replacement parts industries, inc

IMPORTANT!

Be sure that the water pressure to the machine is regulated between 35 PSI to a maximum of 40 PSI.

RPI Part #MTK033
OEM Part #78401-176
PM KIT
FITS MEDIVATORS®
Model: DSD Edge®

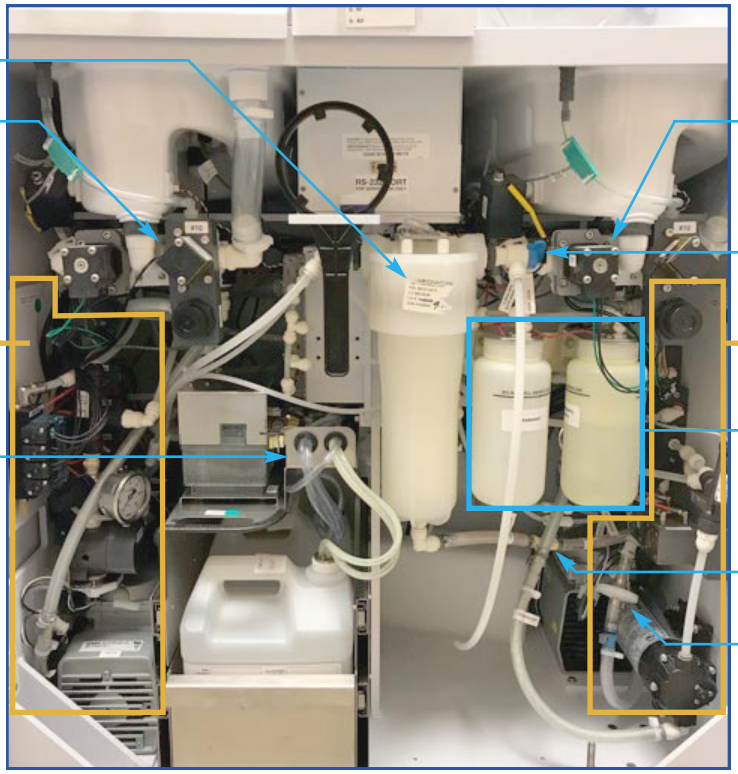
INSTALLATION INSTRUCTIONS

This annual PM Kit fits 120VAC DSD Edge machines.

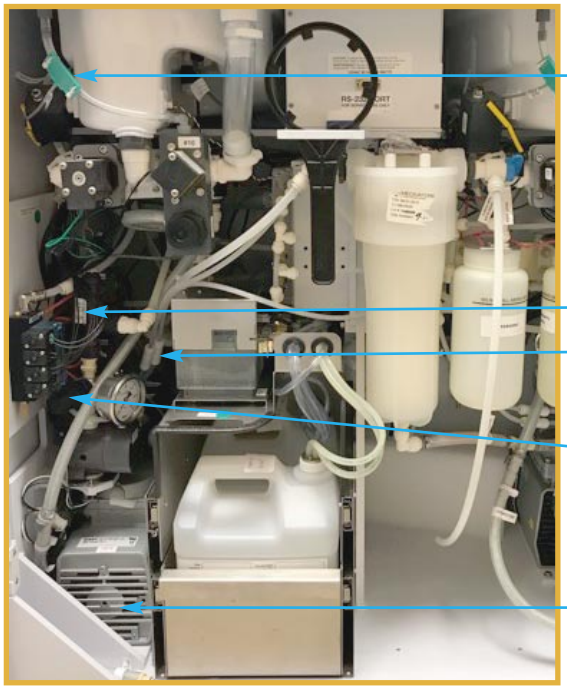
CALL (800) 221-9723 • FAX (818) 882-7028 • WEBSITE www.rpiparts.com
E-MAIL order@rpiparts.com • techsupport@rpiparts.com

Medivators® DSD Edge® *KEY COMPONENTS*

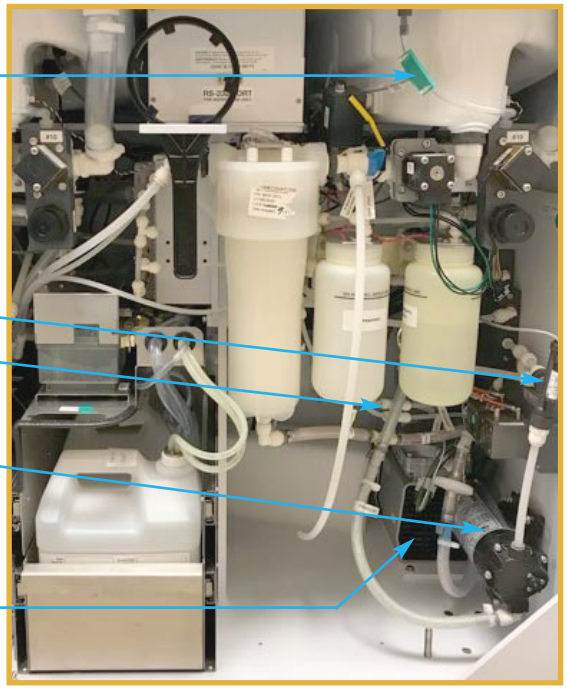
Familiarize yourself with the main components of this machine as shown below before initiating any PM procedures.



