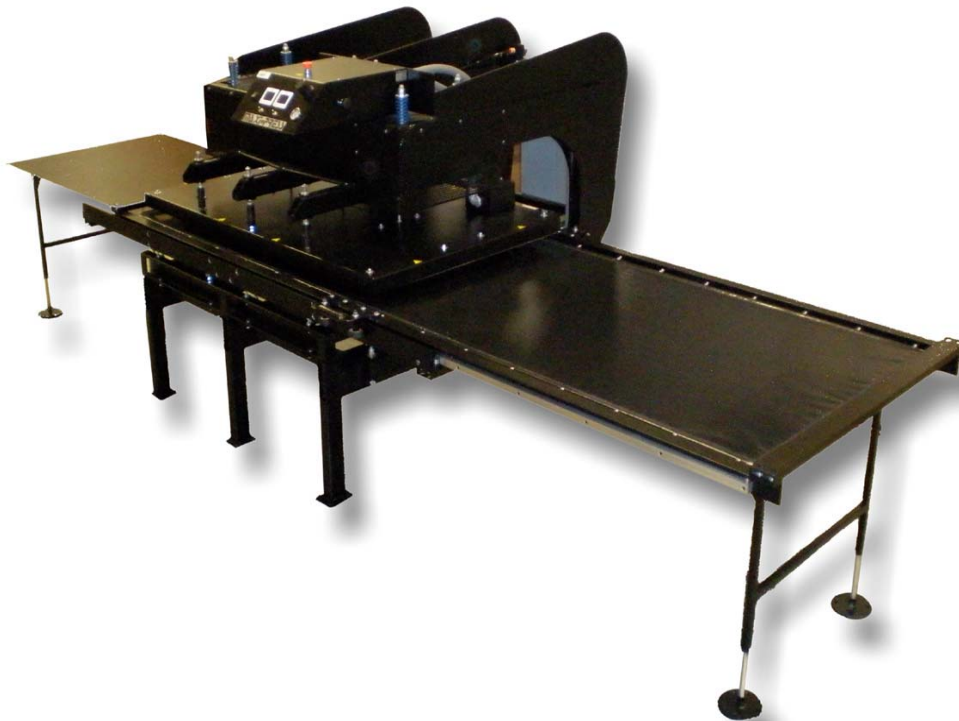




# **MAXI PRESS AIR OWNERS MANUAL**



REV. 10-2010

# BASIC INSTRUCTIONS

Geo. Knight offers a variety of machine options under the MAXI PRESS AIR line. There are two standard sizes of 30" x 40" and 40" x 64" heat platens, both of which can be ordered as twin stations and with top and bottom heat. The general operation and features of the MAXI PRESS AIRs are basically the same regardless of the options included. These options can not be added after the machine has been built. Please use the following information as a guide only. If there are any detailed questions or issues with the press, please call the factory at 800-525-6766.

## UNPACKING

Your MAXI PRESS AIR was shipped in a fully enclosed crate. Great care must be used when uncrating the machine and removing all of the packaging material. The MAXI PRESS AIR is lagged to the bottom of the crate. Depending on the model, the sidewalls of the wooden crate may need to be dismantled in order to remove the air maxi from its crate.

It is recommended that a forklift be used to remove the AIR MAXI PRESS from the crate. **CARE MUST BE USED TO POSITION THE FORKS IN AN AREA THAT WILL NOT DAMAGE ANY OF THE LOWER AIR COMPONENTS OR AIR TUBING. NEVER LIFT THE PRESS BY LIFTING UP UNDER THE TOP HEATER BLOCK.** Only lift up against the lower steel tubing structure.

Locate the MAXI PRESS AIR in an area that will allow for access around the entire machine. On most machines the Main Power Disconnect is located in the rear of the press. Make sure there is room to allow the operator to be able to reach the main disconnect on the machine. **IT IS RECOMMENDED THAT A TWIN STATION MAXI PRESS AIR BE LAGGED/BOTLED TO THE FLOOR AFTER LEVELING THE MACHINE.**

## ELECTRICAL AND AIR SUPPLY REQUIREMENTS

### ELECTRICAL:

30x40 (208-240 VAC) 1 phase 41 amps.  
30x40 (208-240 VAC) 1 phase 81 amps (with bottom heat option)  
40x64 (208-240 VAC) 1 phase 81 amps.  
40x64 (208-240 VAC) 3 phase 95 amps (with bottom heat option)

