



# ***TUF*** ***PRODUCTS***

3730 East Southern Avenue  
Phoenix, AZ 85040  
Phone 800-778-8779  
Fax 602-437-2270  
[www.tufproducts.com](http://www.tufproducts.com)  
[service@tufproducts.com](mailto:service@tufproducts.com)



# **FREEDOM** **JAVELIN**

**AUTOMATIC TEXTILE PRESS**

67-1500 2/06

## Introduction

Congratulations on your purchase of TUF PRODUCTS TEXTILE PRINTING MACHINE.

Check the crate for damage, DO NOT accept the crate if damaged due to improper handling during shipping. Report any damage to the Carrier at once as well as TUF PRODUCTS at 800-778-8779.

Inspect the crate contents IMMEDIATELY while the carrier is still there. Our packaging has been carefully designed to handle normal shipping conditions. However, we cannot be responsible for damage by the carrier. Upon first sight of freight damage notify or point out to the driver and file your claim with the carrier, then notify us.

### FREEDOM Features

- Two Year limited Warranty
- Fully Rotating Control Box
- Adjustable Screen Clamps
- Automatic Index Foot Pedal
- 6 Point Registration System
- Production Counter
- Adjustable Index Speed
- Flood/Print/Delay Timer Controls
- Single/Double Print Strokes Per Screen
- Print/Flood Angle Adjustment
- Dual Durometer Squeegees
- 16" X 18" Maximum Print Area
- Pneumatic Screen Clamps Print Stroke Adjustment
- Missed Platen Feature
- Begin / End Production Mode
- Sample Shirt Mode
- Front and Rear Micro Registration
- Front Micro Registration Grid
- 17" x 23" Adult Platens
- Micro Processor Controlled
- Maintenance Free Print Heads
- 17" Adult Flood/Print Squeegees

### JAVELIN Features

- All functions are micro processor controlled
- The fastest and easiest squeegee and flood angle, pressure adjustment available
- Single or double print stroke per screen for more opacity on dark garments
- Emergency stop button
- Delay timer
- Independent start buttons for each printhead
- Non-warping solid aluminum platen
- Begin, end production mode
- Double index, run two jobs simultaneously
- Pneumatically driven for smooth operation
- Adjustable rear screen clamp
- Adjustable print stroke
- Pneumatic screen clamps front & rear
- Foot peddle
- Control Panel rotates to all stations
- Micro registration front & back for fast setups
- Very *heavy duty* steel construction throughout
- Easily adjustable screen clamps
- One knob quick change squeegee
- Precision milled Registration fork on every print head for exact registration
- Production Counter
- Variable off-contact adjustment
- Easy release platens
- Fast production rate - 70 doz./hr
- Safety system
- Two year limited warranty

## ACCESSORIES

	WATTS	VOLTS	AMPS	PHASE
Javelin / Freedom Flash Back	4,200	230v	19A	1PH

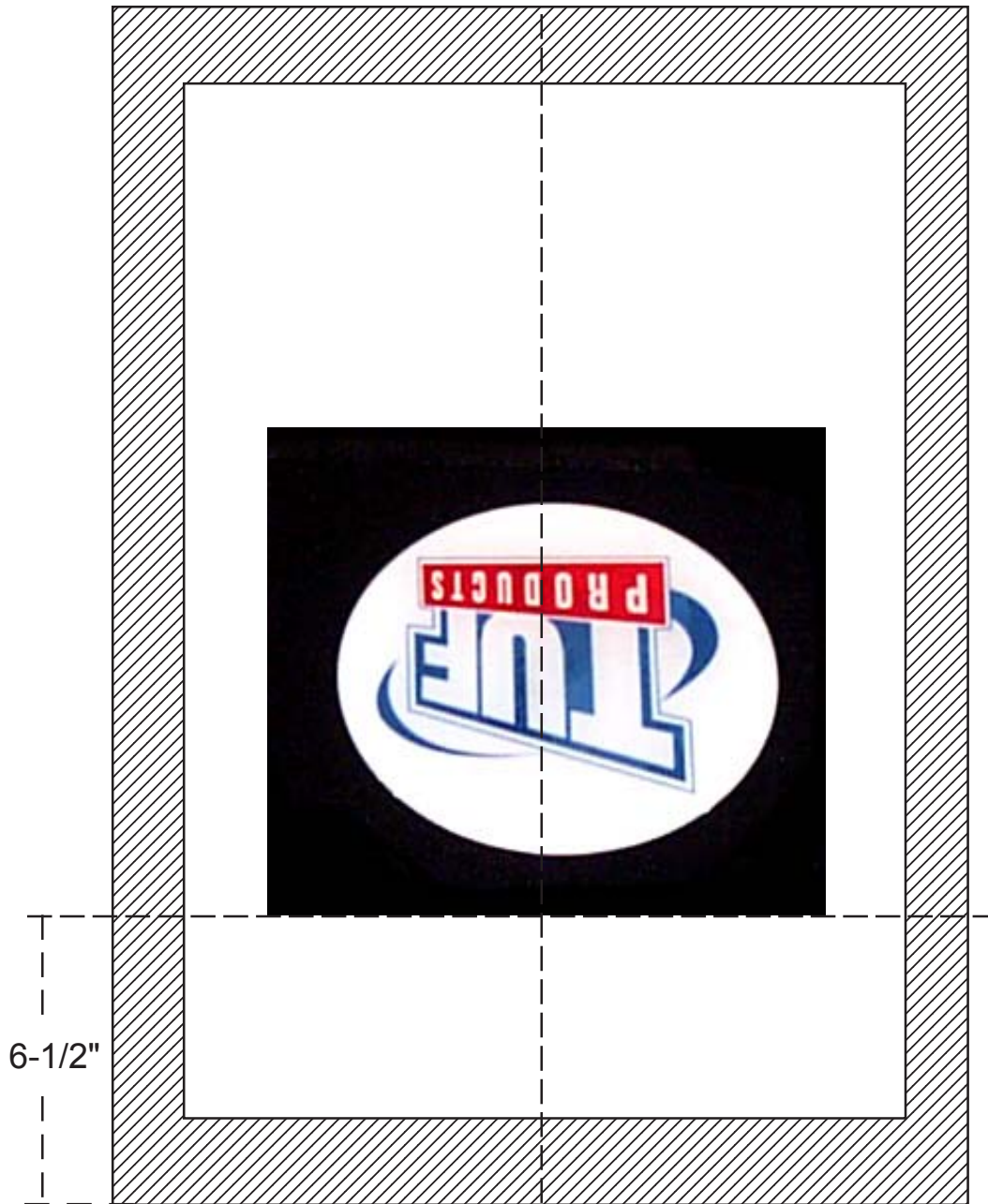
## JAVELIN / FREEDOM EQUIPMENT SPECIFICATIONS

