

Trendsetter 400/800 II

ContinuousLoad Field Upgrade

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719-00550A-EN-B

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Revision History

Revision	Date	Author	Comments
A	July 28th, 2006	Doug Jeffery	
B	Oct 18th, 2006	Cedric Galere	Add correction based on field feedback

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1. BACKGROUND

This procedure should be used to upgrade a Trendsetter® 400/800 II Base or Spectrum to include the ContinuousLoad option.

2. TOOLS AND PARTS

No special tools are required for making this upgrade but the upgrade requires at least two people.

You will need either:
518-01359A – Trendsetter 400 to Trendsetter ContinuousLoad 400 Upgrade kit
518-01360A – Trendsetter 800 to Trendsetter ContinuousLoad 800 Upgrade kit

These kits are equipped to upgrade either a base or Spectrum version of the device.

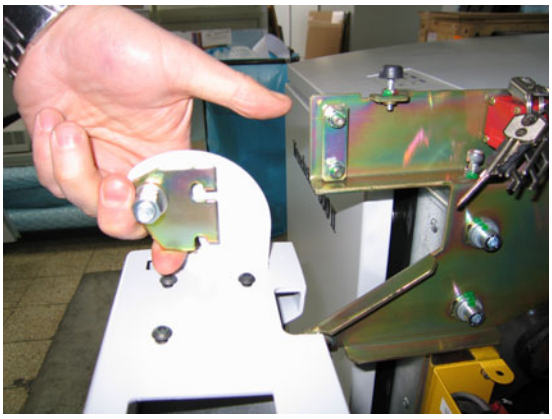
3. BEFORE YOU BEGIN

1. Check the Tech Planet FCO pages and ensure that all applicable FCOs are installed before beginning the upgrade.
2. Make a full backup using the Service Shell NVS Upgrade script.
3. Make a plot 100 plate so that you can confirm that there have been no changes after you are finished.
4. Install the current TSCL Controlled release firmware and Print Console versions.

   Note: At this point you will not be configuring the device as CL.
   Verify that the device still images successfully before continuing.
5. Remove the thermal head. (This step may not be necessary, but is a good idea in order to protect the head.)
6. Load a large plate onto the drum to protect the drum from debris or damage.
7. Shut off the device.
8. Turn off the air pressure.
9. Disconnect the power to the device.

4. DISASSEMBLY

1. Remove the front door:
   - For a Spectrum device, remove the cable that connects the sensors for the cassette door and grounding brushes.
   - Remove the gas struts that support the door.
   - Loosen the four Nyloc nuts that attach the door to the hinges.



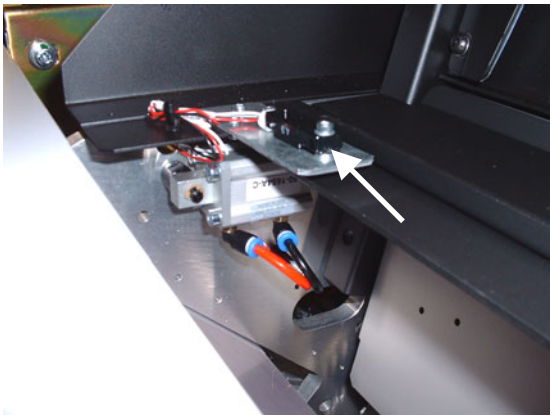
- Lift the door off of the machine.

2. Remove the rear panel. Retain it for use later.
3. Remove the glass load ramp.
4. Remove the top panel:
   - Remove the gas shock that supports top panel.
   - Remove the six cap screws that hold the upper panel in place

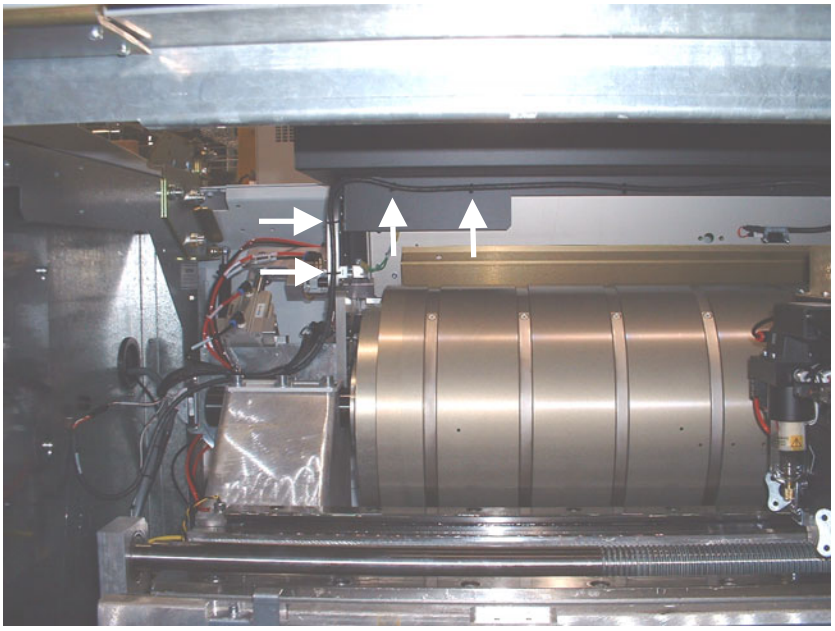




   - Lift the panel off.
5. Remove the load ramp assembly:
   - Disconnect the exit door position sensor.

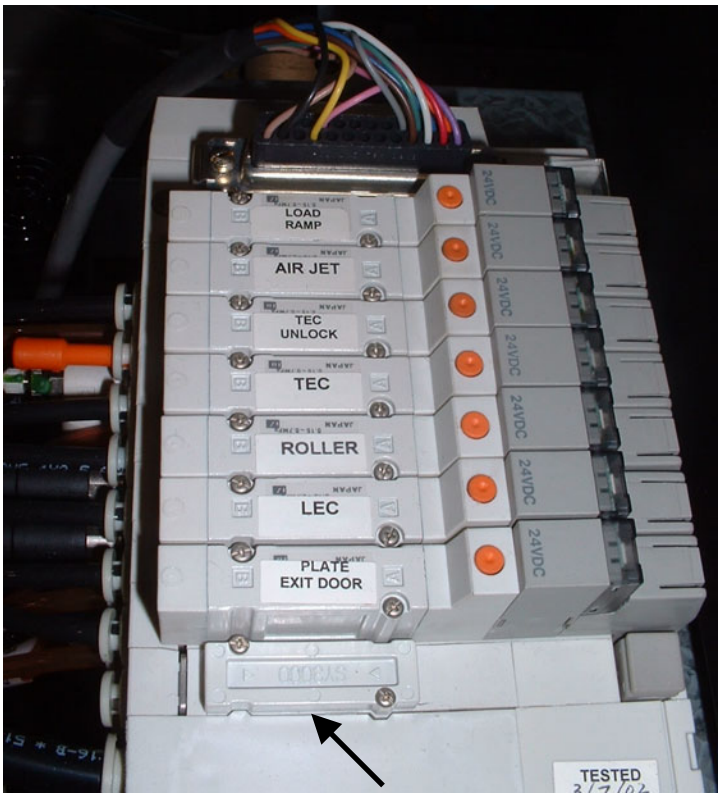


- Retain these parts, as this sensor will be used for the upper ramp position sensor.
- Disconnect the exit door cylinder air tubes.
- Remove the cap screw that holds the exit door cylinder in place.
- Remove the exit door air cylinder.
- Disconnect the load plate sensor cable from the connector nearest the power box.
- Disconnect and remove both grounding wires from the load ramp assembly.
- Cut the wire ties that hold the load plate sensor cable to the engine side plates.

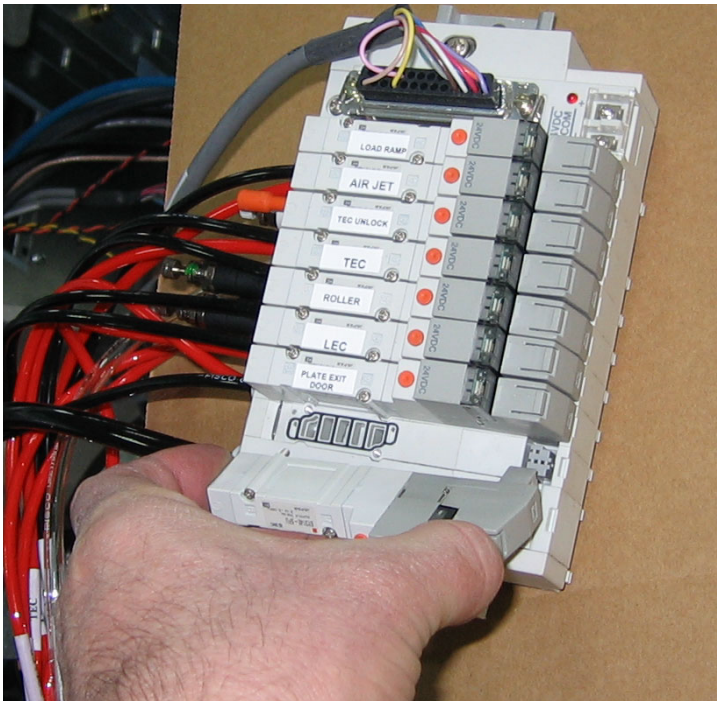


- Remove the locking clevis pin from the load ramp cylinder.
- Remove the four cap screws that support the load ramp assembly.
- *Carefully* lift the load ramp and load glass supports out of the Trendsetter.

6. Update the engine manifold:
   - *Carefully* disconnect the tubes to the engine manifold
   - Remove the manifold from the mounting bracket.
   - Remove the manifold mounting bracket.
   - Remove the blanking plate from the manifold.
   - Remove the cover over the electrical connection for this solenoid position.



- Set the rubber gasket in place on the manifold
- Install the additional solenoid valve that is included in the kit.

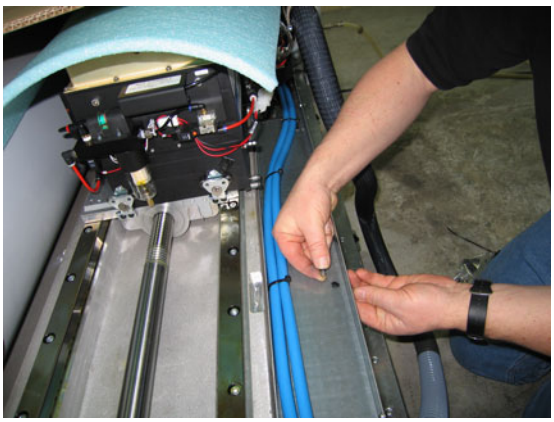


- Install the new labels on the solenoids as follows:
  New Solenoid → **CUPS**
  Plate Exit Door → **RAMP TOP**

7. Remove the hose tray:
   - Roll the cable up and out of the hose tray.
   - Remove the three screws that hold the hose tray to the cable tray.



