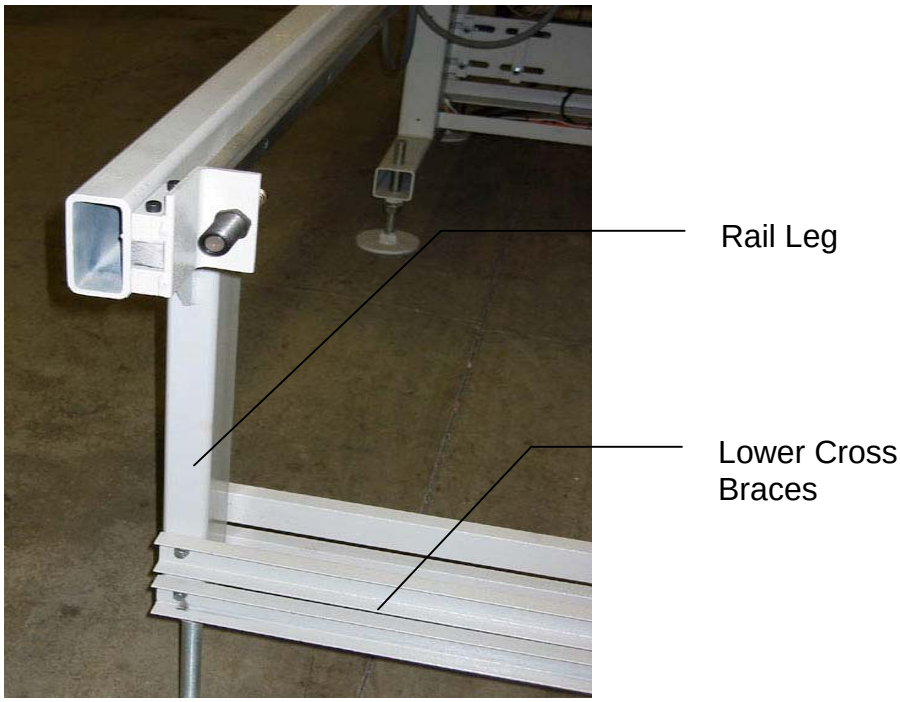
# BASIC TRITON MACHINE ASSEMBLY


Your Triton press was shipped in major components, the main pressing station with one of the load vehicles under the heater block, and a 2nd pallet with the 2nd load vehicle and the rail extensions. It is important that the machine be located on a solid flat level surface. It is recommended that the machine be lag bolted or anchor bolted to the floor once the machine is in place and is operating. The pressing station and the rail extensions have adjustable leveling feet. Make sure that once the machine is level and is operating that the unit be anchored to the floor.

- Attachment of the Front and Rear Extension Rails

As you see in the above photo, the Triton has a left and right front extension rails and a left and right rear extension rails. The rails have been NUMBERED stamped on the top connecting ends for proper placement. The rails are connected to the middle rail sections using mounting plates and hardware. The hardware was shipped in the mounting tapped holes of each connecting rail. Once the rail has been positioned and hardware loosely screwed in place, raise and lower the extension rail to match the level of the middle rail sections. Your goal is to have both the left and the right rails assembly be level with each other and to be on the same level plain. With the extension rails attached and level, the next step is to attach the lower cross channels to the support legs of the extension rails.

- Attachment of the Lower Cross Braces to Legs




There are a total of (8) lower cross braces. Four braces for the front extension rails and four braces for the rear extension rails. The hardware to attach the cross braces is screwed into each leg of each rail extension. Loosely position and fasten the cross braces as shown above. The next step is to measure the distance between the left and right middle rails that are on the pressing station. Make sure that this distance between the rails is the same out on the front and rear sections of the machine before you tighten the hardware for the cross braces. When completed, the rails need to be equally spaced with ideally a +/- 1/8” of each other.