PRESS	AREA REQUIRED	PRINT SIZE	AIR COMP. HP REQ'D	120 PSI CFM	VOLTS	AMPS
4 COLOR / 8 STATION	17' X 17'	16" X 18"	7.5	20	110V	7A
6 COLOR / 8 STATION	17' X 17'	16" X 18"	7.5	20	110V	7A
6COLOR / 10 STATION	17' X 17'	16" X 18"	10	22	110V	7A
8 COLOR / 10 STATION	17' X 17'	16" X 18"	10	22	110V	7A

### Read Instructions first

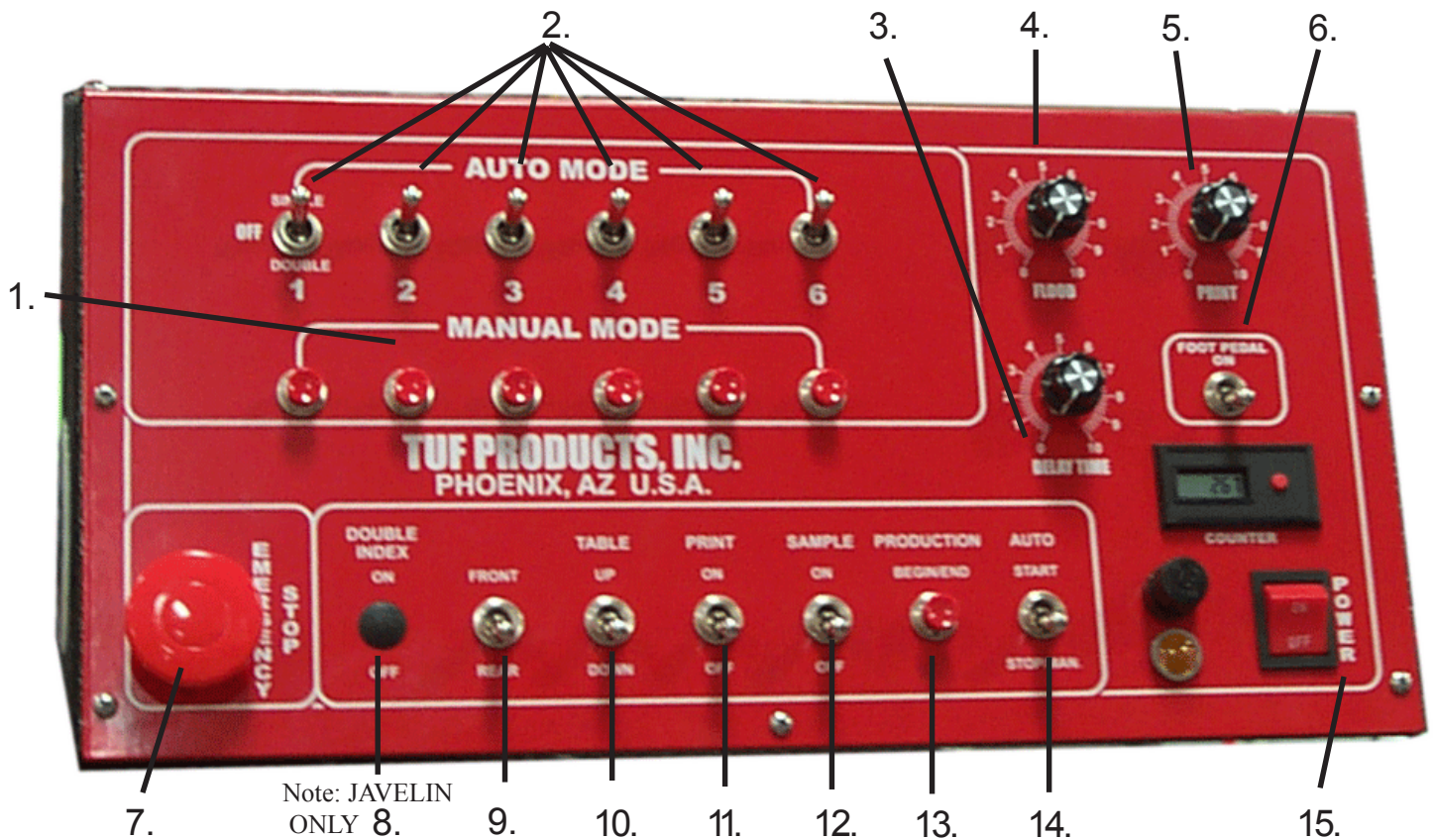
Read the instructions completely before you attempt to use your machine, this will familiarize you with the parts and the operation of the FREEDOM TEXTILE PRINTING MACHINE.

