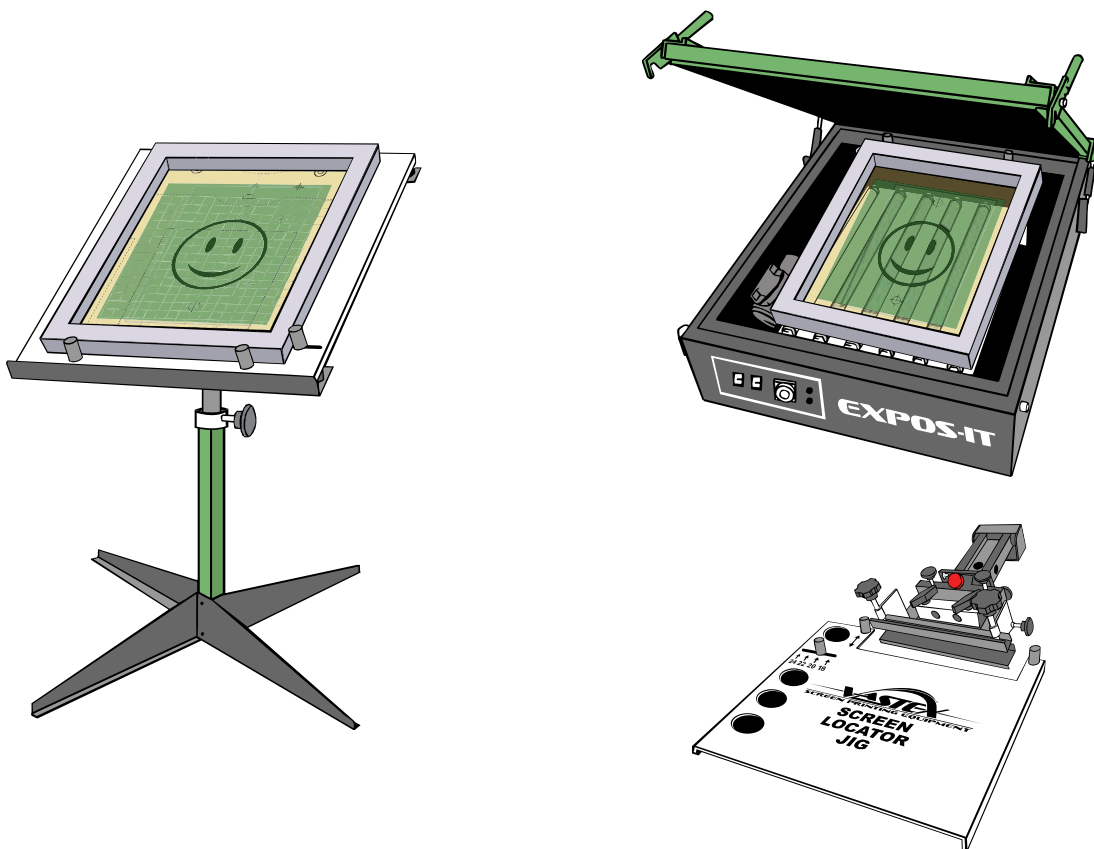


VASTEX

SCREEN PRINTING EQUIPMENT

Vastex Registration System Assembly and Operations Manual



This manual contains the following documents:

- Introduction Pg. 2
- Component Identification Pg. 2-3
- Component Assembly Pg. 4-5
- Operation Pg. 6-9

Vastex International, Inc.
1032 N. Irving St.
Allentown, Pa. 18109 USA
Phone# 610 434-6004 Fax# 610 434-6607
Web Site www.vastex.com
E-Mail info@vastex.com

Introduction

Thank you for purchasing a Vastex VRS System. Vastex has been designing and building printing equipment since 1960. We have knowledge and experience, and are proud to supply the printing industry with quality equipment at an affordable price. You can be confident your purchase will give you years of trouble free service.