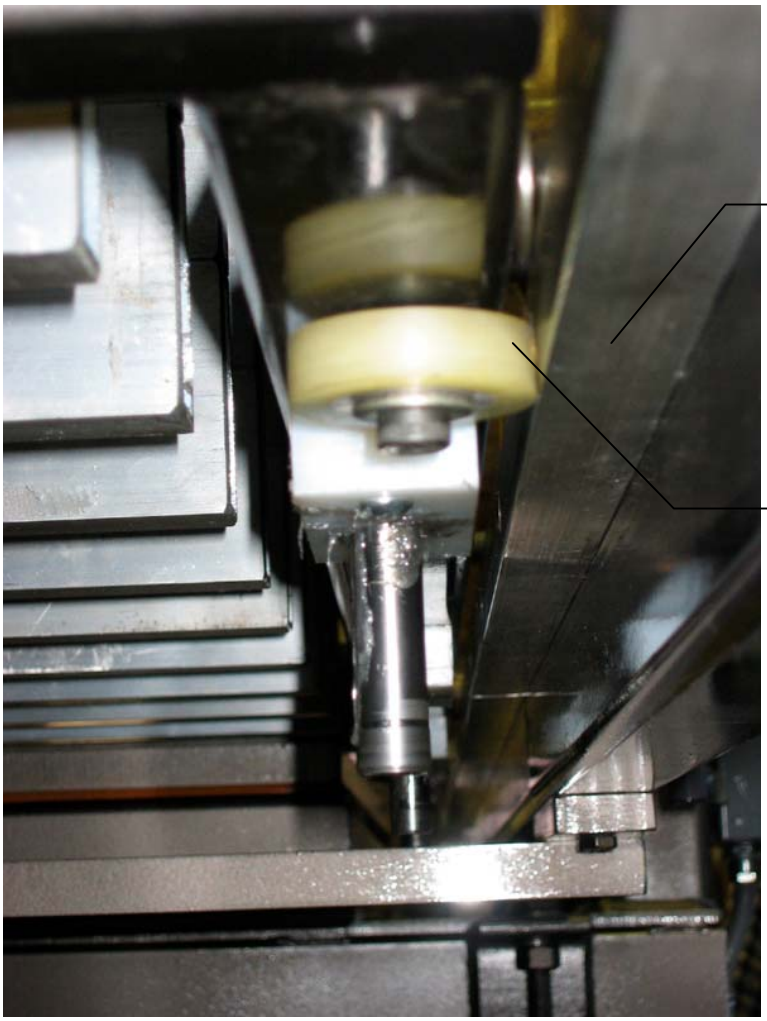
- Installing Load Vehicles to the Rails

Your Triton machine was shipped with the Rear Load Vehicle in the pressing station. The first step is to remove the shipping timbers and hardware used for safe transport of the machine and the load vehicle. Remove the 4” x 4” timers and the threaded rod used to hold the Rear Load Vehicle in place during the shipping. These threaded rods are not used in the machine’s final assembly, they are only for shipping. Next, remove any spacing padding material that is between the bottom of the heater block and the top of the load vehicle. Take great care not to scratch the heater block surface while removing material. The spacer padding material is only in place with a tight fit.

The Front Load Vehicle was shipped on the large pallet. You will notice that we installed (4) large carriage bolts into the load  vehicles steel tube frame. Two in the front steel tube and two in the rear steel tube. The purpose for these carriage bolts is to be able to

use cables-nylon straps-chain to be able to lift vertically straight up. You will need a fork lift. Once you have the Front Load Vehicle lifted vertically and is “floating” level, the next step is to “GUIDE” the load vehicle on to the front rails.

