

A4 THERMAL-COPIER

www.thermal-copier.com



Operation Guide

Thank for your purchase of an A4 Thermal-Copier. This guide is for Series 'A4AU' models, indicated by A4AU-0000 to A4AU-9999 serial numbers.

This guide introduces security advice, hints for installation and operation, as well as maintenance information. Before using the machine, please read all areas of this guide to ensure correct set-up, care and importantly to avoid risks for your health and/ or damage to the machine by improper use.



This symbol indicates an important hint for your safety. Disregarding this subject may cause physical harm to you or damage to the machine.

Warranty

Each Thermal-Copier has passed several tests (function, operation, electrical) both during and after manufacture. The warranty period is 30 days from purchase, extended to a full 12 Months (via a free 11 month warranty upgrade) where the warranty is validated by completing and returning the warranty form within 30 Days of purchase. See warranty form supplied with machine for full details.

Contents

Page	Contents
2	Electrical Safety Advice
3	Machine Location
3	Unpacking Instructions
4	Artwork Types and Preparation
5	Imaging Tattoo Spirit/ Transfer Paper
6	Imaging ScreenMaster Screen Printing Mesh
7	Imaging Oversized Screens - A4 designs on A3 size mesh
9	Cleaning and Maintenance
9	Trouble Shooting

Sales, Supplies and Support

Please contact your place of purchase for supplies of carriers and additional materials:

NEHOC Australia Pty Ltd

Supplies and Orders - www.NEHOCdirect.com

Machine support - www.nehoc.com.au/go/tca4

Phone: (02) 9979 9700 Fax: (02) 9979 9201 E-mail: support@nehoc.com.au

Postal: PO Box 175, NARRABEEN NSW 2101

Declaration of conformity

The A4 Thermal-Copier fits design, manufacturing and delivery conditions for the following safety regulations of the EU-directives:

- DIN EN 60950-1: Safety of Information Technology Equipment
- DIN EN 55041-1/2: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus
- DIN EN 50116: Information Technology Equipment - Routine electrical safety testing in production
- All PCB's used inside the device are RoHS compliant
- This device is made only for conventional use in studio's and offices with regular environment and temperatures. Children are not allowed to operate the device

Manufacturer:

KW Metalltechnik, GERMANY
Kronauer & Werner KG

Factory Service Agent - Australia & Asia:

For all warranty claims and machine repair contact:

NEHOC Service Department

E-mail: support@thermal-copier.com (Internet: www.thermal.copier.com/service)

Service Dept. Phone: (02) 9997 9700

Sales, Supplies and Support

Please contact your place of purchase for all further support, product supplies (including replacement carriers) and additional materials.

Disclaimer

This guide is produced by NEHOC Australia Pty Ltd for the A4 Thermal-Copier (TCA4). This guide may not be reproduced or edited without written permission from NEHOC Australia Pty Ltd. This document is intended to be used as a guide only, NEHOC Australia Pty Ltd may not be held responsible for any fault or misinterpretation that may occur from its use by the customer.

Safety Advice

Your Thermal-Copier has been designed and tested to meet strict safety requirements. Attention to the following information will ensure the continued safe operation of the device.



Use only the power cord supplied with your machine.

Plug the AC power cord into a properly grounded electrical outlet. If you do not know if an outlet is grounded ask a qualified electrician to check the outlet first.

Check the voltage of your machine, as listed on the label at the rear of the machine, meets the voltage of your power supply.

If you use an extension cord make sure the cord is suited to the current of the machine. Unplug extension cord for long periods when machine is not in use.

Warning

- Avoid the potential of electrical shock by ensuring the machine is properly grounded
- Do not place the machine in an area where people may step on the power cord
- Do not place objects on the power cord
- Electrical products may be hazardous if misused
- Do not block the ventilation openings. The openings are intended to prevent overheating
- Do not drop paper clips or staples into the machine

Warning



Do not push objects into slots or openings on the machine. Making contact with the voltage point or shorting out a part could result in fire or electrical shock.

