5.6 Power System

5.6.1 DC Power Supply Assembly

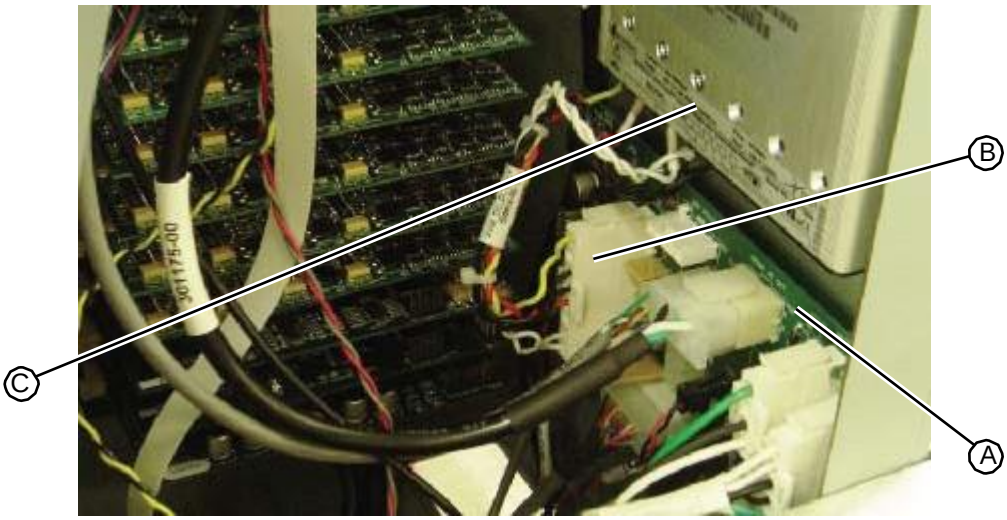
5.6.1.1 Removing the DC Power Supply Assembly

- T20 torx driver

TASK

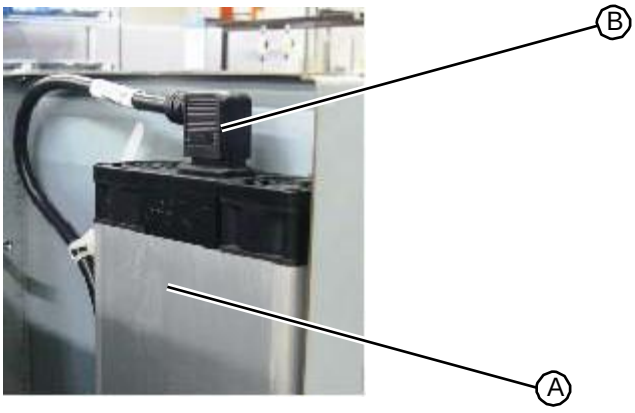
1. Turn off the system power.
2. Disconnect the power cable from the back of the system.
3. Remove the upper hood (see "Removing the Upper Hood" on page 5-3).
4. Disconnect the power supply connector from the AC/DC power distribution PC board.

Figure 5.261:DC power supply connection to AC/DC power distribution PC board



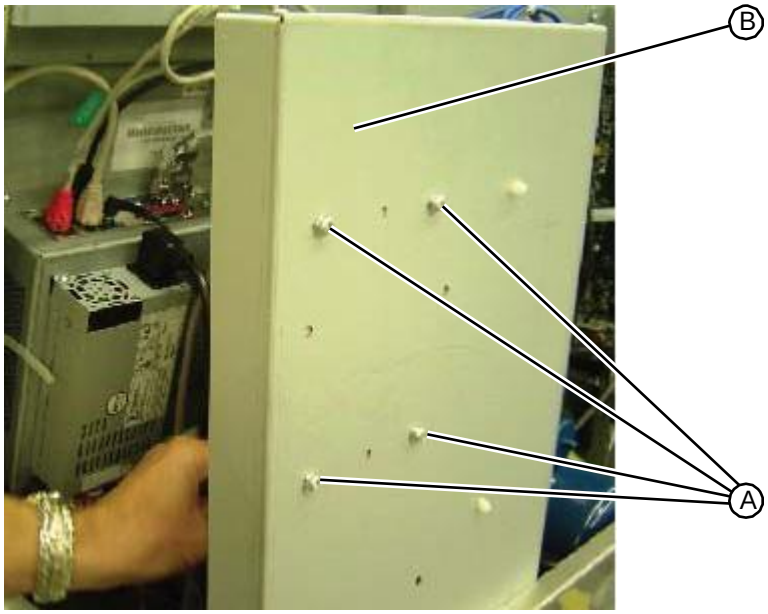
5. Unplug the AC power cable from the outlet on top of the power supply.

Figure 5.262:AC cable connection on top of AC/DC power supply



6. Support the power supply with your left hand and, from the back of the system, use a T20 driver to remove the four fasteners that secure the DC power supply to the system frame.

Figure 5.263: Fasteners that secure the DC power supply to the system frame



7. Remove the DC power supply from the system and return to RIS.

RELATED LINKS:

"Replacing the DC Power Supply" on page 5-155
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

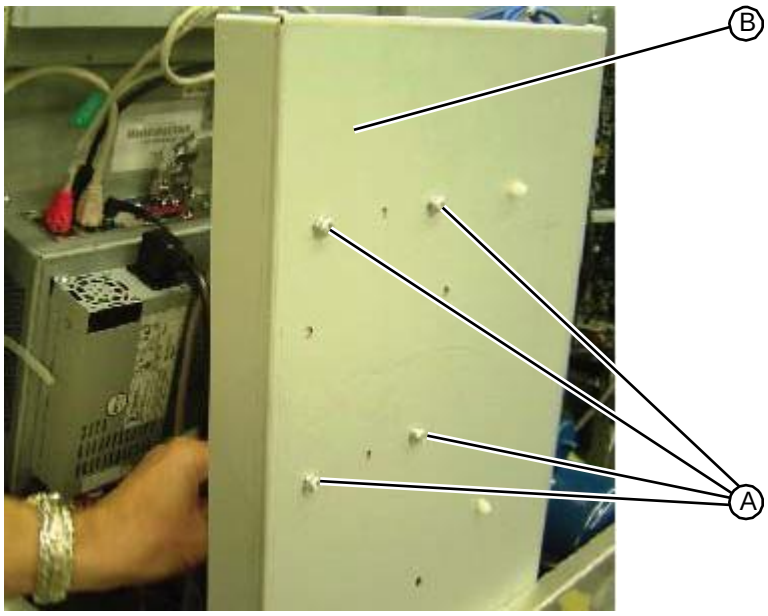
5.6.1.2 Replacing the DC Power Supply

- T20 torx driver

TASK

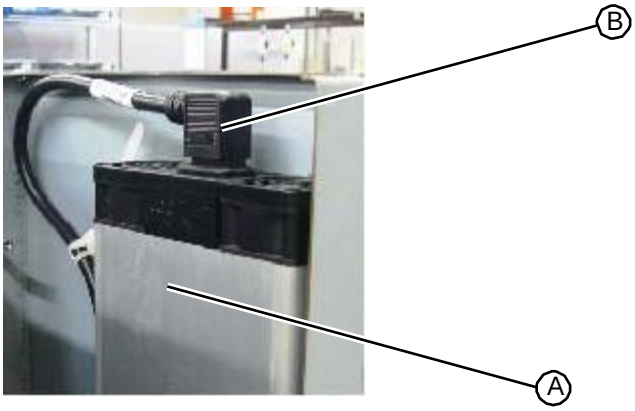
1. Position the power supply flush against the rear inside wall of the electrical tower. Looking from the back of the system, align the mounting holes in the power supply with the mounting holes in the system frame.
2. Support the power supply with your left hand and, from the back of the system, use a T20 driver to insert and tighten the four fasteners that secure the DC power supply to the system frame.

Figure 5.264: Fasteners that secure the DC power supply to the system frame



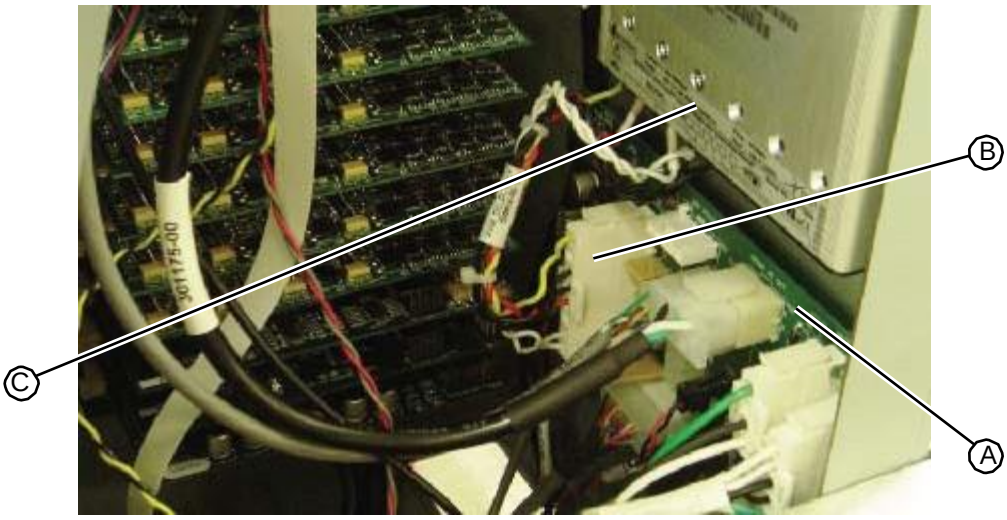
3. Plug the AC power cable into the outlet on top of the power supply.

Figure 5.265:AC cable connection on top of AC/DC power supply



4. Position the power supply output cable connector so that the yellow wire is facing up and plug the connector into the AC/DC board.

Figure 5.266:DC power supply connection to AC/DC power distribution PC board



5. Replace the upper hood "Replacing the Upper Hood" on page 5-4.

RELATED LINKS:

"Removing the DC Power Supply Assembly" on page 5-154
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.6.2 Power Entry Module

5.6.2.1 Removing the Power Entry Module

- No tools required

TASK

1. Remove the upper hood (see "Removing the Upper Hood" on page 5-3).
2. Unplug the power cable from the back of the system.
3. Inside the electrical tower, slide the black rubber housing away from the connection to the power entry module.
4. Unplug the two cables connected to the power entry module.
5. Remove the power entry module from the back of the system.

RELATED LINKS:

"Replacing the Power Entry Module" on page 5-157
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.6.2.2 Replacing the Power Entry Module

- No tools required

TASK

1. Insert the power entry module into the left slot on the back of the system.
2. Inside the electrical tower, plug the two power cables onto the power entry module connectors.
3. Slide the black rubber housing against the back of the unit so that it covers the power entry module connectors.
4. Replace the upper hood.

RELATED LINKS:

"Removing the Power Entry Module" on page 5-157
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.7 Computer Components

5.7.1 Touchscreen Assembly

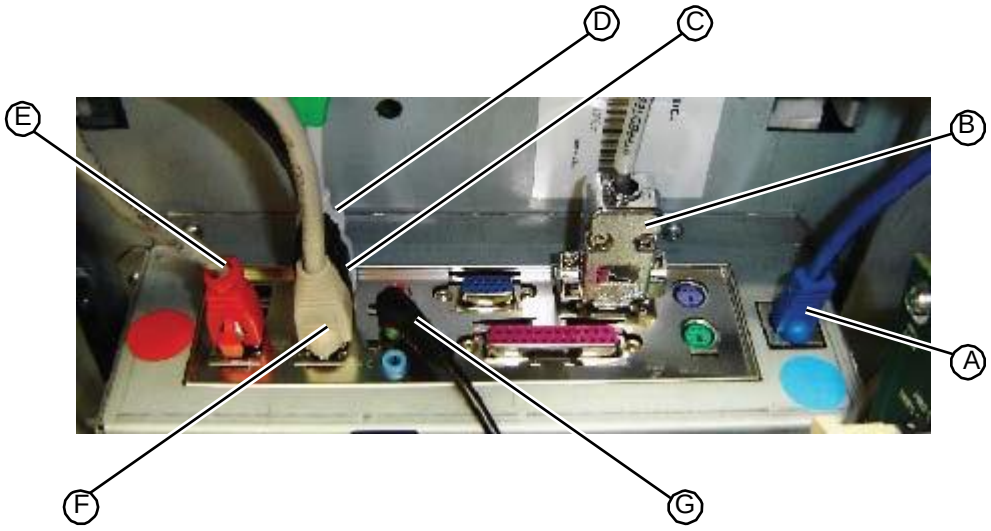
5.7.1.1 Removing the Touchscreen Assembly

- T20 torx driver
- Small flat head screwdriver

TASK

1. Remove the upper hood (see “Removing the Upper Hood” on page 5-3).
2. From the back of the system, unplug the following connections into the touchscreen assembly:
   - AC power cord from the ATX power supply
   - Audio jack plug
   - Red RJ45 tester com cable
   - Gray RJ45 com cable
   - RFID reader USB cable
   - DB9 tester serial com cable, using a small flat tip screwdriver to remove the two fasteners securing the connector to the port
   - Blue RJ45 dual-serial I-O patch cable

Figure 5.267: Cable connections on top of the touchscreen assembly

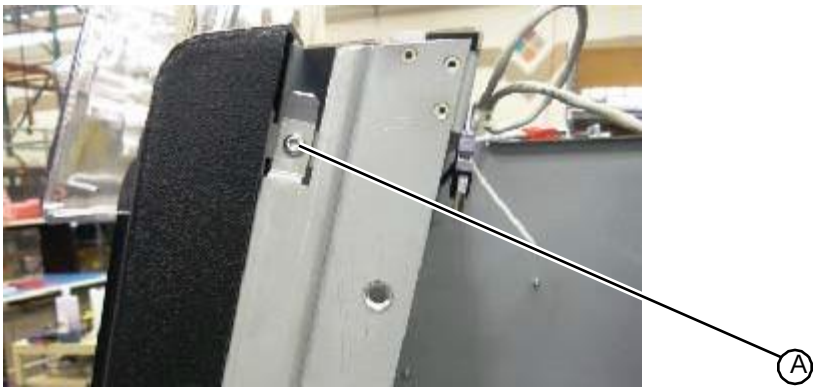


3. Unplug the power cord connected to the top of the single board computer.

Figure 5.268: Touchscreen assembly power cord

4. Using a T20 torx driver, remove the fastener on the top right side of the system that secures the touchscreen assembly to the system frame.