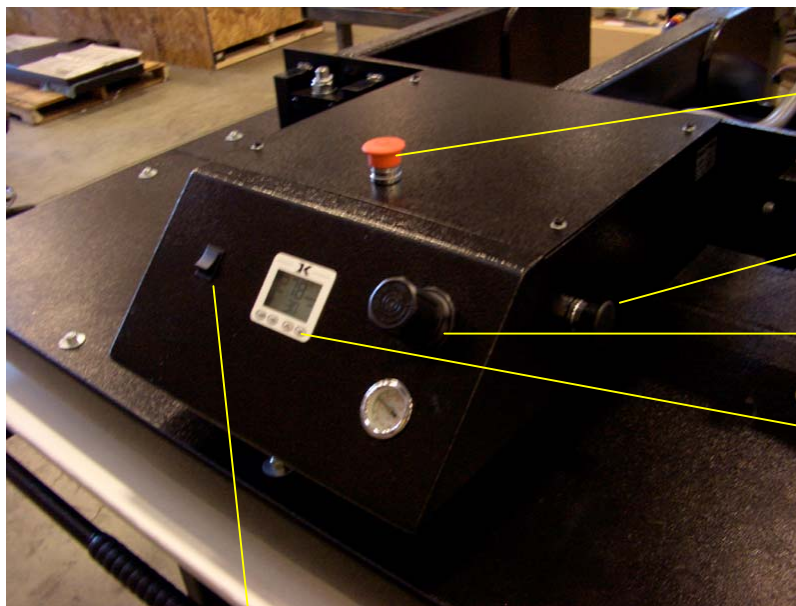
### AIR:

Regardless of the machine size, all of the MAXI PRESS AIR machines require a 1/2" NPT AIR LINE with a maximum supply pressure of 100psi.

# BASIC MACHINE OPERATION

Regardless of what size or options the MAXI PRESS AIR has, the basic operation is the same. Before turning the machine on, make sure all of the packaging materials have been removed and that there are no protection packaging material between the heater block and the lower table. A white soft nomex pad should be included and laid on the loading table before operating the press.

**TURNING ON THE MACHINE:** Your MAXI PRESS AIR was shipped with a fused MAIN disconnect mounted on the rear of the press. Switch this MAIN fused disconnect to the ON position. Next, locate the on/off switch on the control console and switch to the ON position.



**EMERGENCY  
RELEASE**

**RIGHT SIDE  
ACTIVATE PUSH  
BUTTON**

**FRONT PANEL  
REGULATOR AND  
GAUGE**

**DIGITAL TIME &  
TEMPERATURE  
CONTROL**

**CONTROL ON/OFF SWITCH**

**LCD TIME AND TEMPERATURE CONTROL:** Please refer to the KNIGHT DIGITAL CONTROLLER MANUAL for proper operation of the digital controller.

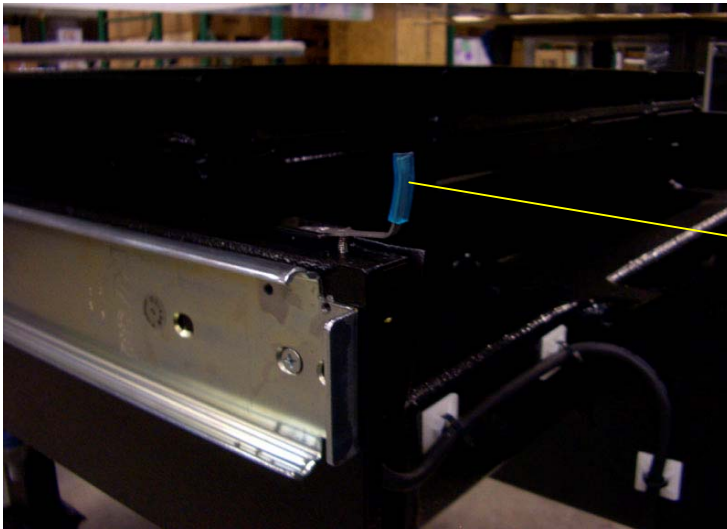
**SETTING THE AIR PRESSURE:** Set the pressure by pulling up on the regulator knob and turning to the desired pressure. For most applications, (60-80) psi works best. You can lock in the knob by simply pushing the knob into the locked position. It is recommended that while adjusting the pressure, let set the gauge beyond the pressure desired pressure and then turn it back to the desired pressure. **PRESSURE MUST NOT EXCEED 100 PSI.**

**EMERGENCY RELEASE BUTTON:** This red mushroom push-pull switch is used to release the press in case of an emergency. Simply press the button in to release the press. You must pull on the switch to reset it for operation. **DO NOT USE THIS SWITCH ON A REGULAR BASIS DURING NORMAL OPERATION.**

