STREET CHARACTERS INC.

RAYJET R400 – OPERATOR TRAINING GUIDE

Department: Production
Equipment: Trotec Rayjet R400 Laser Cutter
Document Owner: Management
Applies To: All employees authorized to operate the laser cutter

1. Purpose

This guide establishes the standard operating process for the safe and consistent use of the Trotec Rayjet R400 laser cutter at Street Characters Inc. It covers file preparation, material verification, machine setup, operation, shutdown, cleaning, and basic maintenance responsibilities. Only employees who have received training and have been authorized by a supervisor may independently operate the machine.

This guide must be followed alongside:

1. Rayjet R400 Safety Procedure & Hazard Assessment,
2. Rayjet R400 Cleaning & Maintenance Guide
3. Rayjet R400 Approved Materials Register.
4. 8060-R400 Operating Manual

2. Important Safety Requirements

The laser cutter can create smoke, fumes, heat, and fire hazards. Incorrect materials or improper operation can expose employees to hazardous emissions or cause damage to the machine. The following requirements apply every time the machine is used:

- Ventilation must operate throughout laser cutting. There are no exceptions.
- The machine must never be left unattended while operating.
- Only materials listed as Approved in the separate Approved Materials Register may be processed.
- All vinyl materials are strictly prohibited.
- Never bypass, disable, or interfere with machine safety devices or interlocks.
- Keep the work area clean and free of unnecessary combustible materials.
- Never operate the machine if it appears damaged, is malfunctioning, or has an unresolved safety concern.
- Stop work and notify a supervisor if an unsafe condition is identified.

Employees must know the location of the emergency stop, fire extinguisher, and applicable emergency response instructions before operating the machine.

3. Material Verification – Required Before Every Job

The Approved Materials Register is the controlling reference for determining which materials may be used in the Rayjet R400.

The register is maintained separately so that approved products can be added or updated without revising this training guide.

3.1 Before using any material

1. Identify the exact material and supplier.
2. Locate the Rayjet R400 Approved Materials Register.
3. Confirm that the material and product are covered by an entry marked Approved.
4. Confirm that the material being used matches the product or material description in the register.
5. If the material is not listed, is marked Pending Approval, or cannot be positively identified, do not use it. Ask a supervisor to review it.

3.2 Material restrictions

- All vinyl materials are strictly prohibited.
- Materials marked Pending Approval must not be used.
- Do not assume that a material is approved simply because it looks or feels similar to another approved product.
- Different products from the same supplier may have different compositions, coatings, backing materials, or treatments.
- Do not substitute a different product without confirming that it is covered by the register.

Only Management or the OHS Committee may authorize additions or changes to the Approved Materials Register. Where required, suitability must first be confirmed with Trotec.

When in doubt, do not cut the material.

4. File Preparation & Rayjet Manager

4.1 Select the correct computer

The USB switch determines which computer is connected to the laser cutter.

- Position **2** – Main computer
- Position **1** – 3D printer computer

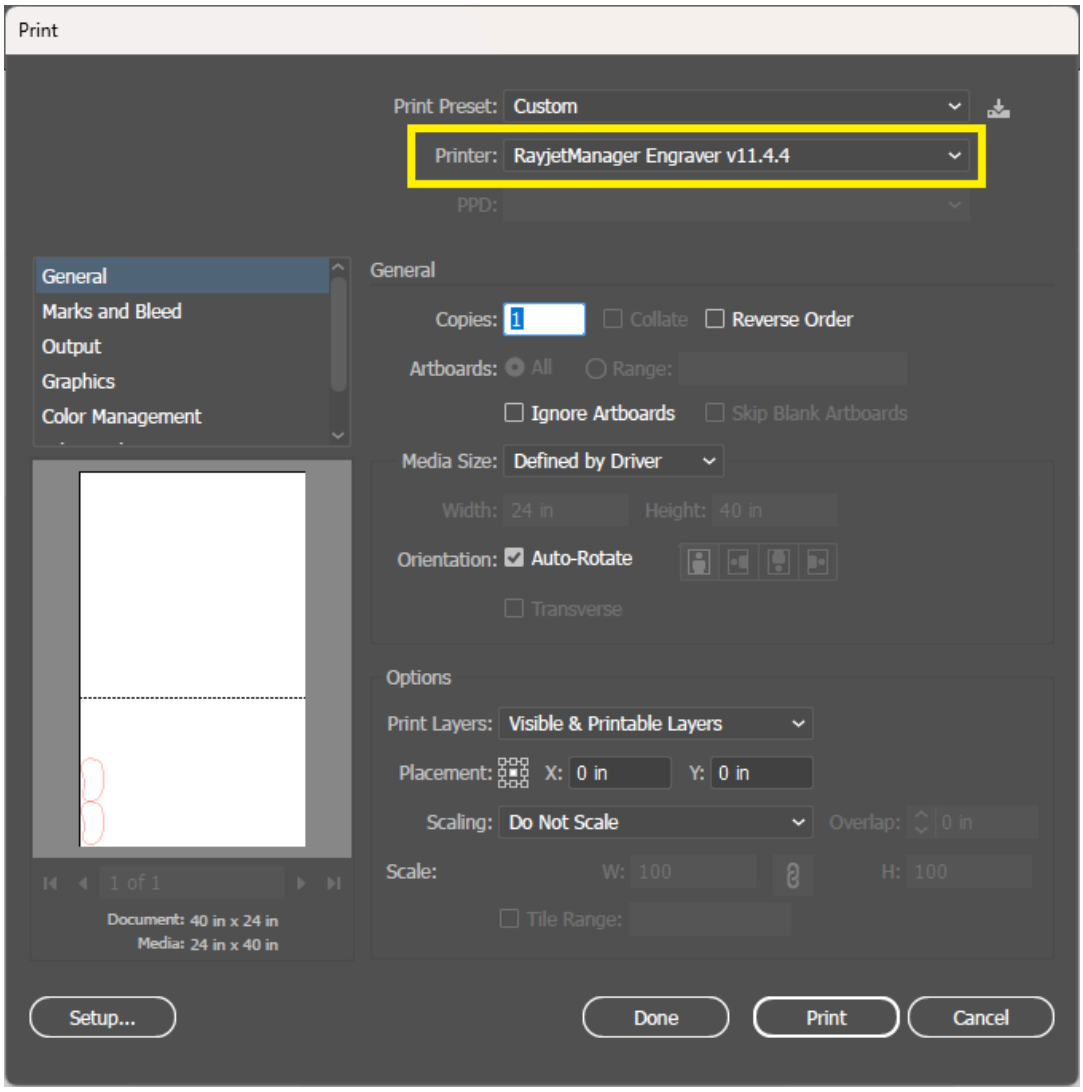
Confirm that the switch is set to the correct computer before preparing the laser cutter job.

