STREET CHARACTERS INC.

Sublimation Printing Department Training Guide

Equipment: Epson SureColor F6470H Sublimation Printer
Ink Configuration: CMYK + Violet & Orange
Maximum Print Width: 44"
RIP Software: Epson Edge Print
ICC Profile: EpsonWideCMYK_Ver2.icc

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1. Safety First

Sublimation involves extremely hot equipment and moving machinery. Safety must always come before production speed. Take your time, keep your hands clear of moving parts, and never attempt to work around hot or moving equipment in a way that could put you at risk.

Heat Safety

The heat roller and heat press become **EXTREMELY HOT** during operation.

- Never touch the heated roller bars.
- Be careful when working around the heat roller, even when handling the felt belt.
- Freshly sublimated fabric will be very hot when it exits the roller.
- Allow material a moment to cool before handling it with bare hands.
- Heat-resistant gloves are available and may be used whenever you feel more comfortable wearing them.
- Drink plenty of water when working around the heat equipment.
- Take frequent breaks from the heat as needed.

Pinch and Crush Hazards

Both the heat roller and heat press contain moving parts that can crush or pinch fingers.

Always keep your fingers clear before:

- Closing the heat press.
- Feeding fabric into the heat roller.
- Working near the roller bars.
- Adjusting or inspecting moving components.

Never place your hands near a moving roller.

Emergency Situations

If something becomes caught in the heat roller—such as clothing, hair, fingers, or fabric that needs to be removed quickly—use the emergency/reverse function rather than reaching toward the moving roller.

Never attempt to pull something out of a moving roller by hand.

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2. Understanding the Equipment

Our department uses the Epson SureColor F6470H sublimation printer.

The complete sublimation process involves several pieces of equipment:

Epson SureColor F6470H

Used to print sublimation designs onto transfer paper.

The printer uses:

- Cyan
- Magenta
- Yellow
- Black
- Violet
- Orange

Heat Roller

Used to transfer printed sublimation designs from paper onto fabric.

Small Heat Press

Used for:

- Small sublimation samples
- First-aid kit bags

Epson Edge Print

The RIP software used to prepare and send sublimation files to the Epson F6470H.

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3. Sublimation Basics

Sublimation uses heat to transfer printed dye from transfer paper onto polyester fabric. The printer creates the design on sublimation paper. The paper and fabric are then placed together and passed through the heat roller. Heat causes the sublimation dye to transfer from the paper into the fabric. Because the transfer occurs through heat, the temperature, speed, alignment, and handling of the fabric are all important to achieving a clean result.

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4. Preparing Sublimation Files

File Requirements

Our standard sublimation file format is PNG

The approved ICC profile for our workflow is EpsonWideCMYK_Ver2.icc

The maximum print width is 44 inches Do not attempt to print files or media wider than the approved 44" production width.

File Naming

Use the following naming convention: ClientName_ProductName_SublimationFile_Year

Example:

ABCCompany_Jersey_SublimationFile_2026.png

Adobe Illustrator file preparation is covered in a separate training guide and is not part of this manual.

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5. Using Epson Edge Print

Epson Edge Print is used to prepare sublimation files for printing.

Starting the Printer

Before beginning:

1. Turn on the Epson F6470H.
2. Check the printer control panel.
3. Confirm that there are no warning or error messages.
4. Open Epson Edge Print on the computer.

If the printer displays a warning or error that you do not understand, stop and ask a supervisor before proceeding.

Adding a File

1. Open Epson Edge Print.
2. Click the **Add** button in the upper-left corner.
3. Select the sublimation file from the computer.
4. Confirm that the correct file has been added to the job list.

Nesting Multiple Files

When printing multiple files together, files can be nested onto a single print sheet.

1. Add all files to Epson Edge Print.
2. Hold the **Ctrl** key.
3. Click each file in the left-side window.
4. Once all desired files are highlighted, click **Nest** at the top of the screen.
5. Review the resulting print sheet.
6. Move files around in the preview screen as needed.

Nesting allows multiple designs to be arranged efficiently and can help reduce unnecessary paper waste.