It is necessary that you preregister your screens when burning them for the automatic. The highest printed part of your total image should be no closer than 6-1/2" from the top outside edge of your screen frames. You must also center your total image (left to right). The end result of this preregistration is if you were to stack all three (3) screens of a three (3) color job and look through them, your image would be in registration, try to keep within 1/8" tolerance when burning screens.



The way you tape your screens if you plan to run more than a few dozen shirts is very important. To minimize emulsion breakdown, you should tape the entire back of your screen within an inch of your image area. Take extra care to ensure you have covered the area where the squeegee rests at both ends, and where the edges of the squeegee run along the screen when flooding and printing. If the image stops before the edge of the pallet, tape the underside of the screen to protect from the sharp pallet edge. Taping the inside of the screen in the squeegee path may damage your squeegee edge.

# CONTROL BOX DIAGRAM



1. **Manual Print Buttons:** Each print head has its own numbered button, when one is depressed the pallet table will raise and the corresponding print head will print. The table will then lower but no table rotation will occur (used primarily to check registration).

2. **Print Head Selector Switch:** Each print head has its own selection switch that is independent of all others and may be set in any one of the following positions; OFF - Single, Print Stroke & Double Stroke. During a print cycle those heads in the OFF position will remain at rest. The remaining head(s) will print after the pallet table has raised up, then upon completion the pallet table will lower and rotate to the next station while the flood stroke is occurring. If a double print stroke is required for any head(s), the pallet table will not rotate after lowering but will rise again in the same position for the second print cycle before continuing to the next station.

3. **Delay Timer:** After the print cycle is completed, the pallet table will lower and delay timer will be energized. Adjust the knob to the desired time for loading and unloading between print cycles. After the preset time is reached the table will rotate and begin the next print cycle. The delay timer is calculated in 1=1 sec.

4. **Flood Timer:** This timer controls the time the pallets will remain in the up position while printing. Set the knob to the number that allows the slowest squeegee to complete its print stroke before the table lowers.

5. **Print Timer:** This timer controls the time the pallets will remain in the up position while printing. Set the knob to the number that allows the slowest squeegee to complete its print stroke before the table lowers.

6. **Foot Switch: On position:** To begin the production cycle, push the foot pedal down. When each print cycle is completed, the foot pedal must again be depressed in order for the cycle to start.  
**Off Position:** The delay Timer will energize and control the start of the next cycle.
7. **Emergency Stop Button:** When activated the air pump valve will cycle and release all air from the printer and cut power to all systems. (*Note It is very important that the table be in alignment before reenergizing the emergency stop*).
8. **Double Index:** This switch is only installed on the JAVELIN Automatic Textile Press.
9. **Front/Rear Switch: Front Position:** The squeegees will remain in the printed-rear position to leave the screen flooded for air dry inks.  
**Rear Position:** The squeegees will remain in the flood-front position to leave the screen opened and not flooded, used for most non air-dry inks such as plastisol.
10. **Table Up/Down Switch: Up Position:** Pallet table will raise but no printing can be done (primary use is for registering screens).  
**Down Position:** Normal print position.
11. **Print On/Off:** If a squeegee requires service , the activation of this switch will release the air to the print cylinders so that the squeegee may be removed for cleaning, revised, replaced or to be able to adjust the squeegee angle and pressure adjustment. Flipping the switch to the original position will again supply air to the heads allowing operations to continue.
12. **Sample:On/Off** to do a sample print of one garment under all of the heads, that are on.
13. **Production: Begin /End:** Begin Production is used when first starting a production run. Engage Auto Start, then push Production Begin/End Button within 3 seconds. The pallet table will rotate and activate each head in turn as it proceeds around. When all heads have begun printing Auto Mode automatically begins.  
**End Production:** When finishing with a run, load your last shirt at Load On Station and push Production Begin/End Button. As the machine indexes, each head will deactivate in turn after printing and the machine will stop when the last shirt is completed.
14. **Auto Start - Stop/Manual: Auto Start:** Will start the printer into production run (flood, rotate and print). The table will begin rotation within 3 seconds of switching to Auto/Start. Speed is controlled by the Delay Timer or the Foot Switch.  
**Stop/Manual:** In the Manual Stop Position the table may be raised and lowered using the Table Up/Down Switch. The table can be rotated manually by hand. To print a desired head, select the number of the appropriate head and push that number switch. The table must be in the Down Position when printing a head.
15. **Main Power Switch: On Position:** 110 Volt is supplied to the DC converter, computer and main air valve supplying air to the system.  
**Off Position:** Power is cut to main controls and air is released through main dump valve. (*Note it is very important the table be in the proper alignment before energizing the main power switch*).
16. **Missed Platen (Sensor) Foot Switch:** if a garment is loaded and the tables begin to index, depress the Missed Platen foot switch and that one pallet will not be printed as it rotates to each print head. You can miss any pallets you choose as often as required.