Figure 5.269: Fastener that secures the touchscreen assembly



5. Slide the touchscreen assembly up to release the mounting hooks and pull the touchscreen assembly forward to remove it.

RELATED LINKS:

"Replacing the Touchscreen Assembly" on page 5-160
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.7.1.2 Replacing the Touchscreen Assembly

The touchscreen assembly includes the touchscreen and the system motherboard.

- T20 torx driver
- Small flat head screwdriver

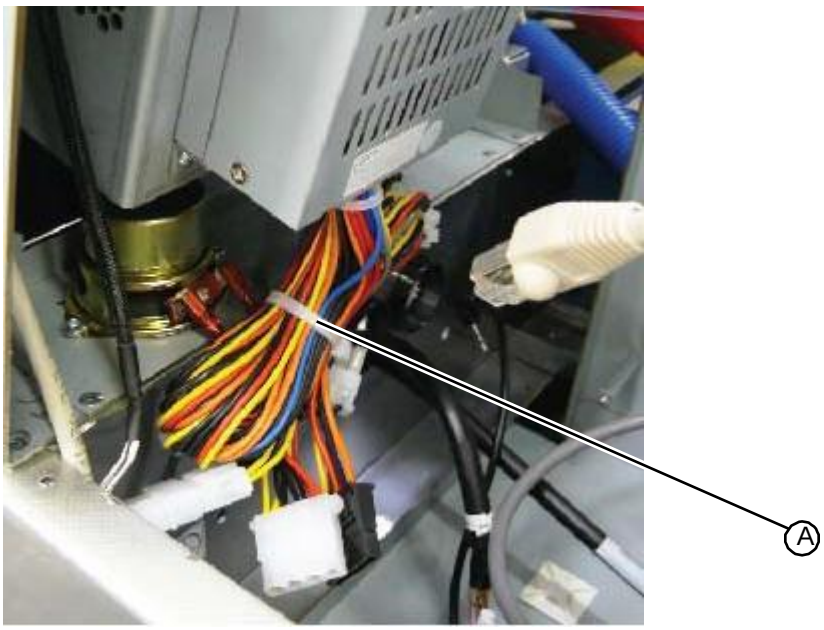
TASK

1. Insert the four mounting hooks on the back of the touchscreen assembly into the tops of the mounting slots and push the assembly back so that it rests flush against the system.

Figure 5.270: Touchscreen monitor mounting slots on the system frame

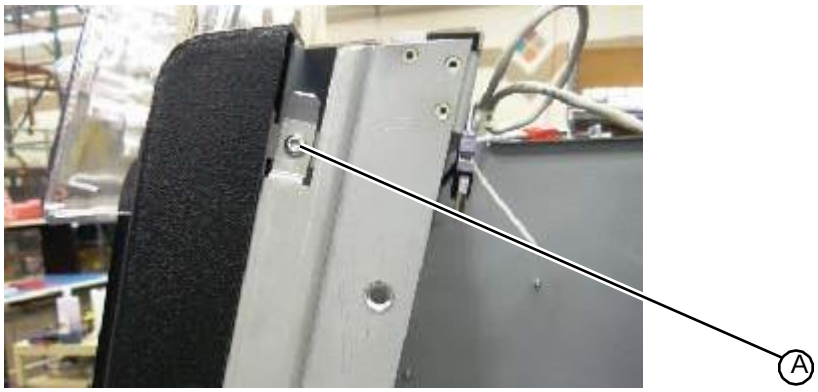
2. Carefully slide the touchscreen assembly down to engage the mounting hooks, making sure that you do not crimp the cables attached to the bottom of the touchscreen assembly.

Figure 5.271: Cabling at the bottom of the touchscreen assembly



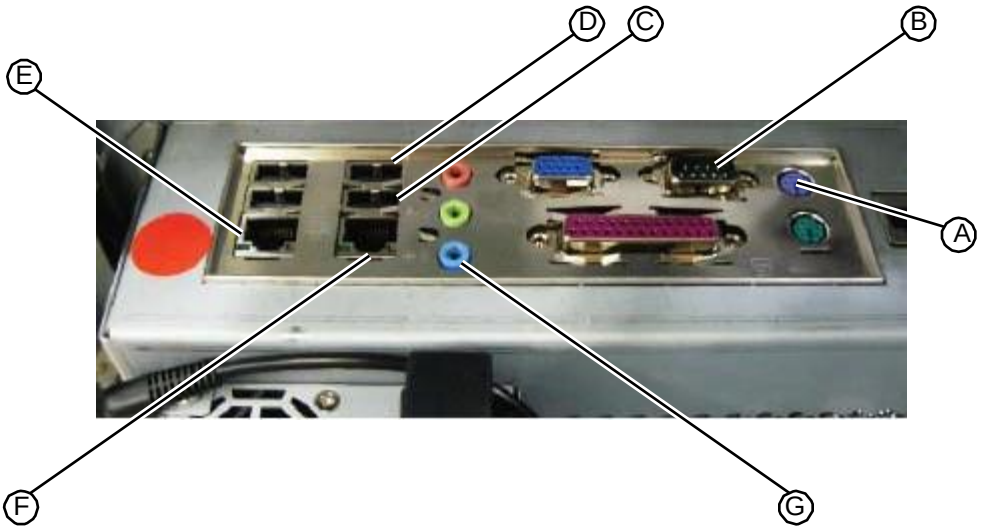
3. Using a T20 torx driver, insert and tighten the fastener on the top right side of the system that secures the assembly to the system frame.

Figure 5.272: Fastener that secures the touchscreen assembly



4. From the back of the system, plug the following connectors into the touchscreen assembly:
   - Blue RJ45 dual-serial I-O patch cable into the PC dual-serial RJ45 port labeled with a blue dot (the port closest to the center of the system
   - DB9 tester serial com cable into the PC DB9 serial port, using a small flat tip screwdriver to attach the two fasteners securing the connector to the port
   - RFID reader USB cable into a USB port
   - Gray RJ45 com cable into the second PC ethernet port (located between the green audio input port and the tester com Ethernet port labeled with the red dot)
   - Red RJ45 tester com cable into the PC ethernet port labeled with a red dot
   - Audio jack plug into the green PC audio input port
   - AC power cord into the ATX power supply

Figure 5.273: Cable connections on top of the touchscreen assembly



5. Replace the tester cover.
6. Replace the upper hood (see “Replacing the Upper Hood” on page 5-4).

7. Power on the system and verify the green network light is lit at the network connection on the rear of the touch screen.
8. Verify the IP address in the lower left of the main operator screen ends in .42
   a If an IP address is not displayed, or it doesn't end in .42 - enter the Admin screen and run EZ Net Config (white bar menu at the bottom - press to make the menu pop up, select EZ Net Config, press Start Operation). The process should only take a few seconds. If EZ Net Config takes longer, the machine may need to be rebooted once the process ends.
9. Reboot or power cycle if necessary.
10. Verify the network is connected and communicating before putting the back cover back on. *Call RIS service support before leaving the site to verify the system is online.*
11. Verify all fill adapters have been registered in the fill chamber correctly:
    a Place each fill adapter in the fill chamber and select the appropriate ID.
       a Be sure to ID each 02 vent cover located in the middle supply drawer.
       b Recheck the adapter to make sure the proper ID was selected.
    b If an adapter is incorrectly identified, remember that you can re-ID the adapter under "Admin" from the main screen.

RELATED LINKS:

"Removing the Touchscreen Assembly" on page 5-159
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.7.1.3 Replacing the 3G Wireless Modem

In addition to standard procedures for replacing the GUI module, the wireless modem option requires additional steps.

TASK

1. Extend the wireless modem antenna.
   Modem antenna is folded for shipping. Unfold the antenna to improve reception.

Figure 5.274: Extending Wireless Modem Antenna

2. Plug the modem into the top left USB port (viewing the ports from the top).

Figure 5.275: Wireless Modem Plugged in to Top Left USB Port

3. Proceed to install the GUI into the machine as indicated by the standard GUI installation procedures.

5.7.2 AC/DC Power Distribution PC Board

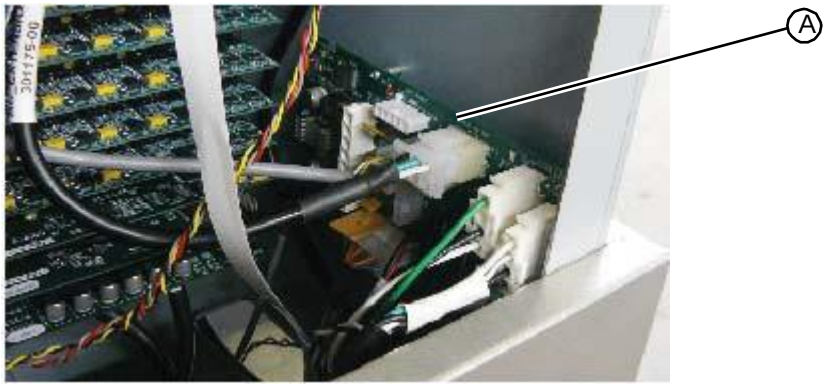
5.7.2.1 Removing the AC/DC Power Distribution PC Board

- T15 torx driver

TASK

1. Remove the upper hood (see “Removing the Upper Hood” on page 5-3).
2. Turn off the system power and remove the power cable from the back of the system.
3. Unplug all cables connected to the AC/DC power distribution PC board, located on the rear wall of the electrical tower.

Figure 5.276: Location of AC/DC power distribution PC board in the electrical tower



4. Using a T15 torx driver, remove the four fasteners that secure the AC/DC power distribution PC board to the rear wall of the electrical tower.
5. Remove the PC board from the system and return to RIS.

RELATED LINKS:

"Replacing the AC/DC Power Distribution PC Board" on page 5-165
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

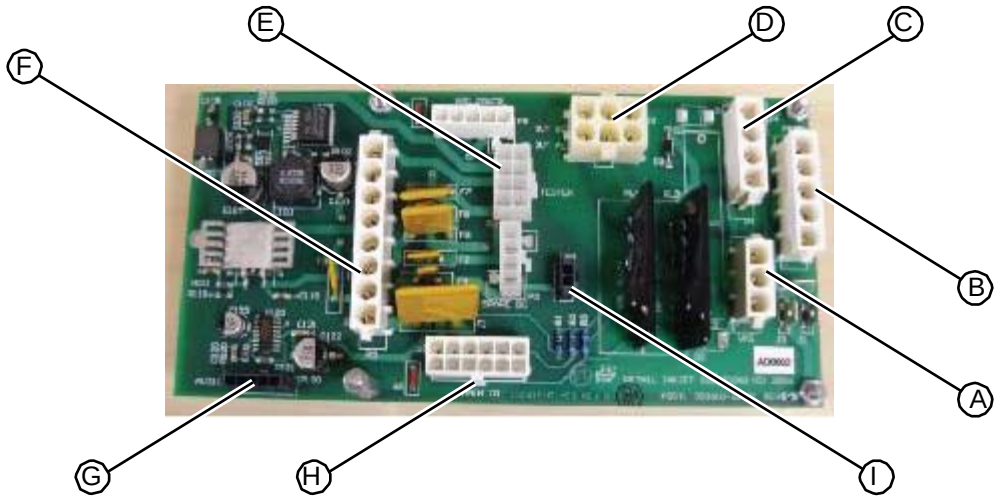
5.7.2.2 Replacing the AC/DC Power Distribution PC Board

- T15 torx driver

TASK

1. Align the mounting holes in the AC/DC power distribution PC board with the mounting studs on the rear wall of the electrical tower.
2. Using a T15 torx driver, insert and tighten the four fasteners that secure the AC/DC power distribution PC board.
3. Plug the following cables into their connectors on the AC/DC power distribution PC board.

Figure 5.277: Cable connectors on the AC/DC power distribution PC board



4. Run a complete diagnostic check of each station to ensure proper installation of the main I/O PC board.
5. Replace the upper hood (see "Replacing the Upper Hood" on page 5-4).

RELATED LINKS:

"Removing the AC/DC Power Distribution PC Board" on page 5-164
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.7.3 Main I/O PC Board

5.7.3.1 Removing the Main I/O PC Board

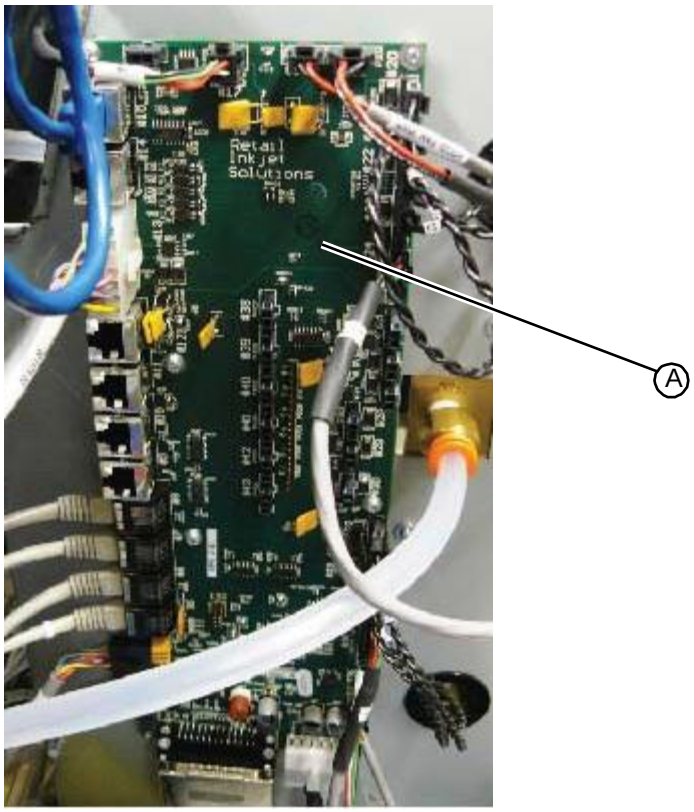
The main I/O PC board is located in back of the vacuum chamber, on the wall adjacent to the plumbing tower.

