

This procedure will allow the optimization of the hydraulic system for the SL table on the SaberJet XP.

### Tools and supplies you will need:

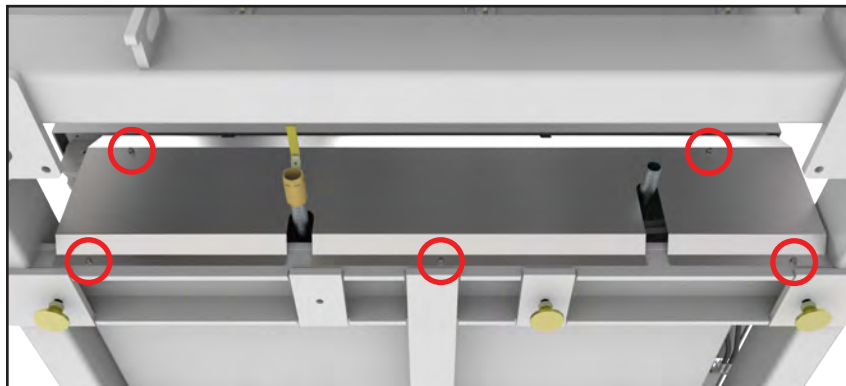
- 9/16" wrench (or socket & ratchet wrench)
- 1" open end wrench
- 11/16" open end wrench
- 13/16" open end wrench
- 5/16" hex wrench
- Screwdriver (flat blade or Phillips)
- Side cutting pliers
- Towels to catch any oil dripping
- Zip-ties

### Make machine safe

1. Lower table(s) and position bridge toward the front of the machine. This will allow some room to work.
2. Turn off power, follow your shop's lockout/tagout procedures to place the machine in a safe state.

### Remove the covers

1. On both sides of the tank, use the 9/16" wrench to remove the (5) bolts that attach the cover to the side of the tank. Set the covers aside out of the way.



2. Verify the routing of the hydraulic lines using the routing schematic found on page 8.

If your machine has this configuration **DO NOT** perform this procedure, replace the covers and return machine to production.

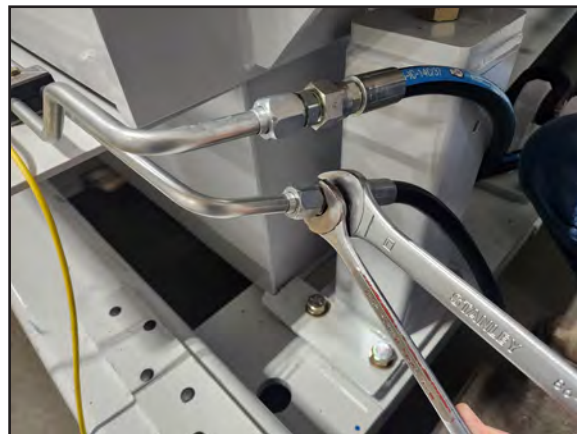
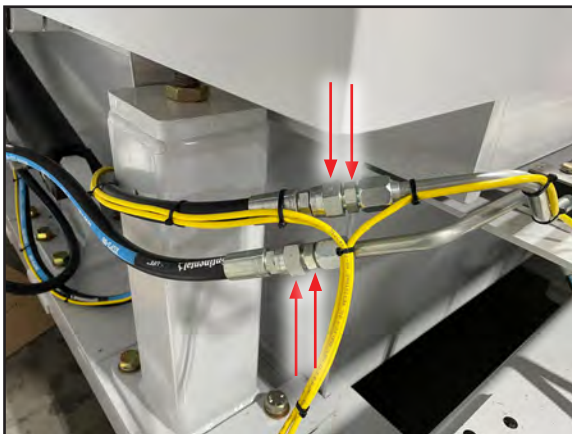
If your machine **DOES NOT** have this configuration then continue with this procedure to increase the performance of the hydraulic system.