# PALLET LEVELING PROCEDURE

**Required tools:** (1) 9/16" combination wrench. (2) 1" square 31" long steel tubing or 31" long screen frame w/mesh

**1. Set-Up Inspection:** **A:** Insert 31" screen or (2) pieces of 1" steel tubing in the screen clamps. When using steel tubing, align outside edges of steel 1" from the outside edge of screen clamp. When using a screen install normally. **B:** In manual mode raise table. **C:** Visually inspect off contact between the steel (or Screen frame) and the pallet.

**2. Adjustment:** If pallet is not level with steel tubing or screen use the following procedure.

A. Loosen the uppermost nuts on the Pallet Leveling Bolts on top of the Pallet ALUM. Base.

B. Using a 9/16th wrench to raise the pallet, use the 9/16th nut on bottom side of the Pallet ALUM. Base to raise the pallet if you need to loosen the uppermost nuts on the Pallet Leveling Bolt even more do so. To lower the Pallet use the same nut on bottom side of the Pallet ALUM base that you use to raise the Pallet but turn to

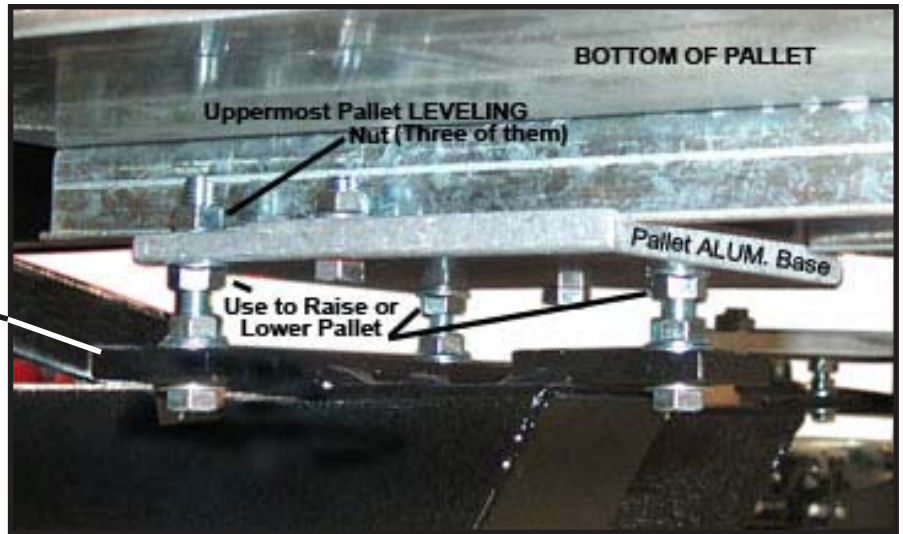
lower it. (see fig 1)

C. After raising or lowering the Pallet tighten the Uppermost Nut on top of the Pallet ALUM. Base

**Important:** You must level all the pallets to the same Print Head

3. The three Leveling Bolts are attached to the Holding Brackets secured to the Press. The holes for the three Leveling Bolts are slotted so you can move the Pallet side to side as well.

After you have leveled all the Pallets, adjust the off contact on the remaining heads to the SAME Pallet.



## MAINTENANCE AND UPKEEP

All lubricating should be performed a minimum of every 5,000 prints. Grease the aluminum track that the indexing carriage travels in. Place a small amount of white lithium grease on your finger and apply to the inside of this track in the groved area that the bearing plastic carriage slides in.