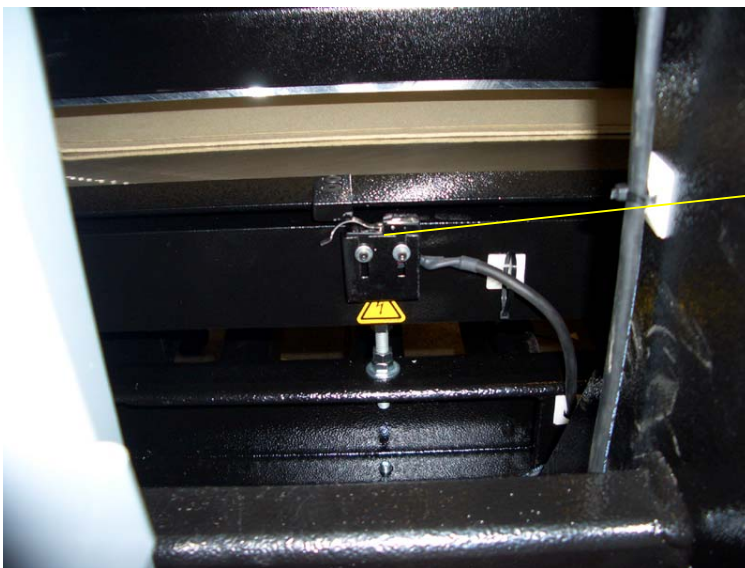
**ACTIVATE THE PRESS:** Regardless of the size or options of the MAXI PRESS AIR, all of the MAXI PRESS AIRES require the following to take place in order for the machine to activate.

- Press **BOTH** the left & right activate buttons on the sides of the control console
- The loading table index lever switch (a micro switch at the rear of the loading table mounted on the machine frame) must be pressed in the closed position by the loading table. (see pic)

The most common reason for why the machine will not activate when the two black activate buttons are pressed is either the Emergency Release button has been pressed or the lower table index switch is not activated or closed.



**Loading table index lever switch found on all single station front loading machines**



**Loading table index lever switch found on rigid table twin left-to-right shuttle machines**

# REPLACEMENT PARTS

## ELECTRICAL COMPONENTS:

- (2) ELN-MX1540 (MICA HEATERS- 30" X 40" PRESSES)
- (4) ELN-MX1540 (MICA HEATERS- 40" X 64" PRESSES)
- (1) DKA-CTRLC (PROCESSOR BOARD)
- (1) DKA-CTRLP (POWER BOARD-220V)
- (1) ELN-BAYKTC10 (BAYONET THERMOCOUPLE SENSOR)
- (1) ELN-HVYLVR (TABLE INDEX LEVER SWITCH)
- (1) ELN-2CT01 (HEATER CONTACTOR-SINGLE PHASE MACHINES)
- (1) ELN-4A064 (DPDT OCTAL TIMER RELAY)
- (2) ELN-6HK58 (BLACK ACTIVATE PUSH BUTTON SWITCHES)
- (1) ELN-6HK81 (RED EMERGENCY RELEASE PUSH BUTTON SWITCH)

## AIR COMPONENTS:

- (1) ARN-R184FO (FRONT PANEL REGULATOR)
- (1) ARN-55B240 (AIR MAC VALVE)
- (1) ARN-1B14365 (AIRBAG-30" X 40" PRESSES)
- (2) ARN-1B14365 (AIRBAG-40" X 64" PRESSES)
- (1) ARN-NAQ3KN03 (QUICK EXHAUST VALVE-30" X 40" PRESSES)
- (2) ARN-NAQ3KN03 (QUICK EXHAUST VALVE-40" X 64" PRESSES)
- (1) ARN-4ZJ86 (ADJUSTABLE EXH.FLOW CONTROL-30" X 40" PRESSES)
- (2) ARN-4ZJ86 (ADJUSTABLE EXH.FLOW CONTROL-40" X 64" PRESSES)

## MECHANICAL COMPONENTS:

### SINGLE STATION TOP HEAT ONLY PRESSES

- (2) MEN-C930136D (36" LOWER SIDE TABLE SLIDE-30" X 40" PRESSES)
- (3) MEN-C930142D (42" LOWER SIDE TABLE SLIDE-40" X 64" PRESSES)

### RIGID TWIN STATION PRESSES

- (6) MEN-9546K18 (ADJUSTABLE STOP BUMPERS)
- (8) MEN-NEO2WHL (NEOPRENE ROLLER WHEEL)

### TOP & BOTTOM HEATED TWIN STATION PRESSES

- (#) MEN-T575S (STAINLESS STEEL TEFLON BLANKET SPRINGS)
- (#) MEN-¼20SPRACN (SPRING ANCHOR STUD)

## PRESS PADDING MATERIAL:

### TOP HEAT ONLY PRESSES

- (1) RMN-½NOM54YD (1/2"NOMEX PAD -30" X 40" PRESSES)
- (2) RMN-½NOM54YD (1/2"NOMEX PAD -40" X 64" PRESSES)