   - Remove the hose tray.
   - Cut the cable ties that hold the hoses, tubes, and wiring that run under the cable tray.
   - Thread new large cable ties in place but don't close them until all hoses, tubes, and wires are added.
   - Insert the cable tie anchors in the holes in the cable tray on the left side.

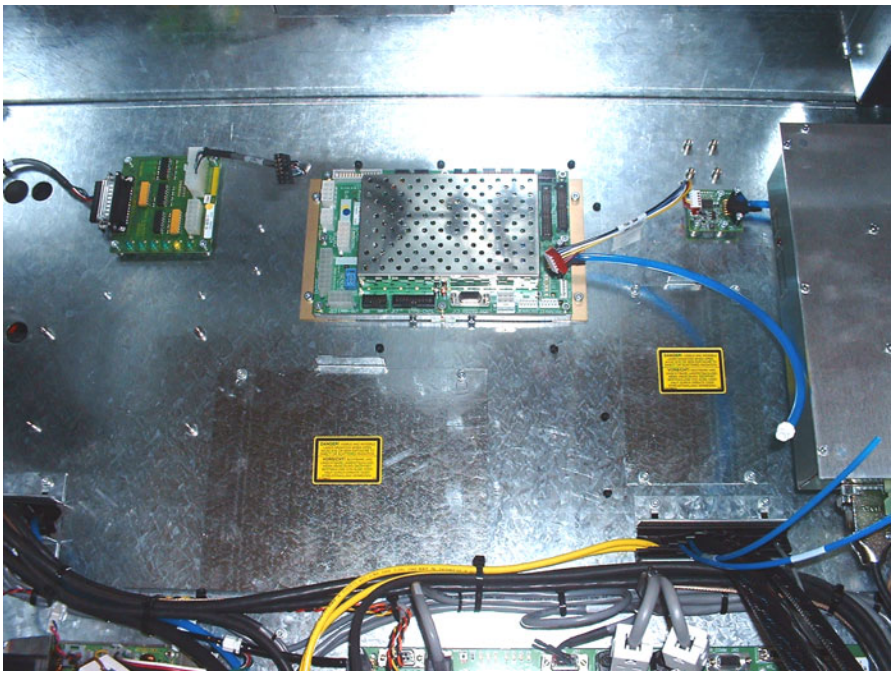


5. ASSEMBLY

5.1 Power Box

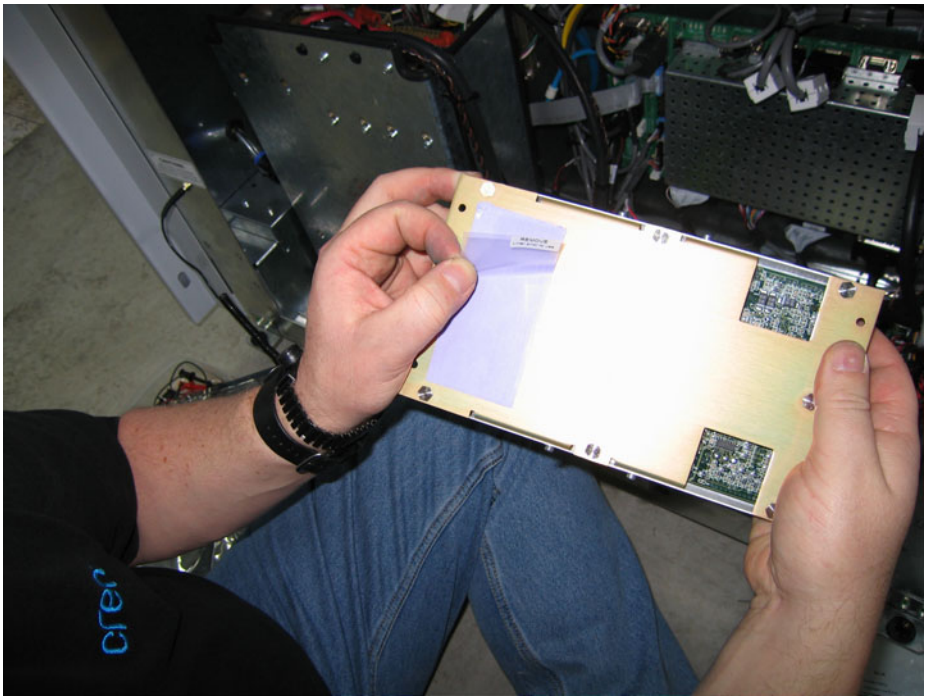
1. Install the 6-mm clear vacuum tubes (56-3290) with the two Luer quick-disconnect fittings (55-0686) on the vacuum sensor on the GENINE and vacuum sensor board.

   Note: The GENINE board is used to measure the unload table vacuum. The vacuum sensor board is used to measure the picker vacuum.



Board locations

2. Before installing the GENINE board (10-4227), *you must remove the plastic film* that covers the Thermagon heat sink compound. This is necessary to prevent the board from overheating and becoming unstable.



3. Install the GENINE board in the center of the rear wall of the power box using four cap screws (52-4459) and washers (52-4586).
4. If you are upgrading a Spectrum device, you will need to install a second GENINE board:
   - Remove the access panel over the end of the carriage motor

- Replace the panel with the new panel (252-04598B) that has standoffs for mounting a GENINE and vacuum sensor board.

5. Use four screws (52-4481) and washers (52-4586) to install the vacuum sensor board (10-4581) on the lower set of standoffs that are mounted to the right of the GENINE board.
6. Plug cable (10-5005) into the vacuum sensor board.
   If this is an upgrade on a Spectrum, install the vacuum sensor board on the new access panel that you installed in step 4.
7. Connect the vacuum sensor board to the GENINE (J1).
8. Disconnect the cable (220-00150) that goes between the TEC optical detector board and the MCE at the MCE end.
9. Connect this cable to the GENINE (J24).
10. Install the processor interface board (10-5072) on the standoffs that are mounted to the left of the GENINE board using four screws (52-4481) and washers (52-4586).
11. Install the processor interface cable (10-5159) on the processor interface board.
12. Route the cable through the back power box cable pass through and under the cable tray.
13. Remove the UDRC bulkhead from the back of the fan box. Install the DB25 connector in the UDRC bulkhead in the fan box.



14. Use cable 220-00447A to connect the processor interface board (J3) to the GENINE board (J10).
15. Use cable 10-4833 to connect the CAN expansion bus to the GENINE (J26) from the MCE (J7).

    Do not use cable ties on the wiring at this point. You will be adding more cables from the load table. Put cable ties on the cables after they are installed.
16. Remove the Omron switches and sensor cable for the top panel.
17. Connect the new cable (220-00471) to the PDB and route the cables and Omron switches to the back of the machine through the rear cable pass through.

Leave the switches loose for now. They will be installed later.

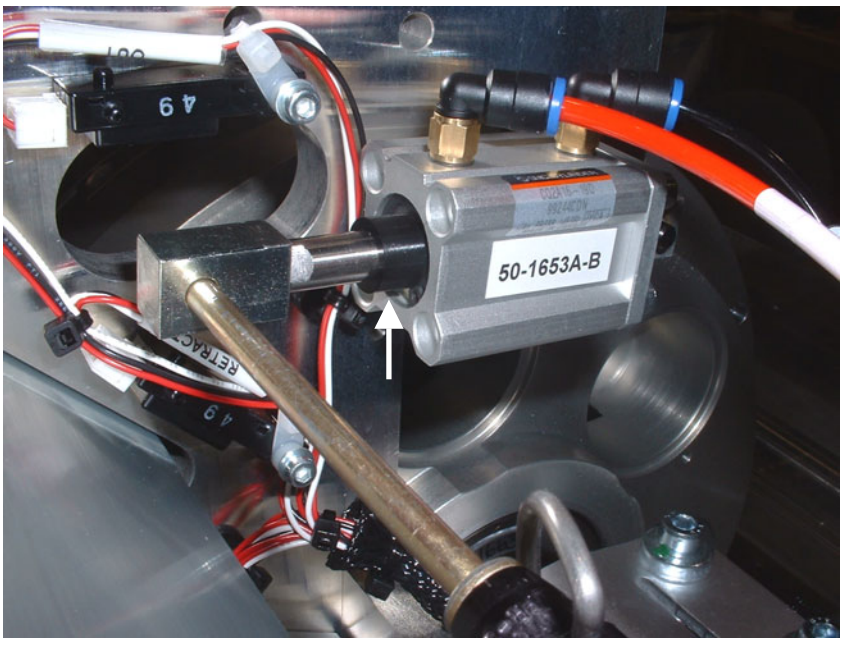
5.2 Engine

1. Remove the exit door position sensor from the metal plate that you removed in step 5 of *Disassembly*.
2. Install this sensor (36-3222) using screw 52-4479 and washer 52-3057.



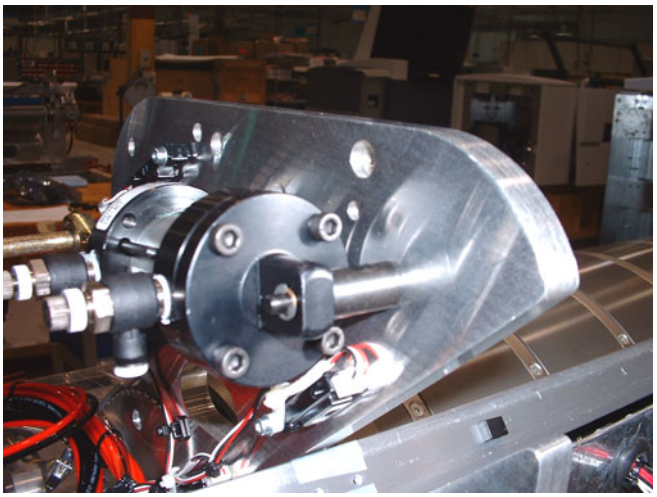
The connector that is required is wrapped into the wiring bundle that was located under the engine manifold.

Replace the air chokes in the lower ramp cylinder tubes with 0.4mm air chokes (55-0777A).