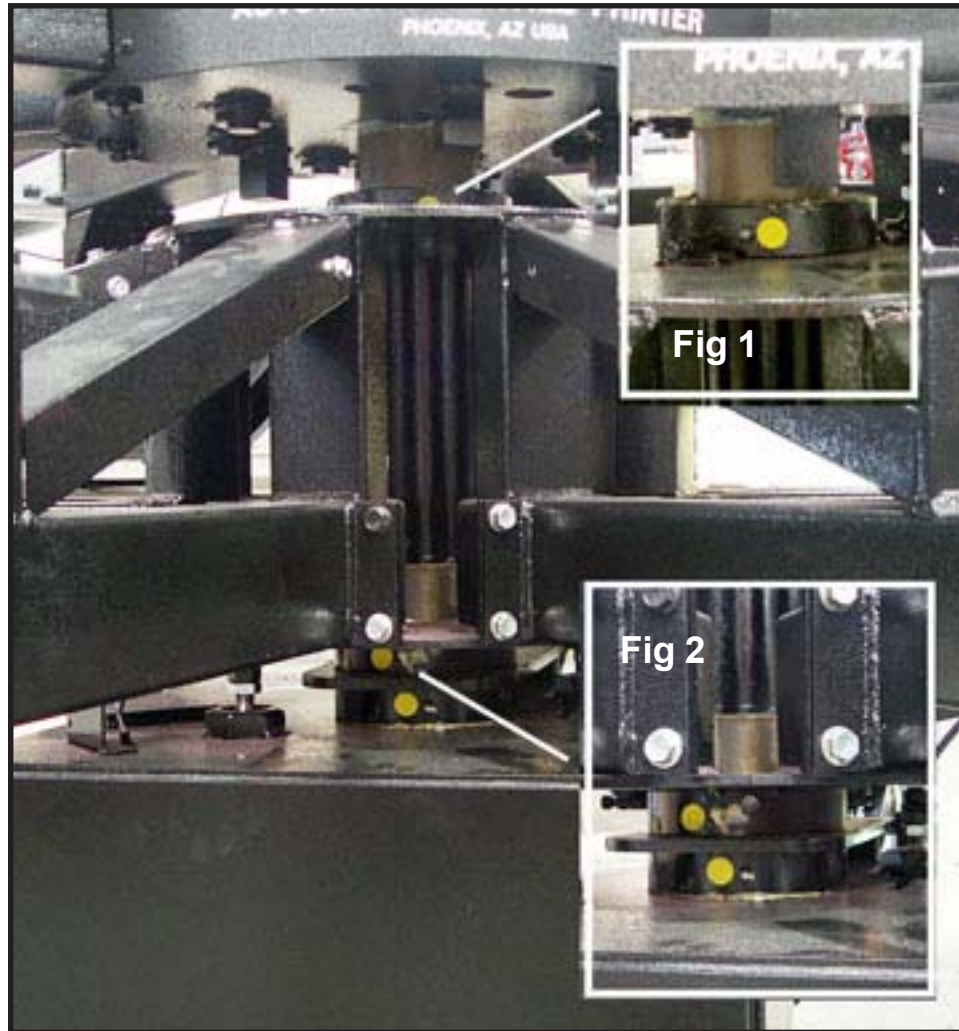
Make sure that the Chiller on your supply air has the capacity to do an effective job. Water in the air can reduce the efficiency of the printer and cause expensive service problems in the future. Failure of the printer due to moisture in the air supply is not covered by the manufactures warranty.

**NOTE:** Water is your pneumatic system's worst enemy! You must always ensure that the air being delivered to your press is free of any moisture. Regularly check your Chiller for proper operation. Drain your compressor daily. Change the filter in the eliminator a minimum of every 4 months.

If you see milky fluid in either side of your F.R.L. (Filter, Regulator and Lubricator), your air-drying system has failed! (1 drop every 10 minutes of rapid indexing with no heads turned on). Failure to maintain your press and failure to keep detailed maintenance records could invalidate your warranty!

# FREEDOM MAINTENANCE

There are three bushings located on the machine; one on top of the pallet carousel (fig1) and one located on the bottom of the carousel, while the other is located on the indexing arm. (fig2).



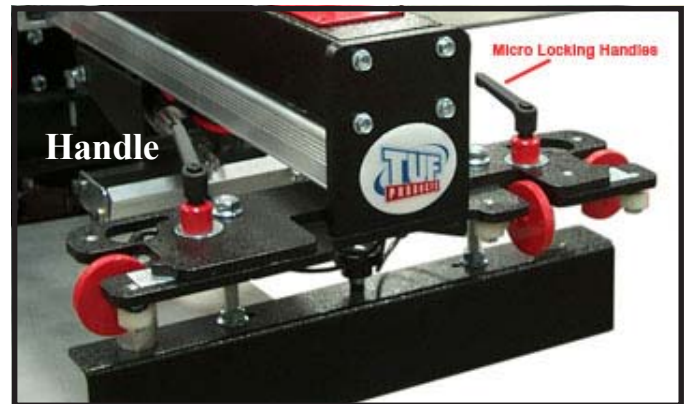
All three bushings need to be cleaned and re-greased every 5,000 imprints. The Bushings can be easily greased by using the Zerk fitting on each Bushing.

