you have set in **[RIP Settings].**

The printer will print a series of seven different patterns: C1, M1, Y1, BK1, M2, Y2, BK2 for Uni-Directional and eight patterns for Bi-Directional. Carefully review all the patterns and select the one with the slightest shadow effect (smallest gaps between solid colour and lighter colour). In the following example, the best pattern to select is n°3 for C1 and n°4 for M1. Use the control panel to input the values and select the right pattern.

4 Set the tension measurement and value.

Tension Measurement
☑ Periodically
☐ Every Page
☐ Off
[OK] Done   [↰] Back

Media Tension
▲
Lv 15
▼
Range: Lv 0-40
Current: Lv 15
[OK] Done   [↰] Back
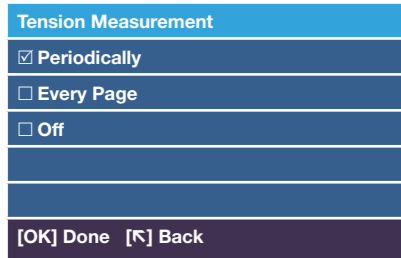
Set the desired tension measurement timing

Set the desired tension value. 15 is the default value

Depending on the type of substrate loaded in the printer, you can set the optimum tension level to ensure the best quality printing. Once you have set the desired tension level via the **[Media Tension]** setting, the printer will check that the tension setting is being maintained every 5m during the print run. If the Tension Measurement is turned to Off, then there will be no tension checks which could result in poor quality printing due to creasing or curves in the substrate and you will generate a large amount of wasted media as the machine will roll more media than is needed to avoid tension.

Note: Too high tension will increase the paper feed banding. Too low tension will increase the wrinkling effect of the media resulting in head strikes/rubbing.

By using [Media N° X] management

1 Choose the printable surface (in or out).

2 Set the platen gap according your media thickness.
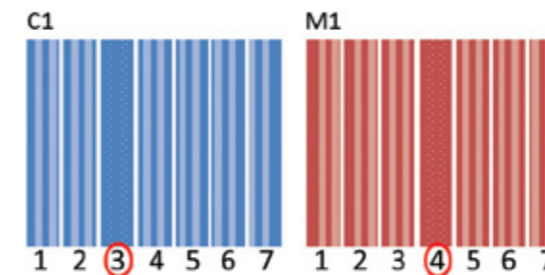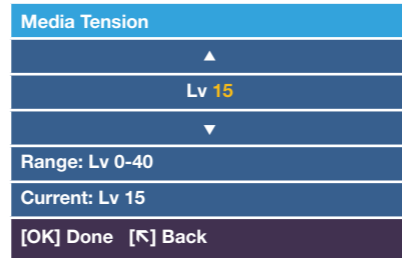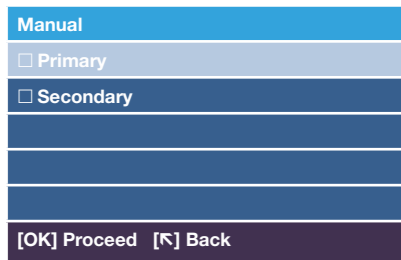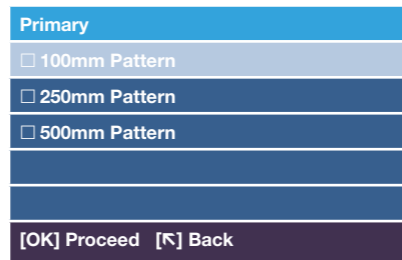
3 Proceed to printhead manual alignment.
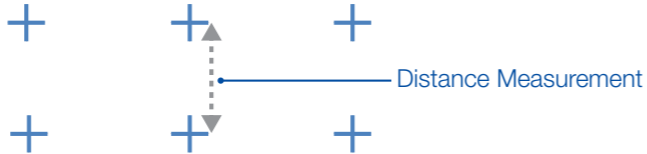
4 Proceed to manual paper feed adjustment.

Manual
☐ Primary
☐ Secondary
[OK] Proceed   [↰] Back

Primary
☐ 100mm Pattern
☐ 250mm Pattern
☐ 500mm Pattern
[OK] Proceed   [↰] Back

Start with the primary measurement

Select the desired value. For higher precision, please use 250mm or 500mm pattern

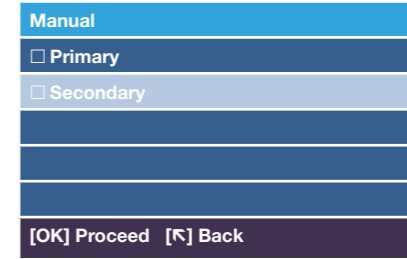| Primary |
| --- |
| [OK] Print |
| [↰] Cancel |

By pressing **[OK] Print**, the printer will print the measurement pattern

Distance Measurement

Use a metallic ruler to measure the distance between the top and bottom **+** marks

---

100mm Pattern
▲
100.0 mm
▼
Input Distance
Range: 50.0-150.0 mm
[OK] Done   [↰] Back

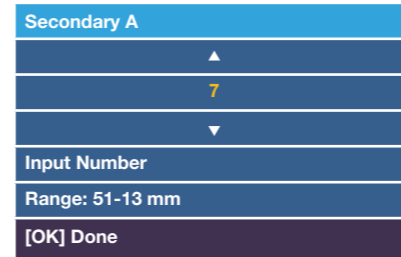| Manual |
| --- |
| ☐ Primary |
| ☐ Secondary |
| |
| |
| [OK] Proceed   [↰] Back |
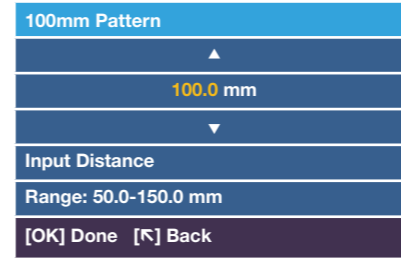
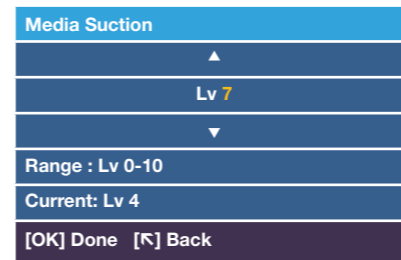Input the measurement value using the control panel

Continue with the secondary adjustment to print the final adjustment pattern

A series of six lines × 13 rows of light grey / dark grey square series will be printed. Determine the lightest pattern and input it using the panel below. In our example, the lightest pattern (top and bottom square) is the n°2

Secondary A
▲
7
▼
Input Number
Range: 51-13 mm
[OK] Done

5 Set the Media suction.

Media Suction
▲
Lv 7
▼
Range : Lv 0-10
Current: Lv 4
[OK] Done   [↰] Back

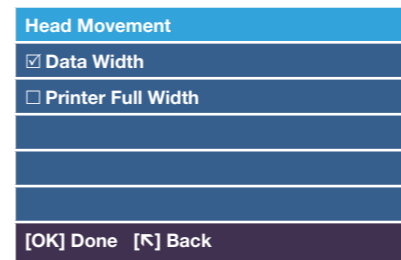To keep the stability of the media and avoid wrinkling, use the maximum value 10. Most of the transfer media will use a high suction value.

6 Define the head movement — **Data width** or **Full width.**

Head Movement
☑ Data Width
☐ Printer Full Width
[OK] Done   [↰] Back

Choose **Data Width** for higher print speed or **Printer Full Width** for regular quality

7 Choose the multi-strike printing value (0 to 8).
This is only required if you need to add ink density (mostly used for transparent media).