SIDE A MAIN MODULE



SIDE B MAIN MODULE



PM Kit (RPI Part #MTK033) Part Listing:

- (1 package of 4) Float Ball (RPI Part #MTB047)
- (1 package of 2) Cover (Basin Sensor) (RPI Part #MTC029)
- (2) Valve Rebuild Kit (Drain/Return) (RPI Part #MTK013)
- (2) Valve Rebuild Kit (Overflow) (RPI Part #MTK014)
- (1 package of 10) Air Valve Diaphragm Kit (RPI Part #MTK019)
- (1 package of 28) O-Ring Kit (RPI Part #MTK046)
- (2) Pump (Disinfectant) (RPI Part #MTP025)
- (1 package of 4) Valve Seal (Alcohol and Detergent) (RPI Part #MTS022)
- (1 package of 4) Peristaltic Pump Tubing Set (RPI Part #MTS024)
- (1 package of 2) Strainer (RPI Part #MTS044)
- (1 package of 2) Seal (Sample Port) (RPI Part #MTS045)
- (1 package of 4) Spring (RPI Part #MTS048)
- (1 package of 8) Check Valve (RPI Part #MTV027)
- (1 package of 2) Check Valve (Alcohol and Detergent) (RPI Part #MTV028)
- (2 pcs) High Temp Lubricant (RPI Part #RPL090)
  *SDS sheets are available on the RPI website, **www.rpiparts.com**.*
- (2 pcs) O-Ring (RPI Part #RPO984)
- (1 package of 3) Absorbent Pad (RPI Part #RPP958)
- (1) O-Ring Removal Tool (RPI Part #RXT002)
- (1) Low Profile Wrench (RPI Part #RXT003)

Required Tools:

- Nut driver (7/16" and 3/8"), an open end wrench or socket wrench may also be used
- Allen keys (9/64", 3/32" and 3/16")
- Screwdrivers
  - Small flat blade
  - Small tipped Phillips
  - Medium tipped Phillips
  - Large tipped Phillips
- Collet Release Wrench Set (RPI Part #RXT004) - John Guest tool
- Cloth or rag (lint free)
- 0-36 in-lb torque driver
- Container (1/2 gallon or larger)
- Table salt
- Adjustable wrench
- Needle nose pliers
- Manometer (Used for optional leak test validation)

Prior to Performing the Preventative Maintenance:

- It is important to carefully read all of the instructions before starting with the PM.
- Be sure to have all of the required tools listed on the previous page before beginning the PM.
- Precautions should be taken to avoid spilling any disinfectant.
- It is important to wear all of the appropriate Personal Protective Equipment (PPE) while performing the preventative maintenance. For all of the appropriate PPE, refer to the related Safety Data Sheets (SDS).
- Both parts of the RAPICIDE® PA solution (A and B) in the SSG unit **MUST** be flushed before continuing with the PM.This flush will decrease the chances of getting exposed to the disinfectant while performing the PM. If the SSG unit has not been flushed then proceed to the **SSG Unit Flushing Procedure** below.

SSG Unit Flushing Procedure

CAUTION: It is important to wear the proper PPE before performing this step. Refer to the SDS Sheet for the proper PPE.

Follow Steps #1 - 5 to prepare the SSG Unit for flushing:

1. Both sides of the unit must be in an idle state prior to performing this procedure.
2. Both of the floating lids must be installed and closed.
3. Fill a container (1/2 gallon or larger; should be able to fit in the chemical drawer) 3/4 of the way full with water. Add 10 grams (2 teaspoons) of table salt to the container for every 5 liters of water.
4. Unscrew the uptake tubes from both the A and B bottles and remove the bottles from the drawer.
5. Place the container of water in the drawer and place both uptake tubes in the container.

Follow Steps #6 - 8 to flush the SSG Unit:

6. Flush side A of the SSG Unit as follows:
   a. Enter diagnostics mode by entering **DIAG 37.** You will see **SSG COMMAND** on the display.
   b. To flush side A reservoirs press **3.** You will see the following on the display:

      Fill L: □□□

      Dose L: □□□

   c. Press **1** to automatically fill both part A and B reservoirs with water for basin A. The reservoir sensing system will automatically stop the filling process once the reservoirs are full. The display will show the following during filling:

      Fill L: →←

      Dose L: □□□

   d. Once the reservoirs are full the following will be displayed:

      Fill L: →□*

      Dose L: □□□

   e. Send the contents of the A and B reservoirs to the basin by pressing **2.**

   Caution: *this will cause a concentrated solution of the High Level Disinfectant (HLD) to be pumped into the reservoir and remain there until manually drained.*

   f. Repeat Steps #6a - 6e to ensure this side is fully flushed.