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6. Colour Settings

Colour settings are especially important when creating colour-match samples.

Selecting a Rendering Intent

1. Select the file in Epson Edge Print.
2. Open the **Colour Setting** tab on the right-side menu.
3. Under either RGB or CMYK, use the dropdown menu to select the rendering intent.

Available rendering intents include:

- Perceptual
- Relative Colorimetric
- Saturation
- Absolute Colorimetric

Colour-Match Samples

When printing a colour-match sample, test the different rendering-intent options when necessary. The goal is to determine which setting produces the best match to the requested colour. Do not assume that a colour will reproduce exactly as it appears on a computer screen

or as a Pantone reference. Physical sublimation results can vary, so colour samples should be evaluated after sublimation.

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7. Printing the Sublimation Paper

Once the file has been prepared:

1. Review the complete print layout.
2. Confirm that the correct files are included.
3. Confirm the arrangement and sizing.
4. Confirm the colour settings.
5. Click **Print** at the top of the Epson Edge Print window.
6. Monitor the printer while the job is running.

When printing is complete:

7. Use the **Cut** button on the printer control panel to automatically cut the paper.

Do not begin the fabric sublimation process until you have confirmed that the printed paper is correct.

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8. Heat Roller

The heat roller is used to transfer the sublimation design from printed paper onto fabric.

Standard Settings

For sublimating fabric:

Temperature: 380°F
Speed: 3

Always verify the settings before beginning a sublimation run.

Heat Roller Controls

Power Knob - Turns power to the roller on.
Heater Knob - Turns the roller's heating system on.
Temperature - Set the heat roller to: **380°F**
Speed - Set the roller speed to: 2-**3**

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9. Heat Roller Shutdown Procedure

This procedure is extremely important.

When you are finished sublimating:

1. Turn **off the heat**.
2. **Leave the power on.**
3. Allow the roller to cool completely.
4. The roller will automatically stop once it has cooled.
5. Once the roller has fully cooled, the power can be turned off.

⚠️ DO NOT TURN OFF THE POWER WHILE THE ROLLER IS STILL HOT.

The roller contains oil that can congeal unevenly if the machine is powered off before it has properly cooled. This can cause significant damage to the roller.

Always allow the machine to complete its cooling process before turning off the power.

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10. Emergency Stop and Reverse

The heat roller has an emergency stop/reverse control. Use the emergency function when immediate stopping is necessary.

The reverse function can be used when:

- Something becomes caught in the roller.
- Fabric needs to be removed quickly.
- Clothing, hair, fingers, or another object becomes caught.

Never reach into a moving roller. If something becomes caught, stop and use the appropriate emergency/reverse function.

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11. Felt Belt and Roller Bars

The felt belt is the large belt stretched over the roller bars.

The belt should always:

- Be tight, similar to a drum.
- Remain centered on the top roller bar.
- Run smoothly through the machine.

Checking Belt Tension

The belt should feel tight like a drum, rather than loose or excessively tight. If the belt is too loose:

1. Open the access panels on both sides of the machine.
2. Turn both adjustment gears to raise the roller bar.
3. Continue making small adjustments until the felt belt is taut.

If the belt is too tight:

- Turn the adjustment gears to lower the roller bar.

Correcting Belt Tracking

The felt belt should remain centered. If the belt begins moving toward one side:

1. Open the appropriate side access panel.
2. Locate the adjustment gear.
3. Turn the gear on the side the belt is moving toward to slightly raise the roller bar.
4. Allow the machine to continue running.
5. Give the belt time to move before checking whether the adjustment worked.
6. Make additional small adjustments if necessary.

Do not make large adjustments all at once. It can take some time for the felt belt to respond to an adjustment.

Side Access Panels

The gears inside the side access panels adjust the height of the main roller bar. Do not touch any wiring inside the access panels. The roller bars become extremely hot during operation.

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12. Preparing Fabric for Sublimation

Before feeding fabric through the roller, the fabric should be cut slightly larger than the printed paper.For ease of handling, it is recommended that individual fabric pieces be no longer than 5 yards. Longer pieces become difficult to handle and make it harder to keep the fabric flat and straight. This increases the risk of:

- Wrinkles
- Misalignment
- Print defects
- Fabric waste

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13. Positioning the Fabric and Paper

Lay the fabric flat.