- T15 torx driver

TASK

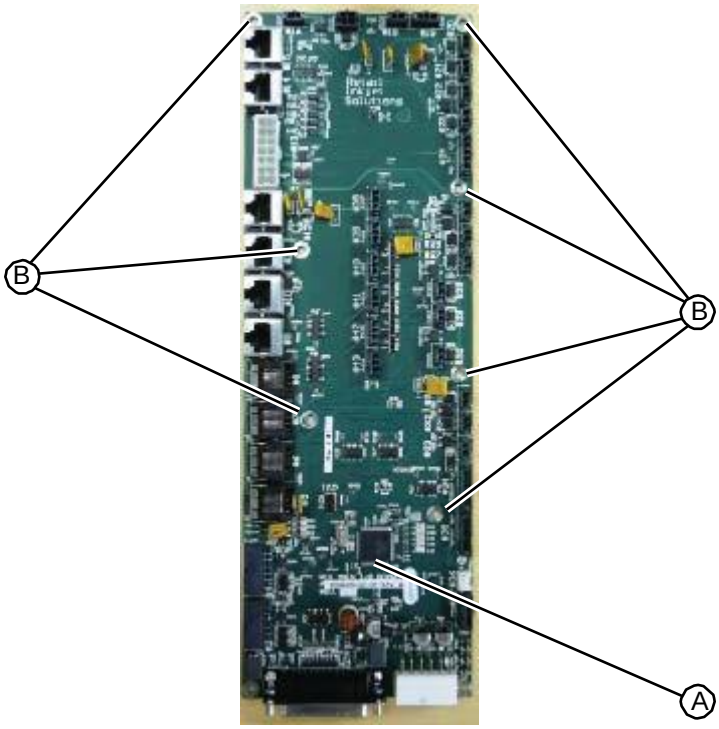
1. Turn off the power using the rocker switch located on the back of the system.
2. If necessary, lower the system onto its casters in order to move it enough to provide servicing access behind the system.
3. Remove the upper hood (see “Removing the Upper Hood” on page 5-3).
4. Unplug all connections to the main I/O PC board.

Figure 5.278: Main I-O PC board



5. Using a T15 torx driver, remove the seven fasteners that secure the main I/O PC board to the system.

Figure 5.279: Fasteners that secure the main I/O PC board



6. Remove the main I/O PC board and return to RIS.

RELATED LINKS:

"Replacing the Main I/O PC Board" on page 5-167
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.7.3.2 Replacing the Main I/O PC Board

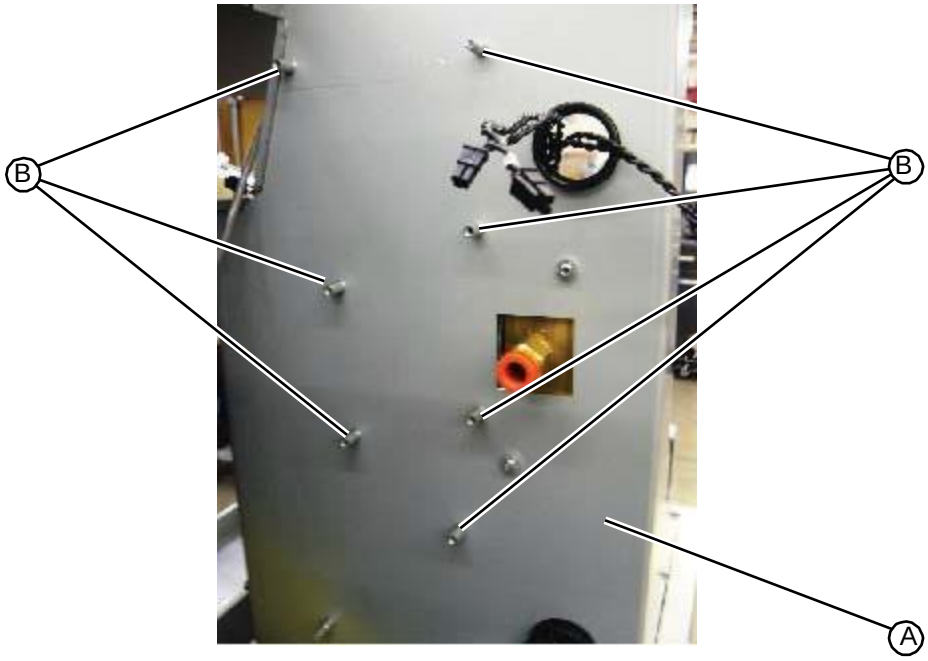
The main I/O PC board is located in back of the vacuum chamber, on the wall adjacent to the plumbing tower.

- T15 torx driver

TASK

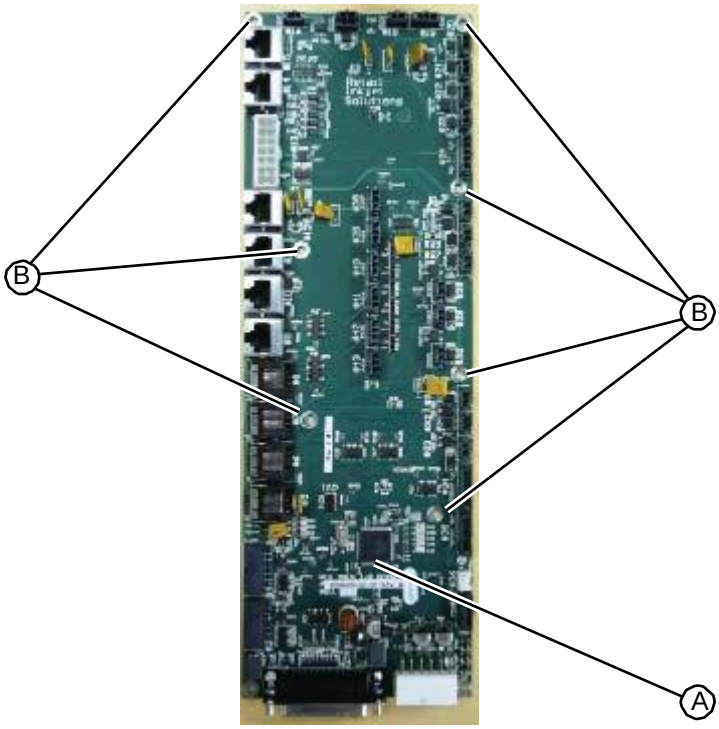
1. Align the mounting holes in the I/O PC board with the mounting studs in the system frame.

Figure 5.280: Main I/O PC board mounting studs



2. Using a T15 torx driver, insert and tighten the seven fasteners that secure the I/O PC board to the system frame.

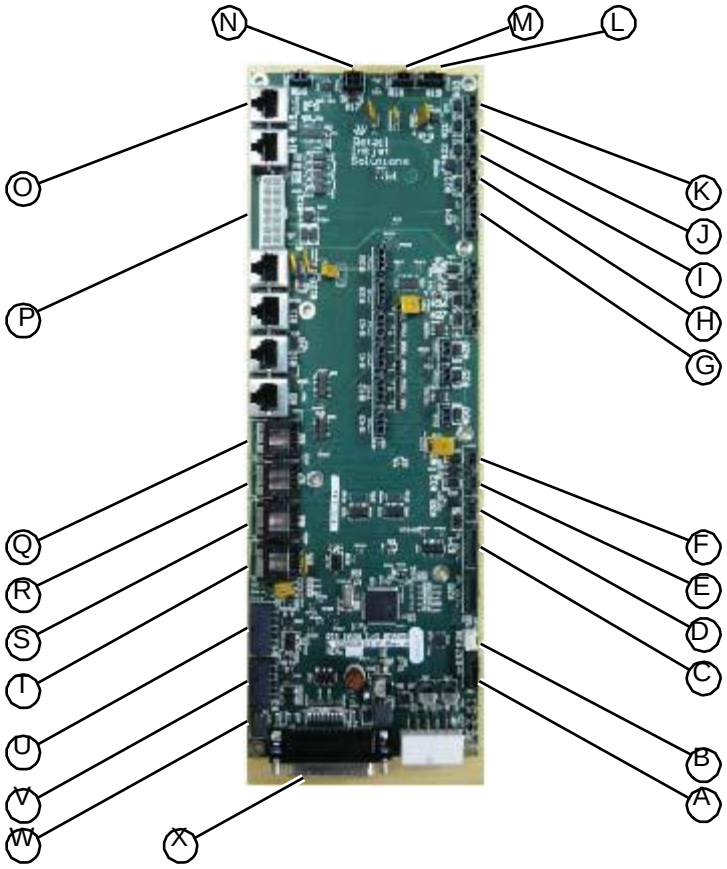
Figure 5.281: Fasteners that secure the main I/O PC board



3. Plug the following cables into their connectors on the I/O PC board.

Connector	Cable
1	Power input
2	Syringe pump
3	Prep station B fluid sensor PC board
4	Prep station A fluid sensor PC board
5	Cyan ink drawer
6	Magenta ink drawer
7	Yellow ink drawer
8	Black ink drawer
13	Vacuum chamber board
15	Host COM
17	Drill station
18	Upper hood fan power
19	Hood sensor
20	Vacuum chamber close vent valve
21	Vacuum chamber vent valve
22	System vent valve
23	Tester vacuum valve
24	Vacuum chamber vacuum transducer
31	HP45 vacuum valve
32	Prep station B vacuum valve
33	Prep station A vacuum valve
34	Liquid separator vacuum transducer
36	Liquid separator waste level warning
37	Maintenance drawer

Figure 5.282: Cable connections at the main I/O PC board



4. Run a complete diagnostic check of each station to ensure proper installation of the main I/O PC board.
5. Replace the upper hood (see "Replacing the Upper Hood" on page 5-4).

RELATED LINKS:

"Removing the Main I/O PC Board" on page 5-166
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38

5.7.4 Tester PC Board Set

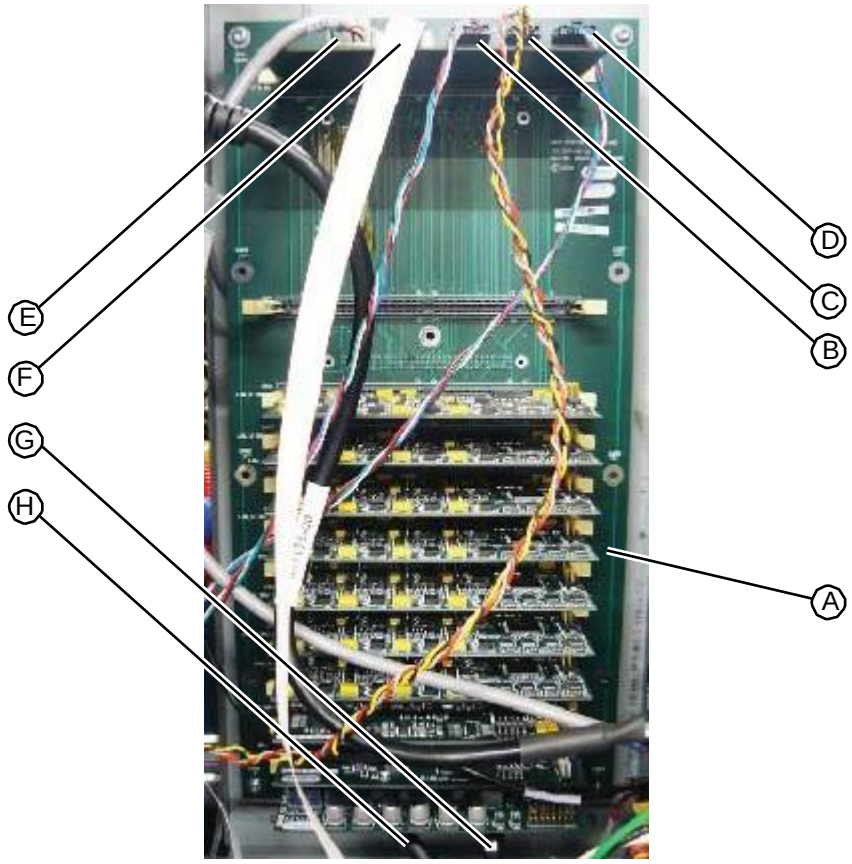
5.7.4.1 Removing the Tester PC Board Set

- T15 torx driver

TASK

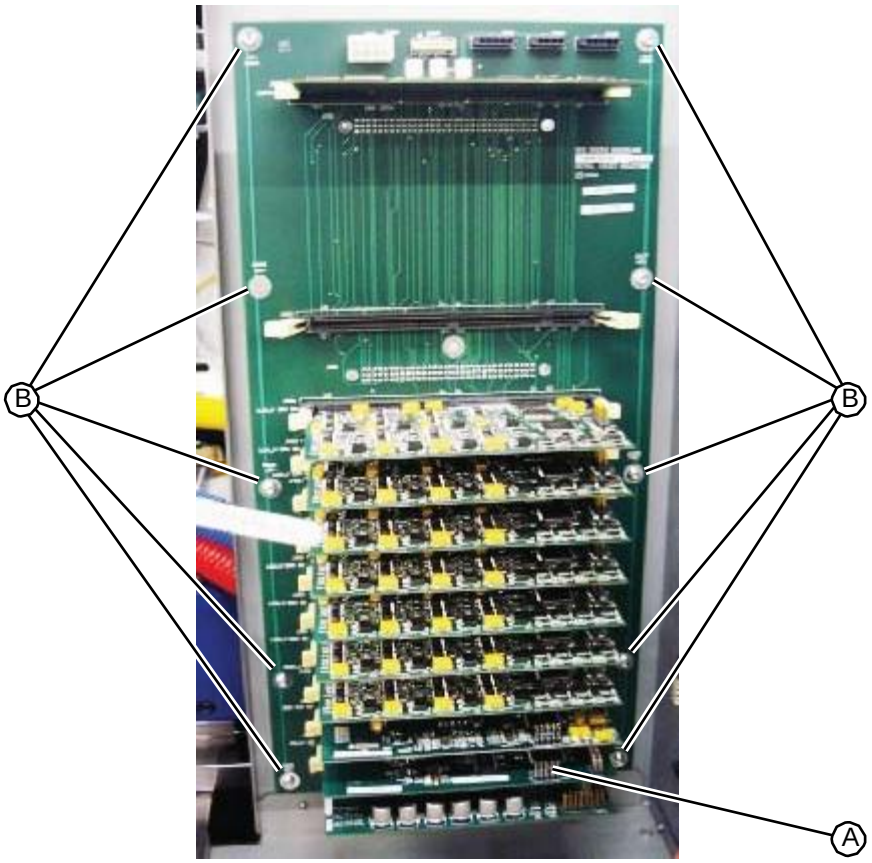
1. Remove the upper hood (see "Removing the Upper Hood" on page 5-3).
2. Unplug the five cables connected across the top of the tester PC backplane PC board and the two cables connect at the bottom of the board.

Figure 5.283: Cable connections at the tester PC backplane board.



3. Using a T15 torx driver, remove the 10 fasteners that secure the tester board set to the interior wall of the electrical tower.