4.2 Open the design file

1. Open Adobe Illustrator on the computer.
2. Select **File** → **Open**.
3. Locate and open the correct job file.
4. Confirm that the correct design has been opened before proceeding.

4.3 Send the job to Rayjet Manager

1. In Adobe Illustrator, select **File** → **Print**.
2. Confirm that the selected printer is **Rayjet Manager Engraver v11.4.4**.



3. Select **Print**.
4. Wait for Rayjet Manager to load.

4.4 Locate and preview the job

1. Find the job in the list on the right-hand side of Rayjet Manager.
2. Jobs can be sorted by date to help locate the correct file.
3. Select the eye icon in the top toolbar to preview the job.

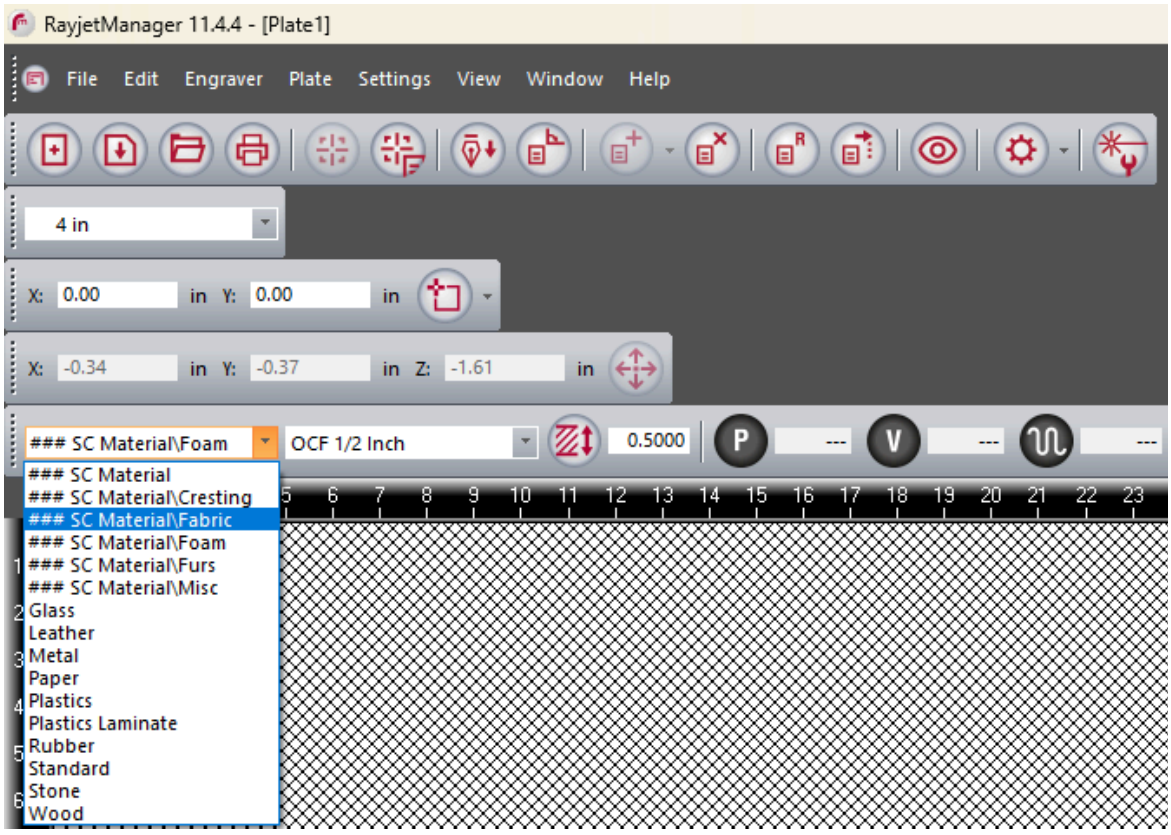


4. Use the rulers along the top and left sides of the preview to estimate the material dimensions required.
5. Confirm that the material is large enough for the job, with a little extra room around the design.