7. Flush side B of the SSG Unit as follows:
    a. Continue pressing **CANCEL** (do not hold) until the **SSG COMMAND** is displayed.
    b. To flush side B reservoirs press **4.** You will see the following on the display:

        Fill R: □□□

        Dose R: □□□
    c. Press **1** to automatically fill both part A and B reservoirs with water for basin A. The reservoir sensing system will automatically stop the filling process once the reservoirs are full. The display will show the following during filling:

        Fill R: →←

        Dose R: □□□
    d. Once the reservoirs are full the following will be displayed:

        Fill R: →□*

        Dose R: □□□
    e. Send the contents of the A and B reservoirs to the basin by pressing **2.**

        Caution: *this will cause a concentrated solution of the High Level Disinfectant (HLD) to be pumped into the reservoir and remain there until manually drained.*
    f. Repeat Steps #7a - 7e to ensure this side is fully flushed.
8. Press **CANCEL** until the main screen is displayed.
9. Drain and rinse the basin as follows:
    a. Press **SETUP, 41,** and **ENTER.** This will cause water to flow due to the systems water tempering function. After several minutes press the **STOP** key to stop the flow of water. It Is Important to ensure the basin is fully drained before pressing the **STOP** key. This process should be repeated if any excessive smell is noted.
    b. Press the **STATION** button and repeat this process for the side B basin.
10. The uptake tubes will still be full of fluid even after the purge and will need to be drained prior to working on the SSG. Drain the uptake tubes as follows:
    a. Remove the uptake tubes from the container and dump the container. Place the tubes back into the empty container.
    b. Disconnect all four of the connectors on the SSG and pull on the hoses until they are disconnected. At this point the fluid should flow into the empty container.
    c. Reconnect the connectors to the SSG and remove and empty the container.

Preparation (refer to Figure 1 - 0.2 Micron Filter, Bleed Valve and Main Manifold)

1. Shut off the incoming water line.
2. Press **SETUP, 43,** and **ENTER.** This allows the main water valve (#14) to open and bleed the 0.2 micron filter. Place a container under the bleeder hose to catch any fluid. Open the bleeder valve slowly until all flow stops, then close the valve and press **STOP** twice to complete the drain.
3. Unplug the power cord from the wall outlet.
4. After the removal of the SSG Dosing Unit, the air tank will be purged **(see page 7 - Removal and Maintenance of the SSG Dosing Unit).**

FIGURE 1 - 0.2 Micron Filter, Bleed Valve and Main Manifold

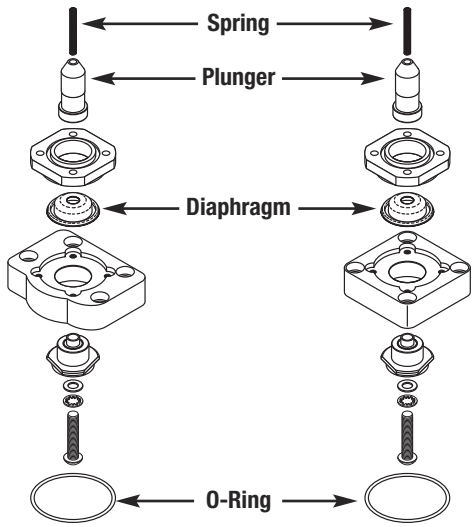
3/4" VALVE MAINTENANCE - Removal of the Side A 3/4" Drain Manifold

It is recommended that you remove the 3/4" drain valve manifold to rebuild the 3/4" drain valves.

1. To remove the 3/4" drain valve manifold from side A, first disconnect the solenoid valve wiring harness.
2. Loosen the two hose clamps that secure the two 1" lines to the 1" elbows on either side of the manifold and remove the hoses. It is important to have a rag ready to catch any spillage from left over fluid still in the lines.
3. Disconnect the disinfectant line and as in the previous step have a rag ready to catch any excess fluid.
4. Remove the four screws that mount the manifold to the elbow located under the basin. This will require the use of a 9/64" Allen key and it should be noted that the manifold needs to be supported during the removal of the manifold screws. Retain these four screws for later reassembly of the 3/4" drain valve manifold. **See Figure 1 - 0.2 Micron Filter, Bleed Valve and Main Manifold on page 4.**
5. There are two solenoid valves (valve #9 and #11) that are attached to the 3/4" drain valve manifold. To remove and rebuild each of these valves, follow steps a-h below for each of the valves. Begin with valve #9, then #11.
   a. Remove the four screws that hold the solenoid to the manifold with a Phillips screwdriver. Once the screws are removed, be careful pulling off the solenoid coil as there is a spring inside. Set the solenoid coil and screws aside for later use, and discard the spring as there is a replacement spring in the new Valve Rebuild Kit.
   b. Remove the four screws holding the valve block to the manifold using a 3/16" Allen key. Set the screws aside for later reassembly. Pull the valve block away from the manifold and ensure to use a rag to catch any excess fluid.
   c. Ensure removal of the O-ring on the manifold side of the valve before continuing as it may be stuck in the manifold. Discard this O-ring as there is a replacement O-ring in the new Valve Rebuild Kit.
   d. There are two different types of Valve Rebuild Kits included in this PM Kit. When rebuilding solenoid valve #9, use Valve Rebuild Kit (RPI Part #MTK014). When rebuilding solenoid valve #11, use Valve Rebuild Kit (RPI Part #MTK013). **See Figure 2 - Valve Rebuild Kit Exploded Views** for valve configuration only.