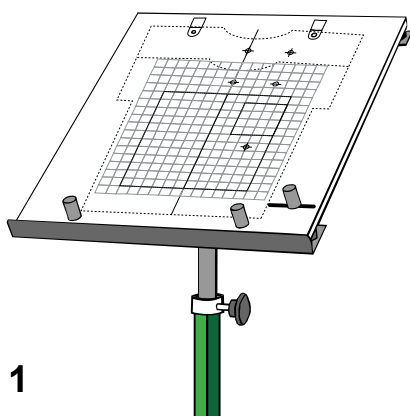
Registrations systems are a method for accurately locating art work onto screens and into your printer. VRS systems are available for manual and automatic presses. This manual covers the setup and operation of your registration system.

Tools Required:

- 9/16" wrench
- 7/16" wrench
- 1/4" Nut Driver
- Roll of Double Sided Tape (Operation method 1)

Component Identification

Illustrations of components within this manual may be shown different than your actual components.

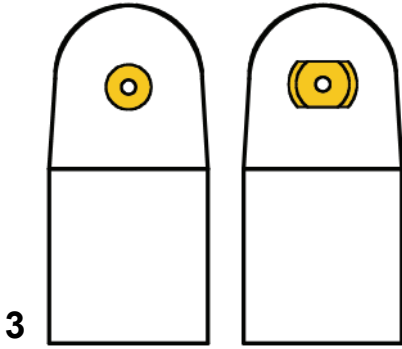


- 1) The **Standard Pin Board** is designed to be used with any exposing unit. The VRS Pin Board is white with an art placement grid printed directly onto the front in position. Your specific pin board may be different than the one shown.

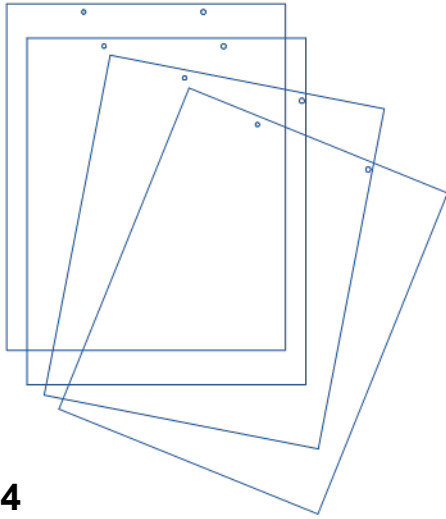


- 2) Optional **Pin Board Stand** is used to support your pin board at a comfortable angle. The pin board stand is available with fixed levelers or with locking casters.

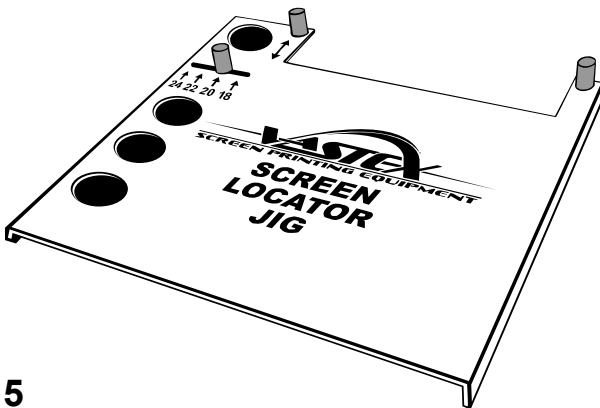
Component Identification



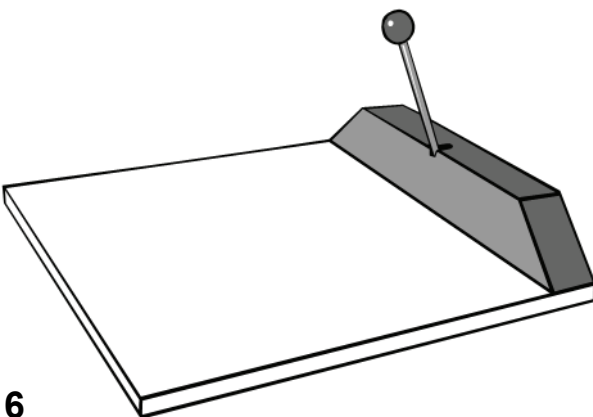
- 3) The registration pins are provided to fasten the clear carrier sheets to the pin board. The registration pins are anchor points for the setup sheets, allowing for precise placement of art work onto your screens.