3. Replaces the light spacer used in the base Trendsetter with the new heavy aluminum spacer (252-09235) on the clevis pin. The thick end of the spacer should be positioned over the lower ramp optical sensor.
4. Install the upper ramp air cylinders using two screws (52-3125):

- Push the screws through from the inside of the side plates and thread them directly into the fittings on the air cylinders.



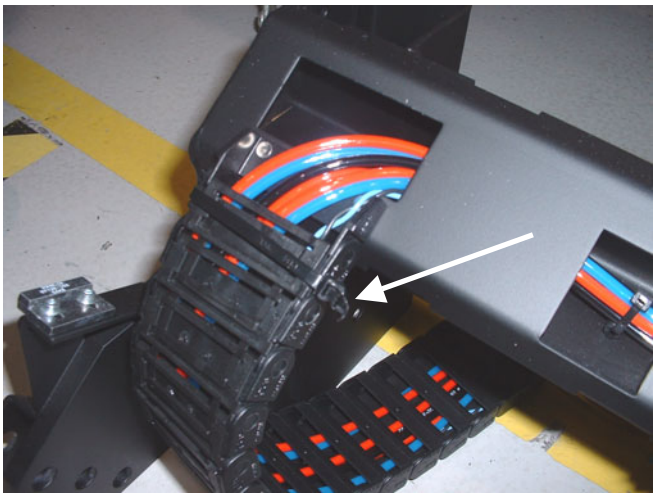
- Use a 12-mm wrench to hold the fitting while you tighten the screw.

5.3 Unload table (part 1)

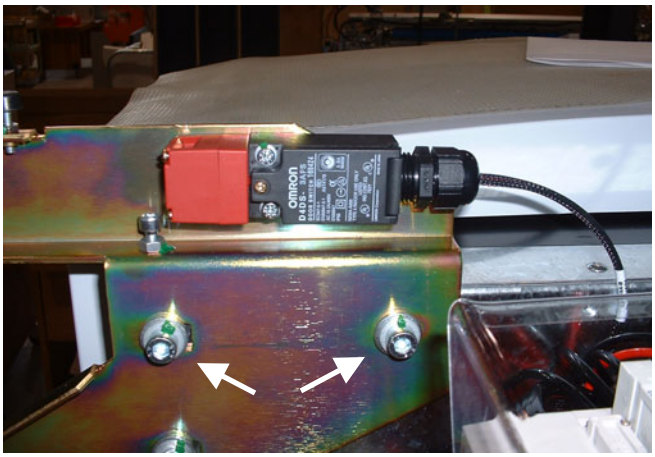
1. Remove the ends of the flex track from the unload table frame.
2. With the flex track ends pointing down, install the ends on the left and right pan support using four screws (52-3252) and washers (52-3057).



3. Install a large cable tie around the first link of the flex track to prevent the track from popping open when it is flexed.

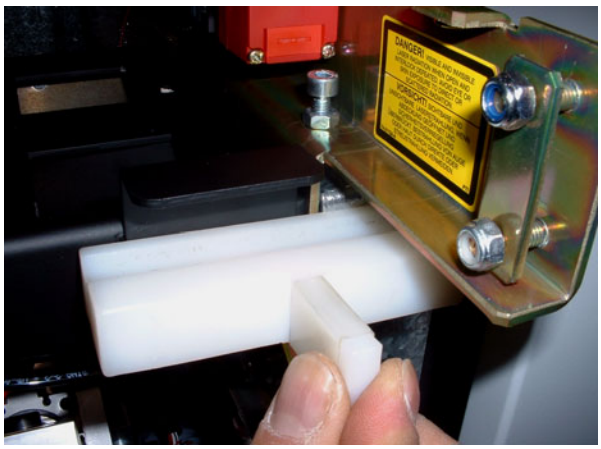


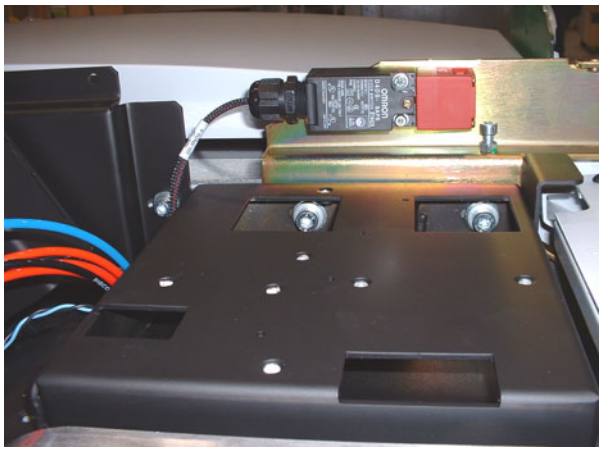
4. Remove the top two bolts in the front door hinge mounts.



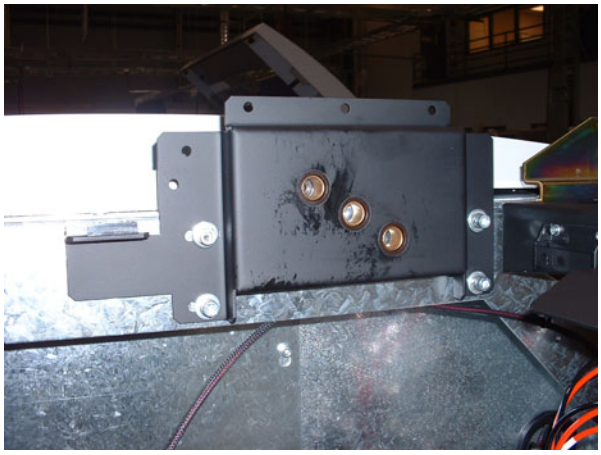
5. Install the left and right support panels at the front of the machine using four screws (52-4473), four 52-3236 washers and four 52-4067 washers.

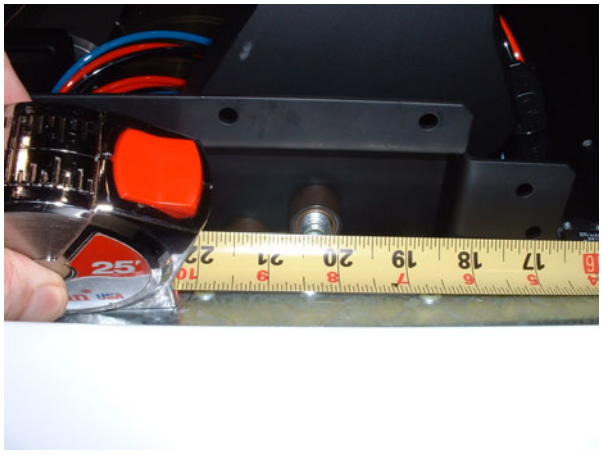
   The front and top edge should be flush to the galvanized surfaces of the Trendsetter.





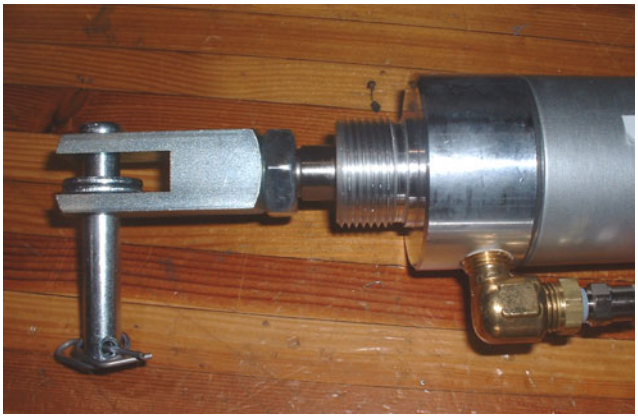
6. Mount the unload table pivot assemblies (50-1530, 57-4661) using eight screws (52-3120), eight 52-4186 washers and eight 52-3191 washers. The assembly with the reed switch goes on the home side.





The center of the top pivot bushing must be 517.5 mm (20 3/8 in.) from the back edge of the power box.

7. Loosen the jam nut on the unload table cylinder and adjust the position of the rod end. The correct position will have one thread (approx 1 mm) showing below the jam nut when it is tight.

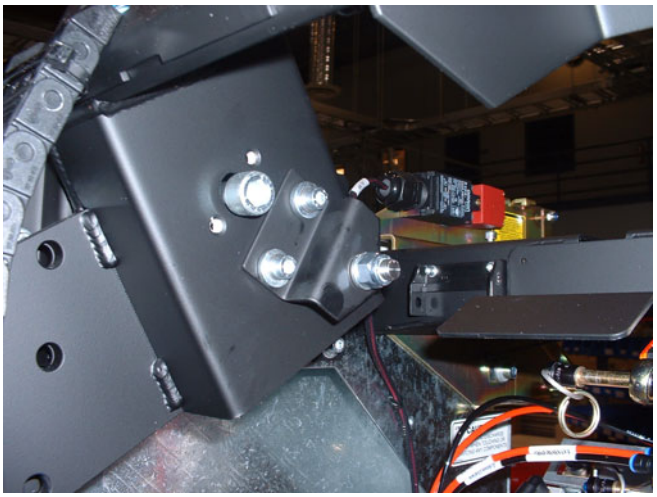


8. Install the unload table air cylinders:
   - Position the cylinders so that the air fittings are on top.

- Use eight screws (52-3120), eight 52-4186 washers and eight 52-3191 washers in the holes closest to the front of the mounting plates to attach the cylinders.

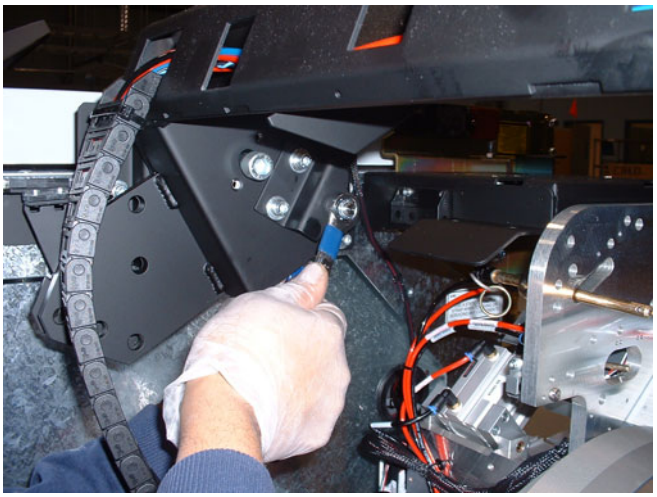


9. Use Kluber GL231 to grease the unload table pivot pins and the bottom bushing in the unload table pivot assembly.
10. Position the unload table frame:
    - Lift the unload table frame into place
    - Pin the table in place by putting a pair of large bolts or 10mm hex keys through the top hole in the unload frame, and into the top hole in the unload table pivot block.
    - Move the unload table frame until the bottom holes on the frame are aligned with the bottom bushing in the unload table pivot block.
    - Slide the pivot pin into place.