Figure 5.284: Fastener locations at the tester PC backplane board.



4. Remove the tester board set and return to RIS.

RELATED LINKS:

"Replacing the Tester PC Board Set" on page 5-172
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38
"Tester Station" on page 1-24

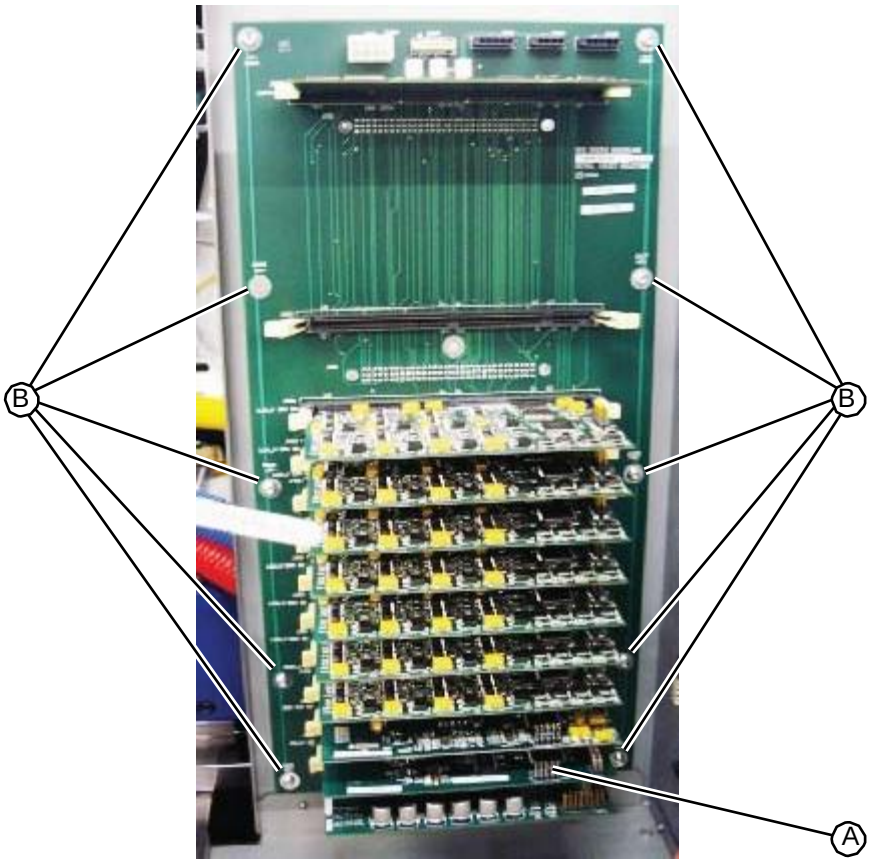
5.7.4.2 Replacing the Tester PC Board Set

- T15 torx driver

TASK

1. Align the mounting holes in the tester backplane PC board with the mounting holes on the interior wall of the electrical tower.
2. Using a T15 torx driver, insert and tighten the 10 fasteners that secure the tester PC board set to the interior wall of the electrical tower.

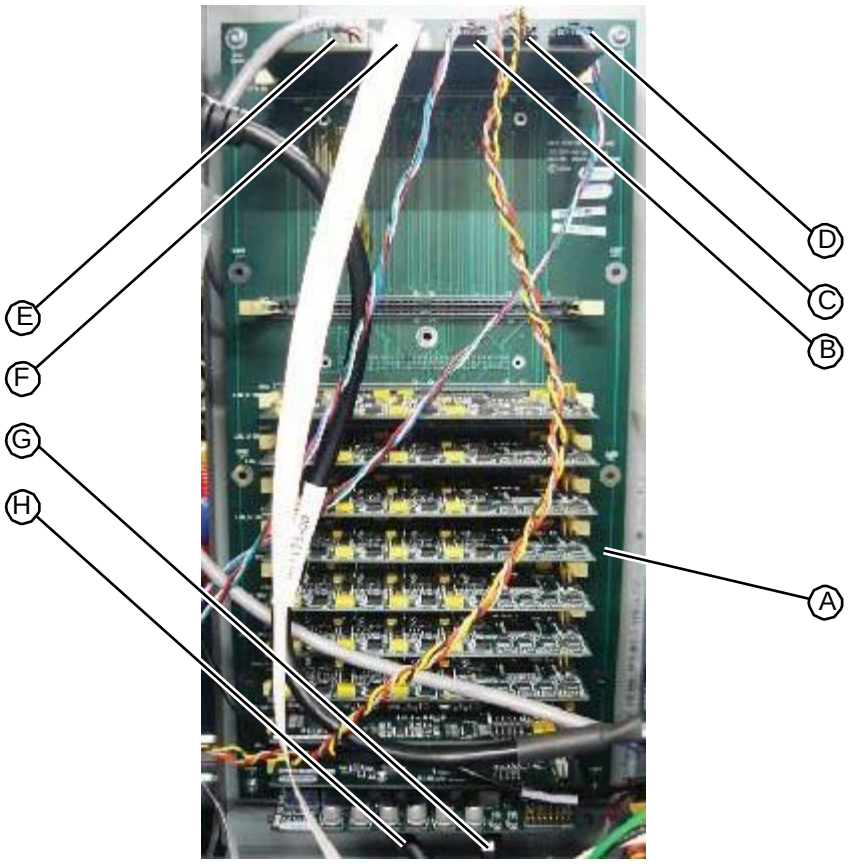
Figure 5.285: Fasteners that secure the tester board set



3. Plug the following cables into their connections on the tester PC backplane board:

Connector #	Cable
J608	Power distribution PC board
J604	Tester scanner
J606	Thru-beam paper sensor
J603	Tester stepper motor
J605	Thru-beam paper sensor
	Interconnect #1
	Interconnect #2

Figure 5.286: Cable connections at the tester PC backplane board.



NOTE: *The cables from the thru-beam paper sensors can be connected into either J605 or J606.*

NOTE: *When connecting the flat scanner cable, be sure to insert it with the gold strip facing up and the black connector pins facing down.*

4. Replace the upper hood (see "Replacing the Upper Hood" on page 5-4).

RELATED LINKS:

"Removing the Tester PC Board Set" on page 5-170
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38
"Tester Station" on page 1-24

5.7.5 Vacuum Chamber PC Board

5.7.5.1 Removing the Vacuum Chamber PC Board

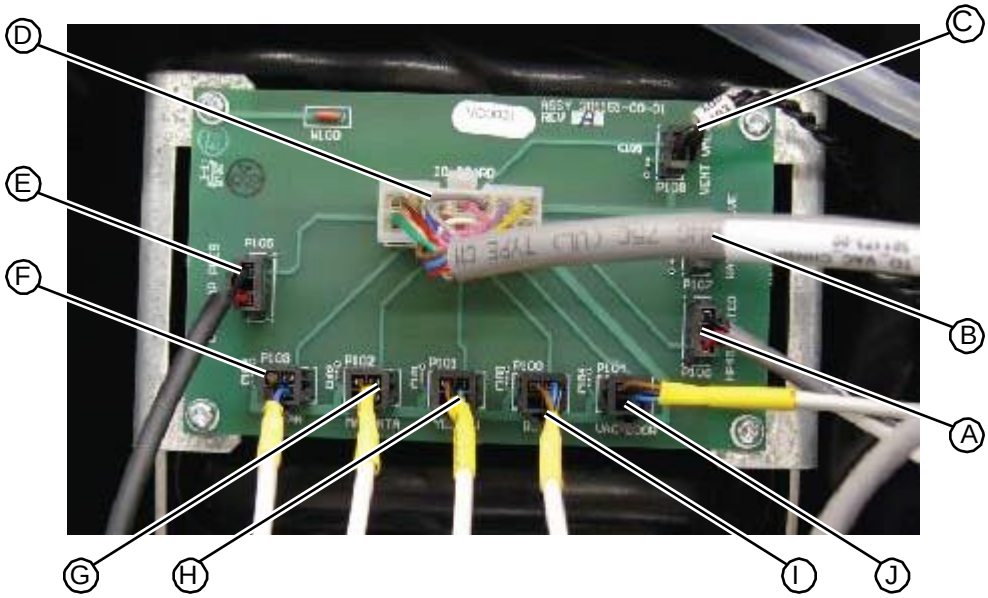
The vacuum chamber PC board is located in the central area of the system behind the vacuum chamber.

- T15 torx driver

TASK

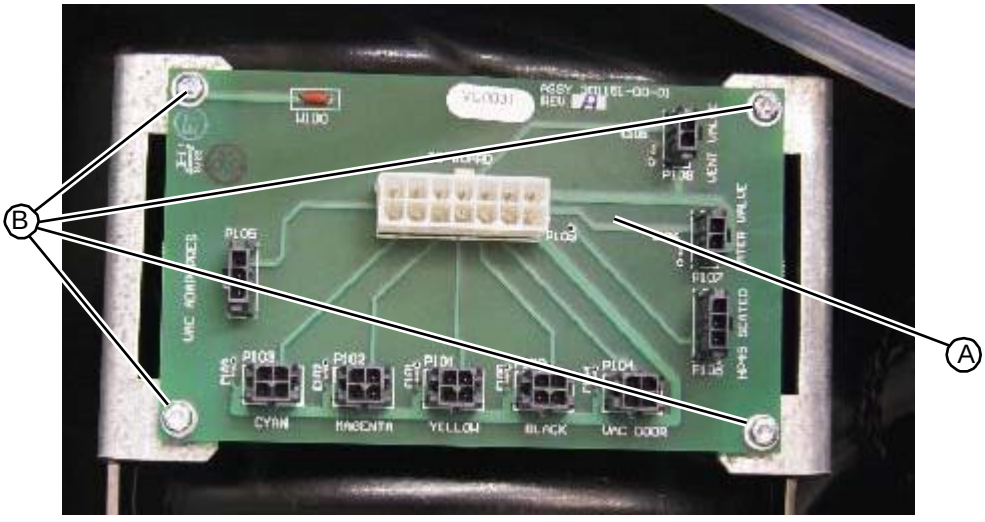
1. Remove the upper hood (see "Removing the Upper Hood" on page 5-3).
2. If necessary, lower the system onto its casters in order to move it enough to provide servicing access behind the system.
3. Unplug all cables connected to the vacuum chamber PC board by pressing in on the cable connector tabs. The tabs face the outside edge of the board.

Figure 5.287: Cable connections on the vacuum chamber PC board



4. Using a T15 torx driver, remove the four fasteners that secure the vacuum chamber PC board to the system frame.

Figure 5.288: Fasteners that secure the vacuum chamber PC board



5. Remove the vacuum chamber PC board from the system and return to RIS.

RELATED LINKS:

"Replacing the Vacuum Chamber PC Board" on page 5-176
"AC cabling diagram" on page 1-37
"DC cabling diagram" on page 1-38
"Fill Station" on page 1-17

5.7.5.2 Replacing the Vacuum Chamber PC Board

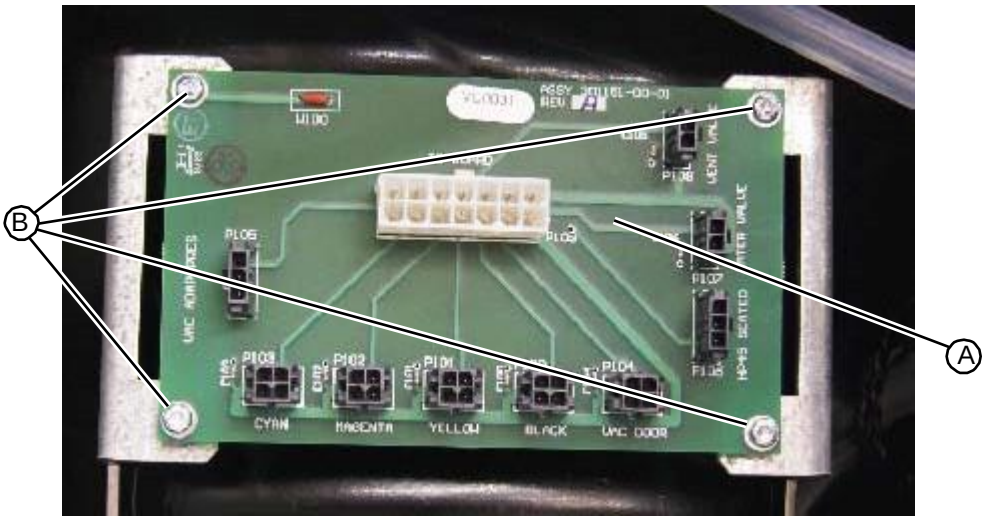
The vacuum chamber PC board is located in the central area of the system behind the vacuum chamber.

- T15 torx driver

TASK

1. If necessary, lower the system onto its casters in order to move it enough to provide servicing access behind the system.
2. Align the four mounting holes in the vacuum chamber PC board with the mounting holes on the system frame.
3. Using a T15 torx driver, insert and tighten the four fasteners that secure the vacuum chamber PC board to the system frame.

Figure 5.289: Fasteners that secure the vacuum chamber PC board

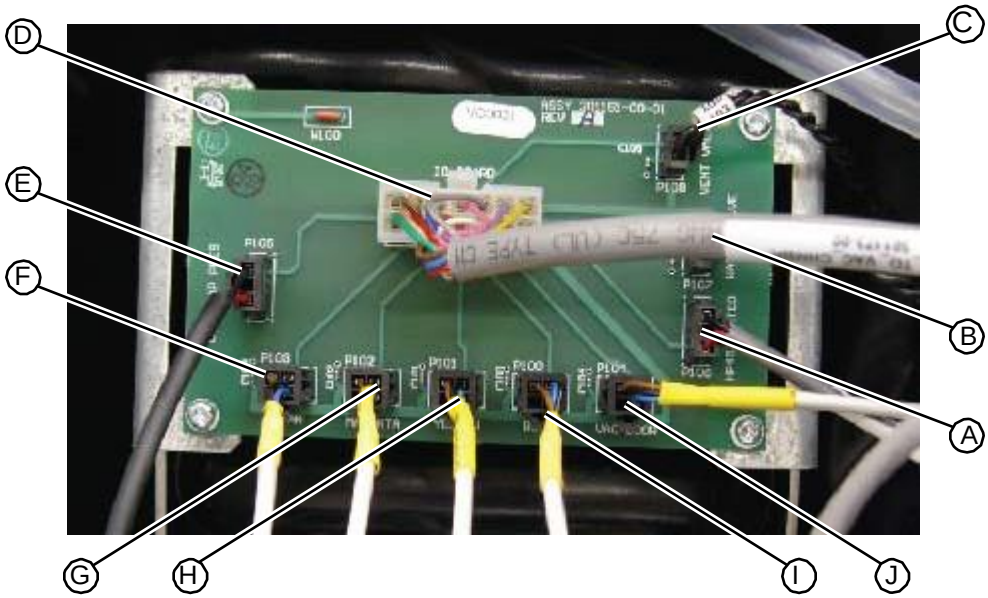


4. Plug the following cables into their connectors on the vacuum chamber PC board. Be sure to align the cable connectors so that their tabs face the outer edge of the vacuum chamber PC board.

