BLAZER SERIES
User's Manual

JANUARY, 2009 VERSION 5.5

WRITTEN FOR

BLAZER-EXPRESS
TJBEX-1620

BLAZER-PRO
TJB-1650

U.S. Screen Print & Inkjet TECHNOLOGY

Tempe, Arizona USA

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Federal copyright laws permit you to make a backup of any Software included with your Fast T-Jet Blazer Pro for archival purposes only. Any other duplication of this Software, including copies offered through sale, loan, rental or gift is a violation of law and subject to both criminal and civil penalties.

We strive to continuously make improvements to our Inkjet-to-Garment printing system and we reserve the right to make product changes and improvements. ***This manual contains the latest and most accurate information as of its publication date.*** Some product photos or descriptions within this Manual may vary slightly from the currently shipped machine.

U.S. Screen Print & Inkjet Technology
Home of the U.S. Screen Printing Institute
a division of U. S. Graphic Arts, Inc.
1901 E. 5th Street
Tempe, AZ 85281 USA

Printed in the U.S.A.

A Letter from the Developer

Dear Valued Customer,

I want to personally thank you for purchasing a new ***T-Jet Blazer Series*** Inkjet-to-Garment printer. We have made a major investment in hardware and ink development to make inkjet printing directly onto a shirt a reality.

With the ***T-Jet Blazer Series***, FastINK and readily available software technology, you will be able to print high quality, vibrant images on T-Shirts and other garments in a matter of minutes. Our T-Jet printers are ushering in a new level of sophistication for the garment decorating industry.

I appreciate any comments or feedback you have on our machine and hope you enjoy using it as much as I have enjoyed developing it!

Best Regards,

Scott Fresener
CEO

Table of Contents

Basic Safety Instructions

Please read this entire Manual before attempting to Print.

- Follow all warnings on and about the printer.
- Use the proper power source type indicated on the printer's label and in this manual.
- Connect all equipment to grounded outlets. Use the included surge protector power strip included with each machine. Do NOT plug other items into this surge protector.
- Place the printer where the power outlet is easily seen.
- Do not allow the power cord to be damaged.
- If you are using an extension cord, ensure the extension cord's power ampere rate does not exceed that of the printer's cord.
- Keep electromagnetic devices and other potential sources of magnetic fields away from your printer.
- Do not use the printer in locations that have high humidity (40 - 60% humidity recommended), shocks, vibrations, debris or dust.
- Leave enough space around the printer for proper ventilation.
- Do not leave the printer near heat sources such as radiators or heat vents.
- Do not leave the printer in direct sunlight.
- Place the printer on a stable surface that extends beyond the length and width of the printer supports. The printer will not work properly if it is tilted or leaning.
- When packing and moving the printer, do not set the Blazer PRO on its side or
  upside down. This may cause the ink to spill. The Blazer EXPRESS can be tilted to fit through small doorways when crated (see page 7).
- Turn the printer OFF before cleaning the exterior. Clean with a damp cloth and avoid
  spilling any liquid on the printer. We recommend using brushed aluminum wipes and stainless steel cleaner

Caution:

- Do not unplug the printer to turn it OFF. Use the UI Power Button first, then the main breaker switch on the back.
- Do not unplug the printer until the Main Power Switch has been turned OFF.
- Do not block any of the printer's vents or insert foreign object into its slots.
- Do not attempt to service the printer yourself beyond the troubleshooting techniques covered in this manual.
- Keep the machine on a level surface.

Safety Instructions for Ink Cartridges:

- Always keep ink cartridges out of the reach of children.
- While handling ink, be careful not to spill it on your skin. If ink does get on your skin, wash thoroughly with soap and water. If ink gets in your eyes, flush them immediately with water.
- Do not put your hand in the printer or touch the ink cartridges while the printer is in operation (except to fill ink).
- If you remove the ink cartridges, make sure to place them in individual bags and keep them away from dust, dirt and debris.
- Store unused ink cartridges in a cool dark place.
- Allow ink cartridges to warm to room temperature before using them after storage.
- Do not dismantle the ink cartridge.
- Do not touch the IC chip on the ink cartridges. This will adversely effect normal printing operations.

Chapter 1

Introduction

Manual Symbols and Icons

Throughout this Manual you will see four symbols used to notify you of warnings, important facts, procedures and tips.

WARNING ICON

Where you see this icon, you should take note of the warnings. Failure to follow any of the listed procedures could result in severe damage to your machine, large amounts of downtime and/or costly repairs, or the possibility of severe bodily injury or death.

IMPORTANT POINT ICON

This icon is used to denote important points that may affect the proper operation of your machine or the viability of its output. Think of this as more than just a helpful hint.

RECOMMENDATION ICON

This icon indicates recommendations from U.S. Screen based on research and development and years of experience within the Garment Decorating business. Following these helpful Hints, Tips or Reminders will make printing with your T-Jet more enjoyable and rewarding.

VIDEO REFERENCE ICON

You will see this icon throughout the manual indicating that there is a online video on the subject. Refer to ***Chapter 16 - Product Support*** for instructions on logging on to our support site and viewing these very helpful videos provided for your convenience.

About the T-Jet Blazer Series Printers

The **T-Jet Blazer Series** printers are inkjet printers that have been modified to print on almost any type of fabric material as well as non-textiles, such as metal, wood and plastics. The ink, however, will not work on waterproof nylon and most synthetic materials. In the past, this type of printing was difficult, if not impossible to do because there were no inks available that would work on both 100% cotton or 50/50 cotton/polyester blends AND withstand the rigors of washing.

That all changed with the introduction of FastINK Textile Ink. Designed specifically for these materials, FastINK requires only a post-treatment of heat to cure when printed on lighter shirts. It's even possible to print with White ink on dark shirts with the application of a Pretreatment. This ink is so versatile it can even be used for printing on non-textiles by applying Fast T-Jet Non-Textile Pretreatment to the item before printing and Fast T-Jet Non-Textile Post-Treatment to the item after printing.

The **T-Jet** is based on standard inkjet technology, with the Epson 4880 being the heart of the system. This means you can expect your printer to be reliable AND versatile. The **T-Jet Blazer Series** printers are also fast, printing a standard t-shirt-sized image in under two minutes. Whether it's a shirt, a towel, mouse pads, tote bags, bibs or baseball caps, the possibilities are endless.

WARNING

Read and understand this entire manual before attempting to Print on any garment.

The Basics

You probably can't wait to get started and we share your enthusiasm for the garment decoration process. However, before you print that first shirt, there are a few basics that need to be covered.

The ***T-Jet Blazer Series Printers*** print best on 100% cotton. Printing on dark-colored 50% cotton/50% polyester blends with White ink is NOT recommended because you will notice a discoloration of your image. **Red** garments will turn your Whites **Pink** and even **Yellow** shirts will tint your image. Print only on pastels or White garments when using White ink and blended fabrics. Images without White will not be affected. In addition, when printing on 100% polyester or other synthetic materials, you may not achieve the same print brightness.

Your printer is ONLY compatible with Windows XP, 2000 or Vista Operating Systems and the latest versions of both FastARTIST and FastRIP are included as part of your kit. FastARTIST is a Windows based graphics application that will make preparing an image for print as simple as a click of the mouse. With a one-click Underbase Wizard and simple clipping features, FastARTIST can help ease the transition into graphics design if you are not familiar with other applications.

For avid users of Photoshop, CorelDRAW, Illustrator etc., you may choose to work within the application of choice and still set up the image properly for printing. **However, the final design MUST be imported into FastARTIST for output if you will be printing with white ink.** Only upon *importing* an image into FastARTIST, will you be able to utilize the one-click Underbase Wizard. Even if you are utilizing an eight color system with NO White, we recommend you *import* your image in to FastARTIST for printing to ensure optimal results.

Macintosh Users can still create an image in their favorite graphics application; they will just have to transfer it to a PC for printing.

Every image MUST print to FastRIP for final output. FastRIP works as the Queue and Print Manager, allowing you to not only select different Print Modes and other attributes, but also archive print jobs for future reprints.

Maintenance

Although the ***T-Jet*** is "simply" an inkjet printer, the number one technical issue is a lack of maintenance of the machine. There are three main areas of concern:

- Printing on t-shirts is not the same as printing on paper. A shirt gives off much more lint which must be cleaned up regularly.
- The EPSON print engine was originally designed for use with EPSON ink. Our textile ink has much more pigment and will build up on the components if not maintained daily.
- The amount of ink deposited on fabrics is far greater than on paper. This means all ink supply lines must be feeding properly as well as all excess ink must be cleaned up daily to prevent build-up.
- When printing on dark shirts, you must apply a Pretreatment. This solution can settle inside the printer and cause numerous problems, therefore we recommend you pretreat shirts as far away from the printer as possible (i.e. in another room).

If you adhere to the required maintenance schedule, printing with the ***T-Jet Blazer Series*** will be a joy. Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance*** and do not skip a day, week or month.

Poor Artwork

With so many graphics programs readily available*, everyone is an artist*. Poor quality artwork will be one of your biggest concerns because there is no magic to transform a low resolution, low quality piece of artwork into a great looking print. Therefore, it is important you spend some time learning as much as you can about graphic art programs and some of the simple methods that can be used to improve the quality of customer supplied artwork.

Important Support Information

The ***T-Jet Blazer Series Printers*** are sold through a world-wide dealer network and, in some cases, direct from U.S. Screen. Support for your printer is provided free of charge.

However, if you purchased your printer from an international dealer outside of the US, ***you should contact your factory trained and certified dealer FIRST.*** If the dealer is unable to find a solution to your problem, please feel free to contact U.S. Screen Technical Support for assistance. Refer to ***Chapter 17 - Product Support*** for additional support information.

If you purchased your ***T-Jet*** from one of our authorized U.S. dealers, you may want to call your dealer for initial support, but DO NOT feel you have to go to the dealer first. Our dealers are trained and certified, but for the most up-to-date support, contact U.S. Screen Print and Inkjet Technology.

U.S. Screen Support Information

Toll Free	+1 888-MYTJETS (698-5387)
Technical Support	+1 480-929-2937
Corp. Office	+1 480-929-0640
Fax	+1 480-929-0766
E-mail:	support@usscreen.com
Internet:	www.myt-jet.com. Click on the *Support* tab.
Support hours:	7:00am to 6:00pm Monday through Friday

All times are Mountain Standard Time USA
Please Note: Arizona does not observe "Daylight Savings Time."

About the Garment Decorating Business and Where to Learn More

You are entering a fantastic business, one where you can make a lot of money in a short period of time. But, like any business, there will be ups and downs. You will need to learn about the industry such as trade standards, copyright and trademark laws, how to price your work, how to deal with customers and much more. Learning the business and marketing side is often harder than the actual printing of shirts.

There are many valuable resources which can help you, including websites, trade magazines, books, videos and trade shows. Please visit
www.screenprinters.net for the latest "How To" training materials.

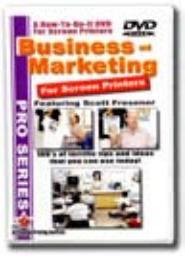
The Book

One of the most valuable books on the industry is ***How To Print T-Shirts for Fun and Profit***. Written by Scott and Pat Fresener, it is the "Bible" of the industry. Even though this book is geared toward learning the screen printing *process*, it also contains excellent sections on the business aspects of garment decoration, including marketing and selling your creations, the law, creating graphics, and best of all, a comprehensive *Suppliers Directory*. **This book is revised and updated as of 2008!**

Computer Graphics DVDs

One of the hardest things to learn for the computer novice is computer graphics. There are a number of excellent DVDs explaining computer graphics and how to use Adobe Photoshop , CorelDRAW or Adobe Illustrator. These DVDs focus mainly on the Screen Printing process, however they also feature excellent sections on how to create designs, how to deal with poor quality artwork and more.

Business and Marketing DVD's



Since the business and marketing side is often complex and sometimes frustrating, there is an excellent DVD called ***Business and Marketing*** that covers all aspects of running a successful garment decorating enterprise. There is also a good set of DVDs on marketing and selling, called the *Marketing Toolbox*.

Internet

The number one website for the industry is ***www.screenprinters.net.*** There you will find a wealth of articles, industry links, a Buyer's Guide and open Forums.

Trade Shows and Trade Magazines

There are a number of good trade magazines and dozens of trade shows around the world for garment decorating. Two of the more popular resources for the "When's" and "Where's" are the website: www.screenprinters.net and the book ***How To Print T-Shirts for Fun and Profit***. Both contain numerous trade show listings.

Our Advice

When starting a business, it is often easy to think nothing will go wrong. You need to be positive about your venture, but in the beginning, expect the worse. If you take orders for printed shirts before you have even received your machine, you might find that deadlines are hard to meet because of the learning curve and unexpected problems.

The garment business is one of deadlines. Deadlines may include such things as time-sensitive event shirts or for special occasions as well as artwork with "dates" on them. You must always give yourself

room for error. Shirt suppliers might not ship on time. You might not have checked your ink inventory and end up running out of a color. And, yes, you will ruin a few shirts! Accept this as a fact of life in the garment decorating industry. To have the most success, allow extra time to fill orders and don't make commitments that might be hard to keep.

There is nothing more rewarding than seeing someone wearing one of your creations, but nothing more disturbing than working all night to meet a deadline. Anyone who has been in this industry has experienced the joy and sorrow of both. Plan ahead and always have a cushion to make sure you meet deadlines.

Chapter 2

SETUP PART 1: Unpacking and Setup of Your Printer

Save the Crate and All Packing Materials

Failure to follow this step will VOID YOUR WARRANTY.

Your printer is a very large piece of equipment and it is shipped in a sturdy crate with bracing to hold delicate components in place. Unpack your printer with care and please retain all shipping materials, bags, boxes and directions received with the printer. These items will be needed for any future transportation of the printer. If you need to return or ship a T-Jet without using the original shipping carton/crate, you may void the warranty. The crate may be disassembled for storage.

Blazer Express SETUP

FOR INFORMATION ON THE BLAZER PRO, SEE THE BLAZER PRO SECTION LATER IN THIS CHAPTER.

Removing from the Crate

The ***T-Jet Blazer Express*** is shipped fully assembled in one large crate. You should have received and signed a ***Pre-Installation Checklist*** prior to the arrival of your printer. This Checklist outlined the importance of room conditions and other details necessary for your machine to maintain optimal performance levels.

You MUST be very careful transporting your new printer. It is very heavy and a delicate piece of equipment. DO NOT remove your printer from the crate until it has reached its final destination. The exterior crate dimensions are 55” x 42” x 33”. This means the unit will need to be tipped 90º and placed on a dolly or rolling cart in order to pass through standard 36” doorways. As shipped, the packing material will allow for this and prevent damage to your printer as long as the crate is not dropped.

IMPORTANT NOTE:

The T-Jet Blazer Express and shipping crate, combined, weigh close to 300 pounds. Because of the bulk of the machine, this is a MINIMUM TWO PERSON lift. In addition, DO NOT attempt to lift the machine from the crate with less than two people. Position one person at each end of the Printer Assembly and ensure any lifting is done using the four handles.

Placement of the Blazer Express

When determining where to set up your printer, keep in mind the T-Jet Blazer Express requires an area of at least 3.5 ft x 5.25 ft (1 m x 1.6 m) for the printer and workspace around it. Additional space is required for drying, pretreating garments, garment staging, etc.

The Blazer Express' final destination **MUST BE A STURDY TABLE OR OTHER PLATFORM**. For operator comfort, we recommend the height of the platform be at least 30". This table must be able to support the full weight of your printer (200 lb. / 91 kg) as well as all accessories, such as a Shirt Board, inks and garments. The table MUST also be able to incorporate the entire "footprint" of the machine across its surface. NO PART of the T-Jet Blazer EXPRESS should overhang an edge.

The table or platform must also provide a stable base which will not transmit vibrations from surrounding equipment and which will not be subject to vibrations from movement of the printer during image output. **Failure to minimize these vibrations will seriously affect final print quality**.

A simple and effective solution would be to use the crate in which the Blazer Express was shipped to you. Perhaps even drape a table cloth or other material over it to help catch spills. If you don't wish to use the shipping crate, McMaster-Carr Inc. specializes in heavy-duty stands. www.mcmaster.com.

Leveling the Base of the Printer

Your new printer will operate at its best if it sits in a level position. Set a box level on the top of the print bed. If the machine is not level, determine which side of the printer you will need to adjust. If the printer is level, make sure that all of the feet are sitting firmly on the table.

To adjust the feet at the base of the printer, using a wrench, loosen the lock nut (closest to the top). Next, loosen or tighten the nut below (connected to the foot).

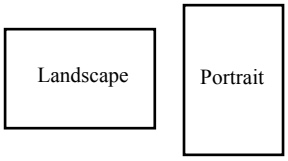
Repeat process as necessary until the Blazer EXPRESS sits level and sturdy on the table surface.

Tighten the lock nuts on all of the base feet.

Placement of the Shirt Board

When placing your Shirt Board within the Pint Bed, take care to align the item carefully. Failure to seat the Shirt Board completely in the four Guide Pins can result in an unsteady print surface and errors in your output.

For reference, the Blazer Express standard-sized Shirt Board should be placed in the *Landscape* orientation when facing the front of the machine..



The oversized Shirt Board is to be mounted in the *Portrait* orientation.

Both Shirt Boards have **Yellow** and **Black** "This Side Out" stickers to assist you with placement. Before operating the printer, ensure these labels can be viewed from the *Load* position.

Blazer PRO SETUP

FOR INFORMATION ON THE BLAZER EXPRESS, SEE THE BLAZER EXPRESS SECTION EARLIER IN THIS CHAPTER.

Unpacking the T-Jet Blazer PRO

The **Blazer Pro** is shipped fully assembled in one large crate. The only additional item you will need to install is the User Interface (UI).

You should have received and signed a **Pre-Installation Checklist** prior to the arrival of your printer. This Checklist outlined the importance of room conditions, uncrating and assembly and all the other details necessary for your machine to maintain optimal performance levels.

Moving the Blazer PRO

IMPORTANT NOTE:

The printer and base weigh over 400 pounds. Because of the bulk of the machine, this is a FOUR PERSON lift. DO NOT attempt to lift the machine from the crate with less than four people. Position one person at each of the four corners of the machine and make sure that lifting is done from the base as identified on the right.

Casters have been built into the cabinet base, allowing for easy movement to a suitable location within your shop. When determining where to set up your printer, keep in mind the T-Jet Blazer Pro requires an area of at least 12 ft x 10 ft (3.65 m x 3 m) for the printer and workspace around it. Additional space is required for drying, pretreating garments, garment staging, etc.

Note: Remove any obstacles. All doorways and corridors the printer will travel through must be at least 36 inches (92 cm) wide.

Setting the Ground Supports

When the Blazer Pro reaches its final destination, manually lower the ground supports on all four corners. Using a box level (found at any hardware store), check the Print Bed to ensure it and the machine are level. Each ground support is threaded and can be raised or lowered to make any needed height adjustments. Once you have leveled the machine, tighten each locking nut against the bottom of the cabinet base.

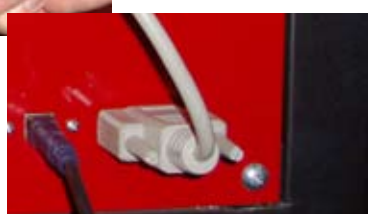
Installing the User Interface

The User Interface (UI) controls basic printer operation and is touch sensitive. To install the UI you will need a 5mm Allen wrench

1. Unpack the User Interface and locate the (2) 5mm hex screws for installation.

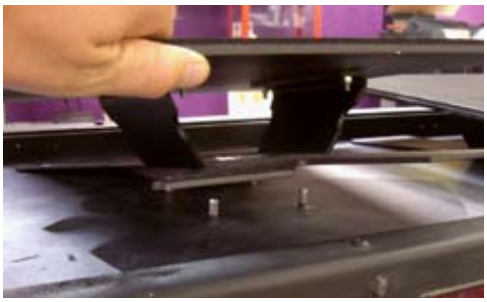
2. Position the extension bracket along the back of the machine as shown. Using the Allen wrench, secure the extension bracket to the printer base.

3. Connect the UI Serial Port Cable to the cabinet base. It is located just to the right of the USB port.



Placement of the Shirt Boards

The Blazer Pro comes with 3 standard-sized and 2 over-sized Shirt Boards. Each Shirt Board is designed to fit on 4 metal pegs. Line two up on one side and then bring the Shirt Board down slowly to line the other side up with the pegs.



Refer to ***Chapter 8 - SETUP PART 6: Initialization Utilities*** for instructions on Leveling the Shirt Boards.

Environmental Controls and Humidity

The following sections refer to both the Blazer PRO and EXPRESS

Your printer should not be exposed to direct sunlight, direct airflow, dusty areas, strong magnetic forces or excessively high humidity. The machine does not like to be too dry or too moist with a level of 40% to 60% relative humidity being ideal. Since you will be handling wet ink to refill the Bulk System ink bottles, you should also protect any carpet or floor covering with mats.

Like any Hi-Tech electronic device, your inkjet printer does NOT like being in a hot or cold shop or a garage without proper air-conditioning controls. If left unattended for days or weeks in a hot dry environment, the Print Head WILL clog. Consult *Chapter 10* for instructions on installing refillable cleaning cartridges if you anticipate not using your machine for an extended period.

For convenience and efficiency, place your printer close to the Heat Press or Dryer you will be using to cure the ink. If you have two or three printers set up as a production work station, arrange them around or near the heat source.

At night, and when the printer is not in use, cover the machine to protect it from airborne dust and debris.

IMPORTANT POINT

When using White ink, you must apply a Pretreatment to the shirts before printing. We recommend an affordable sprayer such as a Wagner (available at most hardware stores).

DO NOT spray this Pretreatment near your printer. Pretreat shirts in a different room if possible, but at a minimum make a cardboard enclosure for use during applications. The Pretreatment is sticky and can ruin the Print Head as well as damage the Encoder Strip. The Encoder Strip is a thin piece of clear plastic with data that is read by the Print Head as the unit operates. The Encoder Strip tells the Print Head exactly where to print an image. If the Encoder Strip becomes dirty or damaged, the printer will get confused, resulting in the printing of multiple images, strips of solid ink and other irregular printing patterns.

NOTE: If you own a AutoTREAT, pretreating in the same room is possible.

Final Unpacking Instructions

DO NOT try to move the Print Carriage off of the Capping Station. The T-Jet Blazer PRO and Express both lock the Print Carriage onto the Capping Station for safe shipping. Forcing the Print Carriage to move will damage your printer.

Note: You may find a small amount of ink on the Waste Pad and/or Capping Station during setup. This is normal and there is no need to be alarmed. Each printer is run through a series of test print cycles before shipping to ensure it is operating properly.

Lift the top cover and release the **Green** shipping tab lock located at the base of the Print Carriage (on the right end of the printer).

NOTE: If transporting the printer, re-lock the green shipping tab.

Chapter 3

SETUP PART 2: The Bulk Ink System

The T-Jet Blazer printers use a specially designed Bulk Ink System with cartridges that hold about 200 ml of ink per color (x8) and allow for easy re-filling as needed. In order to prevent damage or ink leakage, your printer was not shipped with the Bulk System installed. To prevent components from drying out, it is shipped with cleaning cartridges. You will need to remove these prior to use because these cartridges do NOT contain textile ink.

To remove the cleaning cartridges, locate the blue levers to the right side of each bank of four. Moving these levers to the UP position will release the cartridges. With the lever in the DOWN position, cartridges will be locked in place.

Move both levers to the UP position and remove the cleaning cartridges. Store them in a cool, dark environment for future use.

The Bulk System that shipped with your printer may or may not look like the one shown here.

Filling the Bulk Ink Cartridges

During initial setup, and whenever your ink cartridges begin to run low, you will have to fill them manually. Choose an area where spills will not do much damage and protect the area with newspaper, paper towels or a drop cloth. It is recommended that you also wear disposable gloves.

Your printer comes with 8 oz. (250 ml) bottles of **Cyan**, **Magenta**, **Yellow** and **Black** FastINK3, along with 1 liter of FastINK White. You will also find 8 continuous flow ink cartridges and 8 funnels. One cartridge will be used for each of the 4 colors and 4 cartridges will be dedicated for White.

1. **Fill a cartridge with ink.**
   NOTE: We recommend starting with the lightest color and ending with the darkest. For this example we will start with yellow. To fill a cartridge, refer to the color coding on the cartridge for the correct ink to add.

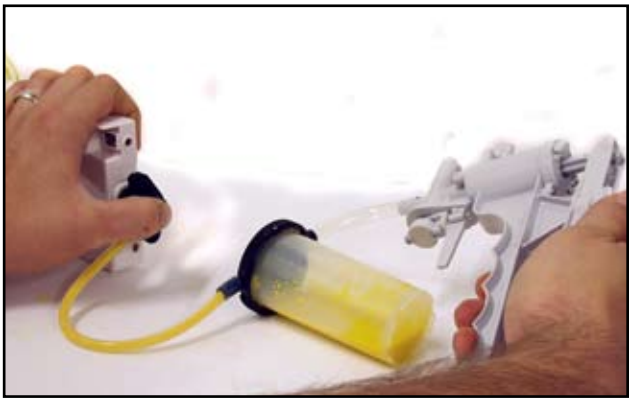
   - Remove the cap and place the funnel into the top opening. When pouring the ink, lift the funnel out of the hole slightly, to allow air to escape and facilitate a smooth flow.

DO NOT overfill the cartridge. There are hash marks on the front of each cartridge denoting increments of 50 ml, with the top mark referencing 200 ml. DO NOT add ink beyond this mark. As a guide, stickers have been affixed to the front of each Ink Cartridge indicating the RECOMMENDED ink levels of between 50 and 150 ml. Top off the ink at the start of every shift to keep it as close to the "full" level as possible.

2. Prime the cartridge.

The Blazer Series printers include a priming pump which will prime the ink from the Bulk Ink System container into the cartridge. There is a knob on the top that operates the pressure. It is not necessary to adjust this knob. The process of priming the cartridges will save a lot of ink by reducing the number of ***Power Cleaning Cycles*** needed in Chapter 8.

- Connect the priming pump to the hole in the bottom of the cartridge.
- Secure the hose to the cartridge by pressing in with your thumb.



- With your other hand, pump the handle until ink comes through the line and into the reservoir.
- Disconnect the pump from the cartridge and pour the ink collected in the pump reservoir back into the corresponding Bulk Ink System container.
- Prepare a glass of warm water. Rinse the pump and reservoir. Pull back the spring lock to open the hose and immerse into the water. Pump using other hand until water has reached the reservoir. Repeat using fresh water until clean. Note: The darker the ink color is, the more you may have to rinse.
- Re-seat the blue cap in the opening of the newly filled and primed cartridge. Do not tighten completely. Tightening the cap could cause starvation of the ink to the head if the breather caps should become clogged.

3. Repeat for remaining colors.

Repeat steps 1 and 2 for each color until all eight Bulk Ink Cartridges have been filled and primed.

4. Insert the cartridges into the printer.

There is a blue lever for each set of cartridges. Raise the levers and remove the cleaning cartridges (save these for later use). The slots and cartridges are numbered from 1-8. Using these numbers as a guide, place the Bulk Ink cartridges into your printer and lower both blue levers to secure them in place. The colors CMYK will be placed in slots 1-4, and FastINK Bright White in slots 5-8.

Ink Care

Keep ink tightly capped in a 50-100°F (19-38° C) area. FOR BEST RESULTS, SHAKE THE WHITE INK BOTTLE(S) STORED ON THE SHELF, WEEKLY FOR ABOUT A MINUTE TO PREVENT SETTLING. We recommend at least agitating the colors periodically. The white ink bulk ink bottles on the printer will also need to be, at least, gently agitated on a regular basis. Refer to ***Chapter 12 - Advanced Printing with White*** for more information on white ink care.

If ink settles in the ink system or in the ink lines, slightly agitate and Perform a Head Cleaning cycle one to two times per day. If the printer is not in use for an extended period of time, additional head cleanings will be required and possibly a Power Cleaning. For preparing you printer for downtime, refer to ***Chapter 15 - Tips and Utilities to Maximize Pint Quality***.

See the video online on ink care. Refer to ***Chapter 17 - Product Support*** for information on how to log on to our support site to view online videos.

Changing Ink Brands

Your T-Jet Blazer Series printer ships with FastINK 3 and Bright White Textile Ink. With a normal inkjet printer, it is a very common practice to change from the manufacturer's brand of ink to third party inks. However, this can result in serious issues when using specially formulated textile inks. All textile inks are NOT created equal and they must not be mixed. Should you decide to try another brand of textile ink in your printer, before doing so you MUST flush out the entire Bulk Ink System using a special flushing solution available from U.S. Screen.

Failure to perform this process can result in a mixture of the two brands, creating a chunky mess that might be called severe "cholesterol" in the ink tubes. In fact, this mixture will permanently clog the Print Head. U.S. Screen is not responsible for any damage to your printer or replacement of the Print Head should you use another manufacturer's ink. If you do experience problems with another manufacturer's ink you must contact THAT manufacturer for any available remedies.

Resetting the Bulk Ink Cartridges

Your Bulk Ink System Cartridges have smart chips built-in that are designed to count the number of ink drops dispensed. After a certain amount of ink has been used, a typical inkjet cartridge chip tells the printer it is out of ink. However, the system is inefficient when used for a continuous-flow Bulk Ink System.

We have equipped each cartridge with a new smart chip, but if you print continuously for a long period of time, the chip may still believe the cartridge is low on ink when in reality it is not. ALWAYS KEEP INK IN THE CARTRIDGES. IF THE INK GETS TOO LOW, INK STARVATION WILL OCCUR! If the printer warns that the cartridge(s) is low on ink, remove the cartridge that is indicating Low Ink and use

the Reset Module to change its status. The module's **Red** light will blink while it resets the chip. The **Red** light will transition to a SOLID **Green** when the reset is complete.

The process of resetting the smart chip is demonstrated in the following three images.



The light on the chip resetter will be solid green when reset is complete.

There are currently 2 types of chip resetters. The second resetter is white and is used the same way as the blue. The only difference is the light on the white resetter will blink red while resetting and will shut off when complete.



NOTE: Resetting your Waste Ink Tank is done the same way. Refer to ***Chapter 13 - Daily, Weekly and Monthly Maintenance*** for instructions on removing the Waste Ink Tank.

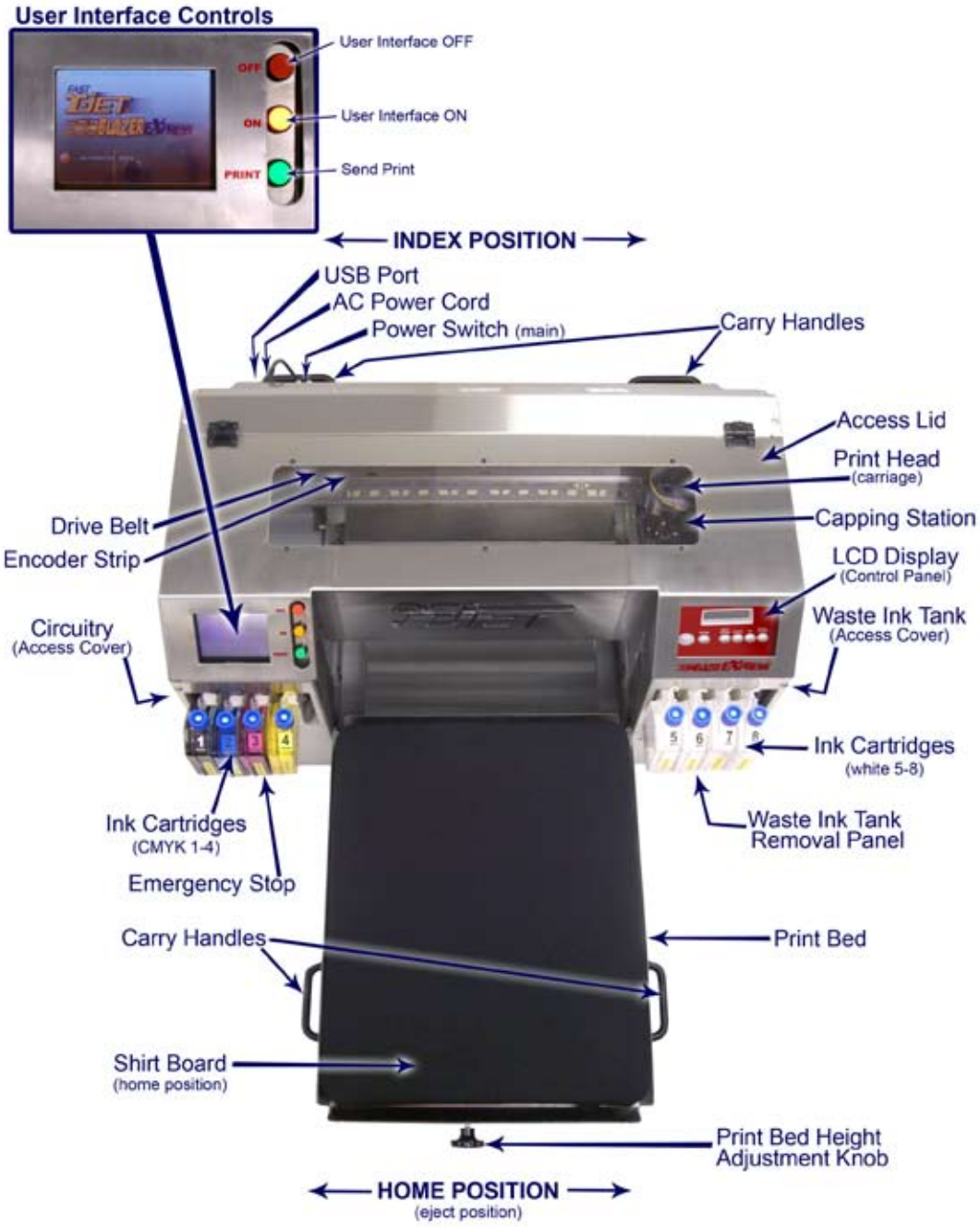
Non-Genuine Epson Cartridge Message

You may get a message reading "***Non-Genuine Epson Cartridge***" on the LCD display panel. This message means that the printer thinks the ink cartridge is empty and needs to be replaced. To clear this message refer to ***Chapter 16 - Troubleshooting***.

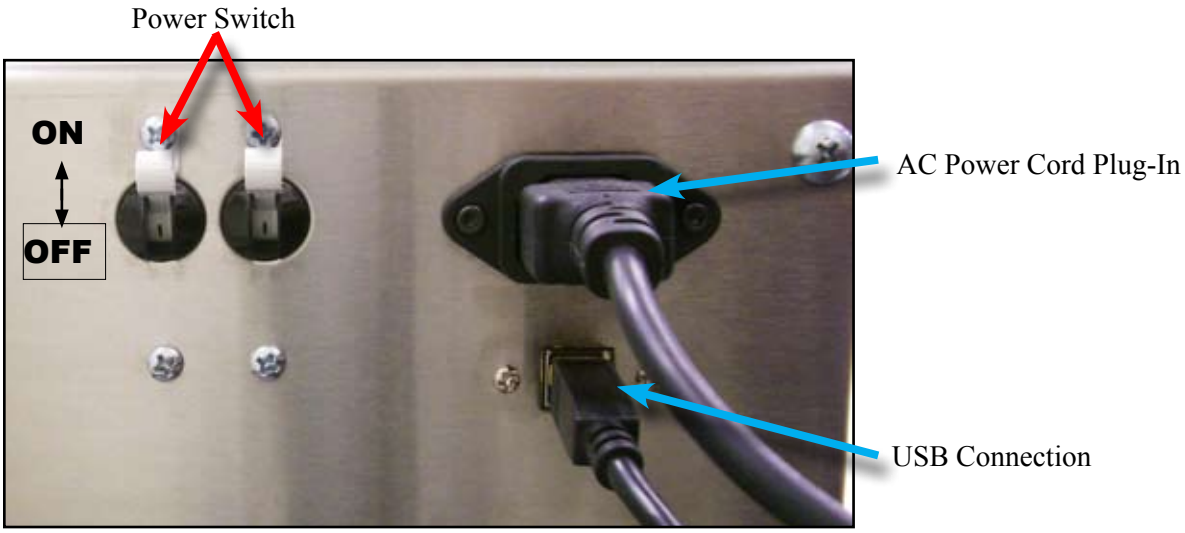
Chapter 4

SETUP PART 3: Interacting with the Blazer Express

The following steps will cover everything from plugging your new printer in and powering it on to connecting it to your computer as well as learning the LCD buttons and User Interface screens. Refer to ***Chapter 5 - SETUP PART 3: Interacting with the Blazer PRO*** for interacting with the Blazer Pro.



Overview of Printer Connections



Plugging the Unit into AC Power

Plug the printer into its own power source. The T-Jet Blazer Express has a dual voltage power converter built in, allowing it to work with 50 or 60 cycle current ranging from 110 volts to 220 volts.

Insert the AC cord into the unit and plug the opposite end into a power strip with surge protection. Avoid plugging multiple items into the same power strip.

For more reliable results, plug the unit into a UPS (Uninterrupted Power Supply) to help prevent ruined shirts during power fluctuations. DO NOT plug other high power use items, such as a Heat Press, into the same ***circuit***.

Powering the Blazer EXPRESS ON and OFF

Always Power On and Off as stated below. Your printer requires a proper startup and shutdown cycle that may only run if the following steps are followed correctly.

Powering On

1. **Power On the Main Switch**
   When turning ON your printer, you must first turn on the Main Power Switch on the rear of the printer, located adjacent the AC cord. Move to the up position.

2. **Power On the User Interface**
   On the User Interface, wait until the virtual LED labeled "Automatic Mode" becomes Red (five seconds) and press the Orange Power On button.

The virtual LED turns Red after 5 seconds

The Blazer Express will go through a startup cycle that takes a few minutes.

When complete, the printer will be the print status Paper Out ROLL/CUT mode, viewable on the LCD Display panel.

Powering Off

1. **Power Off the User Interface**
   Press the Red button on the User Interface

2. **Power Off the Main Power Switch**
   Move the main power switch on the back of the printer (located adjacent the AC cord) to the down position.

When turning OFF the T-Jet Blazer Express, you must press the Red Power Off button on the User Interface before turning OFF the Main Power Switch on the rear of the printer.

Connecting Your Printer to a Computer

You may only connect the printer to a computer with a USB 2.0 cable. For best results, use the special gold tipped USB cable supplied with the machine. Avoid using a cable that is over 6ft in length and do not use a switch box or USB Hub. Failure to follow the guidelines can cause communication problems between the printer and your PC. Do not overload your USB ports. Reserve one for the printer, one for the dongle (FastARTIST/FastRIP) and one for your mouse (if necessary).

Your computer must use a Windows Operating System, such as Windows XP or Vista (Windows ME is not supported). Your computer must have at least 1GB of RAM (2 GB if using Vista) or you wmay run into problems sending jobs. For best results, use a computer with 3 GB of RAM. RAM is inexpensive and if you can put more in your computer, it will prevent problems when printing large files.

The Universal Serial Bus (USB) method of communication is standard on all newer computers, but a little known fact is that only a certain amount of power is supplied to the entire "bus." If you have several items (other than a mouse and the FastARTIST Dongle) plugged into different USB ports on your computer, this may cause communication issues with the printer.

We recommend using a dedicated computer to control your T-Jet Blazer Express. Avoid using extra USB ports for items such as a webcam, joystick, additional printer etc.

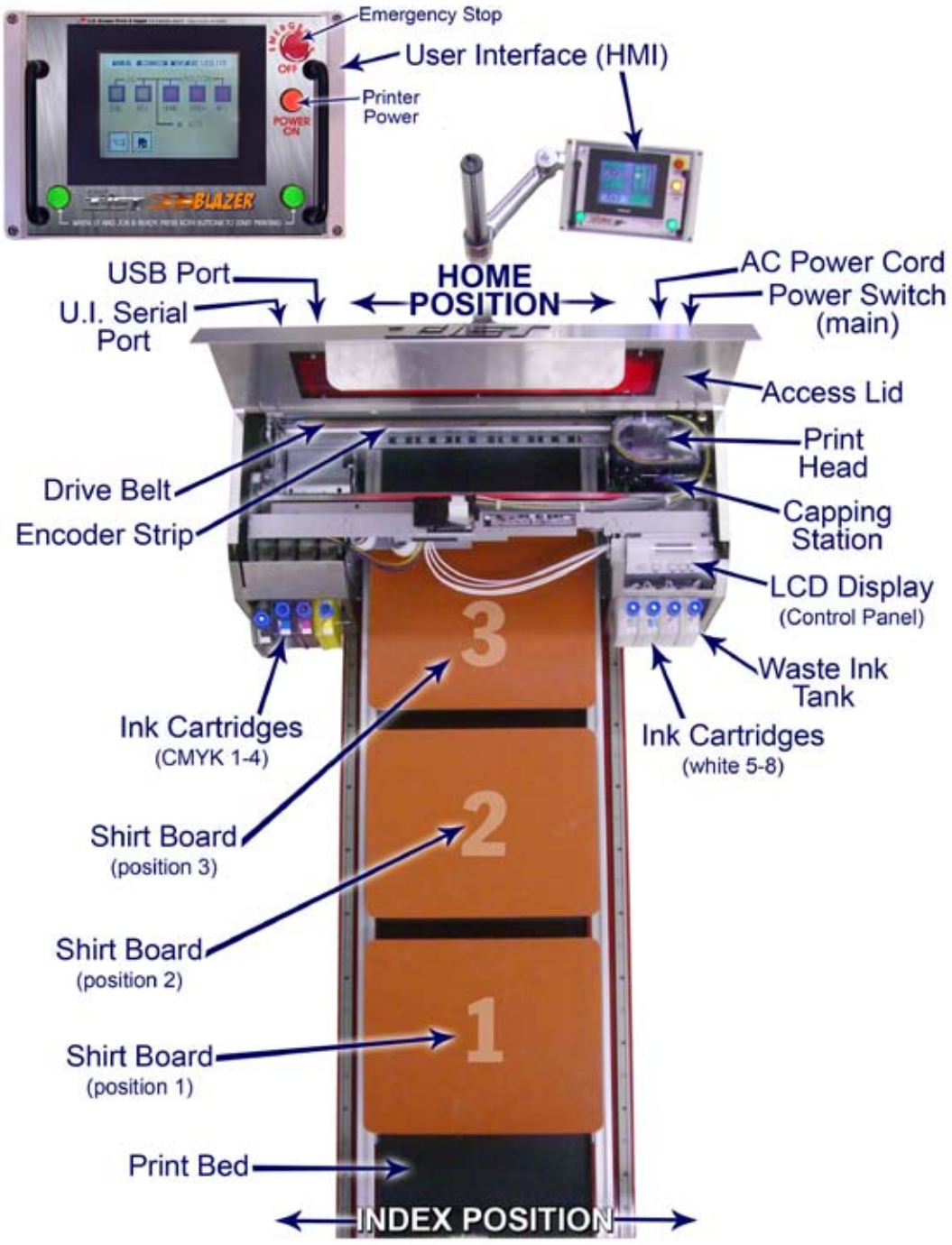
IMPORTANT POINT

Failure to follow the recommended environmental, power, maintenance and operating conditions can void your warranty. The T-Jet Blazer Express or PRO do NOT like to be in a hot, dry shop with excess dust or being plugged into outlets with several other items. Please read and understand the operating conditions and maintenance requirements for your investment.

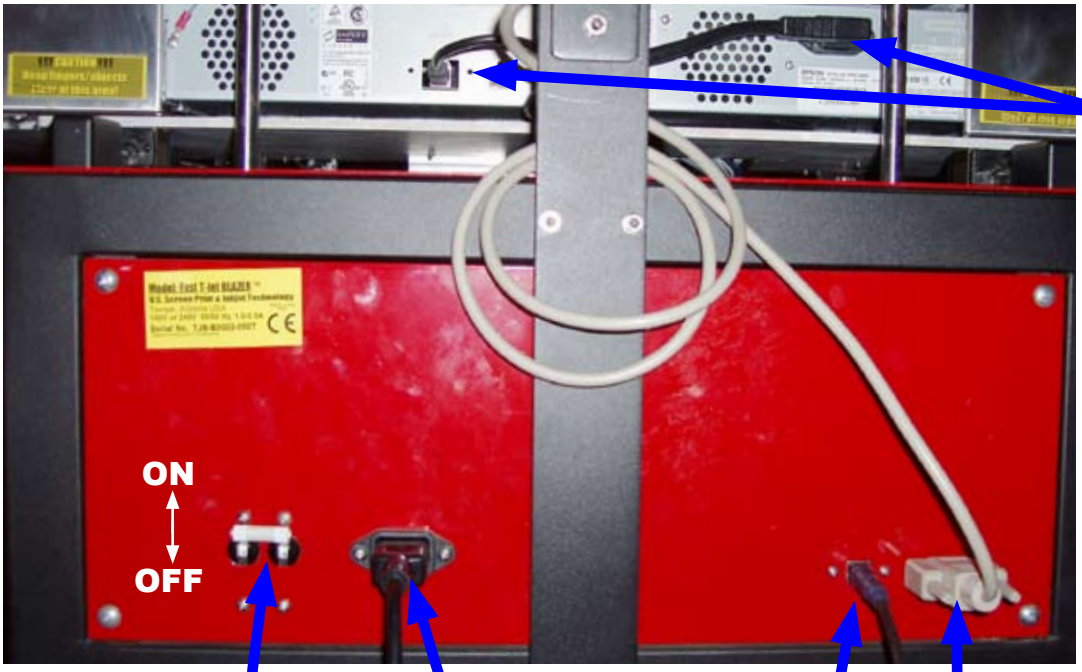
Chapter 5

SETUP PART 3: Interacting with the Blazer PRO

The following steps will cover everything from plugging your new printer in and powering it on to connecting it to your computer as well as learning the LCD buttons and User Interface screens. Refer to ***Chapter 4 - Interacting with your Blazer EXPRESS*** for interacting with the Blazer Express.



Overview of Printer Connections



Plugging the Unit into AC Power

Plug the printer into its own power source. The T-Jet Blazer Pro has a dual voltage power converter built in, allowing it to work with 50 or 60 cycle current, ranging from 110 volts to 220 volts.

Insert the AC cord into the back of the printer (see above photo) and plug the opposite end into a power strip with surge protection. Avoid plugging multiple items into the same power strip.

For more reliable results, plug the printer into a UPS (Uninterrupted Power Supply) to help prevent power fluctuations while printing. DO NOT plug other high power use items, such as a Heat Press, into the same circuit.

Powering the Blazer PRO ON and OFF

Always Power On and Off as stated below. Your printer requires a proper startup and shutdown cycle that may only run if the following steps are followed correctly.

Powering On

1. **Power On the Main Power Switch**
   Place the Main Power Switch (located adjacent the AC cord) to the up position.

Main Power Switch

2. **Power On the User Interface**
   Five seconds after the main power is turned on, on the virtual LED on the User Interface, labeled "Automatic Mode" becomes **Red**. When it becomes Red, it means that it is ready to be powered up.

   Always wait for the virtual dial to become Red, then press the Orange Power On button on the User Interface.

The virtual LED turns red after 5 seconds

The Blazer PRO will go through a normal startup cycle that will take a few minutes. When the printer has finished starting up, it will be in Print status or Paper Out ROLL/Cut Mode on the LCD Display. Do not attempt any further procedures until the startup cycle is complete.

Powering Off

1. **Power Off the User Interface**
   Press the Power Off button (Red) on the User Interface.

2. **Power Off the Main Power Switch**
   Place the Main Power Switch (located adjacent the AC cord) to the down position.

When powering OFF, your printer goes through a shut down cycle that seats the head onto the Capping Station to help prevent Print Head clogs. DO NOT turn off the unit at the power strip. It WILL NOT go through a normal shut down.

Connecting Your Printer to a Computer

You may only connect the T-Jet Blazer Pro to a computer with an available USB 2.0 input. For best results, use the special gold tipped USB cable supplied with the machine. Avoid using a cable that is over 6ft in length and do not use a switch box or USB Hub. Failure to follow these guidelines can cause communication problems between the printer and your computer.

Do not overload your USB ports. Reserve one for the printer, one for the dongle (FastARTIST/FastRIP) and one for your mouse (if necessary).

Your computer must use a Windows Operating System, such as Windows XP or Vista (Windows ME is not supported). For best results you should use a computer with at least 2GB of RAM. RAM is inexpensive and if you can put more in your computer, it will prevent problems when printing large files.

The Universal Serial Bus – USB – method of communication is standard on all newer computers, but a little known fact is that there is only a certain amount of power supplied to the entire "bus." If you have several items (other than a mouse and the FastARTIST Dongle) plugged into different USB ports on your computer, this may cause communication issues with the printer.

We recommend using a dedicated computer to control your T-Jet Blazer Pro. Avoid using extra USB ports for items such as a webcam, joystick, other printers etc.

IMPORTANT POINT

Failure to follow the recommended environmental, power, maintenance and operating conditions can void your warranty. The T-Jet Blazer Pro does NOT like to be in hot and dry areas with excess dust nor being plugged into outlets with several other items. Please read and understand the operating conditions and maintenance requirements for your investment.

Chapter 6

SETUP PART 4: Printer Driver Installation

Epson Printer Driver Installation

A Printer Driver is software needed to make any printer function. For the T-Jet Blazer Express and PRO to operate properly, you will need to install the latest Epson printer driver(s). We have included these on the FastARTIST 2.0 (or previous) compact disc included with your FastARTIST package. You can also download these and the most current versions for the Epson Stylus Pro 4880 available at www.epson.com. Follow the links under the *Drivers & Support* section and you will be able to select a driver compatible with your Operating System.

NOTICE:

Windows Vista Users must have Administrator authority to download and install any drivers. Additionally, you MUST download the applicable 32 bit OR 64 bit driver based on your Operating System, NOT your processor. These drivers are NOT interchangeable.

Determining the Correct Printer Driver to Install

Some older models of the T-Jet Blazer PRO and EXPRESS may be equipped with the Epson 4800 print engine and some with the 4880. Use the table below to determine the correct model for download.

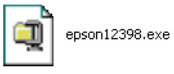
If your Serial Number contains the following as the 4th and 5th digits (PRO) or 5th and 6th (EXPRESS) after TJB or TJBE, then download the latest driver for your particular model.

BO	Download the Epson 4800 Stylus Pro Printer Driver
BX	Download the Epson 4800 Stylus Pro Printer Driver
B8	Download the Epson 4880 Stylus Pro Printer Driver
BY	Download the Epson 4880 Stylus Pro Printer Driver

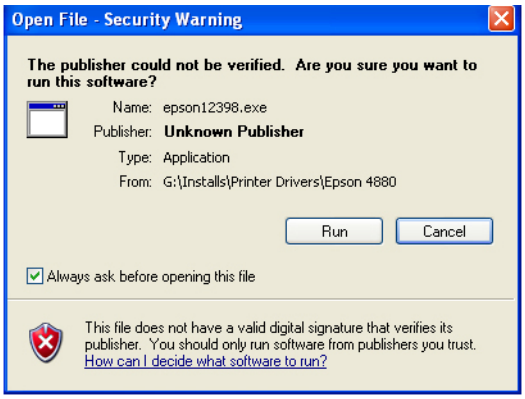
Printer Driver Installation Steps

The installation process is done the same way, wether you are downloading from Epson.com or installing from the included disc.

1. Like any inkjet printer driver installation, you first need to extract the file. Double click on the zipped exe file.



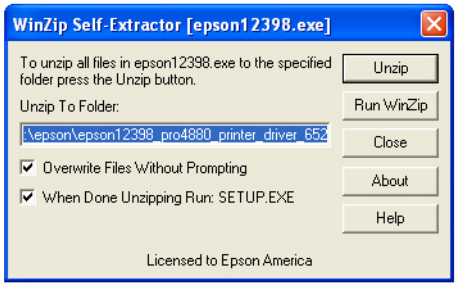
2. A security warning screen will open. Press Run.



3. Click OK for the Self Extractor Window

4. Another Self Extractor Window opens. Where field named, "Unzip to Folder" should default to your "C" drive or Local disk and unzip in a folder named Epson. Do not change anything here unless it defaults to a different location. If it reads a different location, press browse and make a folder named "Epson" on your local disk.