8 Set the tension measurement and value — described in **[RIP Settings]** section.

9 Set the Feed Speed.

Feed Speed
▲
Lv 1
▼
Range : Lv 1-2
Current: Lv 1
[OK] Done   [↰] Back

Use a slower feed speed **(1)** where you have media wrinkles, sticking page effect or torn effect during print operations. The default value is **2**.

Updating the firmware

Before starting to print, it's important to update the firmware if your printer is running an old version. To confirm the firmware version, first start the printer in F/W mode by simultaneously pressing **[Power] + [Media Settings] + [Paper Feed] + [Maintenance]** as shown below:
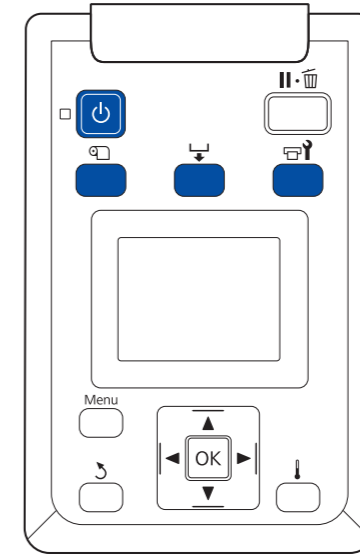
The actual version is the BT021D1, which means : 2013 – January – 21st. If the printer firmware is not the latest version, you can update it as follows:

1 Connect the PC to the printer using a USB cable.

2 Make sure the latest Comm Driver is installed on your PC > install if needed.

3 Locate and open **"PrintFileSender"** tool (not redistribual tool) to send the F/W file to the printer.

4 Locate the file **"BE025D1"** then drag and drop this file in the top window.

BE025D1.UPG
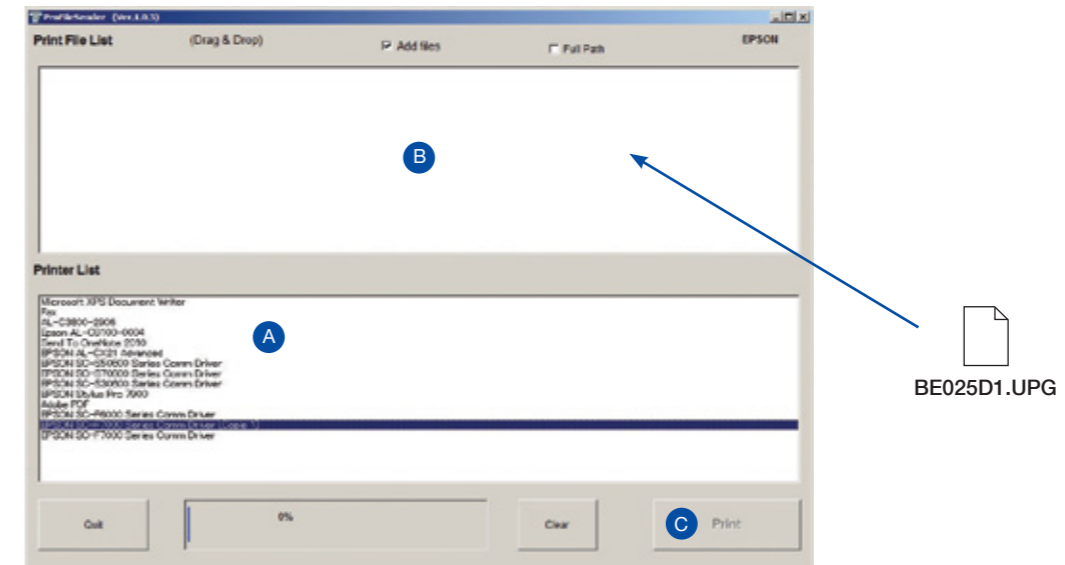
5 Click on the **[Print]** button **3** to send the Firmware to the printer.

The printer will automatically execute the firmware and shutdown. Carefully follow the printer's Control Panel Instructions. You should see a growing graph with **"*"** which indicates the updating process is progressing.

Print using Ergosoft TexPrint

For a first printing test, use the Kit CD supplied which makes simple prints using existing settings, such as connect to a printer, selecting existing print environment, profiles and media.

Before beginning with Ergosoft TexPrint and Epson SC F7000, ensure you have:

- Filled and charged the F7000 with ink.
- Have a compatible computer to run Ergosoft Texprint according Ergosoft requirements.
- Activated a Dongle License.
- Installed an Ethernet or USB connection to the printer.

Once Ergosoft TexPrint has been launched, you'll view main job window below.
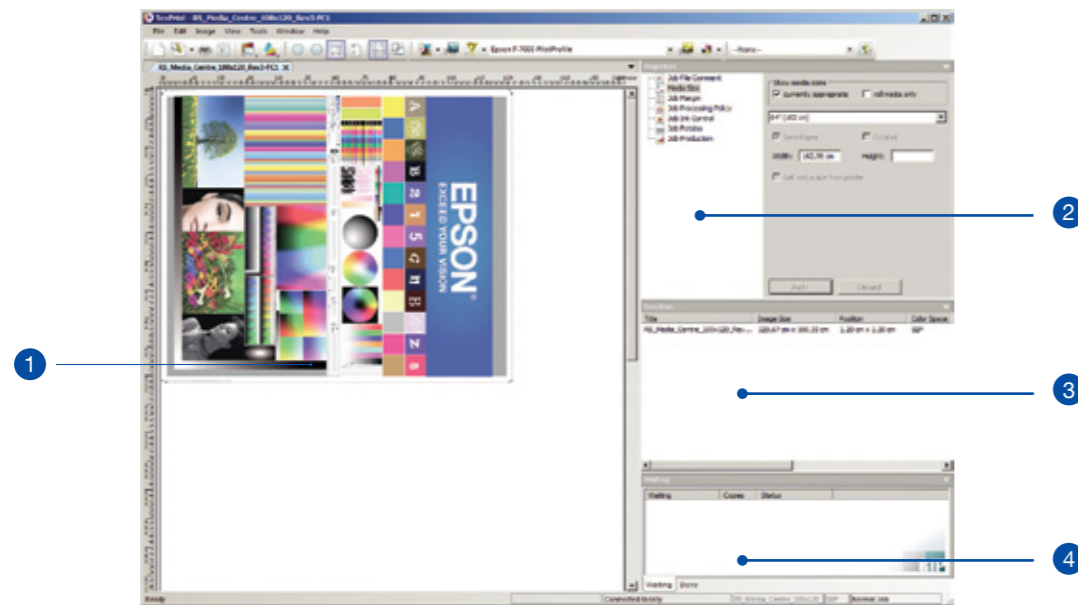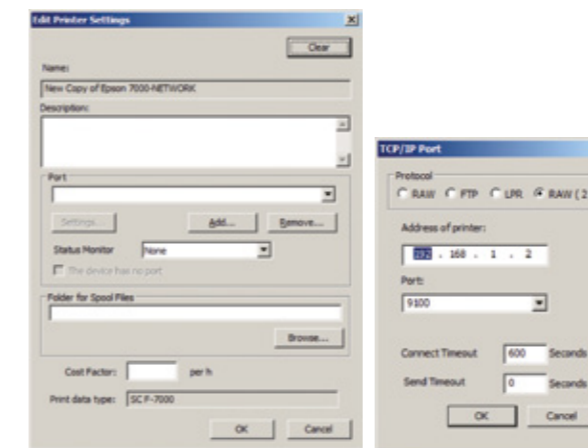

1   **Job area**

2   **Properties of the job**

3   **Selected job**

4   **Process job** (waiting, ripping, printing)