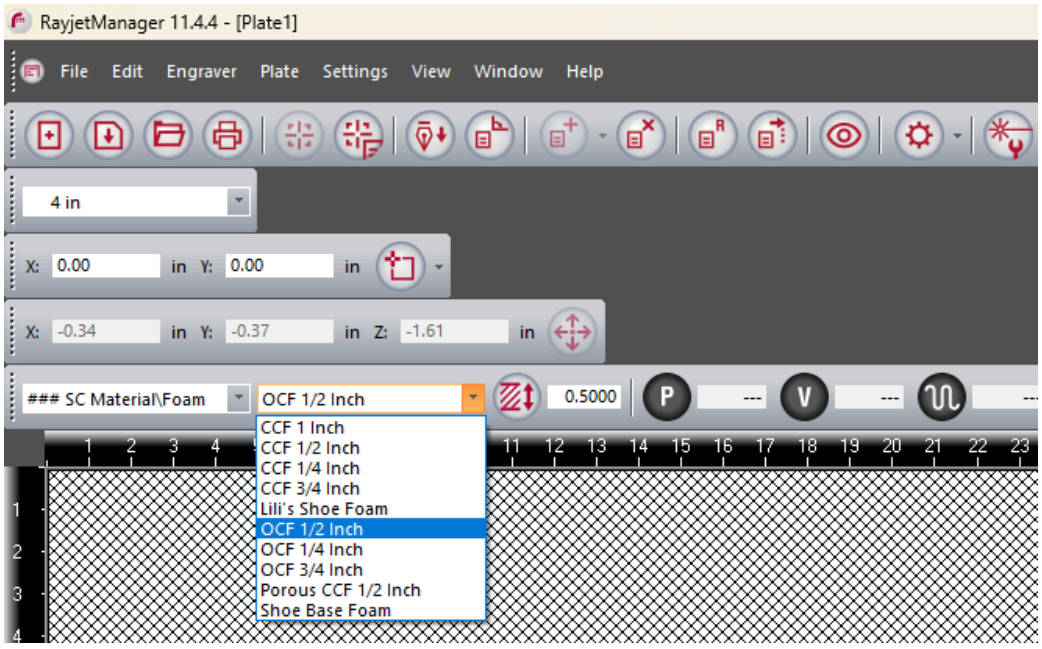
The maximum material size that fits in the laser cutter is **40.5 inches × 24.5 inches**

4.5 Select the correct material settings

1. Use the dropdown menus in the top toolbar to select the correct material type.



2. Select the specific material that matches the material being processed.



3. Confirm that the settings correspond to the actual material being used.

Important software issue: Rayjet Manager may revert the selected material to its default setting when the user clicks an empty area of the preview screen.

If this happens:

1. Re-select the correct material.
2. Click the empty preview area again
3. Check the material selection again.
4. Confirm that the correct material remains selected before starting the job.

Never assume the correct material settings are still selected without checking.

5. Machine Setup

Complete the following checks before starting the laser cutter.

5.1 Ventilation

1. Turn on the ventilation system before operating the laser cutter.
2. Confirm that the ventilation fan is running.
3. Ensure the ventilation remains on throughout the entire cutting process.
4. Check that the internal vents at the back and bottom of the machine bed are open

Ventilation is mandatory whenever the laser is operating. Laser processing can produce smoke and potentially hazardous fumes. Never operate the machine without functioning ventilation.

5.2 Cooling water

1. Check the machine's cooling-water level.
2. Confirm that the level is within the green indicator range.
3. Refill if necessary, following the established machine procedure.

Do not operate the machine if the cooling-water level is outside the required range or there is a cooling-system concern.

5.3 Start the machine

Follow the established Street Characters machine startup procedure:

1. Turn the machine key to start the laser cutter.
2. Turn on the power bar.
3. Confirm that the compressor and ventilation fan start.
4. Confirm that the machine is functioning normally.

5.4 Lower the working grid

1. Wait for the grid to lower fully.
2. Use the Z-axis arrows to raise the grid most of the way back up.
3. Open the lid once the grid is in position.

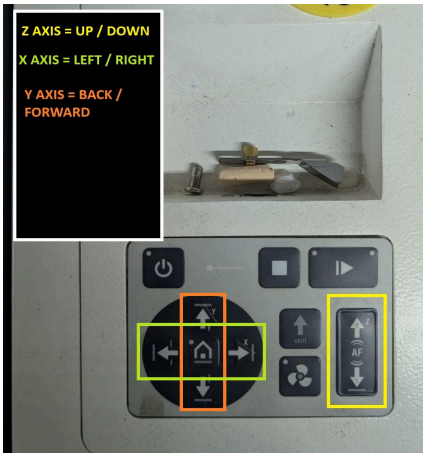
Do not place material on the grid while it is moving.

6. Positioning Material & Focusing

6.1 Place the material

1. Confirm once again that the material is approved and matches the selected material settings.
2. Place the material flat on the working grid.
3. Align the material with the **top-left corner** of the grid.
4. Ensure the material is positioned securely and is not interfering with the machine's movement.

6.2 Position the laser head



Use the machine's directional controls:

- **X-axis arrows:** Move the laser head left and right.
- **Y-axis arrows:** Move the laser head forward and backward.
- **Z-axis arrows:** Raise or lower the working grid.

Move the laser head until it is positioned over the top-left corner of the material.

6.3 Focus the laser



1. Place the measuring/focus tool on the laser head.
2. Position the brass bolt directly on top of the laser head's edge.
3. Use the Z-axis arrows to slowly raise the grid.
4. Continue raising the grid until the measuring tool just falls off the laser head.
5. Remove the focus tool before operating the machine.

Correct focusing is important for achieving consistent cutting results.

7. Connecting & Starting the Job

1. Return to Rayjet Manager on the computer.
2. Locate the double-arrow connection icon near the bottom-right corner of the software.
3. Select the icon to connect to the laser cutter.
4. Once connected, the icon will change to a triangle-shaped start button.
5. Confirm that the correct job and material settings are selected.
6. Confirm that ventilation is operating and the work area is clear.
7. Select the start button to begin the job.