## Swapping Hydraulic Lines

1. On the side of the table locate the two flexible hydraulic lines coming from the pump.

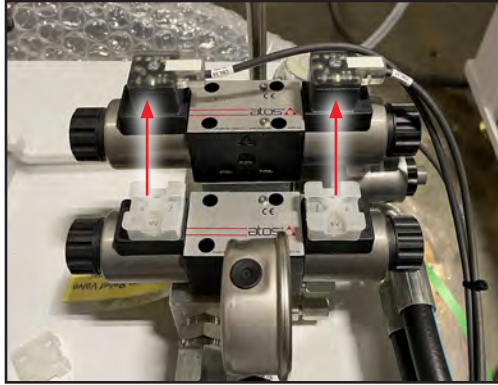


2. If there are any, carefully cut the zip-ties on the flexible lines.
3. Fasten a zip-tie around both the top flexible and hard lines, this is just to mark the lines and aid in reattaching them in the proper locations.
4. Place a towel under the fitting to catch any oil while removing the line.
5. Using the 1" and 13/16" wrenches unscrew both of the flexible lines.



6. Attach the flexible line **WITH** the zip-tie to the **LOWER** hard line **WITHOUT** the zip-tie.
7. Attach the other flexible line to the other hard line.
8. **REPEAT STEPS 1-6 ON THE OTHER SIDE OF THE TABLE.**

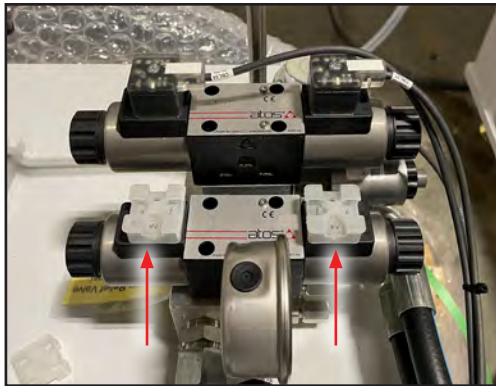
## Swapping Solenoid Coil DIN Connectors



1. Use the screwdriver to remove the DIN connector from on top of the solenoid coil and set aside.
2. Remove the 2nd DIN connector from the solenoid coil and reattach it where you removed the 1st DIN connector.
3. Reattach the DIN connector you removed first onto the other solenoid coil.

### For Two Table Machines

1. Perform the procedure **Swapping Hydraulic Lines** on the second table.
2. Perform the procedure **Swapping Solenoid Coil DIN Connectors** on the lower solenoid coils.



## Purging Air From System

You must purge any air introduced into the system for it to operate properly.

1. Run the table until fully raised and back to fully lowered for a total of 5 cycles. NOTE: There may be some minor unevenness in the lowering for the first couple cycles, this is normal.
2. If at the end of running the 5 raise and lower cycles you are still noticing some unevenness in the lowering continue on with this purging procedure. If the table is lowering normally after cycling the 5 times purging is complete - skip ahead to the **Final Steps** section on page 7.

There are two types of relief valves, check the following descriptions to determine which procedure you will need to follow.

### For tables with this type of relief valve **ONLY**:



Relief valve located next to hoses on cylinder manifold

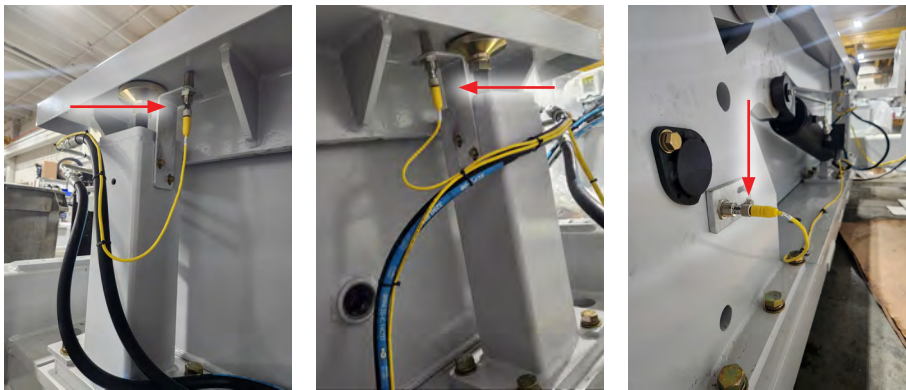
1. Restore power to the machine.
2. Place the 1" open ended wrench on the body of the relief valve, **DO NOT** turn this wrench you are only going to be holding the valve in place to prevent it from turning.