Connector	Cable
P105	3-pin from the vacuum chamber adapter
P103	4-pin from the cyan fill station
P102	4-pin from the magenta fill station

Connector	Cable
P101	4-pin from the yellow fill station
P100	4-pin from the black fill station
P104	4-pin from the vacuum chamber door
P106	3-pin from the HP45 station
P107	2- pin from the waste valve
P108	2- pin from vacuum chamber vent
P109	14-pin from the main I/O board

Figure 5.290: Cable connections on the vacuum chamber PC board



5. Replace the upper hood (see “Replacing the Upper Hood” on page 5-4).

RELATED LINKS:

“Replacing the Vacuum Chamber PC Board” on page 5-176
“AC cabling diagram” on page 1-37
“DC cabling diagram” on page 1-38
“Fill Station” on page 1-17

5.8 Fluid System

5.8.1 Fluid Pump

5.8.1.1 Removing the Fluid Pump

- Needle nose pliers

TASK

1. Remove the upper hood (see “Removing the Upper Hood” on page 5-3).
2. Remove the rear access panel (see “Removing the Rear Access Panel” on page 5-10).
3. In the electrical tower, unplug the fluid pump cable at connection P4 on the AC/DC power distribution PC board.

Figure 5.291: Fluid pump cable at connection P4 on the AC/DC power distribution PC board

4. Route the fluid pump cable through the protected bushing and into the plumbing chamber.
5. From the back of the system, reach up under the plumbing tower and disconnect the tubing from the bottom of the fluid pump that runs to the cleaning fluid reservoir located in the maintenance drawer.
6. Disconnect the tubing connected to the top of the fluid pump that runs to the fluid distribution manifold.

Figure 5.292: Tubing connected to the fluid pump that runs to the fluid distribution manifold

7. Using a pair of needle nose pliers, detach the four springs from the mounting brackets on the plumbing tower floor.

Figure 5.293: Fluid pump mounting springs

8. Remove the fluid pump from the system and return to RIS.

RELATED LINKS:

"Replacing the Fluid Pump" on page 5-179
"Cleaning Fluid System" on page 1-29

5.8.1.2 Replacing the Fluid Pump

- Needle nose pliers

TASK

1. Using a pair of needle nose pliers, attach the four mounting springs on the fluid pump to the mounting brackets on the plumbing tower floor.

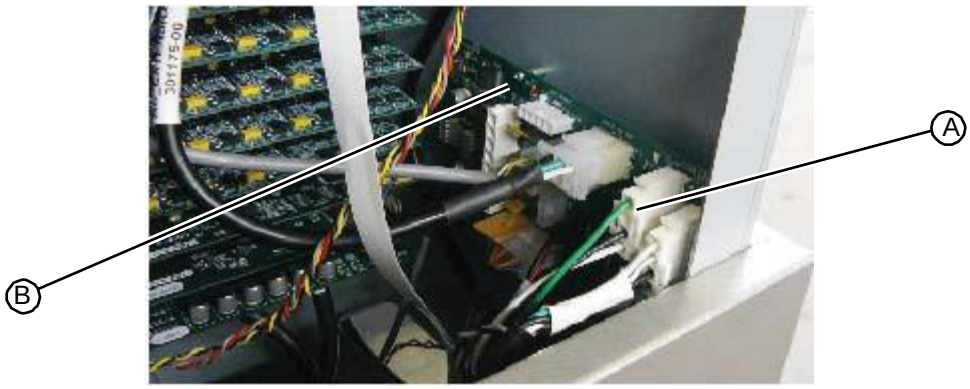
Figure 5.294: Fluid pump mounting springs

2. From the back of the system, reach up under the plumbing tower and connect the tubing from the cleaning fluid reservoir located in the maintenance drawer to the connector on the bottom of the fluid pump.
3. Connect the tubing that runs from the fluid distribution manifold into the connector located on the top of the fluid pump.

Figure 5.295: Tubing connected to the fluid pump that runs to the fluid distribution manifold

4. Route the fluid pump cable through the back of the system and into the electrical tower.
5. In the electrical tower, plug the fluid pump cable into connection P4 on the AC/DC power distribution PC board.

Figure 5.296: Fluid pump cable at connection P4 on the AC/DC power distribution PC board



6. Replace the rear access panel (see "Replacing the Rear Access Panel" on page 5-10).
7. Replace the upper hood (see "Replacing the Upper Hood" on page 5-4).

RELATED LINKS:

"Removing the Fluid Pump" on page 5-178
"Cleaning Fluid System" on page 1-29

5.8.2 Fluid Distribution Manifold

5.8.2.1 Removing the Fluid Distribution Manifold Assembly

The fluid distribution manifold routes cleaning fluid to the prep stations, the HP45 station, and the fill station. It is mounted to the back wall of the vacuum/plumbing tower.

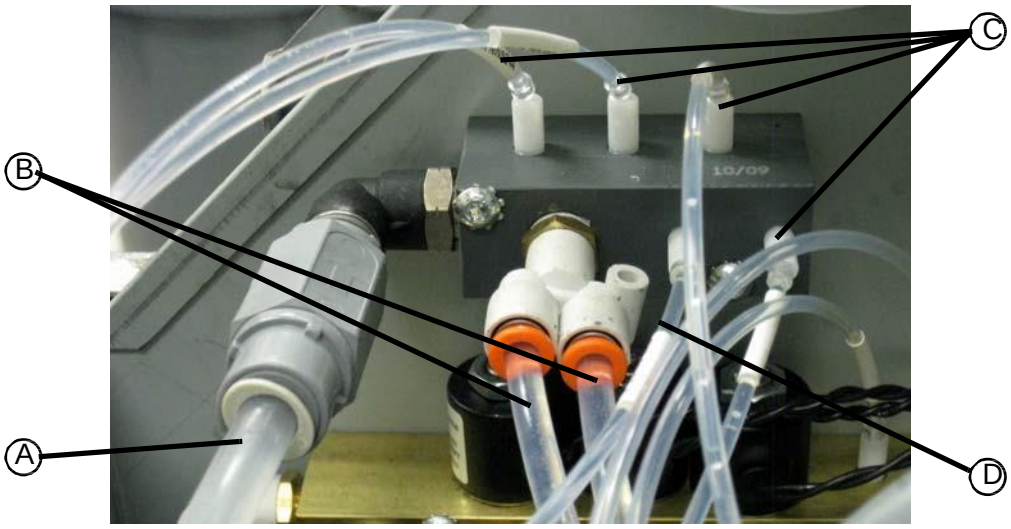
- T15 torx driver

TASK

1. Remove the upper hood (see "Removing the Upper Hood" on page 5-3).
2. Remove the work surface (see "Removing the Work Surface" on page 5-11).

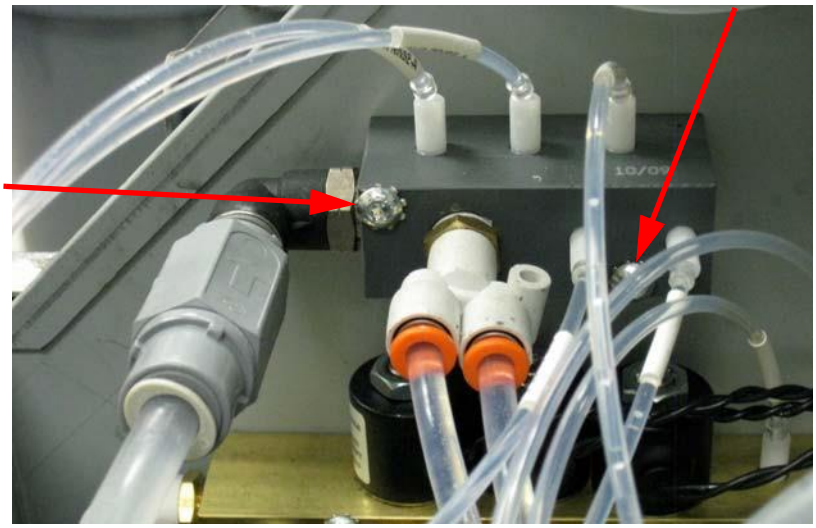
3. Remove the drill side fascia (see “Removing the Drill Side Fascia” on page 5-5).
4. Remove the tubing from the fluid pump and the prep station (or stations if this is a dual prep unit) by pressing in on the orange plastic collar and pulling the tubing out of the connector.
5. Remove the tubing from the fill stations and the HP45 station by unscrewing the black plastic connectors.

Figure 5.297: Tubing connected to the fluid manifold assembly



6. Using a T15 torx driver, remove the two fasteners that secure the fluid distribution manifold to the system frame.

Figure 5.298: Fasteners that secure the fluid manifold



7. Remove the fluid distribution manifold and return to RIS.

RELATED LINKS:

“Replacing the Fluid Distribution Manifold Assembly” on page 5-182
“Cleaning Fluid System” on page 1-29

5.8.2.2 Replacing the Fluid Distribution Manifold Assembly

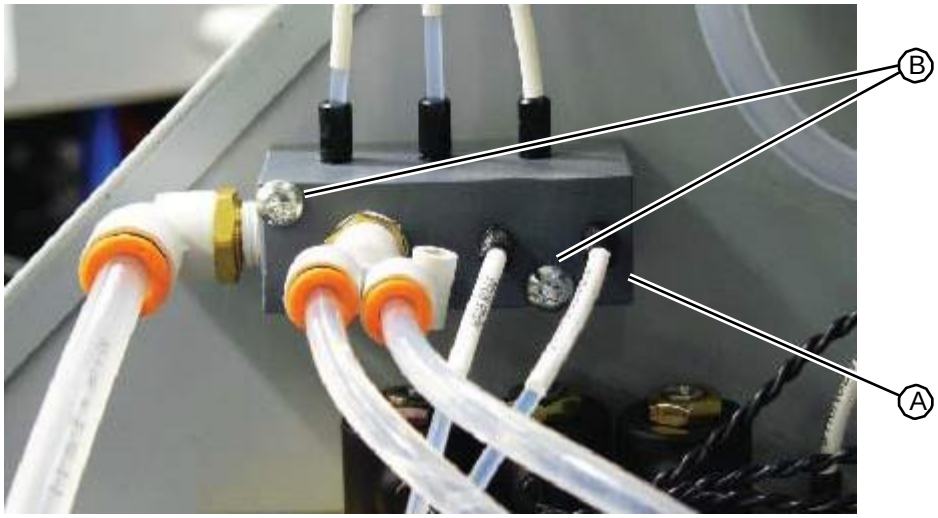
The fluid manifold routes cleaning fluid to the prep stations, the HP45 station, and the fill station. It is mounted to the back wall of the vacuum/plumbing tower.

- T15 torx driver

TASK

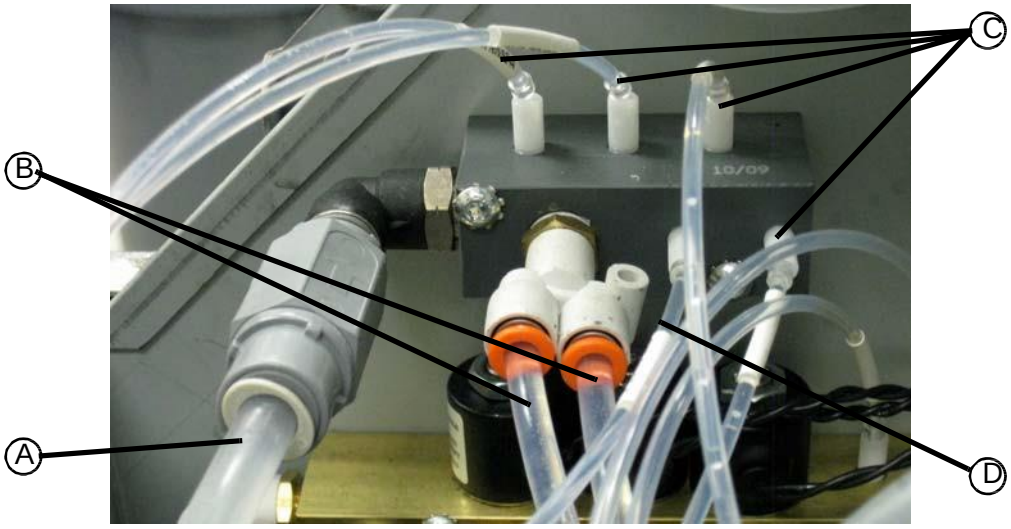
1. Align the two mounting holes in the fluid manifold with the mounting holes on the back wall inside the vacuum/plumbing chamber.
2. Using a T15 torx driver, insert and tighten the two fasteners that secure the manifold to the system frame.

Figure 5.299: Fasteners that secure the fluid manifold



3. Connect the tubing from the fluid pump to the port closest to the outside system wall.
4. Connect the tubing from the prep station to the port (or ports for a dual system) facing the front of the system.
5. Connect the tubing from the HP45 station to the small port located directly next to the prep station port.
6. Connect the tubing from the fill station fluid distribution valves to the remaining ports.

Figure 5.300: Tubing connected to the fluid manifold assembly



7. Replace the work surface (see "Replacing the Work Surface" on page 5-12).
8. Replace the drill side fascia (see "Replacing the Drill Side Fascia" on page 5-7).
9. Replace the upper hood (see "Replacing the Upper Hood" on page 5-4).