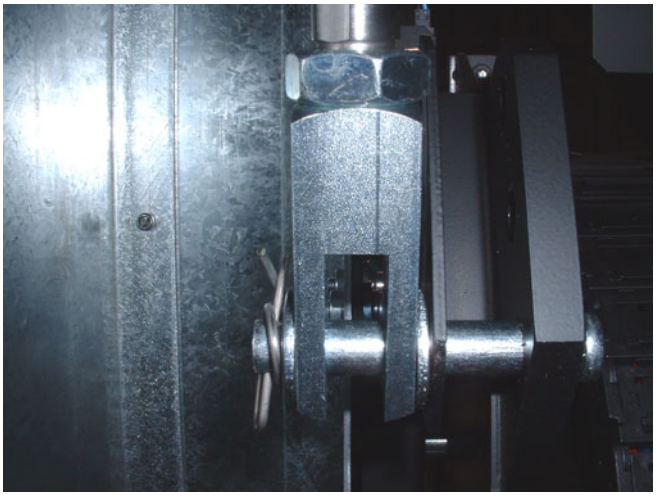
    - Use four screws (52-3120), four 52-4186 washers and four 52-3191 washers to lock the pins in place in the unload frame.
11. Check that the unload table frame has 0.5 mm of play side to side.

If necessary adjust the pivot pins by loosening the 14-mm nut on the inside of the pin and use a 13-mm wrench to turn the pin.

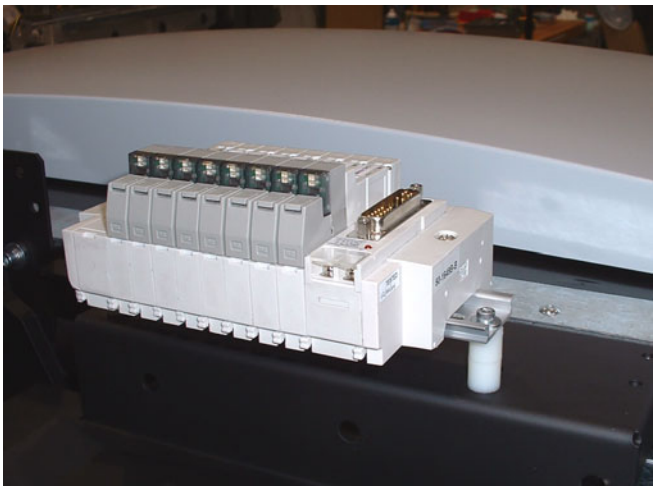


When the lock nuts are tightened, make sure that there are an equal number of threads showing on the end of both pins.

12. Using the clevis pins and washers to connect the load table air cylinders to the unload table frame:
    - Push the clevis pins through the fittings on the table
    - Add a washer
    - Place the cylinder rod end
    - Place another washer
    - Install the spring clip.



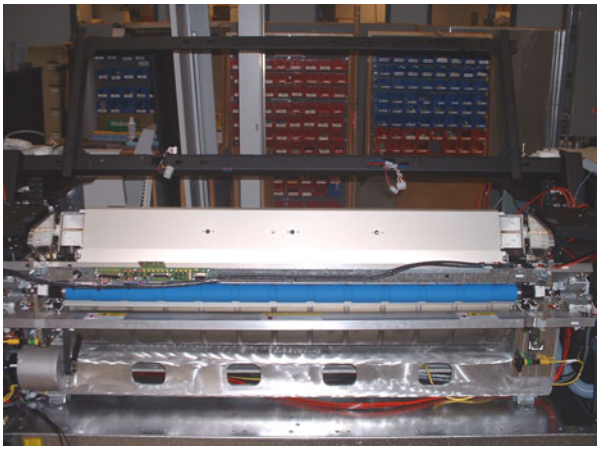
13. Attach the flex tracks to the track ends that were reinstalled in step 1 and 2.
14. Install the engine manifold onto the pan support bracket:
    - Use four plastic standoffs (52-3207) under the manifold.



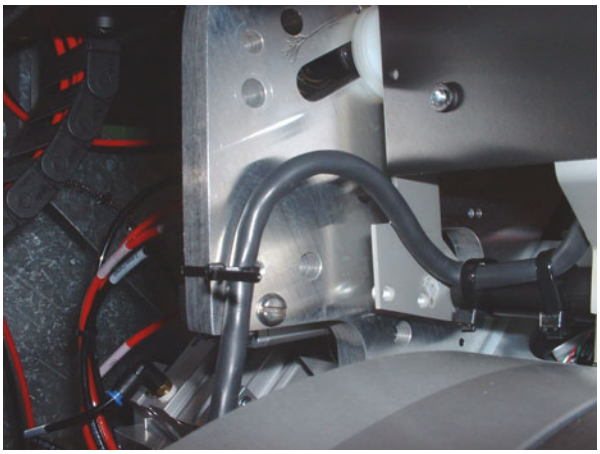
- Bolt the manifold into place with two 52-3124 screws and washers (52-3247).
- Cut the cable ties that are holding the additional length of tube in a coil.

15. Install the pan support brackets using six 52-3120 screws, six 52-4186 washers and six 52-3191 washers.

16. Install the new load ramp using the quick release clevis pins that are included with the upper and lower ramp cylinders.
    Use six nylon washers (52-3223) on the home side and five nylon washers (52-3223) on the away side.



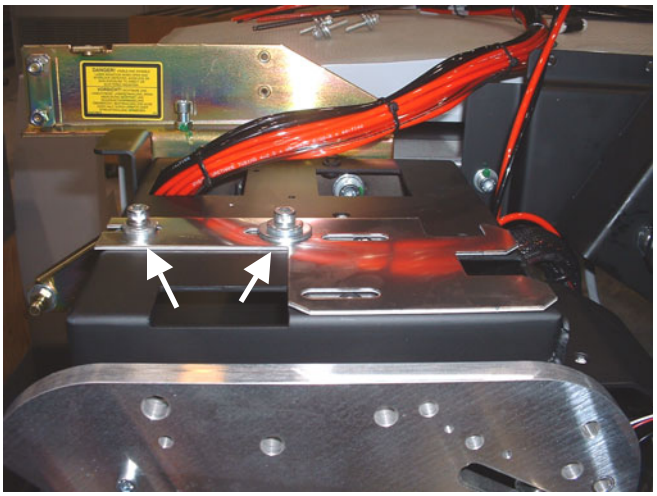
17. Use small cable ties to attach the load plate sensor cable to the ramp and the side plates. Be sure to leave enough slack in the cable to allow for movement of the ramp.



18. Coil the excess cable and secure it in place with a cable tie.

5.4 Load Table

1. Set one load table shim (252-03623) on each side of the load table.
   Make sure that the back edge of the shim is flush to the back edge of the support bracket.



2. Bolt the shims down using the front two slots as shown in the photo above:
   - For the front slots, use two 52-3129 screws, two 52-4186 washers, and two 52-3191 washers.
   - On the second slots, use two 52-3129 screws, two 52-3191 washers and two 52-4445 washers.
3. Carefully move the load table into place and bolt it down using six 52-3129 screws, six 52-4247 washers, and six 52-3191 washers.
   Before fully tightening the bolts, move the load table as close to the front of the device as possible.
   Be careful not to damage the exit door sensor that is on the left side of the load table.

5.5 Pneumatics

1. Install the ContinuousLoad manifold using the screws provided in the kit.
   If the upgrade is for a non-rotating table, plug the **TABLE ROT ON** port using a 5/32 (4mm) plug (55-0162).
2. Install the metering orifices on the red tubes on the unload table cylinders:
   - Use the 0.6-mm orifice (518-00707) for a rotating unload table or the 0.5-mm orifice (518-00708) for a non-rotating unload table.
   - The small end of the assembly points towards the fitting on the air cylinder.

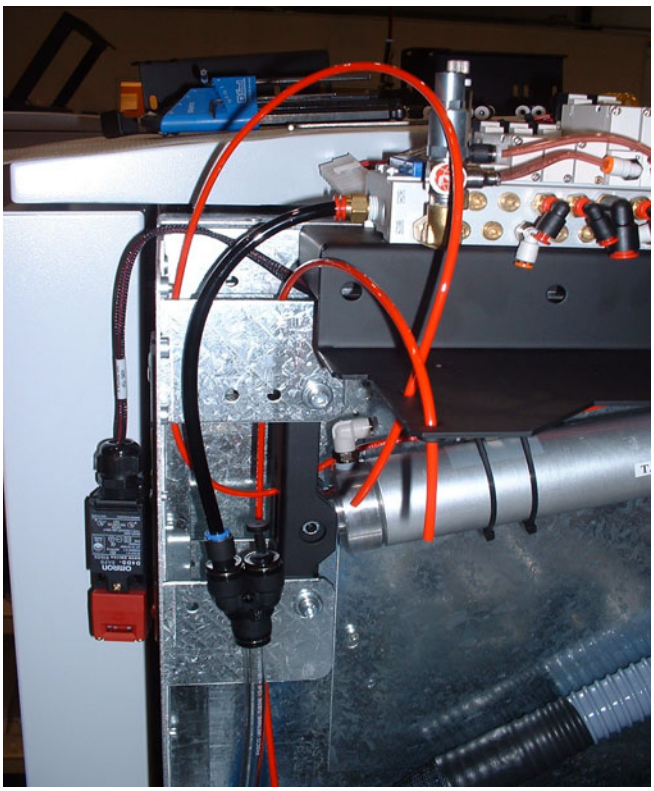


   - Strap the orifices into place on top of the unload table cylinders using the large cable ties in the kit.
3. Using 5/32-in. red tubing, attach a section of tube to the unload table cylinder on the power box side.
4. Route the tube down and across under the cable tray, and then route the tube up to the manifold on the fan box side.