      Important Note: *Do NOT push the plunger of the new valve kit in either direction as this could misalign the interior diaphragm seal.*
   e. Inspect and clean the mating surfaces between the valve block and the manifold.
   f. Place the O-ring that came with the new Valve Rebuild Kit and Install it into the groove in the manifold using a little High Temp Lubricant (RPI Part #RPL090) to hold it in place.
   g. Install the new valve block onto the manifold using the four screws that were removed from the old valve block using a crossing pattern to tighten the screws to 35 in-lbs.
   h. Install the new spring into the plunger on the new valve before carefully sliding the solenoid coil over the plunger and securing it with the four retaining screws from disassembly. Ensure to tighten the screws evenly in a crossing pattern to 8 in-lbs of torque.

FIGURE 2 - Valve Rebuild Kit Exploded Views



RPI Part #MTK013
Valve Rebuild Kit (Drain/Return)
for use with solenoid valve #11

RPI Part #MTK014
Valve Rebuild Kit (Overflow)
for use with solenoid valve #9

These Valve Rebuild Kits come fully assembled in the order shown above.

6. Repeat Steps #5a - 5h for solenoid valve #11 using Valve Rebuild Kit (RPI Part #MTK013).
7. Remove the two screws that secure valve #10 (Sample Port Valve) to the manifold using a Phillips screwdriver and retain the screws for later reassembly.
8. Pull the solenoid coil away from the manifold. **Note:** There is a black spacer on this valve that must be retained for reuse.
9. Remove the valve's seal from the plunger. Be careful not to lose the spring if you remove the plunger from the body of the valve as it will be reused at reassembly.
10. Place a new Seal (Sample Port) (RPI Part #MTS045) onto the valve's plunger.
11. Reinstall the rebuilt valve onto the manifold ensuring not to misalign or pinch the spacer and seal.
12. Secure the valve by reinstalling the two retaining screws from disassembly.
13. Just below valve #10 is the disinfectant filter screen cap **(see Figure 1 - 0.2 Micron Filter, Bleed Valve and Main Manifold on page 4).** Unscrew the cap and remove the old filter/strainer and replace it with the new Strainer (RPI Part #MTS044). Ensure the Strainer fits securely into the groove of the screen cap and that the red O-ring is still in place before reattaching the cap.
14. Reinstall the disinfectant filter screen cap.

Reinstallation of the Side A 3/4" Drain Manifold

1. Install a new O-ring (RPI Part #RP0984) into the groove in the manifold between valve's #10 and #11 using a little High Temp Lubricant (RPI Part #RPL090) to hold it in place.
2. Align the manifold to the four mounting screw holes ensuring not to misalign or pinch the O-ring that was just installed.
3. Screw the four manifold screws into the manifold using a 9/64" Allen key ensuring you support the manifold the entire time.
4. Reattach the 1" hoses to each of the elbows on the manifold and use the hose clamps to secure the hoses in place.
5. Reattach the disinfectant line.
6. Reconnect the solenoid harness.

Removal of the Side B 3/4" Drain Manifold

- The side B drain manifold is removed and rebuilt in the exact same way as side A, but the alcohol and detergent bottles must be moved out of the way first.
- Attached to the alcohol and detergent bottles is a red cable for the sensor inside the bottle. Follow this cable to disconnect it from each bottle. Ensure cables are marked for alcohol and detergent before disconnecting.
- Use the Collet Release Wrench Set (RPI Part #RXT004) to disconnect the feed lines to both the alcohol and detergent bottles.
- Remove the four screws located between the alcohol and detergent bottles using a 3/8" Allen key and ensuring to support the bracket while removing the mounting screws.
- Set the alcohol and detergent bracket assembly aside.
- At this point, follow the same steps as above for rebuilding the side drain valve manifold **(see 3/4" VALVE MAINTENANCE - Removal of the Side A 3/4" Drain Manifold)**. You may want to leave the manifold and alcohol/detergent bracket assembly uninstalled for now to allow easier access to the main valve manifold later in the PM.