Finished side of fabric: FACE UP

Place the printed sublimation paper on top of the fabric.

Printed side of paper: FACE DOWN

The printed side of the paper should be directly against the finished side of the fabric.

Take care to keep both materials flat and properly aligned.

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14. Securing the Paper to the Fabric

For small pieces, the fabric and paper may be placed directly into the heat roller or heat press.

For larger pieces—or whenever the paper and fabric are slipping—use **heat tape**.

Use as much tape as necessary to keep the paper and fabric stable.

A good practice is to tape the **entire top edge of the paper to the fabric**.

The goal is to prevent the paper from shifting as the materials enter the roller.

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15. Feeding Fabric Through the Heat Roller

This is one of the most important parts of the sublimation process.

Before Feeding

Check that:

- The paper and fabric are aligned.
- The fabric is flat.
- The paper is flat.
- There are no wrinkles.
- The leading edge is straight.
- The paper is securely attached to the fabric.

Feeding the Material

1. Carefully position the top edge of the paper and fabric at the roller entrance.
2. Keep the edge even and straight.
3. Feed the material into the roller carefully.

4. Continue keeping the fabric flat and straight as it enters.
5. Watch for wrinkles or shifting.

⚠️ PREVENT WRINKLES

A wrinkle entering the heat roller can create a major print defect. A defective transfer may require the entire piece of fabric to be discarded, so take the time to properly align and feed the material.

Do not rush this step.

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16. Catching Fabric as It Exits

The fabric will come out of the bottom of the heat roller very hot.

Whenever possible:

- Place a clean mat or basket beneath the roller.
- Prevent the fabric from falling onto the floor.
- Carefully guide or catch the fabric as it exits.
- Do not immediately grab hot fabric with bare hands.
- Allow it a moment to cool before handling it directly.

Keep the receiving area clean so the newly sublimated fabric does not become contaminated or damaged.

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17. Small Heat Press

The small heat press is used for:

- Small sublimation samples
- First-aid kit bags

Before Use

1. Confirm that the heat press is plugged in.
2. Turn on the power switch.
3. Check the temperature gauge.
4. Confirm that the temperature is between **380°F and 400°F**.

The exact press time will be added to this guide once confirmed.

Loading the Heat Press

1. Carefully place the fabric or item to be sublimated between the protective sheets.
2. Position it on the bottom heat pad.
3. Use the handle to close the press.
4. It may require some strength to close the press properly.
5. The press should feel as though it locks securely into place.
6. Confirm that it does not pop open when the handle is released.

Keep your fingers clear while closing the press.

Removing the Material

After the appropriate amount of pressing time has passed:

1. Carefully open the press.
2. Remove the sublimated material.
3. Remember that the material will be hot.
4. Use heat-resistant gloves if desired.

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18. Fabric Sample Procedures

Sublimation samples are an important part of our quality-control and colour-matching process.

Minimum Sample Size

All fabric samples must be at least: **2" × 2"**

Samples should be large enough to properly evaluate the fabric, colour, and sublimated design.

Creating Samples in Batches of Two

All fabric samples must be created in **batches of 2**. The two samples serve different purposes:

Sample 1: Sent to the customer.

Sample 2: Retained by the company for reference and record-keeping.

Both samples must be produced under identical conditions whenever possible.

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19. Sublimation Sample Labelling

Every sublimation sample must be clearly labelled with the applicable colour identifier.

Acceptable identifiers include:

- Hex code
- Pantone number
- Another equivalent colour identifier

The label allows the sample to be identified and reproduced more easily for future orders or reprints.

Do not create an unlabeled sublimation sample.

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20. Colour-Match Sample Workflow

When a customer requires a specific colour match:

1. Confirm the requested colour reference.
2. Prepare the appropriate sublimation file.
3. Print the colour sample.
4. Test rendering intents when necessary.
5. Sublimate the sample onto the appropriate fabric.
6. Evaluate the physical sublimated result.
7. Identify the selected colour using the applicable colour code or reference.
8. Produce the second sample under the same conditions.
9. Label the samples clearly.
10. Retain the company sample for future reference.