If you notice noises that are not associated with the normal operation of the machine:

1. Turn off the machine immediately
2. Turn off and disconnect the power cord from the electrical outlet
3. Call an authorised service representative to correct the problem on (02) 9979 9700

Warning

- Never open the lid while the machine is in use as direct viewing of light from heat lamp may damage eyes and cause damage to the machine.
- Never open machine case without ensuring the machine is switched off and the power cord is disconnected from the electrical outlet.

Note: Opening case (not lid) will void machine warranty.

Machine Location

The location of your machine is important. Please read the following prior to use.

1. Keep the Thermal-Copier out of direct sunlight.
 - Direct exposure to the sun or excessive heat may cause damage to the unit
2. Do not install the Thermal-Copier close to a radiator or air-conditioner unit.
3. Do not install the Thermal-Copier in a humid or dusty work area.
4. Place the Thermal-Copier securely on an even, flat and fireproof surface.
 - Heat from the machine escapes through the cooling vents at the base of the machine
 - Do not place the machine on paper or a flammable material
 - Tilted or uneven surfaces may cause mechanical or paper feeding problems
5. There must be sufficient (10cm - 4 inch) room around the machine to ensure adequate ventilation

Important Usage Hints

! The Thermal-Copier produces heat during operation. Especially when multiple copies in a short time have been made - parts inside may be hot.
Do not touch parts under the top cover (e.g. Glass Roller) while the fans are working.

When the Thermal-Copier is in standby mode it is still consuming some power. To avoid wasting energy please turn the main switch on the rear of the machine to "0".

- Standby mode is when the copier has power on (lights on) but no parts are in operation

To disconnect the power completely from the machine remove the AC power plug from the wall socket.

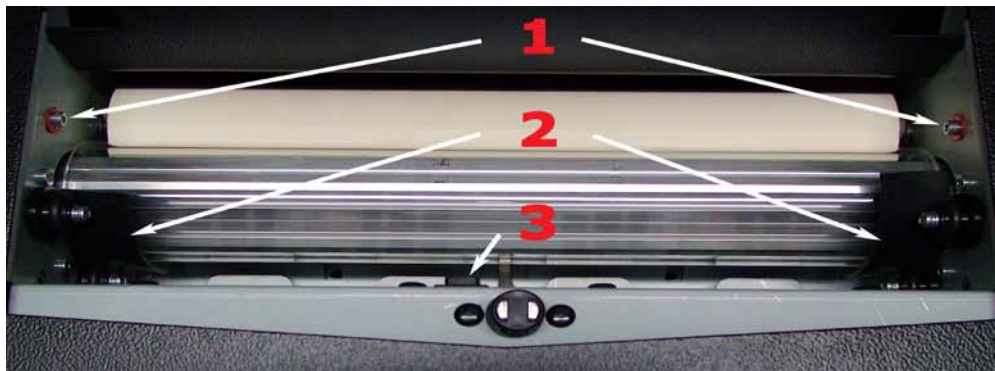
- Never turn off the power or remove the AC power plug unless the fans have stopped and the machine has finished its cool down period (approx. 30 minutes) after use.

! Never operate the Thermal-Copier without a suitable carrier.

Unpacking Instructions

Your machine has been factory packed for transport and MUST be unlocked before use. Failure to perform the following prior to initial use will void all warranties.

There are 3 steps to perform in order to unlock the Rubber Roller and Glass Roller for use.



1. Remove the machine from carton, protective foam & plastic bag
 2. Open the lid of the machine to expose the Glass Roller as pictured above
 3. Loosen transportation locks (1) on both left and right sides of machine using allen key provided with machine. Do not completely remove the locks, simply loosen them so washer is loose.
 - To loosen turn counterclockwise - remember lefty loosey, righty tighty
 4. Press the Glass Roller forwards to relieve pressure on protective rubber strips (2), then remove from between Glass Roller and the Guide Rollers (2 Guides each side)
 - Do not discard the rubber strips. Store with this guide and machines protective foam should future transport or storage be required.
 5. Attach power cord to rear of machine then insert into an electrical outlet
 6. Turn the machine on (Green light will illuminate), press Feed Button (3) to rotate Glass Roller
- With locks loose, rubber removed and the Glass Roller rotated your machine is now unlocked and ready for use.