Print Settings for SC-F7000

1   To connect to a Printer, use the **"Print Settings"** button

2   On the next screen, select "Printer and Port" and click on **New Device.**
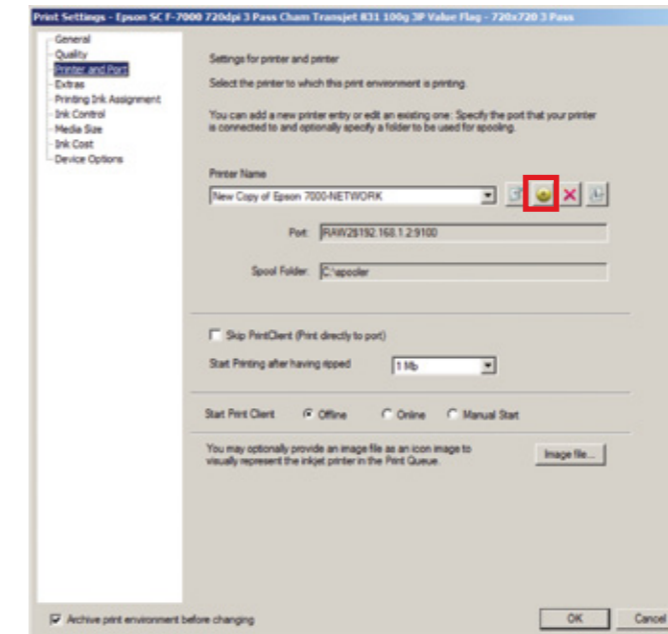
3   Click on **"Add"** to add a TCP/IP port.


4   Select **TCP/IP** and input the information below:

        a.   The correct printer IP address (check on the control panel)
        b.   The **Raw2** protocol
        c.   Port **9100**
        d.   Connect timeout **600**

5   Validate this screen to come back to the previous window.

6   Confirm this screen to return to the previous window.

7 Set the Spool folder *(e.g: C:\spoolfolder)* and confirm with OK.

**8** Now select the **"Extras"** settings to set the default mirroring.
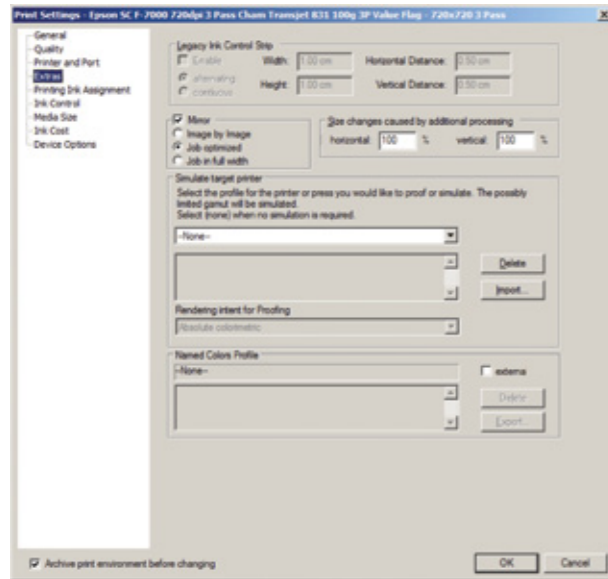
Note: All printouts will be transferred onto a piece of fabric, therefore it's important to set **"Mirror Job Optimised"** as the default option**.**

9 Close the print settings menu by confirming the main screen and returning to the Job Window.

Import image and launch a job

1 Select a profile environment using the **Print Environment menu** (highlighted by the red square).

2 Depending on the job, select the correct media and fabric type and profile resolution.
Example: "Epson SC-F7000 Charm Classic 75gsm Satin 2 pass"
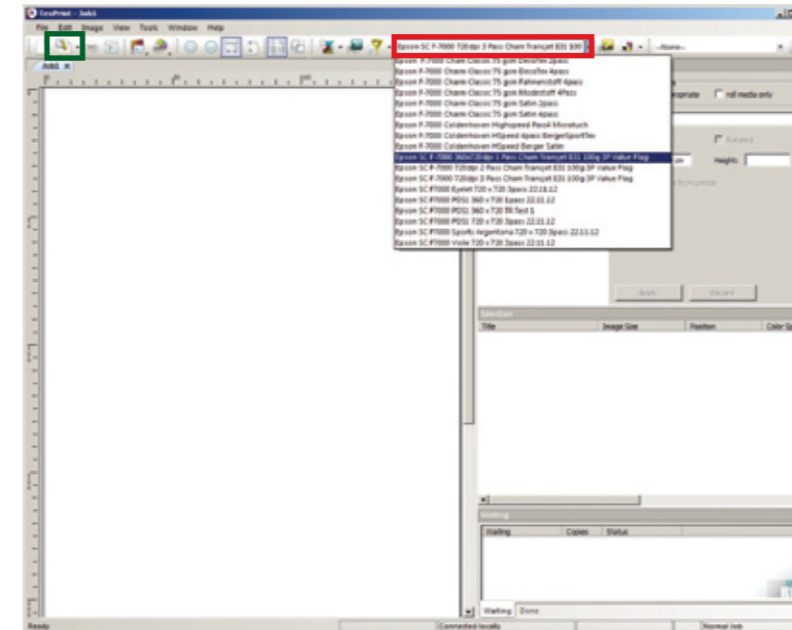
3 Now, click on the **Import an Image** button, highlighted by the green square above.
Example: the supplied Epson Print ref. Sample

4 After the image has been placed inside the job area you can modify the job properties:

    a. Media size
    b. Scale, rotation and position
    c. Margins, print marks, cropping etc.

5 Launch the job by clicking on the Print Button (or use the shortcut **[Ctrl]** + **[P]**).
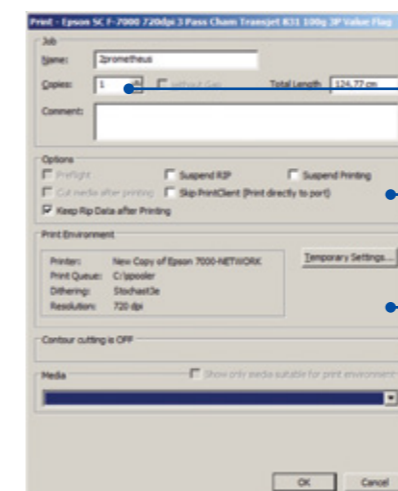
Select number of copies

Set different options

Check / modify the settings (temp. Settings)

6 **Temporary Settings Tip:** Modifying the settings from this screen does not alter your environment settings. All modified settings will return to previous settings saved in "Environment Settings" for subsequent jobs.

Print resolution and pass

All Device options:
- Print Direction
- Media Selection
- User Media Settings / selection

Total ink limitation (e.g 280%)

7 Confirming both Temporary Settings and Print Window will launch the Print Client.

Print Client Colour Button

RED Printer offline
The jobs are on hold

ORANGE Start job manually
The start button is actioned by the user

GREEN Printer online
All jobs will be launched after ripping

8 Depending on the start settings (red, orange or green), printing will start immediately or following user authorisation. Simply click on the red button to turn it to green.
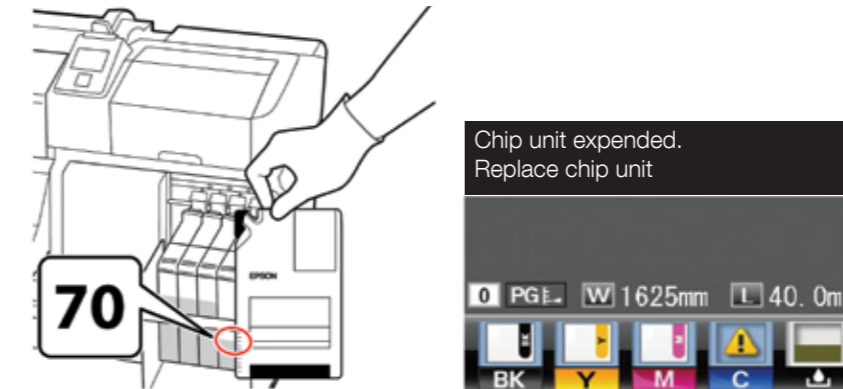
Refilling the printer

⚠ When refilling ink, always wear protective gloves and glasses to prevent ink coming into contact with eyes or skin.