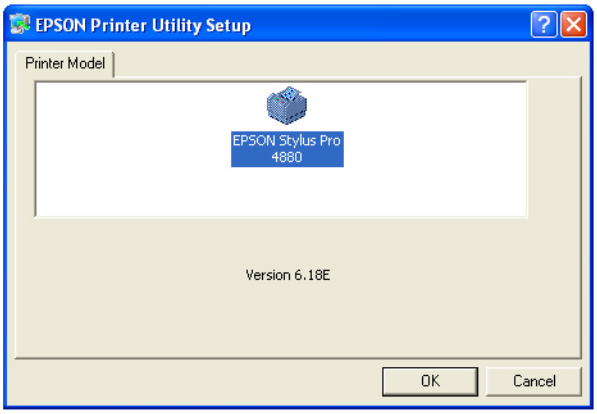
Click Unzip.



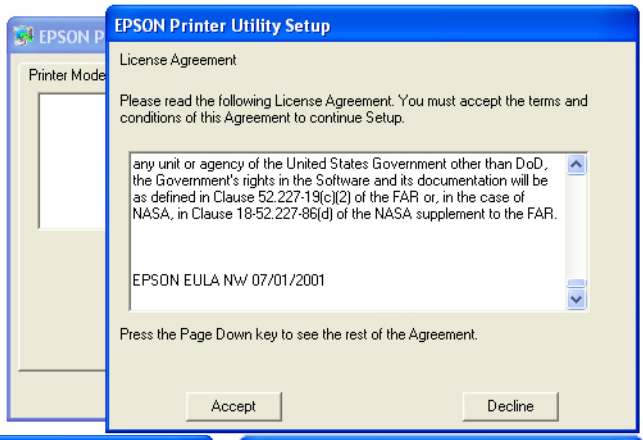
5. This window confirms that the files were unzipped successfully.

Click OK

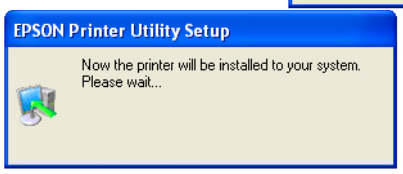
6. When the Epson Printer Utility Setup window opens, click OK.

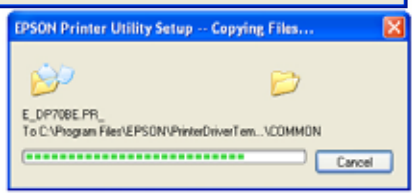


7. Click Accept to accept the License Agreement.

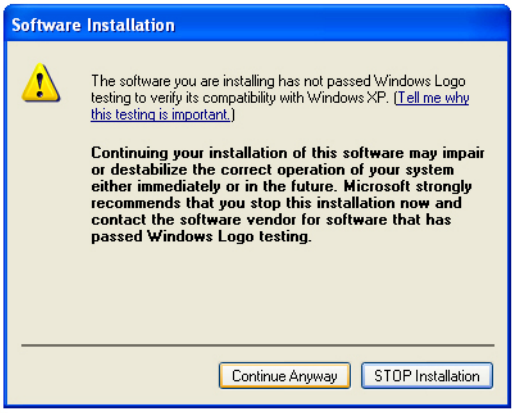


8. The Utility Setup will begin and will start copying the necessary files.



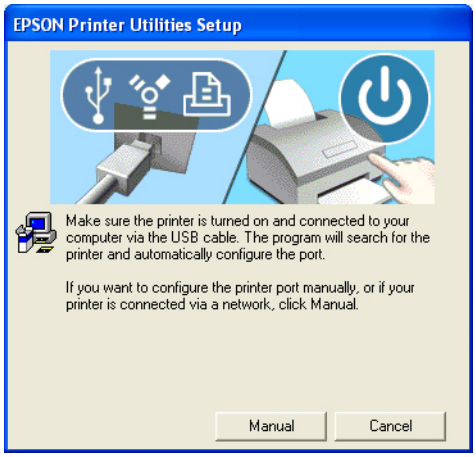


9. A Software Installation warning screen will appear. Click Continue Anyway.



10. The last screen is a screen that will auto-detect your printer. Make sure that your T-Jet is connected to the printer using the USB cord.

- Power on the printer and the Epson Printer Utility will auto detect it and finalize the installation process.
- Click the start menu, then click Settings>Printers and Faxes. From here you can manage your printers etc.



The T-Jet Blazer Series are highly modified versions of the Epson 4880 with hundreds of additional parts

not provided by Epson. As a result, your T-Jet and any driver software is NOT supported by Epson. All support for the Epson driver and internal Epson components will come from U.S. Screen Print & Inkjet Technology.

If you have any concerns installing the driver, contact our Support Department and they will gladly walk you through the process.

Chapter 7

SETUP PART 5: Learning the LCD and User Interface Controls

Whether it's a Head Cleaning, Nozzle Check, Head Alignment or other maintenance, all Utilities can be accessed through the LCD Display Control Panel, located above the white ink cartridges. The LCD Display Control Panel is also used to pause and reset print jobs.

About the LCD Display

Blazer Express LCD Display and buttons

Many of the different T-Jet Blazer Series Printer Modes (not to be confused with Print Modes which are applicable only to image output) are commonly referred to by the Icons and Phrases that appear in the LCD Display. Because of the complex nature of the Epson 4880, there are many different Modes and Functions available, therefore the following list is not all-inclusive. However, it does detail the major items you may encounter in daily operation and those which are applicable to Inkjet-to-Garment printing. For a comprehensive list of all Epson 4880 Functions and Modes, consult the Epson User's Manual that has been included as part of your printer kit.)

The LCD Display Buttons

Your LCD display button layout may look different than the image below, but the button layout will apply to all versions of the Blazer Express and PRO.

Service Only Button

This button should not be used unless instructed by one of our technical support representatives. The default setting is set to the off (out) position and needs to remain that way.

Pause Button
Pressing the Pause Button will pause a print job while printing. Holding down the Pause Button for 3 seconds will cancel a print job.

Left/Paper Button
This button is used to navigate throughout the LCD screens. It is also used to adjust the "paper" setting of the printer.

Down Button
This button is used to navigate through the LCD screens.

Up Button
This button is used to navigate through the LCD screens.

Right/ Clean Button
This button is used to navigate through the LCD screens. It is also used to perform a Head Cleaning Utility by holding down for 3 seconds; see ***Chapter 8 - SETUP PART 6 - Initialization Utilities.***

The LCD Display Icons
As mentioned earlier, the icons listed below will mean a different printer function and will be covered in detail in another chapter.

Sheet Icon
The Sheet icon is referred to as Sheet Mode preceded by any phrase above it such as "Ready/Sheet" mode or "Paper Out /Sheet" mode.

Roll Icon
The Roll icon is referred to as Roll Mode preceded by any phrase above it such as "Ready/Roll" mode or "Paper Out /Roll" mode.

Roll Scissors Icon
The Roll & Scissors icon is referred to as Roll Cut Mode preceded by any phrase above it such as "Ready/Roll Cut" mode or "Paper Out /Roll Cut" mode.

WARNING
DO NOT press or attempt to use any button on the Epson LCD Display not covered in this Manual. Failure to follow this guideline can result in extended downtime, ruined output and/or damage to your printer that is not covered by warranty. If you note erratic machine behavior when attempting to print, immediately shut down the printer and contact Technical Support.

About the User Interface Buttons

The T-Jet Blazer EXPRESS and the PRO both feature a User Interface (also referred to as HMI). The User Interface (UI) allows power and control of the printer assembly and has 3 main buttons (not counting the touch screen display).

Power Off Button

This button is used to shutdown the printer assembly during a normal shutdown cycle. For the Blazer PRO model is also used as an emergency shutdown. The Blazer EXPRESS has an emergency shutdown located on the front left side of the machine.

Power On Button

This button is used to power on the Printer Assembly after the main power has been turned on.

Send Print Button

The green “send print” button(s) are used to send a print job. The PRO model has 2 while the EXPRESS model only has one. Press and hold the send print button(s) for a few seconds to send the print.

User Interface Touch Screens

The User Interface also adds convenience and function, allowing you to perform several operations from its touch screens rather than the LCD Control Panel. Each screen is touch sensitive, allowing you to navigate between screens or change screen settings with a touch of a finger. The opening screen is referred to as the Home Screen. Press the screen to begin navigation. Navigate by using the Left and Right arrows. Throughout the navigation process, return to the home screen by pressing the Home icon.

The Mode Select Screen

The Mode Select Screen allows the selection of two modes using the selection dial. The mode select screen also allows the selection of the amount of print passes desired.

Manual Mode: Using the selection dial to select *Manual* will allow you to perform Maintenance Utilities and control finite movements of the printer.

Auto Mode: Using the selection dial to select *Auto* will change tht mode to Auto Mode (or printing mode) allowing you to print and select print passes. If printing, you must be in Auto Mode.

Pass Select: Press the number of desired passes in the *Pass Select* area of the *Mode Select* screen. this will only work when in Auto Mode.

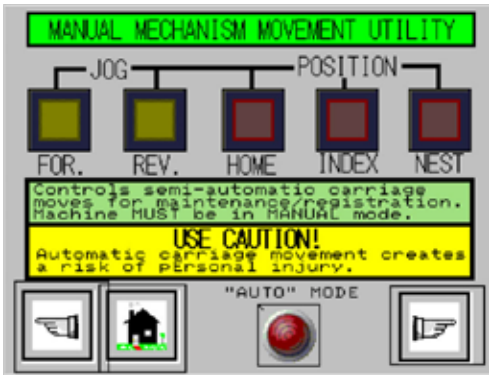
Pad Enabled Icon: The Pad Enabled icon will appear on all of the User Interface screens and represents the mode that the Mode Select screen is set to. If the Pad Enabled is lit in red, the User Interface is in Auto Mode and if not lit, is in Manual Mode.

IMPORTANT POINT

You MUST be in Manual mode to utilize any functions on the UI or perform any Maintenance Utilities such as Head Cleanings, Head Alignments, etc. To Print, you MUST be in Auto mode.

The Manual Mechanism Movement Utility (MMMU) Screen

The MMMU Screen controls the movements of the Blazer EXPRESS Print Bed and The Blazer PRO Printer Assembly, prior to and after completion of a printing job. The MMMU Screen controls the movement of the Printer Assembly prior to and after completion of a printing job. These movement functions are also used when performing certain maintenance utilities. The Assembly has three preset positions and these are listed under the heading "Position": *Home, Nest* and *Index*. Since the two Blazer models work a bit different, some of the following sections have been separated by model to prevent confusion.



Home Button: ***BLAZER EXPRESS***

Pressing and holding the *Home Button* for 2 seconds will eject the *Print Bed* all the way to the front of the printer. From this position you may load or remove garments.

Home Button: ***BLAZER PRO***

Pressing and holding the *Home Button* for 2 seconds will send the *Printer Assembly* all the way to the back of the printer. From this position you may load or remove garments by pulling the platen handle out.

Index Button: ***BLAZER EXPRESS***

Pressing and holding the *Index Button* for 2 seconds will move the *Print Bed* to the rear of the printer. When in this position, you may perform various maintenance functions such as *Nozzle Checks, Head Alignments*, etc.

Index Button: ***BLAZER PRO***

Pressing and holding the *Index Button* for 2 seconds will move the *Printer Assembly* towards the center of the *Print Bed*. When in this position, you may perform various maintenance functions such as *Nozzle Checks, Head Alignments*, etc.

Nest Button: Pressing and holding the *Nest Button* for 2 seconds will move the *Printer Assembly* (PRO) or *Print Bed* (EXPRESS) forward or backward and align it with the front sensor. No printing or maintenance functions should be performed from this position. This is ONLY to check the functionality of the sensor.

JOG - For and Rev Buttons: BLAZER EXPRESS

- Pressing the FOR button moves the print bed incrementally towards the back of the printer (if facing printer, the bed will move away from you, towards the *Index Position*).
- Pressing the REV button moves the print bed incrementally toward the front of the printer (if facing printer, the bed will move closer to you, towards the *Home Position*).

JOG - For and Rev Buttons: BLAZER PRO:

- Pressing the FOR button moves the printer assembly incrementally toward the front of the unit (if facing printer, the assembly will move closer to you, towards the *Index Position*).
- Pressing the REV button moves the printer assembly incrementally toward the back of the unit (if facing printer, the assembly will move away from you, towards the *Home Position*)

Platen (Print Bed) to Head Clearance Adjustment Screen

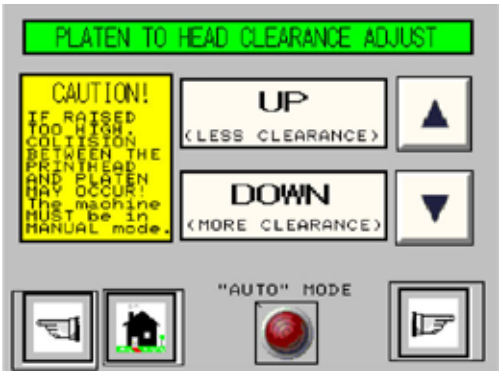
BLAZER EXPRESS:

The Platen to Head (Print Bed to Print Head) Clearance Height Adjustment screen may appear as a User Interface screen, but its functions have been disabled and only work for the Blazer PRO model - see next section). On the T-Jet Blazer Express, the platen to head clearance is manually adjusted using the control knob located on the Print Bed.

- Rotating the knob clockwise lowers the Platen giving more clearance.
- Rotating the knob counter-clockwise raises the Platen giving less clearance.

To set the distance to a safe printing height, refer to the height sensor. The distance of the platen (with the substrate loaded) needs to be set to a minimum of 3mm to a maximum of 5mm in relation to the print head. This distance will depend on what distance is used in performing your *Print Head Alignment*. Learn more in ***Chapter 8 - SETUP PART 6 - Initialization Utilities***.

BLAZER PRO:



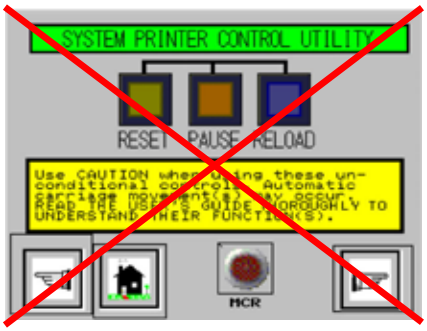
The Platen to Head Clearance Adjustment screen is only active on the Blazer PRO model and is used to set the proper clearance between the Platen (print bed) and the Printer Assembly (Print Head).

- Pressing the UP button raises the Platen (Print Bed) giving less clearance.

- Pressing the DOWN button lowers the Platen (Print Bed) giving more clearance.

The distance of the platen (with the substrate loaded) needs to be set to a minimum of 3mm to a maximum of 5mm in relation to the Printer Assembly. This distance will depend on what distance is used in performing your *Print Head Alignment*. Learn more in ***Chapter 8 - SETUP PART 6 - Initialization Utilities.***

System Printer Control Utility (SPCU) Screen



The SPCU has been discontinued. Your printer may or may not have this screen available, but if so, the functions on this screen should be utilized from the *LCD Display Control Panel* rather than here.

To Reset a job or clear all jobs on the *LCD Display Controls*, press and hold the Pause Button for 3 seconds.

To Pause a job on t he *LCD Display Controls*, press the Pause Button.

The Alarm Select Screen

You may hear a tone when performing certain actions, such as sending a print command. You will also notice blinking of the green lights before and after printing. The *Alarm Select Screen* allows you to control whether or not you will hear or see these various audible and visual alarms.

Press any or both of the touch screen switches to turn the alarms either on or off.

NOTE: To adjust these settings ensure the virtual dial on the *Mode Select Screen* is set to *Manual*.

IMPORTANT POINT

Anytime you choose the Manual mode from the Mode Select Screen, you must remember to return to that screen and switch the virtual dial to Auto to enable printing.

Chapter 8

SETUP PART 6: Initialization Utilities

You have the *Bulk Ink System* in place and the Printer Driver installed, but there are a few more steps to follow before you can begin printing. You must set the *Shirt Board* to the correct height for printing and perform an initialization process that will get the ink flowing, and ensure the *Print Head* Nozzles are in proper alignment to output the best possible images. Since the Blazer EXPRESS and PRO's layouts and steps to raise the platen are different, the steps below will apply to the particular model. YOU MUST COMPLETE THESE INITIALIZATION STEPS TO PRINT!

Shirt Board Height Settings
BLAZER EXPRESS

It is necessary during setup to check and adjust the *Shirt Board* to Head Clearance to the proper height for output and to make sure that the *Shirt Board* is at a safe distance from the *Print Head*. It is also important that each corner of each *Shirt Board* being used is level with the Print Head.

Leveling the Shirt Board *(EXPRESS)*

The first step in the process is to level the *Shirt Board* to the Print Head. You will want to repeat this procedure when switching between different *Shirt Boards*.

1. **Determine the distance you want.**
   Determine the distance you want between the *Shirt Board* (with garment) and the *Print Head*. THE DISTANCE MUST BE NO LESS THAN 3 MM AND NO MORE THAN 5 MM. To get the sharpest prints use a distance closer to 3mm but NEVER less. For this example, we'll use a distance of 4 mm.

   NOTE: you will refer to this setting when completing the Print Head Alignment Utility later in this chapter. This will be your permanent height setting when printing.a

2. **Set the Printer to Print Position**.

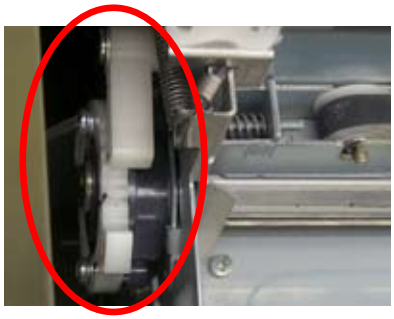
IMPORTANT NOTE:

To properly set the Print Head Height you must first set the Print Head to it's printing height position. By default the Print Head sits higher than when it is printing and may cause the user to inadvertently set it too low, causing a head crash.

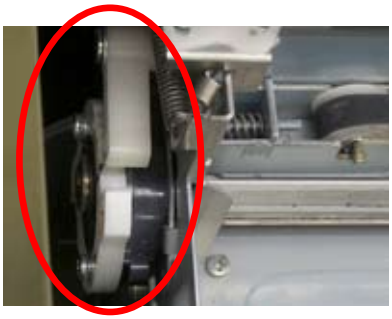
There are two ways to verify that the printer is in the correct position for setting the *Print Head* Height.

- 1. The recommended method is performing a Regular *Head Cleaning Cycle* prior to setting the Print Head Height. When a *Head Cleaning Cycle* is completed the printer will be in the correct position to measure the distance and make any necessary adjustments if needed. Refer to the ***Head Cleaning Utility*** section of this chapter.

- 2. The other method is to visually check the gear that controls the Print Head height. This gear is on the left end of the printer opposite of the capping station and can be viewed by lifting the lid.



DEFAULT POSITION:
If the gear is open like above, DO NOT attempt to set the Print Head Height. The easiest way to set this to Printing Position is by performing a Head Cleaning Cycle.



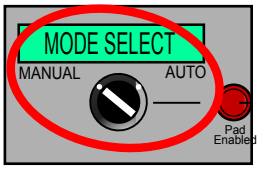
PRINTING POSITION:
If the gear is closed like above, it is in the correct position to set the Print Head Height. Continue on with the next step.

IF YOU HAVE COMPLETED A HEAD CLEANING CYCLE OR HAVE CONFIRMED THAT THE PRINTER IS IN PRINTING POSITION, CONTINUE TO STEP 3 BELOW.

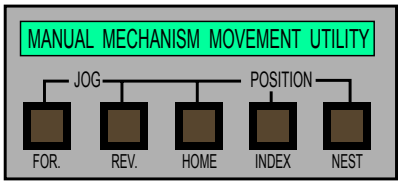
3. Position the Shirt Board

You will need to position the *Shirt Board* underneath the Print Head so that you can accurately measure the distance between the two. The distance needs to be checked (and adjusted if necessary) on all 4 corners to have the best possible prints. **NOTE: Start out leveling the Over-sized Shirt Board. It is needed for the following sections - Nozzle Check and Print Head Alignment. Also, after leveling a Shirt Board, make sure you mark it in a way that you can tell which position it needs to sit in for future use.**

- Go to the UI and switch to *Manual Mode* on the *Mode Select* screen. Refer to Chapter 6 for details on UI screens.



- Next, go to the *MMMU* Screen and press the *FOR* button to move the *Shirt Board* incrementally towards the printer assembly. Stop when the *Shirt Board* is lined up with where the *Print Head* is.



4. Release the Print Carriage for Access

The *Print Carriage* needs to be released in order to pull move it away from the capping station.

WARNING: BE VERY CAREFUL WHEN MOVING THE Print Head! DO NOT LET THE Print Head TOUCH ANY SURFACE! THIS WILL PERMANENTLY DAMAGE IT!

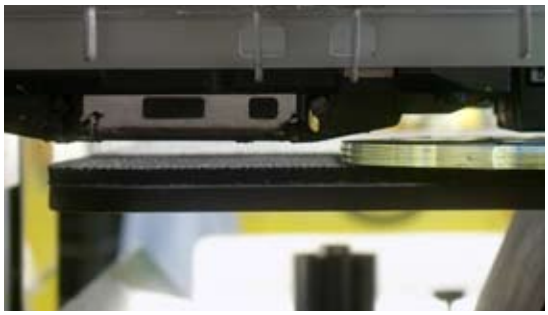
- Lift the printer cover (if it is not already lifted) and locate the Carriage Release Button (blue) located in front of the *Print Carriage* on the right side of the printer.

- Press down and slowly move the *Print Carriage* towards the *Shirt Board*.

5. Measure the Distance

Using a ruler or a jig, measure the distance between the *Shirt Board* and the *Print Head*. You may need to go to the rear of the printer to see; you may also need a flashlight.

In the photo to the right we used 3 CDs stacked together (measuring 4 mm) to show how a jig can help in the measuring process.



6. Adjust Shirt Board Corner Height (if needed)

If you determined that the *Shirt Board* needs to be raised or lowered in a particular corner, the Blazer Express *Shirt Boards* have adjustment screws located on the inside of the *Shirt Board*.

NOTE: If the *Shirt Board* adjustment screws cannot go any higher or lower, you may have to raise or lower the entire *Print Bed* Height using the Height Adjustment Knob to accommodate the *Shirt Board's* distance. For example: if 1 or more corners need to be raised or lowered an inch, then first raise or lower the entire height of the *Print Bed* one inch and continue the leveling process.

Turning the knob clockwise will lower the *Shirt Board*, giving more clearance and turning it counter-clockwise will raise the *Shirt Board*, giving less clearance.

7. Repeat

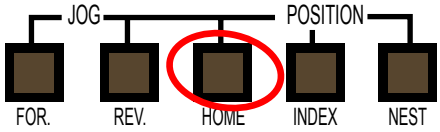
Repeat Steps 3 to 5 (and 6 if adjustments are needed) for every corner to complete the leveling process. Also, repeat these steps for the other Shirt Boards (you can do this later if desired).

8. Return the Print Carriage

Manually move the *Print Carriage* back to the *Capping Station*. It will click into place.

9. Return to Home Position

Return to the UI and the MMMU screen. Under the Position heading, press Home. The Printer Assembly will begin to move. When it stops, it will be in the Home position.



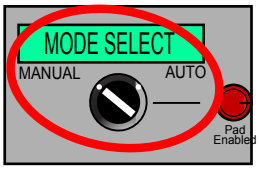
Adjust the Overall Height of the Shirt Board *(EXPRESS)*

Now that the *Shirt Board* is level, the next step is to adjust the entire height of the *Shirt Board* (if needed). You may not have to complete this section for the initial setup if you ended up with an accurate measured distance in the previous section. In addition, should you need to raise or lower the *Shirt Board* to accommodate different garment thicknesses or other items, the following procedure would be used.

1. **Confirm that the Printer is in the Proper Position.**
   Refer to the previous section - ***Leveling the Shirt Board - Step 2***. You must make sure that the printer is in proper position before attempting to set and measure the height of the Shirt Board. If the printer is not in the "Print Position" you will NOT get an accurate measurement reading, which can lead to serious damage to the Print Head.

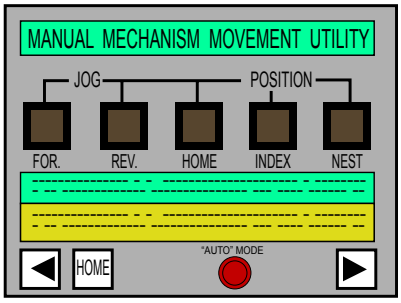
2. **Enter the Mode Select Screen**
   After you have verified "Print Position" or have completed a Head Cleaning Cycle, on the UI, go to the Mode Select screen. Refer to ***Chapter 7 - SETUP PART 5: Learning the LCD and User Interface Controls,*** for details on UI screens.

3. **Set the Printer to Manual Mode**
   In the upper left hand corner is a virtual dial pointing to "Auto." Press the dial once and it will rotate to "Manual."

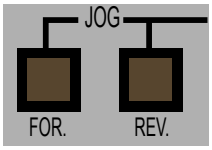


4. **Enter the MMMU Screen**
   Using the "hand" buttons, scroll through the UI screens until you reach the Manual Mechanism Movement Utility (MMMU) screen.

   This screen will enable you to freely control the Platen assembly position.



5. **Position the Shirt Board**
   In the JOG section of the MMMU screen, use the FOR and REV buttons to center the Platen assembly directly under the printer. Note: by this time you should have already completed the previous section, ***Leveling the Shirt Board***.



   The Blazer EXPRESS (only) is equipped with a built-in Height Sensor that will prevent the *Shirt Board* (or garment) from striking the Print Head. This will happen if the distance between the garment and Print Head is less than the minimum of 3 mm. The height sensor is a thin laser beam that extends across the *Shirt Board* if it is at a dangerous height that will damage the Print Head. If the *Shirt Board* is set too high, or should anything break this beam, all machine functions will immediately pause, the LCD Display will read "Top Cover Open" and a small LED located on the top of the printer will flash Red.

WARNING:

SOME EARLIER MODELS MAY NOT BE EQUIPPED WITH THE HEIGHT SENSOR. IF YOUR MODEL DOES NOT, REFER TO THE FOLLOWING SECTION - ***SETTING THE OVERALL HEIGHT FOR THE BLAZER PRO*** MODEL - WHICH ALSO DOES NOT HAVE A HEIGHT SENSOR EQUIPPED.

6. Set the Shirt Board Height

For best results, you will want to set the distance as close to the sensor level as possible.

Use the Height Adjustment knob to set the clearance to the desired height for printing. NOTE: you will need to use the exact distance in the following chapter called ***Chapter 9 - SETUP PART 7: Performing a Print Head Alignment.*** If the Platen is set too high, the sensor will trigger. Lower slightly until the sensor shuts off. When the sensor shuts off, you are set to the ideal height which will give you the highest quality prints. This will only work accurately if you successfully completed the previous section, ***Leveling the Shirt Board***.

Turning the knob clockwise will lower the *Shirt Board*, giving more clearance and turning it counter-clockwise will raise the *Shirt Board*, giving less clearance. **NOTE:** If the sensor is tripped too many times, the printer will error out and display one of the following error messages on the LCD screen:

"TOP COVER OPEN"
SRVC REQD 00001001E

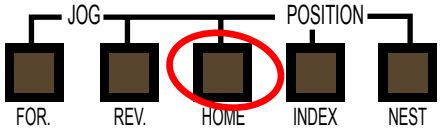
In the case of either of these error messages, you will be forced to perform a complete shutdown. To learn more about error codes and messages, refer to ***Chapter 16 - Troubleshooting***.

IMPORTANT POINT

The Height Sensor is a "Last Line of Defense" to prevent the Print Head from striking a garment, Platen or any other object that could cause severe damage to the Print Head. Practice knowing where your Platen (Shirt Board) is in relation to the Print Head height. Do not rely solely on the sensor to warn you of potential collisions. Print Heads are not covered under warranty so we strongly encourage you to monitor and maintain a safe clearance between the Print Head and any garment or other printable item.

7. Return to Home Position

After the height of the Platen has been set, return to the UI and browse to the MMMU screen. Under the Position heading, press Home. You will hear an audible tone and the Printer Assembly will begin to move. When it stops, it will be in the Home position.



Shirt Board Height Settings
BLAZER PRO

It is necessary during setup to check and adjust the *Shirt Board* to Head Clearance to the proper height for output and to make sure that the *Shirt Board* is at a safe distance from the *Print Head*. It is also important that each corner of each *Shirt Board* being used is level with the Print Head.

Leveling the Shirt Boards *(PRO)*

The first step in the process is to level the *Shirt Boards* to the Print Head. You will want to repeat this procedure when switching between different *Shirt Board sizes*.

1. **Determine the distance you want.**
   Determine the distance you want between the *Shirt Board* (with garment) and the *Print Head*. THE DISTANCE MUST BE NO LESS THAN 3 MM AND NO MORE THAN 5 MM. To get the sharpest prints use a distance closer to 3mm but NEVER less. For this example, we'll use a distance of 4 mm.
   NOTE: you will refer to this setting when completing the Print Head Alignment Utility later in this chapter. This will be your permanent height setting when printing.

2. **Set the Printer to Print Position**.

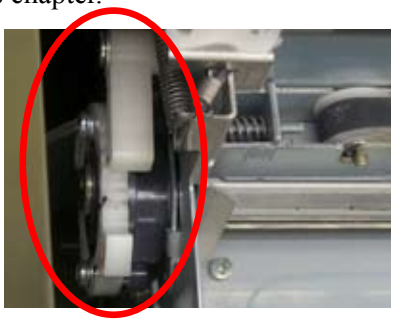
IMPORTANT NOTE:

To properly set the Print Head Height you must first set the Print Head to it's printing height position. By default the Print Head sits higher than when it is printing and may cause the user to inadvertently set it too low, causing a head crash.

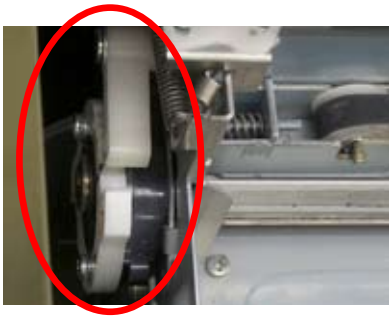
There are two ways to verify that the printer is in the correct position for setting the *Print Head* Height.

- 1. The recommended method is performing a Regular *Head Cleaning Cycle* prior to setting the Print Head Height. When a *Head Cleaning Cycle* is completed the printer will be in the correct position to measure the distance and make any necessary adjustments if needed. Refer to the ***Head Cleaning Utility*** section of this chapter.

- 2. The other method is to visually check the gear that controls the Print Head height. This gear is on the left end of the printer opposite of the capping station and can be viewed by lifting the lid.

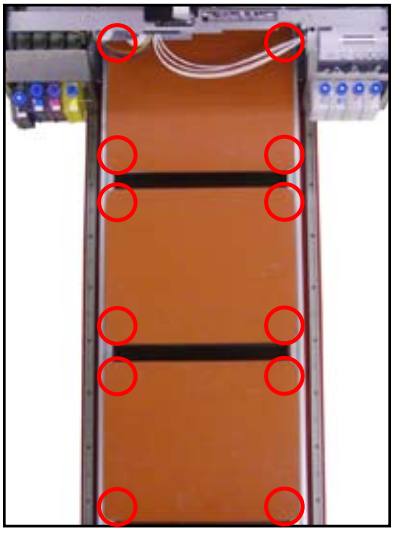


DEFAULT POSITION:
If the gear is open like above, DO NOT attempt to set the Print Head Height. The easiest way to set this to Printing Position is by performing a Head Cleaning Cycle.



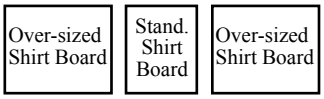
PRINTING POSITION:
If the gear is closed like above, it is in the correct position to set the Print Head Height. Continue on with the next step.

IF YOU HAVE COMPLETED A HEAD CLEANING CYCLE OR HAVE CONFIRMED THAT THE PRINTER IS IN PRINTING POSITION, CONTINUE TO THE NEXT STEP.



3. Position the Shirt Board

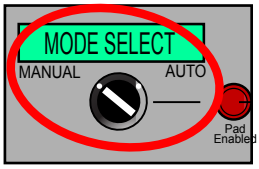
You will need to position the first *Shirt Board* underneath the Print Head so that you can accurately measure the distance between the two. The distance needs to be checked (and adjusted if necessary) on all 4 corners of each Shirt Board to have the best possible prints.



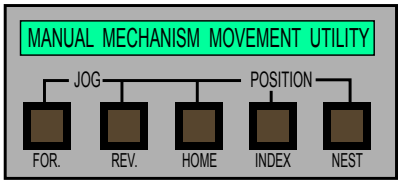
NOTE: Start out leveling the Over-sized Shirt Boards (front and back ends) and 1 Standard Board (placed in the middle) as shown. This layout is needed for the following Print Head Alignment section.

Also, after leveling a Shirt Board, make sure you mark it in a way that you can tell which position and setting it needs to sit in for future use.

- Go to the UI and switch to *Manual Mode* on the *Mode Select* screen. Refer to Chapter 6 for details on UI screens.



- Next, go to the *MMMU* Screen and press the *FOR* button to move the *Platen* incrementally towards the printer assembly. Stop when the *Shirt Board* is lined up with where the *Print Head* is. On the UI, touch the screen to get to the Mode Select screen. Refer to Chapter 6 for details on UI screens.



4. Release the Print Carriage for Access

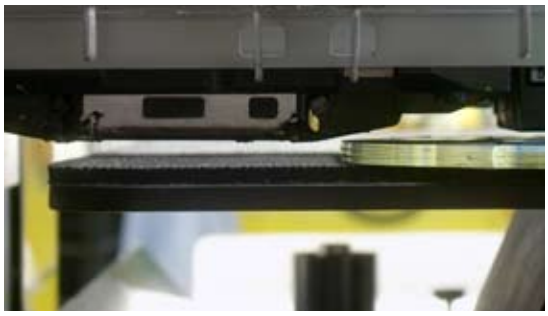
The *Print Carriage* needs to be released in order to pull move it away from the capping station.

WARNING: BE VERY CAREFUL WHEN MOVING THE Print Head! DO NOT LET THE Print Head TOUCH ANY SURFACE! THIS WILL PERMANENTLY DAMAGE IT!

- Lift the printer cover (if it is not already lifted) and locate the Carriage Release button (blue) located in front of the *Print Carriage* on the right side of the printer.
- Press down and slowly move the *Print Carriage* towards the *Shirt Board*.

5. **Measure the Distance**
Using a ruler or a jig, measure the distance between the *Shirt Board* and the *Print Head*. You may need to go to the rear of the printer to see; you may also need a flashlight.

In the photo to the right we used 3 CDs stacked together (measuring 4 mm) to show how a jig can help in the measuring process.



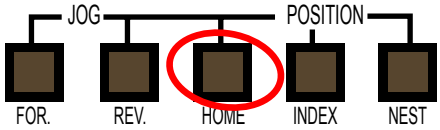
6. **Adjust Shirt Board Corner Height (if needed)**
If you determined that the *Shirt Board* needs to be raised or lowered in a particular corner, the Blazer Express *Shirt Boards* have adjustment screws located on the inside of the *Shirt Board*.

NOTE: If the *Shirt Board* adjustment screws cannot go any higher or lower, you may have to raise or lower the entire *Print Bed Assembly* height using the Platen to Head Adjustment screen on the User Interface to accommodate the *Shirt Board's* distance. For example: if 1 or more corners need to be raised or lowered an inch, then first raise or lower the entire height of the *Print Bed Assembly* one inch and continue the leveling process. Refer to the next section, ***Adjusting the Overall Height of the Print Bed Assembly***. If Shirt Board is extremely out of level, refer to ***Chapter 16 - Troubleshooting*** for solutions.

7. **Repeat**
Repeat Steps 3 to 5 (and 6 if adjustments are needed) for every corner to complete the leveling process. Also, repeat these steps for the other Shirt Boards that you will be utilizing (2 oversized, and 1 standard).

8. **Return the Print Carriage**
Manually move the *Print Carriage* back to the *Capping Station*. It will click into place.

9. **Return to Home Position**
Return to the UI and the MMMU screen. Under the Position heading, press Home. The Printer Assembly will begin to move. When it stops, it will be in the Home position.



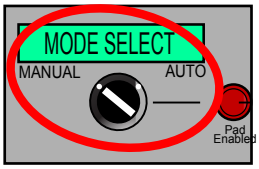
Adjust the Overall Height of the Print Bed Assembly *(PRO)*

Now that the *Shirt Boards* are level, the next step is to adjust the entire height of the Platen. In addition, should you need to raise or lower the entire Print Bed Assembly to accommodate different garment thicknesses or other items, the following procedure would be used.

1. **Confirm that the Printer is in the Proper Position.**
   Refer to the previous section - ***Leveling the Shirt Board - Step 2***. You must make sure that the printer is in proper position before attempting to set and measure the height of the Shirt Board. If the printer is not in the "Print Position" you will NOT get an accurate measurement reading, which can lead to serious damage to the Print Head.

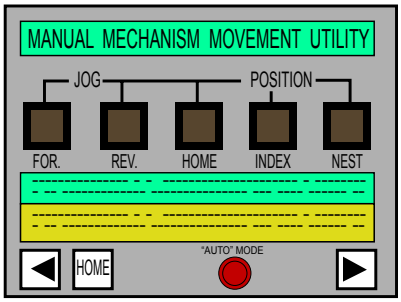
2. **Enter the Mode Select Screen**
   On the UI, go to the Mode Select screen. Refer to Chapter 6 for details on UI screens.

3. **Set the Printer to Manual Mode**
   In the upper left hand corner is a virtual dial pointing to "Auto." Press the dial once and it will rotate to "Manual."

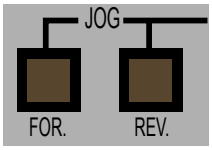


4. **MMMU Screen**
   Using the "hand" buttons, scroll through the UI screens until you reach the Manual Mechanism Movement Utility (MMMU) screen.

   This screen will enable you to freely control the Platen assembly position.



5. **Position the Platen Assembly**
   In the JOG section of the MMMU screen, use the FOR and REV buttons to center the Platen assembly directly under the printer.



IMPORTANT POINT

When moving the print carriage for the first time, use caution to make sure it will not hit the Platen (Shirt Board). Use the following steps for adjustments.

6. **Release the Print Carriage**
   The *Print Carriage* needs to be released so that you can slide it towards the *Shirt Board (Platen)* to view it's relation with the *Print Head*.

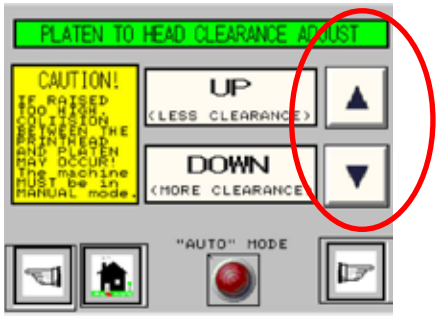
   - Lift the printer cover (if it is not already lifted) and locate the Carriage Release Button (blue) located in front of the print carriage on the right side of the printer.
   - Press down and slowly move the Print Carriage away from the Capping Station until its sits over the Shirt Board. To see the distance accurately, you may need a flashlight.

7. Set the Platen to a safe clearance

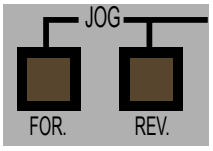
Use the Platen to Head Clearance Adjustment Screen on the User Interface to set the clearance of approximately 3 mm (1/8") and no less.

- On the UI, press the "RIGHT hand" button until the Mode Select screen appears. (Refer to the previous chapter for details on UI screens)
- In the upper left hand corner is a virtual dial pointing to "Auto." Press the dial once and it will rotate to Manual.

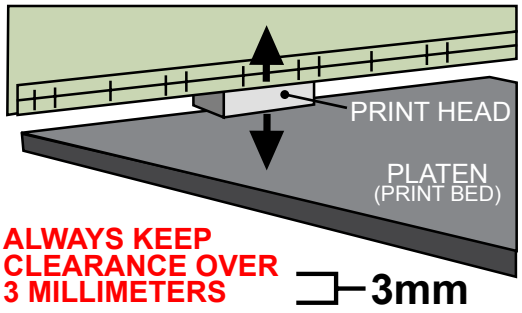
- On the UI, browse through the screens until you come to the Platen to Head Clearance Adjust (PHCA) screen.
- Use the UP/DOWN arrows to set a Print Head clearance of approximately **3 mm**. What moves up and down is the Platen, NOT the printer assembly. The UP button raises the Platen closer to the Print Head and the DOWN button lowers the Platen away from the Print Head.



- Make sure that the minimum 3mm distance is maintained across the span of ALL THREE Shirt Boards.



Use the JOG section of the MMMU screen to manually move the assembly to the other Shirt Board positions.

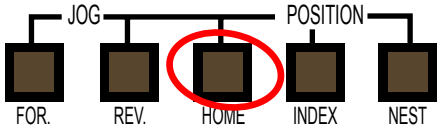


8. Return the Print Carriage

After a safe distance has been established, slide the Print Carriage back to the capping station. It will click back into place.

9. Return to Home Position

Return to the UI and the MMMU screen. Under the Position heading, press Home. The Printer Assembly will begin to move. When it stops, it will be in the Home position.



Power Cleaning Utility

To initialize the ink, a utility called ***Power Cleaning*** will need to be performed. The *Power Cleaning Utility* will pull the ink through the lines and into the *Print Head*. It can also be utilized if you have serious nozzle clogs, however, it will consume a large volume of ink. We recommend that you only perform a ***Power Cleaning*** for your initial setup unless the troubleshooting chapter or our support team suggests otherwise. The initial setup will require approximately two to three *Power Cleaning* cycles. We recommend completing two cycles, then continuing on with the next section - *Nozzle Check Utility*. If the printout from the *Nozzle Check Utility* is far from complete (many gaps) then return here and complete an additional *Power Cleaning*. Also see ***Nozzle Check/Power Clean Utility Using the LFP Remote Panel***, later in this chapter.

DO NOT perform a Power Cleaning for nozzle clogs unless directed to do so by our technical support. Use the ***Head Cleaning*** function; this cleaning uses MUCH less ink. For ***Head Cleaning*** steps, refer to the ***Nozzle Check*** section later in this chapter. If the *Head Cleaning Cycle* is not solving your problem, it may be another issue. Refer to ***Chapter 16 - Troubleshooting*** for answers to common concerns. If your answer is not resolved, then call our support department for assistance.

IMPORTANT POINT

U.S. Screen is not liable for any damage caused by ink to property such as carpets, flooring or furniture . Please read and understand all operating and maintenance procedures before using the printer.

Setting Up for a Power Cleaning

1. **Power up the Printer.**
   To begin, turn the printer ON as you normally would. The printer will go through a startup cycle that will take a couple of minutes.

2. **Set the User Interface to Manual Mode.**
   The Power Cleaning cycle is executed from the LCD Control Panel. However, before beginning, you need to first set the virtual dial, in the mode select screen of the User Interface, to ***Manual***.

   - On the UI, press the "RIGHT hand" button until the Mode Select screen appears. (Refer to page 45 for details on UI screens)
   - In the upper left hand corner is a virtual dial pointing to "Auto." Press the dial once and it will rotate to Manual.

3. **Set the Printer to Print Status.**
   The printer, after being powered up, should be in the *Home Position* and in *Print Status*.

LCD Display in Print status (Paper Out/Roll Cut Mode)

   - If the printer is not in Print Status:
     By using the LCD Control Panel, press the LEFT ARROW twice until the LCD Display reads "READY" with the *Sheet* icon. This mode is called READY/ SHEET mode.

- Press the LEFT ARROW once more and the LCD Display will read “PAPER OUT” and displays a “roll of paper with a scissors” icon. This mode is called PAPER OUT/ ROLL CUT mode. **The printer is now in Print status**.

Whenever you need to get to Print Status, this is the sequence you will use. The only difference would be if you were preparing to output an image onto a garment, the virtual dial of the Mode Select Screen would be set to Auto.

4. **Set the printer to *READY Status***.
   Now that you are in *Print Status*, the next step is setting the printer to *READY* Status using the *LCD Display Control Panel*.

   To do this, press the *Left ARROW Button* once. The LCD Display should look like this.

Activate the Power Cleaning Cycle

A Power Cleaning Cycle is activated through the LCD Display Control Panel like most of the Initialization Utilities. Carefully follow the steps below.

1. With the printer in *READY Status*, press the *RIGHT ARROW Button* once.

2. Press the *UP ARROW Button* and scroll through the menu items until you come to “*Maintenance*.” Press the *RIGHT ARROW Button* once.

3. Press the *DOWN ARROW Button* to scroll the menu items until you come to “*Power Clean*.”

4. To execute the *Power Cleaning*, press the *RIGHT ARROW Button* once.

While Cleaning, the LCD display will inform you of the *Power Cleaning* status in percentages.

5. When prompted by the *LCD Display*, move both blue levers adjacent the ink cartridges (the levers that lock the ink cartridges in place) to the UP position. The display will prompt you at the 17% mark.

6. When prompted, move both blue levers into the DOWN position. You will be prompted at around the 20% mark.

7. You will again be prompted to move both levers at the 30%, 40% and 50% marks. At the 50% point, both levers will be in the DOWN position and you will not have to adjust them again during the power cleaning cycle.

   Once the Power Cleaning is complete, the LCD Display will read “Ready.”

8. Repeat the Power Cleaning Utility until the ink has filled the ink lines and reaches the Print Head.

Nozzle Check Utility

The next step in the setup process is performing **Nozzle Check**. The **Nozzle Check Utility** is necessary to confirm that the ink is flowing and that the Print Head is performing properly. NOTE: Later in this chapter are instructions on completing the Nozzle Check Utility using the Epson LFP Remote Panel.

The **Nozzle Check Utility** also works in conjunction with the **Head Cleaning Cycle** showing that a cleaning was successful or if another is needed.

You may use either paper or film for this test, but we recommend a clear film such the film that we have included with the T-Jet. This is a standard screen print positive film and is available at most screen print supply stores. Make sure that it is a film that can be printed on. Paper can be used but will make it almost impossible to view the white ink pattern. Another, more cost efficient method is to print on a plexi-glass material which can be cleaned and reprinted on. You will have to adjust your Print Head Height settings if using a thicker media than film.

Setting Up for a Nozzle Check

1. Set the printer from Print Status to READY/SHEET status by pressing the LEFT ARROW button twice on the LCD Control Panel.

   The display will read “READY” with a “sheet of paper” icon. Only when in READY/SHEET status can the Print Bed (Express) or Printer Assembly (PRO) be moved freely.

2. Using the “RIGHT hand” button, shuffle through the UI screens until you get to the Mode Select screen. Ensure the virtual dial is set to Manual.

3. Press the “RIGHT hand” button on the UI again until you reach the *Manual Mechanism Movement Utility* (MMMU) screen.

4. Place your sheet of film on the Over-sized Shirt Board (for the Blazer PRO it will be the Board furthest from the printer assembly). The film we include has a printable surface and a non-printable surface. The sticky side is the printable side and needs to be facing up. You can test this by wetting your finger and touching the film. Your finger will stick to the printable side. When placing the film, take care to align the film with the Shirt Board’s lower right hand corner (as you face the front of the printer.) Overhang the film 1 inch over the edge of the Shirt Board.

5. On the UI, under the heading section, press the Index button. This will move the Print Bed to the proper position for printing a nozzle check.

6. Next, go back to the LCD and change the printer mode to READY/ROLL mode by pressing the LEFT ARROW button twice. The display will read “READY” with a “roll of paper” icon.

Activate the Nozzle Check Utility

A *Nozzle Check Utility* can be activated through the *LCD Display Control Panel* or the LFP Remote Panel (see later section in this chapter). For steps on activating through the LCD Display Control Panel, carefully follow the steps below.

1. The printer should now be in *READY ROLL Mode*. Press the *RIGHT ARROW Button* once - the display will read "*Printer Setup*."

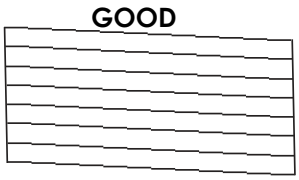
2. Press the *DOWN ARROW Button* once to see "Test Print."

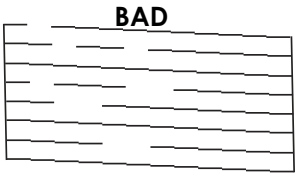
3. Press the *RIGHT ARROW Button* once to see "Nozzle Check."

4. Press the *RIGHT ARROW Button* again and "Print" will appear in the display.

5. To execute the Nozzle Check, press the RIGHT ARROW button once.

If the *Nozzle Check* does not print a "GOOD" pattern, perform a regular *Head Cleaning Cycle*.





Head Cleaning Utility

The *Head Cleaning Utility* is much like a *Power Cleaning Cycle* but it consumes much less ink. To perform a *Head Cleaning*, hold down the *RIGHT/ CLEAN ARROW Button* on the *LCD Display Control Panel* for 3 seconds. If you are performing a *Head Cleaning* to correct the results of a *Nozzle Check*, execute another *Nozzle Check* to see if the *Head Cleaning* was successful. If not, repeat the *Head Cleaning/Nozzle Check* Utilities.

IMPORTANT NOTE:

If, AT ANY TIME, you have performed three Nozzle Checks without rebooting your printer, you must power OFF your printer before executing another one. If completed 4 Head Cleaning Cycles and you are not getting results, a Power Cleaning Cycle may be required.

Nozzle Check and Power Cleaning Utilities from the LFP Remote Panel

The Nozzle Check procedure can also be completed by using the *Epson LFP Remote Panel.* The *LFP Remote Panel* is a stand alone application designed to give you several utility functions, including the *Print Head Alignment* and *Power Cleaning* utilities, right from your computer. The *LFP Remote Panel* is included with the Epson Stylus Pro Driver CD that came with your Blazer Series printer. To execute a Nozzle Check test print or a Power Cleaning from the LFP Remote Panel, refer to the following steps for installation options and using the LFP Remote Panel.

Installation and Download of the LFP Remote Panel

Installation works very similar to any installation. Simply follow the screen prompts.

Download On Web

The LFP Remote Panel is also available to download from Epson's website: www.epson.com. Select *Drivers & Support*, then select the applicable version for the Stylus Pro based on the Operating System (Windows XP, Vista, 2000 or MAC).

To determine which Epson Print Engine your printer is equipped with, locate the printer serial number and compare it to the following table.

If your Serial Number contains the following as the 4th and 5th digits (PRO) or 5th and 6th (EXPRESS) after TJB or TJBE. Download the latest LFP Remote Panel for your particular model.

BO: *EPSON Stylus Pro 4800*
BX: *EPSON Stylus Pro 4800*
B8: *EPSON Stylus Pro 4880*
BY: *EPSON Stylus Pro 4880*

Nozzle Check/Power Cleaning With LFP Remote Panel

1. Setup Your Printer and Media

Before beginning, make sure you are familiar with printer setup in order to complete the nozzle check process properly. Refer to the previous section, ***Nozzle Check Utility - Setting Up for a Nozzle Check***, for the complete setup procedure.

2. Once the printer is in correct position with media present, open the LFP Remote Panel by double-clicking on the Epson LFP icon on your computer's Desktop.

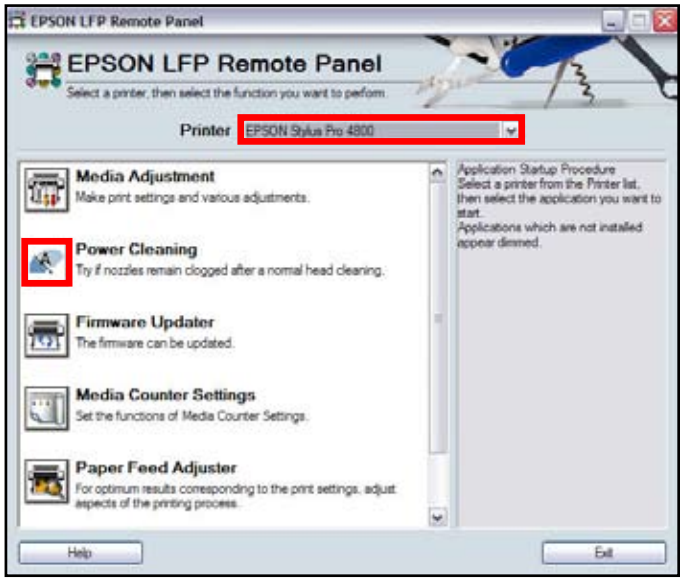
If not present, using your Start menu, select Programs > Epson > Epson LFP Remote Panel.