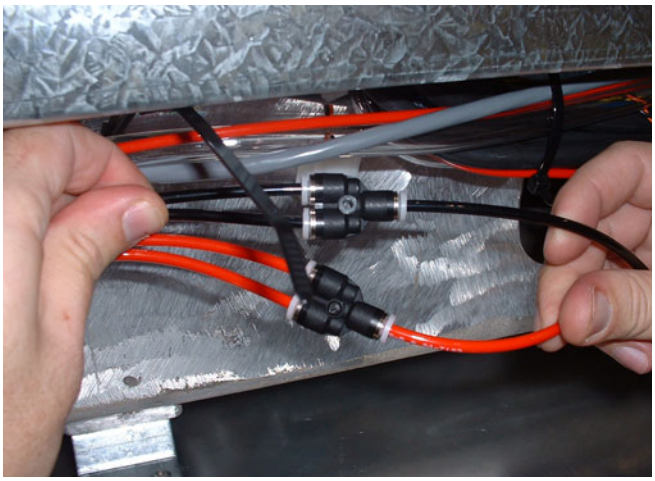
5. Attach a 5/32-in. red tube to the unload table cylinder on the fan box side and route it up to the manifold.

6. Remove the plug from the 12-mm Y-connector in the main air line (located on the power box side) and install the 12-mm tube.
7. Route the tube across under the cable track and up to the lower mounts for the unload table cylinder on the fan box side.
8. Install a new 12-mm Y-connector (55-0657) using large cable ties.



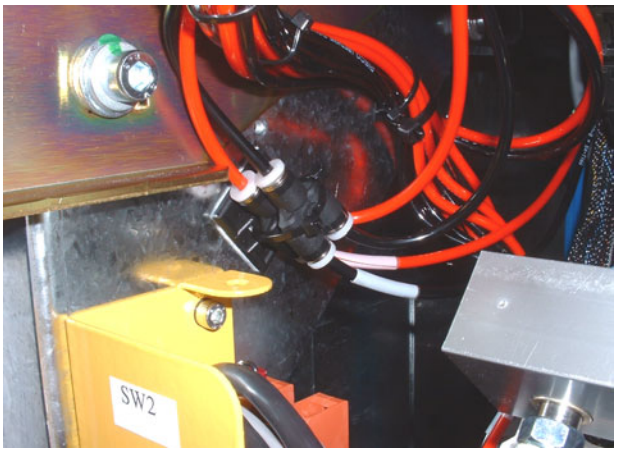
9. Attach the tube to the bottom of the Y-connector.
10. Put the plug that was removed from the other connector into the front branch of the new Y-connector.
11. Put a 12 mm-8 mm reducer (55-0656) in the other branch of the Y-connector.
12. Use 5/16 in. (8-mm) black tubing (56-1040) to connect the load table manifold to the 12mm Y-connector. See photo above.
13. Connect the load table manifold cable (220-00218) to the manifold.
14. Route the cable down and across under the cable tray into the rear pass-through and into the power box. Connect the cable to the GENINE board (J21).
15. To connect exit door controls:
    - Join 3 lengths of 5/32-in. red tubing using a 5/32-in. Y-connector.

- Mount the connector in the center under the cable tray with two tubes pointing towards the fan box and one tube pointing towards the power box.

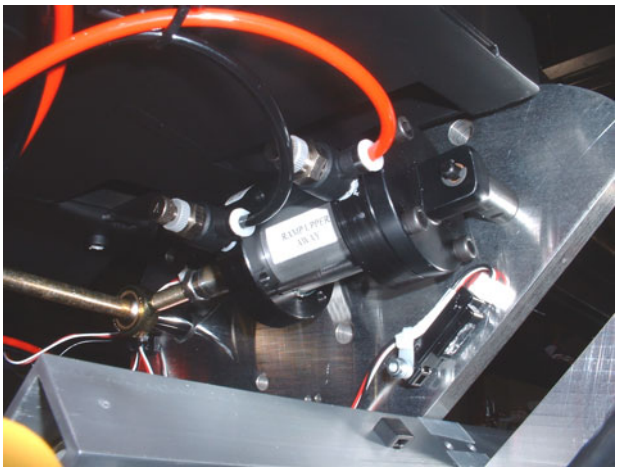


- Repeat this with black 5/32-in. tubing.
- Route the tubes up above the unload table cylinders.
- Using adhesive pads to hold the tubes in place, route the tubes to the front of the Trendsetter and to the exit door cylinder.
- The red tube goes to the front of the cylinder.

16. Use a large cable tie to join two 5/32-in. Y-connectors to an adhesive backed pad.



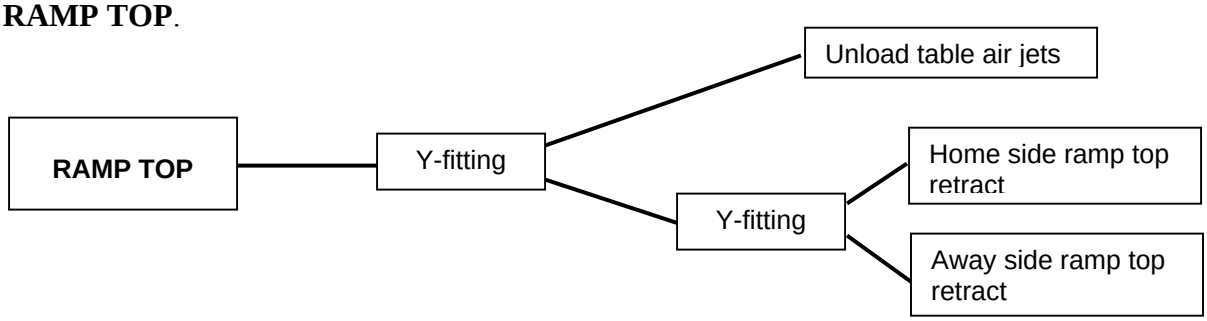
17. Connect the red and black tubes from the upper ramp cylinders (home and away sides) to the Y-fitting.



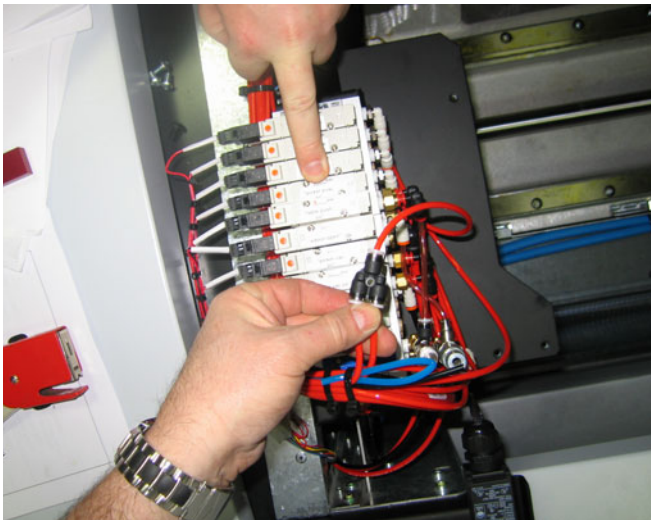
18. Connect the black tube to the solenoid on the engine manifold that you previously relabeled **RAMP TOP**.

19. Connect the red tube to another 5/32-in. Y-fitting.

    One side goes to the unload table airjets, the other side goes to the solenoid labeled **RAMP TOP**.

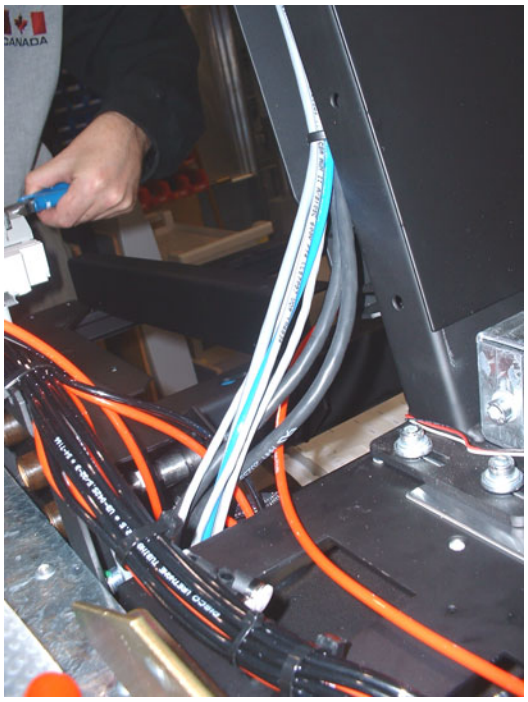


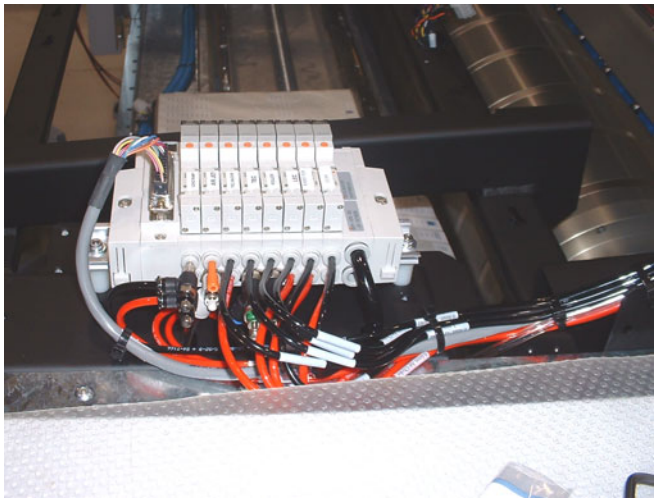
20. Install a 5/32-in. Y-fitting on the pair of red tubes coming from the load table picker **pvac** cups. Connect this to the solenoid marked **Picker Pvac** on the CL manifold.



21. Cut a cable tie mount (18-3211) into a cone shape and thread it into one of the screw holes in front of the engine manifold.

22. Anchor all tubes down the side of the load table and back to the engine manifold. The tubes must be flat enough that they will not interfere with the collar panels when they are installed.