RELATED LINKS:

"Removing the Fluid Distribution Manifold Assembly" on page 5-180
"Cleaning Fluid System" on page 1-29

5.8.3 Liquid Separator Assembly

5.8.3.1 Removing the Liquid Separator Assembly

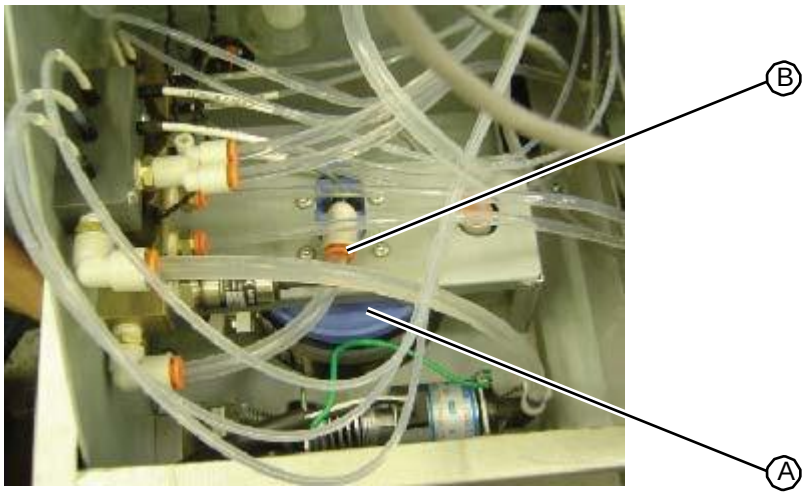
The liquid separator assembly is attached to the bottom of the plumbing chamber floor.

- T20 torx driver
- T25 torx driver

TASK

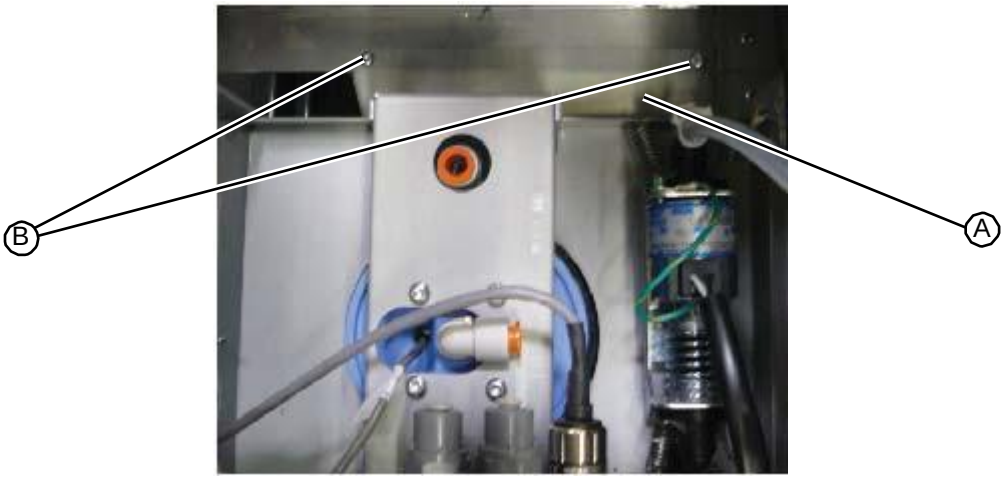
1. Remove the upper hood (see "Removing the Upper Hood" on page 5-3).
2. Remove the rear access panel (see "Removing the Rear Access Panel" on page 5-10).
3. Remove the drill side fascia (see "Removing the Drill Side Fascia" on page 5-5).
4. Open the maintenance drawer, and drain the contents of the liquid separator into the waste tank. *To help the separator drain, squeeze the trigger on the cleaning wand, and use canned air at the nozzle.*
5. Disconnect the vacuum tubing connected to the top of the liquid separator assembly.

Figure 5.301: Vacuum tubing connected to the top of the liquid separator assembly



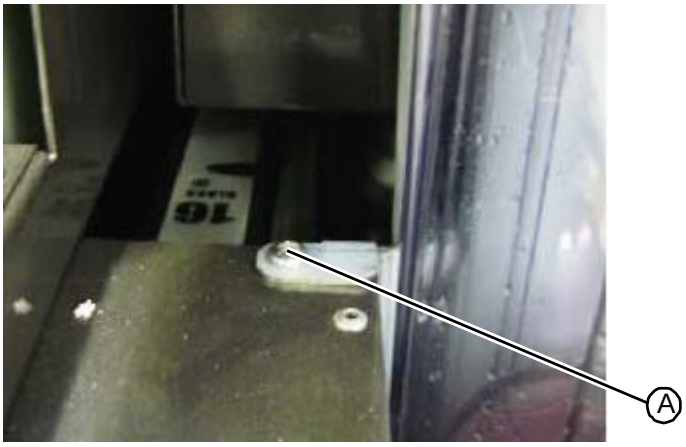
6. Open the refill adapter drawer located above the maintenance drawer.
7. Using a T20 driver, remove the two fasteners that secure the top of the gutter to the unit.

Figure 5.302: Fasteners that secure the top of the gutter



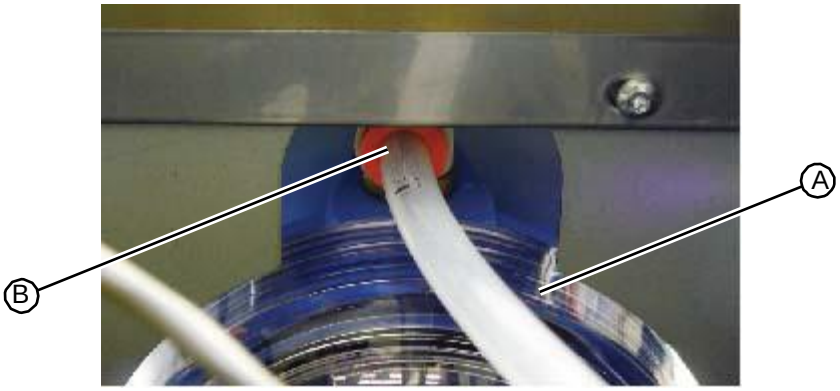
8. From the back of the unit, remove the third fastener that secures the bottom of the gutter to the unit.

Figure 5.303: Fastener that secures the bottom of the gutter



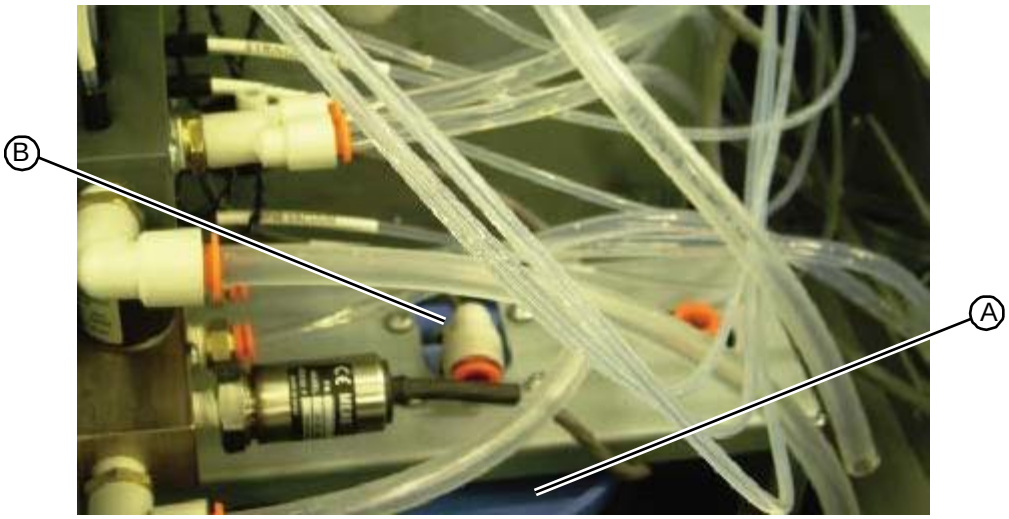
9. Remove the gutter from the system.
10. Reach up into the back of the system and remove the vacuum cleanup wand tubing attached to the QC elbow connector on the back of the liquid separator lid.

Figure 5.304: Vacuum cleanup wand tubing connection to liquid separator



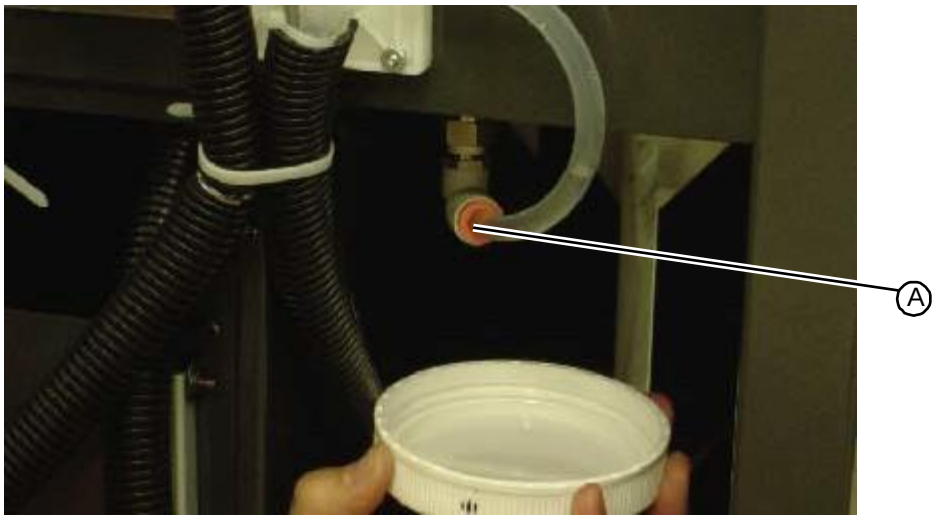
11. Remove the remaining tube from the top of the liquid separator turn the rear connector 180°.

Figure 5.305: Elbow connector rotated on the top of liquid separator



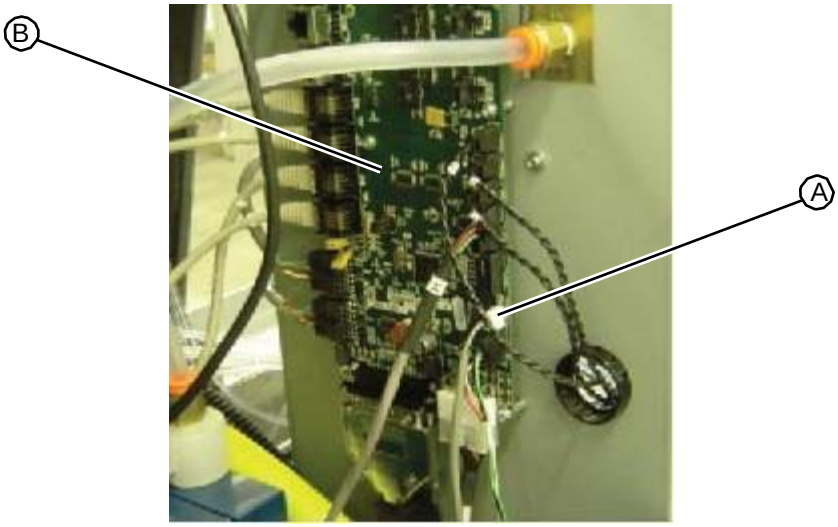
12. From the back of the unit, remove the line connected to the bottom of the liquid separator. Any remaining fluid will drain out of the tank. Therefore, use a lid or other container to catch the fluid and wedge a wipe towel into the fitting to prevent fluid from dripping out while you finish removing the separator.

Figure 5.306: Disconnecting the line connected to the bottom of the liquid separator



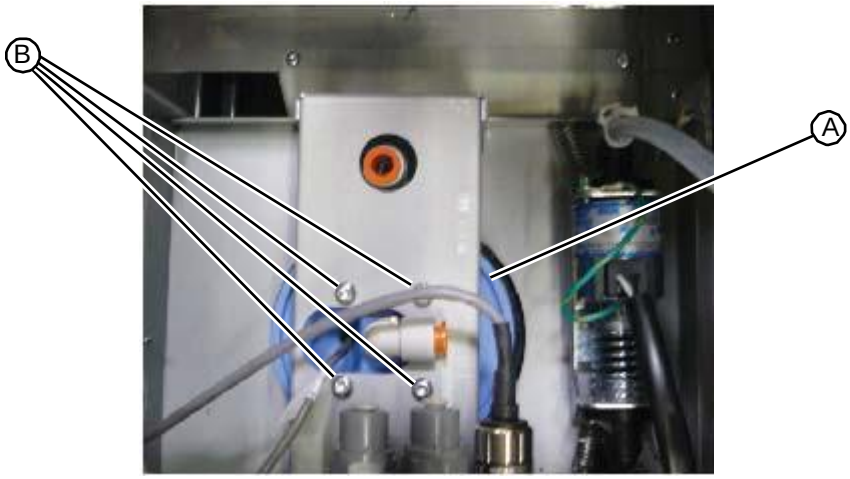
13. On the I/O PC board, unplug the cable from the liquid separator at connector 36, and route the cable down to the separator.
14. Loosen the body of the separator fromthe cap by rotating the bottom section to the left.

Figure 5.307: Liquid separator assembly cable connection on I/O PC board



15. Using a T25 torx driver, remove the four fasteners that secure the top of the waste tank to the system.

Figure 5.308: Fasteners that secure the liquid separator assembly to the system frame



16. Pull the waste tank down and remove from the back of the system.

RELATED LINKS:

"Replacing the Liquid Separator Assembly" on page 5-188
"Cleaning the Float Sensors" on page 7-14
"Cleaning Fluid System" on page 1-29

5.8.3.2 Replacing the Liquid Separator Assembly

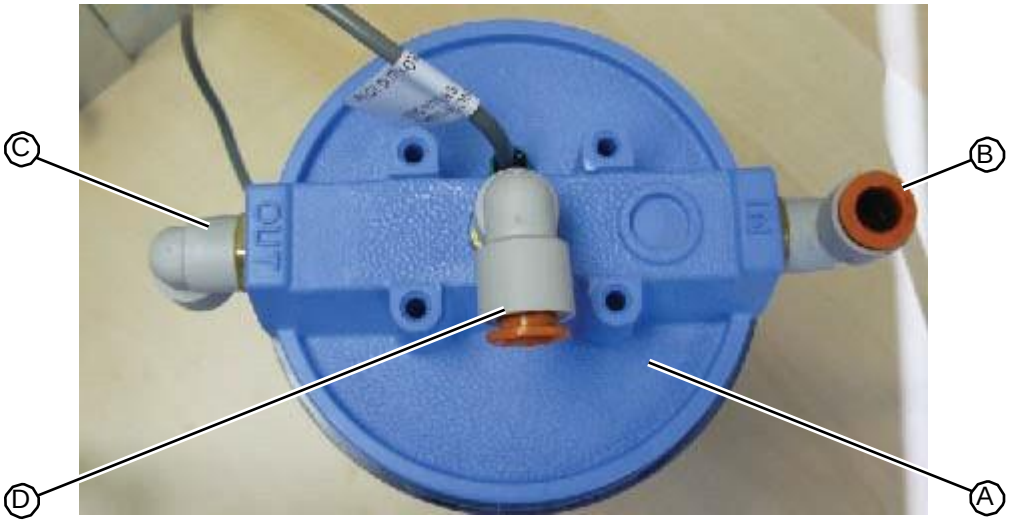
The liquid separator assembly is attached to the bottom of the plumbing chamber floor.