The F7000 has an ink refill system that uses ink pouches and an external ink tank. Before refilling the tank:

- Check the control panel is displaying **"Chip Unit Expended"** with the icon. ⚠
- Check the Ink level quantity **(70mm)** by using the scale on the Ink pouch.

Proceed to refill the ink tanks as follows:

1 If the remaining ink level is greater than 70mm from the base of the ink tank:
We recommend continuing to use the printer until the remaining ink level is 70 mm from the base of the ink tank so that you can use all the ink in a new ink pack to refill the ink tank.

If the remaining ink level is 70 mm or less: Proceed to Step 2.
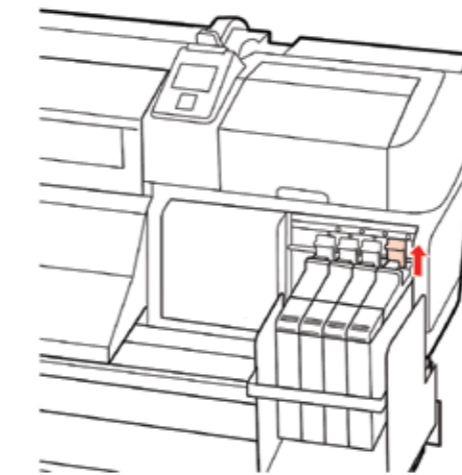
2 Lift the lock lever for the slider of the chip unit you intend to replace.
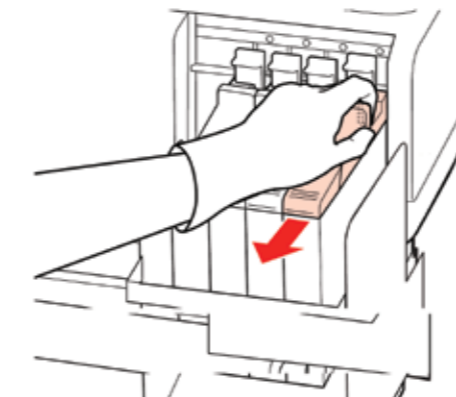
3 Insert a finger into the depression on the top of the slider and pull straight outward.

4   Remove the chip unit from the slider.

5   Attach the chip unit supplied with the new ink pack to the slider. Check to confirm that the colour of the label on the slide matches the colour of the label on the chip unit when installing.
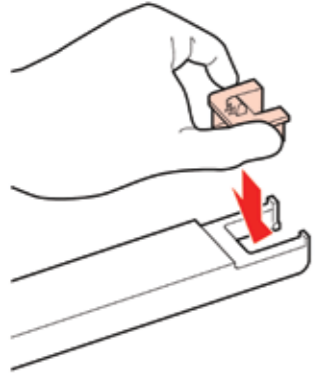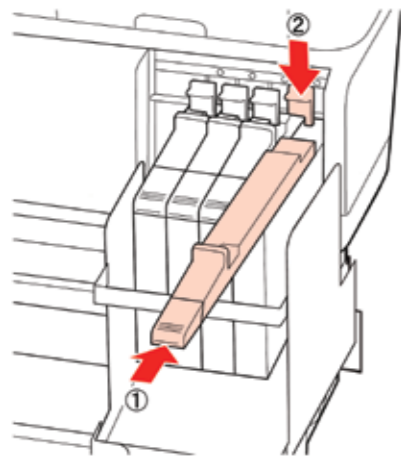

6   Hold the slider level and insert it, then lower the lock lever.

7   Shake the new ink pack as shown in the illustration horizontally for approximately 5 cm left and right for 5 seconds approximately 15 times.
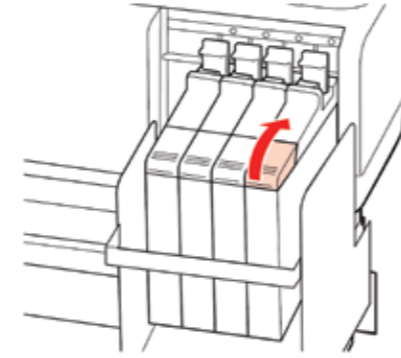
8   Open the slider ink inlet cover.
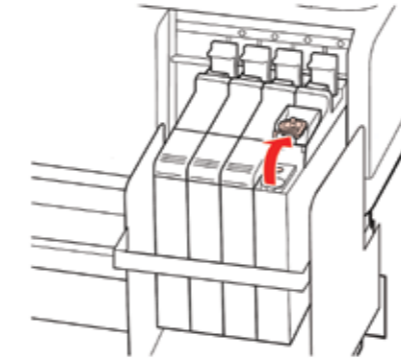
9   Remove the ink inlet cap from the ink tank.
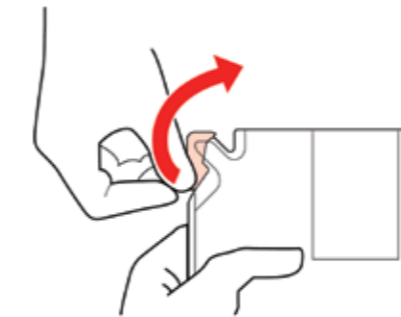
10   Tear off the ink pack spout opening.
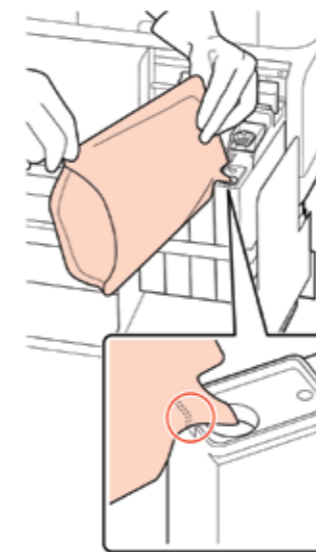
11   Fill the ink tank with the ink from the ink pack. Insert the spout of the ink pack into the ink tank ink inlet groove and slowly tilt to pour out the ink.

Put the ink inlet cap back on the ink tank.

(13) Close the slider ink inlet cover.

For more details, refer to the **"Chip Unit Replacement and Ink Refills"** section in the accompanying User Guide.

INK POUCH – KEY USER INFORMATION

- **ENSURE** the colour matches between the ink pouch and ink tank.

- **AVOID** refilling in dusty environments.

- **KEEP** all non-opened ink pouches at room temperature for optimum storage conditions.

- **CHECK**: if in doubt, check the refilling section of the User Guide, p61.

Refilling – Troubleshooting
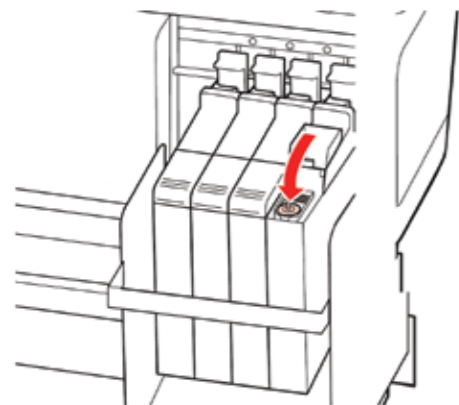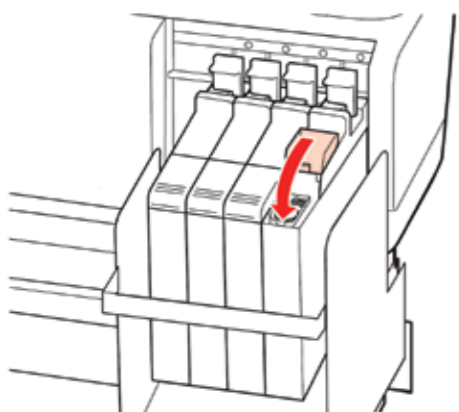
During the refill process, you may experience one of the following scenarios:

- You are prompted to refill the tank but the ink level remaining is above 70mm.
- Colour Ink Mixed — you've inadvertently filled an ink tank with the wrong colour ink.