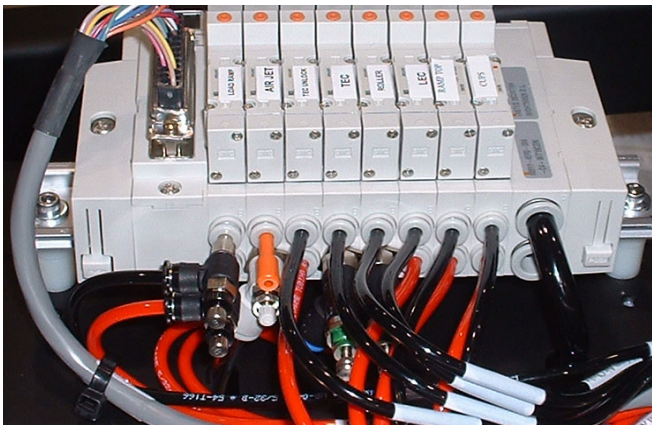




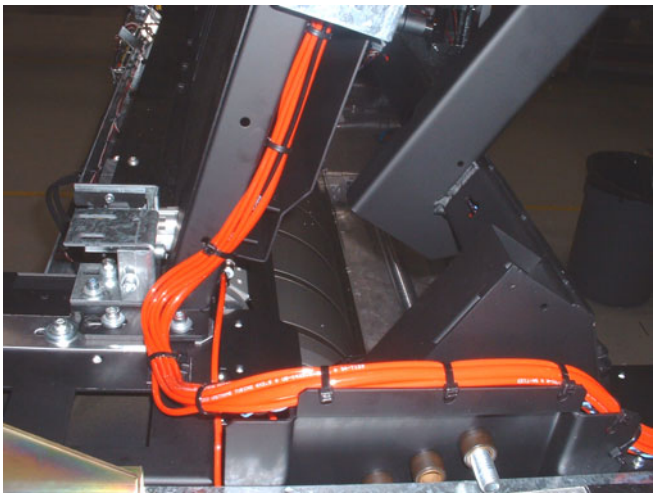
23. Run the tubes across the inside top of the unload table pivot mounting blocks.
Note that the picker vacuum tube that is coming from the unload table will not be used.

24. Install needle valve controls in the **RAMP** solenoid on the engine manifold.

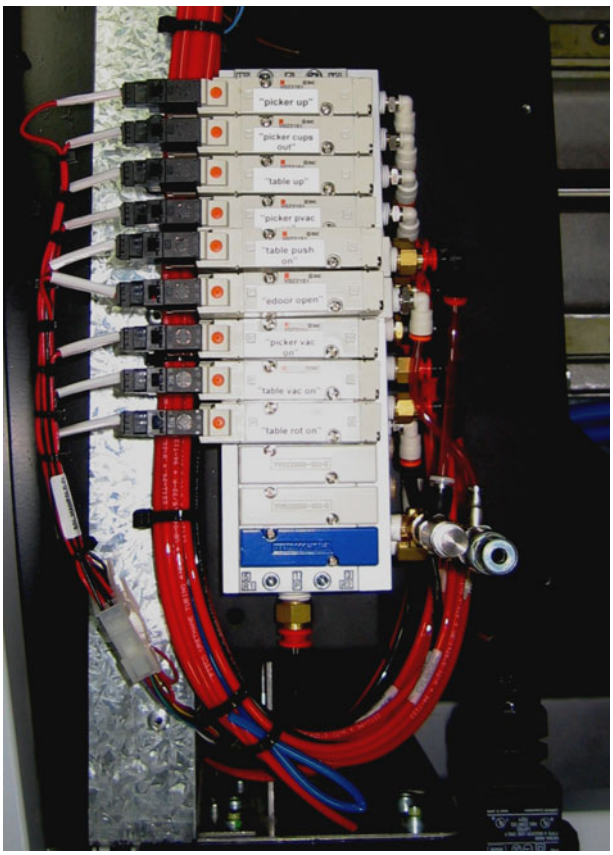
25. Trim all tubes to fit the connectors into the engine manifold in its new position.



26. Route the tubes on the fan box side back along the inside top edge of the pivot block mount and down under the cables to the CL manifold.

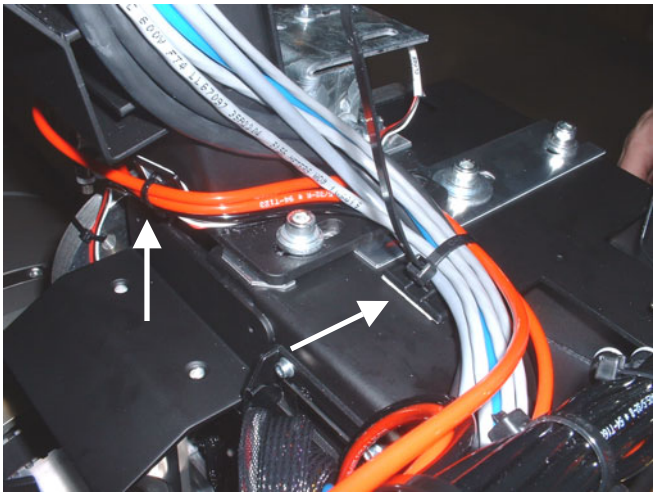


Loop the tubes around the end of the CL manifold and back up the inside of the manifold.



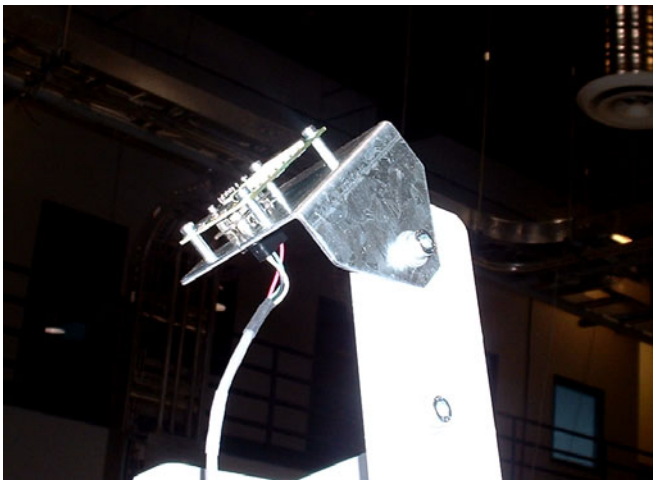
27. Route the cables from the load table down behind the pan support and through into the power box.

28. Use adhesive pads to hold the cables down and keep them clear of the collar panel.



5.6 Panels

1. To connect status lights:
   - Swap the home and away safety shield supports on the unload table posts. (They are installed backwards for shipping.)
   - Connect the LED status light boards to the cable ends in the load table.
   - Attach the status light boards to the mounting brackets using eight 52-3252 screws and eight 52-3057 washers.
   - Adjust the bracket until the LED status light board is at a 45-degree angle and tighten the mounting screw.

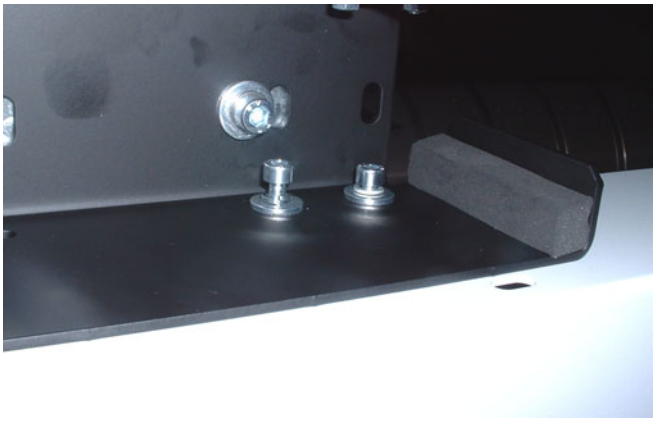


2. Connect the exit door sensor to the wiring harness on the power box side.

3. Remove the top “bolt on” section of the rear panel on the Trendsetter.



4. To install the two rear panel brackets (252-04254 & 252-04255):
   - Use four 52-3120 cap screws, four 52-4186 washers, and four 52-3191 washers.
   - Adjust the vertical height of the bracket to the middle of the slots.
   - Do not fully tighten the screws until the brackets have been aligned to the rear panel (next step).
5. To install the rear panel:
   - Set the panel on the pins at the bottom and tilt it into place.
   - Ensure that the Omron key on the rear panel has engaged the switch correctly.
   - Hold the panel in place using eight 52-3125 cap screws, eight 52-3248 washers and eight 52-4029 washers.

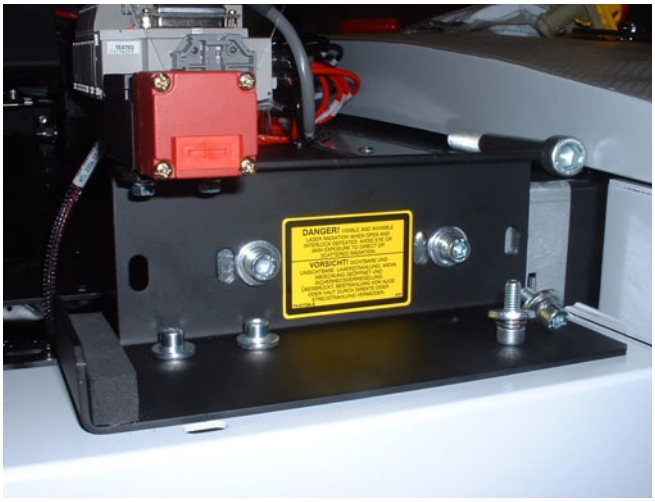


   - Once the panel screws are tightened, go back and tighten the cap screws that were installed in the previous step.
6. To install the Omron switches:
   - Use four cap screws (52-3124), eight washers (52-4054) and four Nyloc nuts (52-4042) to mount the switches on the rear panel brackets.

- Mount the switches so that the line where the color of the switch changes from black to red is aligned with the end of the angled tab on the bracket.



- Install the safety labels by the Omron switches as shown in the photo below.



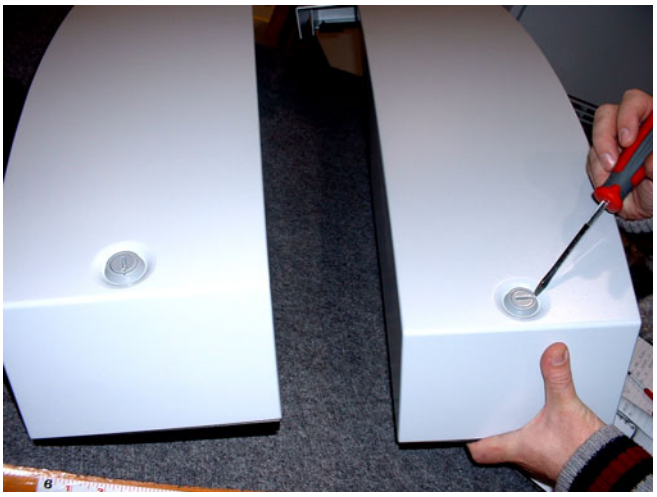
7. Loosen the black bracket on the collar panels that are installed around the load and unload table.