### TOP AND BOTTOM HEATED PRESSES

- (1) HCR-183040 (1/8" GREEN HCR RUBBER - 30" X 40" PRESSES)
- (1) HCR-184064 (1/8" GREEN HCR RUBBER - 40" X 64" PRESSES)

## TWIN STATION TEFLON BLANKETS

- (1) MAX-4064TFTS (STITCHED BLACK TEF. BLANKET- 40" X 64" PRESSES)



# ASSEMBLY OF THE MAXI PRESS AIR TWIN RIGID STATION SHUTTLE

The Twin Rigid Station Shuttle is designed to allow the operator to unload and reload one table while another table is being pressed. The two tables are independent allowing indexing only when needed. Indexing is performed by simply manually moving the station in the desired direction. The assembly is basically made up of (5) major parts. They are:

- **MID RAIL SECTION**
- **LEFT RAIL SECTION**
- **RIGHT RAIL SECTION**
- **LEFT LOADING TABLE**
- **RIGHT LOADING TABLE**

## FULLY ASSEMBLED RIGHT SIDE SHUTTLE SECTION



**RIGHT SIDE  
LOAD VEHICLE**

**RIGHT SIDE  
STOP END  
TUBE**

**RIGHT SIDE  
RAIL  
SECTION**

**RIGHT SIDE  
FRONT HANDLE**

**UNPACKING:** Your machine was shipped in two main crates. One crate has the main MAXI PRESS AIR with one of the loading tables mounted under the heater block. The 2<sup>nd</sup> crate contains the other loading table with both the left and right rail sections. Completely unpack and remove all components. **!CAUTION!** When removing 4" X 4" wood timbers use a clamp or other person to prevent accidental movement and damage to the rolling loading table. Especially when assembling the left & right rails or moving the machine, use caution that the first loading table on the machine can not roll off the press.

# ASSEMBLY INSTRUCTIONS

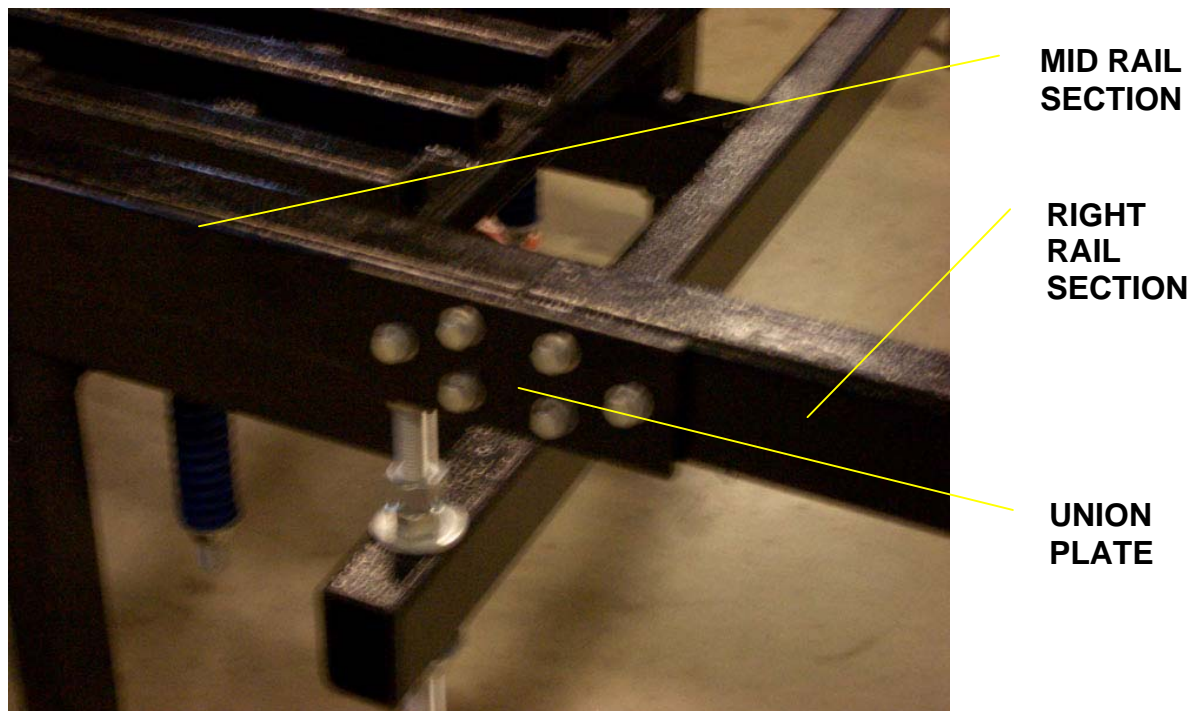
The first step is to attach the Left and Right rail sections to the Mid rail section already attached to the main press frame. Each side is attached to the Mid rail section by union plates. Carefully position the left or right rail section to the union plate (already attached) on the Mid rail section. Adjust the feet on the rail section so the aluminum bars mounted to the inside of the Mid rail section and the left or right rail section are level.