7.1 While the laser is operating

- The machine must be continuously supervised by the operator.
- Do not leave the room or allow the machine to run unattended.
- Watch for unusual smoke, flames, unusual noises, or other signs of malfunction.
- Ensure ventilation continues operating.
- Do not open the lid or interfere with the machine while it is running.
- Keep other employees clear of the operating area as appropriate.

If anything appears abnormal, pause or stop the job. Use the emergency stop if there is an immediate danger.

8. Completing a Job

8.1 Allow fumes to clear

Once the cutting job is complete leave the lid closed for a minimum of **five minutes**. This is a Street Characters internal safety requirement to allow smoke and fumes to clear.

8.2 Remove the material

1. After the waiting period, open the lid.
2. Carefully remove the processed material.
3. Be aware that recently processed material may still be hot.
4. Check the work area and remove any loose material or debris.

8.3 Multiple copies

If additional copies of the same job are required:

1. Confirm that the replacement material is approved.
2. Replace the material on the grid.
3. Recheck positioning and focus as required.
4. Confirm the correct material settings are still selected.
5. Use the machine's start button to repeat the job.

Always verify the material and machine setup before starting another cut.

8.4 End of use

When finished:

- Remove all material and loose debris.
- Clean the drawer.
- Confirm the machine and surrounding area are left clean and orderly.
- Turn off the machine, power bar and check with the props supervisor before turning off ventilation.

9. Pausing, Stopping & Emergency Situations

9.1 Pausing or stopping a job

The machine can be paused or stopped during operation.

Use the appropriate machine controls if:

- The job is not processing correctly.
- The material shifts or becomes improperly positioned.
- The machine makes unusual noises.
- Smoke or other conditions appear abnormal.

- The operator needs to stop the process for safety reasons.

Do not resume operation until the issue has been assessed and it is safe to continue.

9.2 Excessive smoke or flames

If excessive smoke or unexpected flames occur:

1. Stop the job immediately.
2. Use the emergency stop if necessary to prevent immediate danger.
3. Follow the company's Emergency Response Plan.
4. Notify a supervisor immediately.
5. If there is a fire or risk to people, follow the applicable evacuation and emergency response procedures.

The emergency stop does not replace the company's fire response procedure.

Never put yourself at risk attempting to control a fire. Follow your training and the Emergency Response Plan.

10. Cleaning & Routine Maintenance

The main machine operator is responsible for completing routine maintenance. A supervisor is responsible for verifying that scheduled maintenance has been completed.

All cleaning and maintenance must follow the separate **Rayjet R400 Cleaning & Maintenance Guide** and the manufacturer's instructions.

10.1 Daily

- Inspect the lens and clean it if needed.
- Clean out the machine drawer.
- Check the cooling-water level and refill if needed.

10.2 Weekly

- Wipe the backside ventilation slots.

10.3 Every Six Months

- Clean and lubricate the mirrors.
- Clean and lubricate the X-axis and Y-axis rails.
- Clean the backside ventilation slots.

10.4 Annually

- Clean and grease the machine spindles.

10.5 Maintenance precautions

- Only perform maintenance for which you have received appropriate training and authorization.

- Follow the manufacturer's instructions for cleaning and lubricating machine components.
- Do not touch optical surfaces with fingers or tools.
- Do not remove or adjust mirrors or other optical components unless specifically trained and authorized.
- Electrical or specialized maintenance must only be performed by appropriately qualified or authorized personnel.
- Report damaged components, unusual wear, or maintenance concerns to a supervisor.

11. Operator Responsibilities

Every authorized operator is responsible for:

- Following this guide and all related safety procedures.
- Checking the Approved Materials Register before every job.
- Using only approved materials and the correct material settings.
- Ensuring ventilation is operating throughout the cutting process.
- Checking the cooling-water level before use.
- Remaining with the machine while it is operating.
- Following the required five-minute waiting period after cutting.
- Keeping the machine and surrounding work area clean.
- Completing assigned routine maintenance.
- Reporting unsafe conditions, machine faults, and material concerns to a supervisor.
- Stopping work whenever safe operation cannot be confirmed.

12. Related Documents

The following documents must be available to employees operating the Rayjet R400:

1. **Rayjet R400 – Safety Procedure & Hazard Assessment**
2. **Rayjet R400 – Cleaning & Maintenance Guide**
3. **Rayjet R400 – Pre-Operation Checklist**
4. **Rayjet R400 – Operator Training & Competency Sign-Off**
5. **Rayjet R400 – Approved Materials Register**
6. **Street Characters Inc. – Emergency Response Plan**
7. **Trotec Rayjet R400 Operating Manual**

The Approved Materials Register is maintained as a separate controlled document. Employees must consult the current version before processing any material.

Employee Acknowledgement

I acknowledge that I have received and reviewed the Rayjet R400 Operator Training Guide. I understand that I must follow the procedures and safety requirements outlined in this guide and consult the separate Approved Materials Register before using any material.

I understand that I must not operate the machine independently until I have completed training, demonstrated competency, and received supervisor authorization.

Employee Name	Employee Signature	Date Signed

STREET CHARACTERS INC.

Laser Cutter Safety Procedure & Hazard Assessment

Department: Production
Equipment: Trotec Rayjet R400
Document owner: Management
Applies to: Employees operating, working near, or maintaining the laser cutter
Document status: Draft for internal review

1. Purpose

This procedure identifies the main hazards associated with the Trotec Rayjet R400 and establishes the controls employees must follow to prevent injury, fire, equipment damage, and exposure to harmful fumes or smoke. The laser cutter may only be operated by trained and authorized employees.