- 4) The art carrier sheets, individually, are a base for attaching each positive in precise position while using the printed grid on the pin board. Each pack of art carrier sheets will contain 12 clear sheets with punched holes on both sides.



- 5) The Pallet Jig is used to accurately position exposed screens into your press. Your specific pallet jig may be different than the one shown.

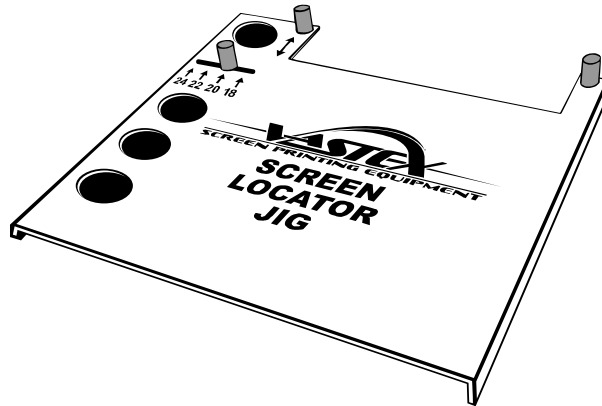


- 6) The (Optional) VRS carrier sheet hole punch is a precision hole punching press that can punch multiple carrier sheets with the correct sized and positioned holes.

Component Assembly

Assemble the Pallet Jig:

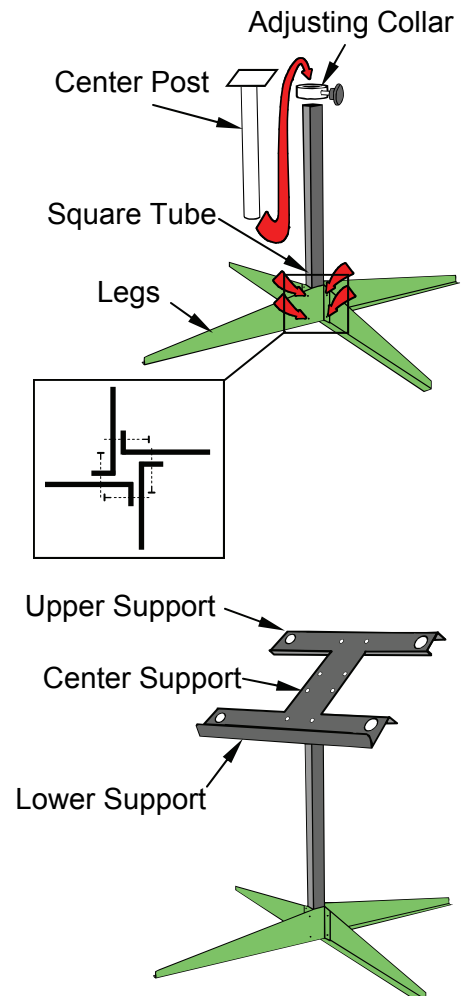
- 1) The Pallet Jig side clamps, used for securing the jig to the pallet, have been factory installed.
- 2) Install the three screen stops, using 3/8 bolts, flat washers, and lock washers.
- 3) Adjust the side stop to match the pin board. The side stop is used to center the screen over the pallet.