- T20 torx driver
- T25 torx driver

TASK

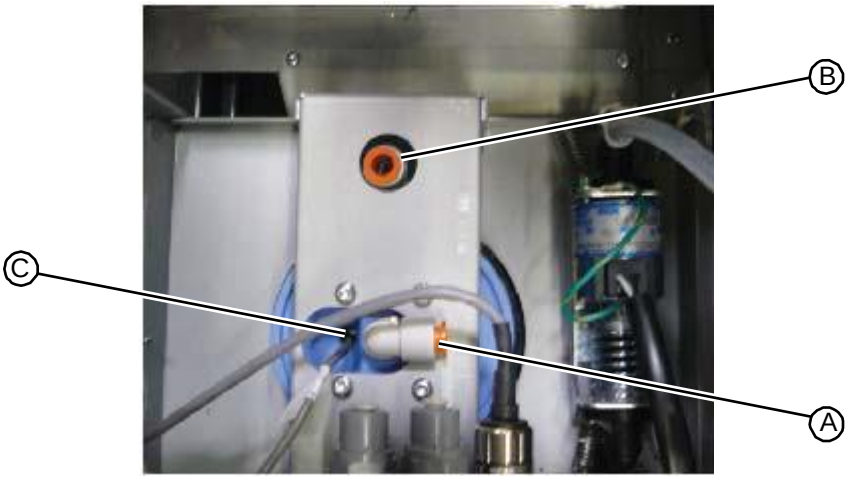
1. Align the connectors on the cap so that the top vacuum connector is angled away from the sensor, the connector labeled IN is facing up, and the connector labeled OUT is facing down.

Figure 5.309: Correct alignment of connectors on top of liquid separator assembly



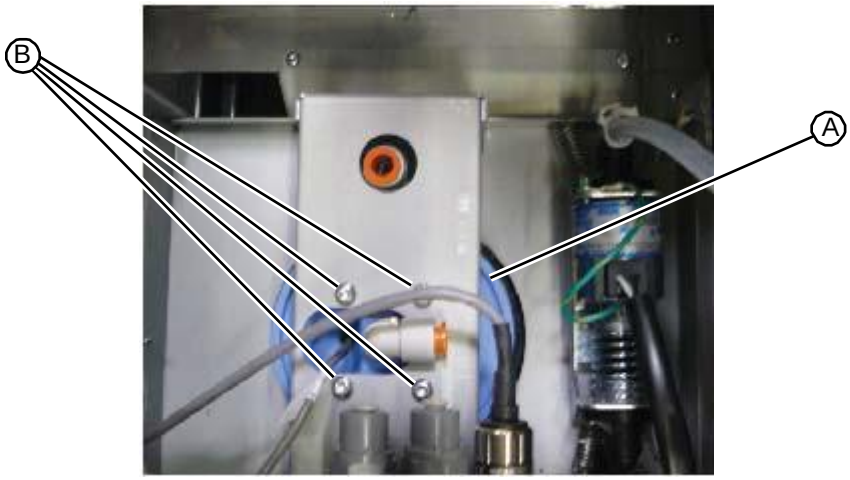
2. Feed the liquid separator sensor cable through the oval cutout in the system frame.
3. Insert the liquid separator into the system, and orient the unit so that the sensor and vacuum connector align with the oval cutout in the system frame, with the sensor facing the center of the system. The IN connector aligns with the circular cutout toward the front of the system and the OUT connector faces the back of the system.

Figure 5.310: Correct alignment within the plumbing tower



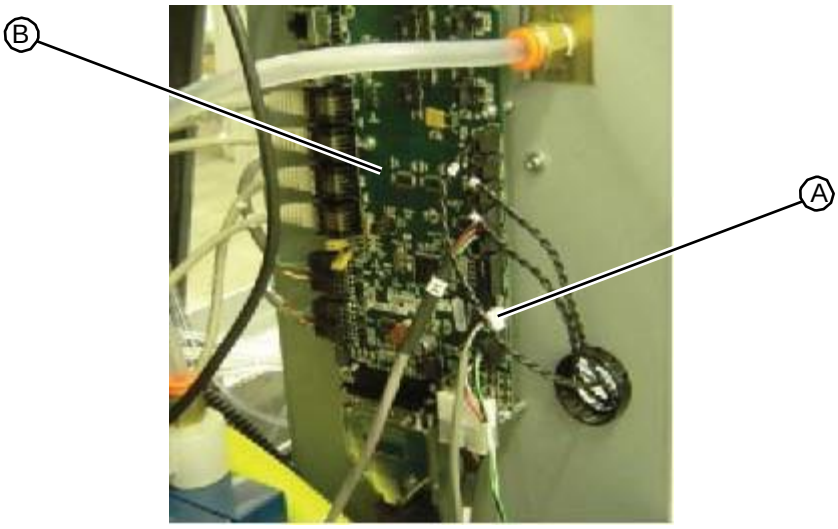
4. Using a T25 driver, insert and tighten the four fasteners that secure the top of the liquid separator to the system frame.
5. Tighten the body of the liquid separator to the cap.

Figure 5.311: Fasteners that secure the liquid separator assembly to the system frame



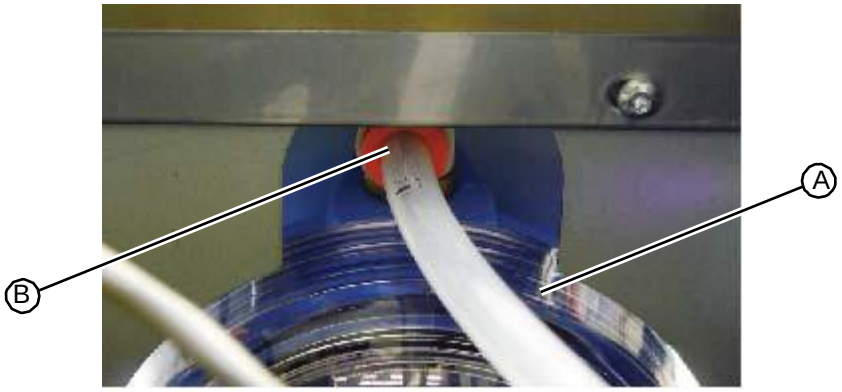
6. Route the liquid separator sensor cable up into the central rear chamber and plug it into connector 36 on the I/O PC board.

Figure 5.312: Liquid separator assembly cable connection on I/O PC board



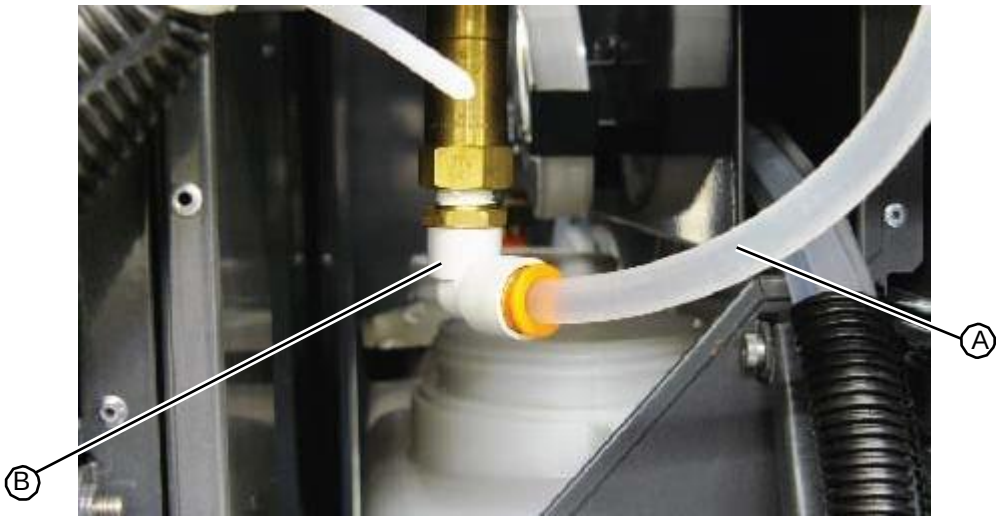
7. Route the vacuum cleanup wand tubing up into the back of the system and insert it into the QC elbow connector on the back of the liquid separator lid.

Figure 5.313: Vacuum cleanup wand tubing connected to the back of the liquid separator lid



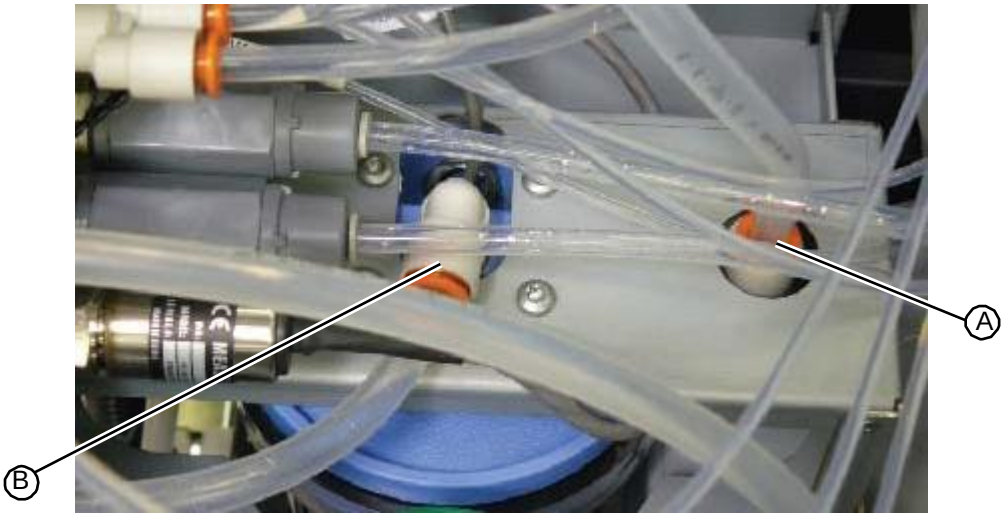
8. Support the bottom fixture on the fluid separator assembly and insert the waste tank tubing into the QC elbow connector. **Failure to support the bottom fixture can result in cracks to the assembly.**

Figure 5.314: Waste tank tubing connected to the bottom of the liquid separator assembly



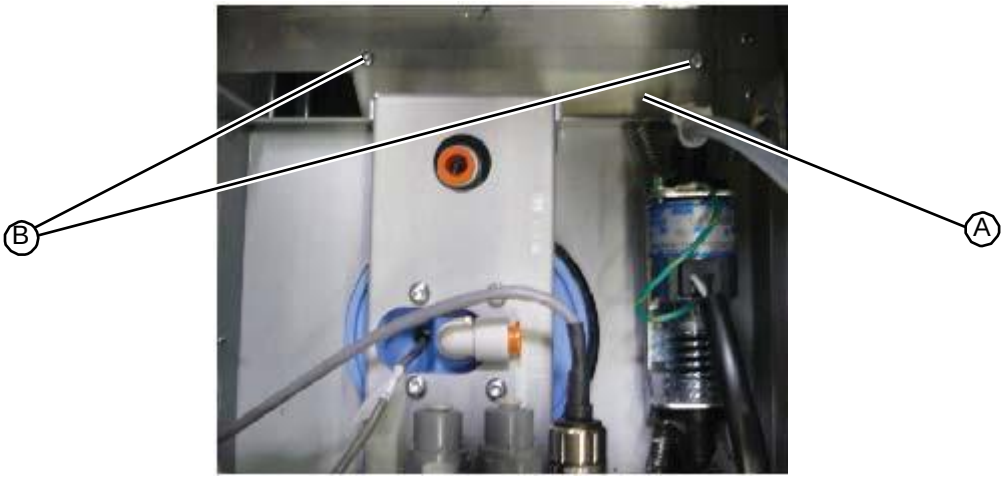
9. Within the plumbing tower, insert the tubing that runs from the side of the waste vacuum manifold into the QC elbow connector on the center of the liquid separator cap.
10. Insert the tubing that runs from the fluid trap jar attached to the main vacuum manifold into the QC connector on the front of the liquid separator cap.

Figure 5.315: Tubing connected to the top of the liquid separator assembly



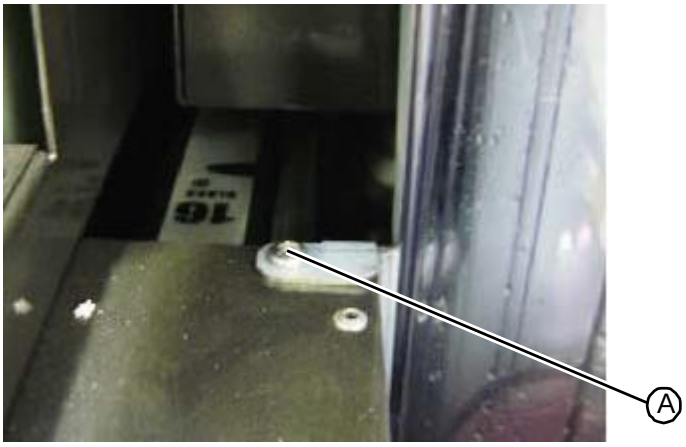
11. Place the gutter into the system and align the its mounting holes with the mounting holes in the floor of the plumbing tower.
12. Using a T20 torx driver, insert and tighten the two fasteners that secure the top of the gutter to the system frame.

Figure 5.316: Fasteners that secure the gutter to the system frame



13. From the back of the unit, use a T20 torx driver to insert and tighten the fastener that secures the bottom of the gutter to the system frame.

Figure 5.317: Fastener that secures the bottom of the gutter



14. Replace the rear access panel (see "Replacing the Rear Access Panel" on page 5-10).
15. Replace the drill side fascia (see "Replacing the Drill Side Fascia" on page 5-7).
16. Replace the upper hood (see "Replacing the Upper Hood" on page 5-4).