   Slide the black bracket to the end of the slotted holes and tighten the bracket in this position.



8. Confirm that the latches are correctly installed in the collar panels:

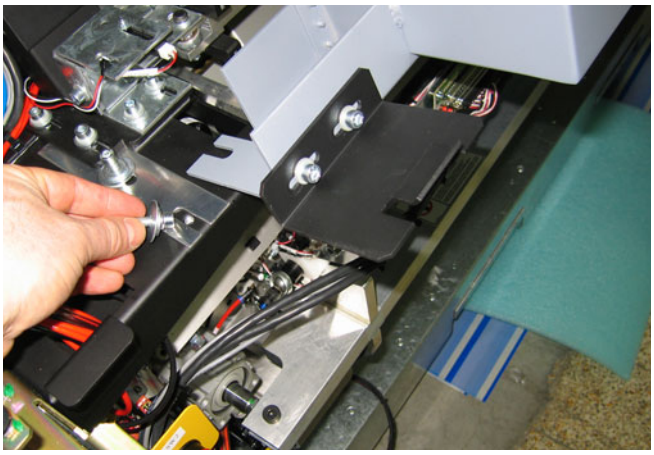
   - In the closed position the latch inside should point forward when the indicator on the top points towards the back of the panel. The panel on the left in the photo below is set up correctly.



   - There should be three threads visible beneath the nut on the latch when the height is adjusted correctly.

9. Center the black latches that are installed on the armrest panel.

10. Remove the front bolt that holds the shim in place under the load table and loosen the second bolt (but don't remove it).



Slide the armrest panel into place under the second bolt.

Add a large flat washer (52-4445) to both bolts and tighten the front of the armrest panel in place.

11. Install the fixed section of the rear light shield using four 52-4291 button screws.



12. Attach two adhesive rubber bumpers (57-8529) on the rear panel, 15 cm away from the outside of the four center screws. The bumpers should be at the same height as the screws.



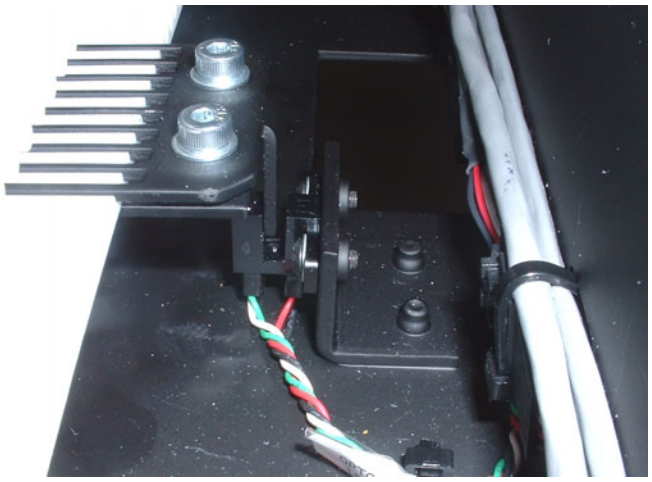
5.7 Unload table (part 2)

1. Remove the button head screws in the rear panel and install the mounting bracket for the bridge using four 52-3120 screws, four 52-3191 washers and four 52-4186 washers. Ensure that the bridge is flush or higher than the back panel by 1 mm.

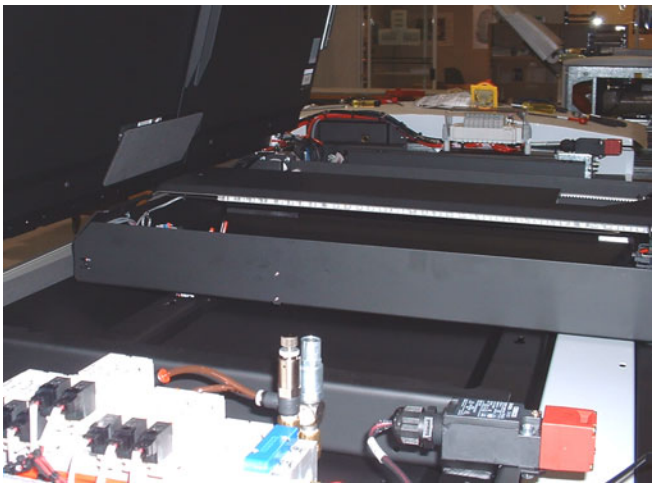


2. Level the Trendsetter (front to back and side to side).
3. To install the unload table center section:
   - Remove the outside top sections.
   - Cut the cable tie that is holding the unload traveler drive belt.

- Carefully move the traveler from end to end to make sure that the flag on the traveler does not hit the optical sensors for the home, rotate, and away table positions.

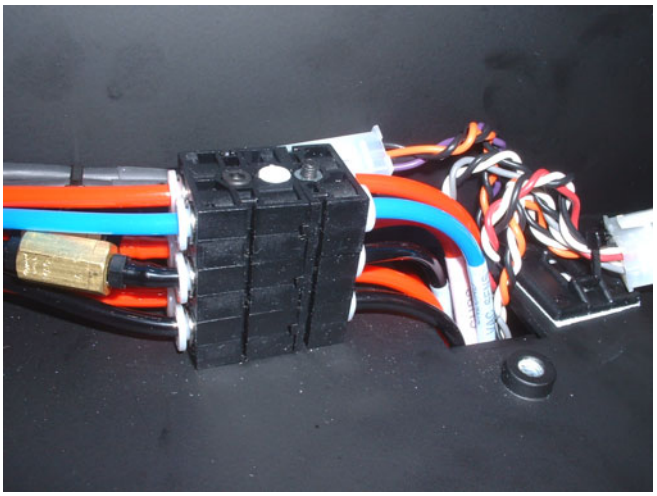


- Start four 52-3254 cap screws into the PEM nuts in the bottom of the center panel. *Do not tighten yet.*
- Set the center panel on the unload table frame.
- Pull the wiring and tubes through the hole on the front left corner of the panel.

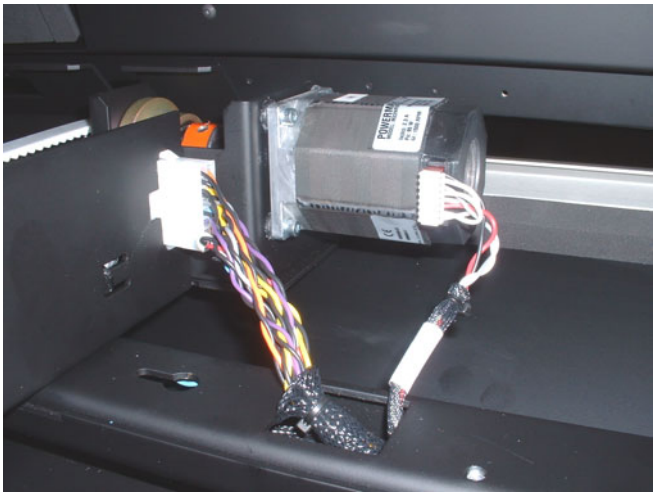


- Line up the cap screws on the bottom of the center panel with the keyhole cuts in the unload table frame.
  Do not tighten yet.

- Connect the tubes and connectors in the center panel.

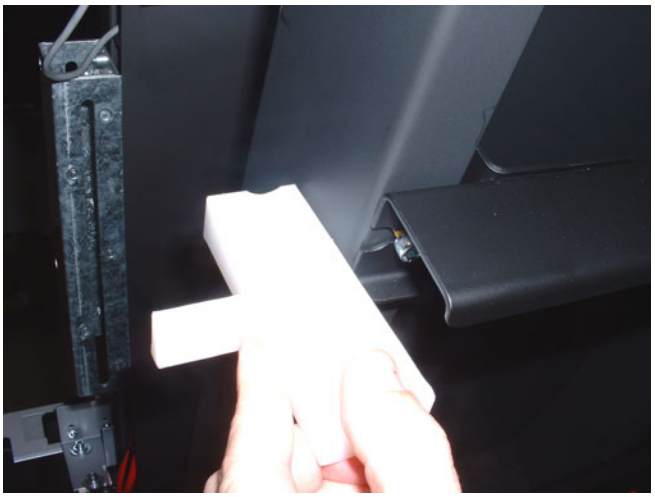


- Connect the cables to the unload table stepper motor on the right side of the panel.



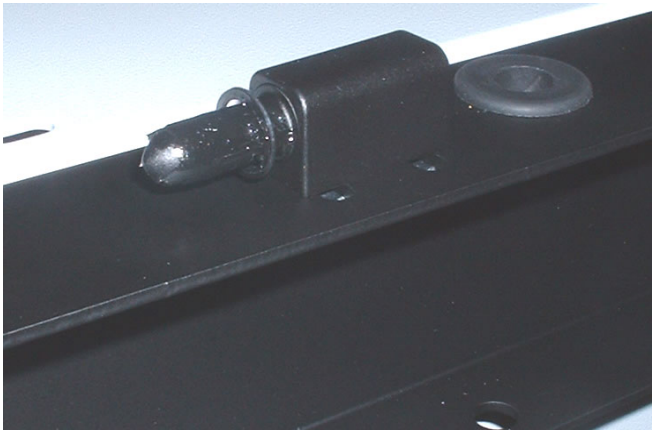
- Reinstall the top covers on the unload table center section.

4. To install the left and right side table sections:
   - Start eight 52-3254 cap screws into the PEM nuts in the bottom of the center panel.
   - Use two 52-7157 cap screws to attach both the left and right side sections to the center section.
   - Ensure that the edges of the table panels are inside the unload table frame.



- Tighten all 12 cap screws that hold the unload table panels to the unload table frame.

5. To install the bridge hinges:
   - Separate the hinges that are used to mount the bridge.
   - Attach half of the hinge to the unload bridge frame as shown in the photo below. *Be careful not to lose the plastic ring that is installed on the hinge pin.*
     Orient the hinge so that the pins are pointing away from each other. (The hinges are shipped with the required bolts and washers already installed.)



   - Attach one of the hinge halves to the bottom of the bridge panel.
   - Slide it into position on the pin of the matching hinge.

- Slide the remaining hinge half over the exposed hinge pin and attach the hinge to the underside of the bridge panel.



- Repeat this process for the other bridge panel.

6. Use four 52-3120 screws, four 52-3191 washers and four 52-4186 washers to install the bar across the end of the bridge that joins the left and right hand sides.

7. To install the unload bridge support brackets:

   - Use four 52-3120 screws, four 52-3191 washers and four 52-4186 washers.
   - Adjust the height of the table so that the end of the bridge is at the same height as the moving portion of the table.