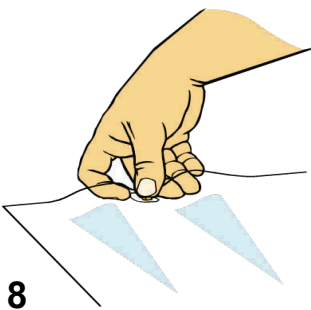
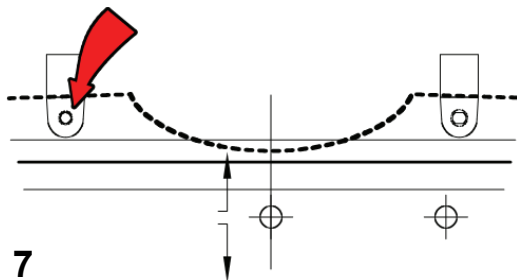
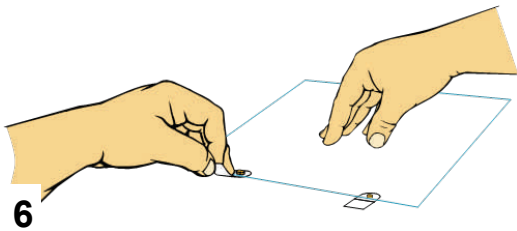
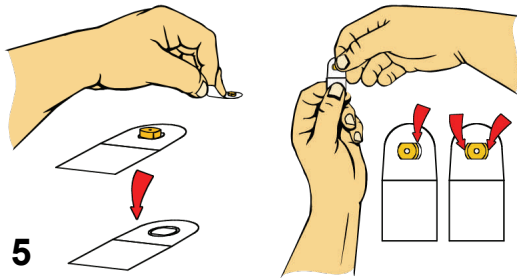
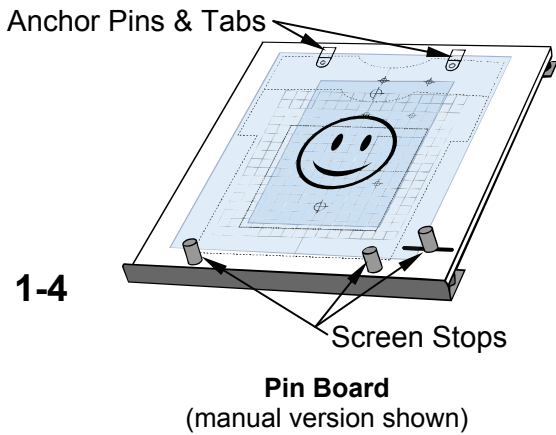
Note for Automatic users: Please refer to the supplied assembly drawings for locating the screen stops for your particular size and type of screen and assembling the pallet clamps.

Assemble the Pin Board Stand:

- 1) On a flat surface position the four legs creating a square opening in the center. Use the eight 1/4" bolts, lock washers and nuts to fasten the legs together, do not tighten. Slide the square tube into the opening of the legs until it stops at the bottom. Install longer 1/4" cross bolt into center hole, through the legs and square post, with a lock washer and nut. Tighten all bolts a little at a time until the tube is held tightly.
- 2) Attach the upper and lower support to the center support using four 1/4" bolts, lock washers and nuts.
- 3) Attach the center post to the center support using four 1/4" bolts, lock washers and nuts.
- 4) Slide the adjusting collar onto the center post assembly and insert the post into the square tube.
- 5) Adjust the stand height by carefully loosening the locking knob on the adjusting collar and raising or lowering the center post in the square tube.
- 6) The pin board's rubber feet fit into the round openings in the upper frame.



Component Assembly

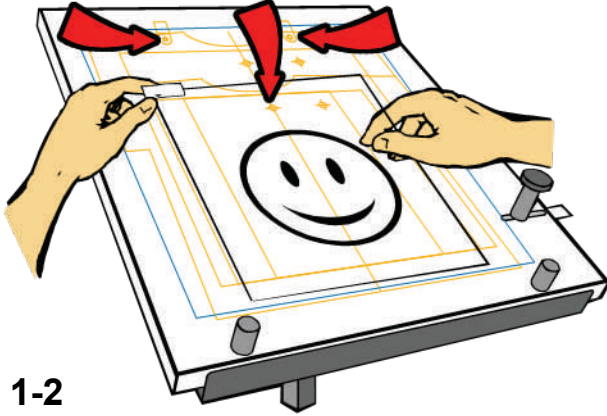


Assemble the Pin Board: In most cases, the anchor pins and tabs have been attached at the factory.