3. From the main Window, select your printer from the drop down menu.

   Use the table below to determine your Epson print engine model.

   BO: *EPSON Stylus Pro 4800*
   BX: *EPSON Stylus Pro 4800*
   B8: *EPSON Stylus Pro 4880*
   BY: *EPSON Stylus Pro 4880*

   Your Serial Number will contain one of the four options after TJBE or TJB. The table will then outline which model your print engine is based on.



4. Select Power Cleaning from the LFP Remote Panel Main Screen.

5. Within the next screen, select your printer from the drop-down menu.

6. Click on the desired function.

   NOTE: A Power Cleaning consumes a large volume of ink. For daily cleanings use the Head Cleaning function. For more information on the Power Cleaning and Head Cleaning Utilities, refer to those sections earlier in this chapter.

7. When the procedure is complete, click *Exit*.

   If the *Nozzle Check* does not print correctly, perform a regular Head Cleaning. See ***Performing a Head Cleaning*** earlier in this chapter and repeat the Nozzle Check Process if needed.

IMPORTANT NOTE:

If, AT ANY TIME, you have performed three consecutive Nozzle Checks without rebooting your printer, you must power OFF your printer before executing another one.

8. Once you have obtained a satisfactory Nozzle Check, press the Power button on the UI to turn OFF your printer. After the shutdown process has been completed, turn the power back ON and you may resume normal operations. To begin the *Head Alignment* process, place your printer in "Paper Out (Roll/Cut)" mode. The LCD Display will read "Paper Out" and display the "roll" icon in addition to the "scissors" icon.

Chapter 9

SETUP PART 7: Print Head Alignments

Introduction

The Blazer EXPRESS and PRO have different procedures for completing a Print Head Alignment. This chapter has been split into 2 sections. Please refer to the correct section corresponding with your T-Jet Blazer Series model. The Print Head Alignment procedures have been carefully researched and it is extremely important that you follow the instructions carefully to prevent mis-calibration.

All Blazer Series printers have been aligned prior to shipping and have been locked down using a lock-down bracket. In most cases, you WILL need to perform an alignment for initial setup. In the case that your prints are not lining up properly, performing a precise and COMPLETE Head Alignment is extremely crucial to creating great images with your new printer.

WARNING: **Performing a Head Alignment can take up to 2 hours. Before beginning this procedure, make sure that you are familiar with all the required steps and have the necessary time available to complete the entire process. Once you have begun a Head Alignment you CANNOT exit the function without shutting down the machine. In addition, early exit may result in severe misalignment of the Print Head or other operational concerns.**

When is a Print Head Alignment Needed

- If your prints contain vertical lines or misaligned parts of an image.
- If your printer was shipped or transported.
- If the Print Head makes contact with any object whether it's a garment or a Shirt Board.

Types of Print Head Alignments and Which to Complete

There are 2 types of alignments: Uni-Directional and Bi-Directional. Uni-Directional aligns the Print Head for printing one way (forward) across the garment, while Bi-Directional aligns the Print Head for printing forward and backward. The test prints performed after your initial setup will determine which alignment process may be needed.

- If completing the alignment procedure from the results of transporting your printer or from the Print Head striking the Shirt Board, start with Uni-Directional (if wanting to print with High Speed Print Modes you will then need to complete the Bi-Directional alignment afterwards).
- If your first test print is off using a standard print mode, you will need to complete the Uni-Directional Print Head Alignment. If you then want to utilize the High Speed Print Modes (recommended), perform a test print using the HS print mode. If the print is off, you will then need to complete the Bi-Directional Print Head Alignment.
- If your first test print (using the standard print modes) came out good, but your second test print, using the High Speed Print Modes, printed off, you will only need to complete the Bi-Directional Print Head Alignment procedure.

BLAZER EXPRESS ALIGNMENTS

This section will cover the execution of Uni-Directional and Bi-Directional *Print Head Alignments* for the Blazer EXPRESS. For steps on completing these alignments for the Blazer PRO, refer to the later section of this chapter named ***Blazer PRO Alignments***.

1. Install the LFP Remote Panel

The alignment procedure is completed by using the *Epson LFP Remote Panel*. The *LFP Remote Panel* is a stand alone application designed to give you several utility functions, including the *Nozzle Check* and *Power Cleaning* utilities, right from your computer. The *LFP Remote Panel* is included with the Epson Stylus Pro Driver CD that came with your Blazer Series printer.

Download On Web

The LFP Remote Panel is also available to download from Epson's website: www.epson.com. Select *Drivers & Support*, then select the applicable version for the Stylus Pro based on the Operating System (Windows XP, Vista, 2000 or MAC).

To determine which Epson Print Engine your printer is equipped with, locate the printer serial number and compare it to the following table.

If your Serial Number contains the following as the 5th and 6th digits after TJBE. Download the latest LFP Remote Panel for your particular model.

BO: *EPSON Stylus Pro 4800*
BX: *EPSON Stylus Pro 4800*
B8: *EPSON Stylus Pro 4880*
BY: *EPSON Stylus Pro 4880*

2. Printer Setup

To continue the Print Head Alignment procedure, you must have the *Epson LFP Remote Panel* installed and the computer connected to the printer. The printer must be in "*Ready/ROLL*" mode and be in the *Index Position* with the film or other media (to print on) in place. If the printer is not in the correct mode, you will receive a "Communication Failed" error. You will also need to determine the *Print Head* height that you will use permanently while printing.

1. Power up the printer (if not powered up already).

2. Check the distance between the Print Head and the *Shirt Board*.

   The *Shirt Board* must have the media in place (whether it be film, paper or plexi-glass) to print the

test pattern on, before adjusting the distance setting. **A DISTANCE OF 3 MM IS REQUIRED**. This step is important in the process, because the distance between the *Print Head* and the "Media" used during the alignment process will need to be the exact distance between the *Print Head* and the garment that you will later print on. 3mm is the ideal setting and will give you the most crisp prints. If this is not recorded and adjusted correctly, your alignment process will not be as accurate for later printing.

3. Set the printer from Print to "*Ready/Sheet*" status by pressing the LEFT/PAPER button twice on the LCD Control Panel. The display will read "Ready" and display a "sheet of paper" icon. Only when in "Ready/Sheet" status can the *Printer Assembly* be moved freely.

4. Using the "RIGHT hand" button, shuffle through the UI screens until you get to the Mode Select screen. Confirm that the mode is set to Manual.

5. Press the "RIGHT hand" button on the UI again until you reach the Manual Mechanism Movement Utility (MMMU) screen.

6. Prepare the media printing on, to cover an area of 16" x 20" (41 cm x 53 cm) The Blazer EXPRESS can only perform one "Dot Size" at a time. A single Head Alignment procedure consists of 3 "Dot Sizes". You will need to reload the media a total of three times per alignment.

Align the media with the upper left hand corner of the *Oversized Shirt Board* (the bottom right hand corner if facing the front of the printer). Over hang the film 1 inch over the edge of the *Shirt Board*.

7. On the UI, browse to the MMMU screen. Under the heading Position, press the Index button. With the Printer in the Index position, the *Shirt Board* is now directly beneath the Printer Assembly.

8. Next, go back to the LCD and change the printer mode to "Ready/Roll" mode by pressing the LEFT ARROW button twice. The display will read "READY" with a "roll of paper" icon.

9. Continue on with next step.

3. Send the Alignment Test Print

The following steps will cover sending the Print Head Alignment Test Print to the Blazer EXPRESS through the Epson LFP Remote Panel.

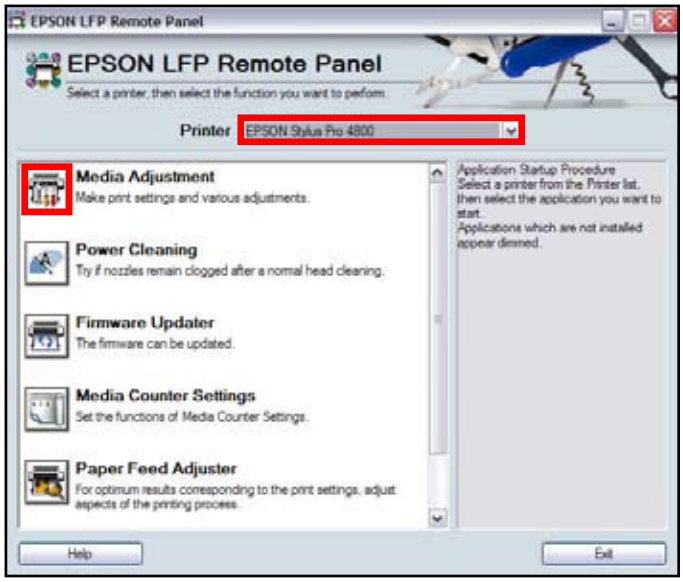
1. Open the LFP Remote Panel by double-clicking on the Epson LFP icon on your Desktop.

   If not present, using your Start menu, select Programs > Epson > Epson LFP Remote Panel.

2. From the main Window, select your printer from the drop down menu.

   Use the table below to determine your Epson print engine model. Your Serial Number will contain one of the four options after TJBE or TJB. The table will then outline which model your print engine is based on.

   BO: *EPSON Stylus Pro 4800*
   BX: *EPSON Stylus Pro 4800*
   B8: *EPSON Stylus Pro 4880*
   BY: *EPSON Stylus Pro 4880*



3. Next, select Media Adjustment from the list of icons in the Remote Panel window.

   NOTE: If you were performing a Power Cleaning or a Nozzle Check from the LFP Panel you would select Power Cleaning.

WARNING: **DO NOT change any values or run any Utilities other than those specified in this Manual. Your Blazer Series printer is a highly modified version of the Epson 4800/4880 and several custom settings were implemented at the factory level. If you modify any preset values, it may result in significant downtime and/or additional expense.**

4. From the Media Adjustment screen select the *Auto Adjustment* icon.

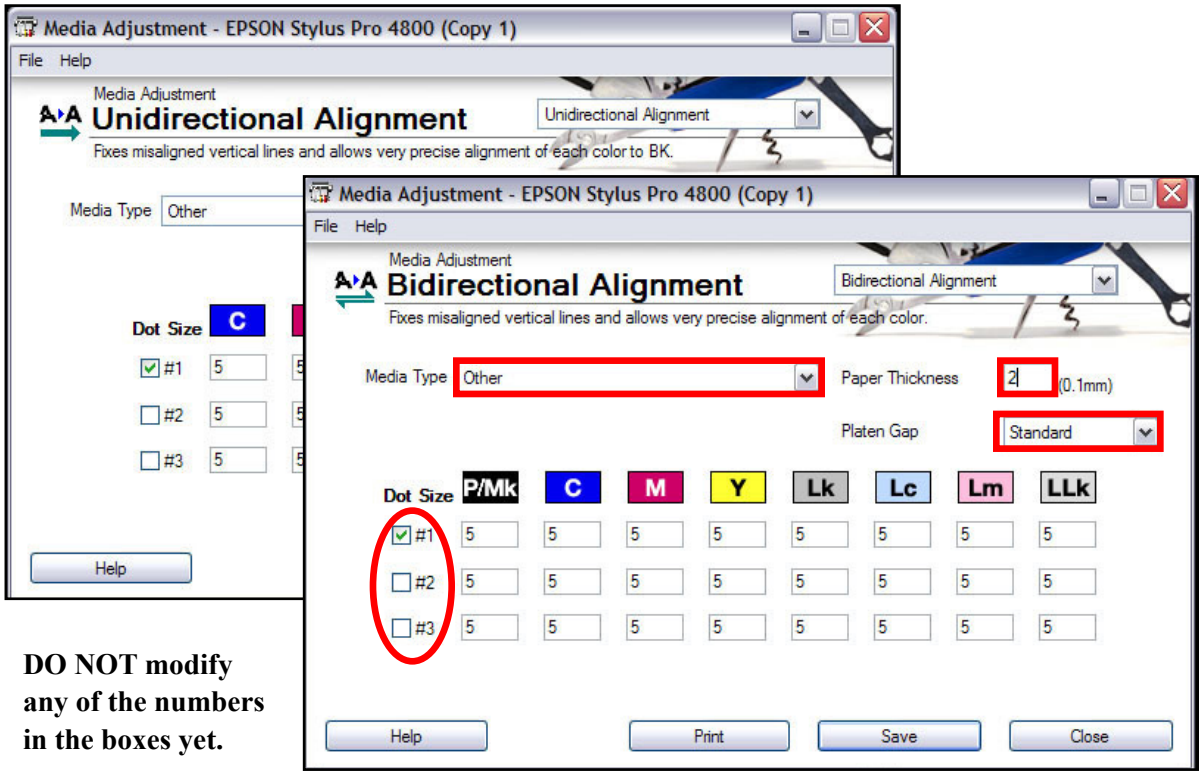
5. In the Auto Adjustment section of the Media Adjustment window, select Bi-Directional or Uni-Directional Alignment from the drop down menu. This selection will be determined in the earlier section of this chapter named ***"Types of Print Head Alignments and Which to Complete"***.

   NOTE: DO NOT select any of the Auto Alignment options (in blue) on this screen.

IMPORTANT NOTE: **If you notice SEVERE registration issues, we recommend you perform the Uni-Directional Alignment first, followed by a Bi-Directional Alignment. If you only wish to fine tune printer output, you can utilize the Bi-Directional Alignment as a standalone procedure.**

6. Select Dot Size in the Alignment Window.

   - Within the Bi-Directional or Uni-Directional Alignment screens, place a check mark in the first of the three boxes ONLY, below Dot Size. You will have to repeat the entire process two ADDITIONAL times, placing check marks in Dot Size 2 the second time and Dot Size 3 the third.

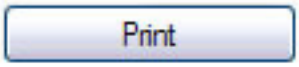


DO NOT modify any of the numbers in the boxes yet.

- Select Other for Media Type
- Enter 2 for Paper Thickness
- Select Standard from the Platen Gap drop-down menu.

WARNING: **It is EXTREMELY crucial that you only select ONE Dot Size per printout! The Blazer EXPRESS does not have enough bed length to print out all dot sizes in one run. If you do not deselect the other two check boxes, the printer will error out. If this happens refer to the Error codes in *Chapter 15 - Troubleshooting.***

7. Double check that your film (or media) is still setup correctly. Also verify that the printer is still in *Index Position* and in *READY/ROLL Mode*.

8. Press the *Print* button on the LFP Remote Panel Screen. 

   The print process will take approximately 10 minutes. After the print is complete, be careful not to smudge the ink, it will be wet for a short while (depending on what media type you are printing on).

9. Continue on with the next step.

4. Selection and Entry of the Values

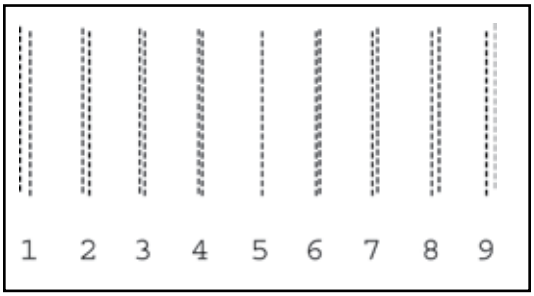
This portion of the Alignment process will be the most difficult. Determining and entering the correct values may be a bit confusing, but we have gone through great lengths to provide you with the best possible instructions that will help you understand the process and save you time and money, as well as getting the best possible print out of your new investment.

1. Study the alignment patterns.

Uni-Directional Alignment Pattern:
If completing a Uni-Directional Alignment, you will notice a group of dotted lines marked either #1, #2 or #3, representing the Dot Size # your are reviewing.

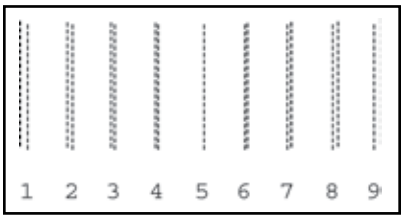
Each ink color (C, M, Y, Pk/Mk. Lc, Lm, Lk, LLk) will have it's own set of lines, numbered 1-9 like the sample shown here.

NOTE: The Lc, Lm, Lk and LLk represent the 4 white ink cartridges.

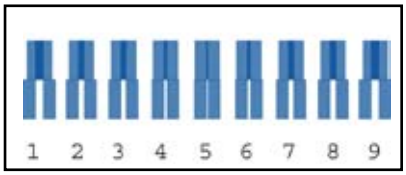


Bi-Directional Alignment Patterns:
If performing a Bi-Directional Alignment, you will see lines for black and individual sets of color swatches for the colors.

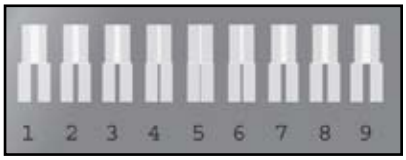
The black and light black ink colors (Pk/Mk and LK) will have it's own set of lines like the sample shown here.



The colors (C,M and Y) will each have color swatch set numbered 1-9 (cyan shown in this example).



The 4 white cartridges will each have a white swatch set numbered 1-9 as well, labeled Lk, Lc, Lm, and LLk.

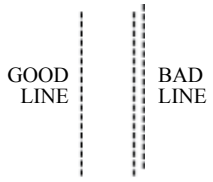


NOTE: You will notice that there are two columns of identical groups. The first, or left hand column, will be used for calibration. The second column is only a duplicate image of the first column.

2. Determining "Best" Values

These following sections will cover determining which numbers are the best from the printout and entering those values in the Alignment Screen.

Determine "Best" Lines: Uni-Directional
The *first* set of vertical lines begin with PK/MK, which refers to **Black.** Carefully examine the printed lines and determine the cleanest, straightest line. This line will then be entered (1-9) in the corresponding box in the LFP window.



Determine "Best" Lines: Bi-Directional
The "C" refers to the **Cyan** color swatch. Examine the **Cyan** swatches and select the one closest to a perfect rectangle with no gaps or breaks in color. Pick the best swatch number (1-9) to enter in its corresponding box on the LFP Remote Panel screen.

3. Entering in Values - Part 1 - Uni-Directional

Below is an example printout of a Uni-Directional Alignment pattern (Figure 1). Throughout the process of selecting the best values, for this example we will use a chart (Figure 2) to keep track of the selections and entries made to help you understand how the process is completed. Figures 3 and 4, in the later section - Step 3 - Entering Values - Part 2, will cover the process of entering Bi-Directional data.

Figure 1: Uni-Directional Alignment Printout

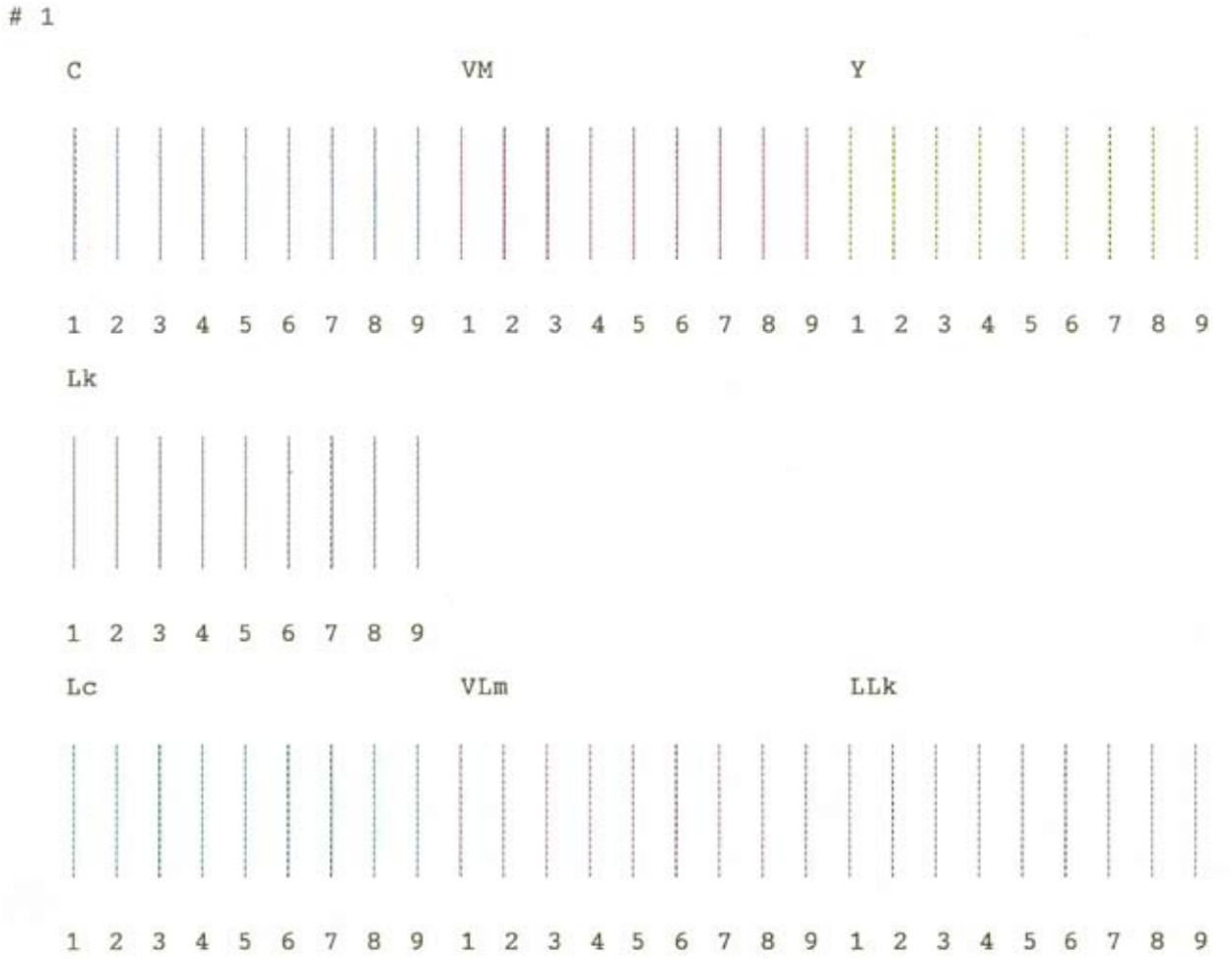
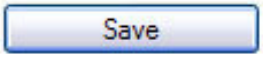


Figure 2: Uni-Directional Worksheet

	1	2	3
C	5	5	5
M	3	4	3
Y	3	4	5
LK	4	4	3
LC	4	5	4
LM	4	6	4
LLK	3	5	4

Prints that Line Up (Uni-Directional)

Observing the Alignment printout (Figure 1), the calibration is not far off and can observe the dashed lines lining up. In the worksheet (Figure 2) we have entered the best values for all 3 dot sizes. For now, only concentrate on the Dot Size #1 or column 1.

- Enter in the best values into the LFP Remote Panel screen where the default of 5 is entered.
- Next, click the Save button. 

- Continue on to ***Step 4 - Final Printout and Calibration***.

Prints that Do Not Line Up (Uni-Directional)

If in the printout, none of the lines came out close to "good", you would need to pick the closest and enter in that value multiple times for that particular color. This is where the process may get a bit tricky. NOTE: a worksheet is included for the following situations in doing a Bi-Directional Alignment - see ***Prints that Do Not Line Up (Bi-Directional)***.

- *First Entries:*
  The process is completed properly by estimating how far the alignment is off by using the test printout and determining which way the *Print Head* needs to be aligned. In other words, your printout may be off to one side or the other; depending on which side, you can assume that a particular entry entered, in the LFP Remote Panel, will shift the alignment towards the desired side. Doing this properly will prevent having to complete the printout 3 or more times.

  Enter in the desired values and click the SAVE button. All of the values will read 5 again, each time you click the Save button.

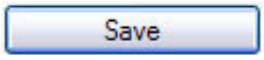
First Entries

Pattern to Enter 9

For this pattern, you would enter 9 for all values. If you were to print the alignment out again, the lines will look similar to the following Second Entries example.

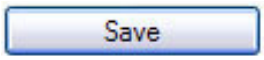
Pattern to Enter 1

For this pattern, you would enter 1 for all values. If you were to print the alignment out again, the lines will look similar to the Second Entries example.



- *Second Entries:*
  Entering in the corresponding value once, however, will not get the complete results on the printout (see Second Entries example to the right), leaving you to enter them again and again etc., until the alignment finally prints correct.

  Enter in the desired values and click the SAVE button.



Second Entries

Pattern to Enter 9

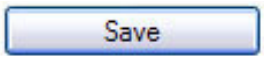
The pattern is closer to the desired line, however, it is not close enough for a good alignment. Entering 9 for all values again will bring the pattern closer, and without having to reprint the pattern.

Pattern to Enter 1

The pattern is closer to the desired box, however, it is not close enough for a good alignment. Entering 1 for all values again will bring the pattern closer, and without having to reprint the pattern.

- *Third Entries:*
  This example allows you to assume that you need to enter this number in 3 times (for example) before even needing to complete another printout.

  Enter in the desired values and click the SAVE button.



Third Entries

After entering in either 9 or 1 (depending on the pattern) a third time, the pattern will give you a much more desired print out of the alignment pattern, leaving you to only to printout the pattern twice for a final check, versus three or more times.

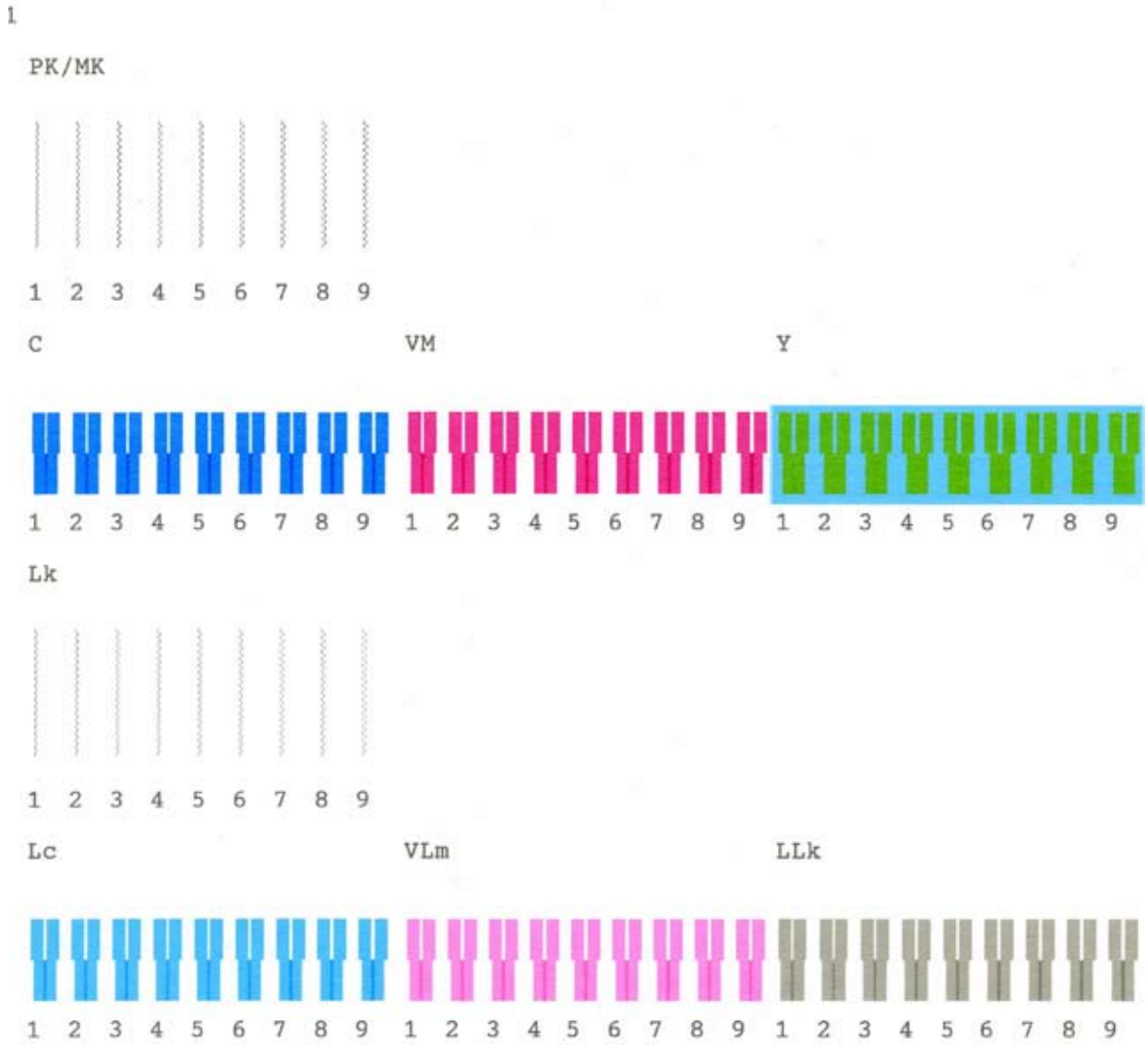
NOTES: Each color may need different values entered, depending on which way the pattern line is off. For an example, the cyan set may be off to the right (enter 9s) and the magenta off to the left (enter 1s), while the yellow may be perfect (enter 5s). Completing the "estimation" process too many times can "over shoot" the alignment causing it to be off the opposite way. If the pattern is only slightly off (half of what you see in this example) only two entries may be necessary.

- Continue on to ***Step 4 - Final Printout and Calibration***.

3. Entering in Values - Part 2 - Bi-Directional

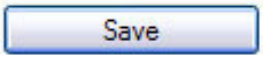
Below is an example printout of a Bi-Directional Alignment pattern (Figure 3). Throughout the process of selecting the best values, for this example we will use a chart (Figure 4) to keep track of the selections and entries made to help you understand how the process is completed. Figures 1 and 2, in the earlier section - Step 3 - Entering Values - Part 1, covers the process of entering Uni-Directional data.

Figure 3: Bi-Directional Alignment Printout



Prints that Line Up (Bi-Directional)

Observing the Alignment printout above (Figure 3), the calibration is far off from where it needs to be. If you had swatch options to choose from that looked like the example to the right, select the closest swatch to representing a full box, and enter those values into the LFP remote panel window.

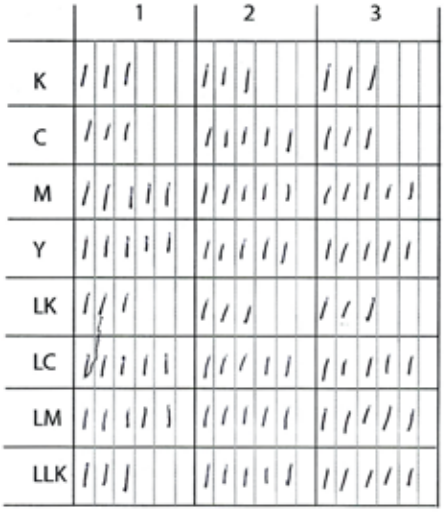
- Enter in the best values into the LFP Remote Panel screen.
- Next, click the Save button. 

- Continue on to ***Step 4 - Final Printout and Calibration***.

Prints that Do Not Line Up (Bi-Directional)

Observing the Alignment printout on the previous page (Figure 3), the calibration is far from where it needs to be.

Figure 4: Bi-Directional Worksheet-Part 1



In the worksheet (Figure 4) we have entered 1 for all 3 dot sizes (columns). Notice on Figure 3, that the Cyan and LLK are slightly closer that the other 4 colors. On the worksheet, we have entered multiple values of the number 1, five times for all the colors and only 3 times for the Cyan and LLK which were a bit closer to the desired pattern. In this case you would leave the values at the default of 5 for the last 2 entry routines.

To explain, if in the printout, none of the swatches or lines came out close to "good", you would need to enter in a particular value (in this example 1) multiple times in the LFP remote panel, in order to shift the alignment into place (saving after each entry). This is where the process may get a bit tricky. In figure 3, there aren't any good options to choose. The following section will explain what to choose and why and how many times to select and enter the values. **NOTE:** The Pk/Mk and Lk show as lines on the pattern. refer to the Uni-Directional description for these 2 colors.

- *First Entries:*
  The process is completed properly by estimating how far the alignment is off by using the test printout and determining which way the *Print Head* needs to be aligned. In other words, your printout may be off to one side or the other; depending on which side, you can assume that a particular entry entered, in the LFP Remote Panel, will shift the alignment towards the desired side. Doing this properly will prevent having to complete the printout 3 or more times.

First Entries

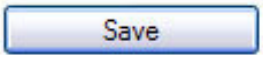
Pattern to Enter 9

For this pattern, you would enter 9 for all values. If you were to print the alignment out again, the patterns will look similar to the Second Entries example.

Pattern to Enter 1

For this pattern, you would enter 1 for all values. If you were to print the alignment out again, the patterns will look similar to the Second Entries example.

Enter in the desired values and click the SAVE button. Each time you click the Save button, all of the values will read 5 again.



- *Second Entries:*
  Entering in the corresponding value once, however, will not get the complete results on the printout (see Second Entries example to the right), leaving you to enter them again and again etc., until the alignment finally prints correct.

Second Entries

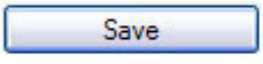
Pattern to Enter 9

The pattern is closer to the desired box, however, it is not close enough for a good alignment. Entering 9 for all values again will bring the pattern closer, and without having to reprint the pattern.

Pattern to Enter 1

The pattern is closer to the desired box, however, it is not close enough for a good alignment. Entering 1 for all values again will bring the pattern closer, and without having to reprint the pattern.

Enter in the desired values and click the SAVE button.



- *Third Entries:*
  This example allows you to assume that you needed to enter the corresponeding number in 3 times before even needing to complete another printout.

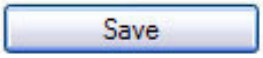
Third Entries

Pattern to Enter 9

After entering in 9 three times, the pattern will give you a much more desired print out of the alignment pattern, leaving you to only printout the pattern twice versus three or more times.

Pattern to Enter 1

After entering in 1 three times, the pattern will give you a much more desired print out of the alignment pattern, leaving you to only printout the pattern twice versus three or more times.

Enter in the desired values and click the SAVE button. 

- *Conclusion:*
  After entering the multiple values of "1" in the previous worksheet (Figure 4), the resulting printout (Figure 5) shows a much tighter alignment of the blocks.

  Now that you are able to visualize how entering multiple values brings the blocks together, refer to the next worksheet of values (Figure 6) entered for the last entries to complete the process.

  NOTES: Each color may need different values entered, depending on which way the pattern line is off. For an example, the cyan set may be off to the right (enter 9s) and the magenta off to the left (enter 1s), while the yellow may be perfect (enter 5s). Completing the "estimation" process too many times can "over shoot" the alignment causing it to be off the opposite way. If the pattern is only slightly off (half of what you see in this example) only two entries may be necessary.

  *** A Full worksheet has been supplied for your use at the end of the Print Head Alignments Chapter.

- Continue on to ***Step 4 - Final Printout and Calibration***.

Figure 5: Bi-Directional Alignment Printout - Last

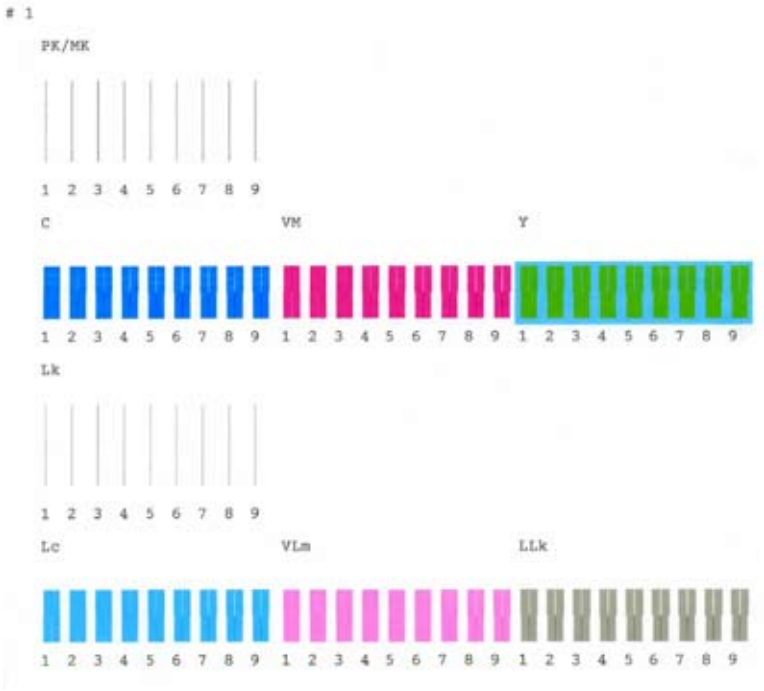
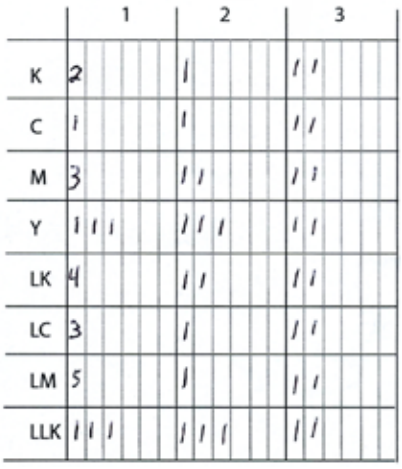


Figure 6: Bi-Directional Worksheet-Part 2



5. Final Printout and Calibration

At this point you should have made all of your entries in the LFP Remote Panel and Saved. If you exit this screen without saving your data, it will be lost. If this should occur, return to the correct alignment screen, re-enter your numbers and select *Save*.

1. **Turn off your Blazer Express and Power Back on.**

   After completing and saving your settings in the LFP Remote panel, you MUST turn OFF the printer. You CANNOT print or perform any additional maintenance routines on your machine without powering OFF first. You can do this by simply turning OFF the power using the User Interface OFF button**.**

2. **Go back to Step 2 - Printer Setup**

   In order to get the final results of your previous calibrations, a new Alignment Pattern Print must be completed again. You will have to re-set up the film, and go through the entire process again. If you completed the previous steps correctly, your final printout should be good enough to enter the values, click save and continue with the next step - ***Step 5 - Repeat for Dot Size # 2***.

   NOTE: You can leave the LFP Remote Panel Open until the entire Alignment Process is complete.

3. Once you have entered in the correct values, Dot Size #1 is complete.

6. Restart for Next Dot Size

You must now restart the printer and setup the printer for *Dot Size #2* in the LFP Remote Panel Screen. Go back to the previous section, ***Step 2 - Printer Setup*** and repeat the entire process.

YOU MUST COMPLETE THE ENITIRE PROCESS FOR ALL THREE DOT SIZES TO ENSURE ACCURATE PRINT OUTPUT.

NOTE: There is a good chance that Dot Sizes #2 and #3 are much closer to alignment than Dot Size #1.

BLAZER PRO ALIGNMENTS

This section will cover the execution of Uni-Directional and Bi-Directional *Print Head Alignments* for the Blazer PRO. For steps on completing these alignments for the Blazer EXPRESS, refer to the earlier section of this chapter named ***Blazer EXPRESS Alignments***.

1. Install the LFP Remote Panel

The alignment procedure is completed by using the *Epson LFP Remote Panel.* The *LFP Remote Panel* is a stand alone application designed to give you several utility functions, including the *Nozzle Check* and *Power Cleaning* utilities, right from your computer. The *LFP Remote Panel* is included with the Epson Stylus Pro Driver CD that came with your Blazer Series printer.

Download On Web

The LFP Remote Panel is also available to download from Epson's website: www.epson.com. Select *Drivers & Support*, then select the applicable version for the Stylus Pro based on the Operating System (Windows XP, Vista, 2000 or MAC).

To determine which Epson Print Engine your printer is equipped with, locate the printer serial number and compare it to the following table.

If your Serial Number contains the following as the 4th and 5th digits after TJB. Download the latest LFP Remote Panel for your particular model.

BO: *EPSON Stylus Pro 4800*
BX: *EPSON Stylus Pro 4800*
B8: *EPSON Stylus Pro 4880*
BY: *EPSON Stylus Pro 4880*

2. Printer Setup

To continue the Print Head Alignment procedure, you must have the *Epson LFP Remote Panel* installed and the computer connected to the printer. The printer must be in "*Ready/ROLL*" mode and be in the *Index Position* with the film or other media (to print on) in place. If the printer is not in the correct mode, you will receive a "Communication Failed" error. You will also need to determine the *Print Head* height that you will use permanently while printing.

1. Power up the printer (if not powered up already).

2. Check the distance between the Print Head and the *Shirt Board*.

For this procedure you will need the 3 standard-size Shirt Boards loaded onto the Blazer PRO. The *Shirt Board* must have the media in place (whether it be film, paper or plexi-glass) to print the test pattern on, before adjusting the distance setting. **A DISTANCE OF 3 MM IS REQUIRED**. This step is important in the process, because the distance between the *Print Head* and the "Media" used during the alignment process will need to be the exact distance between the *Print Head* and the garment that you will later print on. 3mm is the ideal setting and will give you the most crisp prints. If this is not recorded and adjusted correctly, your alignment process will not be as accurate for later printing.

3. Set the printer from Print to "*Ready/Sheet*" status by pressing the LEFT/PAPER button twice on the LCD Control Panel. The display will read "Ready" and display a "sheet of paper" icon. Only when in "Ready/Sheet" status can the *Printer Assembly* be moved freely.

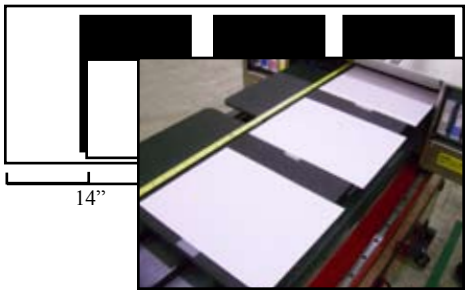
4. Using the "RIGHT hand" button, shuffle through the UI screens until you get to the Mode Select screen. Confirm that the mode is set to Manual.

5. Press the "RIGHT hand" button on the UI again until you reach the Manual Mechanism Movement Utility (MMMU) screen.

6. Prepare the media that you are printing on.
The Blazer PRO can print out all 3 "Dot Sizes" in 1 media layout of three 8 1/2 x 11" pieces of media. The measurements of where the media need to be located are different for Uni-Directional and Bi-Directional Alignments. Refer to the Introduction of this chapter to determine which alignment is needed.

- **Uni-Directional Media Layout.**
  Align the media with the upper left hand corner of the *Shirt Board* (the bottom right hand corner if facing the front of the printer). Over hang the film 1/2" over the right edge of the Shirt Board.

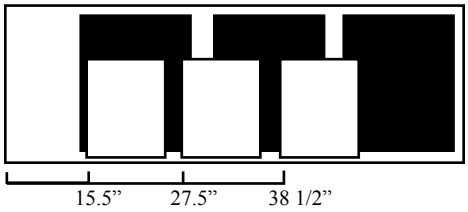
Measure from the end of the platen (where the metal platen handle is attached), 14". This is where the first sheet needs to be placed. The second sheet will be at 25" and the third at 38.5".



- **Bi-Directional Media Layout**

Align the media with the upper left hand corner of the *Shirt Board* (the bottom right hand corner if facing the front of the printer). Over hang the film 1/2" over the right edge of the Shirt Board.

Measure from the end of the platen (where the metal platen handle is attached), 15.5". This is where the first sheet needs to be placed. The second sheet will be at 27.5" and the third at 38.5".



7. On the UI, browse to the MMMU screen. Under the heading *Position*, press the *Index Button*. With the printer in the *Index Position*, the *Shirt Board(s)* is now directly beneath the *Printer Assembly*.

8. Next, go back to the LCD Display Control Panel and change the printer mode to "Ready/Roll" mode by pressing the LEFT ARROW button twice. The display will read "READY" with a "roll of paper" icon. Continue on with next section.

9. Continue on with next step.

3. Send the Alignment Test Print

The following steps will cover sending the Print Head Alignment Test Print to the Blazer EXPRESS through the Epson LFP Remote Panel.

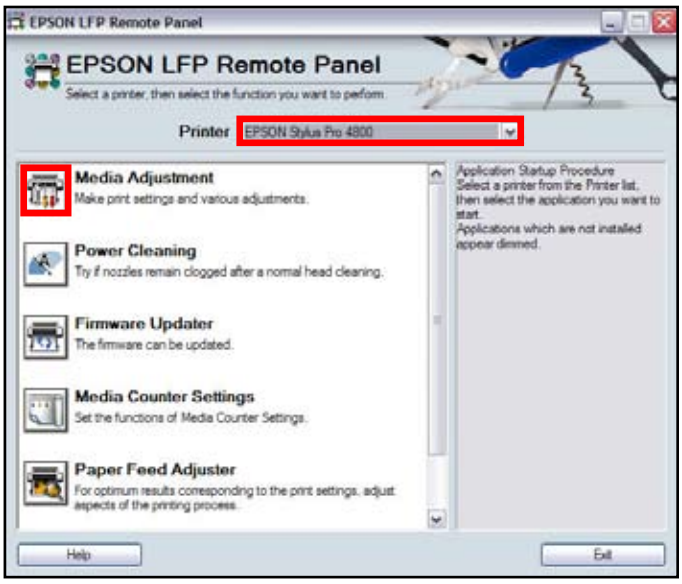
1. Open the LFP Remote Panel by double-clicking on the Epson LFP icon on your Desktop.

If not present, using your Start menu, select Programs > Epson > Epson LFP Remote Panel.

2. From the main Window, select your printer from the drop down menu.

   Use the table below to determine your Epson print engine model. Your Serial Number will contain one of the four options after TJBE. The table will then outline which model your print engine is based on.

   BO: *EPSON Stylus Pro 4800*
   BX: *EPSON Stylus Pro 4800*
   B8: *EPSON Stylus Pro 4880*
   BY: *EPSON Stylus Pro 4880*



3. Next, select Media Adjustment from the list of icons in the Remote Panel window.

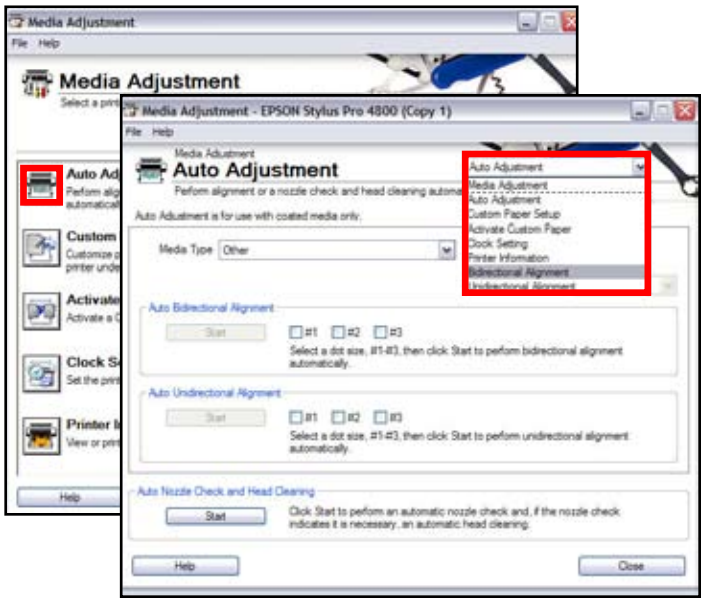
   NOTE: If you were performing a Power Cleaning or a Nozzle Check from the LFP Panel you would select Power Cleaning.

WARNING: **DO NOT change any values or run any Utilities other than those specified in this Manual. Your Blazer Series printer is a highly modified version of the Epson 4800/4880 and several custom settings were implemented at the factory level. If you modify any preset values, it may result in significant downtime and/or additional expense.**

4. From the Media Adjustment screen select the *Auto Adjustment* icon.

5. In the Auto Adjustment section of the Media Adjustment window, select Bi-Directional or Uni-Directional Alignment from the drop down menu. This selection will be determined in the earlier section of this chapter named ***"Types of Print Head Alignments and Which to Complete"***.

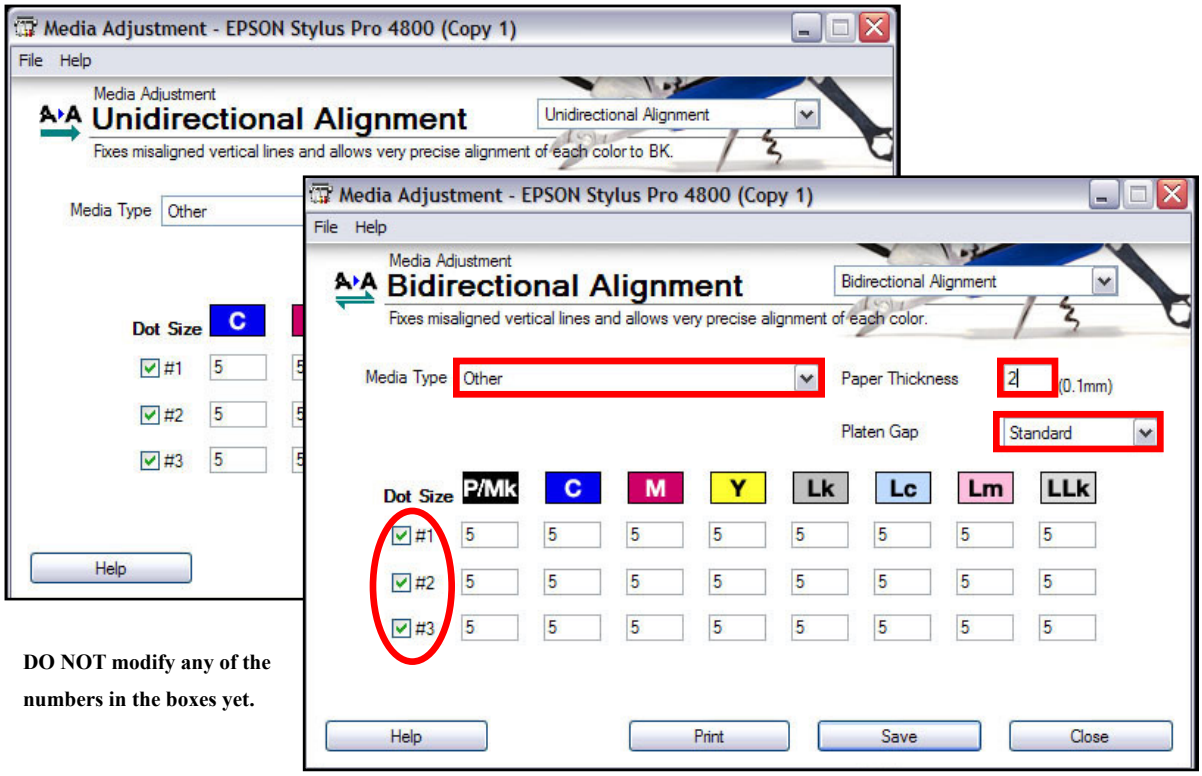
   NOTE: DO NOT select any of the Auto Alignment options (in blue) on this screen.



IMPORTANT NOTE: **If you notice SEVERE registration issues, we recommend you perform the Uni-Directional Alignment first, followed by a Bi-Directional Alignment. If you only wish to fine tune printer output, you can utilize the Bi-Directional Alignment as a standalone procedure.**

6. Select All of the Dot Size #s and complete other settings.

- Within the Bi-Directional or Uni-Directional Alignment screens, place a check mark in all three of the Dot Size check boxes, under Dot Size.

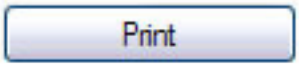


DO NOT modify any of the numbers in the boxes yet.

- Next, select Other for Media Type
- Enter 2 for Paper Thickness
- Select Standard from the Platen Gap drop-down menu.

7. Double check that your film (or media) is still setup correctly. Also verify that the printer is still in *Index Position* and in *READY/ROLL Mode*.

8. Press the *Print* button on the LFP Remote Panel Screen.



The print process will take approximately 10 minutes.
After the print is complete, be careful not to smudge the ink, it will be wet for a short while (depending on what media type you are printing on).