Artwork

Artwork for use with a Thermal-Copier MUST be carbon based, as it's the carbon that reacts with the heat the Thermal-Copier provides to melt the thermal film on the ScreenMaster mesh.

Carbon based artwork is available in 3 main forms:

1. A B/W Photocopy
2. B/W Computer Laser Print
3. Hand drawn artwork with RISO carbon artwork pens

Notes on Inkjet/ Bubble Jet Computer Prints

Inkjet (also called Bubble Jet) printers using liquid cartridges do not contain carbon and are thus not suited for artwork.

If using Inkjet prints, take a photocopy and use the photocopy as your artwork.

Keys to Good Artwork

1. Use the same type of artwork (i.e. don't mix photocopy and laser print)
2. Eliminate all moisture in your artwork
3. Remove excess carbon that may block the screen

Preparation

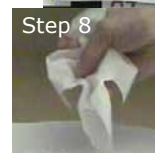
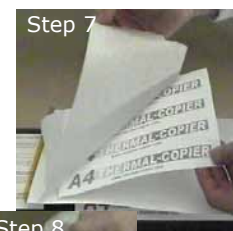
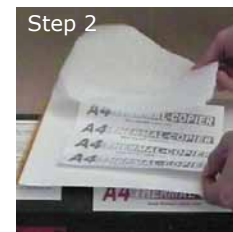
Screens are imaged directly from the artwork you provide, so a small amount of time preparing your artwork will help eliminate the 2 most common problems before they occur:

1. Moisture in the artwork
2. Excess carbon in the design

Either of these elements can cause carbon to lift off your artwork and block the mesh - a problem that is quickly and easily solved by performing a quick Artwork Clean-Up just before you image your screen.

Artwork Clean-Up Process for A4 Thermal-Copier

1. Open thermal carrier cover and place artwork inside facing upwards.
2. Tear, or cut, a piece of Clean-Up Paper from the roll, ensuring all the design is covered.
 - Uncovered parts of the design will burn into the cover of the carrier
 - Clean-Up Paper should not stick out past edges of the carrier or it may jam in the machine. Fold Clean-Up Paper at the outer edge of the artwork and tuck back under design where required. Folds outside the design area will not effect the clean-up process.
 - Use only Artwork Clean-Up Paper (product code S-155) as other types of papers may stick to the design or not remove any excess carbon
3. Lower the lid of the carrier and prepare to pass through the machine
4. Set the machine to a speed setting of 5 (general setting)
 - Setting may vary depending on artwork type
- 5a Insert the carrier into the machine.
 - Continue to feed into the machine until AFTER the heat starts AND carrier is grabbed - hesitation may cause the head of the carrier to melt
- 5b Support the top of the carrier with your hand as it comes out the back of the machine
6. Open the lid of the carrier and remove the Clean-Up Paper/ Artwork
 - The artwork may now be slightly stuck to the paper - this is the excess carbon sticking
 - If the Clean-Up Paper does not stick this is OK
 - Excessive sticking is rare but may occur. This indicates heavy levels of carbon in the design and may require an increase of speed (less heat) or a second pass through machine on a new piece of Clean-Up Paper
7. Gently peel the Clean-Up Paper off the artwork
8. Scrunch the used piece of Clean-Up Paper so it can not be reused
 - Reuse will transfer carbon back to the paper
9. Artwork is now prepared and ready to image a screen.
 - If artwork is not used within 5 minutes repeat this process as the paper will begin to absorb moisture



Imaging Tattoo Spirit Paper



Tattoo Spirit Paper, also called Tattoo Transfer Paper, is used to transfer a copy of a design onto the skin as a guide prior to tattooing.