2. General safety requirements

Employees must:

- Follow the Operator Training Guide and manufacturer's operating manual.
- Use only materials approved for this machine.
- Never cut vinyl or other prohibited materials.
- Ensure the ventilation/exhaust system is operating before starting and throughout the entire cutting process.
- Never leave the machine unattended while operating.
- Keep the lid, doors, guards, and safety interlocks in place and functional.
- Never bypass, disable, or modify safety devices.
- Keep the work area clean and free of unnecessary combustible material.
- Report defects, unusual smoke, excessive flames, or unsafe conditions immediately.
- Stop work if a safety control is not functioning.

3. Approved and prohibited materials

Approved materials

The Approved Materials Register is the controlling reference for determining which materials may be used in the Rayjet R400**.** Only materials listed as approved in the register may be used. Employees must ask a supervisor if they are unsure whether a product is covered.

Prohibited materials

Vinyl materials must never be laser cut. Other materials prohibited by the R400 manufacturer must also not be used. These include PVC, PVB, PTFE (Teflon), carbon fibre, beryllium oxide, materials containing halogens, epoxy resins, and phenolic resins. Do not process unidentified materials or products with unknown coatings, backing, or composition without supervisor review.

4. Hazard assessment

Hazard	Potential consequences	Required controls
Laser radiation	Eye or skin injury if the laser beam is exposed	Keep all covers, lids, doors and interlocks functional. Never bypass safety devices. Do not operate with damaged or missing covers.
Smoke, fumes and airborne contaminants	Respiratory irritation or exposure to harmful substances	Use only approved materials. Operate the ventilation/exhaust system throughout cutting. Stop work if ventilation fails or unusual smoke/fumes occur.
Fire and ignition	Burns, smoke exposure, property damage	Never leave the machine unattended. Keep the work area clean. Keep the required CO2 fire extinguisher immediately accessible. Stop work if flames become excessive or uncontrolled.
Hot material and machine components	Burns or discomfort	Allow material to cool where necessary. Keep the lid closed for at least five minutes after a job before opening. Handle material carefully.
Moving working table and laser head	Pinching or impact injuries	Keep hands clear while components are moving. Use the machine controls. Do not force moving parts.
Electrical equipment	Electric shock or equipment damage	Do not operate damaged electrical equipment. Do not open electrical panels or perform electrical repairs. Report faults to Management.
Incorrect material or settings	Harmful emissions, fire, poor cuts or machine damage	Confirm material identity and software material settings before starting. Never cut vinyl. Ask a supervisor if uncertain.
Poor housekeeping or accumulated debris	Increased fire risk and obstructed operation	Clean the working area and drawer. Remove scraps and debris. Keep access to controls and emergency equipment clear.
Inadequate maintenance	Poor performance, overheating, fire risk or equipment failure	Complete scheduled inspections and cleaning. Record and report maintenance issues. Supervisor verifies scheduled maintenance.

5. Ventilation and fume control

The ventilation/exhaust system is a critical safety control.

1. Turn on and confirm ventilation before starting a laser job.
2. Keep ventilation running throughout cutting.
3. Do not operate the laser if the ventilation system is not working.
4. If ventilation stops during a job, pause or stop the machine safely and notify a supervisor.
5. Do not resume until ventilation has been restored and the machine is confirmed safe to operate.

Employees must not assume that a material is safe simply because it produces little visible smoke or has been cut successfully in the past.

6. Fire prevention

Laser cutting can ignite combustible materials. To reduce the risk:

- Never leave the machine unattended.
- Keep the machine and surrounding area free of unnecessary combustible debris.
- Check the working area before starting.
- Use only approved materials.
- Keep the CO2 fire extinguisher immediately accessible, as required by Trotec.
- Report damaged equipment, unusual sparks, excessive flames, or abnormal smoke immediately.

Do not continue a job if there is an unexpected or uncontrolled fire condition.

7. Emergency response

Excessive smoke, flames or fire

1. Stop or pause the job if it is safe to do so.
2. Use the emergency stop if there is immediate danger.
3. Alert nearby employees and notify Management.
4. Follow the company's Emergency Response Plan.
5. Evacuate if the fire cannot be safely controlled or if there is any doubt about personal safety.
6. Call emergency services when required.
7. Do not re-enter the area or restart the machine until Management has confirmed it is safe.

Only trained employees may attempt to use a fire extinguisher, and only when it is safe to do so.

Ventilation failure

1. Pause or stop the cutting job.
2. Do not continue cutting without ventilation.
3. Notify a supervisor.
4. Do not restart until ventilation is restored and the machine is confirmed safe.

Machine or safety-device malfunction

1. Stop the machine.
2. Use the emergency stop if there is immediate danger.
3. Do not bypass or attempt to repair safety interlocks.
4. Notify a supervisor.
5. Keep the machine out of service until the problem is assessed and corrected.

Injury or exposure

Follow the company Emergency Response Plan and Incident, Injury & Near Miss Reporting Procedure. Obtain first aid or emergency medical assistance as required.

8. Personal protective equipment

Employees must follow the PPE requirements established by Street Characters for the work area and the task being performed. Any additional PPE identified by a product safety data sheet, Trotec, or a task-specific hazard assessment must be used. PPE does not replace ventilation, machine guarding, safe material selection, or other required controls.

9. Training and supervision

- Only trained and authorized employees may operate the machine.
- Employees must understand material restrictions, ventilation requirements, fire prevention, emergency stopping, and routine checks.
- Employees must receive practical instruction before independent operation.
- Supervisors must verify scheduled maintenance and address reported defects.
- Refresher instruction must be provided when procedures, equipment, materials, or hazards change, and when a competency concern is identified.