**NOTICE:**
**The Front Load Vehicle has poly- rubber guide rollers that help position and keep it guide on the rails. Great care should be taken when GUIDING the load vehicle to the rail aluminum bars.**




VIEW OF POLY-WHEEL AGAINST RAIL ALUMINUM BAR

Before lifting the front load vehicle and guiding it onto the aluminum bars, move the rear load vehicle back to give room for the front load vehicle. **NOTE: ATTACH EITHER CLAMPS OR ATTACH END GAS SHOCK BUMBER STOPS TO THE REAR END RAILS TO PREVENT THE REAR LOAD VEHICLE ROLLING OFF THE REAR RAILS.** It is recommended that you have (2) people guiding the front from the sides and (2) people guiding the rear sides of the front load vehicle while carefully and evenly feeding the rollers onto the aluminum bars. The fork lift must have the load vehicle top steel

roller wheels at a perfect height before slowly rolling load vehicle forward. If you find it difficult to feed the load vehicle in, you can remove the (4) poly wheels first, and then guide the load vehicle into the aluminum bars. Then the poly wheels can be re-attached.

- Attach the Load Vehicle Spacer Tubes

With the rear and front load vehicles on the rails, go ahead and remove the " FOUR LIFTING CARRIAGE BOLTS" from the front load vehicle. Packaged in a separate box, there is (3) load vehicle spacer tubes and threaded rods. These attach the front and the rear load vehicles together. Use the threaded rod and hardware to attach the spacer tubes. Tighten the hardware so there is a equal amount of threaded rod on either side of the steel tubing on the load vehicles. See photo below.


VIEW OF THE (3) SPACER TUBES AND THREADED ROD BETWEEN LOAD VEHICLES

- Attachment of INDEXING GEAR RACK

The Triton uses a gear rack and motorized spur gear to index the load vehicles in and out from the press. With the load vehicles on the rails and spacer tubes in place, The next step is to attach the indexing gear rack to the left under side of the load vehicles. There is mounting channel brackets attached to the LEFT underside of the load vehicles. Unpack the load gear rack from the shipping pallet and position under the channel brackets. Each bracket has the screws needed to attach the gear rack to the mounting channel brackets. See photo below.

GEAR RACK

Have the gear rack teeth facing outwardly the left side. You will need to feed the gear rack so it mates with the spur gear. With the gear rack now in place, go ahead and tighten the mounting screws. It is important to have the spur gear fully en gauged with the gear rack before tightening.

- Tightening the indexing shaft coupler

The Triton was shipped with the indexing shaft coupler loose. This allows you the freedom to move tables in and out while assembling. Move the tables in and out manually to insure that the load vehicles are moving freely and that the spur gear is turning while the gear rack is moving in and out.
Remove the lower left side perforated panel on the press. You will now have access to the motor gear box and the indexing drive shaft. There is a black shaft split coupler that is connecting the gear box shaft to the indexing shaft. Tighten the screws on the indexing shaft coupler. With coupler tighten, reattach perf panel. **NOTE: ONCE THE COUPLER HAS BEEN TIGHTEN, IT WILL BE DIFFICULT TO MOVE TABLES IN AND OUT.** See photo below .

- Attaching Rail End Stop Bumpers

The Triton uses gas shocks to help stop the load vehicles as they reach their end of stroke. The gas shocks are mounted on end stop brackets that are attached directly to aluminum bar of the rails. Position the end stop bumpers to the rails. Make sure the end stops are mounting screws. See photo below.


- Electrical:

Your Triton is equipped with a (3) Phase Main On/Off Fused Disconnect mounted on the right side of the pressing station. Only certified employees or electricians should connect the power to the disconnect. This disconnect is the main on/off switch of the press.

- Air:

Your Triton requires air to inflate the pressing airbags. It is strongly recommend that a air line filter be used before the air enters the machine. The machine requires atleast a ½" airline to supply the machine. The machine needs at least 50psi to operate properly. The supply air should be 100psi. The air is connected to a poly fitting on the lower left side panel of the pressing station. Simply insert a poly-line directly into the air fitting. The poly air fitting can be removed and a standard air fitting quick disconnect can be used instead.