Remaining ink level above 70mm

When you are prompted to refill the tank and its level is higher than 70mm (use the ink pouch level as shown on p24), it means the Ink Tank (Epson Genuine Ink Supply System C12C890921) needs to be replaced.

Order a new genuine ink supply set and four cleaning cartridges (1582821) and replace the part as detailed.

Ink colours mixed

If you incorrectly fill an ink tank with the wrong ink pouch there are two things you can do depending on whether you discovered the error:

- During the refill process.
- After the refill process, you printed and/or the printer ran a cleaning or printing test.

CASE 1 *(Only performed by a service engineer)*
If you stopped to refill the printer because you discovered your mistake during the refill process:

(1) Turn the printer OFF immediately.

(2) Replace the tank containing the wrong colour.

(3) Launch an initial ink charge on the colour mixed with the wrong colour.

CASE 2 *(Only performed by a service engineer)*
You completed the refilling process and have started to print or launch a cleaning cycle:

(1) Arrange a service engineer visit.

(2) Replace all ink tanks with a new full set.

(3) Carry out a complete cleaning operation.

Storing and transporting the printer

Before any transportation, we recommend carrying out a "Before Transfer" procedure due to the printer's external ink tanks.

BEFORE TRANSFER (transport) PREPARATION *(only performed by a service engineer)*

1. Remove the ink tanks.
2. Completely remove the ink from each tank.
3. Thoroughly clean each ink tube with a cleaning cartridge.
4. Remove all cleaning liquid.
5. Turn off the printer but keep the cleaning cartridges inserted.
6. Disassemble the printer from the stand and put it back in its original box.

STORING THE PRINTER (decommission or long-term storage) PREPARATION *(only performed by a service engineer)*

1. Remove the ink tanks.
2. Completely remove the ink from each tank.
3. Thoroughly clean each ink tube with a cleaning cartridge.
4. Turn off the printer but keep the cleaning liquid and cleaning cartridges inserted.

Maintenance

To maintain optimum print performance of your SC-F7000, regular maintenance is essential, especially if it is operating in windy or dusty environments.

For more details on maintenance operations regarding print duty, please refer to the **Maintenance** section on p.48 of the User Guide

Daily maintenance

1. **Clean the platen**
   Use a soft cloth with fresh, clean water to remove dust from the platen.
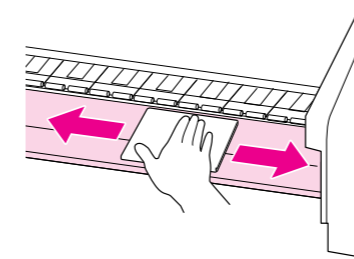
2. **Pressure rollers and paper plate holders**
   Use a soft-bristled brush to remove paper dust / fibres from the pressure rollers.
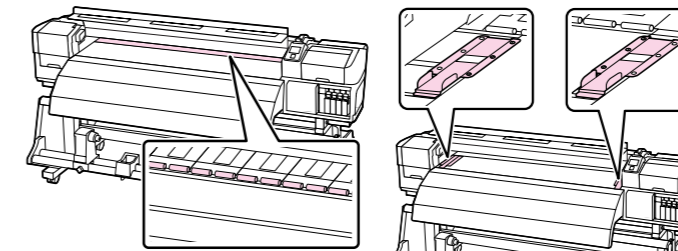
3. **Missing Nozzles**
   Use the Maintenance Menu to perform light, medium or heavy cleaning depending on the condition of the nozzles. Where you have unrecoverable missing nozzles, use the cleaning cartridges to perform head washing.

   For Control Panel detail, please refer to the section **Annexes: the control panel.**
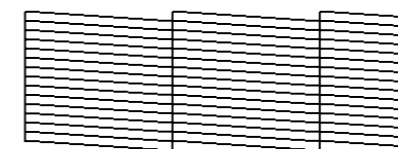
Example of clean nozzles   Example of clogged nozzles

The 700ml Cleaning Cartridge: The cleaning cartridge can only be used by a service engineer
In order to use cleaning cartridges, the service engineer must first disassemble the ink tanks.

Weekly maintenance

⚠ **Before carrying out regular cleaning, always wear protective gloves and glasses to prevent ink coming into contact with eyes or skin.**

Before undertaking regular maintenance, check you have:

- A maintenance kit supplied with the printer or a new one.
- Ink cleaner (optional).
- A non–woven cloth (fibre free).

To perform maintenance, use the control panel Maintenance Button and carry out the following four steps (more information is available in the Annex):

Head Maintenance	Head Maintenance	Head Maintenance 1/2	Head Maintenance 2/2
[OK] Move Head		See documentation and	Clean wiper rail.
[↰] Cancel		clean caps, wiper and	After cleaning, close
	Open both left and right,	around print head.	maintenance covers and
	or either of maintenance	Press [OK] after cleaning.	Press [OK] after cleaning.
	covers.		

①   ②   ③   ④

① **Check and clean around the head**
Use a large swab (included in the maintenance kit) to wipe the head edges.
Use the wipe tool to remove excess ink droplets on the print head surface.

Wipe tool

② **Check and clean the exterior of the caps**
Use a large swab (included in the maintenance kit) to wipe the exterior side of the four caps.

③ **Check and clean the wiper**
Use a large swab (included in the maintenance kit) to remove stained ink from the wiper and the attachment point.
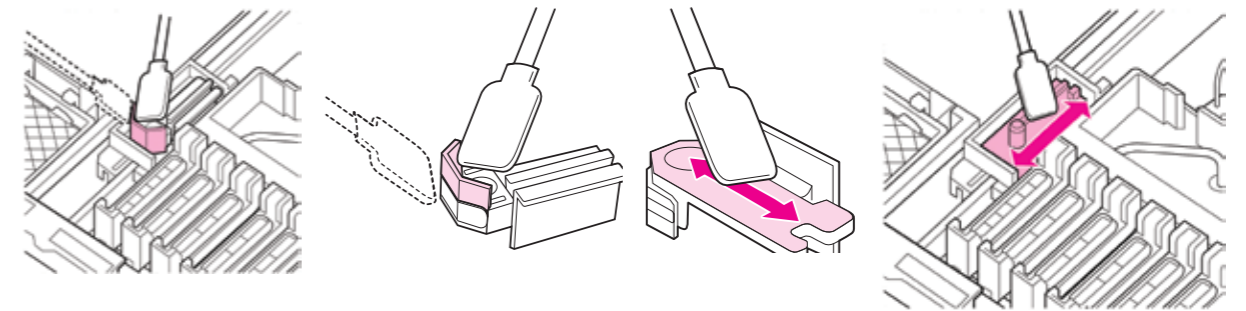
Regular maintenance

⚠ **Replacing any of the following parts will depend on how and where the printer is used.**

⚠ **Always wear protective gloves and glasses to prevent ink coming into contact with eyes or skin.**
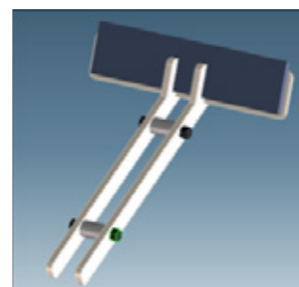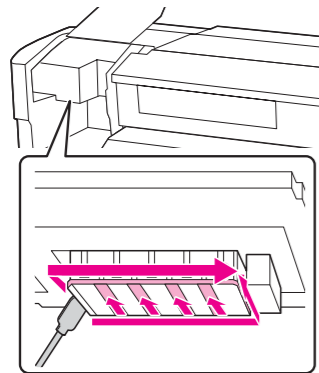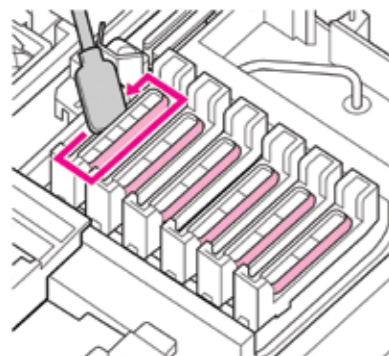
Before undertaking regular maintenance, check you have:

- A maintenance kit supplied with the printer or a new one.
- Ink cleaner (optional).
- A non –woven cloth (fibre free).
- The new head wiper tool.