Removal and Maintenance of the SSG Dosing Unit

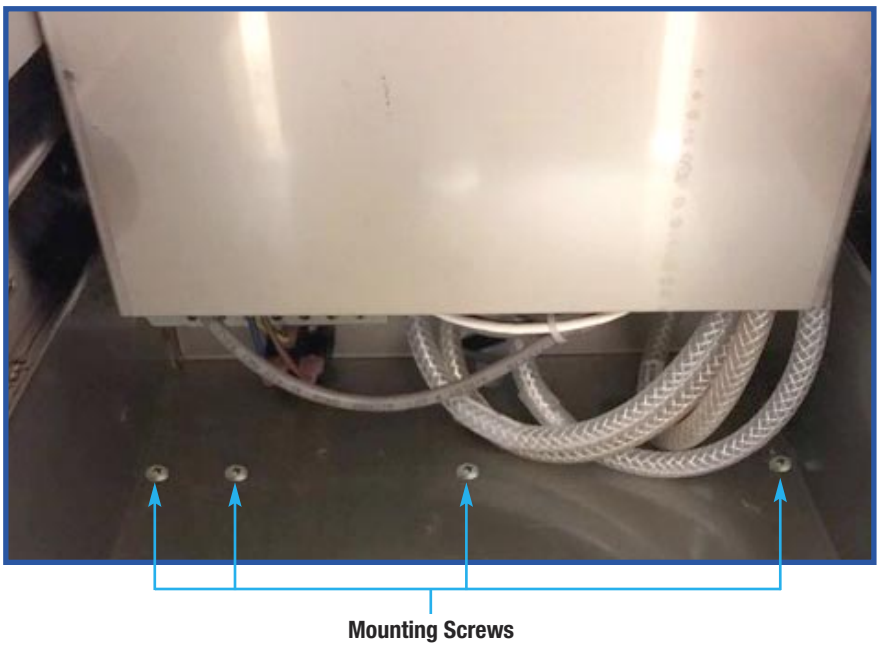
Caution: It is Important to wear the proper PPE while performing the PM, but it is especially important when servicing the SSG unit. Eye protection is highly recommended.

- Pull out the disinfection bottle holding tray to its stopping position and remove any bottles from the tray. Wipe down the uptake tubes and tray so they are completely dry before proceeding. **Caution:** Place the caps on the bottles to prevent spillage.
- Locate the two black tabs on the side of the tray **(see Figure 3 - Disinfection Bottle Holding Tray).** Push the left tab up while pushing the right side down to pull the tray free of the rail system. Set the tray aside for later reuse.
- Locate the four mounting screws holding the SSG unit to the chassis **(see Figure 4 - SSG Unit Mounting).** Remove the screws using a Phillips screwdriver, pull the SSG unit away from the chassis and set it on the floor. The cables and tubing connecting the SSG unit are long enough to comfortably set the unit on the floor without needing to disconnect any of the cables or tubing.
- With the SSG unit removed you will now have access to the air tank. Pull the pressure relief valve key ring on the bottom of the tank to purge all the air in the system.

FIGURE 3 - Disinfection Bottle Holding Tray

Locate the two black tabs on the side of the tray. Push the left tab up while pushing the right side down to pull the tray free of the rail system

FIGURE 4 - SSG Unit Mounting



Locate the four mounting screws holding the SSG unit to the chassis. Remove the screws using a Phillips screwdriver, pull the SSG unit away from the chassis and set it on the floor.

SSG Reservoir O-ring Replacement

- Disconnect the four quick connect sections (each section consists of 3 lines) on the SSG unit **(see Figure 5a and 5b).** After each section is disconnected you will find three O-rings (RPI Part #MTK046) that need to be replaced.
- **Caution:** Do not use a sharp or hard tool to remove the O-rings as this could damage the seat of the O-ring. Use the O-ring Removal Tool (RPI Part #RXT002) included in this kit.
- Remove the eight screws on top of the SSG system **(see Figure 5a - SSG Unit).** Remove the lid and retain the screws for later use.
- Remove each of the 8 pumps one at a time to replace the two O-rings (RPI Part #MTK046) on each pump. To remove the pumps, remove the silver clevis pin at the bottom center edge of each pump holding the pumps in place and disconnect the electrical connection from the board. The O-rings may be attached to either the pump side or the reservoir side but must be removed and discarded. When replacing the O-rings on the pumps, lightly lubricate the O-rings with High Temp Lubricant (RPI Part #RPL090) and place the O-rings on the pump side, not onto the reservoir, to avoid damage.
- Located on every other pump is a Spring (RPI Part #MTS048) and Float Ball (RPI Part #MTB047) on top of the reservoir side. The ball and spring need to be replaced on all four pumps that contain these parts.
- After all O-rings, Float Balls and Springs are replaced on the SSG unit, reinstall the cover and all 8 screws for the cover.

  Note: It is important to reinstall all of the 8 screws to reduce vibration of the pumps on the reservoir.
- Do not place the SSG system back into the unit, it will only complicate the next part of the PM.