In order to keep the tattoo paper and artwork together as it passes through the machine you MUST use a thermal carrier. Imaging tattoo paper without using a carrier will result in the paper wrapping around the glass roller and damaging the machine.

Step 1. Artwork

Artwork can be hand drawn, photocopied or computer laser printed - as long as it's carbon based, it will work. Full details on Artwork types and preparation see Information Sheet #01.

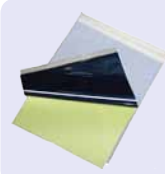
The quality of your artwork is important, so taking two minutes to ensure it's clean of background marks etc. will make all the difference once your paper has been imaged.

Artwork Preparation

Whilst not essential for tattoo paper, quality is improved by cleaning up your artwork before use, by passing through the machine against Artwork Clean-Up Paper (product code S-155) at a setting of 5. This process:

- Remove's moisture from the artwork
- Helps remove pinholes, small marks and some background marks
- Removes excess carbon eliminating dark spots

Step 2. Combine artwork and paper in carrier



Tattoo Spirit Paper contains multiple layers:
 Cover sheet - your design appears on back after imaging
 Protective sheet - must be removed before use
 Carbon Paper - transfers the artwork to the cover sheet
 Backing sheet - artwork lays on top face up

a) Open the cover of the carrier and place a sheet of the tattoo spirit paper inside on top of the backing sheet (under the carbon layer) - facing upwards.

b) Remove the protective sheet from between the cover and carbon layer. If this sheet is not removed before imaging the design will not transfer onto the cover.

Step 3. Imaging

Turn the machine on and set to the required setting [will differ depending on artwork type].

- Between 6-8 is the normal speed for photocopies and laser prints
- a) Feed the carrier into the front of the machine in a continuous motion.
 - The machine will 'grab' the carrier and pull it through
 - Do not stop feeding until after the machine grabs the head of the carrier
- b) Support the carrier using your hand as it exits the top of the machine.
 - Do not pull the carrier unless cover 'slips' or begins to roll

Step 4. Remove imaged design

Lift the cover of the carrier to reveal your tattoo paper. Peel back the cover sheet of the paper, which will slightly stick to the carbon layer, to reveal your imaged design on the back of the cover sheet.

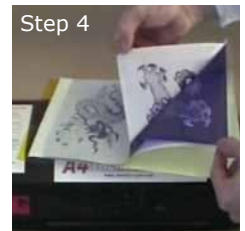
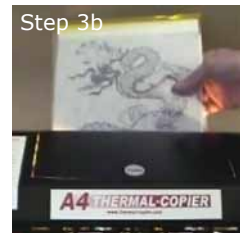
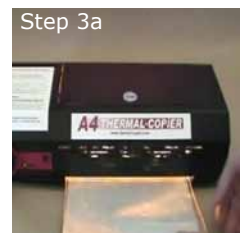
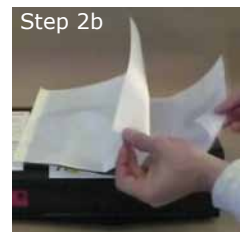
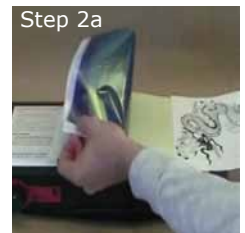
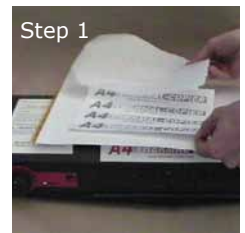
- Slightly peel the artwork from a corner to check correct imaging.
- If under imaged do not remove the design as you can re-feed it back through the machine to complete the imaging process

Step 5. Apply design to skin



Cut off excess paper (leave 1cm around design), clean the skin and apply paper design side down.

- For best results pat the back of paper with damp cloth. Use caution not to rub hard or the paper may move causing a smudged design



Imaging Screens

With your artwork prepared it's now time to image your screen. This section covers ScreenMaster sizes up to A4, larger sizes are covered in the next section - Imaging Oversized Mesh.