- Place the 11/16" wrench on the jam nut of the relief valve, while holding the 1" wrench in place loosen the jam nut.



- Remove the 1" wrench and using the 5/16" hex wrench turn out the relief adjuster until it stops, **DO NOT** try to turn it past this stopping point!
- Perform steps 2 - 4 on relief valve on the other cylinder.
- Unscrew the connectors from the 3 proximity sensors from the table to disable them.



- At the controller press the button to start the pump.
- Press the "Table Down" button on the screen, the table will not move with the relief set this low. This will pump oil through the lifting cylinder rod ends back into the hydraulic tank purging air from that part of the cylinder. Let it run for about 5 minutes.
- Press the "Table Up" up button. This will pump oil through the lifting cylinder base back into the hydraulic tank purging air from that part of the cylinder. Again, the cylinder will not move, let it run for 5 minutes.
- Repeat the table up & down cycles 2 more times, but reduce the time to 2 minutes.
- Turn off the pump.
- Use the 11/16" open end wrench to hold the jam nut in place and with the 5/16" hex wrench screw the relief valve in until it bottoms out in the valve body.
- Using the 1" open end wrench hold the valve body in place and tighten the jam nut to the valve body.
- Perform steps 12 & 13 on relief valve on the other cylinder.
- Replace the 3 proximity sensor cables removed earlier.
- Run the table up and down as needed to verify it's working properly. If the cylinders are not perfectly in sync, they must reach the resting position within 2 seconds or before the prox. switch times out.

**For tables with this type of relief valve ONLY:**

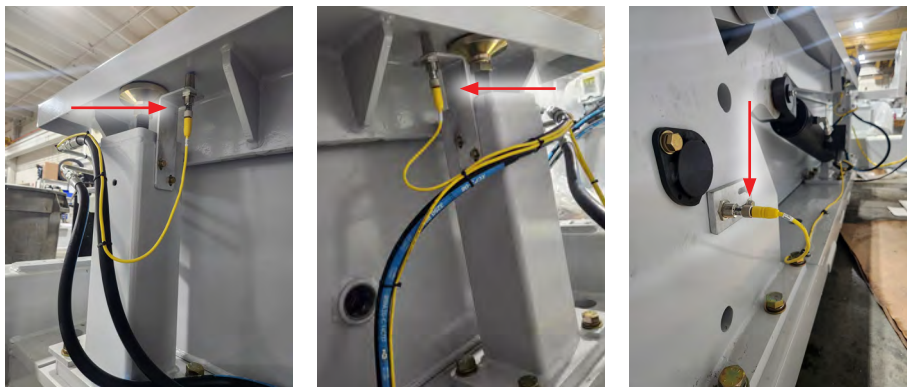


Relief valve located on top (or bottom) of cylinder manifold

1. Restore power to the machine.
2. Remove the cap from the relief valve on the cylinder manifold
3. Back the relief nut out until there is about .390" to .400" between the top of the relief nut and relief body.



4. Put the cap back on.
5. Perform steps 2 - 4 on relief valve on the other cylinder.
6. Unscrew the connectors from the 3 proximity sensors from the table to disable them.