Attach the lower cross channels on each section and tighten. Make sure that the adjustable leg locking nut is tightened to prevent movement of the foot. Before tightening all hardware, make sure of the following:

- All aluminum bars are level & straight with each other.
- The center distance between the front and rear aluminum bars are the same on the left, right & mid rail sections.
- Lower cross channels are attached.
- Adjustable feet are locked by tightening the nut on the threaded stud up against the black leg.

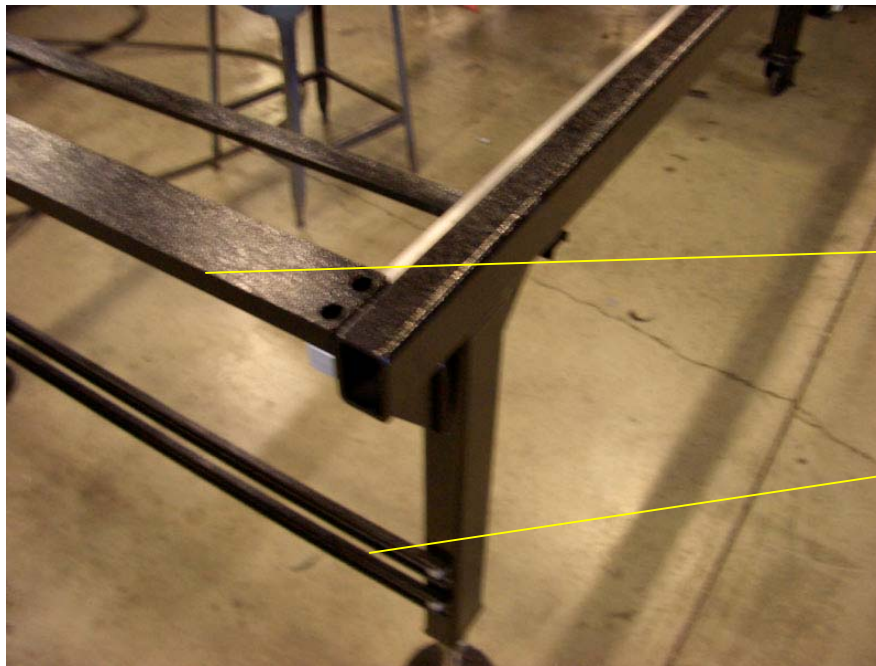
Note: All of the hardware needed was shipped either in the hole used for or in a separate package.

## RIGHT RAIL SECTION ATTACHED TO MID RAIL SECTION



Once the Left and Right rail sections have been attached, the next step is to attach the LEFT AND RIGHT stop end tubes. These 1" x 3" black aluminum tubes attach to the very end of each side rail section. The hardware needed should already be screwed into the tapped holes for attachment.

### **LEFT SIDE RAIL SECTION SHOWING THE END TUBE AND CROSS CHANNELS**



**LEFT SIDE  
STOP END  
TUBE**

**LOWER LEG  
CROSS CHANNELS**

With both the Left and Right rail sections attached and level, position the loading table that was shipped separately from the press. This is done by rolling the loading table into the rail section from the proper end. This is determined by the loading table that was already on the press when shipped.

- Remove the end stop tube from the side that the loading table must be rolled in from.
- Lift the loading table using a fork lift to the height needed to feed and roll the loading table onto the rail assembly.
- Carefully roll the loading table onto the aluminum rails. Lift the opposite side it is entering from to prevent the handle brackets from making contact with the rail.
- Once the entire loading table is in place, re-attach the end stop tubes.
- Proceed with attaching the handle to the front of the loading table using hardware supplied.

With both loading tables on the rail sections and the end stop tubes in place, roll each table carefully back and forth to test the motion. If it is difficult to manually move the loading table, adjust the lower neoprene roller bracket on the loading tables to reduce the amount of friction against the rails.