9. Continue on with the next step.

4. Selection and Entry of the Values

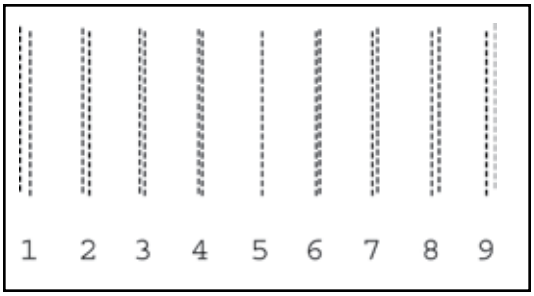
This portion of the Alignment process will be the most difficult. Determining and entering the correct values may be a bit confusing, but we have gone through great lengths to provide you with the best possible instructions that will help you understand the process and save you time and money, as well as getting the best possible print out of your new investment.

1. Study the alignment patterns.

Uni-Directional Alignment Pattern:
If completing a Uni-Directional Alignment, you will notice a group of dotted lines marked either #1, #2 or #3, representing the Dot Size # your are reviewing.

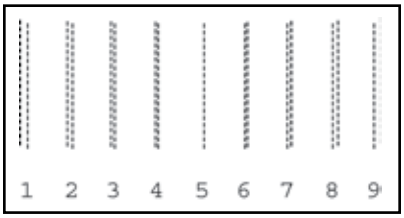
Each ink color (C, M, Y, Pk/Mk. Lc, Lm, Lk, LLk) will have it's own set of lines, numbered 1-9 like the sample shown here.

NOTE: The Lc, Lm, Lk and LLk represent the 4 white ink cartridges.

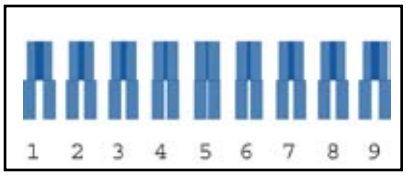


Bi-Directional Alignment Patterns:
If performing a Bi-Directional Alignment, you will see lines for black and individual sets of color swatches for the colors.

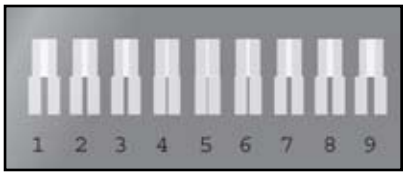
The black and light black ink colors (Pk/Mk and LK) will have it's own set of lines like the sample shown here.



The colors (C,M and Y) will each have color swatch set numbered 1-9 (cyan shown in this example).



The 4 white cartridges will each have a white swatch set numbered 1-9 as well, labeled Lk, Lc, Lm, and LLk.



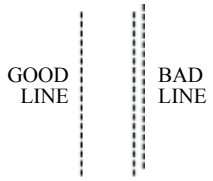
NOTE: You will notice that there are two columns of identical groups. The first, or left hand column, will be used for calibration. The second column is only a duplicate image of the first column.

2. Determining "Best" Values

These following sections will cover determining which numbers are the best from the printout and entering those values in the Alignment Screen.

Determine "Best" Lines: Uni-Directional

The *first* set of vertical lines begin with PK/MK, which refers to **Black.** Carefully examine the printed lines and determine the cleanest, straightest line. This line will then be entered (1-9) in the corresponding box in the LFP window.



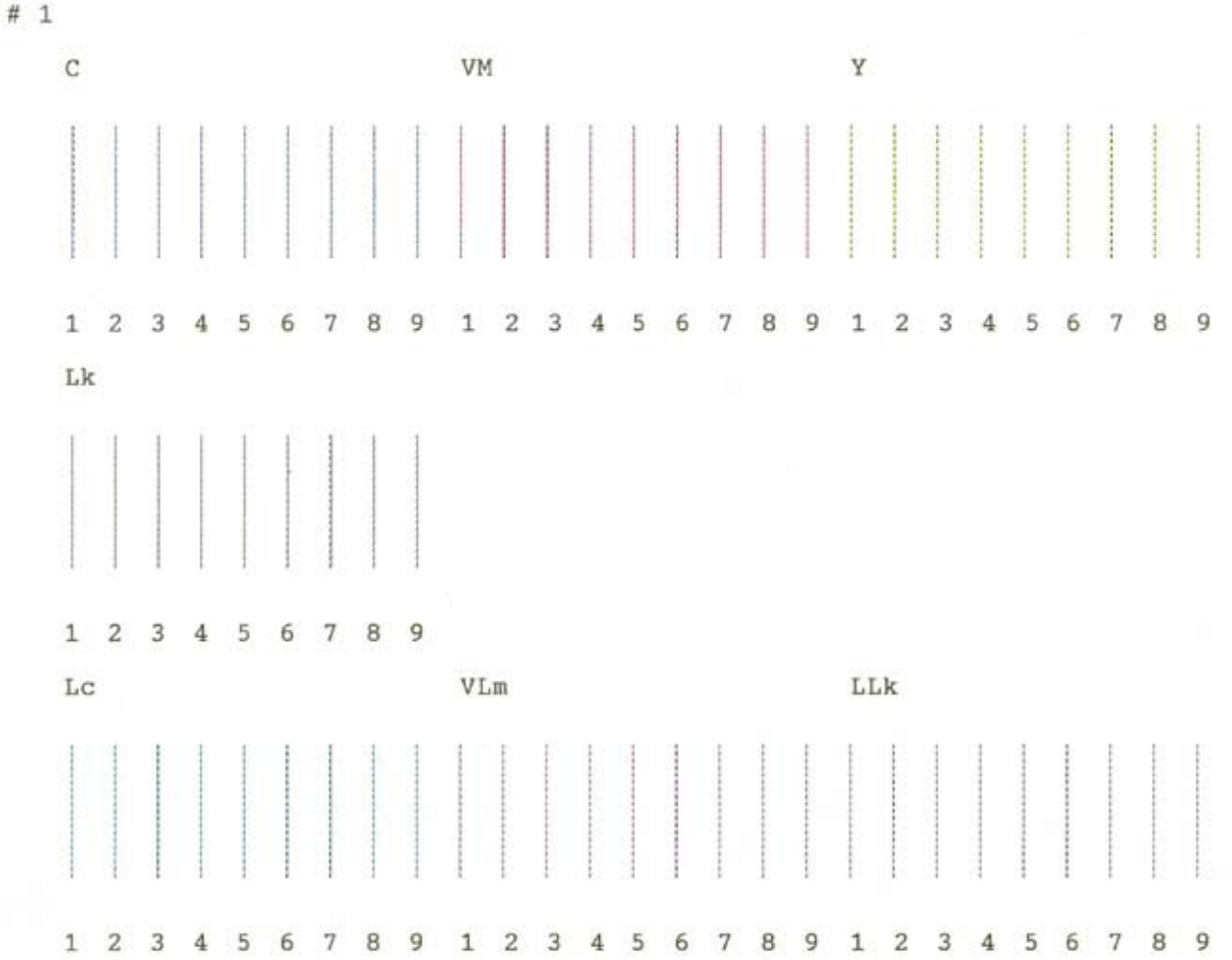
Determine "Best" Lines: Bi-Directional

The "C" refers to the **Cyan** color swatch. Examine the **Cyan** swatches and select the one closest to a perfect rectangle with no gaps or breaks in color. Pick the best swatch number (1-9) to enter in its corresponding box on the LFP Remote Panel screen.

3. Entering in Values - Part 1 - Uni-Directional

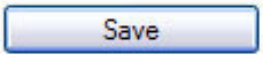
On the following page is an example printout of a Uni-Directional Alignment pattern (Figure 1). Throughout the process of selecting the best values, for this example we will use a chart (Figure 2) to keep track of the selections and entries made to help you understand how the process is completed. Figures 3 and 4, in the later section - Step 3 - Entering Values - Part 2, will cover the process of entering Bi-Directional data.

Figure 1: Uni-Directional Alignment Printout



Prints that Line Up (Uni-Directional)

Observing the Alignment printout (Figure 1), the calibration is not far off and can observe the dashed lines lining up. In the worksheet (Figure 2) we have entered the best values for all 3 dot sizes.

- Enter in the best values into the LFP Remote Panel screen where the default of 5 is entered (for all 3 dot sizes).
- Next, click the Save button. 

- Continue on to ***Step 4 - Final Printout and Calibration***.

Figure 2: Uni-Directional Worksheet

	1	2	3
C	5	5	5
M	3	4	3
Y	3	4	5
LK	4	4	3
LC	4	5	4
LM	4	6	4
LLK	3	5	4

Prints that Do Not Line Up (Uni-Directional)

If in the printout, none of the lines came out close to "good", you would need to pick the closest and enter in that value multiple times for that particular color. This is where the process may get a bit tricky.

NOTE: a worksheet is included for the following situations in doing a Bi-Directional Alignment - see ***Prints that Do Not Line Up (Bi-Directional)***.

- *First Entries:*
  The process is completed properly by estimating how far the alignment is off by using the test printout and determining which way the *Print Head* needs to be aligned. In other words, your printout may be off to one side or the other; depending on which side, you can assume that a particular entry entered, in the LFP Remote Panel, will shift the alignment towards the desired side. Doing this properly will prevent having to complete the printout 3 or more times.

First Entries

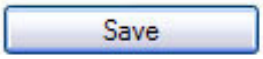
Pattern to Enter 9

For this pattern, you would enter 9 for all values. If you were to print the alignment out again, the lines will look similar to the following Second Entries example.

Pattern to Enter 1

For this pattern, you would enter 1 for all values. If you were to print the alignment out again, the lines will look similar to the Second Entries example.

Enter in the desired values (for all 3 dot sizes) and click the SAVE button. All of the values will read 5 again, each time you click the Save button.



- *Second Entries:*
  Entering in the corresponding value once, however, will not get the complete results on the printout (see Second Entries example to the right), leaving you to enter them again and again etc., until the alignment finally prints correct.

Second Entries

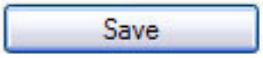
Pattern to Enter 9

The pattern is closer to the desired line, however, it is not close enough for a good alignment. Entering 9 for all values again will bring the pattern closer, and without having to reprint the pattern.

Pattern to Enter 1

The pattern is closer to the desired box, however, it is not close enough for a good alignment. Entering 1 for all values again will bring the pattern closer, and without having to reprint the pattern.

Enter in the desired values (for all 3 dot sizes) and click the SAVE button.

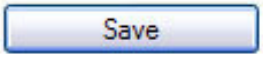


- *Third Entries:*
  This example allows you to assume that you need to enter this number in 3 times (for example) before even needing to complete another printout.

Third Entries

After entering in either 9 or 1 (depending on the pattern) a third time, the pattern will give you a much more desired print out of the alignment pattern, leaving you to only to printout the pattern twice for a final check, versus three or more times.

Enter in the desired values (for all 3 dot sizes) and click the SAVE button.



NOTES: Each color may need different values entered, depending on which way the pattern line is

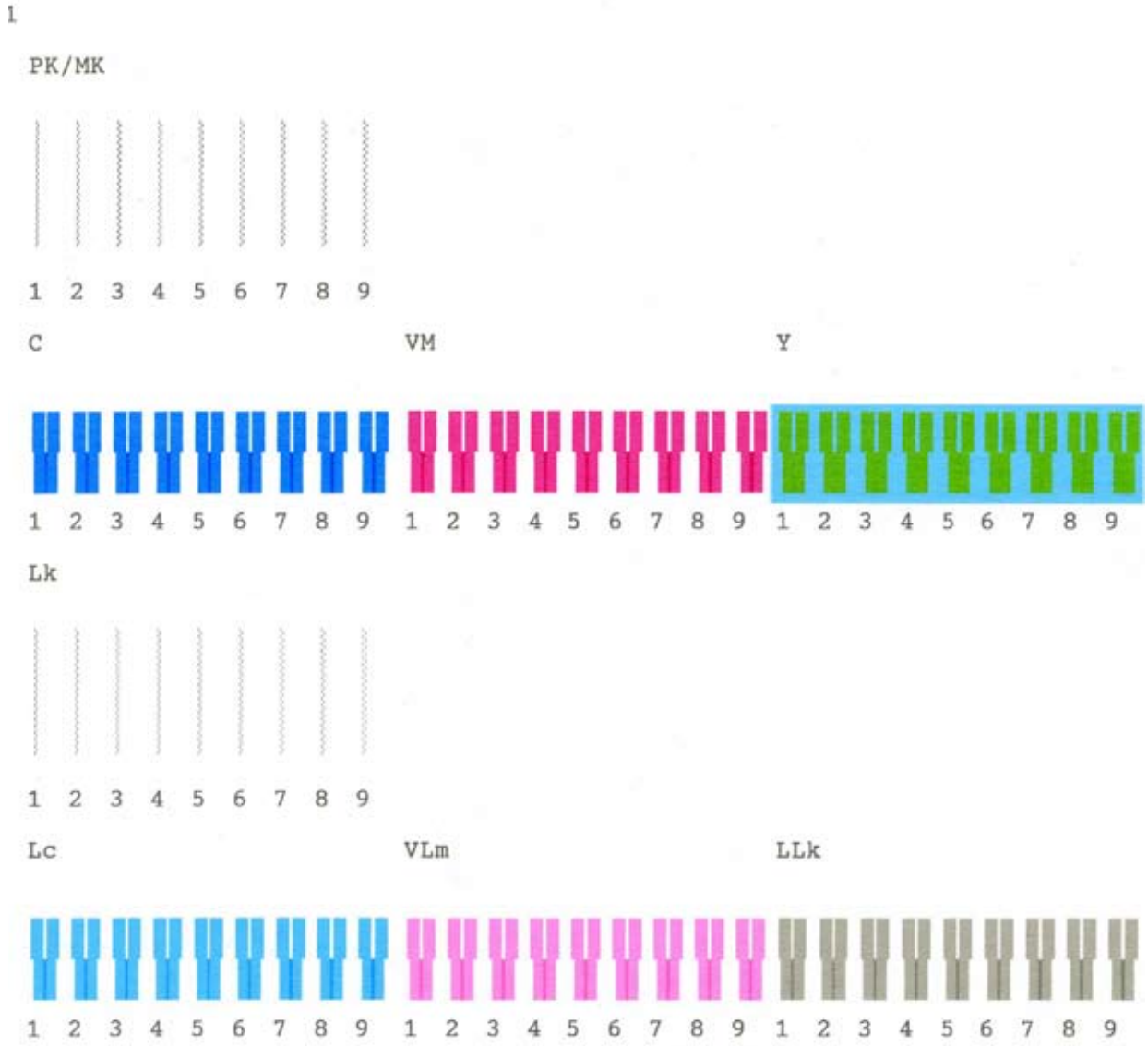
off. For an example, the cyan set may be off to the right (enter 9s) and the magenta off to the left (enter 1s), while the yellow may be perfect (enter 5s). Completing the "estimation" process too many times can "over shoot" the alignment causing it to be off the opposite way. If the pattern is only slightly off (half of what you see in this example) only two entries may be necessary.

- Continue on to ***Step 4 - Final Printout and Calibration***.

3. Entering in Values - Part 2 - Bi-Directional

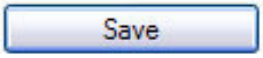
Below is an example printout of a Bi-Directional Alignment pattern (Figure 3). Throughout the process of selecting the best values, for this example we will use a chart (Figure 4) to keep track of the selections and entries made to help you understand how the process is completed. Figures 1 and 2, in the earlier section - Step 3 - Entering Values - Part 1, covers the process of entering Uni-Directional data.

Figure 3: Bi-Directional Alignment Printout



Prints that Line Up (Bi-Directional)

Observing the Alignment printout above (Figure 3), the calibration is far off from where it needs to be. If you had swatch options to choose from that looked like the example to the right, select the closest swatch to representing a full box, and enter those values into the LFP remote panel window.

- Enter in the best values into the LFP Remote Panel screen (for all 3 dot sizes).
- Next, click the Save button. 

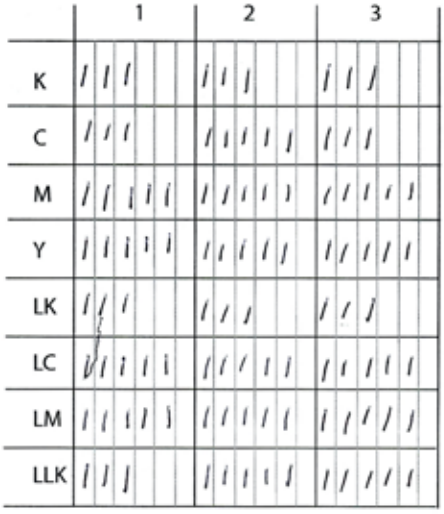
- Continue on to ***Step 4 - Final Printout and Calibration***.

Prints that Do Not Line Up (Bi-Directional)

Observing the Alignment printout on the previous page (Figure 3), the calibration is far from where it needs to be.

In the worksheet (Figure 4) we have entered 1 for all 3 dot sizes (columns). Notice on Figure 3, that the Cyan and LLK are slightly closer that the other 4 colors. On the worksheet, we have entered multiple values of the number 1, five times for all the colors and only 3 times for the Cyan and LLK which were a bit closer to the desired pattern. In this case you would leave the values at the default of 5 for C and LLK of the last 2 entry routines. Entering 5 means no change.

Figure 4: Bi-Directional Worksheet-Part 1



To explain, if in the printout, none of the swatches or lines came out close to "good", you would need to enter in a particular value (in this example 1) multiple times in the LFP remote panel, in order to shift the alignment into place (saving after each entry). This is where the process may get a bit tricky. In figure 3, there aren't any good options to choose. The following section will explain what to choose and why and how many times to select and enter the values. **NOTE:** The Pk/Mk and Lk show as lines on the pattern. refer to the Uni-Directional description for these 2 colors.

- *First Entries:*
  The process is completed properly by estimating how far the alignment is off by using the test printout and determining which way the *Print Head* needs to be aligned. In other words, your printout may be off to one side or the other; depending on which side, you can assume that a particular entry entered, in the LFP Remote Panel, will shift the alignment towards the desired side. Doing this properly will prevent having to complete the printout 3 or more times.

First Entries

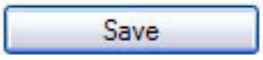
Pattern to Enter 9

For this pattern, you would enter 9 for all values. If you were to print the alignment out again, the patterns will look similar to the Second Entries example.

Pattern to Enter 1

For this pattern, you would enter 1 for all values. If you were to print the alignment out again, the patterns will look similar to the Second Entries example.

Enter in the desired values (for all 3 dot sizes) and click the SAVE button. Each time you click the Save button, all of the values will read 5 again.



- *Second Entries:*
  Entering in the corresponding value once, however, will not get the complete results on the printout (see Second Entries example to the right), leaving you to enter them again and again etc., until the alignment finally prints correct.

Second Entries

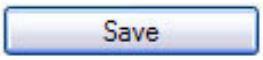
Pattern to Enter 9

The pattern is closer to the desired box, however, it is not close enough for a good alignment. Entering 9 for all values again will bring the pattern closer, and without having to reprint the pattern.

Pattern to Enter 1

The pattern is closer to the desired box, however, it is not close enough for a good alignment. Entering 1 for all values again will bring the pattern closer, and without having to reprint the pattern.

Enter in the desired values (for all 3 dot sizes) and click the SAVE button.



- *Third Entries:*
  This example allows you to assume that you needed to enter the corresponding number in 3 times before even needing to complete another printout.

Third Entries

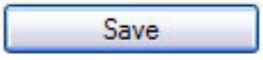
Pattern to Enter 9

After entering in 9 three times, the pattern will give you a much more desired print out of the alignment pattern, leaving you to only printout the pattern twice versus three or more times.

Pattern to Enter 1

After entering in 1 three times, the pattern will give you a much more desired print out of the alignment pattern, leaving you to only printout the pattern twice versus three or more times.

Enter in the desired values (for all 3 dot sizes) and click the SAVE button.

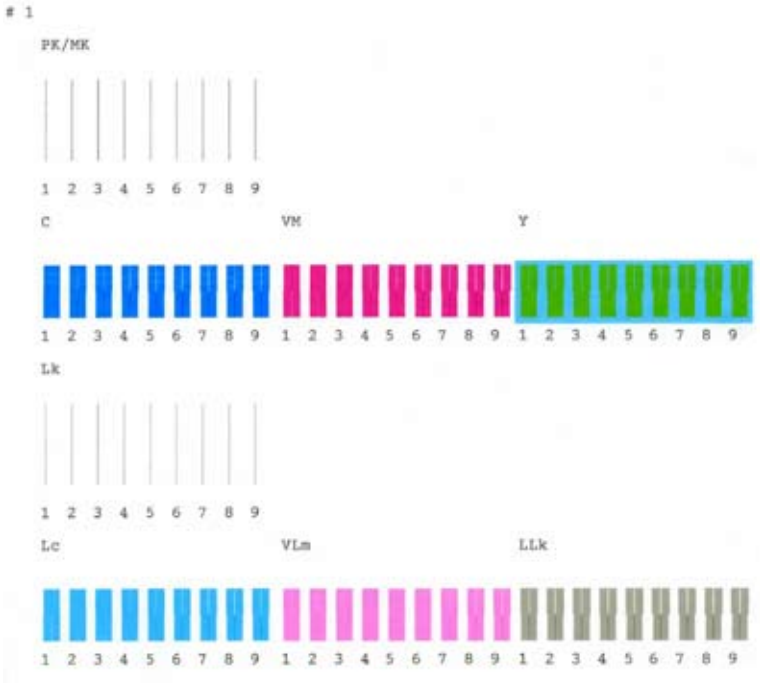


- *Conclusion:*
  After entering the multiple values of "1" in the previous worksheet (Figure 4), the resulting printout (Figure 5) shows a much tighter alignment of the blocks.

  Now that you are able to visualize how entering multiple values brings the blocks together, refer to the next worksheet of values (Figure 6) entered for the last entries to complete the process.

  NOTES: Each color may need different values entered, depending on which way the pattern line is off. For an

Figure 5: Bi-Directional Alignment Printout - Last



example, the cyan set may be off to the right (enter 9s) and the magenta off to the left (enter 1s), while the yellow may be perfect (enter 5s). Completing the "estimation" process too many times can "over shoot" the alignment causing it to be off the opposite way. If the pattern is only slightly off (half of what you see in this example) only two entries may be necessary.

- Continue on to ***Step 5 - Final Printout and Calibration***.

Figure 6: Bi-Directional Worksheet-Part 2

5. Final Printout and Calibration

At this point you should have made all of your entries in the LFP Remote Panel and Saved. If you exit this screen without saving your data, it will be lost. If this should occur, return to the correct alignment screen, re-enter your numbers and select *Save*.

1. Turn off your Blazer PRO and Power Back on.

After completing and saving your settings in the LFP Remote panel, you MUST turn OFF the printer. You CANNOT print or perform any additional maintenance routines on your machine without powering OFF first. You can do this by simply turning OFF the power using the User Interface OFF button**.**

2. Go back to Step 2 - Printer Setup

In order to get the final results of your previous calibrations, a new Alignment Pattern Print must be completed again (as we showed you in Step 3 - Conclusion. You will have to re-set up the film or media and go through the entire process again. If you completed the previous steps correctly, your second printout should be good enough to enter the values, click save and be done with the alignment process.

NOTE: You can leave the LFP Remote Panel Open until the entire Alignment Process is complete.

For your convenience, a copy of the Print Head Calibration Worksheet has been provided for you on the next page. Please make copies and save original as a master copy.

Print Head Calibration Worksheet

Uni-Directional

DOT SIZES

INK COLORS	1	2	3
C			
M			
Y			
LK			
LC			
LM			
LLK			

Bi-Directional

INK COLORS	1	2	3
K			
C			
M			
Y			
LK			
LC			
LM			
LLK			

Chapter 10

Software Overview

Graphic files can be large and the data sent from FastRIP to the printer is sent at a very high speed (high data rate). In order to get the fastest speed and have the fewest communication problems with the printer, you need a fast computer. You can use a standard desktop computer or even a laptop, but for the best performance, the computer should have at least 1GB of RAM (2 GB is recommended). If you want to continue working and creating artwork while the printer is printing, having a higher amount of RAM is essential. Ideally you should have a dedicated computer for use with this printer.

While sending data to the printer using a USB cable, do not plug in any other USB devices other than a mouse and the FastARTIST/RIP dongle. USB busses do not have a lot of power and the more devices plugged in, the more power drain will occur. In order to run FastARTIST, you MUST use a Windows-based Operating System such as XP, 2000 or Vista (ME is not supported). MAC users can create their artwork in their favorite program and simply network or copy the files over to the PC "workstation."

There are several videos online that deal with art setup, editing and special features of FastARTIST as well as working in Corel, Adobe Illustrator and Photoshop. Refer to ***Chapter 17 - Product Support*** for information on how to log on to our support site and view these videos. Most, if not all of these videos are also included on the Training DVD provided with the FastARTIST Package.

Graphics and RIP Software

Your printer includes the latest versions of both ***FastARTIST*** and ***FastRIP***. FastARTIST is a graphics application that will make preparing an image to print, as easy as a click or two of the mouse. With "one-click wonder" Underbasing and simple clipping features, FastARTIST can help ease the transition if you are not familiar with graphics applications.

For avid users of Photoshop, CorelDRAW, Illustrator, etc., you may choose to work within your graphics application of choice and still set up the image properly for printing. However, all images MUST be either Imported into FastARTIST from another graphics application or created in FastARTIST if you will be printing with white ink. The file to be imported must be flattened RGB files and have a 150 dpi resolution or more.

Once a graphic file is ready to print, it needs to be sent to special software called a RIP (Raster Image Processor.) This software tells the machine what image resolution to use, how many passes of each color to make, when and how to print the Underbase and Highlight and how much ink to lay down. To do all of this for you, we have included with your printer package our own very special RIP program called FastRIP. **YOU MUST TURN OFF ALL SCREENSAVERS AND ENERGY SAVING WHEN PRINGING!** For information about using FastARTIST and FastRIP, consult the FastARTIST User's Manual.

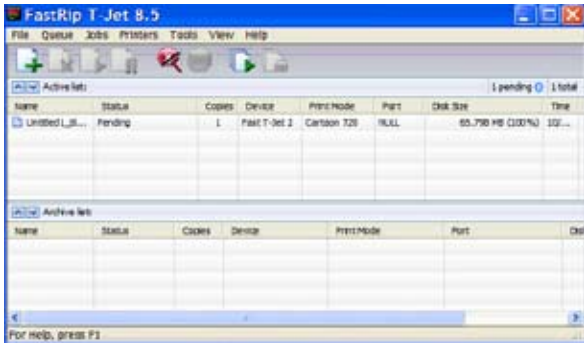
FastARTIST and FastRIP

Not only do the printer and ink makes the ***T-Jet Blazer Series Printers*** so unique, but also the software that drives them. As mentioned earlier, your printer comes with two very powerful programs called ***FastARTIST*** and ***FastRIP***. FastARTIST is a complete graphics program much like CorelDRAW and Adobe Photoshop. You can use it for all of your graphic image creation or you can create images in CorelDRAW or Adobe Photoshop and import them into FastARTIST to take advantage of the one-click ***Underbase Wizard*** or simple clipping options.

FastRIP

FastRIP is a driver specifically designed for Inkjet-to-Garment printers like your ***T-Jet Blazer Series*** printer. A RIP converts the data from a graphics program to computer code called Postscript. This powerful language allows much more control over a printer, making the following possible:

- Previewing printable images
- Control over the amount of ink used
- Faster print speeds compared to a standard printer driver



FastRIP is extremely easy to use and is almost transparent when working with the Fast T-Jet Blazer Express.

IMPORTANT NOTE:
It is important to have a basic knowledge of both FastARTIST and FastRIP. Although the manuals may seem very large, don't be concerned by the size. You do not need to know everything to get started.

Using Computer Graphics Software

In order to print a good looking image on a shirt, you need a good piece of artwork. The customer typically has no idea about the type or quality of artwork needed so you are often stuck with inferior designs. If you don't have computer graphics experience, you might print this bad artwork and then blame your printer for the poor quality image.

We often hear from first time users that they did not think they would need to know about graphics software. Getting a great image onto a garment, however, is not the same as taking your digital camera's memory card to the drug store and getting pictures made. Yes, it would seem that simple and it CAN be, but in the world of T-Shirt printing there are many variables.

Visit our support site for videos on working with FastARTIST along with Corel, Adobe Illustrator and Photoshop. Refer to ***Chapter 17 - Product Support*** for information on how to log on to our support site and view these videos.

Image Types

Vector

Currently there are two types of graphics programs – ***Vector*** and ***Bitmap***. FastARTIST, CorelDRAW, Adobe Illustrator and Macromedia Freehand are called vector programs. Vector programs create images based on shapes somewhat like a coloring book. They typically have hundreds or even thousands of typefaces and many have extensive "coloring book" type stock clip art that you can use to create artwork.

Vector programs are generally used for images with a hard edge like race designs, school mascots, corporate logos, etc.

Pixel Based Bitmap

Programs like FastARTIST and Adobe Photoshop are called pixel, or raster based programs, and work great for photographic images. Bitmap applications can lighten, darken, sharpen and even create images. Photoshop is a common graphics program used by many for manipulating images, but FastARTIST also contains similar editing tools. Images with lots of gradations or that are photorealistic are generally created and manipulated in programs such as FastARTIST and Photoshop.

Note: FastARTIST is both a bitmap and vector graphic program!

Summary

If you intend to create your own artwork, then we recommend that you have both a vector and bitmap program (one will work fine but will limit what you can do). The vector program will be used for working with shapes, text and edges, while the bitmap program will be used for any photographic or detailed images. If you don't have two applications, or don't wish to spend the money to purchase one of both needed programs, FastARTIST is the perfect solution because it will work with both types of images.

FastARTIST can be used to create the entire image if needed. With similar tools to CorelDRAW and Photoshop, those already familiar with other graphics programs can quickly master FastARTIST.

Editing Bitmap Artwork in FastARTIST/ Photoshop

The following sections gives Tips and suggestions for creating artwork suitable for printing with your new ***Blazer Series*** printer. Remember, if you are proficient in a graphics program other than the new FastARTIST- create the images where you are most comfortable. For advanced users of programs such as Photoshop and CorelDRAW, the entire image can be set up to print and then Imported into FastARTIST for printing a White Underbase or Highlight White. Remember that in most cases, the image to be imported into FastARTIST must be flattened RGB files and have a 150 dpi resolution or more. There is an exception if printing on garments with no white or if printing on only 1 garment color and using a cartoon print mode. This exception allows you to import a transparent psd file.

IMPORTANT NOTE:
The Underbase and Highlight White options are only available when printing from within FastARTIST.

Visit our support site for videos on working with FastARTIST and how to setup and import images as well as some advanced techniques. Refer to ***Chapter 17 - Product Support*** for information on how to log on to our support site and view these videos.

Besides the ability to work with vector based images such as hard edge graphics, clip art and font manipulation, FastARTIST will do a lot of basic pixel editing functions necessary when the customer gives you a ***Pixel/Bitmap*** file such as: ***JPEG, GIF, TIFF*** or ***PSD***.

Generally, a short run of photorealistic images is not profitable when Screen Printing. However, should a customer want a picture of the entire team on a shirt - no problem! One of the T-Jet's major strengths is the ability to print short runs of photorealistic images.

A common problem in the T-Shirt business is that customers need high resolution images, yet often all they have is artwork that is small and low resolution. It is MANDATORY that you learn how to make ANY artwork the correct size and resolution, besides knowing how to make the image brighter (most images are dull) with good color saturation. In reality, this may be the ONLY time you utilize the FastARTIST or Photoshop image editing tools.

A Quick Note about Photoshop

As you begin to work with different kinds of images in different formats and resolutions, it is very important to have the proper tools necessary to clean up and make images "print ready." Even though FastARTIST is a very powerful graphics program, there may be times when a program such as Photoshop is required for specific editing functions. Don't worry, Photoshop works hand-in-hand with FastARTIST, making it a very complimentary program to have when working with bitmap images.

The goal here is to cover the basics of image editing, so that you can print the best looking images possible. When first learning graphics programs, the process may seem a bit overwhelming, but don't get frustrated. Just keep in mind the 80/30 rule: you use 30% of the program 80% of the time. But, in this case, it's actually more like a 90/10 rule.

So, you might be asking why you need Photoshop at all if you have FastARTIST? In a nutshell, you can do almost everything you need with FastARTIST, but Photoshop is much more powerful when creating an image with lots of photographic components. Plus, Photoshop is much more powerful when fixing and cleaning up poor quality artwork.

Photoshop is the flagship product of Adobe Systems at ***www.adobe.com***. The program retails for around $650 and, as of this writing, version 9.0 CS3 is the most current version. It is always nice to have the latest and greatest version, but frankly, you can do everything mentioned here with version 5.5 or higher. If you are a student, teacher or work for a school, you may be eligible for an "Educator Version" from places like ***www.academicsuperstore.com.***

Check File Mode

This is the step that most new users will overlook when opening a file. It is very important to note the file attributes when first opening a file as well as determining the file mode. Note whether it is CMYK or RGB and make changes if necessary. Because the T-Jet does not print spot color, the file must be in RGB mode.

If the file is CMYK from another application, FastARTIST will Open/Import it as RGB. However, FastARTIST will open the file at a larger resolution than normal, drastically increasing the file size. For best results, convert the file to RGB (if you can) before importing it into FastARTIST.

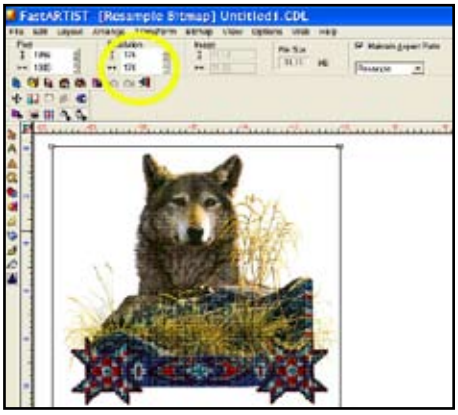
Yes, Photoshop will do process color separations called CMYK, but for file manipulation and adjustment you should work in RGB mode. To check the Mode of the file in Photoshop, go to Image > Mode. If CMYK is checked, click on RGB. NOTE: changing modes will flatten the file if not flattened already.

Check File Size and Resolution

FastARTIST and Photoshop will let you "Open" a wide variety of files including, TIFF, JPEG, GIF, EPS, PSD, AI and others. If you open a file that is vector based, such as one from Adobe Illustrator, Photoshop will convert the file from mathematical vectors to small pixels. This is called ***Rasterizing*** a file.

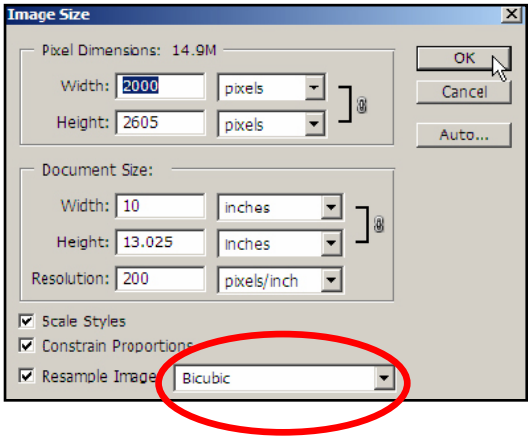
The important point here is to keep the file resolution high enough for the image to remain sharp. It is generally accepted that a file needs to be at 300 dpi at the final size in order for it to remain crisp.

In T-Shirt printing, you can get away with file resolutions of 150 to 300 dpi at the final size.



You MUST know the actual resolution and size of the image, otherwise you could be working on a very small file and not know it. In FastARTIST, Import a photorealistic file and click on ***Bitmap > Image Size***. This will display the actual size of the image in terms of total X and Y pixels and Pixels per Inch which is the equivalent of dpi. If the resolution is not sufficient, enter any changes and click on Apply. Remember that an appropriate image size should be 150 to 300 dpi.

If the images physical size is too small, resize the image before changing the resolution. After the image size is adjusted, click on Bitmap > Image Size. Change the resolution and select Bicubic. Click Apply.

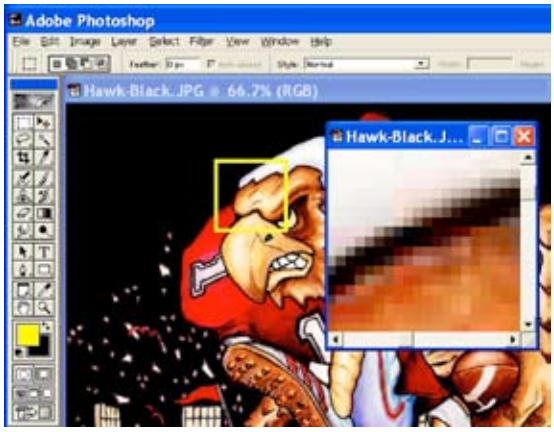


In Photoshop, go to Image > Image Size. If it says pixels per cm, change this to inches and then enter the image's intended final print size. Re-adjust the resolution and make sure that Bicubic is selected. The physical size should be the final print size.

If you have an image that is very low resolution, your only real choice is to change the image size and resolution. This is often referred to as "Upsampling." Photoshop upsamples the image, but in doing so, it must make calculations where to place the extra pixels and what color to make the pixels. Images may have softer edges when upsampled, but they will also be less pixilated! If you can get a higher resolution file from the client, do so.

CorelDRAW and Adobe Illustrator have similar Image Size functions.

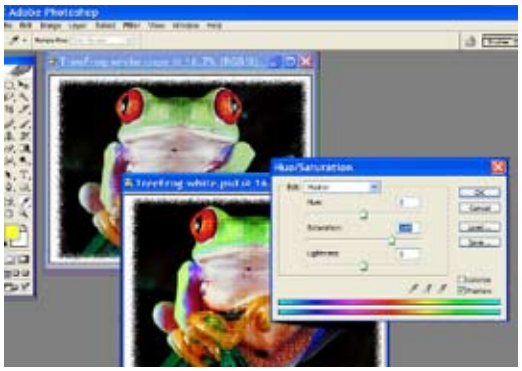
IMPORTANT POINT:

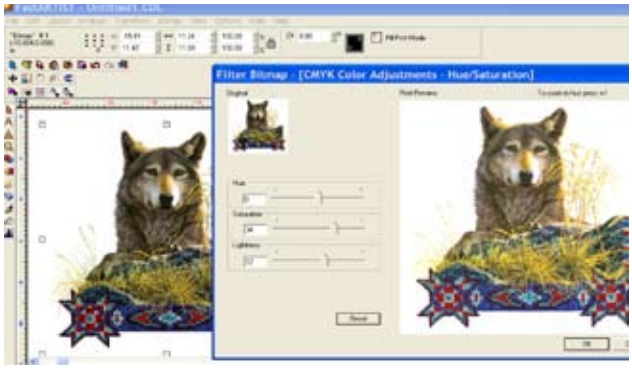


If the original file is low resolution and not the final size, you need to upsample the file to the final print size with a resolution of 150 to 300 dpi. A resolution of 150 dpi is OK for photos and images without hard edges and resolutions of 300 to 350 are recommended where there is lettering or sharp edges. After upsampling, you can work on the file and add type or other elements. It is important to *upsample* the image first so any additional elements you add will be at the higher resolution. If you aren't sure if the image is sharp enough, zoom in on the file (select View>Actual Pixels). It might look great zoomed out but very soft or jagged when you zoom in. It will print the way you see it when zoomed in.

Check File Saturation

Quite often customers' images will be flat and in need of a color boost. Always check the file to see if it needs a saturation boost by going to Bitmap > CMYK Color Adjustments > Hue Saturation (FastARTIST) or Image > Adjustments > Hue Saturation (Photoshop).



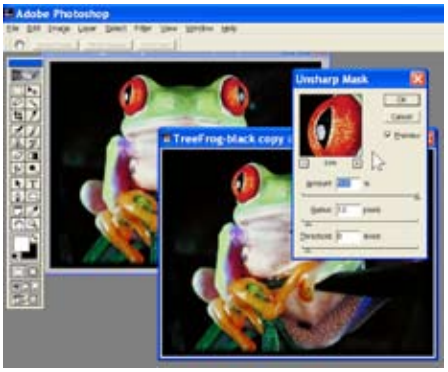


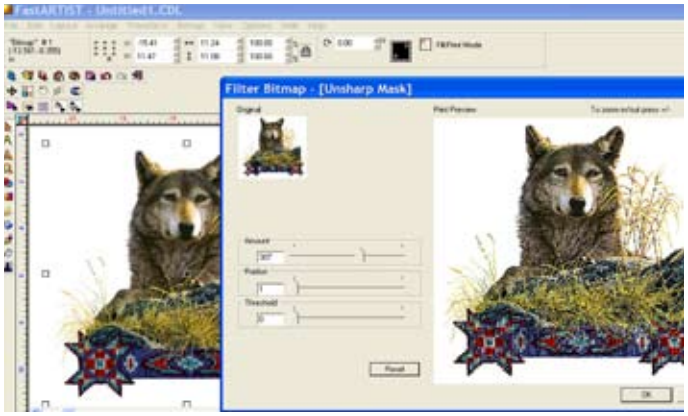
Sharpening Images

Typically, an image can be made sharper. Even if the file came from an agency or large licensed job, don't assume that their artist knew your needs. Images that are printed not only get darker, but also get softer. You must make them as sharp as possible.

Go to Bitmap > Filters > Sharpen > Unsharp Mask (FastARTIST) or Filter > Sharpen > Unsharp Masking (Photoshop). Don't let the term "Unsharp" fool you. This term comes from the process camera days and means it only sharpens areas of high contrast. The reality is, it sharpens the image but keeps it less apparent that you have sharpened the image.

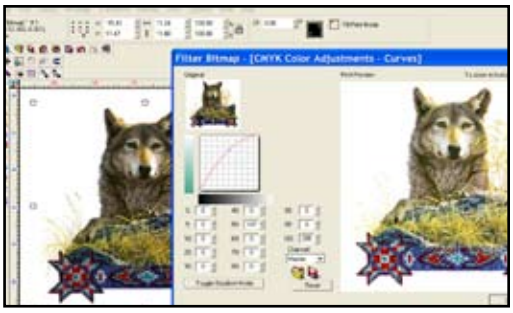
Move the Amount slider to 150%. Set the Pixel Radius to 1 and the Threshold to 8. How does the image look? To compare the original to the sharpened version, uncheck the Preview check box (Photoshop). Click it on and off and compare the results. If you can't see much difference, move the Amount slider higher. Go all the way to 500% if you need to but don't make the image too grainy.





Using the Tone Curve

Whether you are Screen Printing, heat transfer printing or Inkjet-to-Garment printing, a common dilemma is that images tend to get a little "muddy." If you have a file with lots of detail in the shadow areas, this will probably be lost when printed so you need to adjust the "density levels" of the image. In FastARTIST, go to the Bitmap dropdown menu, and then select CMYK Color Adjustments > Curves. In Photoshop, go to Image > Adjustments > Curves.

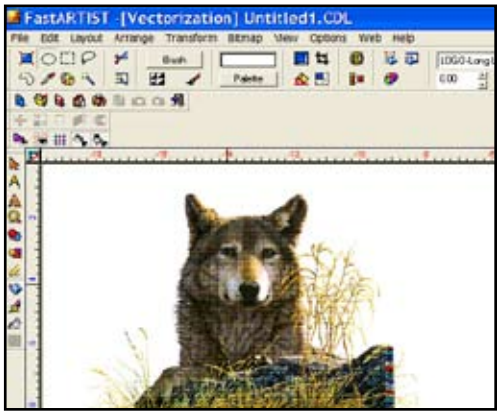


The Tone Curve is a very powerful tool that allows you to adjust specific tonal areas from the lightest "Highlights" to the darkest "Shadows." By placing your cursor in the middle of the "Midtones" curve and dragging the mouse up or down, you can lighten/darken the medium, or Midtones, in an image.

By clicking on the very top corner and dragging the mouse in, you can make the highlights lighter (Photoshop). Play around with the Tone Curve and see what happens. A good curve for flat images is a slight "S", where you lighten the highlight area (35%) and darken the shadow area (75%).

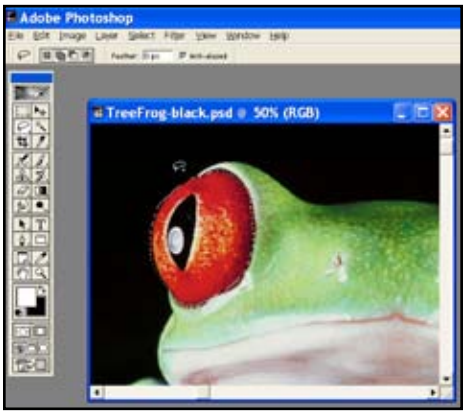
In later versions of Photoshop (CS through CS3), similar adjustments can be made using the Shadow/Highlight dialogue under Image > Adjustments. Make sure you click the "Show More Options" check box for additional settings.

Bitmap Editing in FastARTIST



Photoshop is always in bitmap mode because it is a pixel-based editing program. FastARTIST (along with CorelDRAW and Adobe Illustrator) defaults to vector mode when you launch the program, so you will need to find the bitmap editing tools in these programs. In FastARTIST, double-click on the image. That changes the top Toolbar icons to standard bitmap editing mode (very similar icons to Photoshop).

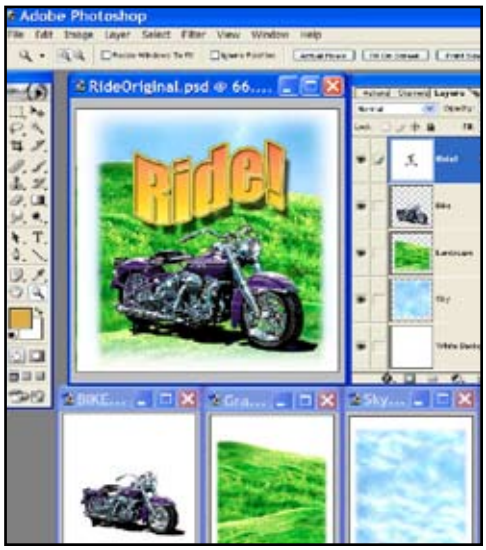
Selecting Areas



In FastARTIST, if you want to apply a Tone Curve adjustment or Unsharp Masking to specific areas, you must double-click on the object to make the bitmap tools available. You then click on the Lasso tool (Hint: It looks like a lasso) and hold down the mouse button while drawing around the area you wish to modify. When you release the mouse, you will have a yellow outline identifying the selected area. Now, anything you do ONLY happens to this area.

In Photoshop, you can choose an area with one of the Selection Tools on the Toolbar. Click on the tool that looks like a Lasso and draw around the object while holding down the left mouse button. When the mouse button is released the selected area will be identified by what is called “Marching Ants” – small moving lines around the selected area. While the area is selected, any changes made will only apply to this area. To remove the marching ants, go to the Select > De-Select (You can also use the keyboard shortcut of [Ctrl] + D). If you want to select square or round areas, use the Marquee Tool (top left tool) and use this the same way you would use the Lasso tool.

Channels and Layers



What really separates Photoshop from FastARTIST and CorelDRAW is the ability to work in Layers to build images. Therefore, whenever you are using Photoshop, you should have both the Channels Palette and Layers Palette open.

People often get these confused so here are the rules: The Channels Palette is used to create output. Channels print. The Layers Palette is used to create or build the image and layer the various components together including adding Type to an image. Layers don’t print.

You will also notice that your Channels Palette shows four channels: RGB, **Red**, **Green** and **Blue**. Your test file probably only shows one Layer, called Background.

For more details on using the Layers Palette in Photoshop, consult the Adobe User's Manual or the In-Program Help sections.

Setting Transparent Images in FastARTIST

To set transparent backgrounds in FastARTIST, double-click on the image to enter the bitmap edit state.

Using the Eyedropper tool, click on the **Red** background and then click on the Add Color button in the Color Selection dialog box. This will make the selected Red the current color.

The background color can be any solid color, not just red. For example it can be white, black, yellow, green, etc. However, it is important to note FastARTIST will only remove ONE color. If your image has a multi-color or gradient background, it will be necessary to use Photoshop to make the image print ready.

To make the Red transparent, click on the Eye icon next to the selected color. This acts like a toggle switch, so selecting it again will deactive any transparent color.

Visit our support site for videos on working with Transparent Images and FastARTIST. Refer to ***Chapter 17 - Product Support*** for information on how to log on to our support site and view these videos.

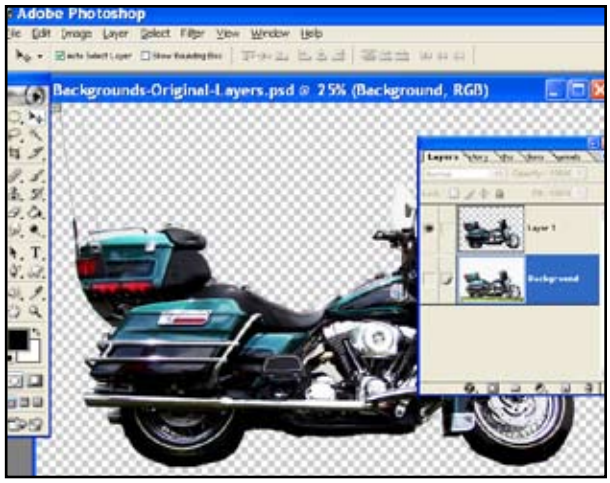
Removing Backgrounds with Photoshop

In order to make removing backgrounds as easy as possible, try to maintain a consistent/neutral background if possible. For example, if photographing the motorcycle shown on the following page, park in front of a wall or a background that contains a much lighter color than the bike. This will help Photoshop determine the difference between the selected background and the object (such as the motorcycle) you intend to keep.

Using the Magic Wand – Click and Delete

With the Magic Wand, click on the unwanted areas around the image and then delete them. It's a pretty simple process IF the background color is different (contrasting) from any of the edges of your image.

Click an area in the background and the Magic Wand will make a selection around the image. If the "marching ants" selection goes into the main design, change the Tolerance on the Property Bar. The default is 32. Note: if you are working on a "flattened" piece of art (JPEG) with 1 layer named: "Background," you need to first duplicate this layer to switch to "PSD file mode" to get the transparent background. The original layer can then be deleted.



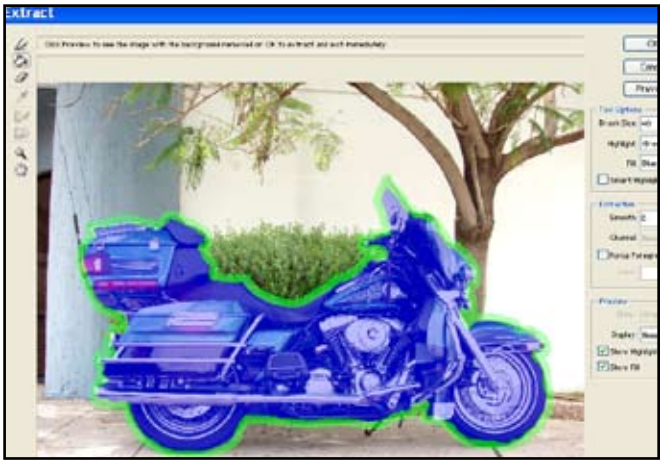
Depending upon the variations and gradients in the background, it may require some trial and error with Tolerance settings and several selections before the background is completely removed.

If the first click of the Magic Wand does not get all the unwanted areas, you can add to the selection by holding down the [Shift] key and clicking another area. You can subtract from the selection by holding down the [Alt] key and clicking on a area.

Photoshop and FastARTIST both have Magic Wand tools (it looks like a wand with a sparkler on the end.)