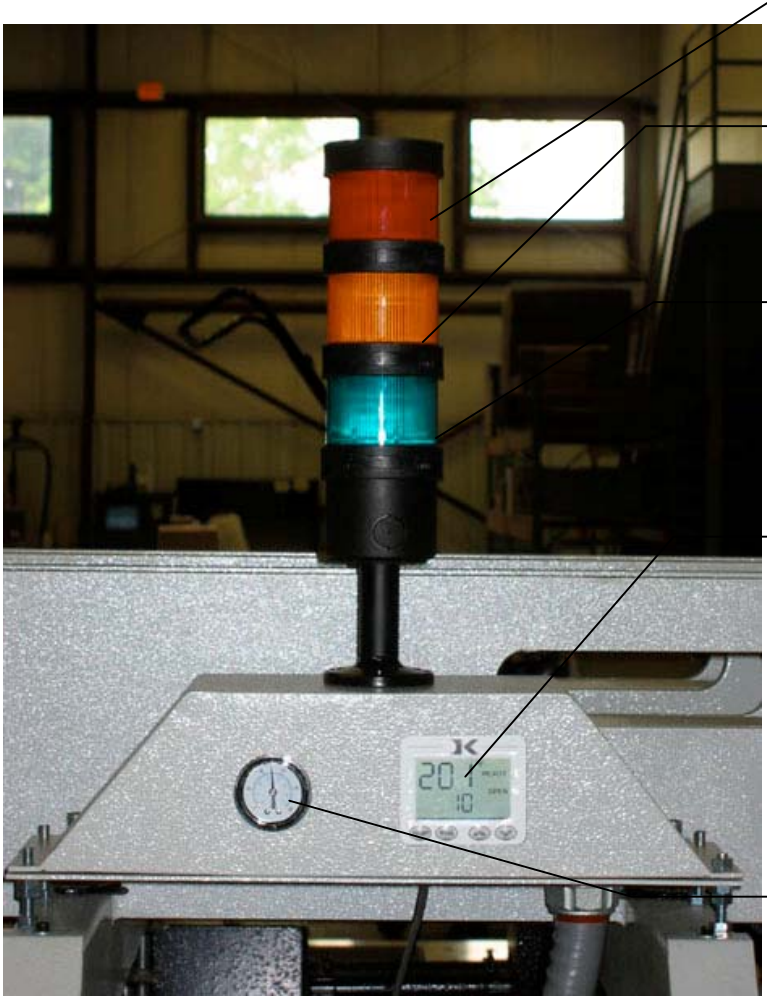
# BASIC OPERATION OF TRITON PRESS


- START-UP

Before turning ON THE POWER for your triton press, the following needs to be confirmed:

1. The machine is level and is anchored to the floor using anchor bolts or lag screws.
2. The rails are level.
3. The extension rail cross braces are attached and tightened
4. The connecting rail mounting brackets and plates are tighten
5. The center distance between the left rail and the right rail is the same in the front – middle – rear sections of the rail assembly. Needs to be no greater than +/- 1/8”
6. The load vehicles are on the extension rails and the load vehicles connected with the spacer tubes provided.
7. The gas shock end stops are attached to the end of the rails as shown.
8. All of the packing material has been removed between the heater block and the top of the load vehicles.
9. The indexing gear rack has been attached to the load vehicles and is tight against the spur gear.
10. **DISCONNECT** AIR FROM MACHINE
11. Make sure that the e-stop red push buttons are pulled out.
12. Position the (IN) FOOT-PEDALS and the (E or !) FOOT-PEDALS. Position (1) (IN) and (1) (E or !) on the outside of the pressing areas with one of each for the rear operator and one of each for the front operator.
13. Make sure that there is no objects or employees that are in the indexing pressing area.

14. The first test is to check the indexing of the tables in and out of the press. With the air pressure OFF and air DISCONNECTED. Turn machine on and allow the front digital control to settle out. Your machine maybe equipped with machine operation lights; red-yellow-green. If after you turn the machine on the RED machine stick light or a red pilot light in the front center tube or rear center tube is light is on, this means that one of your e-stop red push buttons or one of the e-stop foot pedals is depressed. Reset the switches till the RED stick light is off or the front tube pilot lights are off.