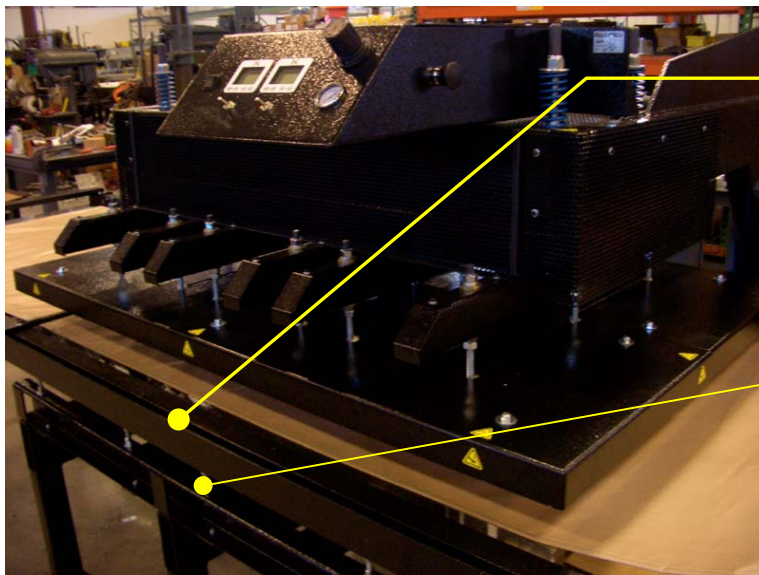
In order for the MAXI PRESS to activate, there is a safety lever switch that must be depressed with the loading table under the heater block. In the event that the machine does not activate properly, inspect this lever switch and hardware to adjust for proper operation.



# ASSEMBLY OF THE MAXI PRESS AIR TWIN STATION TEFLON SHUTTLE

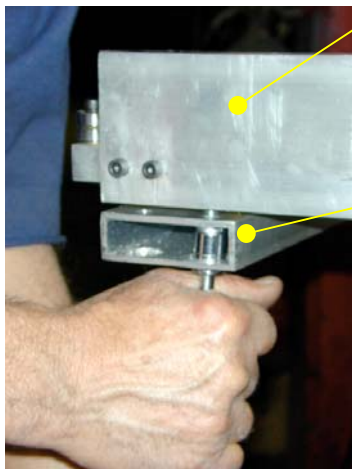
The Teflon Shuttle System for certain Maxi Press Air models is made up of 4 major assemblies:

- **BASE ROLLER FRAME ASSEMBLY:** This is an aluminum rectangle frame assembly that is attached to the base of the Maxi-Press Air. The assembly has multiple cam rollers and is the foundation of the shuttle system. It is made of Front, Rear, Left & Right tubes. The Front and Rear tubes attach to the maxi press by (6) threaded studs attached to holes in the tubes welded to the lower stand of the Maxi Press Air. The Front and Rear tubes are shipped in place on the machine stand.



**FRONT BASE TUBE ON ROLLER FRAME ASSEMBLY**

**MOUNTING STUDS ATTACH TO LOWER 2" 4" STEEL TUBING**



**FRONT LEFT SIDE OF ROLLER 1" X 3" TUBE**

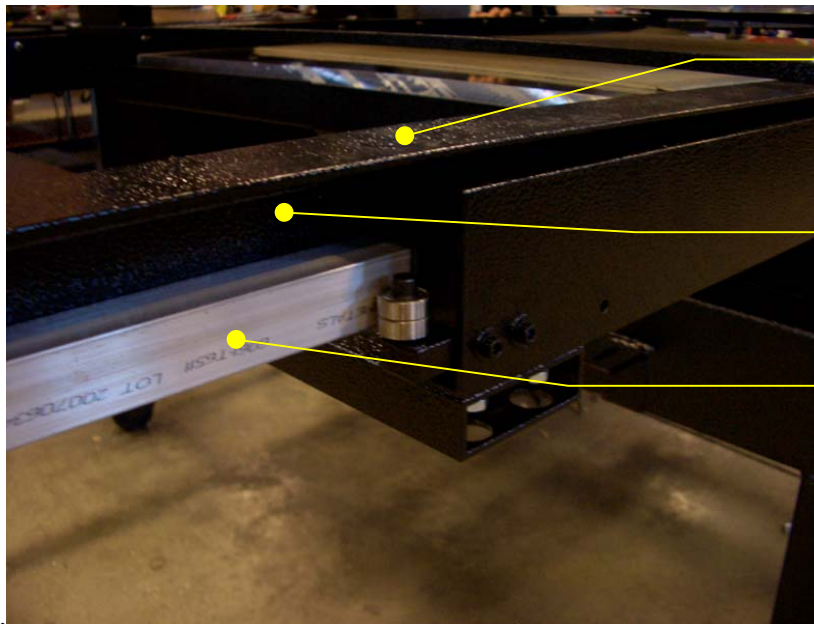
**LOWER LEFT SIDE 1" X 3" TUBE FOR ROLLER FRAME ASSEMBLY**