Using the Extract Filter

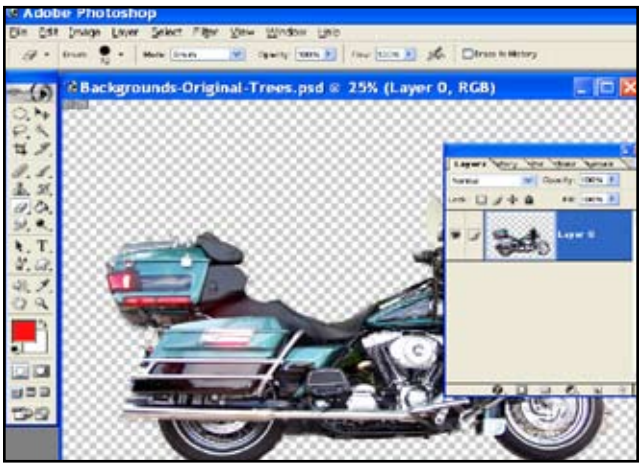
Photoshop also has a Filter called Extract. This will allow you to draw around an image and fill the center with color. Photoshop then removes all the areas around the image, leaving you with a transparent background. Extract does a decent job, but the Magic Wand is the preferred method.



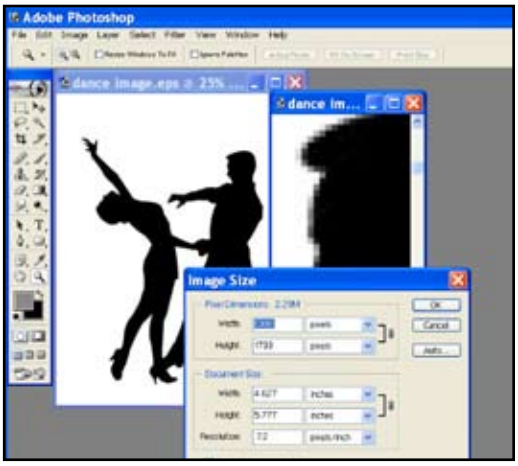
Keep in mind, the Magic Wand and Extract filters perform best when the background is a solid color and not a gradient.

Making Your Selection a New Layer

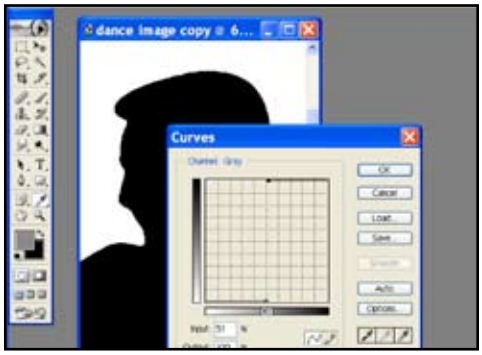
The goal behind all this is to get your main image on a layer with a transparent background. (This will show as a gray and white checkered pattern throughout the image). With a transparent background, you can add additional elements to the image including text, drop shadows, glows and more.



Fixing Bad Line-Art in Photoshop and FastARTIST



You may also use a bitmap editing program to improve the quality of line-art. Earlier we covered file resolution, noting how a low resolution file will have very jagged edges. By simply upsampling a file to a much higher resolution you will have less of a jagged effect, and a softer edge.



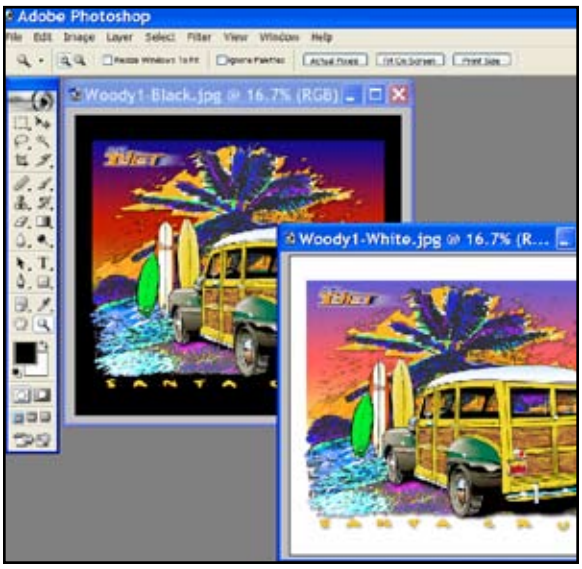
For Black and White images, you will want to upsample and then apply a Tone Curve to make edges Black and White without any “gray” areas. This process is available in FastARTIST, Photoshop, CorelDRAW and Adobe Illustrator.

IMPORTANT POINT:

You must take ownership of fixing bad artwork. If the file is provided in a pixel based format like TIFF, PSD, JPEG, GIF, etc., you can’t assume it is bright, sharp, of high resolution and ready to print. You must check the resolution and upsample the file if necessary. Make adjustments if it needs sharpness or boost color saturation if the file is dull. Lighten the file if it seems too dark because the image may print even darker!

Artwork for Light and Dark Garments

To set up artwork properly, it is imperative to know first onto what color garment the image is to be printed. This will then determine if the image background needs to be transparent, White, Black, or in some cases both Black and White.



For Light colored garments, the T-Jet will print the image just as it appears, but it does not print the White. Printing in color without an Underbase is the easiest form of garment printing.

If you require White in the image, it will be necessary to Underbase the image. Therefore, Dark colored garments will always require an Underbase that allow the colors to "stand off" the garment.

Visit our support site for videos on working with light and dark garments in FastARTIST as well as setting it up with different clipping options. Refer to ***Chapter 17 - Product Support*** for information on how to log on to our support site and view these videos.

Refer to the FastARTIST User's Manual

Please keep in mind, this section is intended only as a brief Overview and Introduction into the world of software graphics applications. Your FastARTIST User's Manual covers the file setup process in-depth, including how to prepare files for printing onto both Light and Dark shirts. For step-by-step instructions and additional Hints and Tips, please refer to the FastARTIST User's Manual.

For information about the Photoshop, CorelDRAW or Illustrator processes addressed in this Chapter, please refer to that application's User's Manual or In-program Help section.

Chapter 11

Printing Basics

Congratulations! You have made it to the chapter - Printing Basics. Its been quite a lengthy process to get here, but since you were patient and read through the entire manual, you will be rewarded with the most brilliant prints in the industry. This chapter will cover printing basics on lighter-colored garments NOT using white ink. Read this chapter of basics before continuing on to the next chapter.

Your T-Jet Blazer Series printer is very easy to use. Simply create an image, load a shirt, choose the appropriate Print Modes, select the number of passes and press the Print button.

Voila!
Instant shirt!

Printing Basics Introduction

OK, the time has come. You have installed the bulk ink system, you have created a simple image in your favorite graphics program and now you are ready to ruin a few shirts. Be warned, there is a slight learning curve to printing on fabric and you must get over the fact that some will get ruined. Remember, it is ONLY a shirt. Even when you've become a seasoned pro, it's a fact of life in the garment decorating industry. Your printer will also need to be "broken in" a little. When you first install the bulk ink system, there is a chance that not all of the inks are flowing yet. You won't really know this until you have done a print or two, or a nozzle check. Therefore, you should start off by using clean rag shirts, or just accept the fact that you will ruin a few new shirts and buy some extras. Your first print may NOT be a winner, but after you have printed a few, you will feel like a professional.

This chapter will first walk you through the basics steps of printing. Afterwards, you will learn a few extra pointers and tips for along the way.

Shirt Boards

T-Jet Blazer Express

The Blazer EXPRESS includes one Standard Adult and one Large (over-sized) *Shirt Board*. The EXPRESS model prints one garment at a time.

T-Jet Blazer PRO

The Blazer PRO model includes three Standard Adult and two Large (over-sized) *Shirt Board*s, meaning that on the PRO, although you are not required to, can print either 3 standard-sized prints or 2 over-sized prints at a time.

Shirt Board Options

You can purchase additional *Shirt Boards* to accommodate different needs. Each *Shirt Board*/garment holder will correspond to a different art layout (or template in FastARTIST). Pictured below are the various sizes of the *Shirt Boards* available to order. There are also optional shirt hoops that will aide in holding the garment in place (call for availability). Refer to ***Chapter 13 - Printing Other Items*** for layout instructions, and additional accessories.


Standard


Over-Sized


Youth


Infant/Misc.


Sleeve

Shirt Board Placement and Care

As covered in ***Chapter 4*** and ***Chapter 5***, each *Shirt Board* is held in the proper position by metal pins screwed into the top of the *Print Bed* that align with the holes in the *Shirt Board* base. If you have a Screen Printing background, you may wonder what holds the garment in place. The rubber-like material on the top of each *Shirt Board* lets friction hold the garment in place.

WARNING

All *Shirt Board*s are comprised of a foam rubber pad and a steel base. Although the base is nearly indestructible, the rest of your printer is not. DO NOT set anything on top of the Print Bed or *Shirt Board*. IT IS NOT A STORAGE SHELF and it WILL WARP.

DO NOT apply any cleaner or glues to the foam rubber pads, they will crumble and disintegrate, leaving a mess on your shirts. Store your *Shirt Board*s in a cool, dry place. On the PRO, the storage cabinets beneath are provided for your convenience to help you store shirts, inks, etc.

Basic Printing Steps:

1. **Power Up**
   Power up your T-Jet (see ***Chapter 4*** or ***Chapter 5*** for proper steps) and allow the machine to go through its startup cycle.

2. **Verify *Print Status*** on the ***LCD Display***
   After powering up, the printer should be in *Print Status*, but a far too common user error occurs when a print command is sent to the printer without the machine being in the proper mode.

   The printer MUST be in "Paper Out/Roll Cut" mode.

LCD Display in Print Status "Paper Out/Roll Cut"

   NEVER send a Print command without VERIFYING the mode status on the LCD Display each and every time.

3. **Set the Printer to Print Status (if needed)**
   Placing the printer into ***Print Status*** requires using the buttons located below the LCD Control Panel. If the LCD Display does not look like the image above, press the LEFT /PAPER ARROW until the LCD Display reads "Ready."

   Press the LEFT ARROW once more. The LCD Display should read "Paper Out" and display a "roll of paper with scissors" icon.

4. **Extend the Platen (PRO model only)**
   For the BLAZER PRO, manually pull the Platen handle away from the printer until the third *Shirt Board* clears the Printer Assembly.

5. **Load your garment(s)**
   Shirts can be full of lint and some have more than others. Lint can settle on key components inside the printer, affecting print quality and printer operation.

   - For the best results, grab a shirt by the shoulder seams and snap it like you would a small dusty rug before you place it on the *Shirt Board*.

     Doing this will pull out wrinkles as well. For the best results, use a Heat Press to heat and flatten the garment and garment fibers before loading.

   - Lay the garment on the *Shirt Board*, stuffing any excess into the space between the top and base. We recommend loading the garment with the collar towards you, but in the end it will depend on how you have your art setup.

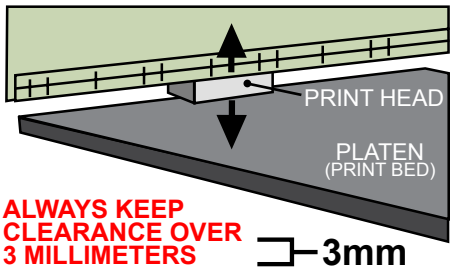
For a more vibrant CMYK print on light garments, refer to *Chapter 12 - Advanced Printing With White* and learn about FastCOLOR Pretreatment and the pretreatment process.

IMPORTANT POINT

DO NOT leave the collar or seam exposed on top of the Shirt Board. Any unnecessary height on the bed may hit the Print Head when printing. Load the collar over the edge of the Shirt Board so that it is out of the way. It is also critical that the shirt lay flat. Any fluctuations in the printing surface could cause the print to be soft or out of register and/or result in a damaging Print Head strike.

6. **Check your Print Bed height (platen to head clearance)**

BLAZER EXPRESS: Visually check underneath to help you determine if the *Shirt Board* is set too high. You will want to make sure that the distance between the *Print Head* and the *Shirt Board,* with media loaded, is set to the same setting (distance) that was used for completing the *Print Head Alignment (3-5mm)*. Use the *Shirt Board* Adjustment Knob located on the front of the *Print Bed*. NOTE: Make sure that the printer is in printing position before adjusting the height. An easy way to make sure is to perform a Head Cleaning Cycle before adjusting the Print Head height. Refer to ***Chapter 8 - SETUP PART 6: Initialization Utilities - Setting the Platen Height: Blazer EXPRESS*** for complete steps.



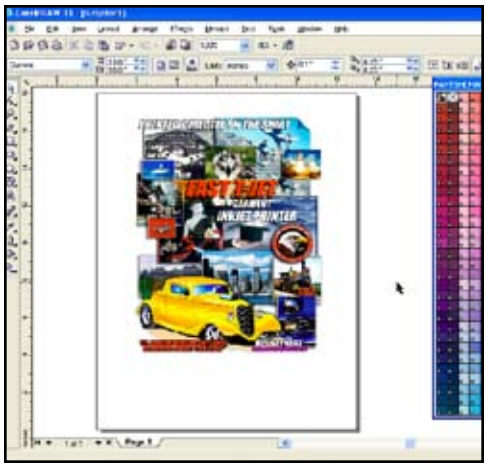
BLAZER PRO: Make sure you have the required minimum of at least 3 mm of space between the *Print Head* and the garment. This is usually only necessary when switching between garment thicknesses. In any event, make sure that the distance between the *Print Head* and the *Shirt Board,* with media loaded, is set to the same setting (distance) that was used for completing the *Print Head Alignment (3-5mm)*.

WARNING: the Blazer PRO does not have a backup safety device to protect the Print Head in case the platen is set too high. Refer to ***Chapter 8 - SETUP PART 6: Initialization Utilities - Setting the Platen Height: Blazer PRO*** for complete steps.

7. **For the BLAZER PRO**, return the Platen to its operating position by pushing it back toward the printer until its ends are even with the ends of the Bed Rail.

8. Choose the artwork you wish to print.

In the beginning you will need to concentrate on the print placement and getting the image in the graphics program coordinated to the correct location on the shirt.



You can print directly to FastRIP from your favorite graphics application (if you are not outputting an Underbase or Highlight White), or you can print from within FastARTIST (recommended).

- Make sure that the image is at the correct physical size for output and that you have placed it in on a "Page" that is the same size as the printable area.

The easiest way to get the correct print placement is to create a template for the size and placement of the *Shirt Board* or to use FastARTIST and load a pre-made Template. You can also export a Pre-made FastARTIST Template into another graphics application. Remember, you MUST use FastARTIST if you will be printing with white ink. Refer to ***Chapter 11 - Printing with White Ink*** of this Manual for more details. Also refer to your FastARTIST and FastRIP User's Manuals for other setup options as well as tools for the design and layout process.
Note: The Blazer Express will support a total printable area of 16" x 20" (41 cm x 51 cm). The Blazer PRO will support a total printable area of 17" x 45" (43 cm x 114 cm).

IMPORTANT POINT

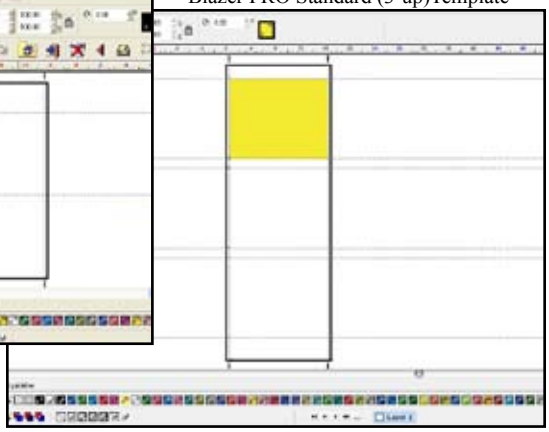
FastARTIST refers to its page dimensions in terms of width and "height." For purposes of printing a two-dimensional image on a garment or non-textile item, be aware of the fact that "height" means the same thing as "length."

9. Open the FastARTIST Template

- Open the desired template to Import your graphic into. The templates to the right are included in your FastARTIST package.

Blazer Express Standard Template

Blazer PRO Standard (3-up)Template



The Blazer Express Standard Template layout is 17" x 31" with a total printable area of 16" x 20".

The Blazer PRO Standard *Shirt Board* Template layout is 17" x 45" with 3 13" x 16" sections for each *Shirt Board*. The Oversized *Shirt Board* template layout is also 17" x 45" but with 2 16" x 20" sections for the *Shirt Board*s.

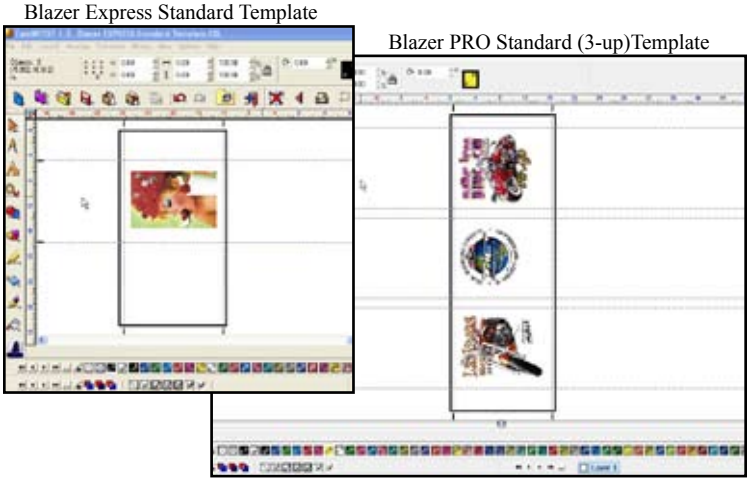
NOTE: Adjust the FastARTIST Page Size by going the Layout pull-down menu and selecting Page

Size. Also, make sure that the page size is correct under File>FastRIP Setup under Preferences.

10. Import your Art into the Template

Blazer Express Standard Template

Blazer PRO Standard (3-up)Template



- From the File Pull-down Menu select Import.
- Choose the file you want to import.
- Click on the page to import the file at it's actual size or click and drag to apply a custom size.

  You can adjust the size by clicking and dragging on a corner.
- Center the graphic in the "Safe Area" of the template.

  Determine the correct print location by using the grid lines which represent an outline of the *Shirt Board*(s). The template will open with either a Yellow or Pink placeholder representing the size of the safe print area. (Click on a block of color to delete it.) **NOTE: Do not reposition the guides in the FastARTIST template. To lock the guides, right click anywhere on the page and a Dialog Box will appear. Check the "Lock Guides" box and click OK.**
  HINT: To help determine where and how to place your art in relation to the *Shirt Board*(s), the top of the page represents the opposite side of where the printer assembly is.

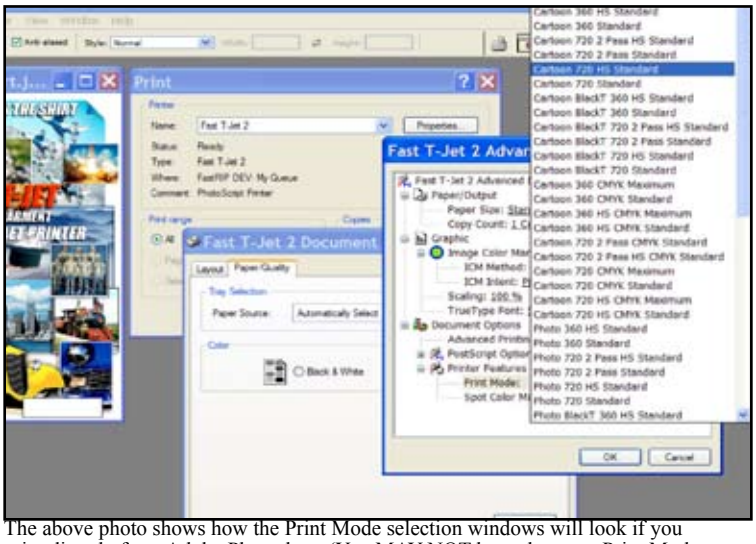
- From the File Pull-down Menu select Save As. Save the file as a different name (name of job)so that you do not save over the Template File.

Think about the printing speed when importing graphics. You can place graphics sideways in a template and load the shirt sideways if it will accommodate a better print layout.

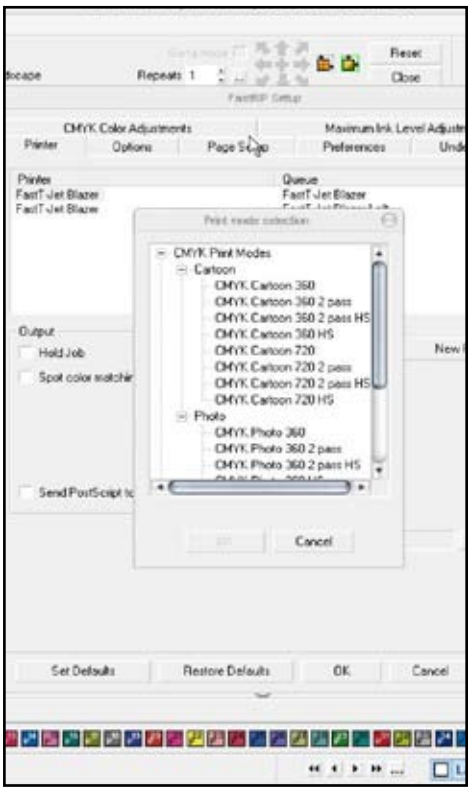
11. Select the appropriate Print Mode.

There are a wide variety of Print Modes available within FastRIP to give you the flexibility to print high resolution photo quality images at a slower speed or lower resolution Spot Color images at faster speeds.

From the File Pull-down Menu, select FastRIP Setup. A window will open up letting you adjust all of the print setting and Print Modes. You can also do this by selecting File>Print to FastRIP. The screen will look a bit different and at the top of the window, click the square button with 3 dots in the middle. ... Pressing this button will open up the setup options.
All designs are different and each have different needs. A brief overview of Print Modes follows. For a detailed listing of available Print Modes and their recommended usage, please refer to Chapter 7 of your FastARTIST User's Manual.



The above photo shows how the Print Mode selection windows will look if you print directly from Adobe Photoshop. (You MAY NOT have the same Print Modes available with your version of the Fast T-Jet Blazer Express or PRO.)

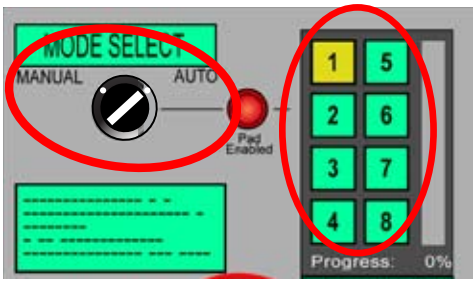


How Print Mode selection will look if you print using FastARTIST. (You MAY NOT have the same Print Modes available with your version of the Fast T-Jet Blazer Express.)

We recommend that you do ALL of your printing through FastRIP and FastARTIST, even if you are NOT using White ink. After completing your design in other graphics applications, Import that design into FastARTIST and use the provided template for optimal printer performance.

12. Set UI to Auto Mode (for Printing) and Select Passes

On the User Interface, scroll through the screens until you reach the Mode Select interface. Make sure that the Mode Select dial is set to Auto. Also, select the number of passes you wish to make by pressing the appropriate virtual button. **Note:** You would select the number "2" if you are using a two pass print mode or printing a white underbase.



13. Send the Print command (from FastARTIST).

- After all Print Modes have been selected, select File>Print to FastRIP The print preview window will open (you may already have this window open if you set the file up in this window).

- Using the Arrow tool, select the art on the Artboard that you wish to print. In most cases you will want to print everything on the Artboard. Drag a box around the entire image to select it then either drag the art to center it in the preview window or using the arrows on the keyboard, adjust the location as desired.

- Press the print icon in the FastARTIST Print Toolbox.

The job will then be placed in the FastRIP Queue Window. Wait for the job to be spooled, then right-click on the job and select print (you can set FastRIP to print automatically or Spool only). Once the job reads “Printing”, continue to next step.

14. Press the Send Print Buttons.

The Green button(s) on the User Interface will be blinking. Press and hold for a few seconds to begin printing your image.

WARNING:

DO NOT press the Green button(s) on the User Interface until a job has been sent and reads “printing” in the Rip Queue window. If you press the button too early, it can result in serious printer errors and possible ruined garments.

When a Printing Job Is Finished

After your job finishes printing, the Printer Assembly will return to the Home position and the green button on the User Interface will start to flash.

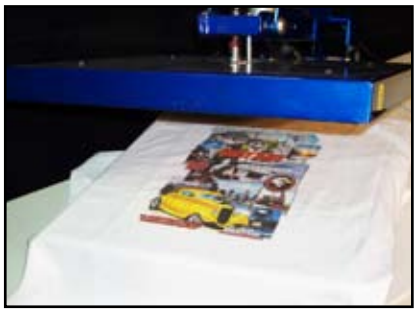
At this time it is safe to:

- Remove your garment and cure.

  For the Blazer PRO, extend the platen by the handle so that the third position *Shirt Board* is completely clear of the Printer Assembly.

- Load your next garment(s) and resume printing.

Curing Your Garments



Finished prints must be heat cured to fully set the ink. For best results pre-press the garment for a few seconds prior to printing. This dries the garment for areas with higher humidity and flattens the fibers for a cleaner and smoother print.

If using a Heat Press for curing, use light pressure and either a Teflon cover sheet or silicone treated baking pan liner to prevent ink from getting on the element.

If using a conveyor textile dryer, you MUST achieve these times and temperatures. A typical short tunnel textile dryer does not have sufficient tunnel dwell time and shirts may have to go through two or three times. Also, refer to the literature included on the ink bottle.

If you experience scorching on certain shirt brands, reduce the temperature and cure longer.

LIGHT GARMENTS

Using FastBRIGHT
Cure Time: Approximately 120-180 seconds
Cure Temp: 330°F (166°C)

Using FastCOLOR
Cure Time: Approximately 35-60 seconds
Cure Temp: 330°F (166°C)

DARK GARMENTS

Using FastINK Pretreatment #1
Cure Time: Approx. 180-240 seconds
Cure Temp: 330°F (166°C)

IMPORTANT POINT

Perform wash tests! All curing times and temperatures ARE RECOMMENDED STARTING POINTS. It is your responsibility to find the cure times that work best for your location and Print Mode preferences.

Printing Tips and Tricks

Preventative Maintenance

One of the most important tasks in keeping your new printer running smoothly is to keep up on the maintenance of the machine. Although the ***T-Jet*** is "simply" an inkjet printer, the number one technical issue is a lack of maintenance of the machine. There are three main areas of concern:

- Printing on t-shirts is not the same as printing on paper. A shirt gives off much more lint which must be cleaned up regularly.
- The amount of ink deposited on fabrics is far greater than on paper. This means all ink supply lines must be feeding properly as well as all excess ink must be cleaned up daily to prevent build-up.

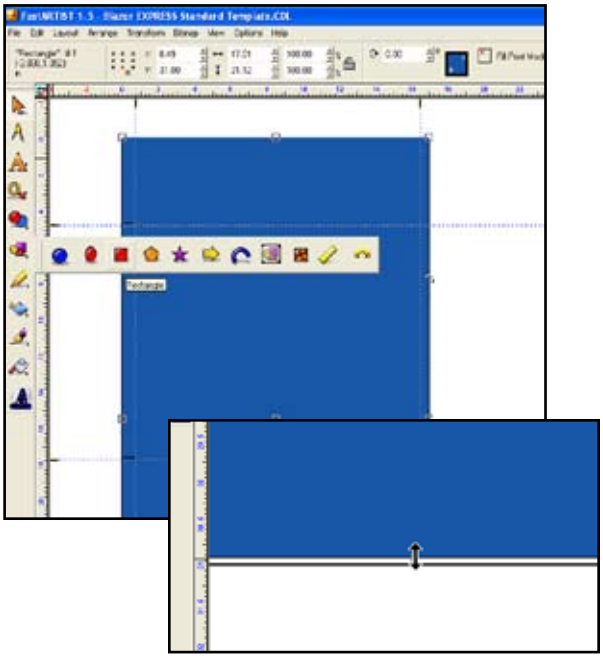
When printing on dark shirts, you must apply a Pretreatment. This solution can settle inside the printer and cause numerous problems, therefore we recommend you pretreat shirts as far away from the printer as possible (i.e. in another room)

Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance*** for complete descriptions of required maintenance.

Export a FastARTIST Template

If you would like to setup the FastARTIST template in another graphics application, follow these steps.

The FastARTIST templates do not include any actual art, only guides. This means that you will have to create art (shapes) on the template page, referencing where the guides are, which you can then export to your desired file type. In this example, we will use the Express Standard Template (17"x 31").

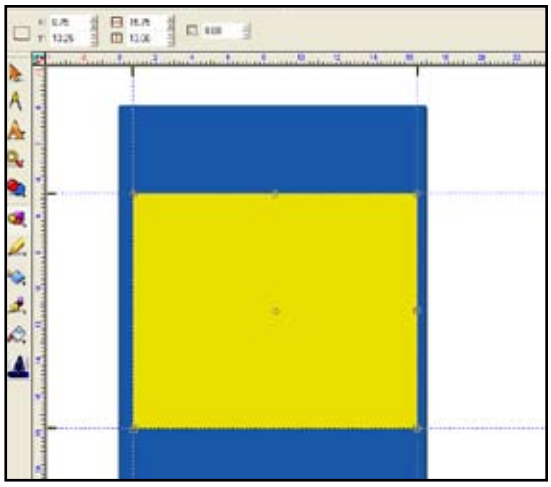


- First, select a color in the color palette for the background (blue in this example). Next, select the rectangle tool and draw a box representing the entire page.

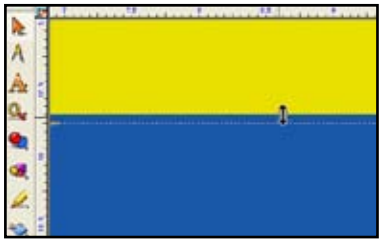
  In the properties bar, you can adjust the size of the box to the page size of 17 x 31.

- Zoom in and make sure that the box is properly lined up with the page edges. Do this on all 4 sides.

- Next, deselect anything selected and choose a new color to represent the print area. In this example, we will use yellow. Select the rectangle tool again and trace the safe area of the guide.



- Zoom in and make sure that the edges line up with the guides. Do this on all 4 sides.



- Click File>Export. We recommend exporting as an EPS. An EPS file will open in almost any graphics application. Open the EPS in your "third-party program" and make sure that your page size is 17 x 31 (Express in this example).

- Use the guides tool to re-create the print area by adding a guide to each side of the yellow box. Select the "lock guides" option. Once this is done, you can delete the eps file (or layer) and re-save the document as a new "third party software" template for future use.

Resolutions, Speed and Quality

The resolution you choose will not only determine print quality, but print speed as well. If you use a lower resolution Print Mode, you will achieve a much faster print speed, but may not get the quality needed for photo images. Lower resolutions apply fewer ink dots per inch (DPI), which allows the Print Head to move much faster.

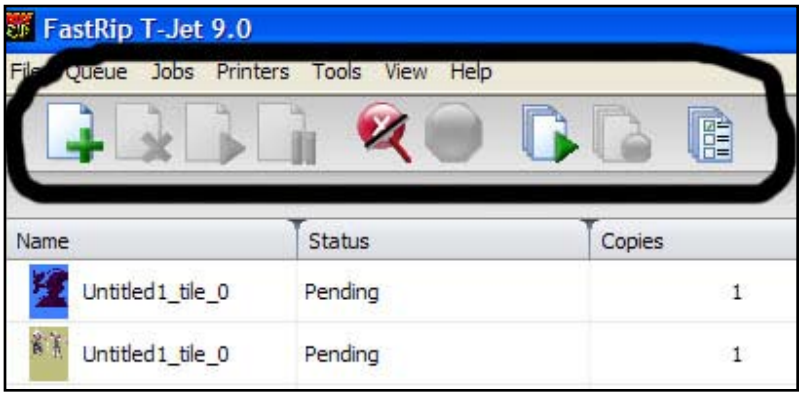
If you use higher resolution Print Modes, you will notice a decrease in print speed but an improvement in image quality. A higher DPI increases print quality by increasing the density of the dots per inch. Therefore, we recommend a lower resolution for cartoon images, but a higher resolution for photo type images.

Also, we recommend the use of HS (high speed) print modes for faster printing. These also work great for full-cover underbases.

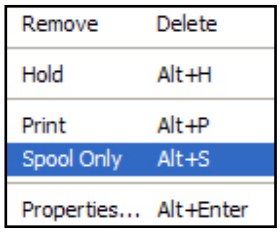
Saving a Spooled Print File

You can save a spooled job for later printing. This is most helpful when you want to print a particular job the exact same way or if a customer requests a repeat order by surprise. The spooled file saves as a file called JTB. The JTB file obtained it's name from the extension of the actual file being archived. So when you spool the art file and name it cat, the JTB file will be named cat.jtb. Inside FastARTIST, you would build a file as your normally would; add the underbase if needed, adjust the colors and all the other wonderful things you may need to do to the art before sending to print. When you spool a JTB file, all the settings will be kept the same as the original file; the placement, the print mode and the colors of the image.

1. **Creat the JTP File**
   Make sure you have your FastRIP set to hold the job when sending the print command. You can set this up by clicking the paper icon with the arrow in the bottom right corner. If setup correctly, the icon will be lit and the arrow will be green. You can also set this up in the FastRIP Setup print dialog box when selecting the print options.



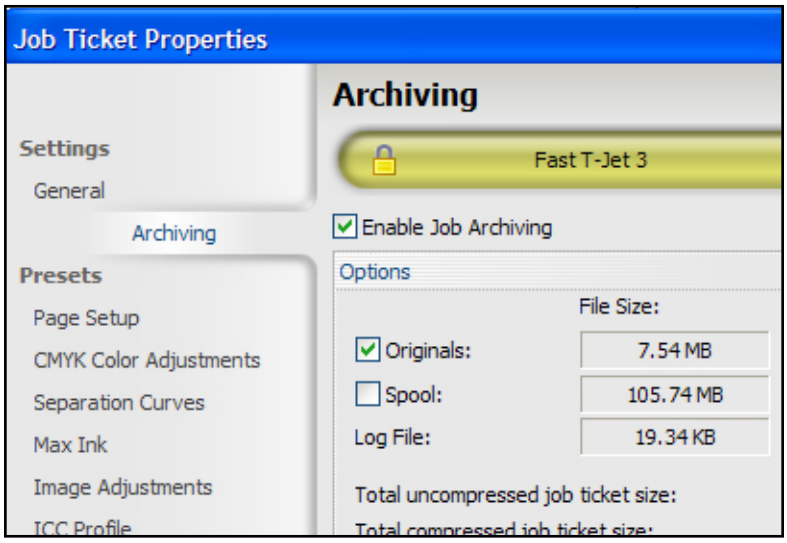
2. Right click on the job and select Spool Only.



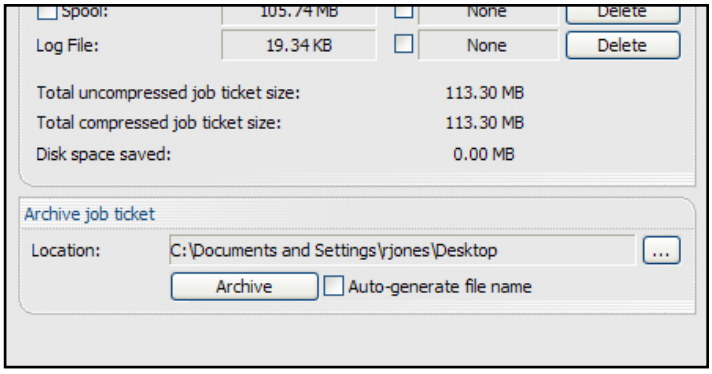
3. After the job is spooled, highlight it and go select from the pull-down menu, Jobs>Properties.

4. The Job Ticket Properties window opens.

   Under Settings at the top left, click on Archiving. The archiving options will now be visible in the body of the window.



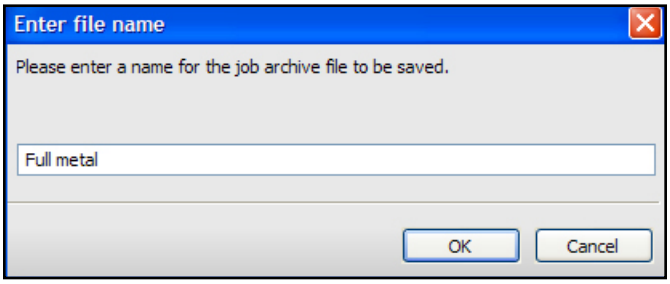
5. Towards the bottom of the window, where it says Location, click on the box with the three dots.



   A "Browse For" folder will open. This is where you will name the JTB file and select a save location. This works like any other browser window when saving a file. When a save location is selected, click OK at the bottom of the window.

   The location path in the window now displays the path of where you selected to save your file.

6. Next, click the Archive button. Another window will open, giving you a field to enter the job name. Enter the desired job name and click OK. You will see two blue bars that display the process of saving. After completed, click OK.



7. Minimize FastRIP and browse for your newly created JTB file. To load the file for printing, drag and drop the file into the FastRIP Queue window. The job will post in the list of current jobs (if any). Right click the job and select print.

Canceling a Print Job

Occasionally a print job will not print. This could be caused by a problem with the file, the printer not being in the Load position when the print command is sent, a chip indicating a color is out of ink or other issues. If you have ever owned an inkjet printer, you know that it is sometimes hard to "kill" a print job. When you send a Print command from your graphics application or FastARTIST, the FastRIP does its calculations and then sends the job to the Windows Print Manager. It is almost impossible to stop a print job within the RIP if the job is still in the Print Manager. To open Print Manager, double-click on the small printer icon on the lower right bottom of your computer screen (This section is called the Task Bar). When the Print Manager opens, it shows the status of the print job. However, a job that is NOT printing might still show as printing. To cancel a print job, click on the actual job file, go to the File menu and select Cancel All Documents.

If there are printing problems when using FastRIP that require you to cancel a Print command, right-click on the file and Abort the Print command. If you get a partial image on a shirt from the previous job, you probably have not fully canceled the Print command in FastRIP.

If you must cancel a job while still printing, we recommend you power OFF both your computer and the printer. This will clear the memory, cache and buffers in which the image may still reside.

Emergency Off Switch - Blazer Express

The T-Jet Blazer Express is equipped with an *Emergency Kill Switch* that will cut OFF all power to the printer. After pressing this button, you must shutdown the machine completely, including the Power Switch in the rear of the housing. All jobs within FastRIP must be cancelled and deleted. Perform a complete start-up and initialization to resume operations.

IMPORTANT POINT

Any file that was printing or spooled at the time of the emergency shutdown will be lost. An unfinished image cannot be restarted and all jobs must be re-spooled.

Kill Switch - Blazer PRO

The T-Jet Blazer Pro is equipped with a *Kill Switch* in both the *Home* and *Index* positions. These circuit breakers will only be activated if the Printer Assembly attempts to exceed specific printing dimensions. These switches will prevent damage to your machine should the Assembly fail to trip specific sensors.

In the event you experience a sudden and total loss of power to all systems, including the User Interface, it may be due to a *Kill Switch* activation. To reset your system please do the following:

1. Turn OFF power to your machine by flipping the breaker switch located next to the AC power cord. If you do not turn OFF the breaker, the Printer Assembly may immediately activate the *Kill Switch* again after reset.

2. Move the Printer Assembly 3-4” toward the center of the Platen.

3. Reboot your system and power ON your printer.

IMPORTANT POINT

Should you experience a Kill Switch activation, all spooled files and print jobs must be reloaded and again sent to Print.

A Warning About Page Sizes

When printing, you MUST ensure the correct Page Size is used. The *Maximum Printable Area* is limited to the specifications mentioned earlier in this chapter . FastARTIST comes with a template that matches each dimension layout and we STRONGLY recommend you use these when printing. If you are printing from a graphics application other than FastARTIST, you MUST make sure that you have configured your Custom Page Size correctly within that program.

Failure to follow these guidelines could result in a blown fuse on the Main Board of your printer, rendering it unable to print. Should this occur, you must contact Tech. Support for further instructions.

Height Sensor: Blazer Express ONLY

The Blazer EXPRESS (only) is equipped with a built-in Height Sensor that will help determine what the height of the platen needs to be set to for printing. The height sensor is a thin laser beam that extends across the Platen if it is at a dangerous height that will damage the *Print Head*. If the platen is set too high, or should anything break this beam, all machine functions will immediately pause, the LCD Display will read "Top Cover Open" and a small LED located on the top of the printer will flash Red.

Immediately check your garment for folds or wrinkles that may affect Print Head clearance, smoothing out any variations as needed. In addition, adjust the Platen to Head Clearance using the adjustment knob on the front of the Print Bed, if necessary. Once the obstruction is cleared, printing will resume from where it left off, without the need to re-send or re-spool the output.

IMPORTANT POINT: The Height Sensor is a "Last Line of Defense" to prevent the *Print Head* from striking a garment, platen or any other object that could cause severe damage to the *Print Head*. Practice knowing where your platen is in relation to the *Print Head* height. Do not rely solely on the sensor to warn you of potential collisions. Print Heads are not covered under warranty so we strongly encourage you to monitor and maintain a safe clearance between the Print Head and any garment or other printable item.

NOTE: If the sensor is tripped too many times, the printer will error out and display one of the following error messages on the LCD screen: **"TOP COVER OPEN" or "SRVC REQD 00001001E"**

In the case of either of these error messages, you will be forced to perform a complete shutdown. To learn more about error codes and messages, refer to ***Chapter 16 - Troubleshooting***.

Placing the Printer into Print Status

A far too common User Error occurs when a Print command is sent to the printer without the machine being in the proper mode.

To prevent erratic printer behavior, ruined shirts and lost time for maintenance and troubleshooting, NEVER send a Print command without VERIFYING the status of your Blazer Express each and every time.

LCD Display in *Print Status*
"Paper Out/Roll Cut"

The printer MUST be in "Paper Out/Roll Cut" mode.

Placing the printer in *Print Status* requires using the buttons located below the LCD Control Panel. If the LCD Display does not look like the image above, press the LEFT ARROW until the LCD Display reads "Ready." Press the LEFT ARROW once more. The LCD Display should read "Paper Out" and should display a "roll of paper with scissors" icon.

Print Modes and FastRIP

When first starting out, the most versatile Print Mode combination for BOTH photos and cartoons is 720 HS for CMYK and 1440 HS for the Underbase. For images on light garments in which no Underbase is used, a 2 Pass Print Mode will result in better color saturation.

CMYK Cartoon and Photo Print Modes

The T-Jet Blazer Series Printers have three basic modes for printing – Cartoon, Photo, and Underbase. The Cartoon and Photo Print Modes will print the image in color when printing from FastARTIST or any other graphics program. These two modes were created to adjust print characteristics based on the image to be printed. If you are printing vector graphics with Spot Colors, use the Cartoon Print Modes. If you are printing photo-type Bitmap images, use the Photo Print Modes.

Cartoon Print Modes are designed to:

- lay down more ink with good color saturation
- be used for non-critical images
- allow a lower DPI to be selected

Photo Print Modes are designed to:

- lay down less ink with highly accurate colors
- reproduce an extremely detailed image
- utilize a higher DPI to ensure good print quality

High Speed Print Modes

Some of the Print Modes in the list of options have an HS after the name. These are the High Speed Print Modes available for use. If the print mode does not have a HS after it's name, then it is a uni-directional print mode. When you select one of the High Speed Print Modes, the printer will print twice as fast, referred to as Bi-Directional mode. Bi-Directional printing lays down ink as the print head is moving from left to right AND from right to left. You will probably use these Print Modes more than not because of the increased printing speed.

You must perform a Print Head Alignment to enable the printer to print in HS mode. If you haven't yet completed a Bi-Directional Head Alignment, you will need to in order to use these print modes. It is very important that the print head be 3mm minimum to 5mm maximum away from the substrate. If you run the alignment with the print head at 4mm away from the test media, then you will need to make sure while printing in HS mode that the print head is 4mm away from the shirt.

Eight Color Print Modes

The Fast T-Jet Blazer Express also supports Eight Color Print Modes that utilize the additional colors of Red, Green, Blue and Orange in place of the four White cartridges. This configuration of inks cannot be used to print on dark garments, however when printed on light garments, the additional colors create vibrant hues that add an exciting dimensionality to your final output.

IMPORTANT POINT

The Eight Color Bulk Ink System is an optional configuration. If your printer is not equipped with the necessary inks and cartridges, you may purchase the additional accessories from U.S. Screen Print & Inkjet Technology. Refer to *Chapter 7* of your FastARTIST User's Manual for details on ink cartridge placement.

Underbase Print Modes

The Underbase Print Modes may only be selected from within FastARTIST. With Cartoon and Photo Print Modes available in three different resolutions as well as having a High Speed opotion, you have the ability to select the proper mode to match your graphic image. For dark shirts try using the 1440 HS (High Speed) Print Mode to achieve a stronger, more consistent Underbase. This is due to the fact that the higher resolution will dispense more ink at a slower speed, creating extremely even coverage, plus the High Speed options will also cut the printing time down considerably. If you are printing on lighter colored shirts, it may not be necessary to print such a strong Underbase. 720 DPI may work better.

See the previous section for more information on High Speed Printing. For a complete list of the various CMYK, Eight Color and Underbase Print Modes available, refer to Chapter 7 of your FastARTIST User's Manual.

Printing Concerns

Spots or Stains

Spots or ink stains must be removed BEFORE the print is cured, using a standard Spot Removal gun. Once the ink is cured, it is almost impossible to remove spots or smudges. Take care NOT to spray the wet print!

Washability Related Concerns

Turn print inside out before washing or drying. Use cold Water only with a medium dryer temperature. If possible, give the customer washing instructions with the finished prints. You can expect a little fading with the first washing. This is normal and very similar to what you would get from a screen printed shirt. If you experience irregular fading, check your dryer temperature. If the shirts are damp from excess humidity, you should put them under the Heat Press for a few seconds to dry out before printing (see the following humidity section).

If you have any washability issues increase the time.

Poor washability ON LIGHT SHIRTS may be caused by insufficient ink deposit. For best results, print at a minimum of 720 DPI and do two print passes (light shirts only). You can greatly improve the washability of the final print on light shirts that do not have white ink in the image by using FastCOLOR pretreatment. For information on pretreatments and applying pretreatment, refer to ***Chapter 12 - Advanced Printing With White***. Poor washability ON DARK SHIRTS may be caused by too much pretreatment or from drying the pretreatment with a slick Teflon sheet or silicone treated baking pan liner. The slick surface may not allow the ink to adhere properly.

Humidity Concerns

For areas of greater humidity or where shirts are very damp after printing, try pre-pressing the garment for a few seconds using a heat press. Doing this will also flatten the fibers giving a smoother print.

Variables such as climate and the amount of ink used can extend cure times. Certain garment fabrics may also require more time. Even seasonal changes may effect already established times and temperatures.

Temperature Tests Vs. Wash Tests

Before doing a major production run, ALWAYS DO WASH TESTS and verify your dryer temperature. For Heat Presses, the most accurate method of checking the temperature is with Paper Thermometer heat tapes available from all screen print supply companies. Infrared ray guns do NOT always give accurate readings on heat presses. For conveyor dryers, use Paper Thermometers or temperature “donut” probes available from screen print supply companies.

Slight Discoloration

Some shirts might show a slight discoloration if using a Heat Press to cure the print. (This is most often seen in **Red** and medium to dark garment colors other than **Black**.) This discoloration will usually go away when the shirt cools or when washed.

Red dye is the hardest to control for discoloration because heat can permanently change the red pigment.

Chapter 12

Advanced Printing With White Ink

This chapter will cover proper care of white ink, pretreatments and the pretreatment process, printing with white ink and how to take the proper steps in being successful with the process.

The process of printing white ink onto garments was not easy to develop. Because the openings in Print Heads are so small, one cannot use thick ink like standard Screen Print Plastisol Ink. Printing White ink on a ***T-Jet*** was made possible by a combination of the following:

- A very special ink that has taken years to develop
- A software printer driver called FastRIP that allows the printer to dispense more ink than originally designed
- The software Raster/Vector Graphics program called FastARTIST that creates special Underbase and highlight white files
- A revolutionary Pretreatment that binds the ink to the garment.

White Ink Care

The ***T-Jet Blazer Series*** ship with the latest innovation in textile ink: FastINK Bright White. This ink is the best in the industry at producing bright Whites and brilliant Highlights. To keep the ink in the best possible condition, follow these simple steps.

Beginning of the Day Agitation

We recommend that as part of your daily routine you remove each of the White Bulk Ink Cartridges and gently agitate. While holding upright, twist back and forth a few times and re-insert into the printer. Do this to all four cartridges every morning or at the beginning of the day.

Do not violently shake the ink; only shake mildly! Shaking too severely may cause the formation of small air bubbles that can severely impair printing or create a vapor lock within the ink during the day.

End of the Day Agitation

At the end of each work day, we recommend you remove each of the White Bulk Ink Cartridges, hold your finger tightly over the breather cap and gently tilt upside down. Doing this will spread pigment that may have settled at the bottom, to the rest of the ink. Hold the cartridge upside down for 10 seconds and gently tilt it back to its upright position. Repeat for all white cartridges.

IMPORTANT POINT:

If the machine sits idle for two days or more, the ink in the lines as well as the ink in the bulk bottle will start to separate. The longer the machine goes without operation, the more the ink will separate. The agitation steps mentioned above will help but the ink in the lines and dampers will need to be purged or the white ink may have a transparent or grey look for the first few prints.

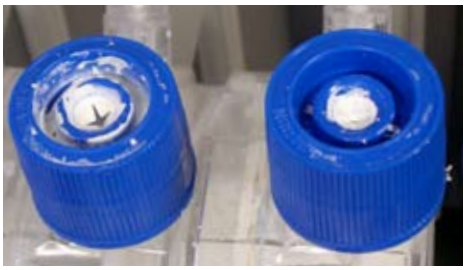
Weekly White Ink Care

SHAKE THE WHITE INK BOTTLE(S) STORED ON THE SHELF, EVERY WEEK FOR ABOUT A MINUTE TO PREVENT SETTLING. Doing this will keep the pigment suspended throughout the bottle and will give you the best printing resultss

Breather Cap Airflow

It is very important that the filters on the breather caps do not get clogged up. After shaking the ink, ink may form on the breather cap. This can reduce or even stop the airflow causing the white to drop off. Check to make sure that you have accurate ventilation in the top of each cap (for CMYK as well).

To ensure that you always have proper airflow, loosen the breather caps slightly, creating a backup airflow.



Notice in this photo, the breather cap on the left seems dirty, but has proper airflow, while the cap on the right, although it appears to be clean, does not have airflow.

White Ink Shelf Life

The shelf life of FastINK Bright White is 6 months from the manufacture date. It is always good to keep white ink on hand, but don't overstock.

Pretreatment Basics

The Pretreatment solution is a milky colored, odorless and nontoxic liquid. A chemical reaction between the Pretreatment and the White ink causes the ink's pigments to stay on top of the garment and not be absorbed by the textile fibers. Because of these reactive chemicals, it is CRITICAL the Print Head does not touch a pretreated garment - even one that has been dried! You should also have good ventilation in the area where you are applying the Pretreatment. If possible, pretreat garments in another room entirely.

WARNING:

You MUST NOT spray Pretreatment near the printer. In fact, you should pretreat shirts in a separate room entirely to prevent any overspray from getting inside the of the T-Jet. If using another room is not possible, a large cardboard box enclosure is a good substitute for applying Pretreatment. If using an AutoTREAT Pretreatment center you can pretreat in the same room if kept at a safe distance.

IMPORTANT POINT:

Like the CMYK cartridges, each White ink cartridge has "smart" chip that counts the number of drops of ink dispensed in order to warn you when the cartridge is empty. When printing with White ink, it does not take much ink usage before the chip tells the printer it is "out." If this happens DURING a printing pass, the printer may stop printing and the Ink Level Indicator on the LCD Display for one or more of the White ink cartridges will start flashing. If you turn the printer off during this process, you will lose the job and ruin a shirt. Instead, remove the cartridge(s) that is indicated as low or out of ink and reset the chip(s). If the ink level has fallen below the Low Ink Mark on the cartridge, refill the cartridge with ink before reinserting it into your printer. Refer to page 15 of this manual for more details.

Applying Pretreatment

It is essential that the Pretreatment solution be applied evenly to ensure a great looking print (free from light and dark spots) on a **Black** garment. You can use manual spray pumps, weed sprayers or any other method you feel comfortable with to apply a uniform coating of FastINK Pretreatment. However, we strongly suggest the use of a Control Spray Gun (commonly used to paint a porch deck or furniture etc.). We recommend an affordable sprayer such as the Wagner Control Spray Gun. These guns are fairly inexpensive ($70 USD at home improvement stores.) However, these are not designed for high volume work, therefore you should keep an extra gun handy as backup.