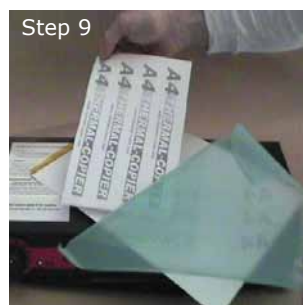
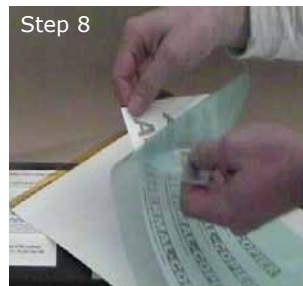
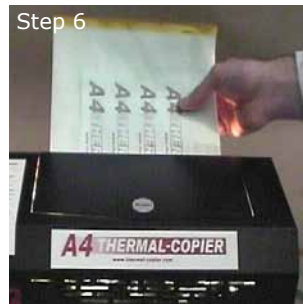
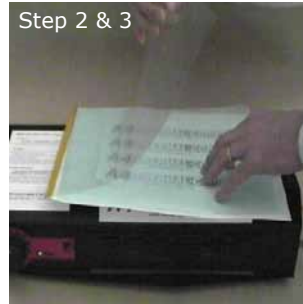
Cut Your ScreenMaster Mesh

1. Lay the frame you will be using for your design onto a flat surface and place the rolled ScreenMaster against the back.
2. Using a pair of scissors or a Stanley knife, cut the ScreenMaster to fit the outer edges of the double sided tape.
 - To make mounting the Mesh easier after the screen has been imaged easier, allow an additional 10mm (1/2 inch) past the tape.

Your ScreenMaster is now cut to size and ready for use.

1. Lift the clear cover of the carrier and place your artwork 'face up' on the base of the carrier.
2. With your ScreenMaster cut to size, place over your artwork, film side (smooth) down against the design.
3. Lower the lid of the carrier back over the mesh/ artwork - you are now ready for imaging.
4. Turn the machine on to the speed required.
 - Speed setting will differ depending on artwork type used
 - Between 6 and 8 is generally the normal speed used for photocopies and laser prints
5. Feed the carrier into the front of the machine in a continuous motion.
 - The machine will 'grab' the carrier and pull it through
 - Do not stop feeding until after the machine grabs the head (top) of the carrier
6. Support the carrier with your hand as it comes out the back of the machine.
 - Do not pull the carrier, support it's weight as it comes out the back
7. Lift the cover of the carrier and remove your imaged screen from the carrier.
8. Before removing the artwork from the back of the mesh, the screen should be checked.
 - Slightly peel the artwork from a corner to see if the screen has imaged correctly
9. If the screen is ready continue to remove the artwork
 - Should the screen be under imaged do not peel the artwork off the screen, simply return to the carrier and re-image the screen through the machine. Adjust the imaging setting if required.

With your screen now imaged you are ready to mount your screen to a frame for printing.



Imaging Oversized Screens

The A4 Thermal-Copier has a maximum imaging width of 220mm (full A4 width), however an A4 design can also be placed onto an A3 size screen by folding the outer edges of the mesh under the design and passing through the machine.

Why would an A3 size screen be needed with A4 artwork?

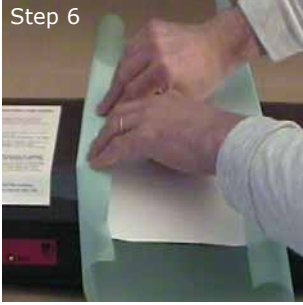
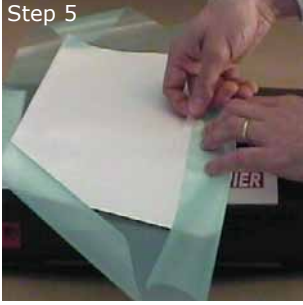
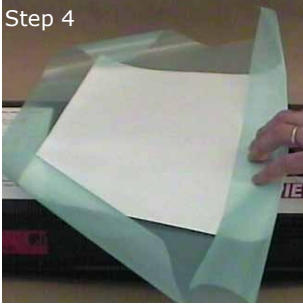
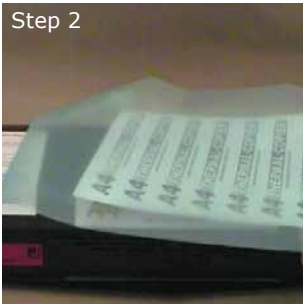
An A3 sized screen is required for A4 artwork when printing 'off contact' using opaque inks or Aqua Inks for Plastic/ metals.