FIGURE 5a - SSG Unit

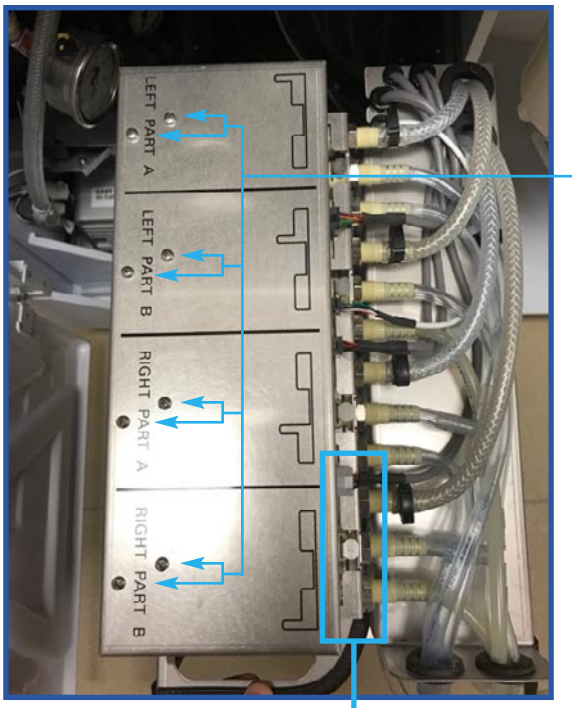
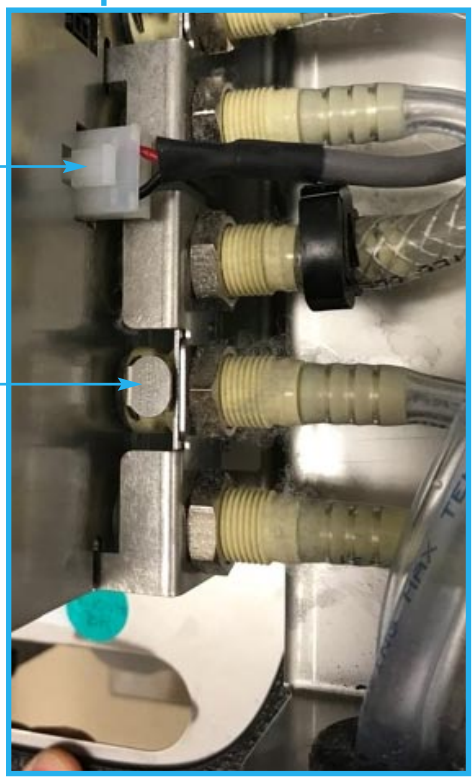


FIGURE 5b - Close up view of Quick Connect

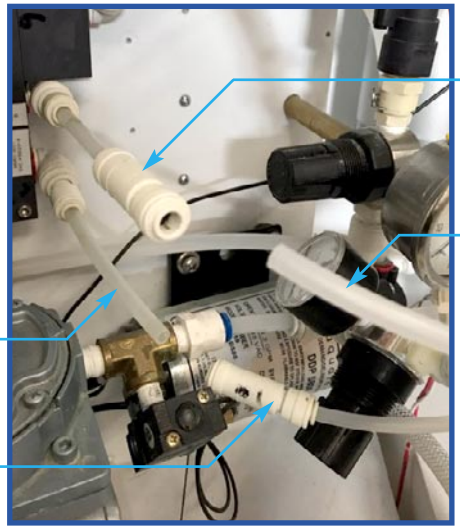


Removal of the Side A Main Module

Caution: When removing the following connections, ensure proper labeling on all fittings, tubing and terminals to avoid confusion upon reassembly.

- Disconnect the 3/8" lines from the A side 4 station MAC valve manifold, the A side FL1 flow switch, and the tube from the chamber valve inlet on the mixing block.
- Disconnect the check valves for the alcohol and detergent lines. It is recommended to disconnect the check valves on opposite sides of the check valve to avoid confusion on reassembly. For example, disconnect the detergent line from the right side of the detergent check valve and disconnect the alcohol line from the left side of the alcohol check valve as shown in **Figure 6.**
- Disconnect the line on the air compressor going to the top of the air tank.
- On the A side, disconnect the electrical connectors to the FL1 flow sensor, FL2 flow sensor, 4 station MAC valve manifold, alcohol and detergent valves (Spartan) (label the connector's location for reassembly later), compressor, disinfectant pump and isolation valve.
- Remove the A side main module by removing the three bolts that secure the main module to the cabinet and slide the main module out of the unit.
- Continue on to the removal of the side B main module as described below.

FIGURE 6 - Alcohol and Detergent Line Check Valves



Disconnect the check valves for the alcohol and detergent lines. It is recommended to disconnect the check valves on opposite sides of the check valve to avoid confusion on reassembly. For example, disconnect the detergent line from the right side of the detergent check valve and disconnect the alcohol line from the left side of the alcohol check valve as shown above.