Cleaning the gun is simple and should be done on a regular basis to extend the life of your sprayer. Just fill up the storage bottle with water and run it through the gun as you would normally dispense any other solution.

Types of Pretreatment

Currently we offer three types of Pretreatment-FastINK Textile Pretreatment, FastBRIGHT Textile Pretreatment and FastCOLOR Textile Pretreatment:

- FastINK Pretreatment is specifically designed for use on ***Dark*** colored garments, allowing for extremely bright Whites and vibrant colors. FastINK Pretreatment should only be used with medium to dark colored garments due to possible discoloration of light shirts when exposed to direct sunlight.

- FastBRIGHT Pretreatment works extremely well with light colored garments and images that have an Underbase. Using FastBRIGHT creates vibrant images with rich, deep **Blacks** and **Reds** that will not discolor when exposed to direct sunlight.

- FastCOLOR reduces cure times while GREATLY increasing the color brilliance and washability of your print. This pretreatment is designed for use with images on light colored shirts with NO White ink.

WARNING

DO NOT mix any of the Pretreatments together or the result will be ruined shirts.

Proper Pretreatment Application Using a Spray Gun

All of our Pretreatments are specially formulated liquids that prevent ink pigments from being absorbed by the fabric of a garment. When applying a Pretreatment solution, do not saturate the garment! You don't want the shirt to be soaking wet.

- Move the spray gun from side to side in even strokes. Light shirts only require a misting back and forth, but Black and other dark colors will need a slightly heavier application. Always refer to the pretreatment packaging for the best application methods.

  The proper amount of Pretreatment needed, is something that you will get the hang of with repetition. The main idea is to get an even coat throughout the shirt or print area.

  Please note, if you miss a spot or apply the Pretreatment in an uneven spray, it will be noticeable in the final print.

View our video online covering correct pretreatment application. Refer to *Chapter 17 - Product Support* for instructions on logging on to our support site and accessing videos.

Drying the Pretreatment

Using a Heat Transfer Press is the best means for drying the Pretreatment. A heat press will flatten out the fibers leaving a flat and smooth print surface. You can use a conveyor dryer or even a hair dryer, however, other methods of drying will not flatten the fibers and may result in a lower print quality.

When using a Heat Press, lay a sheet of non-silicone Pretreatment paper (parchment paper) available from U.S. Screen. This will protect the garment. If you use a silicone based paper, it will seal the Pretreatment on the shirt surface and the White ink may not stick well enough.

You may use a Quillon treated baking pan liner, however, if the paper sticks to the Pretreatment after you are done pretreating, there may be too much Pretreatment applied, too much pressure set on the heat press or has been pressed for too long. Standard "butcher paper" or "brown craft paper" can also be used as a heat press protector when drying the Pretreatment.

Clamp the press down with medium pressure for 8 to 10 seconds when drying Pretreatment at 330°F. Consult the pretreatment bottle directions for curing using other means.

Depending on pretreatment amounts, pretreating for half the time with the pretreatment paper and half without, has shown great results. Also, some users have reported better wash durability by spraying the shirt with water BEFORE spraying it with Pretreatment.

IMPORTANT POINT

Too much Pretreatment may cause poor wash durability. Also, the Pretreatment MUST be completely dry before printing.

We recommend taking a look at the AutoTREAT Pretreatment Center. These machines make pretreating a garment very easy and apply a perfect application every time.

Printing White Ink

This section covers specific information for printing white ink. Refer to ***Chapter 11 - Printing Basics*** for all other steps.

Please consult your FastARTIST User's Manual for more detailed instructions and specific Hints and Tips. DO NOT attempt to print ANY image until you have read and familiarized yourself with FastARTIST and FastRIP, including their uses and capabilities.

Top off ALL of your White Ink cartridges to the 150ml mark at the beginning of each day and DO NOT allow the ink levels to drop below the 100ml mark or you risk ink starvation issues. DO NOT overfill above the 200 mL mark or overflow may occur. If the printer has been unused for a few days, perform two or three regular Head Cleaning cycles to get the White ink flowing properly.

File Setup

When printing with White ink, it is very important that you set up the file correctly in FastARTIST. When Underbasing solid, *Spot Color* images, generally you'll print solid White ink and then follow that pass with CMYK. When using FastARTIST, if the image has White as part of the design, a second pass of White can be made at the same time as the other colors. This second pass of White is called a *Highlight* and it boosts the brightness of the White.

The Underbase Wizard

When printing photorealistic images, you will need to run a special routine called the Underbase Wizard. This feature of FastARTIST will create a separate piece of artwork that FastRIP will use to print an Underbase of White ink. When printing a photorealistic image, the Underbase is NOT solid White but instead it is *Grayscale*. Grayscale consists of light and dark areas that give the image dimensionality.

Set Print Modes

You must tell FastRIP what *Print Modes* to use for both the White ink and Top Colors. Under the File Pull-down Menu, select FastRIP Setup. This will open the dialog box to select your printer, layout orientation, underbase options and print modes. Once you have made these selections, they can be used again for other jobs. For Dark shirts you can get very good "Screen Print" quality White if you select a 1440 DPI *Print Mode* for the Underbase. For the top colors of **Cyan**, **Magenta**, **Yellow**, **Black** and the highlight White, choose a 720 DPI Print Mode.

For medium colored shirts, use a 720 DPI Print Mode (faster than 1440 DPI) for the White ink Underbase. In some cases, very light colored shirts may not even need a White Underbase. These images can print using just CMYK and highlight White to save printing time.

We recommend you DO NOT mix Print Modes. You will notice that certain Print Modes contain a 'HS" or "HS (Bi-Directional)" while the standard Print Modes contain neither. DO NOT use standard Print Modes in conjunction with HS Print Modes. The result may lead to registration issues and ruined prints. Please note that this warning is not referring to print resolution, i.e. 720 or 1440 DPI. Print resolutions can be mixed and matched as needed. If you are not sure how different Print Modes work together, do a test print before doing a production run. For more information on Print Modes, refer to *Chapter 11 - Printing Basics*.

Cure the print

Carefully remove the shirt from the Shirt Board and cure. Keep in mind, White ink will need to be cured longer than standard colors. Cure in a conveyor dryer or Heat Press. Refer to ***Chapter 11 - Printing Basics - Curing Your Garments*** for more information.

- If using a Heat Press, place a silicone treated piece of parchment paper (a common baking pan liner) over the print and close the press.

- When you open the press, peel the paper immediately. The paper can be used a number of times. After a while, the paper will develop wrinkles and will need to be replaced or a wrinkle pattern will transfer onto the shirt.

You will only use the silicone treated paper for curing after the entire print has been completed. You risk ruining a shirt if you use silicone paper in the Pretreatment phase.

You can also use a standard Teflon pad rather than silicone treated parchment when curing the print in a Heat Press. Teflon pads are available from most Heat Press manufacturers.

IMPORTANT POINT

When printing gradient images with White ink, we recommend having two JPEG versions of the artwork at 150-300 dpi. One version having a white background and the other having a black. These two files can be created in Photoshop, Adobe Illustrator, CorelDRAW or even in FastARTIST. Another option is using transparent files (psd etc.) and use the pop-up window for completing the underbase settings. Consult your FastARTIST Users Manual for more details.

There is an excellent video tutorial on "Underbasing with Two Versions of Artwork" on the T-Jet Support page. Refer to Chapter 16 - Product Support for instructions on logging on and viewing videos.

Washing Directions

For the longest lasting print, the shirt should be turned inside out, washed in COLD water and dried on a delicate cycle. If possible, include washing directions to customers along with the finished prints.

When you apply the Pretreatment correctly and choose the proper *Print Modes,* you will get very detailed bright prints like these!

White Ink Troubleshooting & Maintenance

For a complete listing of troubleshooting concerns and problems, refer to ***Chapter 16 -Troubleshooting***.

Concern: White prints seem dull

Solution 1:

You may not be applying enough Pretreatment or not using a 1440 DPI print mode.

Solution 2:

The *Print Head* may be clogged. If you had bright White prints before and they now seem dull, you may have clogged nozzles. Due to the nature of the White pigment, you may experience more head clogs than normal. These can easily be cleared by doing two or three *Head Cleaning Cycles*. Perform a *Nozzle Check* to be certain nozzles are firing properly. Always follow ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a day, week or month.

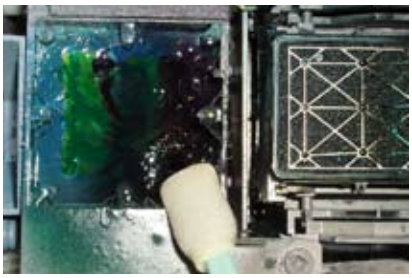
Solution 3:
The Highlight White settings in FastARTIST are wrong. You may actually be printing white ink ON TOP of the CMYK colors. Reload the image into FastARTIST and run the Underbase/Highlight Wizard again. Try not applying a Highlight or toning down the Highlight.

Solution 4:
Dry ink may be causing the Print Head to not seal properly. Due to the nature of the white ink pigment, it will build up faster on the capping station and on the wiper blade. Dry White ink around the rim of the Capping Station will interfere with the printer pulling ink out of the cartridge during a Head Cleaning cycle. Use a sponge foam tipped swab and cleaning fluid or water to clean the areas noted below.

Perform DAILY cleaning of these items.

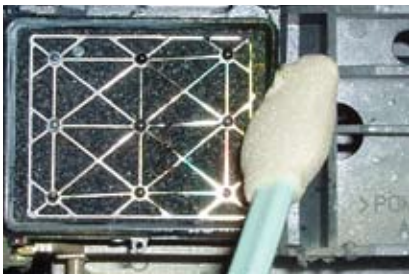
For a complete description on cleaning these parts, refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***.

Clean Spit Tray/Flushing Box

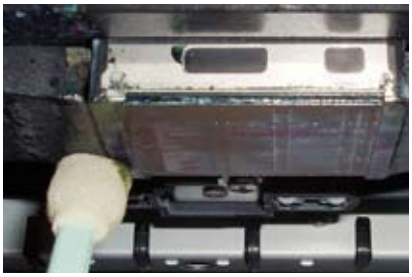


Clean Wiper Blade

Clean Capping Station



Clean Print Head Area



Clean Encoder Strip

Do NOT touch the middle part of the print head where the nozzles are. This could damage your print head.

Solution 5:
The Print Head is permanently clogged or damaged from lack of maintenance. Before contacting us for a replacement or for other instructions, check the print head to see if there is any visible ink or lint stuck to it. If so, use FastINK HD Cleaning Solution or Windex on a sponge swab and CAREFULLY wipe the bottom of the *Print Head* in one direction with VERY LITTLE PRESSURE. The print nozzles are very sensitive and can be damaged very easily. This procedure should only be completed as a last resort to replacement. Flip the alcohol pad and repeat the process.

NOTE: You will need to release the *Print Carriage* and move the print head to the middle of the machine to gain access to it.

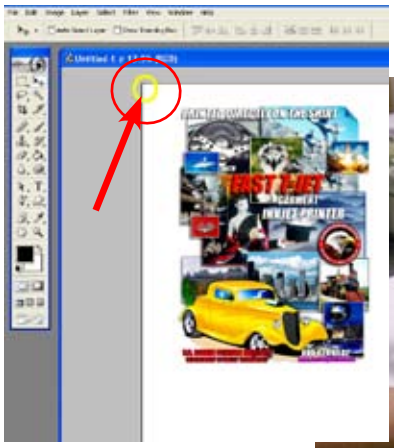
Chapter 13

Printing Other Items

The T-Jet can print on almost any fabric or material and you usually don't need a clamping device. FastINK is a water-based textile ink designed to work not only on natural fabric materials, but also on non-textile items such as unfinished wood, mouse pads, golf balls, metals, plastics and more. With the help of Fast T-Jet Non-Textile Series Pre/Post Treatment, FastINK will adhere to almost any type of surface.

Location and Placement

The hardest part of printing on odd-sized items is determining their print location. Remember, if you are facing your machine, the outer right edge is "zero" in your graphics program. Another way to think about it is that the printer assembly would be the bottom of the page.

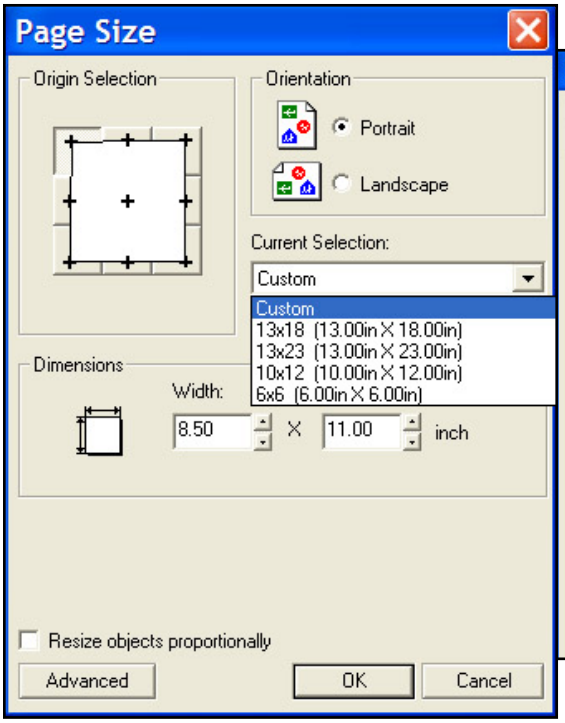


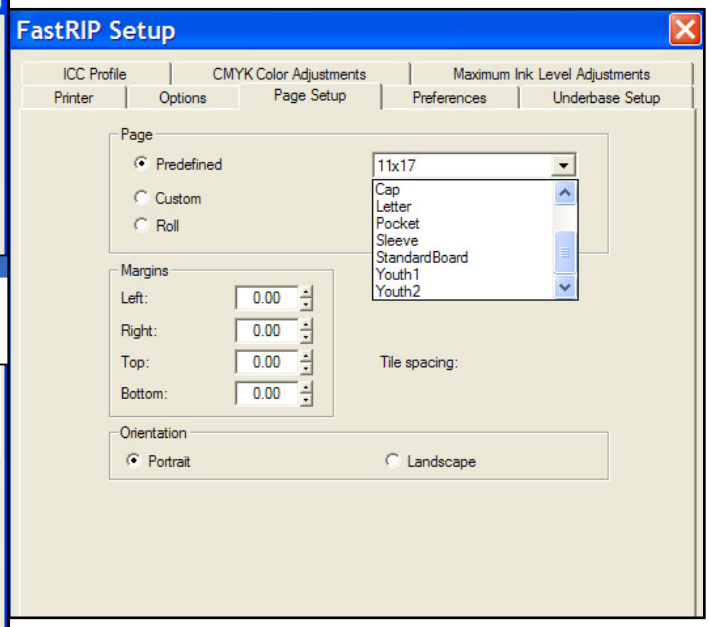
Make a template or custom page size to match the size of your Shirt Board.

FastARTIST allows you to adjust the *Page Size* to match your items in the *Page Setup* window. You must also set the correct *Page Size* in *FastRIP Setup*.

FastARTIST refers to its page dimensions in terms of width and "height." For purposes of printing a two-dimensional image on a garment or non-textile item, it is important to be aware of the fact that "height" means the same thing as "length."

FastARTIST Page Size – Go to *Layout* > *Page Size*
FastRIP Setup – Go to *File* > *FastRIP Setup*





For more information about printing on caps or Non-Textile, such as golf balls, there is a downloadable PDF available at www.screenprinters.net.

Adjusting the Platen Height

Before sending any print, check the Platen/Print Bed to Head Clearance. You will most likely need to adjust it when printing other items. For the best prints, the printable surface should set to 1/8inch (3mm) below the Print Head. If the item has a seam or excess fabric, these areas should be lower than the main printing surface. Refer to ***Chapter 8 - SETUP PART 6: Initialization Utilities*** for the proper steps.

WARNING:
Make sure that the printable item has the required distance of at least 3mm from the print head. Also be extra careful with other items while releasing and sliding the carriage over. If the bed is much too high, you can accidentlay damage it if being careless.

Non-Textile Printing

Required Items and Overview

You must have the following to successfully print on Non-Textile items:

1. Non-Textile Pretreatment
2. Non-Textile Post-Treatment
3. fine bristle brush

Optional materials may be required:

1. Non-Textile Primer
2. a holder for object(s) (i.e. Golf Ball Holder)
3. an extra brush or two
4. Non-Textile Print Modes and Templates: utilize the latest Non-Textile Print Modes by downloading the most recent Printer Package from www.myt-jet.com

CAUTION: WEAR GLOVES WHEN APPLYING AND USE WITH ADEQUATE VENTILATION. HANDLE WITH CARE AND PROTECT EYES WITH SAFETY GLASSES WHEN APPLYING AS A SPRAY. BEFORE USE, CONSULT THE MATERIAL DATA SAFETY SHEET (MSDS) THAT IS INCLUDED WITH THESE PRODUCTS

KEEP OUT OF REACH OF CHILDREN

Getting Started

It is necessary to determine if the surface intended for printing will allow the Pretreatment to stick. Certain surfaces will accept the direct application of the Non-Textile Pretreatment, while others will require first require a coat of Non-Textile Primer. Generally, smooth surfaces such as light switches, keyboards, lighters and gloss tiles will require an application of Non-Textile Primer before the Non-Textile Pretreatment.

To Test: Apply a very small thin amount of Non-Textile Pretreatment to the intended printing surface. If the Pretreatment runs off, it will be necessary to use the Non-Textile Primer.

If this is your first time using a Non-Textile Pretreatment, it is recommended you pretreat small quantities at first to familiarize yourself with the process.

T-Jet Non-Textile Primer

Fast T-Jet Non-Textile Primer is designed to be used on high gloss, non-porous surfaces as a primer coat prior to the application of our standard T-Jet Brand Non-Textile Pretreatment.

DO NOT print directly onto this product.

Protect your work surfaces with newspaper.

APPLICATION DIRECTIONS:

- Dip a fine bristle brush into the Primer, wiping off any excess on the side of the bottle. Gently brush Primer over the surface of the non-textile item, making sure there are no uneven areas.

  The Primer must be applied in a thin even layer to ensure optimal print quality.

- After the application is complete, clean the brush thoroughly with hot water to remove all Primer residue.

IMPORTANT POINT

This product can be sprayed on, but the application may not be as smooth as necessary for good print reproduction. If applying with an airbrush, spray bottle or paint sprayer, you may need to dilute the solution with water. If you dilute the Primer, two coats may be necessary.

- Clean up spills and brushes with soap and water immediately after use.

- Allow the Primer to dry thoroughly before applying the Non-Textile Pretreatment. Dry time will vary but can take up to one hour or more. To speed up the drying process, you may use a hair dryer, heat lamp or a heat gun set on a low temperature setting.

- A Heat Press may also be used by setting the non-textile item under the heating element. However, DO NOT allow the heating element to touch the non-textile item.

T-Jet Non-Textile Pretreatment

Fast T-Jet Non-Textile Pretreatment is designed for use as an inkjet ink receptive base coat when printing directly onto non-textile materials such as plastic, metal and wood. For increased durability of the final print use our Fast T-Jet Post-Treatment on top of the final print. When using a Fast T-Jet Inkjet-to-Garment Printer and FastINK Textile ink, you WILL NOT need to change inks when using this product.

APPLICATION DIRECTIONS:

- Dip a fine bristle brush in the Pretreatment, wiping off any excess on the side of the bottle. Gently brush the Pretreatment over the surface of the non-textile item, making sure there are no uneven areas. If Primer was applied, then the entire Primer treated surface must be covered with Pretreatment.

  The Pretreatment must be applied in a thin even layer to ensure optimal print quality.

Use a second brush to apply Pretreatment. After the application is complete, clean the brush thoroughly with hot water to remove all residual Pretreatment.

This product may be sprayed on, but the application may not be as smooth as necessary for good print reproduction. If applying with an airbrush, spray bottle or paint sprayer, you may need to dilute the solution with water. If you dilute the Pretreatment, two coats may be necessary.

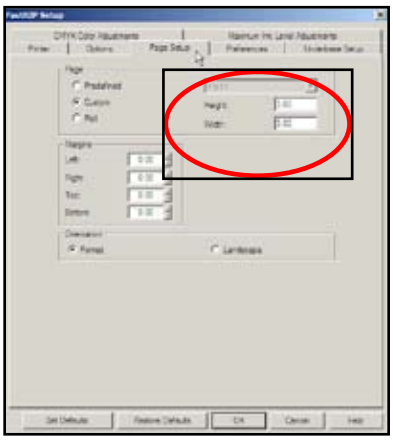
- Clean up spills and brushes with soap and water immediately after use.
- Allow the Pretreatment to dry thoroughly before applying the Non-Textile Pretreatment. Dry time will vary but can take up to one hour or more. To speed up the drying process, you may use a hair dryer, heat lamp or a heat gun set on a low temperature setting.
- A Heat Press may also be used by setting the non-textile item under the heating element. However, DO NOT allow the heating element to touch the non-textile item.

Since the pretreatment process can take some time to dry, we recommend you pretreat as much of the production run as possible to avoid delays due to drying time (Do this only after becoming proficient with the Non-Textile Primer/ Pretreatment).

Setting up an Image for Printing

To setup an image for print you may use an application such as Photoshop, Illustrator or CorelDRAW, however we recommend using FastARTIST. If you will be printing White ink, you MUST use FastARTIST. For the purposes of this Manual, we demonstrate will setting up the image using FastARTIST. The steps required for printing with other graphic applications will be very similar- please consult your application's Owner's Manual if needed.

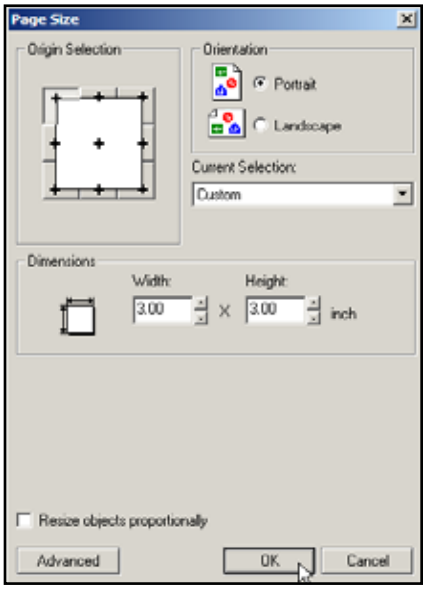
1. Setup the printing area in which you will be printing on. To do this you will need a measuring tape to measure the width and height of the Non-Textile item.



2. From within FastARTIST select *File* > *FastRIP Setup.* From the *Setup* window, select *Page Setup*. In the *Page Setup* window, select *Custom* under the *Page* option. Enter the *Height* and *Width* of the Non-textile item you have measured. After entering the values, click *OK* to return to the workspace.

3. Select *Layout* > *Page Size.* For the Page Size, enter the *Height* and *Width* of the Non-textile item you have measured. After entering the values, click *OK* to return to the workspace.

   The non-textile item dimensions will now be represented by a black box located within the workspace. If this is not displayed, click *View* > *Show Page Size* to view the black box.



4. *Import* your image for printing and position the image as you would like it to print on the non-textile item. *For further details, please refer to your FastARTIST User's Manual.*

5. Select *File* > *Print to FastRIP* > *Position the image* and click on the printer icon located in the Printer Toolbox. This will send the image to FastRIP.

Printing on Golf Balls

To print golf balls you will need a Golf Ball Holder (optional), T-Jet Non-Textile Pretreatment, and Post-Treatment (T-Jet Non-Textile Primer is not necessary). For more information, refer to the literature that came with your Golf Ball Printing Kit

1. Load the Golf Balls into the Holder and place the Over-spray Shield on top of the balls. The Shield will protect areas not intended to be printed upon from Pretreatment and over-spray.

2. Dip a fine bristle brush in the Pretreatment, wiping off any excess on the side of the bottle. Gently apply the Pretreatment to the exposed golf ball surface, making sure there are no uneven areas.

3. Allow the Pretreatment to dry thoroughly before printing. Dry time will vary, but it may take up to one hour or more. To speed up the drying process use a hair dryer, heat lamp or heat gun set on a low temperature setting.

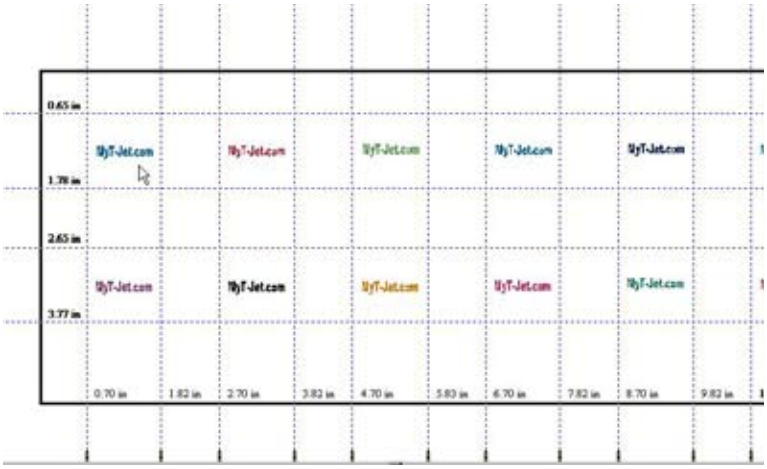
Golf Ball Holder Placement

Align the four holes in the base of the Golf Ball Holder with the four pins on the Platen designed for the ***FIRST*** Shirt Board. Place several golf balls within the Holder and use the Height Adjustment Knob on the Print Bed to ensure the proper Print Head clearance is maintained when loaded.

If you are using multiple Golf Ball Holders, you must check the Print Head clearance of each one.

Loading Golf Ball Template (FastARTIST Only)

1. Go to *File* > *Open* and *double-click* on the Golf Ball Holder Template to open.



2. *Import* the images or text you wish to print and place them inside of the grid lines.

3. Choose a Print Mode (Non-textile Print Mode). For a list and description of the available Print Modes, please refer to your FastARTIST User's Manual.

4. Print to FastRIP.

T-Jet Non-Textile Post-Treatment

This Post-Treatment is a protective coating used for prints on non-textile surfaces. Using the post-treatment will prevent fading of ink colors, extend the life of the image as well as waterproofing and acting as a UV protectant.

APPLICATION DIRECTIONS:

Shake the can before each use. After all ink has dried thoroughly, apply a thin coat, holding the can 4 to 8 inches from surface and using a swift motion to prevent overspray and unwanted build-up. If build-up does occur, use a lacquer thinner to remove. A second coat may be applied after approximately two minutes of drying time. Allow treated surfaces to dry for 30 minutes to one hour in a clean, dust free area before handling. Allow 24 hours cure time prior to placing coated articles into service.

Clean the valve after use by turning the can upside down and spraying a short burst until cleared. If the nozzle is clogged or sprays irregularly, check for clogging within the opening. Scrape off excess coating with a soft object and twist the valve one half turn to close.

Post Treatment Warnings and Safety Information

Use Fast T-Jet Non-Textile Post-Treatment only in a well ventilated area.

Fast T-Jet Non-Textile Post-Treatment VAPOR is HARMFUL and MAY AFFECT THE BRAIN OR central NERVOUS SYSTEM, CAUSING DIZZINESS, HEADACHE OR NAUSEA. It may CAUSE NOSE, THROAT IRRITATION and LUNG IRRITATION. OVEREXPOSURE MAY CAUSE LIVER, KIDNEY OR BLOOD DAMAGE. It may CAUSE EYE or SKIN IRRITATION. Fast T-Jet Non-Textile Post-Treatment is HARMFUL IF SWALLOWED.

Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

CAUTION: Do not puncture or incinerate (burn) container. Exposure to heat or prolonged exposure to sun may cause bursting. Do not expose to heat or store at temperatures above 120°F. Vapors may ignite explosively. Keep away from heat, sparks and flame.
VAPORS MAY CAUSE FLASH FIRE. Do not smoke while using this product. Extinguish all flames

and pilot lights and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Prevent buildup of vapors by opening all windows and doors to achieve cross ventilation. Use only with adequate ventilation. Do not breathe dust, vapors or spray mist. Ensure fresh air entry during application and drying. If you experience eye watering, headache or dizziness or if air monitoring demonstrates that vapor/mist levels are above applicable limits, wear an appropriate, properly filled respirator (NIOSH/MSHA approved) during and after application. Follow respirator manufacturer's directions for respirator use. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

KEEP OUT OF REACH OF CHILDREN
First Aid: in case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. If swallowed, get medical attention immediately. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. If spilled, contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations.

The Manufacturer shall not be liable for loss or damages whether direct, indirect, incidental or consequential, regardless of the legal theory asserted, including negligence and strict liability. Read Material Safety Data Sheet before use.

Non-Textile Printing Tips

- When brushing on any of the treatments, make sure they are applied in smooth, even and thin layers.

- Having two brushes can make the pretreatment and priming processes easier. Use one for the Non-Textile Primer and one for the Non-Textile Pretreatment.

- Cleaning the brushes when done with hot water and letting dry will prevent them from drying out and ruining the brushes.

- When printing on Non-Textile items, use a piece of film that covers the whole item and print a test print on the film to see if it is in alignment with the desired printing area.

- The maximum printable area of a Fast T-Jet Blazer Express is 17" x 47". To maximize production, you can line up multiple items to print more then one item at a time.

- If you have a Heat Press, you may dry items faster by placing them under the element, but you MUST avoid contact between the item and the heated surface.

Chapter 14

Daily, Weekly and Monthly Maintenance

Your T-Jet Blazer Series Printer should work trouble free IF you take the time to understand and perform the necessary maintenance. 95% of our Technical Support calls come from people who have not maintained their machines properly. While it may appear to be "just" an inkjet printer, it is a VERY SPECIAL inkjet printer. When printing on garments, it must print A LOT more ink than when printing on paper. This can, and will, cause excess ink to coat internal parts if the machine is not maintained on a regular basis.

Release the Print Carriage for Access

To access the printer parts that need to be cleaned on a regular basis (daily maintenance) the print carriage needs to be released and positioned away from the capping station.

- Lift the printer cover (if it is not already lifted) and locate the Carriage Release button (blue) located in front of the print carriage on the right side of the printer.
- Press down and slowly move the Print Carriage to the left until its sits in the center of the *Shirt Board*.

See the video online named ***Moving Print Carriage for Access***. Refer to ***Chapter 17 - Product Support*** for logging onto the support site to access the available videos.

Daily Maintenance

Daily maintenance is a very critical part of keeping your printer performing at its best. By not following the required daily maintenance described below you will void your warranty as well as damage the machine. Many of these items have been covered earlier in this Manual, but the following list will help you understand and prioritize the maintenance tasks that need to be completed on a regular basis.

1. Keep Your Encoder Strip Clean

A main concern of many T-Jet users is the printer getting "confused" while printing an image. An inkjet printer tells the Print Head what and where to print an image by using a thin piece of film called the Encoder Strip. A dirty Encoder Strip can cause images to print in the wrong location, large blocks of ink to spray on the garment, double-images, dark bands across the print, thin horizontal lines as well as other concerns.

While in motion, the Print Head continually receives data through this strip. Should the strip become coated with lint from shirts or ink from overspray, it can confuse the printer. Even very small amounts of

dirt can interfere with the exchange of data between the Print Head and the Encoder Strip. Manually move the carriage to the left and right throughout the cleaning process to allow you reach and clean the entire Encoder Strip.

For best results use 90% Isopropyl Alcohol pads (NOT "Rubbing Alcohol" pads) and wrap the alcohol pad around both sides of the Encoder strip. Gently move the pad in both directions. If the pad becomes black, replace pad and clean again.

Allow the Encoder Strip to AIR DRY.

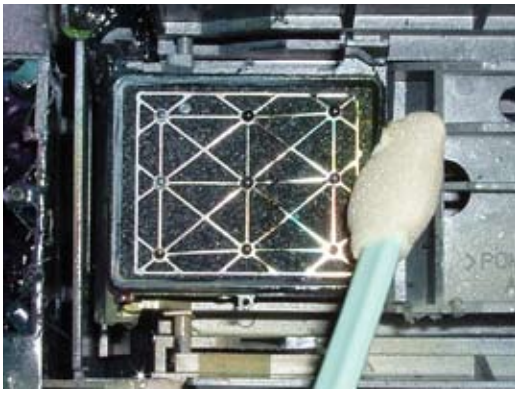
Manually return the Print Carriage back to the Capping Station to clean the rest of the Encoder Strip.

IMPORTANT POINT:

The Encoder Strip is translucent with small marks on it. Be careful NOT to scratch it or the Print Head sensor will not read it correctly. Only use FOAM TIP cleaning swabs or Isopropyl Alcohol Pads when doing any maintenance or cleaning inside your T-Jet.

2. Check and Clean the Capping Station

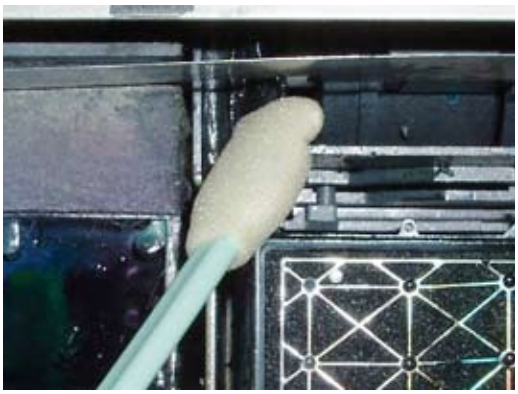
The Capping Station is the rectangular piece onto which the Print Head seats. Ensure the outer rubber seal is free from dried ink and garment fibers. Ink residue around the edge of the Capping Station may keep the Print Head from sealing properly and can cause Print Head clogs. Be aware that White ink will build up faster and thicker than regular colors. Use a foam swab along with FastINK HD Cleaning Fluid, distilled water or glass cleaner to loosen the ink residue and repeat to confirm that the seal is clean.



IMPORTANT POINT:

When cleaning the Capping Station, be careful NOT to move it out of position or the Print Head will not seat properly. If you push down on it too hard, it WILL move off of its mount causing the Print Head to not be seated.

3. Clean the Wiper Blade

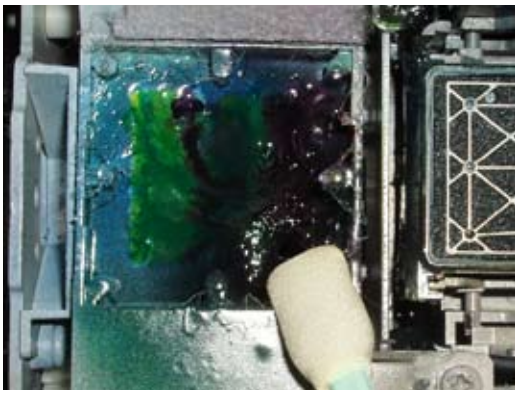


The Wiper Blade is a part of the capping station (above the capping station) that wipes off left over residue after printing large volumes of jobs. The wiper blade is an important component and needs to be kept clean in order to reduce other maintenance issues.

Using a foam tipped swab along with FastINK HD Cleaning Fluid, clean both sides of the wiper blade, making sure that there is no residue present.

NOTE: Move the clear plastic cover out of the way for access

4. Check and Clean the Spit Tray



The Spit Tray/Flushing Box assembly sits to the left of the capping station and wiper. The Spit Tray collects waste ink from Head Cleaning Cycles (etc.) very quickly. Check it regularly and clean if needed.

5. Clean the Print Head Area

After printing several jobs, ink and lint will accumulate around the Print Head area. Using a foam tipped swab along with FastINK HD Cleaning Fluid, distilled water or glass cleaner, wipe the surrounding area of the Print Head.

You may need to perform this procedure if anything should come in contact with the Print Head. Again, always check the Platen height settings to avoid the print head coming in contact with anything.

WARNING

Do NOT touch the middle part of the print head where the nozzles are. This could damage your print head. Only clean around the outside area of where the nozzles are.

6. Run Head Cleaning Cycles - Start and End of Each Day

After turning ON the machine at the start of the day, perform 1 or 2 Head Cleaning Cycles. Press and hold the Right/Clean button on the LCD control panel, for three seconds to initiate. Also, perform Head Cleaning Cycles at the end of a large shirt run as well as at the end of each day.

Another option is to setup your computer to schedule automatic Head Cleaning Cycles daily. Prevent from forgetting this important step and refer to the following chapter, *Chapter 15 - Tips and Utilities to Maximize Print Quality* for more information.

7. Ink Levels and Care

Top off the ink levels at the beginning of each shift/day to keep the levels as clos to the full line as possible. Make sure that the ink levels do not get too low. If the ink gets too low, the ink lines will run dry. When refilling the ink bottles, STOP at the top line marked on the front of the bottle. This will prevent excess pressure from building up within the cartridge, which can cause ink to drip from the Print Head. Also, do not overfill the cartridges or overflow can occur. The ink should NEVER go above the bottles 200 mL mark.

Agitate the white ink cartridges at the beginning and ending of each day. This will keep the ink in the best possible condition. For instructions on agitating the White Ink, Refer to ***Chapter 12 - Advanced Printing With White Ink - White Ink Care***.

8. Turn Off Your Printer (unless using the AutoClean Function)

Turning the printer off nightly will ensure that the print carriage is properly seated on the Capping Station. If it is not seated, ink may dry up leaving undesirable effects. This process may not be necessary if utilizing the AutoClean function in FastRIP. To learn more about the AutoClean Function, refer to ***Chapter 15 - Tips and Utilities to Maximize Print Quality***.

Turn OFF the machine at night using the red power button on the User Interface. Wait for the printer to completely power down (the Print Carriage will dock onto the capping station). It is critical that you ensure that it is properly seated. Next, turn off the main Power Switch next to the AC cord. DO NOT turn off your printer at the power strip.

Weekly Maintenance

Weekly Maintenance is also very important to practice in order to keep the best results in daily printing as well as preventing any future issues. The amount of weekly maintenance required depends on how many garments were printed that week. Follow these steps to ensure that your T-Jet continues to print the best images possible.

1. Perform a Thorough Cleaning of the Entire Capping Assembly

In addition to daily maintenance of the Capping Assembly, we recommend doing a thorough cleaning of these parts weekly. The daily cleaning is effective, but to keep maximum print quality, clean these parts thoroughly at least once a week. Parts are as follows:

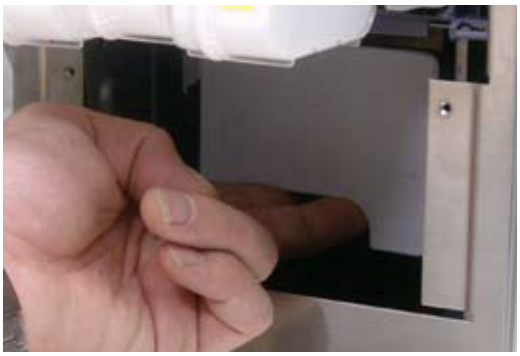
- Capping Station
- Wiper
- Spit Tray/Flush box

2. Monitor Waste Ink Tank Levels (Change if Necessary)

Always keep an eye on the Waste Ink Tank Level Indicator located on the LCD Control Panel. We recommend having a replacement Pad on hand for when it fills up. When the Waste Ink Tank is full, the LCD control panel display will read “Waste Tank Full” and you will be unable to start any more print runs (it will finish any images in progress). When full, remove the tank from the machine and change the pad.

Waste Ink Tank Level Indicator

- **Remove the Waste Tank**
  The Waste Tank is located below the bank of white ink cartridges and behind a metal face plate. Remove the two finger screws to remove the face plate.



- Next, gently slide the metal cowling free and the Waste Tank will be easily accessible. To remove the Waste Tank, slide if from its bin.

- Always r eplace the Waste Ink Tank or Pad

- **Reset the Chip**
  Next, use the Chip Reset Module to reset the Waste Tank chip. For instructions on resetting the chip, refer to ***Chapter 3 - SETUP PART 2: The Bulk Ink System - Resetting the Bulk Ink Cartridges***. The instructions for resetting a bulk ink cartridge also apply to the Waste Ink Tank.

- **Replace the Waste Tank**
  Slide the Waste Tank back into place and reattach the metal face plate.

WARNING: DO NOT reset the Waste Ink Tank chip without first replacing the pad. Practicing this correct method will leave your Waste Ink Tank monitor on the LCD accurate. Failure to change the Waste Ink Tank pads when necessary WILL cause ink to overflow from the Tank and onto critical components of your printer. In addition to having a large mess to clean up, you may short out the motherboard. This will be very costly in terms of downtime and repair expense. Damage from this type of incident is NOT covered by any warranty.

IMPORTANT POINT

U.S. Screen is not liable for any damage caused by ink to property such as carpets, flooring or furniture . Please read and understand all operating and maintenance procedures before using the Fast T-Jet Blazer Express.

3. Agitate Your Stored White Ink

As explained in ***Chapter 12 - Advanced Printing With White Ink***, the white ink requires a weekly agitation to keep the pigment suspended. For best results, shake the bottle vigorously for at least 1 minute.

Monthly Maintenance

You will need to lubricate the Bed Rails and Rail Guides on a Monthly basis to facilitate the Print Assembly moving smoothly during image output. This procedure will help prevent banding as well as several other image quality concerns.

1. Clean the Print Carriage Drive Belt Gear and Roller

During normal operating conditions, lint that is coated with Pretreatment can get caught in the Print Carriage Drive Belt Gear, located in the right rear of the housing. This lint can clog causing the belt to slip, resulting in the Print Carriage jerking around and/or not complete print jobs. We recommend checking this gear at least once a month and cleaning if necessary.

Drive Belt Roller

Drive Belt Gear

- **Release Belt**
  To clean, first release the print carriage using the blue release lever and move it to the left so it is out of the way. Next remove the drive belt from the gear side of the printer (right side). Be careful not to damage the belt in any way during cleaning. The belt is equipped with an auto tension spring and can be removed fairly easily by carefully pulling on the belt (do not twist) until you can pull it off of the gear assembly.

- **Clean Gear**
  Clean the gear using a wire brush or computer vacuum. By moving the print carriage from left to right, you will be able to clean the entire diameter of the gear. For heavy buildup, use a pick of some kind to pry away any debris that may be stuck in the gears.

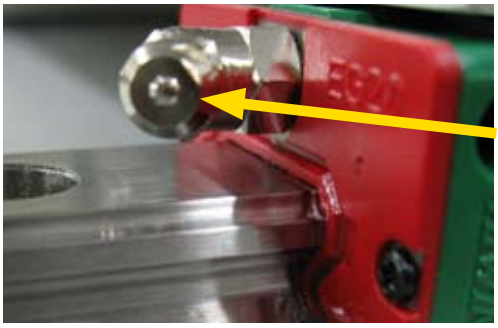
Located at the opposite end of the Printer Assembly is the Drive Belt Roller. Occasionally this component will require cleaning as well. The belt cannot be easily removed from the roller.

- **Clean Roller**
  Using an old toothbrush or something equivalent, carefully clean the roller from the inside where the belt is not touching. DO not use a utensil that may damage the roller. Move the print carriage to expose the rest of the roller.

  NOTE: While performing maintenance on any internal printer part, make sure to avoid ANY contact with the Encoder Strip. It is fragile and can easily be damaged!

2. Lubricate the Bed Rail Guides

Use a Grease Gun to inject a Lithium-based soap grease (White Grease) through the four Zerk fittings. DO NOT over-lube. Using only one “squirt” per Guide is necessary. Lubricating the two Main Rails will prevent oxidation (rust) and debris build-up, allowing the Printer Assembly to travel freely. This will help prevent registration issues that can occur in multiple pass prints.



A Grease Gun and Lithium-based grease can be purchased from most major Auto Parts stores. Connect the Grease Gun to the Zerk fitting pictured here to lube the Rail Guides. There are 2 Rail Guides per side, 4 total.

3. Lubricate the Bed Rails

To correctly lubricate the Main Rails, apply a very THIN coat of the same Lithium-based grease used for the Rail Guides. Spread the White Grease along the ENTIRE length of both Rails using a clean, lint-free cloth. DO NOT use any other lubricant, such as WD-40 or Machine Oil, or you will risk contamination of the Rail Guides.

Rail /Rail Guide- one per side (two total)

DO NOT LUBRICATE DRIVE SCREW

The Drive Screw MUST NEVER be lubricated or wiped off with a chemical solvent. This is due to a special coating that has already been placed on the Drive Screw to prevent dust buildup that could potentially hinder the fluid movement of the Printer Assembly. Treating the Drive Screw will allow dust buildup, contaminating the drive mechanism.

Drive Screw

4. Ink Cartridge Cleaning (Flush)

In order to keep the white ink flowing smoothly, a monthly cleaning of the 4 white ink cartridges is necessary. The CMYK cartridges may need cleaning every 3 months. Ink sediment will build up over time and can effect the ink flow and may cause clogs and starvation. This procedure will also keep your ink in a clean environment, which is very important for the white ink to work properly as well as the colors.

- Remove a white ink cartridge from the printer and shake (cover breather) to mix as much of the sediment as possible. Pour the ink into the stored ink bottle.
- Next, using warm water, clean out the bottle until all parts appear cleaned. Let the cartridge air dry.
- Refill the cartridge with ink and prime using the priming pump. Refer to ***Chapter 3 - Bulk Ink System*** for filling and priming steps.
- Repeat for the next cartridge.
- Perform a Head Cleaning Cycle and Nozzle Check to verify the ink is still flowing through the ink lines.
- If the Nozzle Check is far from “good” a Power Cleaning may be necessary, however, if the Nozzle Check is close, perform up to 3 more Head Cleaning Cycles.

Maintenance Schedule Checklist

Use this Checklist as a guide to ensure critical maintenance is performed on a regular basis. DO NOT SKIP A DAY, WEEK OR MONTH! The Checklist may also be downloaded from www.screenprinters.net

Daily Tasks Performed Date: / / Initials:

- ☐ Check Ink Levels
- ☐ Clean Encoder Strip
- ☐ Clean Print Head
- ☐ Clean Capping Station and Wiper
- ☐ Head Cleanings (beginning & after shift)
- ☐ Power Off at End of Day
- ☐ Agitate White Ink Cartidges (beginning & end of day)

Comments / Notes

Daily Tasks Performed Date: / / Initials:

- ☐ Check Ink Levels
- ☐ Clean Encoder Strip
- ☐ Clean Print Head
- ☐ Clean Capping Station and Wiper
- ☐ Head Cleanings (beginning & after shift)
- ☐ Power Off at End of Day
- ☐ Agitate White Ink Cartidges (beginning & end of day)

Comments / Notes

Daily Tasks Performed Date: / / Initials:

- ☐ Check Ink Levels
- ☐ Clean Encoder Strip
- ☐ Clean Print Head
- ☐ Clean Capping Station and Wiper
- ☐ Head Cleanings (beginning & after shift)
- ☐ Power Off at End of Day
- ☐ Agitate White Ink Cartidges (beginning & end of day)

Comments / Notes

Daily Tasks Performed Date: / / Initials:

- ☐ Check Ink Levels
- ☐ Clean Encoder Strip
- ☐ Clean Print Head
- ☐ Clean Capping Station and Wiper
- ☐ Head Cleanings (beginning & after shift)
- ☐ Power Off at End of Day
- ☐ Agitate White Ink Cartidges (beginning & end of day)

Comments / Notes

Daily Tasks Performed Date: / / Initials:

- ☐ Check Ink Levels
- ☐ Clean Encoder Strip
- ☐ Clean Print Head
- ☐ Clean Capping Station and Wiper
- ☐ Head Cleanings (beginning & after shift)
- ☐ Power Off at End of Day
- ☐ Agitate White Ink Cartidges (beginning & end of day)

Comments / Notes

Weekly Tasks Performed Date: / / Initials:

- ☐ Thoroughly Clean Capping Assembly
- ☐ Check Waste Ink Tank Levels - replace pad if necessary
- ☐ Shake the Stored White Ink Bottle(s)

Comments / Notes

Monthly Tasks Performed Date: / / Initials:

- ☐ Lube Rail Guides
- ☐ Lube Rails
- ☐ Clean Print Carriage Belt Gear
- ☐ Check/Clean Print Carriage Belt Roller
- ☐ White Ink Cartridge Cleaning (CMYK every 3 months)

Comments / Notes

Chapter 15

Tips and Utilities to Maximize Print Quality

This section will cover basic and “not so basic” tips and utilities to help keep your printer and your printed images the best that they can be.

Eliminating Ink Drops on Shirts

When you perform a Head Cleaning, ink is forced through the Nozzles and the Print Head is cleaned and wiped by the printer. On occasion, this may not clean away small pieces of shirt lint that collect around the base. This excess lint can create ink build up, causing ink to drip onto a garment. Using a foam tip swab, water, glass cleaner, or cleaning fluid, clean any lint and ink residue off the edges.

BE CAREFUL not to rub the bottom of the Print Head. This is where the actual Nozzles are located and they can be easily damaged.

Shake Shirts and Press to Minimize Lint

T-Shirts generate a lot of lint and it is important to minimize the amount of lint inside your machine. Get in the habit of shaking the shirt or garment before loading it. If you feel shirts you are using generate excess lint, use a Pet Hair Pickup Roller on the shirt after it is placed on the Shirt Board. You may also preheat them in a Heat Press for just a few seconds to flatten the fibers.

Protect Printer Environment - Keep Lid Closed

Due to the airborne nature of the White ink Pretreatment, you should try to pretreat shirts in a different room or far away from the machine. If pretreating in a different room is not an option, then make sure the lid on the printer is kept closed at all times, especially during the print process. Pretreatment will immediately clog the Print Head if it comes in contact with any ink. We strongly suggest creating a separate enclosed area, such as a large cardboard box at an absolute minimum. This will help keep overspray away from the Print Head and the Encoder Strip as well.

Humidity and Environmental Control

Controlling the environment in which your printer "lives" is a must! During the cold winter months, dry heat is often pumped into a room. This is not a good thing for inkjet printers! They prefer humidity levels of 40% to 60%.

If your room is dry, place a humidifier in the room and buy an inexpensive hygrometer from Radio Shack, Target, Walmart etc. to measure the humidity level. In the summer months, if the humidity is too high, use a dehumidifier. Try very hard NOT to place this machine in a dusty, dirty or non-climate controlled environment (like a Screen Printing shop or a garage). For best results, place the printer in a dust free room with air-conditioning.
In addition, DO NOT not allow fans to blow air across the Print Head. This will dry the ink and cause a clog, seriously affecting your printer's performance.

Clean Bulk Ink System Computer Chips

The small computer chips on the back of the ink cartridge can get dirty and not make good contact. If you get sporadic error messages on certain colors, clean the chips with a foam-tipped swab and Isopropyl Alcohol. A pencil eraser also works well for this task.

RAM and Your Computer

RAM is the temporary memory that your computer uses when processing complex data. RAM is NOT expensive and most computers ship with only 512mb of RAM, which is not enough, especially when using FastARTIST and FastRIP. Your computer should have at least 2 GB of RAM.

If using or upgrading to Windows Vista, you will need at least 2GB of RAM for proper operation of your printer and software.

No Windex on Clear Cover

The clear window on the top of the printer does not like Windex or other glass cleaner containing ammonia. Using this as a cleaning solution will cause the window to crack and possibly break over time. Use only a mild soap and water solution to clean this part of your printer. You may use Windex on the metallic sides and Platen, but take care not to allow ANY Overspray to land on the window area.

When in Doubt, Unplug Everything

Sometimes inkjet printers just get "confused," especially if you stop them in the middle of a run. If the printer is suddenly acting abnormally, turn everything OFF and unplug the power cord. Make sure to disconnect the USB cable between your Fast T-Jet Blazer Express and the computer to end data transmission that still may be occurring. Leave everything unplugged for a few minutes and then plug it all back in and start over.

You MUST cancel all print jobs for this to be effective or they may resume printing when you again turn ON the computer and printer.

Preparing your T-Jet for Downtime

1 to 3 Day Downtime

We recommend you schedule the ***Automatic Head Cleaning*** function every 6 to 8 hours using FastRIP. This will help prevent Print Head and Capping Station issues caused by dried ink, lack of use or a dry environment. Refer to the following section in this chapter named "***Auto Head Cleaning Function***" for more details.