Does the fold to the ScreenMaster effect the print?

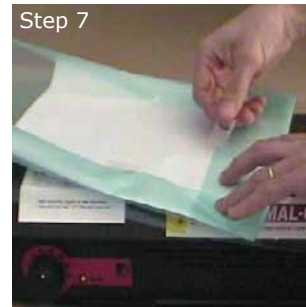
The fold created on the outer edges of the artwork is outside the design area. When stretched to a metal frame the fold becomes almost flat, however it's the fact it's outside the print area that's important. Provided there is a 5mm gap between the design and fold there is no issues.

Preparation

1. Prepare your artwork using the Artwork Clean-Up Process outlined on page 4 of this guide.
2. With your ScreenMaster cut to size, place over your artwork, film side (smooth) down against the design.
3. Holding both the artwork and ScreenMaster together flip the combination over to have the artwork on top facing downwards, as pictured right.
 - If the artwork moves when the mesh is flipped you must reposition the design against the screen, as the next step will fix the design in place
 - Ensure this process is done on a flat surface with suitable space to limit any movement of the artwork/mesh combination
4. Fold the long edge closest to you back onto the artwork as pictured right.
 - **Do not** fold or crease the ScreenMaster mesh with your hand to flatten at this stage
 - The mesh will have a slight curve, not crease, as it folds over around the paper
5. Using a removable sticky tape attach the folded edge to the back of the artwork
 - **Do not** use highly adhesive tapes as they may damage the mesh when removed
 - **Do not** use adhesive sprays or glues of any type
6. With the first long edge taped down, proceed to perform the same task on the second long edge of the screen.
 - Pull the mesh over onto the back of the artwork
 - Tape down against the back of the artwork
 - Do not fold or crease the edge

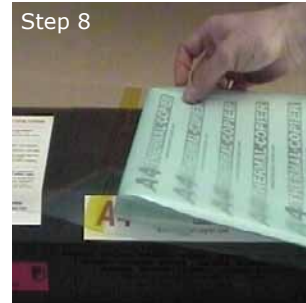


7. With both long (side) edges of the screen taped down proceed to fold and tape the head/ top of the mesh to the artwork.
 - Use caution not to fold or crease the edges
 - Tape down against the back of the artwork, not against the mesh on the sizes or this may cause damage to the mesh when removed
 - There is no requirement to tape the fourth side of the mesh

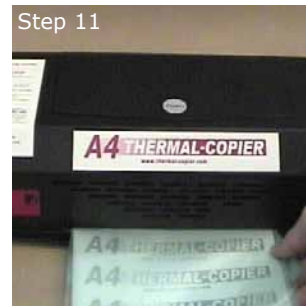


Imaging

8. Open the cover of the thermal carrier and insert the top of the artwork/ mesh into the carrier.
 - Ensure the head is sitting just below the thermal tape - do not place the design behind the thermal tape as it will not image
9. Lower the cover of the thermal carrier back over the mesh/ artwork - you are now ready for imaging.
 - Mesh will protrude out the bottom of the carrier - this is OK

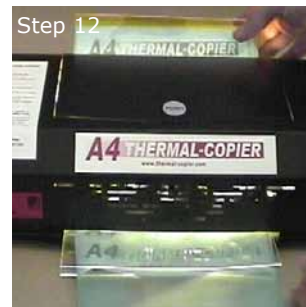


10. Turn the machine on and set to the speed to the required setting
 - Speed setting will differ depending on artwork type used
 - Between 6 and 8 is generally the normal speed used for photocopies and laser prints



11. Feed the carrier into the front of the machine in a continuous motion. Do not stop feeding until after the machine grabs the head of the carrier.
 - The machine will 'grab' the carrier and pull it through

12. Support the carrier with your hand as it comes out the back of the machine.
 - Do not pull the carrier, support it's weight as it comes out the back



- Maximum length of the design is 300mm
- Maximum length of mesh outside the carrier is 100mm
- For longer designs, fold and tape both the head and base of the mesh to the back of the artwork (all 4 sides).