- 1) Install the rubber feet onto the four corners of the bottom of the Pin Board. Flip the Pin Board over onto a clean surface, and install the four rubber feet using supplied sheet metal screws and a 1/4" nut driver. Do not over-tighten the sheet metal screws.
- 2) The screen stops need to be installed onto the pin board with 3/8" bolts, flat washers, and a lock washer. Manual boards install stops as shown. Pin boards for Automatic presses, please refer to the supplied assembly drawing.
- 3) If pin board has adjustable side stops, move the stop to the position which centers the screen over the alignment grid on the board.
- 4) Adjust the side stop on pin boards for manual presses so that your screen is centered over the printed image on the pin board. Pin boards for automatics do not have adjustable side stops.
- 5) Assemble the registration pins into the adhesive backed plastic tab mounts. The smaller pin is the fixed registration pin. The larger pin has a slot that lets the pin slide horizontally (to help prevent the carrier sheet holes from tearing during placement and removal). When placing the larger pin into the plastic tab, center the pin by aligning the edges of the pin rim to the rounded edges of the tab.
- 6) The small pin is the fixed pin. The tab does not allow the pin to move and keeps the film in the correct position when flat against the board. This pin is referred to as the fixed pin (drawing 6). Because the smaller anchor pin does not slide in the tab it is attached to the pin board first to help align the second pin.
- 7) Insert the pins and tabs into a clear setup sheet. Position the pins and tabs on the pin board as per assembly drawing. Manual Pin Boards have their pins and tabs installed at the factory. It is best to hold the plastic under light tension and level against the surface of the board to prevent buckling and to keep the correct position. Remove the adhesive cover from the bottom of the smaller pin and tab first. You can keep the tab in place by bending the tab over to expose the adhesive. Press tab firmly into its outlined position. Recheck that the larger pin is still centered within its slot and attach it.
- 8) When removing the carrier sheet film from the pin board place your thumb on the pin and push the film against your thumb while gently lifting the sheet.

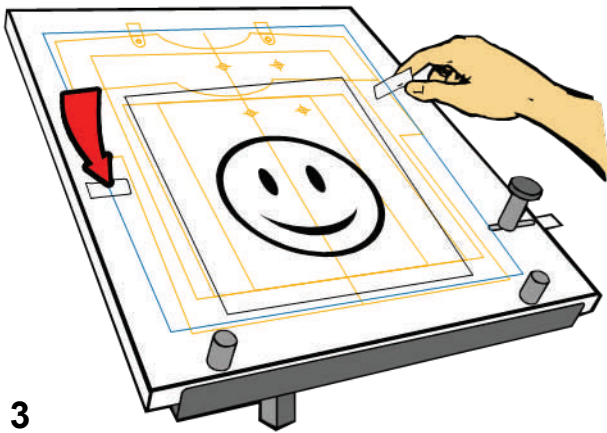
Operation

Using The Pinboard (Method 1: For any Exposing Unit)

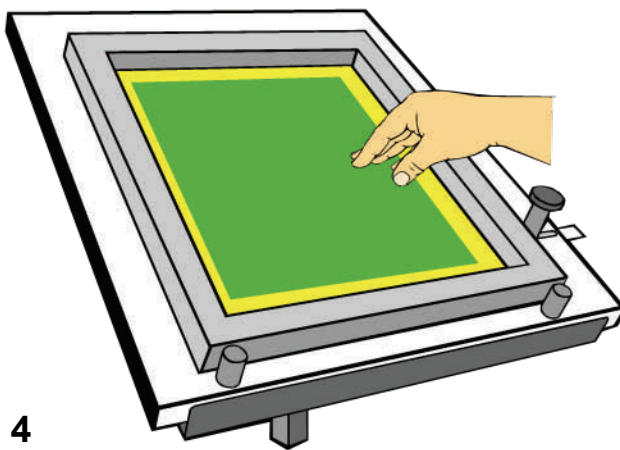


- 1) Exposure systems without the VRS pin stops will use the art alignment grid and pins on the Pin Board. Place the carrier sheet onto the pins on the Pin Board. Align and tape your positive to the carrier sheet. Repeat this for all the positives for the job you are printing. When all the colors are on individual carrier sheets, choose the appropriate screens for your job.