Physical samples are especially important because the appearance of the printed paper does not necessarily represent the final appearance of the sublimated fabric.

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21. Sublimation Documentation

Sublimation is not complete until the required documentation has been completed. A specification sheet must be created for every mascot involving custom sublimated fabric.

The Specification Sheet Must Include:

1. Physical Fabric Sample

Include a physical sample of the fabric used for the project. The sample should be a cut from the actual fabric used in the final product.

2. Amount of Custom Fabric

Record the amount of custom fabric used for the final product.

3. Fabric Identification

Clearly identify which fabric was customized. For example, document whether the customization involved:

- Colour
- Texture
- Pattern
- Other sublimated design

4. Special Instructions

Document any special techniques, instructions, or considerations used during the sublimation process.

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22. Completing and Storing Specification Sheets

Specification sheets must be:

- Typed, not handwritten.
- Completed promptly after the order is finished.
- Added to the physical client file.
- Uploaded to the client's folder on the Google shared drive.

The goal is to make the project easy to reproduce in the future.

Good documentation should allow another employee to understand:

- What fabric was used.
- What was sublimated.
- How much custom fabric was required.
- What colour or design was used.
- Any special techniques that were required.

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23. Printer Maintenance

Maintenance should only be performed according to approved procedures and training.

Always wear protective gloves when performing printer maintenance and use approved maintenance swabs where required.

Daily Startup Checks

Before production:

- Check the ink supply.
- Check the ink levels on the printer control panel.
- Run a nozzle check.
- Inspect the nozzle-check pattern for gaps.

If gaps are present, follow the approved head-cleaning procedure.

Media Adjust

Whenever a new roll of media is loaded, perform the **Media Adjust** procedure from the printer's settings menu. This helps account for differences in the media and can help prevent print-quality problems such as banding or graininess.

Ink Agitation

Follow the department's established ink-agitation schedule.The existing maintenance schedule specifies:

Ink	Frequency
High Density Black	Once per week
Other colours	Once every three weeks

Monthly Maintenance

Capping Station - Clean the edges of the capping station with an approved maintenance swab to maintain the vacuum seal.

Wiper - Inspect the wiper for ink buildup. Replace it if it is warped or if ink buildup prevents it from wiping properly.

Platen and Vent - Wipe the platen to remove dust and keep cooling-fan vents clear.

24. Troubleshooting

Troubleshooting should begin with the simplest possible cause. If you are unsure what is causing a problem, stop and ask a supervisor rather than experimenting with the equipment.

Problem	Potential Causes	Possible Solutions
Banding or lines in the print	● Clogged nozzles ● Media tension	● Nozzle Check ● Media Adjust
Missing nozzles or clogged print head	● Dried ink ● Debris	● Cleaning the capping station. ● Performing the approved head-cleaning procedure.
Poor ink flow	● Ink may settle in the ink lines.	● Follow the approved ink-agitation procedure.
Alignment problems	● Media is crooked	● Stop the job. ● Reload the media. ● Ensure it is properly aligned against the guides.
Poor Sublimation Transfer Quality	● incorrect colour-management settings ● an incorrect ICC profile.	● Verify that EpsonWideCMYK_Ver2.icc ● is selected when required by the approved production workflow.
Sublimation has wrinkle patterns	● Fabric Wrinkled During Sublimation	● Stop if necessary. ● Do not continue feeding badly wrinkled fabric. ● Check that the fabric is flat. ● Check that the paper and fabric are properly aligned. ● Check that the paper is secured with heat tape where necessary. ● Restart only when the material can be fed smoothly.
Paper Shifting on Fabric	● Fabric is slippery and/or was not thoroughly stabilised and attached to the paper	● Stop the process if necessary. ● Reposition the paper. ● Use additional heat tape. ● Ensure the top edge is secure before feeding it into the roller.
Felt Belt Moving Off-Center	● The roller bar is not level	● Check the belt alignment. ● Use the appropriate side adjustment gear. ● Make a small adjustment. ● Allow the roller to run long enough for the belt to respond. ● Recheck the alignment. ● Do not make large adjustments at once.
Ghosting around sublimated design	● The fabric shrank due to heat ● The wrong paper was used	● Run the fabric through the roller without the paper to pre-shrink it. ● Check that the correct non-gassing paper is loaded in the printer.