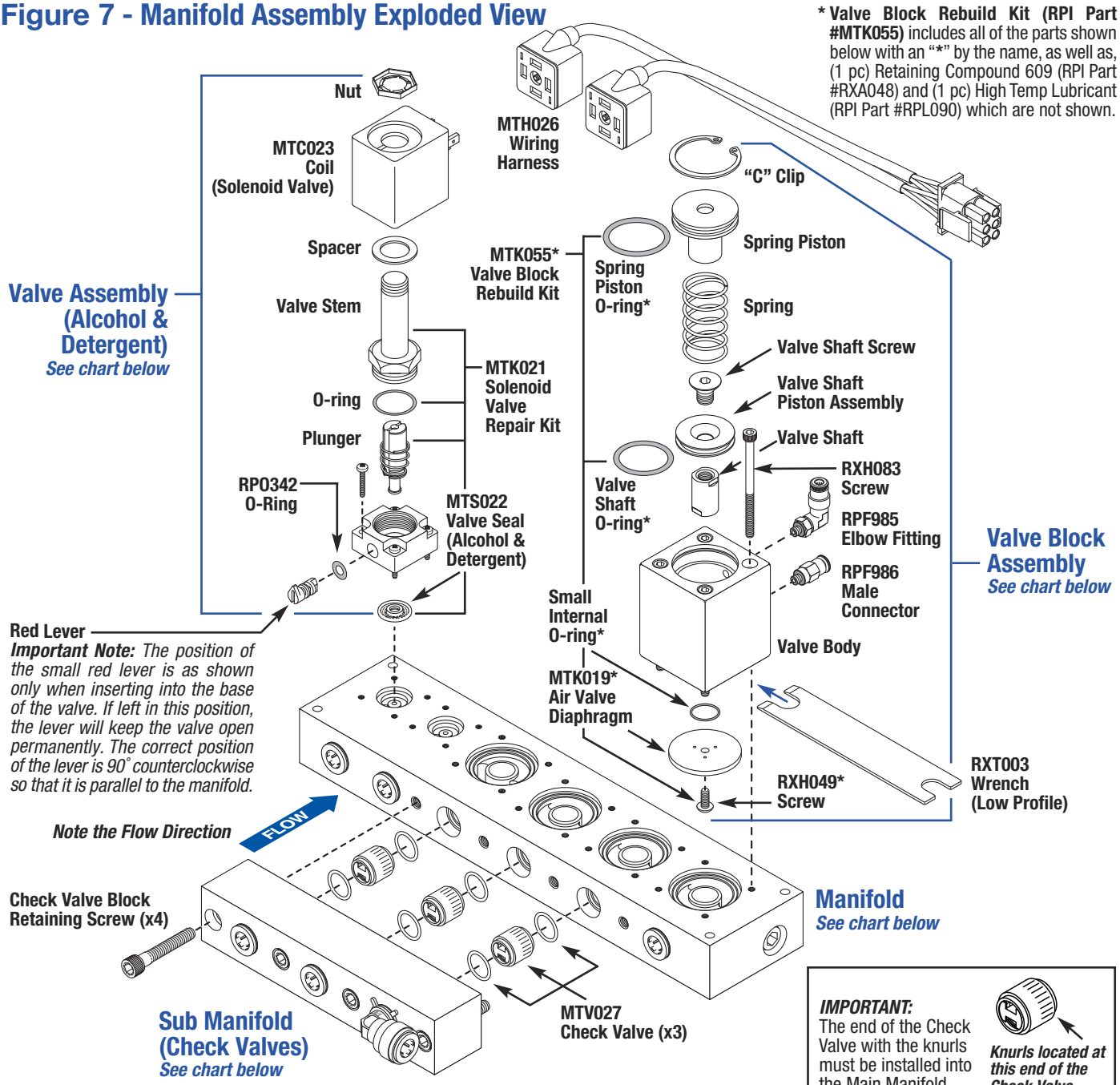
Removal of the Side B Main Module

Caution: When removing the following connections, ensure proper labeling on all fittings, tubing and terminals to avoid confusion upon reassembly.

- Disconnect the 3/8" lines from the B side 6 station MAC valve manifold, the B side flow switch, main water valve inlet on the B side two station manifold and the tube from the chamber valve inlet on the mixing block.
- Disconnect the check valves for the alcohol and detergent lines. It is recommended to disconnect the check valves on opposite sides of the check valve to avoid confusion on reassembly. For example, disconnect the detergent line from the right side of the detergent check valve and disconnect the alcohol line from the left side of the alcohol check valve as shown in **Figure 6 - Alcohol and Detergent Line Check Valves.**
- Disconnect the line on the air compressor going to the top of the air tank.
- Disconnect the hose for the water inlet on the 0.2 micron filter housing.
- On the B side, disconnect the electrical connectors to the FL1 flow sensor, FL2 flow sensor, 6 station MAC valve manifold, alcohol and detergent (Spartan) (label the connector's location for reassembly later), compressor, disinfectant pump and isolation valve.
- Remove the B side main module by removing the three bolts that secure the main module to the cabinet and slide the main module out of the unit.

Figure 7 - Manifold Assembly Exploded View

*** Valve Block Rebuild Kit (RPI Part #MTK055)** includes all of the parts shown below with an "*" by the name, as well as, (1 pc) Retaining Compound 609 (RPI Part #RXA048) and (1 pc) High Temp Lubricant (RPI Part #RPL090) which are not shown.



IMPORTANT:
The end of the Check Valve with the knurls must be installed into the Main Manifold.