4 to 9 Day Downtime

In the event your printer will ***sit for more than 1 week without use***, you MUST:

1. Complete all of the Daily Maintenance steps

2. Remove all of the bulk ink cartridges and replace them with cleaning solution cartridges.

   Perform a minimum of 2-3 Power Cleaning Utilities to flush ink from the Ink Lines. Perform as many Power Cleanings as needed until all of the Ink Lines are Clear. Then execute one more Power Cleaning to thoroughly flush the system. Refer to ***Chapter 8 - SETUP PART 6 - Initialization Utilities*** for instructions on executing the Power Cleaning Utility.

3. Make sure that the Print Head docks securely on to the Capping Station with no visible gaps.

4. Power OFF the printer from the User Interface, flip the Breaker Switch to the OFF position and unplug the printer from its AC source.

9 Days or More Downtime

If the T-Jet will sit for 9 days or more, please call our technical support department for instructions.

Additional Utilities

A typical print problem that can occur is when lines are missing in the final image. This is called banding and can happen for a variety of reasons. The most common reasons for banding are a dirty or clogged Print Head, or dirty Encoder Strip.

If your prints are unexpectedly light, or dots or lines are missing, you may need to clean the Print Head. If you allow one of the ink bottles on the bulk ink system to run dry or if your printer has been sitting for a few days without use, you will need to clean the Print Head.

In addition to the Utilities mentioned in this Chapter, refer to *Chapter 8 - SETUP PART 6: Initialization Utilities*, for instructions on performing Power Cleanings, Nozzle Checks, Leveling the Shirt Board and Shirt Board Height Adjustments. Also see *Chapter 9 - SETUP PART7: Print Head Alignment.*

Regular Head Cleaning

You can execute a regular head cleaning by simply holding down the RIGHT ARROW button on the LCD Control Panel for 3 seconds. In addition, you should always turn your printer OFF when not in use to allow it to go through a regular head cleaning cycle on start-up.

Auto Head Cleaning Function (Optional from FastRIP)

A new feature of FastRIP 9.0 is the ability to *schedule* an ***Auto Head Cleaning*** session. One of the most common problems with printing white ink is the ink's tendency to clog the Print Heads. The ink must also be agitated on a regular basis to keep its pigments from settling within the bottle. The ***Auto Head Cleaning*** function tells the printer to perform a Head Cleaning during the night, helping to prevent ink settling and head clogging leaving your ***T-Jet Blazer Series Printer*** ready to print first thing in the morning.

To utilize the Auto Head Cleaning function, you must set it up within the FastRIP interface on your computer. For the scheduled session to take place, ***DO NOT*** turn OFF your printer when you have completed your day.

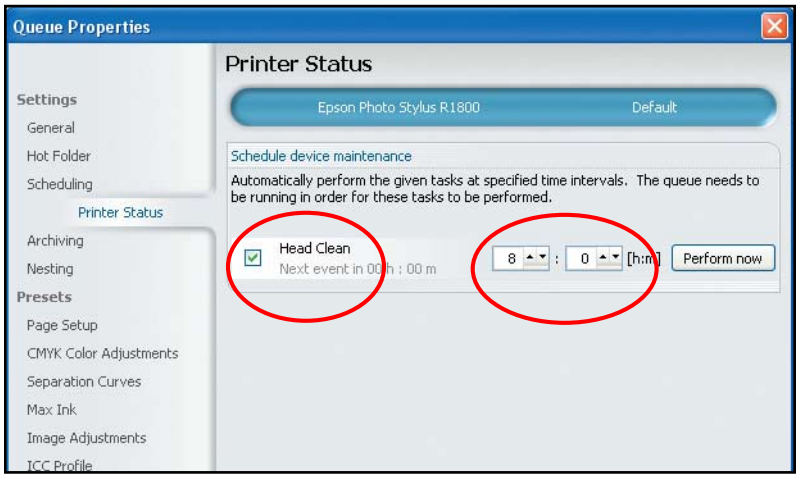
1. **Set the Printer to READY Status**

   - From PAPER OUT ROLL/CUT Mode (print status), press the LEFT/PAPER button once.

2. **Open FastRIP 9.0**

3. Setup in FastRIP

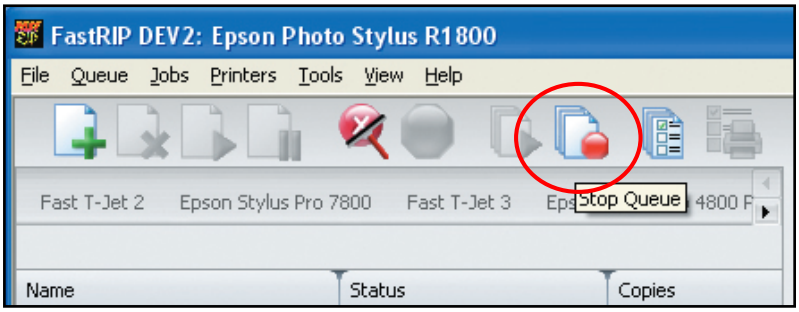
- Click on the Queue pull down menu and select properties.
- Select Printer status from the left of the Queue Properties Window.
- Put a check mark in the Head Clean check box.
- Type in 8 in the first box, representing hours. This will set the printer to run a head cleaning every 8 hours.
- Click OK.



4. Verify that the FastRIP Queue is running

The FastRIP Queue must be running in order for the Auto Head Cleaning Function to run.

- The easiest way to verify this is to make sure that the Stop Queue icon is lit up. This is the icon that looks like a stack of papers with a stop sign over it.



5. Setup Computer to Allow the Auto Head Cleaning Function

- Make sure that your computer is NOT setup to go into ***Sleep Mode***. If your computer goes into sleep mode, it will disrupt the Auto Clean process.

  To make adjustments or to check, right click on your desktop to get the ***Display Properties*** window. Next, select the ***Screen Saver*** Tab and press the ***Power*** button towards the bottom of the window. The ***Power Options Properties*** window opens and displays a list of several options. Click the ***Power Schemes*** tab at the top if it is not selected already. You can make your preferred selections below under the settings section and then click Save As to save as a custom scheme or you can click the Schemes drop-down arrow and select ***Always On***. Notice that in the settings area,

everything is set to ***Never*** be turned off except for the monitor; your monitor may still be set to turn off whenever you would like.

- Make sure you leave the printer and computer turned on and that FastRIP is open at all times.

Setting your computer to perform the Auto Head Cleaning Function does change the fact that you still need to follow all other ink care procedures and practices, such as rotating.

Print Head Replacement

In the event that the Print Head strikes a garment, Shirt Board or other object, the Print Head may need to be replaced. If you leave the printer unattended for long periods of time, a serious clog may result and the Print Head will probably need to be replaced.

Replacing the Print Head takes less than 30 minutes and there is an instructional video available online at www.screenprinters.net. You can also download an Installation Guide in PDF format for reference. Replacement Print Heads are available from U.S. Screen Print and Inkjet Technology or possibly your dealer and come with the installation guide.

If you are dependent upon your ***T-Jet Blazer Series Printer*** and cannot afford to be down for a few days, we recommend keeping a replacement Print Head in stock.

See the instructional video online on replacing a print head. ***Refer to Chapter 17 - Product Support*** for information on logging on to our support site.

Chapter 16

Troubleshooting

This chapter was written to help you find solutions for what has been considered common problems. Through years of research and development, there is still common concerns and areas that may be difficult to resolve especially with inkjet-to-garment being such a new technology. Although we have the best technical support in the industry, we recommend skimming through this chapter with any problems or concerns you may have. It is likely that the answer to your concern is located in this chapter. We have not only included the cause of the particular problem, but also ways to prevent it from happening in the future. **Note: the topics listed in this chapter are numbered in random order.** Also in this chapter is a list of popular Error Codes that may show on the LCD Control Panel. If you have any questions, doubts or concerns contact our friendly support staff.

To view videos of some popular issues, log on to www.myt-jet.com and visit the supports section for the latest videos, tutorials and top ten answers to common questions. Refer to *Chapter 17 - Product Support* for instructions on logging on to the support site and viewing videos and accessing technical documents.

Common Problems

1. Curing the Garment Makes the Print Dull

After printing an image, the color looks great, but after curing, the print looks dull.

BEFORE

AFTER

Causes:

- **The temperature is set too high on the Heat Press**
  Test the temperature using a "touchless" infrared thermometer or heat testing strip. If the temperature is too hot, it could scorch the shirts and ink leaving a dull look.
- **There is too much pressure being applied to the shirt during curing**
  When curing your shirts, make sure you do not apply too much pressure. Apply a medium amount of pressure.
- **The wrong type of paper was used**
  Make sure the paper that is used for curing is either a Teflon pad or silicone treated paper. Also, the paper will need to be replaced after several uses.

Prevention:

Get to know your Heat Press or dryer. Every make and model has its own "personality." Frequently test the output temperature to confirm that it matches your desired settings. Refer to ***Chapter 11 Printing Basics - Curing Your Garments***, for curing times and details.

2. Underbase and Color Do Not Line Up for Subsequent Images

The first printed image is great, but the Underbase and Top Color registration is off for either the second and third Shirt Board for the PRO or images on the next run for the Express.

Causes:

- **You are using a Page Size greater than the maximum printable area**
  Make sure you are using the pre-made templates within FastARTIST.
- **You have pressed the Green button(s) on the UI to early**
  The job must be spooled and read Printing in the RIP window *BEFORE* pressing the **Green** print button(s) on the User Interface.
- **The printer is in the wrong mode.**
  Make sure that you are in print status on the LCD screen. PAPER OUT/ROLL CUT MODE.
- **The "SERVICE ONLY" button has been pressed on the LCD.**
  Depress the button and restart the printer.

Solution:

You must do a complete shutdown and reboot of the printer **twice** to clear the error. Turn OFF your printer completely. Reboot and allow it to perform a complete Start-up Cycle. Completely shut down the printer a second time. After it has completed another Start-up Cycle, the error will be cleared.

Prevention:

Use the FastARTIST templates provided with your FastARTIST software package. If printing other items, pay attention to your print area versus your art size (pasteboard). Refer to Chapters 10 and 12 for more information.

Be patient. Only press the Green "send print" button when the job in the FastRIP queue reads "Printing".

3. There Are Drops of Ink on Garments

The Print Head is leaking/ dripping ink on garments.

Causes 1:

- **The Print Head is saturated with ink**
  Thoroughly clean the Capping Station. The Capping Station can become dirty with garment lint or fibers as well as dried ink. This will prevent it from adequately cleaning the Print Head.
- **Debris or shirt fibers have collected on the Print Head and Print Head Carriage**
  Gently clean the bottom of the Print Head Area to remove any debris, dried ink and fibers. Also check the Capping Station to ensure it is clean and free of debris and lint. Refer to ***Chapter 14 - Daily, Weekly and Montly Maintenance - Daily Maintenance - Cleaning the Print Head Area***.
- **Too much ink is coming through the Print Head**
  If you filled the Bulk Ink Cartridges past the *Full Line* there could be too much pressure in the bulk ink system ink lines, forcing ink out of the Print Head.

- **The Print Head may need special cleaning if not damaged.**
  Order a replacement Print Head and replace following the instructions.

Preventions:

- Clean the Capping Station on a regular basis.
- Clean debris from the Print Head daily.
- Do not overfill the Bulk Ink Cartridges.

Cause 2:
The Print Head may need special cleaning if not permanently clogged.

Solution:
Follow the instructions in Chapter 13 on releasing the print carriage. Check the print head for excess ink drops or lint. If so, with an Isopropyl Alcohol wipe, carefully, in one direction, wipe the print head using little pressure. You can easily damage the nozzle by pressing too hard. Doing this may prevent you from replacing the print head. Repeat once or twice if necessary by flipping or replacing the alcohol pad.

Prevention:

- Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a section.

Cause 3:
The Print Head has been damaged by a collision.

Solution: Order a replacement Print Head and replace following the instructions.

View the video online covering the steps in replacing a print head. Refer to *Chapter 17 - Product Support* for instructions on logging on to the support site and viewing videos and accessing technical documents.

Prevention: Always check the Platen to Print Head Clearance prior to printing.

4. The Print is Wiping Off, Washing Out, or Fading/Bleeding

The printed image, after curing, is wiping off, washing out, fading badly or bleeding.

Causes:

- **The garment was improperly cured**
  Textile ink requires a temperature of 330 degrees F. to cure properly. Apply this heat for at least 60-90 seconds for Light garments and for at least 180-240 seconds for Dark garments.
- **Too much or too little pressure was applied using a Heat Press**
  When pressing the garment, the Heat Press should rest on the silicone or Teflon paper with medium to heavy pressure. This allows the moisture within the inks to escape and properly cure without scorching the shirt.

- **The temperature of the Heat Press was not correct**
  Make sure the Heat Press is heating up evenly and reaching the correct temperature of 330º F. You can test this with a touch-less infrared thermometer or heat testing strip.
- **Too much Pretreatment was applied**
  Avoid soaking the garment with Pretreatment. Do not print on shirts where the Pretreatment may still be wet.
- **An insufficient amount of Pretreatment may have been applied**
  Apply more Pretreatment on successive shirts and cure again.
- **An incorrect type of fabric was used for printing**
  For best results print onto 100% cotton. For 50/50 blends of cotton and polyester, the ink needs to be cured quickly to reduce possible bleeding. FastINK Textile Ink will NOT work on most synthetic materials such as waterproof Nylon.
- **The garment was washed improperly**
  Wash in cold water and dry on a delicate dryer setting.

Preventions:

- Make sure your Heat Press is heating up evenly and reaching the correct temperature.
- Pretreat evenly and away from the printer.
- Cure Pretreatment properly. Refer to ***Chapter 11 - Printing Basics*** for curing times and details.

5. Colors Don't Look Correct

Printed colors appear different from what you see on the computer monitor prior to printing.

Causes:

- **Your nozzles could be clogged.**
  - ► Perform a Nozzle Check on a piece of clear film.
  - ► Clean the Capping Station.
  - ► Run a Head Cleaning and a Nozzle Check in succession.
  - ► Use cleaning cartridges and run several Head Cleaning Cycles consecutively to see improvement. DO NOT perform a Nozzle Check with cleaning cartridges.
- **The image has an attached ICC Profile**
  FastARTIST uses its own ICC Profile- make sure you do not apply one from your preferred graphics program. Refer to your graphics application's User's Manual on ICC profiles.
- **You have an ICC profile checked in CorelDRAW**
  Go to File > Print and select the ***Misc.*** Tab. Deselect the ***Apply ICC Profile*** check box.
- **The Capping Station has build-up of ink**
  Clean the Capping Station regularly.
- **Your imported image is not RGB or has multiple layers**
  Convert the art to RGB and flatten the image.

Preventions:

- Usually when a color prints with an incorrect hue, it is because a Nozzle is clogged. If you are trying to print an **Orange** image but it appears more **Yellow**, that means the **Magenta** is clogged and the pigments can't mix to produce **Orange**.
- One of the most important parts of your ***Blazer Series Printer*** is the Capping Station. Make sure this ALWAYS stays clean. The Print Head "docks" here when not in use to ensure it does not dry out. The Capping Station is also used during Head Cleaning cycles. If the Capping Station is dirty, the printer cannot do a proper Head Cleaning and fix a clogged nozzle.

Note: When building any image inside any software program, make sure you always use RGB color mode because this is how your monitor displays colors. Never apply an ICC profile.

6. Print Has Large Gaps or Unaligned Areas

Prints are out of alignment or have large gaps.

Causes:

- **Different Print Modes are being used**
  Double-check your settings in the FastRIP Setup screen and make sure all Print Modes are of the same type. If using an HS Print Mode for the color then the same Mode must be used for the Underbase (i.e. *CMYK Photo 720 HS* Print Mode along with *Underbase Photo 1440 HS*).
- **The Encoder Strip is dirty**
  Clean the Encoder Strip.
- **If using an Underbase and/or Underbase Wizard, the black and white versions of images may be different sizes.**
  Double check the images' heights and widths to make sure they are identical. This process is outlined in the FastARTIST User's Manual.
- **The Print Carriage is jumping around causing a misread of the Encoder Strip.**
  Clean the Drive Belt Gear/Roller.
- **There is a communication error between your printer and your computer.**
  - ► Make sure you don't have any jobs in the FastRIP Queue or Windows Print Manager. If you do, delete them. Power down your printer, unplug the power cord and leave it unplugged for about 30 seconds. Power back ON and try again.
  - ► Make sure you are using the correct port. Open FastRIP and select *Printers/Manage Printers*. The Epson Stylus port *Control Panel* box has must be checked.
  - ► You may also be using insufficient or incorrect cables. We highly recommend using a USB cable for the best connection such as the one included with your printer. DO NOT use a long cable, switch boxes, hubs or even wireless USB connections.

Preventions:

- Double check the settings in FastRIP prior to sending a *Print* command.
- Clean the Encoder Strip more often.
- Always make sure images are the same size when using the Underbase Wizard in FastARTIST.
- Test the communication between the computer and printer.

7. Fonts Are Not Printing Correctly

Fonts are not printing in the correct font, size or not printing at all.

Cause:
Sometimes fonts, especially script fonts, may not print correctly or at all.
This tends to happen when using Vector Programs. The printer driver may not download or recognize the font. To fix this, change the font to a graphic image. Depending on the graphics program, it may be called ***Convert to Curves***, ***Create Outlines or Rasterize Type***. You may also need to do this if you are printing vector fonts along with a bitmap image.

Solution: Try importing or printing a different file to see if the problem continues.

8. The Printer Stops in the Middle of a Print Job

The printer stops in the middle of a print routine and stops communicating with the computer.

Causes:

- **Print drivers may need to be re-installed.**
  Print drivers are prone to occasional communication problems with the *Windows XP* operating system. The only solution is to re-install the driver.
- **Too many USB items may be connected to your computer.**
  The USB bus on your computer has a limited amount of power and can be "overloaded". If you have any additional items connected to your USB ports other than your FastARTIST/RIP dongle, mouse and printer, unplug them.
- **The image file may be corrupt.**
  The file being printed may be corrupt. Try another file.
- **The USB cable may be too long.**
  Your USB cable should not be MORE than six feet in length. The longer the cable is, the harder it is for the computer to communicate with the printer.
- **The Kill Switch has been activated (PRO only).**
  If the printer sits too far on either end of the bed rail, the kill switch is engaged. This could happen from a wrong page size or printer mode. Manually push the printer assembly towards the center of the span of the machine about 4 inches. Power back on.

Preventions:

- Keep it simple. Do not overload the printer port.
- When in doubt first try turning everything off and unplugging things such as the USB cable from the computer to the printer.
- Pay close attention to page sizes and LCD display modes.

9. When Printing with White, No Ink Prints/No Underbase Settings Available

Cause and Solution:
You do not have the correct printer selected in FastRIP.
Open FastRIP and navigate to *Printers/Manage Printers* and make sure your printer is setup as the correct model printer. FastRIP needs to know that your are printing to a T-Jet and the corresponding model in order to print White ink.

10. After Sending a Print, Nothing Happens

When you send a print job to the printer nothing happens.

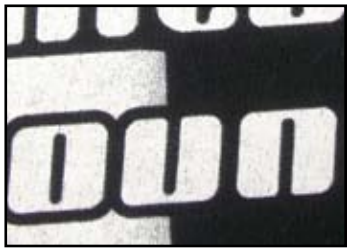
Causes:

- **The computer is not communicating with the printer.**
  Check the port settings in FastRIP. In the FastRIP window go to *Printers>Manage Printers*. The port should be set to *Epson stylus pro 4800_usb00* or 488-_usb00**. Check the *Control Panel* box on the right. Make sure there are no other jobs already in the print queue.
- **The printer is not ready to print the job.**

Solutions:

- Check to see if any of the ink cartridges are showing empty.
- The Waste Tank may be full. Check the LCD Display.
- You many not be in *Print* status. Refer to ***Chapter 8 - Initialization Utilities***.

11. The Underbase White is Weak



The color of the shirt is showing through the Underbase or the underbase is weak.

Cause 1:
There is not enough Pretreatment applied to the shirt.

Solutions:

- Use a good spray gun such as the Wagner Control Sprayer to lay down an even coat of Pretreatment or invest in an AutoTREAT Pretreatment Center.

- If the white ink is uneven, be sure to pretreat the entire printable area evenly.
- Use 100% Pretreatment. Try not diluting it with water to see if prints improve.

Preventions:

- Practice is the only way to master the art of pretreating a shirt. Eventually you will develop your own style for applying Pretreatment.

Cause 2:
The Underbase settings in FastARTIST are not strong enough or not set up correctly.

Solution: Check your Underbase settings and compare them to the default settings listed in Chapter 9 of the FastARTIST Manual. Keep in mind, every image will vary; we can only suggest a starting point.

Cause 3:
The White Nozzles are clogged.

Solutions:

- Perform Head Cleanings and Nozzle Checks until the problem is resolved.
- Use a cleaning cartridge and run Head Cleaning Cycles until the problem is resolved.
- If the two previous steps did not resolve the problem, Perform a Power Cleaning with the cleaning cartridges still installed.

Prevention: Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a day, a week or a month. Use the Maintenance Tracking Schedule provided.

If your printer will experience down time, refer to ***Chapter 15 - Tips and Utilities to Maximize Print Quality*** for instructions that will prevent ink clogs etc.

Cause 4:
The Print Head may need special cleaning if not permanently clogged.

Solution: The following may prevent you from replacing the clogged print head. Follow the instructions in Chapter 13 on releasing the print carriage. Check the print head for excess ink drops or lint. If the print head is visibly dirty, with an Isopropyl Alcohol wipe, carefully, in one direction, wipe the print head using little pressure. You can easily damage the nozzles by pressing too hard. Repeat once or twice if necessary by flipping or replacing the alcohol pad.

Prevention: Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a section.

Cause 5:
Your Print Head is Permanently Clogged or Damaged.
The Print Head is a sensitive and expensive piece of equipment and requires regular maintenance and care.

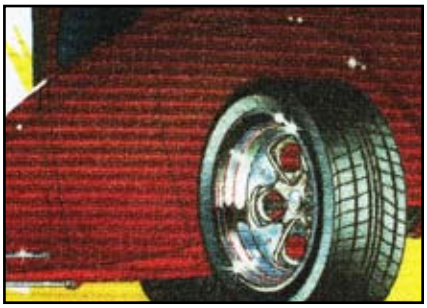
Solution: Replace the Print Head. In the event that you find your Print Head permanently clogged or damaged, follow the instructions on replacing the print head included with a Print Head purchase.

View the video online covering the steps in replacing a print head. Refer to *Chapter 17 - Product Support* for instructions on logging on to the support site and viewing videos and accessing technical documents.

Preventions:

- Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a day, a week or a month. Use the Maintenance Tracking Schedule provided.
- Always check the Platen to Print Head Clearance prior to printing.
- If your printer will experience down time, refer to ***Chapter 15 - Tips and Utilities to Maximize Print Quality*** for instructions that will prevent ink clogs etc.

12. The Print Has Horizontal Banding



There is horizontal banding across the print (in one or all colors).

Cause 1:

- **Ink in the Nozzle(s) has dried out.**
  There are a number of reasons why the ink nozzles can dry out from not performing the required maintenance, ignoring maintenance requirements for down time as well as ink drying out or bubbling in the lines from lack of ink.

Solutions:

- Perform Head Cleaning Cycles and Nozzle Checks until the problem is resolved.
- Use a cleaning cartridge and run Head Cleaning Cycles until the problem is resolved.
- If the two previous steps did not resolve the problem, Perform a Power Cleaning with the cleaning cartridges still installed.

Cause 2:
The Capping Station is not cleaning the Print Head.
If the Capping Station is dirty, it will just add more debris to the Print Head, causing it to become clogged.

Solution: Thoroughly clean the Capping Station. It can be cleaned with swabs included in the maintenance kit and a glass cleaner like Windex. Be sure to clean the rubber seal around the Capping Station as well as the rubber wiper blade.

Cause 4:
The Print Head may need special cleaning if not permanently clogged.

Solution: The following may prevent you from replacing the clogged print head. Follow the instructions in Chapter 13 on releasing the print carriage. Check the print head for excess ink drops or lint. If the print head is visibly dirty, with an Isopropyl Alcohol wipe, carefully, in one direction, wipe the print head using little pressure. You can easily damage the nozzles by pressing too hard. Repeat once or twice if necessary by flipping or replacing the alcohol pad.

Prevention:
Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a section.

Cause 5:
Your Print Head is Permanently Clogged or Damaged.
The Print Head is a sensitive and expensive piece of equipment and requires regular maintenance and care.

Solution: Replace the Print Head. In the event that you find your Print Head permanently clogged or damaged, follow the instructions on replacing the print head included with a Print Head purchase.

View the video online covering the steps in replacing a print head. Refer to *Chapter 17 - Product Support* for instructions on logging on to the support site and viewing videos and accessing technical documents.

Preventions:

- Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a day, a week or a month. Use the Maintenance Tracking Schedule provided.
- Always check the Platen to Print Head Clearance prior to printing.
- If your printer will experience down time, refer to ***Chapter 15 - Tips and Utilities to Maximize Print Quality*** for instructions that will prevent ink clogs etc.

13. Files Take a Long Time to Print in Corel Draw

Causes/Solutions 1:

- **Printing from CorelDRAW is causing large spool files.**
  Printing from any version of CorelDRAW can create extremely large spool files. This happens when one or more copies of a file are sent to the printer while you are trying to print a number of images that require a second pass. It can also happen if bitmap images are placed in the document. If the spool files are larger than your physical memory, the file may not print or may take a long time processing. Ways to reduce this include exporting the file in a JPEG format, then bringing the file back into CorelDRAW using the *Import* function. If the bitmap was created with a high resolution, try lowering the resolution to around 200 DPI. Save this file and Import it back into CorelDRAW. Try to print from a different program like Adobe Photoshop or Adobe Illustrator. These graphic programs do not create as large spool files as Corel Draw.

- **File resolution is too high.**
  A resolution of 150 to 300 DPI (at the final print size) is all that is necessary for inkjet-to-garment printing. If you receive a larger file resolution, resample the file to a lower resolution. Doing this will speed up ripping and printing times.

Prevention 1:
Keep file sizes small, if possible, and don't send too many print commands at once.

Cause/Solution 2:
Respooling files over and over wastes time
Use the "archive job file" feature in FastRIP. This will allow you to save spooled files for later printing and prevent wasted time re-spooling. This feature is also perfect for repeat orders. Refer to ***Chapter 11 - Printing Basics - Saving a Spooled Print File*** for procedures.

14. Printing Large Bands of Color/Vertical Lines/Partial Images

The printer is printing large bands of color, vertical colored lines or printing partial images.

Cause 1:
You have a dirty Encoder Strip or Encoder Sensor
The Encoder Strip is the heart of the machine and behind the Print Head lies an Encoder Strip Sensor. The Encoder Strip has information on it that the Encoder Strip Sensor reads as the Print Head moves back and forth. If there is ANY contamination, Pretreatment, dirt, ink or debris on the Encoder Strip or on the Encoder Strip Sensor, the printer will be VERY CONFUSED. This is the #1 cause of abnormal printing problems. Clean the Encoder Strip with Glass Cleaner.

Solution 1:
Clean the Encoder Strip

Cause 2:
The Gear for the Print Carriage Drive Belt may be filled with lint and slipping.

Solution 2: Clean the Drive Belt Gear and Roller

Preventions:

- Refer to ***Chapter 14 - Daily, Weekly and Monthly Maintenance***. Do not skip a day, a week or a month. Use the Maintenance Tracking Schedule provided.
- Keep the printing area clean, the machine lid closed and pretreat shirts away from the printer.
- Shake shirts before you print onto them to remove excess lint that may get on the Encoder Strip.

- When printing a large volume run, clean the Encoder Strip often to prevent communication errors from ruining shirts during a printing cycle.

15. White Underbase Box Over Entire Image

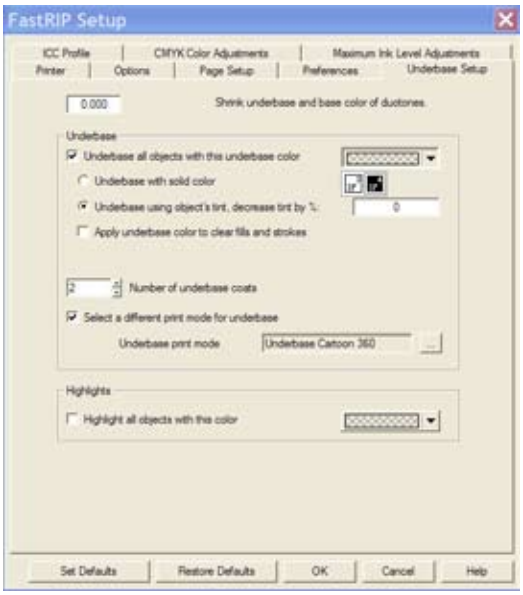
When you print a White Underbase you get a White box over the entire image.

Cause:
Check your Underbase setup within FastARTIST.
Within FastARTIST go to *File > FastRIP Setup > Underbase Setup* tab.

Solution 1: Make sure the top checkbox that says *Underbase All Items with this Underbase Color* is **checked**. Make sure the bottom check box that says *Highlight All Objects with This Color* is **NOT** checked.

Solution 2: Make sure to view the image in FastRIP's *View Raw Data* window to see if it looks correct BEFORE printing.

Please note: If you choose a 1440 DPI White Print Mode you will not have the View Raw Data option.



16. Poor Print Quality When Printing Bitmaps

The quality of the printed output is unacceptable when printing bitmap images. The images seem soft and are not clean and sharp.

Cause:
The resolution of the image is too low.
Resolution at 72 DPI is for viewing the image on a computer monitor only. Images intended for printing need to be between 150 and 300 DPI to maintain a clean and sharp image. You can try upsampling the image to a larger resolution, but the image will still be "soft" when printed.

17. Print Head Moves, But Doesn't Print

When sending a print command, the Print Head moves like it is printing but no ink is dispensed

Causes:

- **Ink is not flowing from the Bulk System.**
  Make sure that the breather hole in the cap of each ink cartridge has not become clogged or closed. The cartridges need to breathe as ink flows through the lines. Refer to ***Chapter 12- Advanced Printing With White*** for proper steps.

- **The Capping Station is Clogged.**
  The Capping Station may need cleaning. If the Print Head did not seat properly, ALL of the nozzles could be clogged.

- **The Ribbon Cable to the Print Head is damaged.**
  If you accidentally splash/drip ink or cleaning fluid on the gray ribbon cable that connects to the Print Head, it can short out. Check for burn marks on the ribbon cable connectors. Check to make sure it hasn't been crimped or pinched.
- **The Motherboard is bad.**
  There is a chance the motherboard is bad. Under serious conditions the ink or cleaning fluid may have run down the ribbon cable, dripping into the print bed, coming in contact with the motherboard. This can short out the motherboard. Call Tech Support.

18. Wrong Print Location

The image is printing outside of the Shirt Board or in the wrong location.

Cause:

- **You have a mismatch in the software settings.**
  Make sure your working *Page Size* matches the final print page size. A common error is working on one *Page Size* in a graphics program but printing to a different *Page Size* in FastRIP.

19. Problems Modifying The Factory Default Printer Settings:

Modifying Factory Default printer settings.

Causes:

- The printer's default settings have been configured by U.S. Screen prior to shipping, however, here is a list of the Printer Setup Menu Modes. **DO NOT deviate from these settings.**

Cut Adj-	EXEC
Time Out-	OFF
PAPER ALGN-	OFF
PPR Margin-	Default

Platen Gap-	STD
INIT Settings-	EXEC
Auto Cleaning-	OFF
Auto NZL CK-	OFF
Sheet Size CK-	OFF

Code Page-	PC437
INTERFACE-	Auto
Page Line-	OFF
Refresh MRGN-	OFF

If you find an incorrect setting, you MUST contact Customer Support BEFORE making any changes.

20. I Only Print on Weekends and the Nozzles are Always Clogged:

I only use my printer on weekends and many times when I go to use it, the nozzles are clogged.

Cause:
Ink is drying within the Print Head due to lack of use.

If you are NOT using your printer on a regular basis, the ink may partially dry within the Print Head, causing a clog.

Solution 1: We have found the best solution to this issue is to turn your printer ON everyday, even if you don't intend to print anything. When the printer is turned ON, it primes the Print Head during startup. This process is sufficient to prevent head clogs if done regularly. You DO NOT have to do a Head Cleaning unless you want to. After your printer has gone through its startup procedures, turn it OFF to ensure the Print Head seats within the Capping Station.

Solution 2: Use the Auto Head Clean Function. This function allows the printer to perform a Head Cleaning Cycle automatically. Refer to ***Chapter 15 - Tips and Utilities to Maximize Print Quality*** for directions

Solution 3: Purchase a second Bulk Ink System and reserve it for HD Cleaning fluid. Switch the Ink System out at the end of the shift (week) and run 2-3 Power Cleaning Cycles to clear the ink out of the lines and Print Head. At the beginning of the next shift, swap the ink system back and run 1 - 2 Power Cleaning Cycles to get the ink flowing again for production.

Solution 4: Refer to ***Chapter 15 - Tips and Utilities to Maximize Print Quality*** for instructions on preparing your T-Jet for Downtime.

21. Vector Images Print Wrong Colors

When printing vector graphics, the printed colors do not match the previews in my graphics application.

Cause:

- **FastRIP is a bitmap based image processor.**
  When rasterizing a vector image, FastRIP™ must convert vector graphics into bitmapped graphics. The translation of color profiles are not always exact, resulting in a difference in output.

Prevention: For consistent color reproduction, save your image as a high quality JPEG and send this image to the RIP for printing.

22. The Shirt Board is Far from Being Level

If a Shirt Board is too far from being level and the screws at the bottom of the Shirt Board cannot be adjusted to make up the difference try using a shim underneath the X part of the Shirt Board. This can correct any problems in the leveling procedure. NOTE: If you use shims on a particular corner and need to switch to another Shirt Board, mark down where you put the shims so that when the next time you need to use that particular Shirt Board, you may not have to re-measure.

LCD Error Warnings and Codes

The following section of this Troubleshooting chapter will cover popular Error Messages and codes that may appear in the LCD Display and ways to correct them. For a complete list of Error Codes, visit our support site. Refer to ***Chapter 17 -Product Support*** for information on accessing these files. The topics listed are in random order.

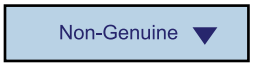
NOTE: Each Error Code will be displayed as "SRVC REQD 000***- error code name -*** In most cases, after completing the correction, you must perform a complete shutdown of the T-Jet in order to resume printing.

Error: NON-GENUINE EPSON CARTRIDGE

The LCD display screen reads "Non Genuine Epson Cartridge" and will not let me print after installing ink cartridge.

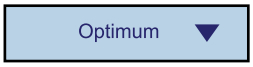
Cause:
The printer does not recognize the ink cartridges.
The ink system installed is a continuous flow system and each cartridge has been equipped with a new smart chip. After installing the cartridge, you may get this message.

Solution: Follow these steps.

1. Press down arrow button 

2. Press down arrow button 

3. Press down arrow button 

4. Press down arrow button 

5. Press down arrow button 

6. Press left arrow button for Yes 

7. Press down arrow button 

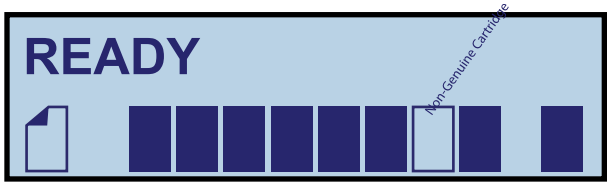
8. Press down arrow button 

9. Press down arrow button 

10. Press down arrow button 

11. Press left arrow button to Accept 

After accepting the Epson LCD screen will go back to the ink levels menu. The ink cartridge that was reset with the non-genuine instructions will have a different icon then the other ink cartridges. The non-genuine ink cartridge will have an icon of an empty box.



Error Code: 10000

The fuse is blown (Express model) causing the print bed to sit on the index sensor.

Solution: You will need to replace the 5 amp fuse on the DC Motor Control Board. Follow the instructions below.

Error Code 10000 Solution for the Blazer Express:

Replacing the DC Motor Control Board Fuse

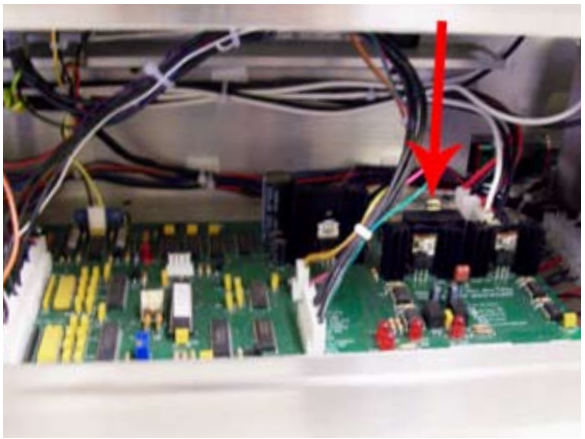
What you will need

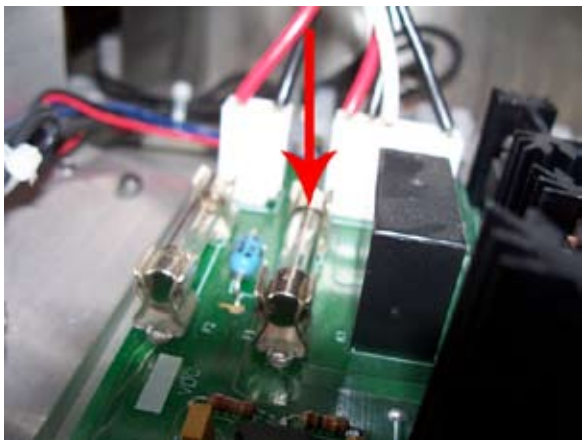
- 4 mm Allen Wrench
- Phillips Screwdriver
- 5 amp fuse (supplied with printer)

1. Remove the 6 screws on the left side access panel.

Caution: The side panel is not secured without the screws in place. The panel will fall if not supported.

2. Locate the 5 amp fuse on the DC Motor Control Board.





In most cases, you can visibly determine if the fuse is bad. This may require removing it first.

3. Replace the fuse. Be sure the clips are pressed securely around the fuse after replacement.

4. Put the side panel back on.
Note: It is a good idea to put all the screws in place before tightening.

If you have questions, or your problem persists after completing these instructions, please call Technical Support at 888-698-5387 or send an e-mail to support@usscreen.com. Remember to include your serial number and repair record(s) when emailing or have them ready when calling.

Error Code: 10001

Cause 1: The printer has been shutdown improperly.

Solution:

- Perform a "correct" and complete shutdown and startup cycle. Refer to Chapters 4 and 5 for proper startup and shutdown steps.
- During start-up, watch the Epson Panel - in the start-up procedure, the panel will read "PLEASE WAIT" and should have the ROLL and SCISSORS icons present. If not present, when the Display reads "PRESS PAUSE BUTTON", press the left arrow button until the display has the ROLL and SCISSORS icons present. This will clear the Error.

Cause 2: The Print Bed is binding.

You can check both the Blazer EXPRESS and PRO for binding issues. A binding issue will interrupt the printers communication with it's sensor resulting in this error.

To check for a binding issue, while still in the error mode, gently press the printer unit approximately ¼ inch towards it's index position (to the front for the PRO and to the back for the Express). This will manually force the printer to communicate with the sensor. If the printer resumes normal printing functions there is a binding issue. Follow the steps below. If no binding issue is detected, call our support department.

Solutions:
EXPRESS: Adjust the Main Belt tension. Follow the instructions beginning on the following page.
PRO: Adjust the Lead Screw Bracket. Follow the instructions in the next section following the Blazer Express instructions.

Binding Solution for the Express:

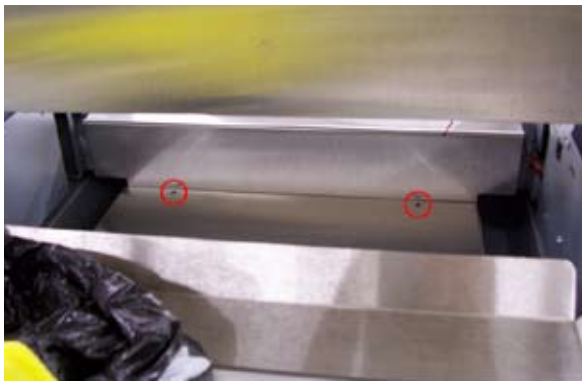
Adjusting the Main Belt Tension

The following describes the procedure for adjusting the main belt tension of the Blazer Express drive assembly. Binding can result if the belt is too tight. The red circles in the photos indicate screw locations.

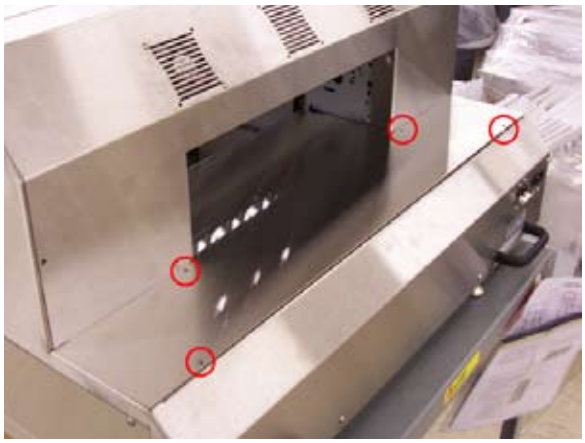
Tools needed:

4 mm Allen Wrench
5 mm Allen Wrench

1. Using the 4 mm Allen Wrench, unscrew the two screws holding the front plate to the upper back plate.

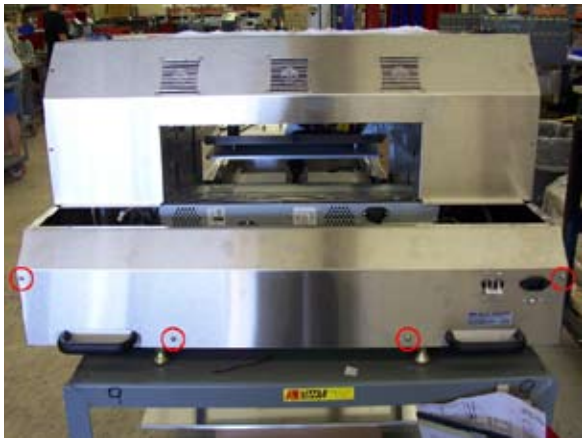


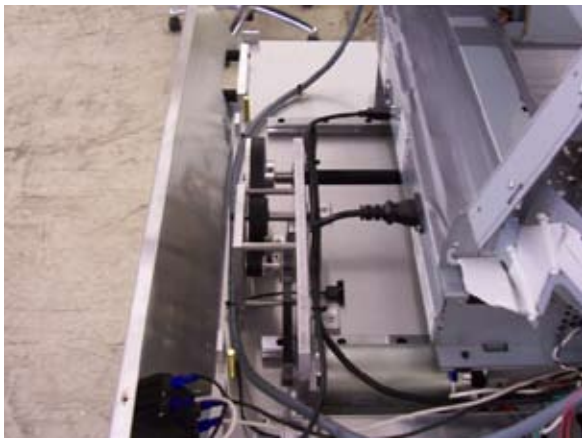
2. Next remove the four screws holding in the upper back plate.



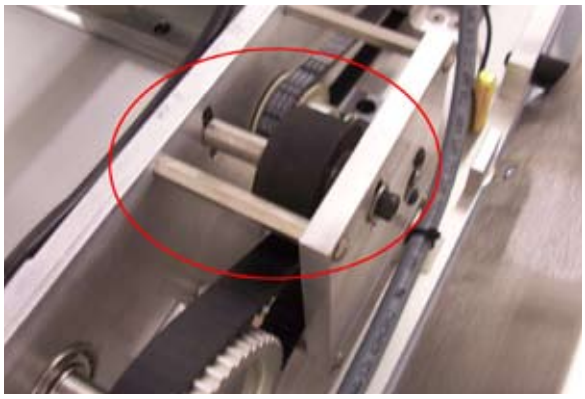
3. Pull out the upper back plate.

4. Remove the four screws on the back plate.





5. Lean the back plate back. Be careful not to unplug or damage any of the wiring to the breaker switch.



6. The Belt Tension Roller is mounted on a shaft with two screws on either end. Using the 5 mm Allen Wrench, loosen the screws slightly.

7. Push down on the belt going to the large gear to test the tension. Raise the roller 1/16" and test the tension again. If the tension has loosened perceptibly, tighten the roller shaft screws.

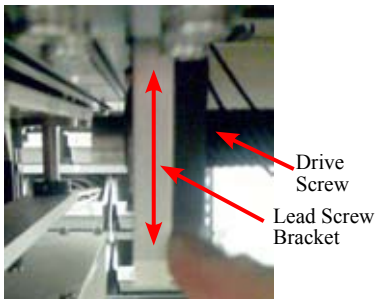
Pull up on the belt to make sure it does not pull away from the gear. If it does, you will need to tighten the roller down again.

(Note: Be sure that the roller shaft is as evenly horizontal as possible. If it is skewed, it can cause uneven wearing and drive noise.)

8. Follow Steps 1-4 in reverse order to reinstall the panels. Note that there is a lip where the upper back plate connects to the front plate. You will need to angle the front plate and slide the upper back plate underneath.

Binding Solution for the PRO:

Adjusting the Lead Screw Bracket



The Lead Screw Bracket (or front Drive Screw Mount) should be vertical, not at an angle.

1. If the Lead Screw Bracket is only slightly angled, gently tap it to straighten. Doing this can eliminate binding issues. If this did not help the level of the Lead Screw Bracket, continue on with step 2.

2. In the event that the block is severely angled, remove the 3 hex screws that secure it in place.
3. Pull the Drive Screw downward to facilitate removing the block. Put the block back on the drive, checking for true verticality.
4. Reattach the block using the 3 hex screws, but only tighten to "finger tight."
5. Move the Print Assembly forward until it sits about 5" from the Limit Switch. This will ensure the Drive Screw is level and in the correct position.
6. Tighten the 3 screws and send the printer back to *Home* position. Set the passes to 2 or more and press the 2 Green buttons on the User Interface.
7. Make sure the printer goes forward and back without binding.

If you have questions, or your problem persists after completing these instructions, please call Technical Support at 888-698-5387 or send an e-mail to support@usscreen.com. Remember to include your serial number and repair record(s) when emailing or have them ready when calling.

Error Code: 10004

The Encoder Strip is not being read properly.

Solution 1: Clean the Encoder Strip. Refer to ***Chapter 15 - Daily, Weekly and Montly Maintenance***.
Prevention 1: Follow Daily Maintenance Routines

Solution 2: Make sure the Encoder Strip is seated properly in the sensor. The sensor is located in the center of the Encoder Strip. If it's crooked or is not securely in place, GENTLY position it back into place.
Prevention 2: Be extra careful of the Encoder Strip when performing any maintenance routines.

Error Code: 1001D

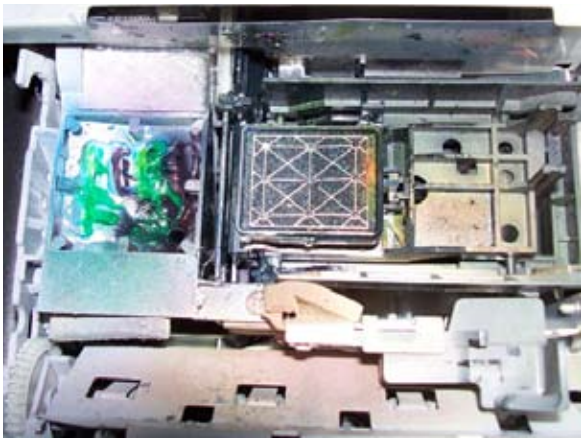
Print Carriage Obstruction. Something is preventing the Print Carriage from moving correctly.

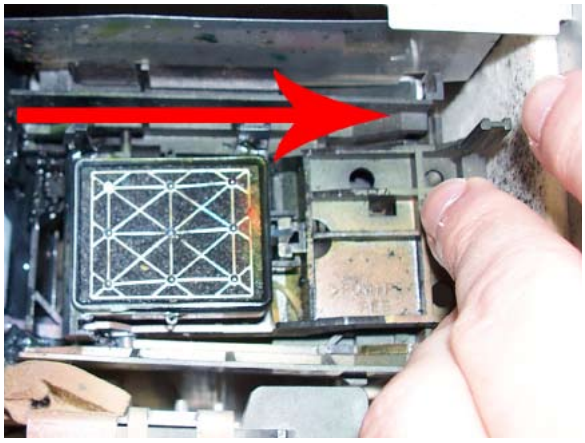
Solution:

A 1001D error code typically denotes an obstruction of carriage movement. The two most common causes are the capping pad and the carriage home sensor.

Capping Pad

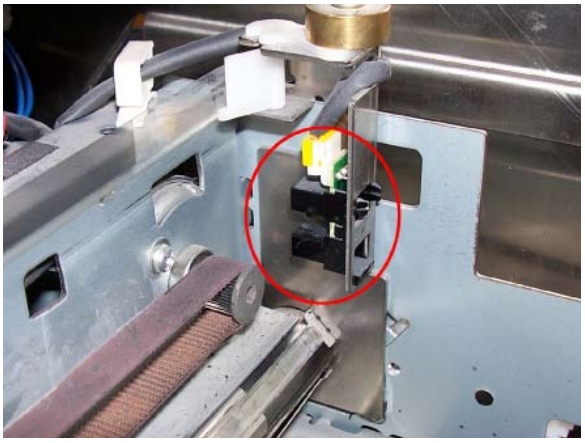
The capping pad should freely move to the right, however, dried ink can build up in the rails that guide the pad. If the pad is having difficulty moving, it will obstruct the carriage movement. Use WD40 or a cleaner to clean the rails that the pad slides on.

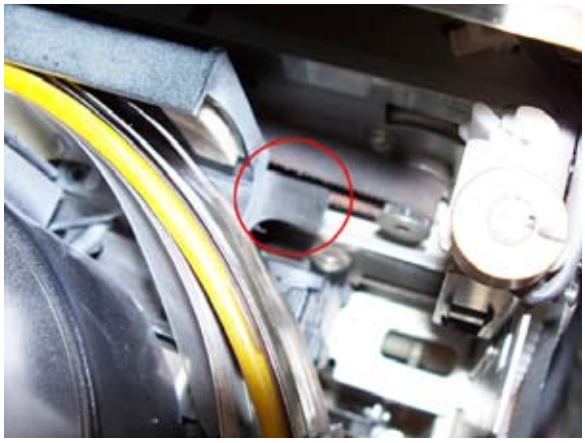




Carriage Home Sensor

There is a sensor on the frame of the printer that tells the carriage when it has arrived at the home position.





If the sensor, or the sensor tab are dirty, this can cause the sensor to misread. Clean the sensor tab and the sensor with an alcohol pad.

If you have questions, or your problem persists after completing these instructions, please call Technical Support at 888-698-5387 or send an e-mail to support@usscreen.com. Remember to include your serial number and repair record(s) when emailing or have them ready when calling.

Error Code: 1001E Blazer Express

Cause 1:
The Height Sensor has been tripped too many times.

Solution: Lower the Shirt Board (Increase the Platen to Head Clearance).
Prevention: Pay attention to the MINIMUM clearance of 3mm between the Print Head and Shirt Board (Platen).

Cause 2:
The Page Size is too big.

Solution: Decrease the Page Size to a maximum of 17" x 30"
Prevention: Practice working in FastARTIST using the supplied Art Layout Templates. See ***Chapter 11 - Printing Basics*** as well as the Art Layout Chapter in your FastARTIST User's Manual.

Error Code: 1001E Blazer PRO

The Page Size is too big.

Solution: Decrease the Page Size to a maximum of 17" x 45"
Prevention: Practice working in FastARTIST using the supplied Art Layout Templates. See ***Chapter 10 - Printing Basics*** as well as the Art Layout Chapter in your FastARTIST User's Manual.

Error Code: 10031

The printer is not in the correct print mode

Solution: If performing maintenance such as a Nozzle Check, make sure you follow the directions in this manual when changing and switching print modes. Refer to ***Chapter 8 - SETUP PART 6: Initialization Utilities***.