   - At this point don't worry about the height of the bridge where it lines up with the table.

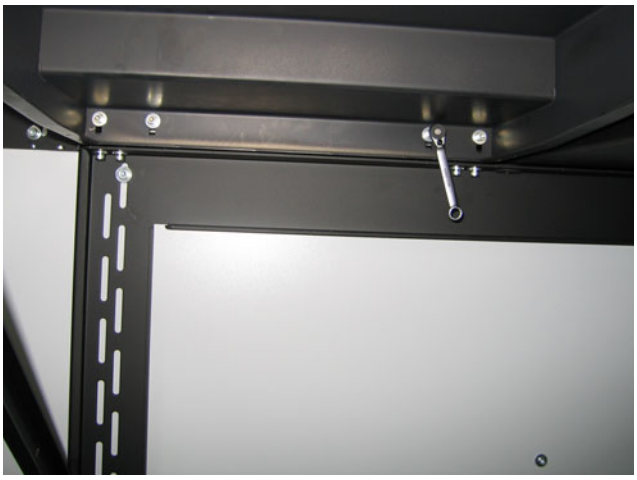
8. To adjust the bridge:

   - Loosen the cap screws that allow the bridge to be adjusted.
   - Insert a plastic spacer between the unload table panels and the bridge.

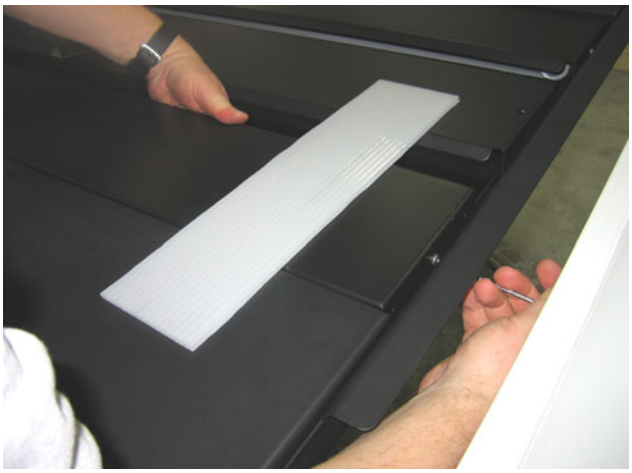
- Slide the bridge forward and tighten the cap screws that adjust in the front to back direction.
- Confirm that the bridge sections are parallel to the edges of the table.
- Adjust the height of the bridge sections so that they are flush or slightly below the height of the unload table.



- Tighten the cap screws on the unload table bridge.

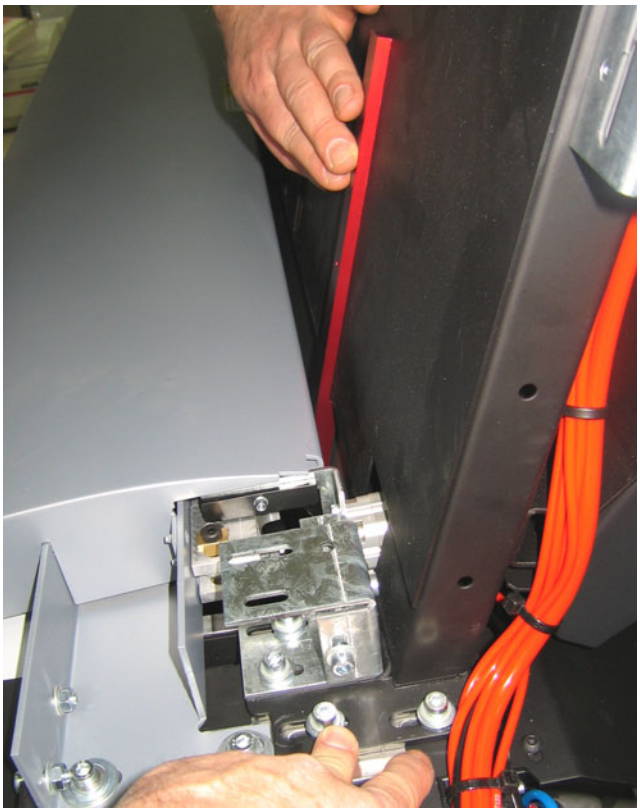


9. Adjust the center section of the unload table panels as needed to ensure that they are flush to the rest of the bridge and unload table.



5.8 Load Table Alignment

1. Check the position of the load table using the alignment jig. :
   - The jig should be flush to the load ramp and the load table as shown in the photo.



   - If necessary loosen the cap screws that hold the load table down and re-position until the jig shows the correct position on both the left and right side of the load table.

2. Apply a layer of UHMW tape to the edges of the load table glass.



3. Install the glass on the top of the load table.



4. Check the connections of all cables in the power box to the MCE, PDB and GENINE boards.
5. Use push mount cable ties (18-3133) to hold all cables in place in the power box.
6. Use wire ties to neatly organize the cables.

5.9 Startup and Configuration

1. Turn the air on and check for leaks in the new hardware.

   Correct as needed.

2. Turn on power.
3. Turn on the air supply and set the pressure to 90 PSI.
4. Manually actuate all solenoids and confirm the correct operations of all pneumatic parts.
5. Configure the device as a ContinuousLoad machine using the following commands:

- **access dev**
- **config** <password> <model code>

Model Code	Model
TSCL8_SE	Trendsetter 800 II S ContinuousLoad
TSCL8_FE	Trendsetter 800 II F ContinuousLoad
TSCL8_VE	Trendsetter 800 II V ContinuousLoad
TSCL4_S	Trendsetter 400 II Quantum S ContinuousLoad
TSCL4_V	Trendsetter 400 II Quantum V ContinuousLoad
TSCL8_S	Trendsetter 800 II Quantum S ContinuousLoad
TSCL8_F	Trendsetter 800 II Quantum F ContinuousLoad
TSCL8_V	Trendsetter 800 II Quantum V ContinuousLoad
SPCL8RSE	Trendsetter 800 II S ContinuousLoad Spectrum
SPCL8RFE	Trendsetter 800 II F ContinuousLoad Spectrum
SPCL8RVE	Trendsetter 800 II V ContinuousLoad Spectrum
SPCL4RS	Trendsetter 400 II Quantum S ContinuousLoad Spectrum
SPCL4RV	Trendsetter 400 II Quantum V ContinuousLoad Spectrum
SPCL8RS	Trendsetter 800 II Quantum S ContinuousLoad Spectrum
SPCL8RF	Trendsetter 800 II Quantum F ContinuousLoad Spectrum
SPCL8RV	Trendsetter 800 II Quantum V ContinuousLoad Spectrum

6. Use the **option** command to set the options that the customer purchased.
7. **Set carriage mspeed** to 85 and **set carriage accel** to 150
8. Confirm the function of the load ramp sensor using:
   - **ramp in**
   - **ramp**
   - **ramp out**

   The unload table air jets should activate when the ramp is in.
9. Adjust the speed of the exit door using the needle valves on the cylinders:
   - **exit door open**
   - **exit door**
   - **exit door close**
   - **exit door**

   The sensors should correctly report the position of the exit door.

   Once you have set the speed:
   - tighten the lock rings
   - mark the position of the needle valves

10. Recalibrate **`set mh DistSensorToLec`** by loading a plate of known length and using the **`load calibrate`** command.

11. To check the plate drop:

    - **`init`**
    - Place a plate on the load table
    - **`picker up`**
    - **`picker pvac on`**
    - **`picker cups out`**
    - **`picker vac on`**
    - **`picker pvac off`**
    - **`exit door open`**
    - **`picker down`**
    - Put a piece of masking tape on the load table behind the upper corners of the plate.
    - Mark the plate position on the tape.
    - **`picker vac off`**
    - Mark the position of the top corners of the plate again.

    The plate drop should be even on the left and right side ± 1.5 mm.

    If the plate drop is not even on both sides you will need to add additional shims under the load table to make the plate drop even from side to side. The total plate drop should be 4 mm ± 1 mm.

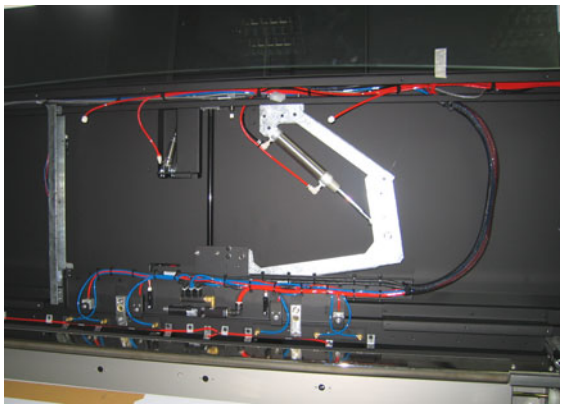
    If the plate drop must be adjusted:

    - Move the picker into the up position.
    - Remove the suction cups from the picker.
    - Remove the screws holding the cover of the load table.

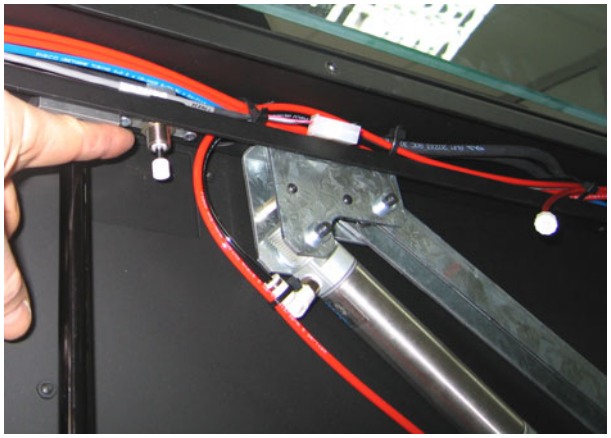
- Carefully tilt out the top of the load table and disconnect the air and electrical connections.



- Remove the load table cover.



- Loosen the lock nut on the picker bumper.



- To increase the plate drop adjust the bumper in an upward direction.
- To decrease the plate drop adjust the bumper in a downward direction.
- Tighten the lock nut on the picker bumper.
- Reinstall the load table cover.

- Reinstall the picker cups.
- Retest the plate drop.
- Repeat as needed.

12. With the unload table in the down position, install the collar panels on the left and right side of the load table.
13. Install the post panels.
14. Calibrate the unload table to push the plate into the plate processor.
15. Make a full back up of the system using the NVS Upgrade script.