**NOTE: NON-CONFORMANCE OF BUSHING MAINTENANCE COULD INVALIDATE YOUR WARRANTY.**

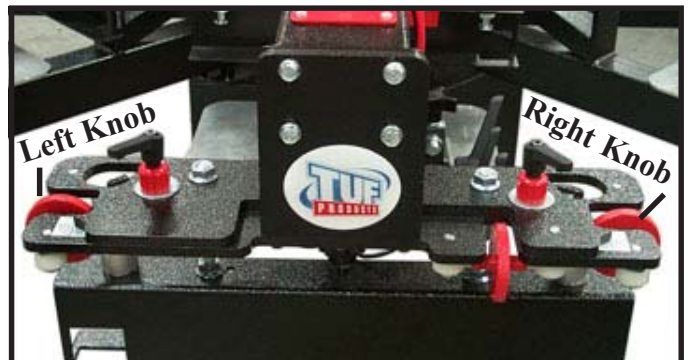


# Front Micro-Registration System Part Identification and Procedures

**1. MICRO LOCKING HANDLES:** These Handles must be loosened to the Micro Screens. Loosen these Handles only enough to allow Micro adjustment. Excessive looseness will result in registration movement when Handles are re-tightened



**2. FRONT MICRO UP / DOWN ADJUSTMENT:** Turning the tip of these knurled knobs to the left will cause the image to move upwards on the shirt. Turning the knobs to the right will cause the image to move down on the shirt.



**3. FRONT MICRO LEFT / RIGHT ADJUSTMENT:** Turning this knurled knob away from you will result in the print moving right on the shirt. Movement towards you will cause the image to move left on the shirt.



## MICRO REGISTRATION REQUIREMENTS AND TIPS

All Micros should be centered on grids before set-up. (fig 1). Rear clamps should be released when adjusting front Micros more than  $1 \frac{1}{16}$  th of an inch. (fig 2)

### MICRO Adjustment Procedure:

1. Raise the Table.
2. Look through the screen at the art, adjust location and clamp front.
3. Micro front as needed.
4. Clamp rear.
5. Re-Micro front as needed.
6. If rear clamp are released, repeat steps 3, 4 and 5.



fig 1

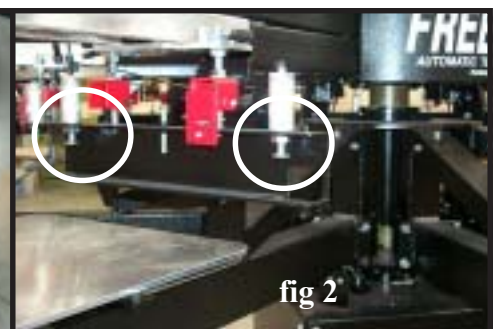


fig 2

# SAFETY FEATURES

**1. MAIN AIR LOCKOUT VALVE:** When servicing of the printer is required a special Lockout Valve (fig 1.) has been provided as an added safety precaution. This valve is located in the circled pictured up line of the Filter/Regulator. This has a padlock hole through it. A padlock may be inserted to prevent air from being supplied to the printer.



**2. SAFETY CABLES:** Located around the perimeter of the printer, when disconnected at any junction they will cut power to all main controls and energize the main Dump Valve emptying all of the air from the machine.

**NOTE: IT IS VERY IMPORTANT THAT THE TABLE BE IN ALIGNMENT BEFORE RECONNECTING THE SAFETY CABLE.**

**3. DURING AN EMERGENCY SITUATION:** Push the Emergency STOP BUTTON (No.7 pg 5) or Break the Safety Cable.

**NOTE: IT IS VERY IMPORTANT THAT THE TABLE BE IN ALIGNMENT BEFORE RE-ENERGIZING THE EMERGENCY STOP.**

## **SAFETY FIRST:**

Always operate this or any other equipment safely. This equipment has heavy moving parts, which can cause serious injuries if all safety precautions are not observed. **DO NOT OPERATE THIS EQUIPMENT WITHOUT THE SAFETY CABLES IN PLACE AND OPERATIONAL.** Do not allow anyone not fully trained on the operation of this equipment to come within 3 feet of this equipment when in operation.

Do not allow children near this equipment at anytime. Do not allow this equipment to operate while unattended. Disconnect the power source when crawling under the Safety Cable or the extended circumference of this equipment.

Do not commence the operation of this equipment without some type of **LOUD** vocal warning such as "CLEAR". Do not commence the operation of this equipment without visual inspection to insure that no personnel are within the operation area of the equipment.

**USE COMMON SENSE. - THIS IS HEAVY EQUIPMENT.**

# Squeegee Installation & Adjustment

1. Insert Squeegee tab into Flipper Block Slot. Align Squeegee with Flipper Block hole and fully insert retaining pin. (fig 1)