Error: TOP COVER OPEN

The Height Sensor has been tripped too many times.

Solutions:

- Lower the Shirt Board (Increase the Platen to Head Clearance)

Error: RELOAD PAPER

The Epson settings on the main circuit board have been changed or reset.

The point in which you get the SERVICE ERROR should be right after the machine has finished the start up process and returned to Home Position. At this point the LCD screen will read SERVICE ERROR "RELOAD PAPER".

The following steps cover how to clear the error and correct it so that it does not happen again.

1. First, power down the Blazer unit and make sure the power switch located at the back of the machine is turned off.

2. Next, make sure you have a shirt board loaded on the Blazer and it meets the standard of being about 3mm-5mm away from the print head.

3. Prepare a sheet of normal, white paper and place it at the upper left side of the shirt board next to the capping station. Let the sheet of paper hang over the edge toward the capping station. Leave about a quarter inch of room between the paper and the edge of the inside of the Blazer.

   The top edge of the paper must be aligned to the Scissor and Arrow on the side of the capping station when bed is at index position (viewable by looking through the top window).

4. Next, perform a complete startup cycle. Refer to ***Chapter 4 or 5*** (depending on your model). After the startup process has completed, the unit will move the carriage out and will check for the paper. A white light will turn on and off. If you have the paper setup right it will read the paper and finish registering.

   The "RELOAD PAPER" error should now be gone and the printer should be ready to print.

5. Next, change the settings back to the default so that the printer won't look for the paper during startup.

   - Left arrow on the LCD screen until you get to READY status.

- Press the far right button or MENU button to get into the menu.
- The very first option on the screen should be PRINTER SETUP. Press MENU again to enter into the PRINTER SETUP configuration.
- The screen will read PLATEN GAP. Use the up and down arrows to browse all of the settings that can be changed. Press MENU to enter a topic and use the up and down arrows to find the setting you want. Once you have selected a setting, press MENU again to select that option. Browse through the entire list and verify that all of the settings are set to the list below.

  PLATEN GAP -- *STD
  PAGE LINE -- *OFF
  INTERFACE -- *AUTO
  CODE PAGE -- *PC437
  PPR MARGIN -- *DEFAULT
  PPR SIZE CHK -- *OFF
  CUTTER ADJ -- DO NOT USE OR CHANGE
  REFRESH MRGN -- *OFF
  AUTO NZL CHECK -- *OFF
  AUTO CLEANING -- *OFF
  QUIET CUT -- *OFF
  INIT SETTING – DO NOT USE – WILL RESET EVERYTHING

6. After completing the settings routine in the previous step, turn off the printer and remove the paper from the shirt board.

7. The last step in the process is to turn the printer back on, allow it to complete the startup cycle and continue printing shirts.

If you have questions, or your problem persists after completing these instructions, please call Technical Support at 888-698-5387 or send an e-mail to support@usscreen.com. Remember to include your serial number and repair records when emailing or have them ready when calling.

Chapter 17

Product Support

Support Policy

T-Jet Blazer Series Printer support is free. Since the machines are designed to be intuitive and very easy to use, most support questions have to do with using FastARTIST, FastRIP or printing from specific graphics applications.

For the quickest support, Email your question to support@usscreen.com. Be very specific and include your serial number and any repair/problem history.

IMPORTANT POINT:

If you purchased the printer from a dealer in the USA, you DO NOT have to go back to the dealer for support. Simply call or E-mail our support center. If you purchased the printer from a dealer outside the USA, you will need to contact your dealer for support.

Support Information and Hours

Toll Free	+1 888-MYTJETS (698-5387)
Technical Support	+1 480-929-2937
Corporate Office	+1 480-929-0640
Fax	+1 480-929-0766
E-mail:	support@usscreen.com
Internet:	www.screenprinters.net. Click on the *Support* tab.
Support hours:	7:00am to 6:00pm Monday through Friday
	(Mountain Standard Time) USA

Emergency Support is available

Note: Arizona does not observe "Daylight Savings Time."
In the summer months, Arizona is on the same time as California.

Phone Support

We have an excellent staff of Support Specialists who will gladly walk you through many of the procedures. When calling for support, please have your serial number handy and be prepared to give a detailed explanation of the problem. If you have received an error message, please include the error number. It is often easier if you fax or E-mail a support question before calling for help. Calls to our Support Center are toll free from within the US. Calls from outside the US are NOT toll free.

Emergency Support

In the event that you must have support and cannot wait until our normal support schedule, an Emergency 24-Hour Support Technician can be reached. Call our toll free **1-888-MYTJETS** support line and follow the prompts. A technician will be paged and he will return your call as soon as possible.

Please include your full company name, contact name, phone number, address, serial number and a detailed description of the problem.

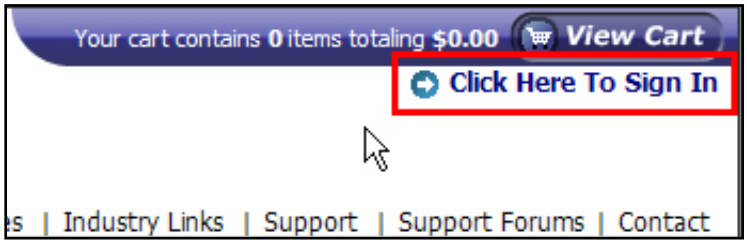
Support on the Web

U.S. Screen Print & Inkjet Technology maintains a comprehensive support site for owners of our products. The site includes videos, tutorials, helpful hints, manual updates and more. This site is restricted to product owners and requires creation of an account. To create your account,

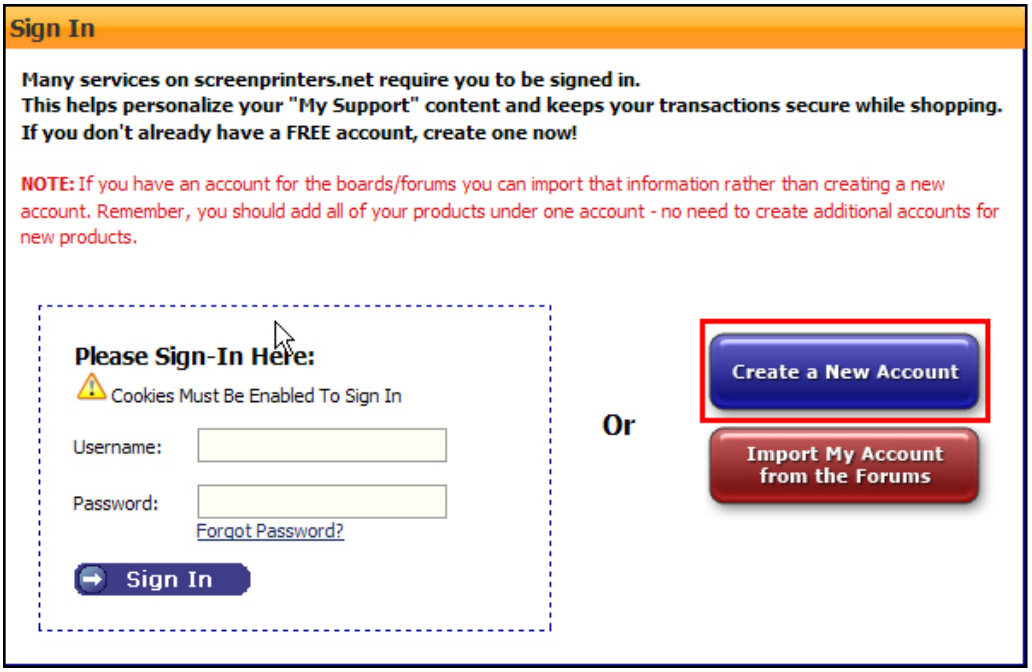
1. Open an internet browser.

2. Navigate to http://www.myt-jet.com or www.screenprinters.net.

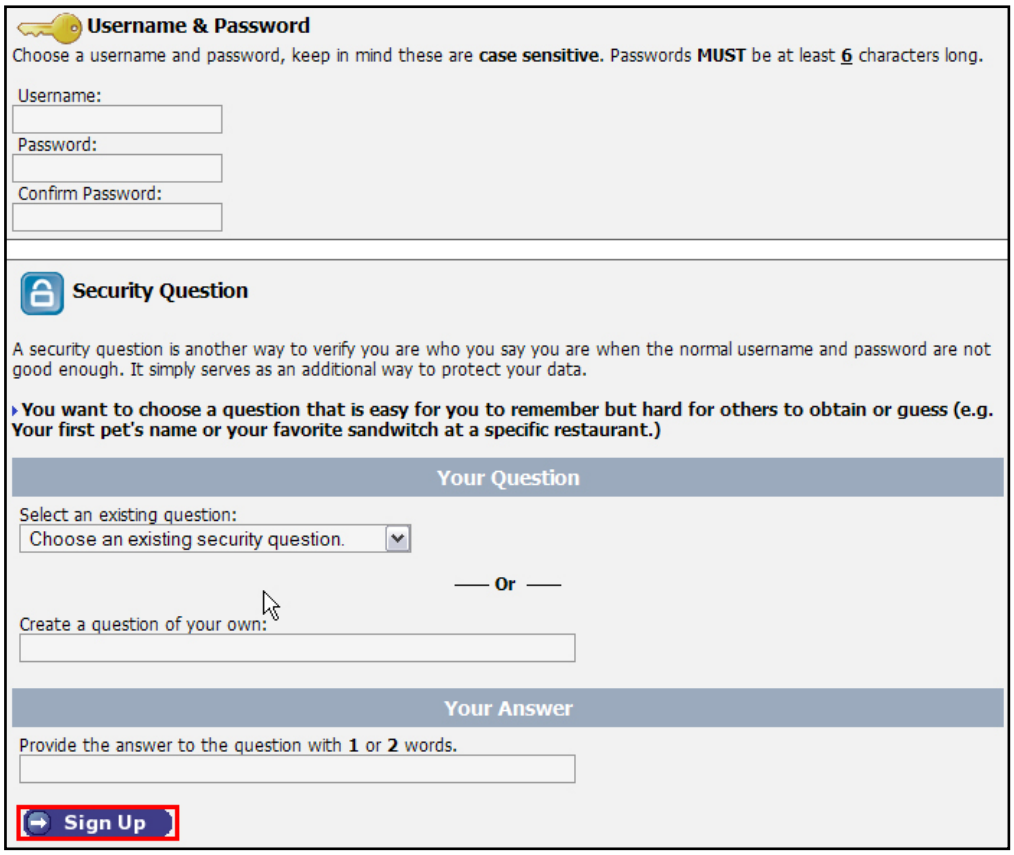
3. Click on the 'Sign In' link in the top right-hand corner of the webpage.



4. Click on 'Create New Acount.'



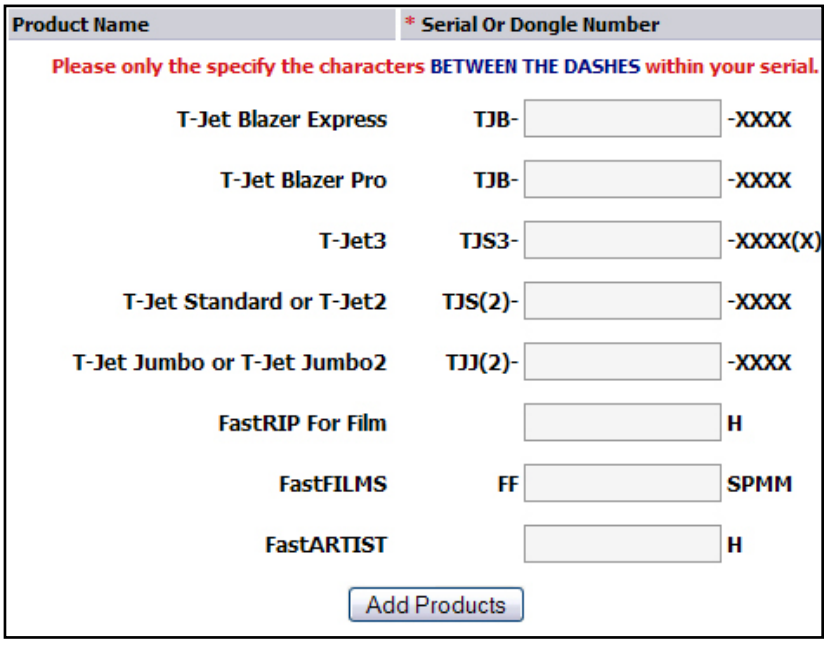
5. On this page, enter your information in the spaces provided, then click "Sign Up".



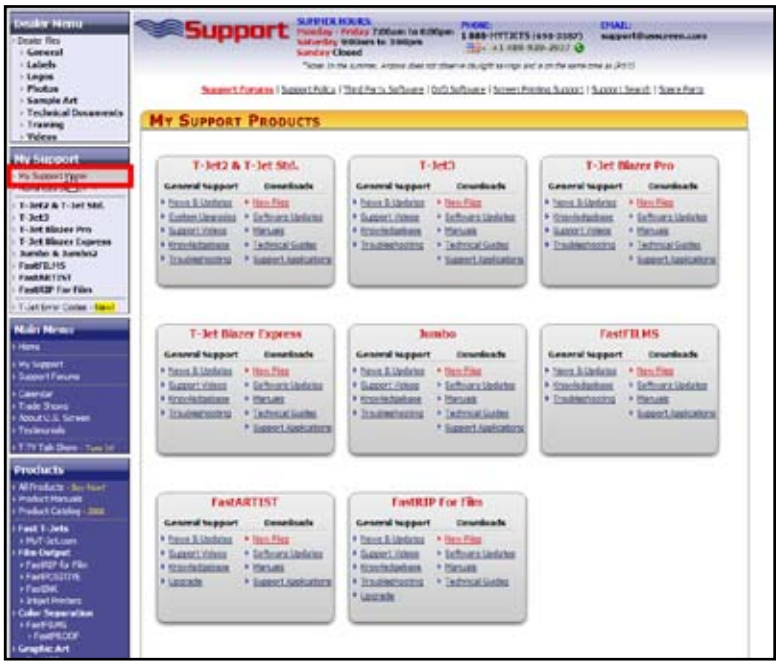
6. On the next page, enter your product information, then click 'Add Products.'

Note: All printer serial numbers can be found on a sticker on the back of the printer near the power cord. FastRIP and FastARTIST information is found on the purple USB dongle. FastFILMS information can be found on the box, on the CD, and in the manual.

If there are any issues entering your product information, please call Technical Support at 888-698-5387, or send an e-mail to support@usscreen.com.



7. On the left-hand navigation bar, click 'My Support Home.'



You will now see several gray boxes, each of which pertains to a product that you own. Note: this photo shows all of the products US Screen supports. You will not see all these products in your account.

In this space, you will be able to access Support Videos, updated Manuals, Support Applications, and other product information and upgrades.

Webcam Video Support

You can purchase an inexpensive web cam for your computer and talk LIVE to one of our support technicians. More information about how to use this amazing support technology is on the ***T-Jet Blazer PRO*** and ***Express*** Support page at **www.myt-jet.com**.

EPSON® Support

The ***T-Jet Blazer Express*** and ***PRO*** are highly modified versions the Epson 4880 with hundreds of additional parts not provided by Epson. As a result, your printer is NOT supported by Epson. Additionally, we provide the Epson 4880 Printer Driver and LFP Remote Panel (for Utilities) as a convenience, however Epson will not support these applications. All support for Epson drivers, applications and internal Epson components will come from U.S. Screen.

Third Party Software Support

We will make every attempt to help with printing from programs like CorelDRAW, Photoshop, Illustrator, etc., but we do not offer free support or training on these programs.

Show off Your Work

If you want to brag about the things you've printed on your T-Jet Blazer Series Printer, or are looking for some inspiration, we have a Gallery where you can view or upload pictures of jobs completed with these remarkable printers. Check it out at **www.myt-jet.com** or **www.screenprinters.net**.

Transporting Your Printer

You MUST be very careful moving and transporting your ***T-Jet*** printer. It is a very heavy and delicate piece of equipment. If you move it to a different location in your shop, keep in mind the dimensions of the printer. The T-Jet will not easily fit through a standard doorway. Follow the instructions in the next section of this chapter covering how to re-crate your particular model T-Jet Blazer. Series printer.

WARNING:

Remove the Bulk Ink Cartridges, the Shirt Board and the Waste Tank BEFORE moving your machine. Ink from the cartridges and Waste tank can easily spill and damage internal components. A Shirt Board is heavy and only held in place by its weight. Should it fall from the Print Bed, seriously bodily injury could result.

If shipping for repair, you MUST call Technical Support for specific instructions.

Re-crating the Blazer EXPRESS

Follow these instructions to re-crate your Blazer EXPRESS for any time the machine will need to travel or be shipped. If you have any questions or problems, call our support department for assistance.

Preparations:

For this procedure you will need all of the original crate supplies, a power drill equipped with a phillips-head drill bit, 2 1/2" wood screws and an assistants to help lift from crate. Make sure that you follow all instructions on transporting your printer including installing cleaning cartridges and locking the Print Head in place. **NOTE:** The red indications on the illustrations symbolize where a screw is needed.

Step 1: Place the Blazer EXPRESS on the Crate Bottom

The Blazer Express needs to sit on the crate bottom as shown.

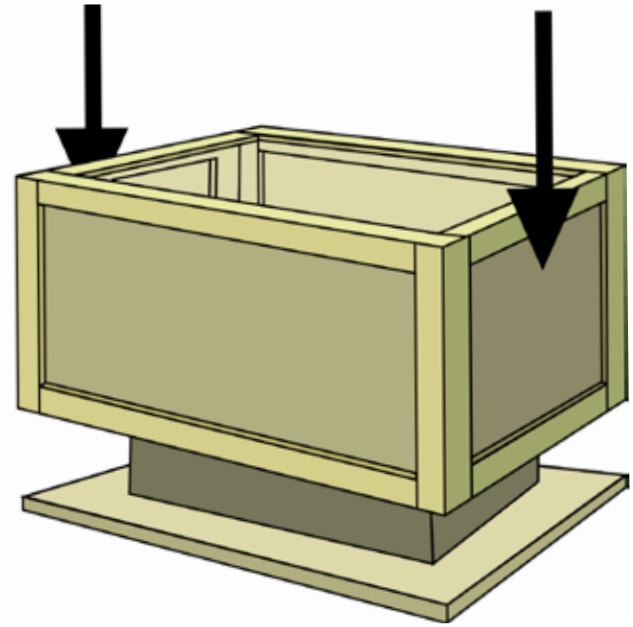
Make sure it sits correctly or the printer may move around while shipping or transporting.

Also, make sure that you follow all instructions on transporting your printer including installing cleaning cartridges and locking the Print Head in place.

Step 2: Lower the walls of the crate.

If removed properly, you should be able to drop the walls with the braces in tact as shown.

NOTE: The braces only fit one way.

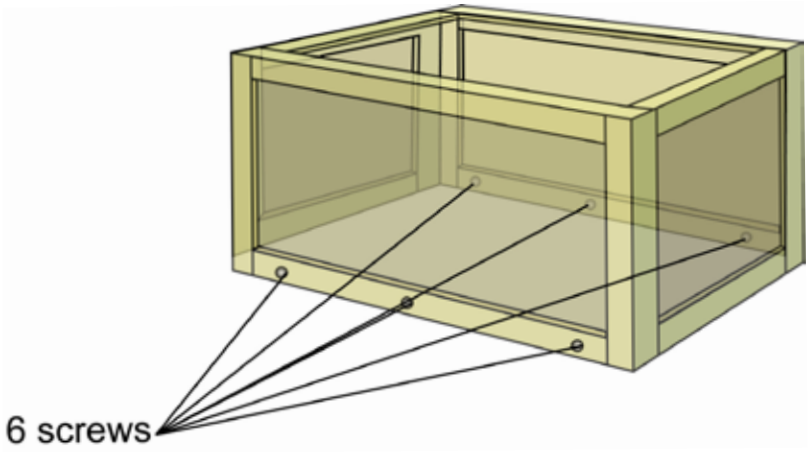


Step 3: Fasten the walls of the crate.

You should have 6 long wood screws that hold the walls to the crate.

There will be 3 screws for each of the longer sides of the crate.

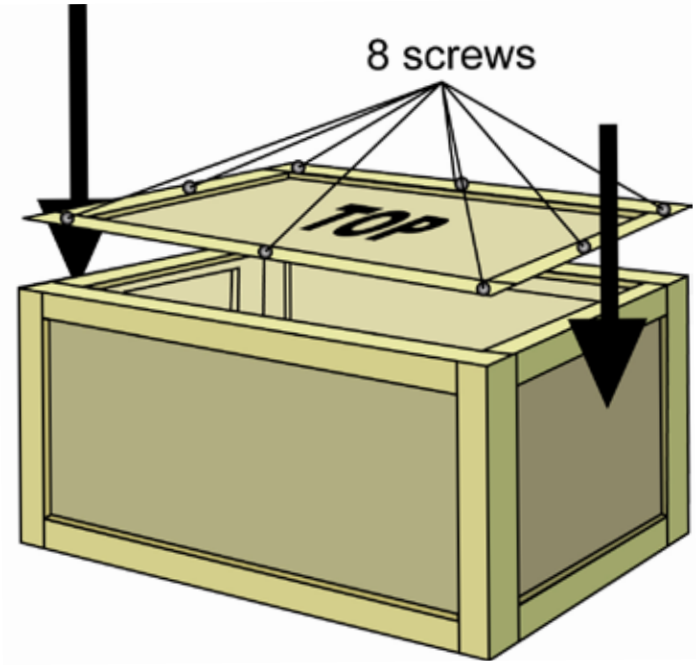
Do not over tighten or you may strip the wood out.



Step 4: Lower the crate lid and fasten.

You will need 8 wood screws to secure the lid to the crate.

Do not over tighten or you may strip the wood out.



IF YOU HAVE ANY PROBLEMS IN CRATING YOUR BLAZER PRO, CALL OUR SUPPORT LINE AT **1-888-MYT-JETS** AND WE WILL GLADLY WALK YOU THROUGH ANDY TROUBLES OR CONCERNS. HAVE YOUR SERIAL # AND HISTORY READY.

Re-crating the Blazer PRO

Follow these instructions to re-crate your Blazer PRO for any time the machine will need to travel or be shipped. If you have any questions or problems re-crating, call our support department for assistance.

Preparations:

For this procedure you will need all of the original crate supplies and bracers, 3 assistants to help lift, long 2 1/2" wood screws and a power drill equipped with a phillips-head drill bit. This procedure may take up to 1 hour to complete correctly. Make sure that you follow all instructions on transporting your printer including installing cleaning cartridges and locking the Print Head in place. The Printer Assembly needs to be positioned directly in the middle of the unit. **NOTE:** The red indications on the illustrations symbolize where a screw is needed.

Step 1: Place the Blazer PRO on the Crate Bottom

The printer needs to sit on the crate bottom in between the supports. The crate bottom has blue foam material on it to protect the frame of the Blazer PRO.

Make sure the printer sits correctly or the printer may move around while shipping or transporting.

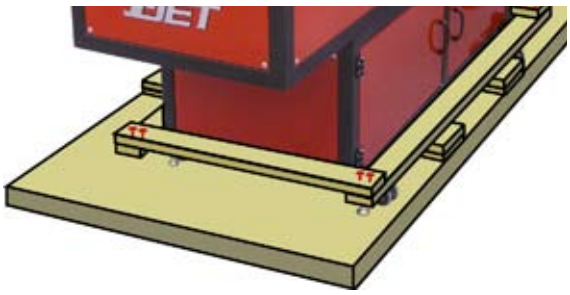
Step 2: Attach Bottom Bracers.

There are 2 sets of bracers that attach to the crate bottom and hold the Blazer PRO down to prevent movement.

The first set (56" in length) will lay down length-wise along each side of the machine and will need to be fastened using wood screws into the crate frame guides.

NOTE: Try to use the original screw holes if possible. Too many holes in the wood will weaken or even break the wood.

After the first set of bracers are fastened, a second set of bracers (30” in length) will go right over the top of them. These will hold the printer from moving front to back.



NOTE: If you have the protective plastic cover, place it over the Blazer PRO.

Step 3: Attach Vertical Bracers.

Next, fasten the vertical bracers (4 total) to the crate frame guides, towards the middle of each side of the crate as shown.

Each vertical bracer is 46 1/2” in height and requires 2 wood screws each.

Step 4: Attach Upper Bracers.

The upper bracers (42 1/2” in length) will hold the vertical bracers together and will help make them sturdy. They will also be fastened to the wall plates in a later step.

Attach the 2 bracers with to outside edge of the the vertical bracers.

One screw should be enough per side, per bracer.

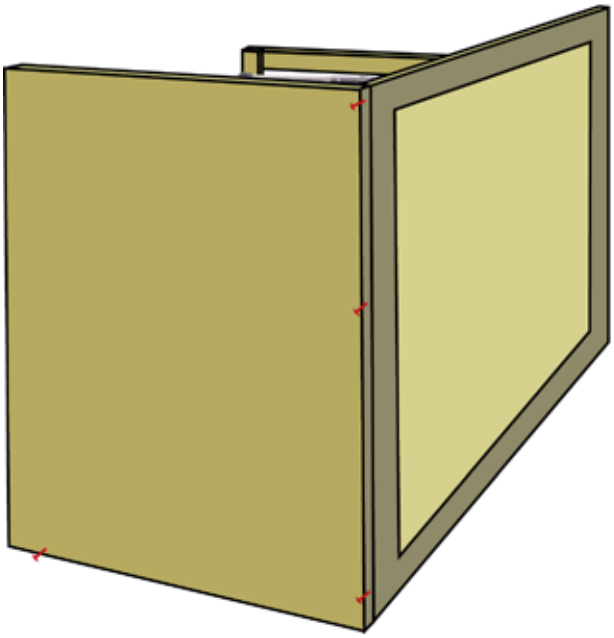
Step 5: Attach the first side plate wall.

Attach the first wall using 4 screws that will fasten into the bottom of the crate and 2 screws that will fasten to each vertical bracer.

NOTE: It will help to have an assistant hold the side plate wall in place while fastening.

Step 6: Attach the front/ back plate wall.

Attach the front/back plate to the side plate using 3 screws.

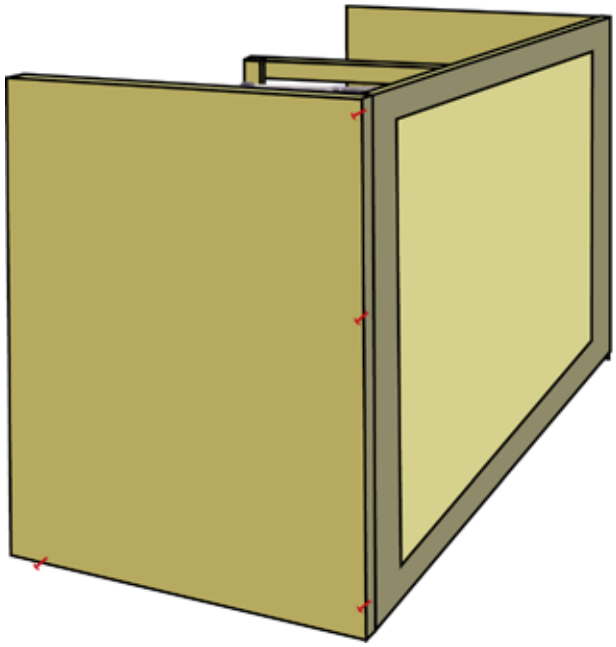


Next, fasten the bottom left side of the front/back wall with a screw going directly into the crate bottom.

NOTE: Keep this screw at least 3 - 4 inches from the edge so that the screws will not hit the other in later steps.

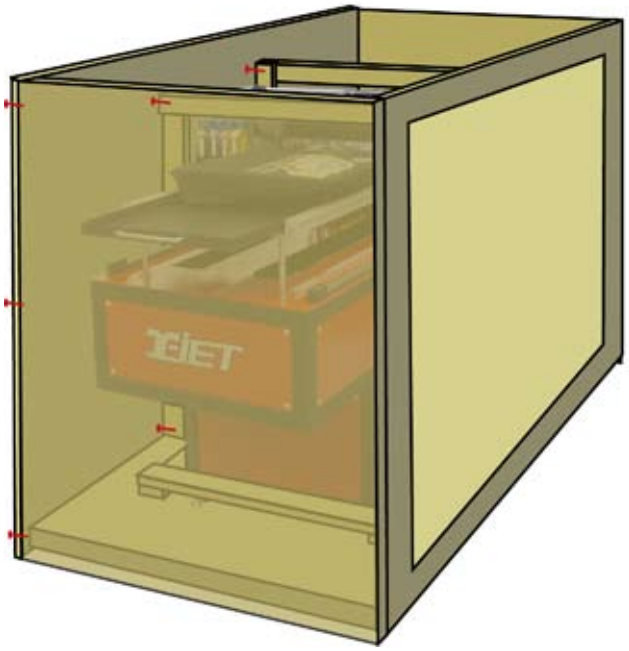
Step 7: Attach the remaining front/ back plate.

Use the same steps and methods used for the first front/back plate wall.



Step 8: Attach the remaining side plate wall.

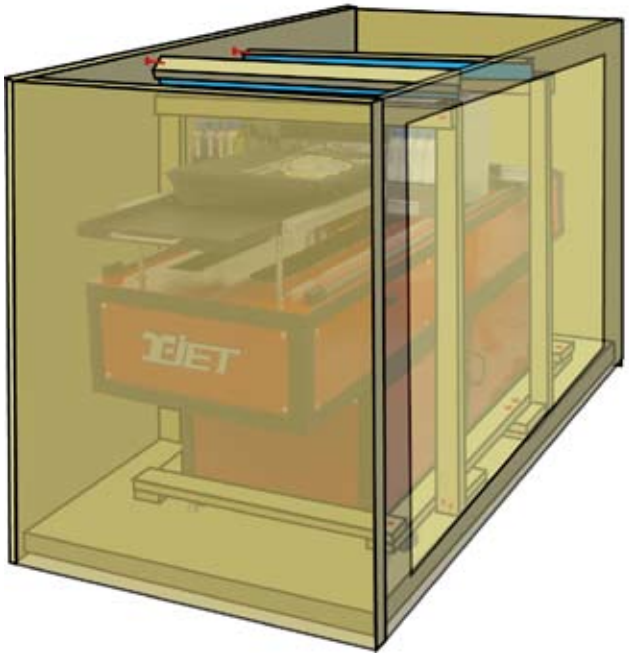
Attach the last wall. 4 screws will fasten to the bottom plate, 3 screws on each vertical end plus the 2 to hold the vertical bracers (shown below).



Step 9: Attach the padded bracers to the top of the PRO.

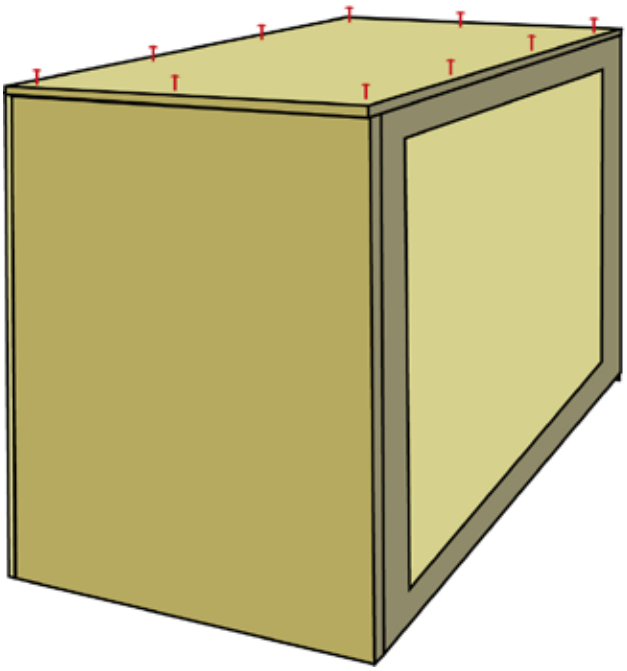
Attach the 2 padded bracers to the top of the PRO.

A padded bracer will sit on the front and back side of the printer assembly and will fasten from the outside of each side plate wall.
One screw on each side for each bracer will hold them in place.



Step 10: Fasten the crate lid.

Fasten the crate lid to the top of the nearly completed crate.



Use a total of 10 screws as shown, and fasten to the top of each crate wall plate.

IF YOU HAVE ANY PROBLEMS IN CRATING YOUR BLAZER PRO, CALL OUR SUPPORT LINE AT **1-888-MYT-JETS** AND WE WILL GLADLY WALK YOU THROUGH ANDY TROUBLES OR CONCERNS. HAVE YOUR SERIAL # AND HISTORY READY.

Appendix A

Operational Guide

Notice

The material in this Manual is believed to be accurate and complete with respect to the normal and intended operation of the Fast T-Jet Blazer Express Inkjet-to-Garment printer. U.S. Screen makes no warranties or other representations, express or implied, with respect to the material in this Manual. Neither U.S. Screen nor any other party involved in the design, manufacture or distribution of the T-Jet Blazer Express and the T-Jet Blazer PRO Inkjet-to-Garment printer, or any portion thereof, shall be liable for any loss relating to errors or omissions in this Manual or the accuracy of the information contained therein.

U.S. Screen has attempted to ensure, so far as is reasonably practical, that the company's products are designed and constructed to be safe when properly used and when the safety precautions contained in this document and the other documents supplied with the T-Jet Blazer Series printers are fully observed.

U.S. Screen reserves the right to make changes to the information contained in this Manual without prior notice. The User of this Manual should consult with a U.S. Screen representative to determine if any such changes have been made.

Standards Compliance

The T-Jet Blazer Express and PRO printers have been tested and verified to conform to the appropriate European Directives and, as such, bears the CE marking.

Radio Frequency Emissions Compliance

The Fast T-Jet Blazer Express and Pro printers have both been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the User will be required to correct the interference at their expense.

Federal, State and Local Laws- Regulations and Standards

It is the User's responsibility to research and ensure they are in compliance with Federal, State and local laws, regulations and standards regarding the setup and operation of the T-Jet Blazer Express and PRO Inkjet-to-Garment printer. U.S. Screen makes no representation to have researched, or to have knowledge of, individual Federal, State or local regulations or standards and, as such, cannot accept any liability for

lack of compliance with such Federal, State and local laws, regulations and standards on the part of a Customer.

It is the Customer's responsibility to ensure that the room and equipment exhaust, makeup air supply, flooring, air, water, waste and electrical services meet all applicable codes and ordinances. The User should not assume that all necessary procedures, warnings and precautionary measures are discussed or that additional measures may not be required or desirable because of the particular or exceptional conditions or circumstances present in the User's work area or because of the requirements of applicable Federal, State and local laws, regulations and standards.

Any questions regarding these instructions should be brought to the attention of a U.S. Screen Representative.

Summary of Customer Responsibilities

The Customer must:

1. Provide an area that meets the requirements described in this Manual.

The ***Blazer Express*** model requires a minimum area of 3.5 ft x 5.25 ft (1 m x 1.6 m) for the printer and surrounding work space.

The ***Blazer PRO*** model requires a minimum area of 12 ft x 10 ft (3.65 m x 3 m) for the printer and surrounding work space.

Additional areas/rooms are required for drying, pretreating garments, garment staging and garment storage.

2. Employ qualified, skilled trades persons (i.e., electricians, carpenters, riggers) for any site modifications or new construction and installation of all utilities.

3. Provide any additional equipment that may not be supplied by U.S. Screen, but will be essential to the use of the Fast T-Jet Blazer Express and the printing process.
Examples of this equipment are:

- A Windows compatible PC computer with at least 1MB of RAM, a Pentium 4- 1.8 GHz processor and USB2 connectivity
- A Pretreatment application area that is not near the printer
- A Heat Press or conveyor dryer for shirt Pretreatment and curing. A Heat Press is preferable for Pretreatment application and drying when printing on Dark shirts with White ink.

4. Receive the equipment properly. Use appropriate personnel and equipment to off-load and move the shipping containers to a storage area or directly to a staging area. The printer ships in a single crate that is large and must be handled with the use of a forklift, lift gate or pallet jack. The ***crated*** printer and components weigh over 300 pounds (227 kg).

Before moving shipping containers from the receiving area, check corridors and doorways for clearance and remove any obstacles. The Express model must have a doorway clearance of a minimum of 36 inches (92 cm).

5. Make sure the preparations for the system set up are complete. It is essential to have all utilities (HVAC and electrical) available at the time of installation. Use trained personnel to assist with the installation in each of these areas. Both the T-Jet Blazer EXPRESS and PRO printers must be on a dedicated power line that has at least 15 amps. It can be hooked up to 110v or 240v service. It is dual voltage.

6. Agree to perform simple Daily and Weekly Maintenance procedures outlined in the User's Manual, including keeping the Print Head and Capping Station cleaned.

Room Preparation

The first step in preparing the workspace is to plan the location of each system component. Make a complete list of all equipment and supplies to be accommodated in your garment printing area and define the workflow between this equipment. Identify efficient operational techniques.

Environment

The printer will operate best in a clean, dust-free room at a steady temperature between 68° F and 85° F (20° C and 29° C) with a relative humidity between 40% and 60% (non-condensing).

Operation of the printer at a relative humidity below 40% or above or below the recommended temperature range will result in poor nozzle print performance and poor print image quality. This may result in the User voiding the warranty.

The workspace floor should be easily cleaned and should not generate dust or static electricity. It should be noted that decorating the room in neutral gray colors and using pure white ("daylight") lights would aid operators and clients in judging color accuracy.

Ideally, the Fast T-Jet Blazer printers should not be installed in the same room as other equipment that can potentially cause an ink mist or excessive dust. This includes, but is not limited to, the Pretreatment used when printing with White ink. If this is unavoidable, the printer should be isolated, either by efficient extraction of mist and fumes or by partitioning. Heavy dust and ink mist can cause reliability problems with the printer.

It MUST not be placed in an open warehouse that is hot, dry, dusty or has excessive floor vibration. If you must place it in an open room that is not environmentally controlled, you can build a temporary enclosure out of plastic and building materials. This enclosure must comply with local building codes.

Exceeding the environmental specifications can cause the printing of substandard images due to misfiring of Print Nozzles and ink prematurely drying on the surface of the Print Head. This misuse may void the warranty.

Exhaust Ventilation Requirements

Exhaust ventilation and air-conditioning of your T-Jet Blazer Series printer is REQUIRED for proper machine function. This machine does not produce odors and the ink is non-toxic, however adequate ventilation is required for the use of Pretreatment. When curing shirts, chemicals released from the shirt are non-toxic but may be eye irritants.

Room Conditions

Temperature: 68 to 85°F (20 to 29°C)
Relative Humidity: 40% to 60% (non-condensing)
Platform (Blazer Express only): strong enough to support equipment weighing up 200 lbs.
Flat and level (allowable variation: 1/8" in. 40-in. run (3 mm in 1000 mm run). Minimize vibration from surrounding equipment.
Ambient light level: general office environment (700–1000 lux)
Type: white, indirect fluorescent light
Room: at least 5 air changes per hour with a minimum of 20% fresh air coming in through air return is recommended (for operator comfort).
Heat Load: 4000 watts
Air Quality: clean and dust free with no heavy air-flow blowing across the machine.
Room Access: 36 inch (92 cm) minimum doorway

Electrical Requirements

A dedicated circuit for your printer and PC computer is strongly recommended. This circuit should be 110V minimum to 240V maximum, 50/60 Hz, 15A load, single phase and ground with a 6.6KW GFCI Circuit Breaker.

A separate dedicated circuit should be used for the heat curing machine, such as a heat transfer press or small conveyor dryer. Consult the manufacturer of the equipment for circuit specifications.

The AC power must be supplied with an independent GFCI circuit breaker with the circuit ground isolated from other equipment. It is recommended the circuit include a breaker that can be "locked out" for maintenance purposes. The ground circuit must be a computer grade isolated ground. The power should be constant and not susceptible to voltage fluctuations. Fluctuations in line voltage will adversely affect the unit performance.

Supplying a voltage to the printer that is outside of this range will likely result in intermittent data and print corruption. If line voltages are outside this range, U.S. Screen recommends the use of a buck/boost transformer to bring the printer supply voltage within this range. No warranty, express or implied, will be honored for equipment operated on voltages beyond the stated range.

For convenience during setup and normal maintenance, have electrical outlets at local voltage located near the intended area of operation.

Main Operator

Both the T-Jet Blazer Express and PRO model printers require one main operator who will be responsible for the operation and routine maintenance of the printer. In order to fulfill this job, the candidate chosen will need certain skills. The main operator will be crucial to the performance of the printer and should be selected accordingly.

All operators of the printer must be 18 years of age or older.

The following skills are recommended for the main operator:

- Windows PC experience. This includes a basic understanding of computer graphics programs like CorelDRAW, Adobe Illustrator or Adobe Photoshop
- Technical background involving electronics and mechanics
- Color aptitude

The following are desirable, but not essential:

- Printing experience
- Color theory experience
- Formal electronics education

Printer Specifications

Method of Printing: Inkjet-to-Garment

Size:
Blazer Express: 34”W x 20”H x 56”L (87 x 51 x 142 cm) Length includes an additional 6” clearance requirement for Print Bed at Index position.
Blazer PRO: 35”W x 46”H x 77”L (89 x 117 x 196 cm) Height with the User Interface attached is 61” at maximum point.

Weight:
Blazer Express: 200 pounds (91 kg)
Blazer PRO: 400 pounds (182kg)

Inkjet Print Engine: 8 color (4-CMYK 4-White) 180 nozzles per color

Crate dimensions:
Blazer Express: 42”W x 33”H x 55”L (107 x 84 x 140 cm)
Blazer PRO: 45”W x 58”H x 86”L (115 x 148 x 219 cm)

Both models ship on their own crate and will not ship via UPS or FedEx. It must be shipped via common carrier or truck. NOTE: Additional cartons may be included with the shipment for accessories, inks and software.

Electrical: 110 - 240v AC 60/cycle 4 amps.

Computer Connection: USB 2.0

Additional Machinery: Heat press/dryer, powerful PC computer for FastARTIST and FastRIP

Print Resolutions: 2880 x 1440dpi; 1440 x 720dpi; 720 x 720dpi; 360 x 360dpi

Maximum Printable Surface:
Blazer Express: 16" x 20" (41 x 51cm)
Blazer PRO: 17" x 45" (43 x 119cm)

Room Conditions: The printer requires a clean, dust-free room at constant temperature between 68° F and 85° F (20°C and 29°C), with a relative humidity between 40% to 80% (non-condensing). Operation of the printer at humidity below 40% or at above or below the recommended temperature range will result in poor Print Nozzle performance and poor image quality.

Noise level of the equipment: Average 72 dBA; peak 78 dBA.

Equipment transportation and storage range: 40° F to 120° F (5° C to 55° C).
Unit is mounted on lockable, leveling casters to facilitate location placement.

Miscellaneous Information

Shipping and Receiving

U.S. Screen will ship the machines and components via a common ground carrier of their choice unless otherwise specified by the Customer. Shipment will be FOB Tempe, Arizona. This means the Customer will pay for all freight charges, insurance, special delivery needs (home delivery) and the unloading of the machine upon delivery.

Receiving Inspection

Inspect the crates and cartons for any damage. If possible, do this with the delivery carrier's agent present. Photograph any damage and immediately file a claim with the carrier. Carriers cannot be held legally responsible for shipping damage unless they are notified within 15 days of delivery.

Shipment Movement

Use appropriate personnel and equipment to move the equipment from the transportation truck to the receiving area to the staging area. The Fast T-Jet Blazer Express cannot pass unobstructed through doorways or passages of less then 60"(153 cm). Movement through narrower portals will require tilting or re-orientation of the printer. Ensure all loose product, materials and accessories are securely packed or transported separately. Verify that elevators or other lifting devices will hold the weight of the equipment (300 lb./ 136 kg crated). For Re-crating, follow the instructions in Chapter 17 - Product Support.

Common carriers are NOT required to unload shipments over 100 lb. (45 kg). You must be prepared to

remove your printer from the truck with a forklift. If possible, request a truck with a lift gate so you can use a pallet jack to move the equipment securely.

Staging Area

Provide a sheltered area for receipt of the shipment. This area should be close to the intended area of operation to facilitate unpacking and preparation of the equipment for set up.

Uncrating

Blazer Express: The Blazer Express weighs over 200 pounds (91 kg) and requires two or more people to remove the unit from the crate. Four lift points with handles are provided for transport. DO NOT lift from any other points on the machine or operation may be severely impaired. You may also use an alternate lifting system with an overhead crane.

Blazer PRO: The Blazer PRO weighs over 400 pounds (182 kg) and requires at least four people to remove the unit from the crate. The printer base has wheels to facilitate transport on a level, hard floor. You may also use an alternate lifting system with an overhead crane.

Retain ALL packaging material, crates, cartons, straps, etc., for use should you ever need to transport or re-ship the machine.

Appendix B

Requirements and Notices

Windows Operating System Requirements

Minimum:

- PC with a Pentium 4 - 1.8 GHz and Windows XP, 2000 or Vista Operating System (Windows ME is not supported)
- A minimum of 2 GB of RAM.
- A minimum of 10 GB of free disk space on your hard disk. You will also need at least an additional 50 GB for saved files.
- A display monitor with high resolution. (1280 x 1024)
- CD-ROM or DVD drives for installing the software.
- A dedicated USB port (2.0)
- The connection of a mouse and Dongle will require additional free USB ports

Recommended:

- PC with an Intel Dual-Core Processor or AMD Athlon X2 and Windows XP, 2000 or Vista Operating System (Windows ME is not supported)
- 3 GB of RAM and a dedicated graphics card with 512 MB of onboard memory
- A minimum of 10 GB of free disk space on your hard disk for program installation and 100 GB for saved files
- A display monitor with high resolution (1280 x 1024)
- CD R/W or DVD R/W drive(s) for installing software and burning back-up copies
- A dedicated USB port (2.0)
- The connection of a mouse and Dongle will require additional free USB ports

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which

can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

WARNING: The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels, which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the authority to operate the equipment.

For Canadian Users
This Class B digital apparatus complies with Canadian ICES-003.

Declaration of Conformity

According to 47CFR, Part 15 for Class B Personal Computers and Peripherals; and or CPU Boards and Power Supplies used with Class B Personal Computers:
We: U.S. Screen Print & Inkjet Technology a division of U.S. Graphic Arts, Inc.
Located at: 1901 East 5th Street Tempe, AZ 85043 Telephone: (480) 929-2937
Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed is identical to the representative Unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR 2.909. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name: U.S. Screen Print & Inkjet Technology

Type of Product: Inkjet Printer

Models:
T-Jet Blazer Express TJBEX-1620
T-Jet Blazer PRO TJB-1650

European Union Declaration of Conformity - CE

A sample of this equipment has been tested against the Essential Health and Safety Requirements of the Machinery Directive. Based on conformity with the Machinery Directive, the Equipment Under Test - Fast T-Jet Blazer Express from U.S. Graphic Arts, Inc., dba U.S. Screen Print & Inkjet Technology in Tempe, Arizona USA is deemed in compliance with the Machinery Directive (98/37/EC) and the Council Directives amending the Machinery Directive (91/368/EEC) and 93/44/EEC). In addition, the Equipment Under Test complies with the requirements of the Low Voltage Directive (73/23/EEC) and the EMC Directive (89/336/EEC).

Limited Warranty

U.S. Screen Print & Inkjet Technology ("U.S. Screen") warrants the T-Jet Blazer Express and the T-Jet Blazer PRO ("Unit") direct-to-garment inkjet printer to be free from defects in workmanship and materials (warranty does not include printing head, dampers, or expendable parts such as fuses) for a period of one year from date of purchase for parts and labor provided that the Unit is properly maintained and operated under normal use. This warranty does not authorize any On-site repair and is considered to be a "depot" warranty which requires that the Unit or defective part be returned freight prepaid to U.S. Screen in Tempe, Arizona USA or to an authorized service center for repair. This limited warranty does not include the print head. Replacement print heads are available from U.S. Screen. All prices and design specifications subject to change.

The Fast T-Jet Blazer Express and PRO both must be shipped by a freight company. You MUST insure returned printer for the full retail value. If you need assistance with finding a freight company, contact U.S. Screen Print & Inkjet Technology. We can assist with pickup and delivery of the T-Jet Blazer Express and PRO by a freight company to U.S. Screen for diagnosis and/or repair. If the T-Jet is shipped by a non-freight company or is not on a pallet, U.S. Screen Print & Inkjet Technology reserves the right to refuse the T-Jet Blazer Express or PRO shipment. Examples of non-freight companies are Federal Express, UPS, US Postal Service and Airborne Express. These steps eliminate potential for damage in shipping.

Although every effort has been made to provide accurate specifications, U.S. Screen does not assume any liability for damages, whether consequential or incidental, that may result from the use or misuse of this product or from damage caused by Unit modifications made by the user. U.S. Screen reserves the right to alter specifications in the manufacture of its products.

It is understood and agreed that U.S. Screen's liability in contract, in tort, under any warranty, in negligence, in strict liability or otherwise shall not exceed the return of the amount of the purchased price paid by Buyer. Not withstanding the foregoing provision, under no circumstances shall U.S. Screen be liable for special, indirect or consequential damages (including loss of profit). The price stated for the equipment is a consideration in limiting U.S. Screen's liability. No action regardless of form, arising out of the transactions under this Agreement may be brought by Buyer more than one (1) year after the cause of action has occurred. Our warranty, as specified, is exclusive and no other warranty, whether written or oral, is expressed or implied. U.S. Screen specifically disclaims the implied warranties of merchantability and fitness for a particular purpose. This warranty initiates from date of shipment to original customer. It is transferable but will only be honored if proof of purchase is provided and a valid serial number is attached to the machine.

This warranty does not extend to the Print Head, dampers or expendable parts such as fuses. This warranty does not cover a Unit that has been subject to misuse, neglect, negligence, accident, or Unit that has been operated in any way contrary to the operating procedures specified in this manual. This warranty does not apply to damage resulting from improper maintenance, lack of proof of maintenance as outlines in the Owner's Manual, improper shipping, damage caused by disasters such as fire, flood, and lightning, improper electrical current, software problems, interaction with non- U.S. Screen products, or service other than by a U.S. Screen Authorized Services.

Written authorization must be obtained from U.S. Screen before any Unit or part will be accepted. Replacement parts are sent out freight collect. Parts sent out prior to receiving defective part will be sent C.O.D., cost plus freight. Upon return of defective part, if it is deemed that the part was not damaged by customer but failed, the cost of the replacement part will be
refunded.

THE GUARANTEE AND REMEDY PROVIDED ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, NON-INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE. SOME LAWS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES. IF THESE LAWS APPLY, THEN ALL EXPRESS AND IMPLIED WARRANTIES ARE LIMITED TO THE WARRANTY PERIOD IDENTIFIED ABOVE. UNLESS STATED HEREIN, ANY STATEMENT OR REPRESENTATIONS MADE BY ANY OTHER PERSON OR FIRM ARE VOID. IN THE EVENT THE REMEDIES ABOVE FAIL, U.S. SCREEN'S ENTIRE LIABILITY SHALL BE LIMITED TO A REFUND OF THE PRICE PAID FOR THE PRODUCT COVERED BY THIS LIMITED WARRANTY. EXCEPT AS PROVIDED IN THIS WRITTEN WARRANTY, NEITHER U.S. SCREEN NOR ITS AGENTS SHALL BE LIABLE FOR ANY LOSS, INCONVENIENCE, OR DAMAGE, INCLUDING DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OR INABILITY TO USE THIS PRODUCT, WHETHER RESULTING FROM BREACH OF WARRANTY OR ANY OTHER LEGAL THEORY.

In Canada, warranties include both warranties and conditions.

Some jurisdictions do not allow limitations on how long an implied warranty lasts, and some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from jurisdiction to jurisdiction.

For this Limited Warranty to take effect you must return the completed Limited Warranty Registration Card and mail or fax it to U.S. Screen within 10 days of receipt of your printer.

MAIL TO: U.S. Screen Print & Inkjet Technology
ATTN: Warranty Department
1901 East 5th Street
Tempe, Arizona 85281 USA

FAX TO: 1-480-929-0766
ATTN: Warranty Department