RELATED LINKS:

"Removing the Liquid Separator Assembly" on page 5-183
"Cleaning the Float Sensors" on page 7-14
"Cleaning Fluid System" on page 1-29

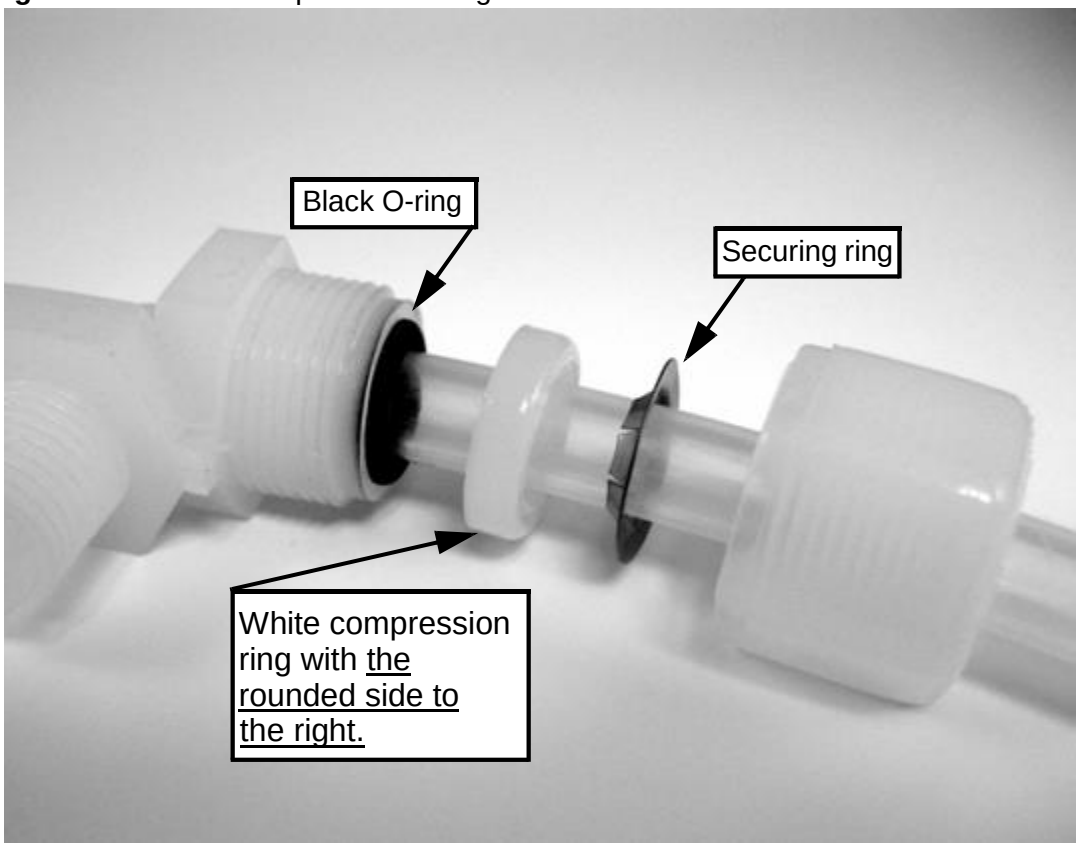
New Compression Fitting

The white compression fitting is now being included with the separator bottle due to the compression fittings not being reassembled correctly or missing some parts after some service calls. The existing fitting is reusable, but if any parts are missing, please use the included compression fitting.

Please check to make sure all parts are included and oriented in the correct direction prior to installation. This is important to prevent leakage from the bottom of the separator during normal use.

Please refer to the image below for guidance when reassembling the compression fitting:

Figure 5.318: New Compression Fitting



For successful installation:

- Make sure you put the cap of the fitting on the tube first.
- Place all three rings together on the fitting body and push the tube into the fitting through the three rings until the end of the tube bottoms out. Now tighten the cap. This will make sure the rings are correctly spaced as shown below:

Figure 5.319: New Compression Fitting with Rings Properly Spaced

5.8.3.3 Replacing the New Style Vacuum Wand

This new wand replaces your current trigger-style vacuum wand, providing reduced air leaks and much greater system reliability. Please replace your existing wand immediately, and return the old wand to RIS using the enclosed return-shipping label.

TASK

1. To swap the wands, push on the orange rings and pull on the tubing to disconnect the current wand.
2. Insert the plastic tubing into the grey filter on the New Wand Assembly until fully seated. Pull on the tubing to make sure it is securely positioned inside the grey filter.
3. Position the new wand in the maintenance drawer as shown in the picture below.

Figure 5.320: Wand Properly Positioned in Maintenance Drawer

To properly close the handle, it must be at a right angle to the flow of the vacuum. The handle of the wand has a magnet for improved ease of storage.

New Wand Usage

The new wand has a handle that must be manually rotated to open and close the flow of vacuum through the wand. The Closed Position and Open Position of the handle are shown below.

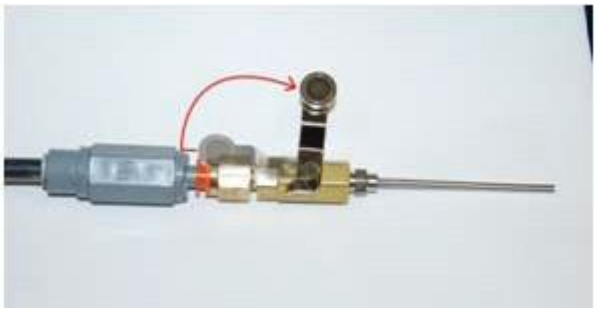
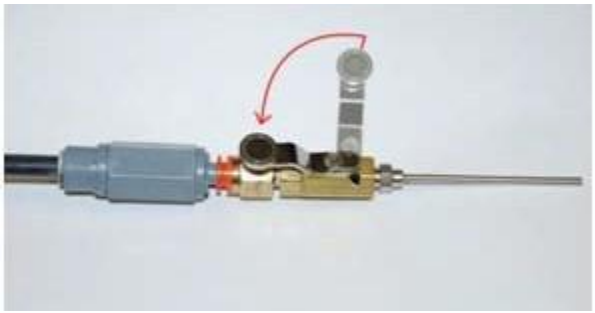


Figure 5.322: New Vacuum Wand Open Position



Activating the vacuum wand is still controlled in the same manner - via the Admin Button on the touch-screen. To use the wand, activate the wand and move the handle to the Open position.

When done, deactivate the Wand from the touch-screen and return the wand to the maintenance drawer.

Please note the REQUIRED position of the wand handle when not in use! (Figure 5.320) THE NEW WAND MUST BE CLOSED MANUALLY - IT DOES NOT CLOSE AUTOMATICALLY!

MAINTENANCE OPTION:

Operators can remove and rinse the grey in-line filter if vacuum flow seems reduced.

5.8.4 Level Switch/Siphon Assembly

5.8.4.1 Removing the Level Switch/Siphon Assembly

The level switch/siphon assembly is attached inside the cleaning fluid tank, which is located in the maintenance drawer.

- T15 torx driver

TASK

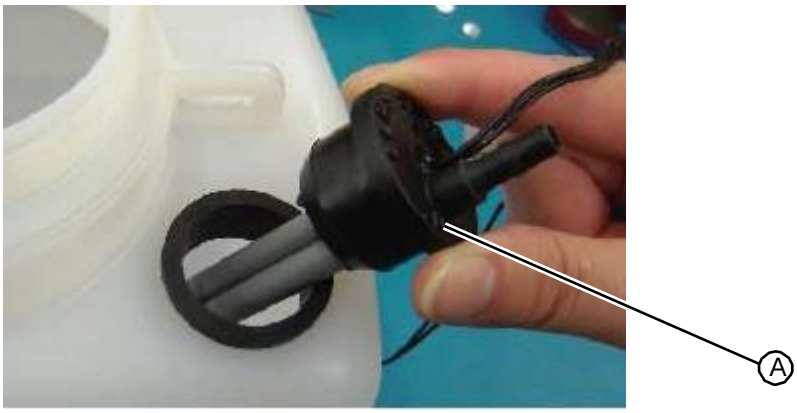
1. Open the maintenance drawer.
2. Using a T15 torx driver, remove the four fasteners that secure the plate to the top of the drawer.

Figure 5.323: Fasteners that secure the top plate to the maintenance drawer

3. Disconnect the tubing from the top of the level switch/siphon assembly.
4. Unplug the level switch cable from its connector.

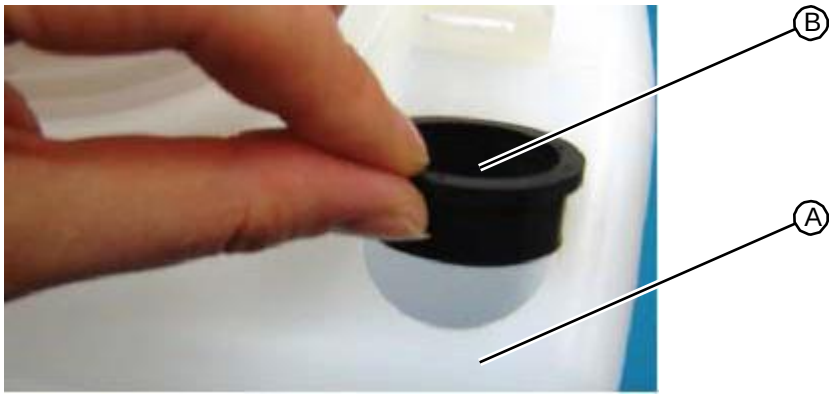
Figure 5.324: Level switch/siphon assembly tubing and cable connections

5. Remove the cleaning fluid tank from the maintenance drawer.
6. Pull the level switch/siphon assembly out of the rubber grommet that secures it to the cleaning fluid tank.



7. Remove the rubber grommet from the cleaning fluid tank.

Figure 5.326: Removing the rubber grommet from the cleaning fluid tank



8. Discard the grommet and the level switch/siphon assembly.

RELATED LINKS:

"Replacing the Level Switch/Siphon Assembly" on page 5-198
"Cleaning Fluid System" on page 1-29

5.8.4.2 Replacing the Level Switch/Siphon Assembly

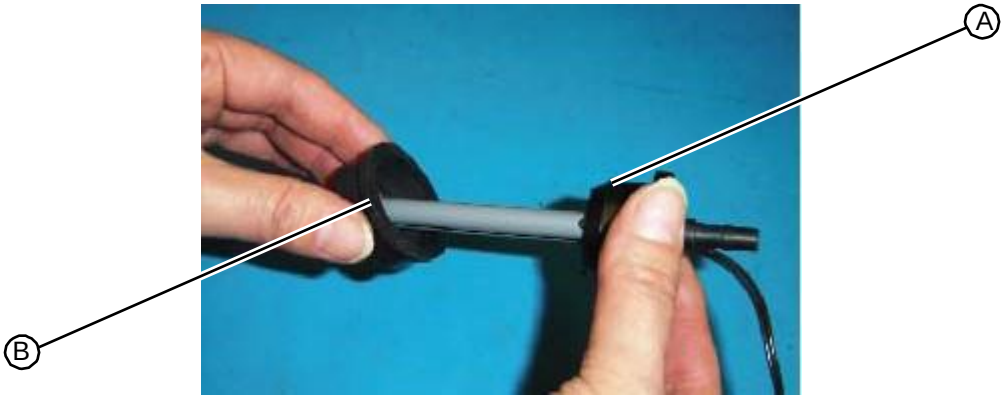
The level switch/siphon assembly is attached inside the cleaning fluid tank, which is located in the maintenance drawer.

- T15 torx driver

TASK

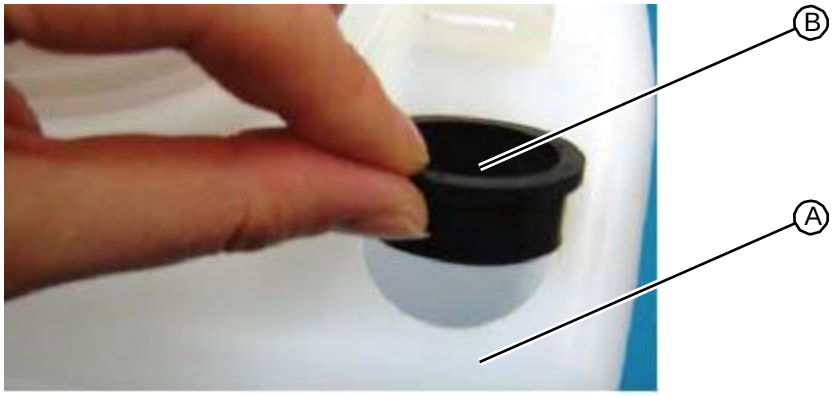
1. Remove the rubber grommet that is attached to the new level switch/siphon assembly.

Figure 5.327: Removing the rubber grommet from the level switch/siphon assembly



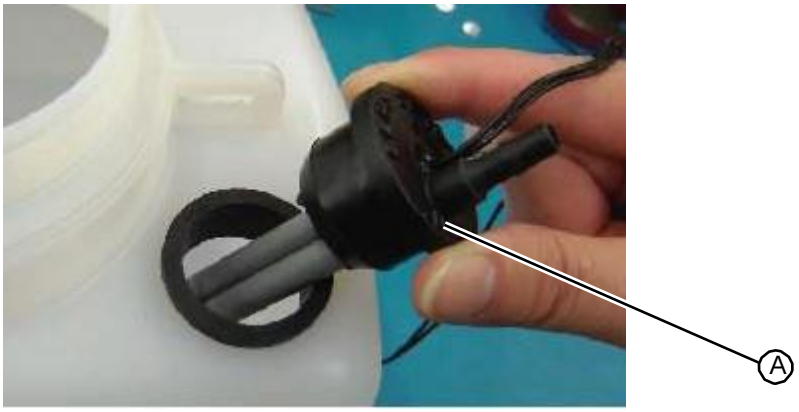
2. Insert the rubber grommet into the hole on the top of the cleaning fluid tank.

Figure 5.328: Inserting the rubber grommet into the cleaning fluid tank



3. With the tubing connector positioned toward the inside of the cleaning fluid tank, insert and secure the level switch/siphon assembly into the rubber grommet.

Figure 5.329: Inserting the level switch/siphon assembly



4. Place the cleaning fluid tank into the maintenance drawer.
5. Connect the tubing from fluid pump into the connector on the level switch/siphon assembly.
6. Plug the level switch cable into its connector.

7. Using a T15 torx driver, insert and tighten the four fasteners that secure the plate to the top of the drawer.

Figure 5.331: Fasteners that secure the top plate to the maintenance drawer

8. Discard the grommet and the level switch/siphon assembly.

RELATED LINKS:

"Removing the Level Switch/Siphon Assembly" on page 5-196 "Cleaning Fluid System" on page 1-29