- 2) The carrier sheets will be attached to the screens with double sided tape or tape facing sticky side up from the underside of the carrier sheets.



- 3) Carefully place the screen against the pin stops at the bottom and slide the screen over to the side stop (make sure not to move the carrier sheet and positive out of position). Press the screen to the carrier sheet to stick the tape to the screen. Remove the screen from the Pin Board and make sure the carrier sheet and positive is secure to the shirt side of the screen. Be careful not to tear the pin holes. Place the screen with the aligned positive onto your exposure system and expose.

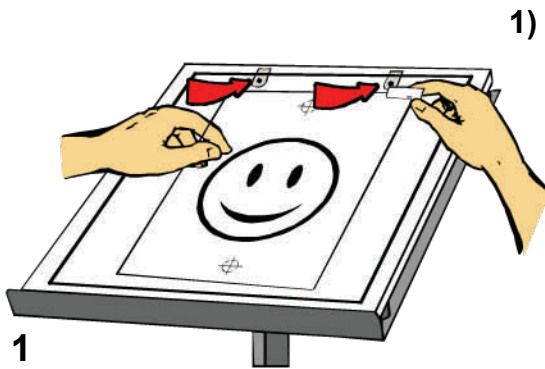


- 4) After exposure, remove the carrier sheet and positive from the screen. Wash and develop the emulsion as normal. When the screen is dry, prepare for installation into your press (tape and block out).

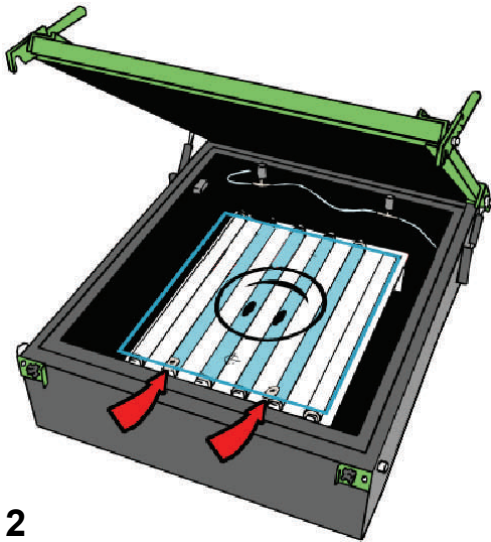
The following page shows how to use the VRS with a Vastex Expos-It equipped with pins/tabs and (optional) 3rd side stop.

Operation

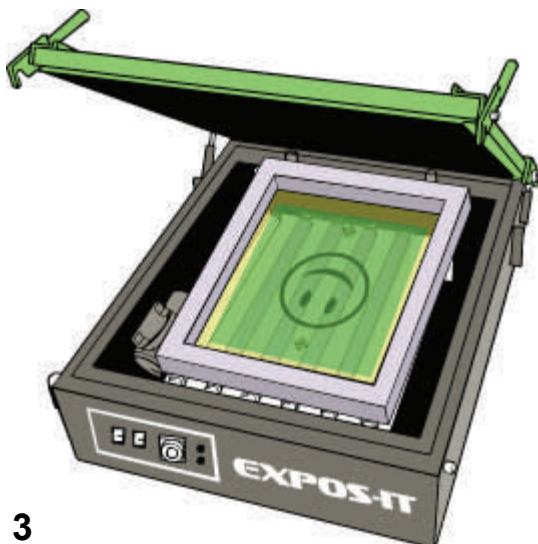
Using The Pinboard (Method 2: For manual presses using Vastex Expos-it)