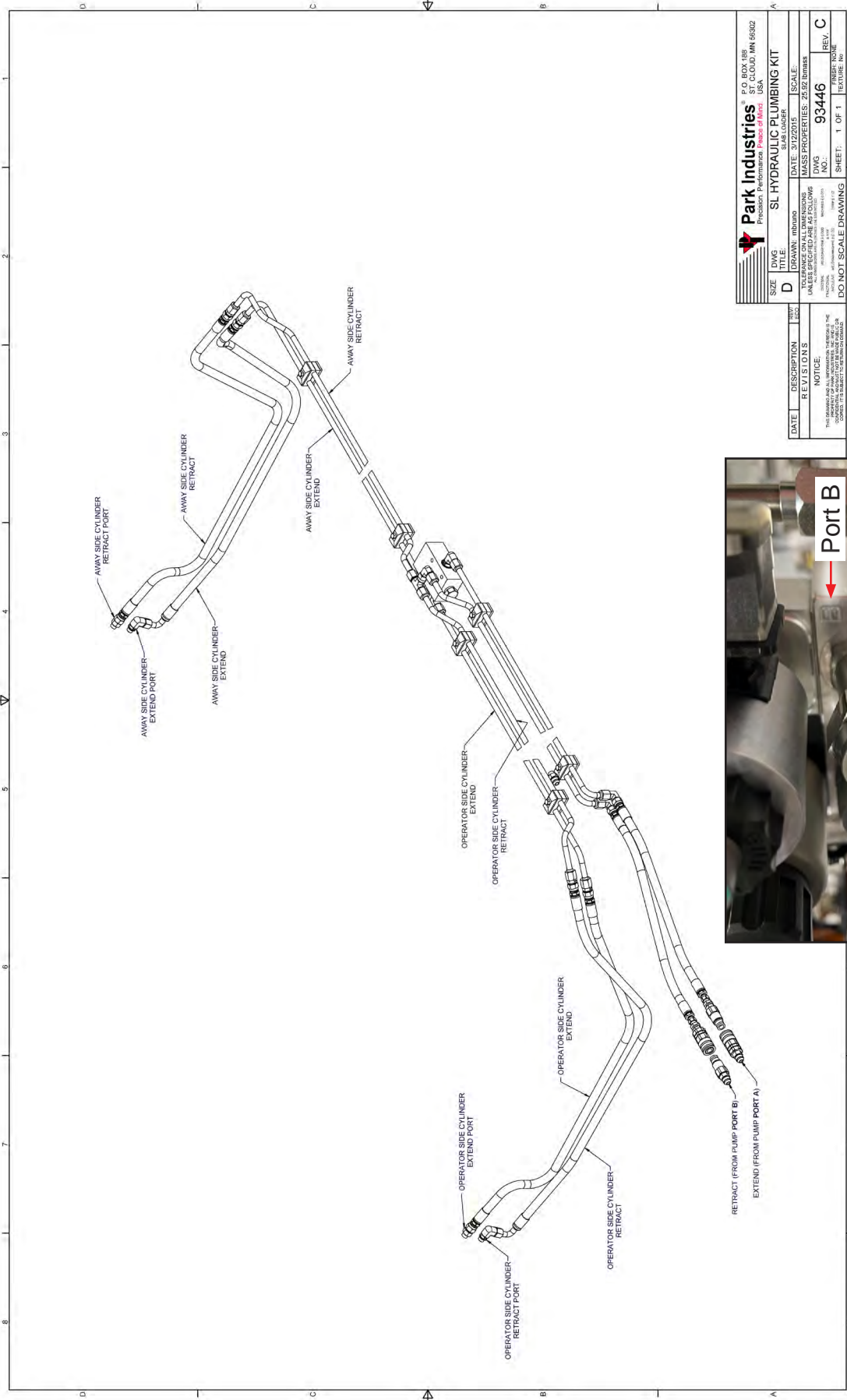


7. At the controller press the button to start the pump.
8. Press the "Table Down" button on the screen, the table will not move with the relief set this low. This will pump oil through the lifting cylinder rod ends back into the hydraulic tank purging air from that part of the cylinder. Let it run for about 5 minutes.

9. Press the “Table Up” up button. This will pump oil through the lifting cylinder base back into the hydraulic tank purging air from that part of the cylinder. Again, the cylinder will not move, let it run for 5 minutes.
10. Repeat the table up & down cycles 2 more times, but reduce the time to 2 minutes.
11. Turn off the pump.
12. With that complete, remove the caps and screw the relief valves in all the way. That will take them out of the circuit so they should no longer open.
13. Run the table up and down as needed to verify it’s working properly. If the cylinders are not perfectly in sync, they must reach the resting position within 2 seconds or before the prox. switch times out.

## **Final Steps**

1. Reattach the covers on the table(s) removed earlier.
2. Procedure is complete, return machine to production.



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**SL HYDRAULIC PLUMBING KIT**

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