**15.** Once you have confirmed that the e-stop is not activated, you are know ready to index the load vehicles into the press. Confirm that no one is in the pressing area and indexing area. Press the "IN" foot-pedal on the front of the machine to activate the load vehicle into the press. The load vehicle will index in to the pressing area and then come to a stop. You next try to index the tables in the opposite direction. Again, once the load vehicles start moving, they will automatically index into the machine. **BY PRESSING ONE OF THE E-STOP FOOT-PEDALS OR ACTIVATING ONE OF THE TOP E-STOP RELEASE BUTTONS, YOU WILL CAUSE THE INDEXING LOAD VEHICLES TO TOP. THE E-STOP CONDITION MUST BE RESET BEFORE THE MACHINE CAN BE ACTIAVTED AGAIN.**

16. Once you have confirmed that the tables index smoothly back and forth and that the table/motor stops when it reaches the pressing area, then you can go ahead and attach the air into the machine. Set the air pressure for 60psi and set the timer on the front control for 10 secs. (**See TIMER section for details**) Before testing the pressing cycle, make sure that there is pressing pad material on the load bed/table before activating. **"DO NOT ALLOW THE MACHINE TO PRESS WITHOUT PRESSING MATERIAL ON THE LOADING BED"**

17. Test the complete pressing cycle for both the front and the rear load vehicles. Confirm that once the load vehicle is indexed fully that the air bags inflate and press the load vehicle and release after 10secs. In the event that the pressing cycle does not start once the table is in place, press the index foot pedal again.

**IN THE EVENT THAT THE TRITON IS NOT WORKING AS DISCRIBED OR YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE FACTORY AT GEO.KNIGHT CO.**

# 1-800-525-6766

# Q & A

# TROUBLE SHOOTING

**1. PRESS THE FOOT PEDAL TO INDEX IN, AND THE TABLE DOES NOT MOVE:**

- First check to see the E-STOP is not activated. (To reset the E-STOP, simply press either the foot-pedal or top red palm button that has been pressed).
- Inspect the rack and gear assembly area to make sure they are in could contact with each other.
- Check the MOTOR fuses located on the lower electronic sub-plate.
- Make sure not objects are binding the load vehicle from moving.
- Inspect the black coupler union between the gear spindle and the motor spindle. If you can see the coupler or motor spindle turning and not the gear spindle, you need to tighten the coupler screws.
- There is a foot-pedal for indexing in and one for indexing out. Make sure you are pressing the correct foot-pedal.

2. **THE TABLE INDEXES INTO THE PRESSING CYCLE AND THE TRITON DOES NOT PRESS:**

- Check that the AIR PRESSURE is set for at-least 60 PSI
- Check that the TIMER is set for at least 5 secs.
- Check that there are no objects in the way of the photo-eyes on the front and rear edge of the heater block.
- Inspect that the load vehicle is fully into the pressing area and that the “INDEXING LEVER ROLLER SWITCH” is making contact with the load vehicle indexing dog.

3. **THE PRESSING PLATE STARTS LIFTING AND THEN IT RETURNS. THE PRESSING CYCLE IS NOT COMPLETED FULLY:**

- One of the E-STOP buttons or foot-pedals has been activated. Clear the E-STOP circuit.
- PROCESSOR BOARD may have been effected by an electrical spike.
- The POWER BOARD may need to be replaced.

4. **TEMPERATURE CONTINUES TO CLIMB OVER THE SET-POINT TEMPERATURE:**

- Check the display on the timer/temperature controller. Make sure the word “HEATING” is NOT appearing. If it is, check your set-point temperature.
- Check the HEATER CONTACT BLOCK locating on the lower electrical sub-plate.
- May need to replace the POWER BOARD.
- If the heater block “feels” a lot hotter than what is displayed on the temperature control unit, then your thermocouple needs to be replaced. Contact the factory.