① **Replace the wiper**
Use the Maintenance Menu > Head Maintenance (see the Control Panel section in the Annex for more detail).
Lift the wiper out by pressing the latch and put a new wiper back in the original position.
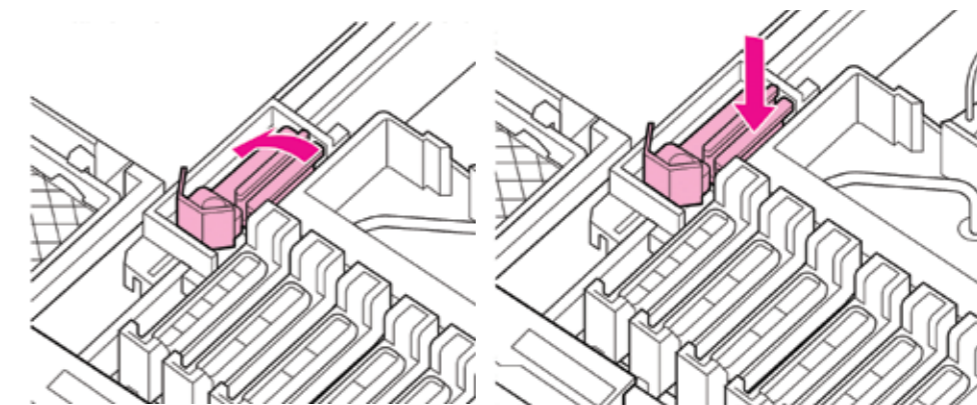
② **Replace the wiper cleaner**
Use the Maintenance Menu > Head Maintenance Maintenance (see the Control Panel section in the Annex for more detail).
Lift the wiper cleaner by pressing the latch and securely attach a new wiper cleaner.
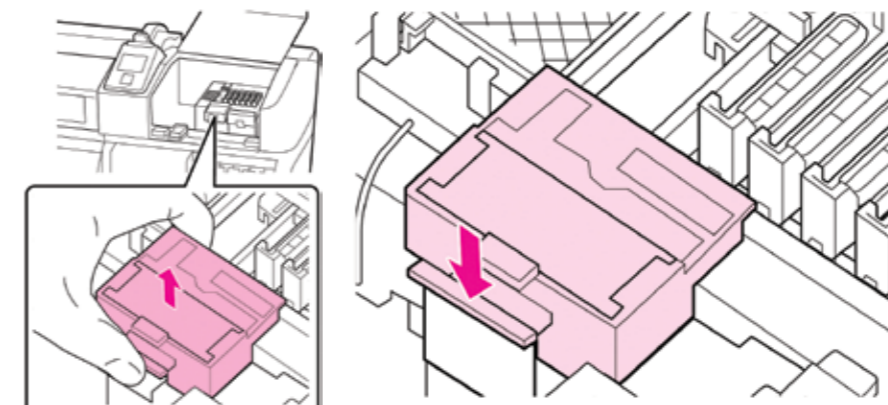
Maintenance frequency chart

Printer Part	Action	Print Duty		
		Low (3hr/day)	Mid (4–5hr/day)	High (6hr/day)
	Check / inspect	Daily	Daily	Daily
	Clean / wipe	Daily	Daily	Daily
	Check / inspect	Daily	Daily	Daily
	Clean / wipe	Daily	Daily	Daily
	Check / inspect	Weekly	Every 3 days	Daily
	Clean / wipe	Weekly	Every 3 days	Daily
	Check / inspect	Daily	Daily	Daily
	Clean / wipe	Weekly	Every 3 days	Daily
	Repair / replace	Every 6 months	Every 3 months	Monthly
	Clean / wipe	-	-	-
	Repair / replace	Every 6 months	Every 3 months	Monthly

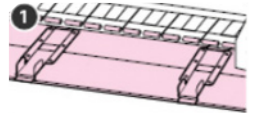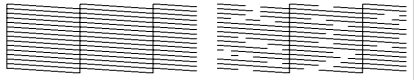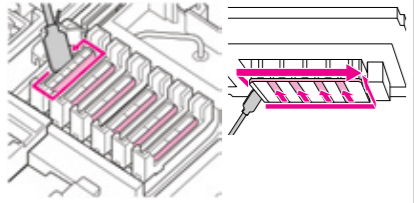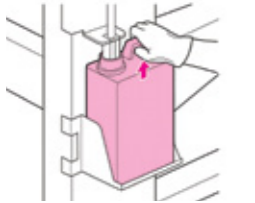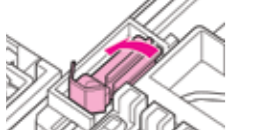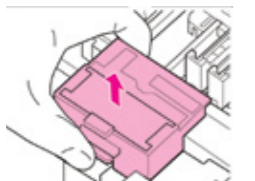## Trouble shoot quick guide

Head alignment

Most problems with image quality through graininess results from incorrect head alignment.
The head alignment can be separately done for **[RIP Settings]** or **(Media xx).**

RIP Settings :
☐ Platen Gap (1,5, 2, 2,5)
☐ Head Alignment
☐ Roll Type (Side In, Side Out)
☐ Tension Measurement
☐ Media Tension
[OK] Proceed   [↰] Back

Head Alignment
▲
0.2 mm
▼
Input Thickness.
Range: 0.1-1.0 mm
[OK] Done   [↰] Back

Sublimation dyes are loaded into the printer.
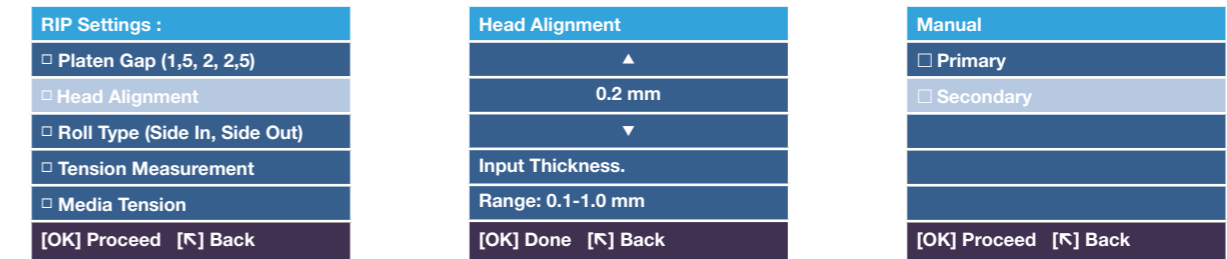
Manual
☐ Primary
☐ Secondary
[OK] Proceed   [↰] Back

Use auto or manual

For head alignment detail, please refer to page 14
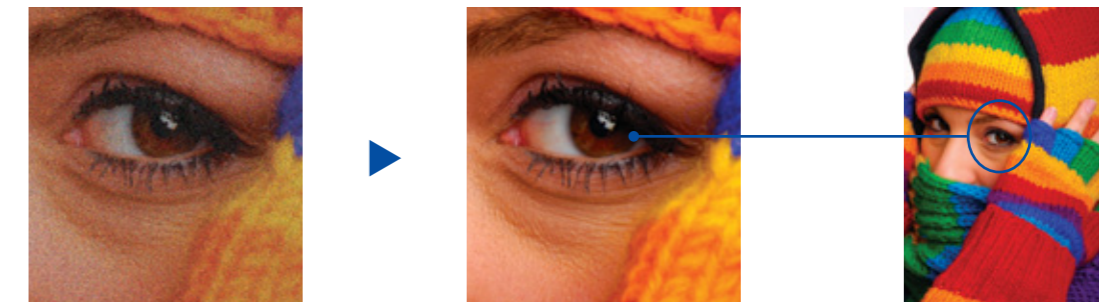
Before

After

Quality banding

Depending on the print resolution and the selected profile, some quality banding may appear when incorrect profile or printer settings are used. Each media should be used with a dedicated profile and settings.