10. Stop-work authority

Every employee has the authority and responsibility to stop work if they identify an unsafe condition.

Do not operate the laser cutter if:

- Ventilation is not working.
- The cooling-water level is outside the acceptable range.
- A safety interlock, cover, lid, or guard is damaged or not functioning.
- The material is prohibited, unidentified, or not approved.
- There is an unusual machine condition, excessive smoke, or uncontrolled flame.
- The operator has not been trained and authorized.

Report the concern to a supervisor before work resumes.

Hazard assessment review

This assessment must be reviewed when:

- The machine, ventilation, or associated equipment changes.
- New materials or processes are introduced.
- An incident, near miss, or equipment malfunction occurs.
- An inspection identifies a deficiency.
- A review identifies that existing controls are not adequate.

Prepared by: _____

Reviewed by: _____

Approval: _____

Date: _____

STREET CHARACTERS INC.

Trotec Rayjet R400 – Cleaning & Maintenance Guide

Department: Production
Equipment: Trotec Rayjet R400
Document owner: Management
Routine maintenance: Main machine operator
Verification: Supervisor
Document status: Draft for internal review

1. Purpose

This guide establishes the routine cleaning, inspection, and maintenance responsibilities for the Trotec Rayjet R400 at Street Characters Inc.

The main machine operator is responsible for completing routine maintenance. A supervisor must verify scheduled maintenance and ensure that any deficiencies are addressed.

Maintenance must be performed safely and in accordance with the manufacturer's instructions. Employees must not attempt repairs or maintenance for which they have not been trained and authorized.

2. Maintenance schedule

Frequency	Maintenance task	Responsibility
Daily / before use	Inspect the lens for dust, residue or visible damage. Clean if needed, if trained and authorized.	Main operator
Daily / after use	Empty and clean the drawer. Remove scraps and debris.	Main operator
Daily / before use	Check cooling-water level. Refill if required to bring it into the green range.	Main operator
Weekly	Wipe the ventilation slots on the back of the machine.	Main operator
Every 6 months	Clean mirrors, following the applicable manufacturer procedure and authorization requirements.	Main operator or authorized service personnel
Every 6 months	Clean and lubricate the X and Y axis rails.	Main operator, if trained and authorized
Every 6 months	Clean the rear ventilation slots.	Main operator
Yearly	Clean and grease the machine spindles.	Main operator, if trained and authorized

3. Daily maintenance

3.1 Lens inspection

Before operating the machine:

1. Inspect the lens for visible dust, residue, or damage.
2. If the lens appears clean and undamaged, no cleaning is required.
3. If cleaning is needed, only a trained and authorized person may perform it using the manufacturer's approved cleaning method and materials.
4. Report scratches, damage, persistent residue, or uncertainty to a supervisor.

Do not touch the lens with fingers or ordinary shop cloths. Do not use household cleaners or unapproved solvents.

3.2 Drawer cleaning

After use:

1. Ensure the machine is no longer processing.
2. Follow the machine shutdown and safe-access instructions.
3. Remove scraps and debris from the drawer.
4. Check for accumulated material that could create a fire hazard.
5. Dispose of waste appropriately.
6. Leave the drawer clean and ready for the next job.

Do not use flammable cleaning products or leave combustible debris inside the machine.

3.3 Cooling-water check

Before use:

1. Check the cooling-water level.
2. Confirm that the level is within the marked green range.
3. If the level is low, follow the established refill instructions for the machine.
4. Do not operate the laser if the cooling-water level is outside the acceptable range or if there is a leak or other cooling-system concern.
5. Notify a supervisor if the level cannot be restored or if the system appears abnormal.

Only use the correct coolant/water specified for the installed cooling system. If the required fluid or refill method is uncertain, ask a supervisor rather than guessing.

4. Weekly maintenance

Rear ventilation slots

Once per week:

1. Ensure the machine is not operating.
2. Wipe the accessible ventilation slots on the back of the machine.
3. Remove visible dust and accumulated debris.
4. Report blocked slots, heavy buildup, damage, or signs of ventilation problems.

Do not remove covers or access internal electrical components as part of routine weekly cleaning.

5. Six-month maintenance

The following tasks are scheduled every six months under the current Street Characters maintenance schedule.

5.1 Mirrors

1. Inspect the mirrors for dust, residue, or damage.
2. Mirror cleaning must be performed only by personnel trained and authorized to do so.
3. Follow the exact Trotec cleaning procedure and use approved cleaning materials.
4. Do not touch optical surfaces with fingers or tools.
5. Report scratches, damage, or uncertainty to a supervisor.

The manufacturer's manual provides specific procedures for optical components. Employees must not remove or clean mirrors unless they have been trained and authorized for that work.

5.2 X and Y axis rails

1. Follow the machine shutdown procedure.
2. Switch off and disconnect the machine from mains power before performing maintenance requiring access to the motion system.
3. Clean the X and Y axis rails using the manufacturer-approved method.
4. Lubricate only with a lubricant approved by Trotec for the R400.
5. Apply the correct quantity and method specified by the manufacturer.
6. Clean away excess lubricant and ensure the work area is free of debris.
7. Record the maintenance date and any concerns.

Do not substitute lubricants or apply additional grease without checking the manufacturer's specifications.

5.3 Rear ventilation slots

1. Ensure the machine is shut down.
2. Clean the rear ventilation slots using the manufacturer's recommended method.
3. Remove accumulated dust and debris.
4. Do not open electrical enclosures or remove panels unless authorized.