13. Lift the cover of the carrier and remove your imaged screen from the carrier.

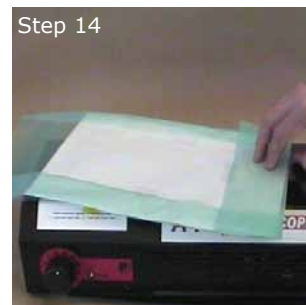


Separating and Checking

We must now remove the tape from the back of the artwork to reveal our imaged screen.

14. Remove the tape from the head of the design using caution NOT to tear the artwork or mesh.
 - The benefits of a removable sticky tape are clear at this point

If required you may keep the tape attached to the mesh and simply remove from the artwork. Fold the tape back onto the ScreenMaster mesh as this part of the screen will be attached to the frame and will not effect printing.



15. Remove the tape from one side of the artwork using caution NOT to tear the artwork or mesh.

It is at this point you should check the design for correct imaging.

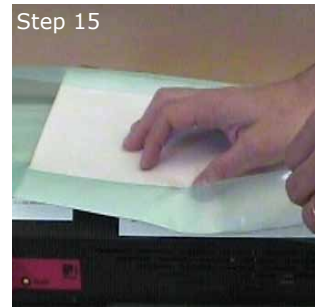
- Peel back only a small area of the design
- If re-imaging is required you must reattach the side and head to the artwork (steps 4-7) before running through the machine

16. After checking your screen remove the final piece of tape from the back of the artwork.

17. Remove the artwork from the design

18. You will note 3 creases on your mesh outside the artwork area caused by compression as the mesh was passed through the machine. Simply mount to a frame in the normal process.

- The crease is outside the print area and will not effect your print result, it is simply a cosmetic issue and should be ignored, as it is part of the oversized imaging process.
- Do not try to 'pull out' the crease when mounting to a frame - you will distort your design and may damage the mesh



Cleaning

Keeping your machine clean will ensure an ongoing trouble free operation. Above all avoid dusty locations (see Machine Location on Page 3 for more details) and keep the Glass Roller clean.

Machine

Clean carefully using moistened cotton swab with small amount of washing up liquid.

- Do not wet tables or rear electrical power plug

Glass Roller

Clean regularly by depressing the 'Feed' button (see page 3) and wiping with Isopropyl alcohol.

Carriers

Wipe carrier immediately after use with lint free cloth and return to protective cover.

Replace if cover worn, damaged, marked, bent or results begin to deteriorate.

Troubleshooting

Problems	Solutions
Green LED doesn't light:	
Main switch set to "0"	Set to "I"
Power cord not properly connected	Connect to a suitable electrical outlet
Electrical unit inside the machine defect	Contact service office on (02) 9979 9700
The heat lamp doesn't work, but green LED lights up:	
High temperature inside the machine - protective thermal sensor has activated	Heat sensor activated. Wait up to 20 minutes for the machine to cool
Lamp is defect/ broken	Contact sales office for replacement
Fuse of the lamp is broken	Replace with same type and value
After copying, motor and fans continue to work:	
Normal operation: motor runs for 5 minutes, fans run for 10 minutes after the last copy	Do not switch off the machine. Cooling is in progress.
Originals are jammed:	
No carrier or the wrong carrier was used. Carrier does not bear the heat.	Always use a carrier. Models CS04 (teflon cover) and R-TCA4 (budget cover)

Additional Troubleshooting, How to and Support - <http://www.thermal-copier.com/support>