To reduce quality banding problems you can:

1. First of all, check missing nozzles — perform light, medium or heavy cleaning (maintenance menu).
2. Make sure the head alignment and paper feed has been performed with the media loaded.
3. Use the best media profile and Ink Limit according to the media capabilities.
4. Use the correct print resolution capability for your signage application (Banners, billboard, etc.)
5. Reduce the ink duty — too much ink will increase media buckling.
6. Check you have chosen the correct head movement data width setting - either full width or set to the width of the media (where media width is not the full width of the printer setting.

Paper feed banding

To avoid paper feed banding, perform paper feed adjustment for each type of media used to print:
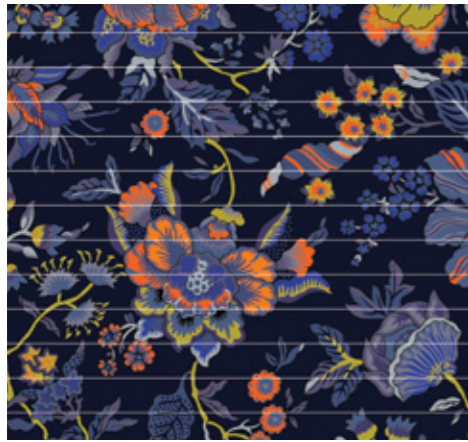
High paper feed value = white bands

Low paper feed value = dark bands

Paper Feed Adjustment
▲
-0.50%
▼
Range: -5 - +5 %
[OK] Done
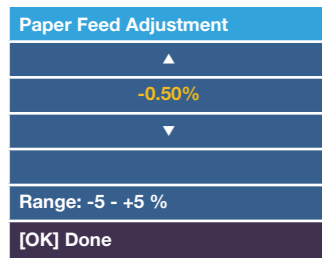
[RIP Settings] Paper feed while printing

Manual
☐ Primary
☐ Secondary
[OK] Proceed   [↰] Back
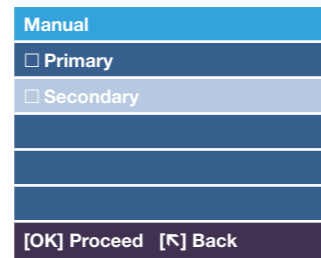
[Media xx] Paper feed pre-set

Head rubbing / head strikes

Depending on the media tension and the ink percentage used (profile), some media will buckle which causes head gap reduction with the media — Head rubbing.
Head rubbing can result in ink scratches on the media or worse: CR blocked with media jam.
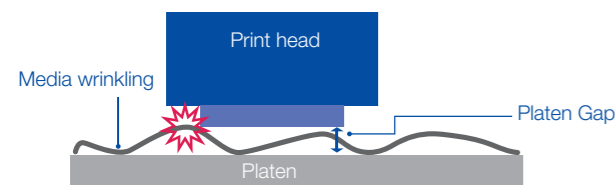
To avoid head strikes you can:

1. Check paper thickness and platen Gap settings according to the Platen Gap section in page 14.
2. Check the Roll and Reel unit is correctly aligned/parallel (refer to Setup Guide).
3. Reduce the ink duty — too much ink will increase media buckling.
4. Increase the media suction to a higher value (e.g 7-10).

Colour consistency

To avoid paper feed banding, perform paper feed adjustment for each type of media used to print:

Depending on your media settings, colour consistency issues can occur as a result of:
- Using the wrong media settings.
- Incorrect selection of the media profile.
- Ink Sedimentation (very low printer usage).

To avoid colour consistency issues you can:

1. Shake all inserted ink cartridges and perform a medium clean to refresh the ink inside the ink tubes to prevent ink sedimentation that can occur with low usage rates.
2. Check the media quality and the media water reaction: some media will not absorb the ink consistently.
3. Check your heater press equipment to ensure the sublimation transfer was carried out correctly.

Gassing effect

The gassing effect is the irregular sublimation of the ink onto the fabric through fast, random vaporisations that results in different ink colour spots in the same area.

The prime culprit of the gassing effect by transferring the print out onto the fabric before the ink dries. It can often be avoided by ensuring the ink is completely dry before transferring onto the fabric.

To avoid the gassing effect you can:

1. Use the correct profile for the transfer media.
2. Check the ink limit applicable to your media in the RIP software; too much ink percentage will increase the gassing.
3. Ensure the print environment is not too humid and conforms with the printer specifications.
4. Make sure your media is compatible with the sublimation process.

Ink drips on media

Depending on your printing environment and level of usage, regular maintenance should be performed (especially at higher frequency usage) otherwise random ink drips will appear on the media. If ink drips continue you should perform the maintenance more frequently.

For more details, please refer to section
7. MAINTENANCE FOR SC-F7000

Using the control panel, select Head Maintenance and proceed as described below.

Maintenance
☐ Nozzle Check
☐ Cleaning
☐ Head Washing
☐ Head Maintenance
☐ Waste Ink Counter
[OK] Proceed   [↰] Back
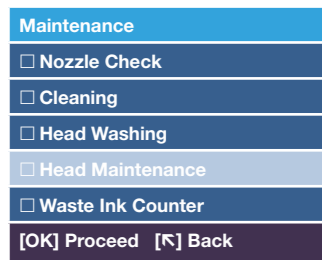
1. Remove stained ink on the wiper.
2. Wipe exterior of caps.
3. Wipe stained ink **around** print head nozzles and surface (be very careful not to touch the nozzle plate).
4. Wipe the excess ink drops from the head surface using the new wiper tool (refer to the Maintenance section).
5. Wipe around the printer platen to remove dust.

Important tip: Keep the media roll "dust free". If you store your media outside the box and uncovered, make sure you clean it before inserting it into the printer!

Image shadows on fabric

Image shadows appear with temperature sensitive fabrics and result from a shrinking effect. When this occurs, you need to "pre shrink" the fabric to remove the problem.

Pre-shrinking involves heating the fabric for **20-30 sec** (the exact time will depend on the fabric type) prior to the paper transfer. Once the fabric has been pre-shrunk, wait until it is cool then continue with the normal sublimation process : **50sec – 200°** (most common sublimation settings).