- 1) Place a single carrier sheet on the VRS pin board. Position the positive using the grid and pallet outline on the pin board as a reference. Tape the positive to the carrier sheet. The VRS works by holding the positive in the same position on the screens every time. It is essential that the user carefully aligns the positive on the carrier sheets to gain the most benefit from the VRS registration system. Artists can align additional colors by placing a second carrier sheet over the first sheet (with the aligned positive) and taping the second color positive to the second carrier sheet. Tip: With more than two colors make the first positive a “base” position. Stack the additional carrier sheets and positives only one at a time, as too thick of a stack of carrier sheets and positives will cause the colors not to align as well as possible (due to shadows and light refraction).



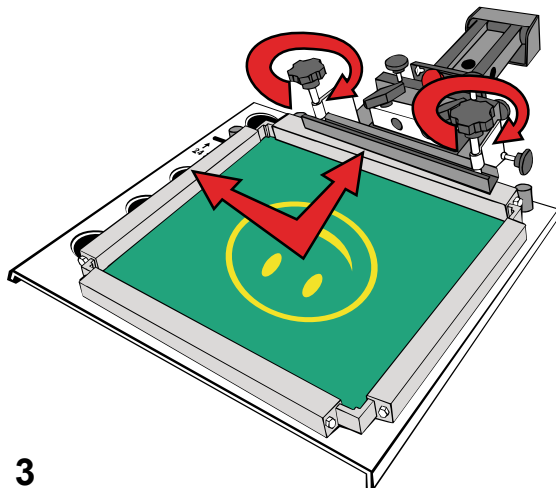
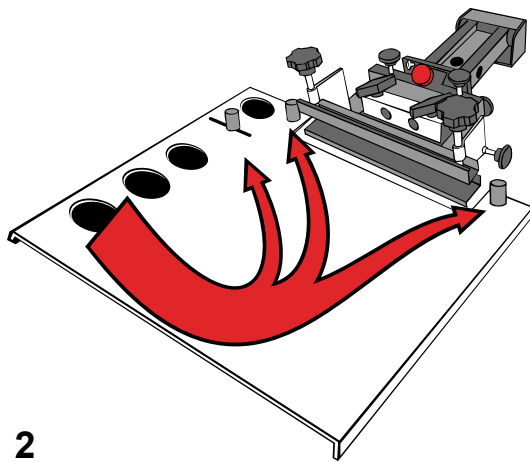
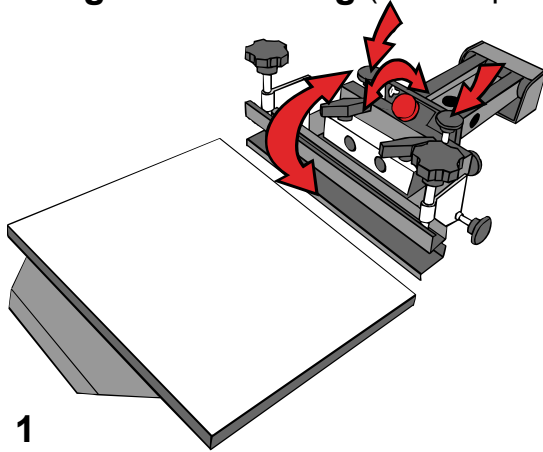
- 2) Place the positives onto the exposure glass using the registration pins, making sure that the carrier sheet and positive are flat to the glass and in correct position.



3. Gently push the screen against all three screen stops while lowering the expos-it lid. Lock the lid closed, set the timer and expose your screen. Expose all remaining screens.

Operation (cont'd)

Using The Pallet Jig (Manual press/jig shown)



1) After exposure, remove the carrier sheet and positive from the screen and wash and develop the emulsion as normal. When the screen is dry, prepare for installation on your press (block out, tape). Center all the screen micro adjustments on the printer.