**NOTE: THE LEFT AND RIGHT SIDE 1" X 3" TUBES FOR THE ROLLER FRAME ASSEMBLY IS ATTACHED ON THE BOTTOM SIDE OF THE FRONT AND REAR ROLLER TUBES**



**2" X 4" STEEL  
STAND FRAME  
TUBING**

- **MAIN TEFLON SHUTTLE FRAME:** This is the large aluminum rectangle frame that shuttles back and forth on the Base Roller Frame Assembly. The Teflon blanket is attached to this moving shuttle frame. The assembly is made up of 2 long Front & Rear Aluminum Angles and 2 shorter Right & Left End Tubes. The long Front and Rear angles have 1" x 1" aluminum bars attached. It is these aluminum rail bars that will roll between the cam rollers on the Roller Frame assembly (see picture below). First roll the long front and rear angles into the front and rear Roller Frame, then attach the left and right end tubes. **NOTE: The left and right end tubes that are attached to the front and rear angles are attached to the TOP SIDE of the angles.** Once this assembly is attached properly, this Teflon Shuttle Frame will roll freely left and right on the lower Base Roller Frame Assembly.



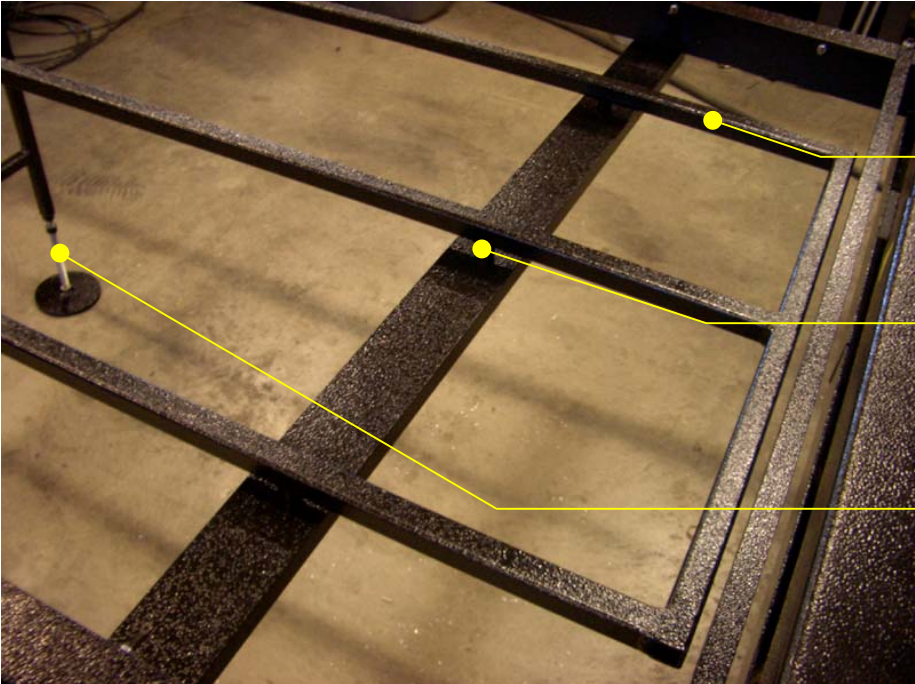
**SHUTTLE FRAME  
LONG ALUMINUM  
ANGLE**

**BASE ROLLER FRAME  
ASSEMBLY-LEFT SIDE**

**1" X 1" ALUMINUM  
ROLLER BAR**

The bolts attaching the Left & Right end tubes lower roller frame may need to be loosened & then tightened while spreading the angles to insure a smooth & tight rolling fit of the Main Teflon Shuttle Frame on the Base Roller Frame Assembly.

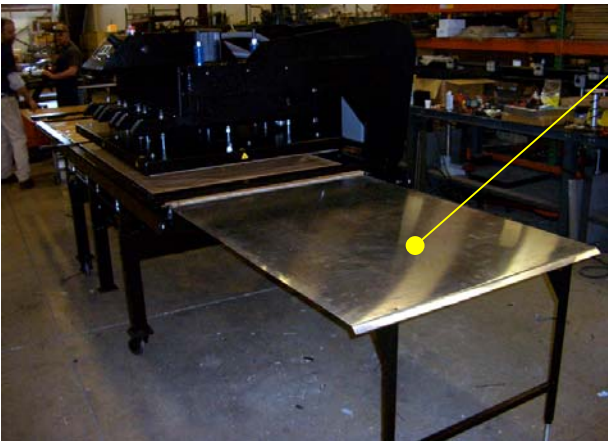
**TEFLON BLANKET SUPPORT OUT-RIGGER TABLES:** The Teflon blanket support out-riggers are welded assemblies that are attached to the left side and the right side of the Maxi Press Air. These assemblies support the Teflon blanket and materials being loaded & unloaded on it when it is shuttled to the left or right. It is made of (2) components, the welded structure with adjustable legs and the top aluminum tray. The out-riggers are attached to the left side of the lower roller frame assembly. Three screws are used to screw up from under the “left” side tube too the 3 tapped standoffs welded to the end of the out-rigger. On ce attached, adjust the feet so the assembly is level.