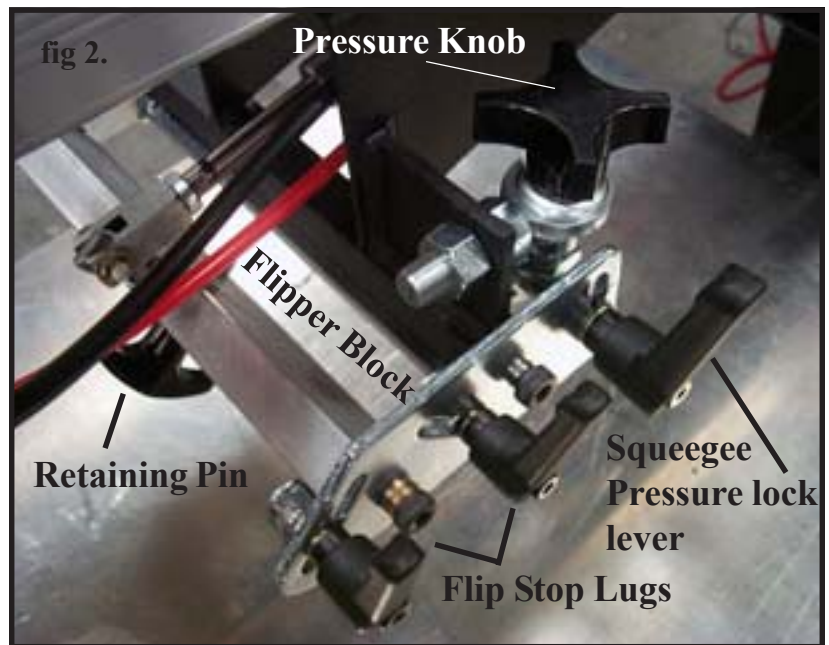
2. **Table Up:** To adjust the Squeegee angles and pressure, turn off the printer, then rotate the Squeegee Pressure Knob counter clockwise as far as it will go without using force. Loosen the Squeegee Pressure lock lever and lower the Squeegee until the Lock Lever Bolt is bottomed out in the slot that it rides in. (**Do not use pliers or extension pipes on any of the knobs or levers on your machine. Any component that requires that type of action is defective and should be replaced.**)



Now lower the Squeegee with the Pressure Knob by rotating it clockwise until the Squeegee, when flipped flood to it's print blade has about 1/2" inch clearance between the edge of the blade and the surface of the screen. (Push down on the print until it touches the Pallet. The flood blade should now have the 1/2" inch clearance from the blade to the screen). Holding the print blade firmly against the Pallet, set the print angle Stop Lug to stop the Flipper Block at this angle.

**IMPORTANT NOTE: YOU MAY NEED TO ADD OR REDUCE BLADE ANGLES AND/OR PRESSURE ON SOME JOBS DUE TO OFF CONTACT, INK VISCOSITY ETC.**

3. **MOST PRINTING WILL BE DONE USING YOUR 70 DUROMETER BLADE TO PRINT AND 80 DUROMETER TO FLOOD. HOWEVER WHEN A HARDER BLADE IS REQUIRED, I.E., FOUR COLOR OR HALFTONES ON A SMALL MESH, FEEL FREE TO EXPERIMENT WITH PRINTING 80 DUROMETER AND FLOODING 70 DUROMETER.**



## INKING SCREENS

Place liberal amounts of ink into the center of the screens. Keep ink lower than 1/2 thick or Squeegee will shear off ink and deposit it at the top or bottom of the screen. Pre-stroke screens by hand to lubricate them against friction of the blade under pneumatic pressure. Move your ink back to center or add ink every 4 dozen shirts or a as required.

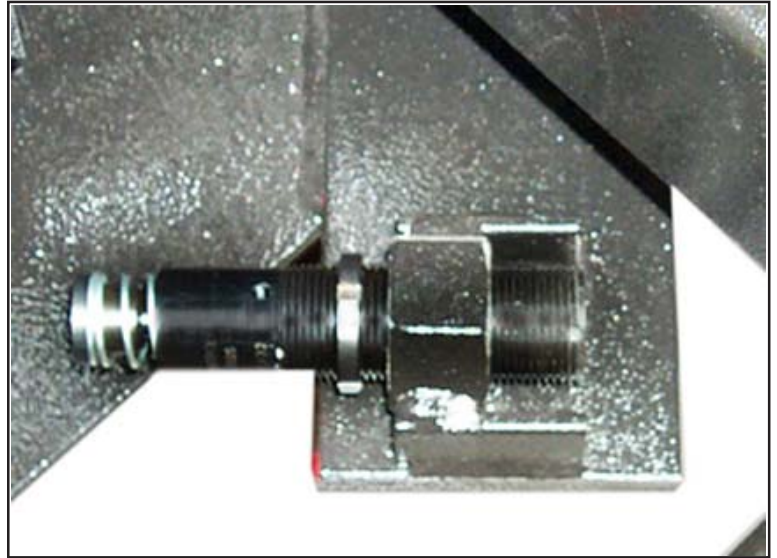
## FREEDOM INDEXING SHOCK ADJUSTMENT

### A. SHOCK PISTON

**B & C. SHOCK BOTTOMING ADJUSTMENT AND RETAINER:** THESE TWO PARTS ARE ADJUSTED AND TIGHTENED AT INITIAL CONSTRUCTION AND AGAIN AT INSTALLATION. THIS IS **NOT** A CUSTOMER ADJUSTMENT.