2) **Manual** users; Place the VRS Pallet Jig onto one pallet. The screen stops will be at the back and left side of pallet when facing center of the printer. Gently pull the pallet jig toward yourself until it stops against back edge of pallet. Lock in place using the two pallet clamps. Make sure to have centered or “zeroed” the micro registration adjustments on your printer before continuing.

Automatic users; Please refer to assembly drawing for your press for proper orientation of the pallet jig.

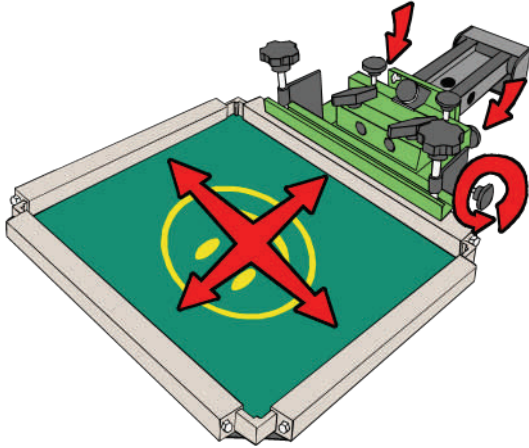
3) Manual Press

Slide the screen into position against the two back stops and slide the screen to the side stop. If the back edge of the screen is contacting the screen clamp it will be necessary to move the press pallet away from the clamp, allowing clearance between screen and clamp. When clearance has been obtained continue with screen installation. Hold the screen firmly against the pin stops while tightening the screen clamps. Repeat this procedure for any additional colors and use the micro registration adjustments for any final screen alignment. Platens can be moved once the screens are locked in position.

Automatic Press

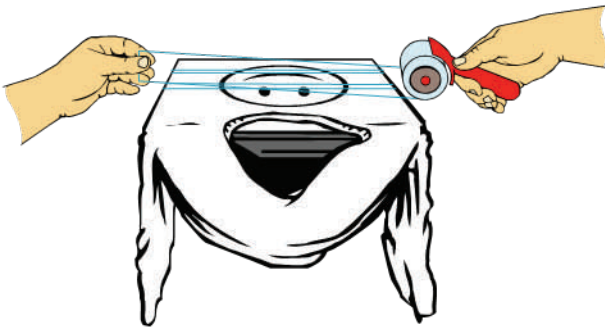
Cycle pallet and screen to printing position. Slide screen into clamps. Gently push screen against all three stops, then activate clamps. Screen is now accurately located within the clamps and over the pallet. Rotate the pallet and pallet jig to the next station. Repeat this procedure for any additional colors and use the micro registration adjustments for any final screen alignment.

Operation (cont'd)



- 5) Use the micro registration adjustments for fine screen alignment.
- 6) Final screen alignment with the micros can be shortened by using the “tape trick”. This trick is quick and allows for unlimited adjustments because the smooth tape surface can be wiped of ink with a shirt rag.

Using “The Tape Trick”



- 1) Apply a liberal amount of adhesive to the platen and place a print rag (large enough to cover the entire platen) on the platen.



- 2) Print the “alignment” color (this should be a color that contrasts with the rag color and touches or is part of all the other colors in the design) along with its registration marks. There is no need to flash (flashing may shrink the design).
- 3) Apply clear 2-3 inch packing tape over the entire design and registration marks (make sure to overlap the edges and smooth down the tape).
- 4) Move the next color into position and bring the print head down into the locks.
- 5) If critical registration is needed, print directly onto the tape and move the micro registration as needed.
- 6) If further alignment is needed, wipe the ink from the tape and proceed to make new micro adjustments as needed (print, adjust, wipe and repeat). When all the screens and the respective colors are in their final positions and locked remove the tape from the rag and discard it.

A complete video demonstration can be seen in the video section of our website. Just go to **WWW.VASTEX.COM** to see The Tape Trick, and a complete VRS demo.