**LEFT SIDE OUT-RIGGER SUPPORT TABLE WELDED**

**ATTACHMENT POINTS TO LEFT SIDE LOWER ROLLER FRAME**

**ADJUSTABLE FEET TO LEVEL ASSEMBLY**



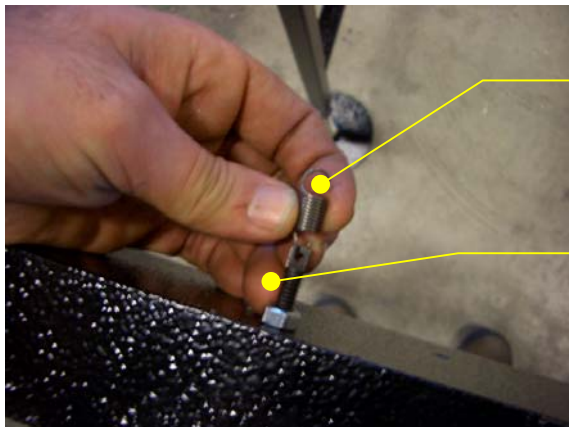
**ALUMINUM SHEETS ATTACHED TO THE OUT-RIGGERS ONCE ATTACHED. SCREWS FASTEN THE ALUMINUM SHEET TO EACH OUT-RIGGER VIA ALUMINUM ANGLES WELDED TO THE TIN AND SCREWS THAT SCREW INTO THE 1" X 1" STEEL**



**TEFLON SHUTTLE BLANKET:** The stitched Teflon that will support and carry materials in and out of the press is attached to the shuttle frame using springs. The springs pinch through the Teflon, wrapping around brass rods that are slid inside the stitched seams along the short and long sides of the Teflon blanket. The other side of the spring will hook into threaded studs with eyelets on the Main Teflon Shuttle Frame. Follow these 4 steps to attach the Teflon blanket to the Teflon shuttle frame:

1. Attach 1 spring to all the spring studs around the shuttle frame. (The machine may have been shipped with the springs already attached)
2. Position the Teflon blanket within the shuttle frame resting on the aluminum support trays so the Teflon blanket is centered within the Teflon Shuttle Frame.
3. Slide in the long and short brass rods into the stitched seams of the Teflon blanket.
4. From the center out, hook the Teflon springs to the brass rods hidden in the Teflon pockets, then hook them to the eyelets on the studs of the Teflon Shuttle Frame. Start along the rear long edge of the machine first attaching all springs to corresponding eyelets & threaded studs. Pull forward on the Teflon blanket when attaching springs to the front edge of the frame. Again - remember to start from the center and work out towards the ends. Once the rear and front sides are attached, then attach the shorter left and right side of the Teflon blanket.

Once the Teflon blanket is attached, it should be supported evenly & flat without waves or wrinkles tightly around the entire Main Teflon Shuttle Frame Assembly.



**TEFLON SPRING**

**SPRING STUD**



**TEFLON SHUTTLE BLANKET  
LAID INTO POSITION**

With the Teflon blanket now secured, shuttle the assembly to the left and right. Make sure that the Teflon slides smoothly without risk of abrasion against edges or surfaces. In most cases the bottom heater block will have a layer of 1/8" green heat conductive rubber laying on top of the heater block surface. The Teflon blanket needs to be above this green heat conductive rubber/semi porous Teflon by approximately 1/4".

The Teflon shuttle frame is equipped with Stop Blocks. These stop blocks will insure that the shuttle is fully shifted to the left and to the right for proper operation. They are located on the rear long aluminum angle. When properly adjusted, the heat platen will not make contact with the left or right side tubes of the shuttle assembly when the machine is activated. The machine is designed to allow activation of the machine anywhere within the Teflon blanket for long multiple pressing applications. Make sure the Main Teflon Shuttle Frame can not be pressed by the heat platen.

It is recommended that a cover sheet of tissue or craft paper be used above and below the work piece when pressing. This added protection will prevent excessive water vapor or inks from collecting on the stitched Teflon shuttle blanket

It is normal to have the bottom heat adjusted higher than the top heat to compensate for temperature loss through the green heat conductive rubber and Teflon blanket. Under normal applications, the bottom heat should be set (20-30 deg F) higher than the top heat.



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