25. When to Stop and Ask for Help

Employees should stop and ask a supervisor when:

- The printer displays an unfamiliar warning or error.
- The printer behaves unexpectedly.
- The heat roller does not operate normally.
- The felt belt cannot be properly aligned.
- The felt belt cannot be brought to the correct tension.
- Wiring or electrical components appear damaged.
- A material becomes caught in the roller.
- There is a safety concern.
- A print defect cannot be identified or corrected using the approved troubleshooting procedures.
- You are unsure whether a procedure is safe.

It is always better to stop and ask than to risk damaging equipment, wasting materials, or causing an injury.

Important Reminders

SAFETY FIRST.

The heat roller and heat press become extremely hot.

Keep your fingers clear of moving equipment.

Never reach into a moving roller.

Keep fabric and paper flat and wrinkle-free.

Heat roller: 380°F / Speed 3.

Maximum sublimation width: 44".

Allow the heat roller to cool completely before turning off the power.

When in doubt, stop and ask.

26. Operator Competency Checklist

Before an employee is approved to work independently, they should demonstrate the following:

Safety

☐ Identifies heat and pinch/crush hazards.
☐ Keeps hands clear of the heat roller.
☐ Demonstrates safe use of the heat press.
☐ Explains the emergency/reverse procedure.
☐ Understands proper heat roller shutdown.

Printer

☐ Identifies the Epson SureColor F6470H.
☐ Checks the printer for warnings before use.
☐ Performs a nozzle check.
☐ Understands the 44" maximum print width.
☐ Uses the correct ICC profile.

Epson Edge Print

☐ Adds a file to Epson Edge Print.
☐ Correctly nests multiple files.
☐ Adjusts the print layout.
☐ Understands the available rendering intents.
☐ Can prepare and send a job to print.
☐ Uses the printer's Cut function correctly.

Heat Roller

☐ Sets the roller to 380°F.
☐ Sets the speed to 3.
☐ Identifies the power and heater controls.
☐ Checks felt-belt tension.
☐ Identifies incorrect belt tracking.
☐ Understands how to make belt adjustments.
☐ Correctly feeds fabric and paper into the roller.
☐ Prevents wrinkles during feeding.
☐ Safely catches/handles hot fabric as it exits.
☐ Demonstrates the correct cooling and shutdown procedure.

Heat Press

☐ Identifies appropriate uses for the small heat press.
☐ Sets the temperature between 380°F and 400°F.
☐ Loads material safely.
☐ Keeps fingers clear when closing the press.
☐ Safely removes hot material.

Samples & Documentation

☐ Creates samples at least 2" × 2".
☐ Creates samples in batches of two.
☐ Labels sublimation samples correctly.
☐ Understands customer vs. company sample retention.
☐ Completes required sublimation documentation.
☐ Understands physical and digital specification-sheet storage.

Maintenance & Troubleshooting

☐ Understands the daily printer checks.
☐ Understands the Media Adjust requirement.
☐ Understands the ink-agitation schedule.
☐ Can identify common print-quality problems.
☐ Knows when to stop and ask for assistance.

27. Employee Sign-Off

Employee Name: _____

Trainer/Supervisor: _____

Training Date: _____

Date Approved for Independent Operation: _____

Employee

I confirm that I have received training on the sublimation equipment and procedures outlined in this guide. I understand that I am responsible for following the approved procedures and asking for assistance whenever I am unsure how to safely proceed.

Employee Signature: _____

Date: _____

Trainer/Supervisor

I confirm that the employee has demonstrated the required knowledge and practical skills to operate the sublimation equipment according to department procedures.

Trainer/Supervisor Signature: _____

Date: _____