6. Yearly maintenance

Spindle cleaning and greasing

Once per year:

1. Arrange the work when the machine can be safely taken out of service.
2. Switch off and disconnect the machine from mains power before maintenance.
3. Clean the spindles using the manufacturer's procedure.
4. Apply the manufacturer-approved grease in the specified quantity and locations.
5. Reassemble any components that were removed, following the manufacturer's instructions.
6. Record the work and report any wear, damage, or unusual movement.

Only personnel trained and authorized for this maintenance may complete the work. If the operator has not received the required instruction, the task must be referred to an authorized service technician.

7. General maintenance safety

- Never perform maintenance while the machine is processing.
- Follow the manufacturer's shutdown and isolation instructions.
- Disconnect mains power before maintenance requiring access to internal or moving components.
- Electrical maintenance must only be performed by qualified personnel.
- Do not use explosive or flammable cleaning agents.
- Do not store flammable or explosive liquids in or near the machine.
- Do not bypass or remove safety devices.
- Do not use unapproved lubricants, solvents, or cleaning products.
- Keep the machine and surrounding work area clean.
- Report any defect or abnormal machine behaviour to a supervisor.

8. Maintenance records and verification

The main operator must record scheduled maintenance when completed. The supervisor must verify the work and arrange correction of any deficiencies.

Records should include:

- Date completed.
- Maintenance task.
- Name of person completing the task.
- Any problems or observations.
- Corrective action required.
- Supervisor verification and date.

A task must not be marked complete if it was only partially completed or if a deficiency remains unresolved.

9. When to stop and report

Do not continue operating the machine if maintenance checks identify:

- Damaged or contaminated optics that may affect safe operation.
- Cooling-water level outside the acceptable range.
- Blocked or malfunctioning ventilation.
- Unusual movement, noise, vibration, or mechanical resistance.
- Damaged electrical components or wiring.
- Damaged safety covers, interlocks, or other safety devices.

Notify a supervisor and keep the machine out of service until it has been assessed and confirmed safe.

STREET CHARACTERS INC.

RAYJET R400 – PRE-OPERATION CHECKLIST

Complete this checklist before starting a laser-cutting job.

Material and file

- I have positively identified the material.
- The material is approved for use in the R400.
- I have confirmed that the material is not vinyl or another prohibited material.
- The material fits within the company maximum size of 40.5 in × 24.5 in.
- I have opened and checked the correct file in Adobe Illustrator.
- I have selected Rayjet Manager Engraver v11.4.4 as the printer.
- I have checked the correct job in Rayjet Manager.
- I have previewed the job and confirmed the material settings.

Machine and work area

- The machine and surrounding area are clean and free of unnecessary debris.
- The lid, covers, doors and safety devices appear intact.
- The lens has been inspected and is clean and undamaged.
- The drawer is clear of debris.
- The cooling-water level is within the green range.
- The ventilation/exhaust system is operating.
- The compressor and required machine systems are operating.
- The working table and laser head move normally.
- The material is positioned correctly and aligned to the top-left corner.
- The laser has been focused using the focus tool.

Final check before starting

- Rayjet Manager is connected to the machine.
- The correct job and material settings are selected.
- Ventilation is running.
- I am ready to remain at the machine and supervise the entire job.
- I know how to pause/stop the job and where the emergency stop is located.

Do not start the job if any required check fails. Stop and notify a supervisor.

Operator initials: _____

Issue(s) identified / action taken:

STREET CHARACTERS INC.

RAYJET R400 – OPERATOR TRAINING & COMPETENCY SIGN-OFF

Department: Production
Equipment: Trotec Rayjet R400 Laser Cutter
Document owner: Management
Applies to: Employees receiving training to operate the laser cutter

1. Employee & Training Information

Employee name: _____ **Training date:** _____

Trainer: _____ **Training location:** _____

2. Purpose

This form documents employee training and practical competency for the safe operation of the Trotec Rayjet R400 laser cutter.

Employees must receive instruction, demonstrate the required skills, and receive supervisor authorization before independently operating the machine.

Training must cover the company's operating procedures, safety requirements, material restrictions, emergency response, and routine operator responsibilities.

3. Training Topics

The trainer must review each topic with the employee and confirm that the employee understands the requirements.

A. Machine Safety & Material Identification

- Understands the purpose and general operation of the Rayjet R400.
- Understands that only trained and authorized employees may operate the machine.
- Knows where to locate the **Rayjet R400 Approved Materials Register**.
- Understands that only materials listed as Approved in the register may be used.
- Understands that materials listed as Pending Approval must not be used.
- Understands that all vinyl materials are strictly prohibited.
- Understands that new or unidentified materials must be reviewed and approved before use.
- Understands that the material register is maintained separately and may be updated as new products are approved.

B. File Preparation & Rayjet Manager

- Knows how to select the correct computer using the USB switch.

- Understands how to open the correct file in Adobe Illustrator.
- Knows how to print using Rayjet Manager Engraver v11.4.4.
- Understands how to locate the correct job in Rayjet Manager.
- Knows how to preview the job and confirm material dimensions.
- Understands how to select the correct material settings.
- Understands the Rayjet Manager software issue where material selections may revert to the default setting.

C. Machine Setup & Operation

- Understands the machine startup procedure.
- Knows how to check the cooling-water level.
- Understands the importance of ventilation and that it must operate throughout cutting.
- Knows how to position the material correctly on the working grid.
- Understands the X, Y and Z machine controls.
- Knows how to use the focus tool.
- Understands how to connect Rayjet Manager to the machine.
- Knows how to start, pause and stop a job.
- Understands that the laser cutter must never be left unattended while operating.
- Understands the post-job waiting period of at least five minutes before opening the lid.
- Knows how to safely remove material and complete post-job cleanup.
- Understands how to repeat a job and when material settings must be checked again.