Annexes for SC-F7000

The control panel

Alert lamp
- OFF: Normal operation
- ON: (Orange/flashing) An error has occurred

Media set-up
- Select media
- Customize settings
- Media remaining
- Print media list
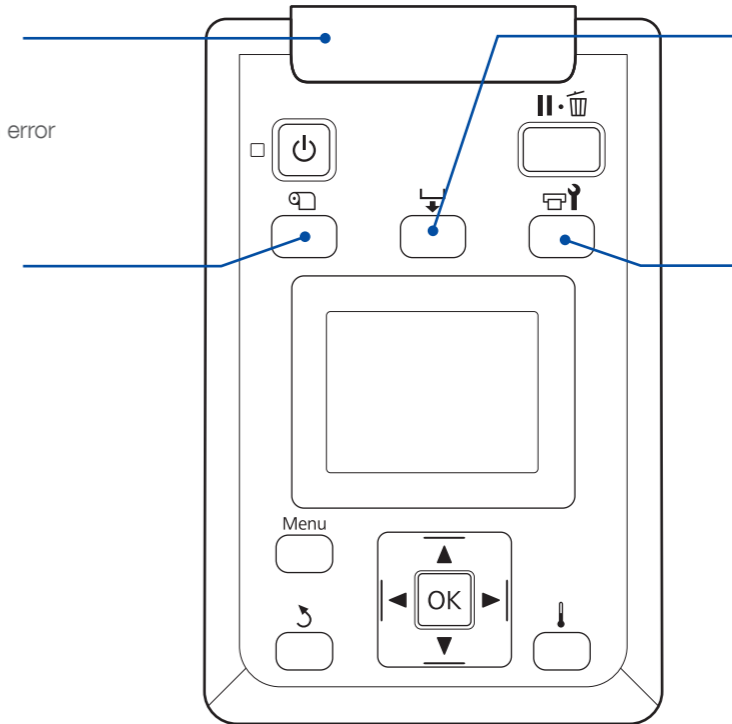
Media feeding
- Adjust media feeding during print.

Maintenance
- Nozzle check
- Cleaning
- Head washing
- Head maintenance
- Waste ink counter

Menu

Ink detail and icons meaning

1 — **Ready**

2 — 0 PG▪ W 1625mm L 40.0m

3 — BK Y M C

4
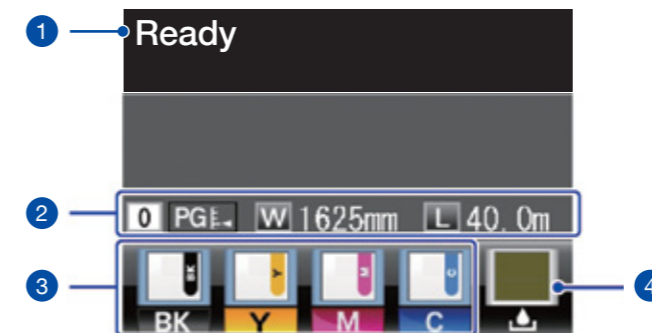
1. **Messages.** Displays the printer's status, operation, and error messages.

2. **Media info.** From left to right, this display shows the selected media, platen gap, media width, and media remaining.

3. **Chip unit status**. The display changes as shown below when an error is detected in the installed chip unit.

   C — Normal

   ⊗ C — Warning or error
   Status indicator
   Ink colour codes

   ⚠ The chip unit required replacement. Replace the chip unit with one from a new ink pack. As it gets closer to time to replace the chip unit ⚠ will begin to flash

4. **Waste ink bottle status.** Displays the approximate amount of space available in the waste ink bottle.

   Note: You can change the ink chip without stopping the printer only when the Ink Warning icon is displayed on the control Panel – ⚠

Questions and answers

Q – Can you empty and re-use the 2L Maintenance Bottle?

A – The maintenance bottle is a consumable and must be replaced and recycled when prompted by the control panel. The part number for the maintenance bottle is: **T7240.**

Q – What is the purpose of the handle on the right side of the Media Holder?

A – When the media holder has been set inside the media core, use the handle to insert the cone securely for a perfect grip.

Q – Can I refill the printer without changing the CISC?

A – If you try to refill the printer without changing the CISC (the Ink Chip), the printer will not restart the ink level counter and will not add the additional ink. Only refill the printer when prompted by the control panel through the ink level warning icon (refer to control panel detail section).

Q – Can I refill the printer while printing without stopping the job?

A – The Epson SC-F7000 allows you to refill during printing following a refill warning message from the Control Panel. If you try to refill the printer before the warning message has activated, the printer will stop printing just after having raised the Ink CSIC chip lever.

Q – When can I back feed the media and how?

A – If you need to back feed the media ensure the printed surface is completely dry. Press the Media Feeding button and use the backward button of the control panel to back feed the media. The Automatic Feeding Unit, ensures the media is then rolled back.

Q – Can I reuse the external ink tank after disassembling?

A – To ensure quality printing and avoid ink system clogging, we do not recommend re-using the external ink tank after disassembly. Instead you should order a new set of Epson Genuine Ink Supply System (C890921000), install the new Ink tank set and recycle the previous used ink tank according to the local recycling rules.

Q – What additonal accessories are available for the new Epson SureColor™ SC-F7000?

A – For heavy media, you can order the 80Kg Heavy Roll unit **C12C89076** (Product code correct at time of publishing and is subject to change). This option can be purchased by customers using the larger media rolls of up to 80Kg with a maximum diameter of up to 30cm.

Q – My printer environment is too humid, the ink dries slowly. What can I do ?

A – You can purchase an external drying system to increase the drying speed.

Q – I don't have any of the mentioned media in the Print Sample Chart (chapter 4), can I use other types of media?

A – If you use alternative media, we cannot guarantee the resulting print quality. Whilst the SureColor Series printer supports a wide range of substrates, the print files have already been optimised for the media listed.

Q – What are the benefits of using Epson Ultrachrome DS Ink?

A – Epson Dye Sublimation Ink (Ultrachrome DS) offers high quality printing that is efficient, reliable and delivers fabric cost savings. For the first time, For the first time, from inks to printheads and printer consumables every component is designed and manufactured under one roof by industry-leading engineers.

Product specifications

TECHNOLOGY	
Printing technology	Micro Piezo AD-TFP Print Head
Maximum Print resolution	720 × 1440 dpi

INK SYSTEM	
Ink	Epson UltraChrome DS inks
Colour	CMYK
Ink Tank Capacity	1,500 ml

PRINT SPEED	
720 × 720 1 pass	54m²/hr
720 × 720 2 pass	27m²/hr
720 × 720 3 pass	21m²/hr
720 × 720 4 pass	13.5m²/hr
720 × 1,440 6 pass	10.1m²/hr

PAPER HANDLING	
Roll media dimensions	Diameter: 250 mm, Width: 300 – 1625.6 mm (64 inches)
Maximum print area	1615.6 mm
Print margin	5 mm for each side / 10 mm for each side (when you use paper holder plate)
Maximum weight	80 Kg (with heavy roll option)

CONTROL PANEL	2.5 in colour LCD screen

CONNECTIVITY	
Wired connection	Hi Speed USB, 100BASE-TX/1000BASE-T

MEMORY	Main: 512 MB, Network: 128MB

DIMENSIONS	
Dimensions (W × D × H)	2,620 × 963 × 1,311 mm (Take-up reel in storage position)
	2,620 × 1,259 × 1,311 mm (Take-up reel in operational position with raised jack lever)
Weight	180 Kg (without cartridges)

ELECTRICAL SPECIFICATION	
Voltage	AC 100-240V 50/60 Hz
Power consumption standby	9W
Operational	65W

OPTIONS	
Heavy roll media system	C12C89076
Waste ink bottle	C13T72400
Maintenance kit	C13T72410
Cleaning cartridge	C13T69930
Ink supply tank	C89092100

WARRANTY	Standard 1-year onsite service

SUPPLIED AS STANDARD

- Main unit
- Substrate support system
- Initial ink set
- Main power cables
- Set up guides
- Maintenance kit
- Waste ink bottle
- Ergosoft RIP Software dongle

INK POUCH COMPATIBILITY

1000ml packs

●	Black	C13T741100
●	Cyan	C13T741200
●	Magenta	C13T741300
●	Yellow	C13T741400

FOR THE BEST RESULTS ALWAYS USE GENUINE EPSON INK