5. **LOWER THICK STEEL LIFT PLATE RISES OR LOWERS UN-EVENLY:**

- Each AIRBAG assembly under the lower lift plate has an adjustable flow control. This control adjusts the speed that the AIRBAG deflates. It does not adjust the speed in that it inflates, or deflates. The flow control has a threaded stud that can be turned in or out. By turning the threaded stud in, you SLOW the rate in that the AIR BAG deflates. By turning the threaded stud out, INCREASE the speed that the AIR BAG deflates. It is recommended that you make 1 or 2 full turn adjustments at a time. It is best to have the steel lift plate lower evenly and smoothly rather than hard and fast.
- Each AIRBAG assembly under the lower lift plate has (4) LARGE LIFTER PLATE BLUE SPRINGS. These springs help to lower and deflate the steel plate. It is recommended that the springs and inner guide tubes be lubricated with a industrial white lithium grease or the like. “ **DO NOT ADJUST THE BLUE SPRING TIGHTNESS NUTS, WITHOUT SPEAKING TO THE FACTORY FIRST ”**

6. **THE ACTUAL LOAD VEHICLE ALUMINUM LIFT PLATE GETS “HUNG-UP” IN THE UP POSITION WHILE THE LOWER STEEL LIFT PLATE IS LOWERING AFTER THE PRESSING CYCLE:**

- Normally this is caused by a vacuum effect that is taking place between the “silicon padding” and the heater block. This normally would take place when you have no objects on the pressing pad when the unit is pressing. This also can take place if you are pressing very thin materials or fabrics. To reduce this, slow the rate in that the

lower steel plate is lowering. Do this by turning in the flow controls on the AIRBAGS. Make sure you turn them in evenly. It is important that the air bags lower together evenly. **FAILURE TO EVENLY ADJUST AIRBAG FLOW CONTROLS WILL RESULT IN THE LIFT PLATE BINDING UP AND COULD DAMGE THE PRESS.**

- Inspect the shoulder bolts that guide the load vehicle lift plate. Make sure they are tight and apply grease to the shoulder.

## 7. GETTING UNEVEN COLOR RESULTS ON MATERIAL BEING PRINTED:

- Uneven temperature can cause this result. Allow the machine to come up and maintain the set-point temperature. Next using a surface pyrometer or the like, take temperature measurements across the heater block and map out your findings. The Triton press is noted for it's dependable heater block design. In most cases, you will not need to replace heaters for years after installing the press. In the event that it maybe a defective or failed heater, you must **CONTACT THE FACTORY FOR DETAIL INSTRUCTIONS. In most cases, uneven color results were caused by uneven pressure or the material being pressed is shrinking or warping during the pressing cycle.**
- Uneven pressure has shown to be the greatest cause for uneven color results. Increase the pressure by 10-20psi and see if results improve. **DO NOT EXCEED 100PSI INLET PRESSURE.** The pressing pad material or silicon rubber on the load vehicle needs to be clean of defects and level across the bed. Any defects in the lower padding material may show up in your printing. High temperature nomex or felt blanket material layered on the bed or silicon rubber has proven to work well. **CONTACT THE FACTORY FOR REPLACEMENT SILICON RUBBER OR HIGH TEMPERATURE FELT MATERIAL**.
- Some fabrics and thin materials will warp or shrink during the pressing cycle. This can cause uneven printing or streaks in your results. It maybe required that these materials need to be "pre-shrunk" before being printed. This can be done by simply pressing the material first for a short dwell time before the transfer printing cycle takes place or check with your fabric supplier for "heat treated" or "pre-shrunk" materials.
- In the event that it appears the machine has uneven pressure, this can be checked by placing strips of paper along the outer edges of the load vehicle bed. Set the timer for a long dwell time and activate the press. With the press closed, pull on the strips of paper. If you find that some of the strips pull out a lot easier than others, it could be the pressing pad material or the machine needs to be readjusted. **CONTACT THE FACTORY BEFORE MAKING ANY ADJUSTMENTS**.