**D. SHOCK STIFFNESS ADJUSTMENT ALLEN SCREW:** (SHOWN BETWEEN #4 AND #5) MUST BE LOOSENED BEFORE STIFFNESS CAN BE ADJUSTED. STIFFNESS CORRESPONDS TO NUMBERS AS SHOWN. 1,2,3,4,5,6,7,8,9. 2.5 TO 3.5 IS TYPICAL SETTING

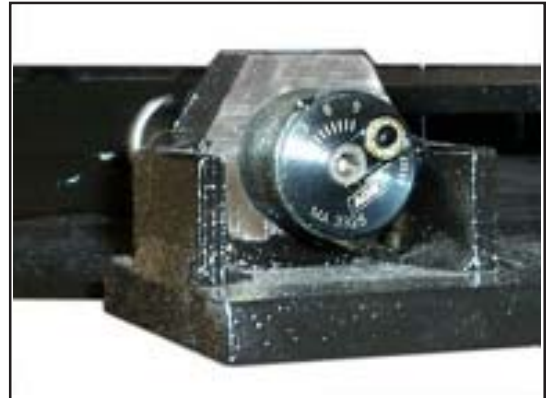
**E. OIL FILLED SHOCK BODY:** MAINTENANCE FREE.



### F & G. SHOCK LEFT TO RIGHT ADJUSTMENT AND RETAINER:

ANY ADJUSTMENT TO THESE PARTS CORRELATES DIRECTLY TO TABLE-UP POSITIONING. THE ONLY TWO SITUATIONS WHEN THIS ADJUSTMENT SHOULD BE MOVED ARE:

1. BEARINGS CONSISTENTLY COME INTO FORK EITHER RIGHT OR LEFT OR LEFT OF CENTER OCCURS.
2. GREAT CARE SHOULD BE USED WHEN REPOSITIONING SHOCK BODY AND TIGHTENING IN ORDER TO RETURN AS NEARLY AS POSSIBLE TO ORIGINAL POSITION.



## JAVELIN TYPE 1 SHOCK ADJUSTMENT

A. THE TYPE 1 SHOCK HAS A SCALE ENGRAVED IN THE RING AT THE END. PLACED ON THE THREADED BODY OF THE SHOCK THERE IS A SET MARK.

B. USING A PAIR OF CHANNEL LOCK PLIERS, TURN THE RING TO ADJUST THE SETTING.

C. THE SHOCK IS VERY SENSITIVE TO CHANGE. MAKE VERY MINOR ADJUSTMENTS. ONLY MOVE A FRACTION OF THE DISTANCE BETWEEN THE NUMBERS ON THE SCALE. THE HIGHER YOU GO ON THE SCALE THE WEAKER THE SHOCK GETS. THE LOWER YOU GO ON THE SCALE THE STIFFER THE SHOCK GETS.



D. WHEN THE PALLET TABLE INDEXES THE SHOCK SHOULD BE ADJUSTED TO BRING THE TABLE TO A STOP. BOTTOMING OUT ALL THE WAY, WITHOUT SHAKING. IF THE SHOCK IS TOO STIFF THE SHOCK WILL NOT COMPRESS COMPLETELY ON IMPACT, AND SLOWLY SINK INTO THE BOTTOM OUT POSITION. IF THE SHOCK IS TOO WEAK THE SHOCK WILL COMPRESS TOO FAST AND THE IMPACT WILL BE ROUGH.

## LIMITED WARRANTY AND WARRANTY REGISTRATION

*Although every effort has been made to provide accurate specifications, Tuf products does not assume any liability for damages, whether consequential or incidental, that may result from the use or misuse of the indicated specifications. Tuf products requires the use of a licensed industrial electrician for the installation of electrical service to equipment requiring electrical power.*

*Tuf products* reserves the right to alter specifications in the manufacturing of its products.

It is understood and agreed that Seller's liability for any equipment whether 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 purchase price paid by Buyer. Notwithstanding the foregoing provision, under no circumstances shall Seller be liable for special, indirect or consequential damages. The price stated for the equipment is a consideration in limiting Seller'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 is specified is exclusive and no other warranty, whether written or oral, is expressed or implied. Tuf Products specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Equipment manufactured or sold by *Tuf products* is warranted against defects in workmanship and materials for a period of one year from receipt by customer. All warranties initiate from date of shipment to original customer.

Replacement parts are covered for the term of the equipment warranty period. Parts not under warranty are covered for thirty (30) days from receipt by customer. Any part found by *Tuf products* to be defective in material or workmanship within the stated warranty period will be replaced or repaired at *Tuf products* option without charge. **AFTER OBTAINING AN RMA# SEND RETURNED FREIGHT PREPAID TO 3730 E. Southern Avenue, PHOENIX, AZ 85040 USA.** Written authorization must be obtained from Tuf Products before any 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.**

*This warranty does not extend to expendable parts such as filters, fuses, elements and brushes. Tuf products does not warrant failure of parts or components resulting from misuse or lack of proper maintenance. Installation, inspection, and maintenance costs are the sole responsibility of the purchaser.*

### Registration Form

Company Name: \_\_\_\_\_ Contact Name: \_\_\_\_\_  
 Address: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 \_\_\_\_\_ Fax Number: \_\_\_\_\_  
 City: \_\_\_\_\_ Email : \_\_\_\_\_  
 State: \_\_\_\_\_ Cell Number: \_\_\_\_\_  
 Country: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_ Serial Number: \_\_\_\_\_  
 Date Recivied: \_\_\_\_\_  
 Model Number: \_\_\_\_\_  
 Date Purchased \_\_\_\_\_

**Please Fax Registration Form for warranty to take place**