D. Emergency Response

- Knows the location and function of the emergency stop.
- Understands when to use the emergency stop.
- Understands what to do if excessive smoke or unexpected flames occur.
- Knows the location of the required fire extinguisher.
- Understands that the company Emergency Response Plan must be followed.
- Knows to notify a supervisor immediately if an unsafe condition or equipment malfunction occurs.

E. Cleaning & Maintenance

- Understands daily lens inspection and cleaning responsibilities.
- Understands the requirement to clean the drawer.
- Knows how to check the cooling-water level.
- Understands the weekly rear ventilation-slot cleaning requirement.
- Understands the scheduled maintenance requirements.
- Understands that maintenance must be recorded when completed.
- Understands that maintenance requiring specialized training or authorization must not be attempted without it.
- Understands that defects and maintenance concerns must be reported to a supervisor.

4. Practical Competency Demonstration

The employee must demonstrate the following tasks under the supervision of the trainer.

Practical task	Competency demonstrated
Locate and consult the Approved Materials Register	
Identify an approved material and verify its status	
Explain what to do with pending or unidentified materials	
Identify vinyl and explain that it is prohibited	
Open and prepare the correct file in Adobe Illustrator	
Print the file to Rayjet Manager	
Locate and preview the correct job	
Select and verify the correct material settings	
Prepare and correctly position the material	
Check ventilation and cooling-water level	
Position the laser head and focus the machine	
Connect Rayjet Manager and start the job	
Demonstrate continuous supervision during operation	
Complete post-job cleanup	
Explain the five-minute waiting period before opening the lid	
Identify and explain the emergency stop procedure	
Explain the response to excessive smoke or flames	

5. Training Outcome

Select the appropriate outcome:

- **Competent:** Employee has completed training and demonstrated the required skills. Employee may be authorized for independent operation.
- **Additional training required:** Employee has not yet demonstrated all required competencies and must not operate independently.
- **Supervised operation only:** Employee may operate the machine only under direct supervision until competency is demonstrated and authorization is granted.

Additional training required / observations:

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6. Authorization

Independent operation is permitted only after the employee has completed the required training, demonstrated competency, and received supervisor authorization.

Trainer name: _____

Trainer signature: _____
Date: _____

Employee signature: _____
Date: _____

Supervisor authorization: _____
Date: _____

7. Employee Acknowledgement

I acknowledge that I have received training on the safe operation of the Trotec Rayjet R400 laser cutter.

I understand that:

- I must follow the Street Characters Laser Cutter Operator Training Guide and Safety Procedure.
- I must consult the separate Approved Materials Register before using any material.
- I must never use vinyl or materials that are pending approval or not listed as approved.
- I must ensure ventilation is operating throughout the cutting process.
- I must never leave the laser cutter unattended while it is operating.
- I must stop work and notify a supervisor if I identify an unsafe condition, equipment defect, or material that I cannot positively identify.
- I must complete my assigned cleaning and maintenance responsibilities.

I understand that I am responsible for following these requirements every time I operate the machine.

Employee signature: _____

Date: _____

STREET CHARACTERS INC.

RAYJET R400 – APPROVED MATERIALS REGISTER

Equipment: Trotec Rayjet R400 Laser Cutter
Document owner: Management
Department: Production
Last reviewed: _____

Purpose

This register identifies materials approved for use in the Street Characters Trotec Rayjet R400 laser cutter.

Only materials listed as **Approved** may be used. New materials must be reviewed and approved by Management, with confirmation of suitability from Trotec where required, before being added to the approved list.

Employees must not assume that a material is approved simply because it looks or feels similar to another listed material.

Approved Materials

Supplier	Material / Product	Fabric Contents / Composition	Approved?
Howl Fabrics	Faux Fur	Product-specific composition; polyester-based or blended faux fur	Yes – Trotec verified
Big Z Fabrics	Faux Fur	Product-specific composition; polyester-based or blended faux fur	Yes – Trotec verified
Norseman Protective Solutions	Closed-cell Foam	Polyethylene (PE)	Yes – Trotec verified
Norseman Protective Solutions	Open-cell Foam	Polyethylene (PE)	Yes – Trotec verified
PacCana	1800D Polyester Oxford with 2x PU Backing	Polyester with polyurethane backing	Yes – Trotec verified
Georgia Stage	Nylafleece	Nylon (polyamide)	Yes – Trotec verified
Various suppliers	Other Fabrics	Polyester	Yes – Trotec verified

Materials Pending Approval

Materials in this section must not be used until they have been reviewed and approved.

Supplier	Material / Product	Fabric Contents / Composition	Approved?
			No – Pending
			No – Pending
			No – Pending

Prohibited Materials

Vinyl materials are strictly prohibited from use in the laser cutter.

Other materials prohibited by the Trotec R400 manufacturer must also not be processed. Refer to the manufacturer's operating manual for the complete list of prohibited materials.

Adding New Materials

Before a new material can be added to the approved list:

1. Identify the supplier and exact product name.
2. Obtain the material composition, including backing, coatings, blends and treatments where applicable.
3. Confirm suitability for laser processing with Trotec when the material is not already covered by an existing approval.
4. Obtain Management approval before the material is used.
5. Add the approved material and its supplier information to this register.

If the composition or suitability of a material is uncertain, it must remain classified as **Pending Approval** until verified.

Register Approval

Reviewed by: _____

Signature: _____

Date: _____