Knurls located at this end of the Check Valve

RPI Part Description	8 Station	6 Station	2 Station
Manifold Assembly	MTA038	MTA040	MTA042
Manifold	MTM039	MTM041	MTM043
Sub Manifold (Check Valves)	MTM051	MTM051	MTM052
Valve Assembly (Alcohol/Detergent)	MTV020	MTV020	Not Required
Valve Block Assembly	MTA017 & MTA018*	MTA017 & MTA018*	MTA016*
Valve Block Rebuild Kit	MTK055	MTK055	MTK055

* The configuration of the Valve Block Assembly determines which assembly is required:
• MTA016 includes (2) Elbow Fittings • MTA017 includes (2) Straight Fittings • MTA018 includes (1) Elbow Fitting and (1) Straight Fitting

Replacement of the Valve Seals

- Place both of the main modules on their back to have easy access to the valves.
- Disconnect the air hoses leading from the MAC manifold to the valve block assemblies starting with the top and working down. It is important to label the air hoses to avoid confusion upon reassembly.
- Remove the 4 Screws (RPI Part #RXH083) that hold the valve block assembly to the manifold using a 9/64" Allen key and set the screws aside for later use **(see Figure 7 - Manifold Assembly Exploded View).**
- Flip the valve over so the valve seal is facing up and the valve block assembly lays on a flat surface.
- Use the Wrench (Low Profile) (RPI Part #RXT003) to slide under the seal and hold the valve shaft in place. **Note:** it may be easier to tear the old valve seal off the retaining screw to allow for a better visual. Use a 3/32" Allen key while holding the valve shaft in place to break the center screw loose. If the screw is difficult to loosen, a pair of vice grips may be used on the side of the head of the screw to break the screw free. Do not worry about damage to the screw as new ones are provided in the Air Valve Diaphragm Kit (RPI Part #MTK019) included in this PM Kit.
- Once the old screw and valve seal are removed, clean the valve assembly of any excess Loctite or debris.
- Place a new diaphragm, from the Air Valve Diaphragm Kit (RPI Part #MTK019), on the valve block with the grooved side facing up. Sparingly apply Retaining Compound 609 (RPI Part #RXA048) to the tip of the Screw (RPI Part #RXH049). Install the screw and tighten until snug. **Caution:** Avoid using a large amount of retaining compound to make removing the screw at the next PM easier. Do not over-tighten the retaining screw, this may cause the seal to cup or deform resulting in an ineffective seal.
- Place the valve block assembly on the manifold and hold the valve block down with your thumb while tightening the four screws uniformly in a diagonal pattern. **Do not over tighten** the screws, this can cause the manifold to strip or the insert to come loose.
- Continue these steps for all pneumatic valve blocks on both A and B side manifolds, including the B side water and disinfectant valve blocks.

Replacement of the Check Valves

- Each unit has three check valves in both the A and B side main manifolds **(see Figure 7 - Manifold Assembly Exploded View)** along with two more in the B side water and disinfectant valve manifold.
- Remove the four check valve block retaining screws with a 3/16" Allen key.
- Pull the sub manifold block away from the manifold block (gently rock back and forth if necessary) to expose the check valves.
- Once the blocks are separated, it is important to note the flow direction and which direction the check valves are installed to ensure the replacements are installed in the same direction **(see Figure 7 - Manifold Assembly Exploded View).**
- Remove and replace the Check Valves (RPI Part #MTV027). Each Check Valve has two O-rings, one on either side of the Check Valve. The old O-rings must be removed and discarded, and the sealing surfaces need to be inspected and cleaned for each Check Valve. **Caution:** Do not use a sharp or hard tool to remove the O-rings as this could damage the seat of the O-ring. Use the O-ring Removal Tool (RPI Part #RXT002) included in this kit. Two new O-rings come with each Check Valve and need to be installed with a small amount of High Temp Lubricant (RPI Part #RPL090).
- Once all check valves have been replaced, attach the sub manifold block to the manifold block and tighten with the four screws from disassembly. Use a cross pattern to ensure the block is evenly secured.
- Repeat this procedure for the two remaining sub manifold blocks.

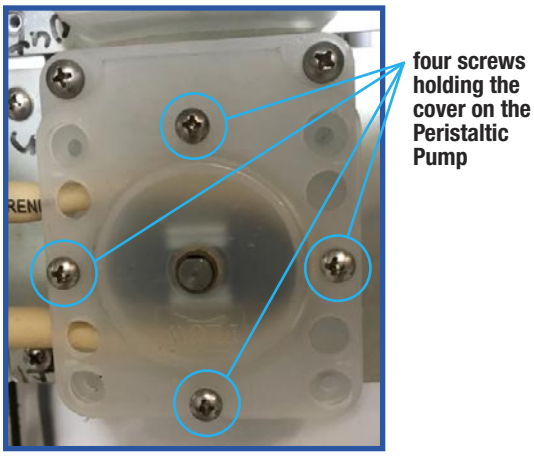
Replacement of the Alcohol and Detergent Valve Seals

- Remove the nut from the top of the Valve Assembly (Alcohol & Detergent) (RPI Part #MTV020) and retain for later reuse **(see Figure 7 - Manifold Assembly Exploded View).**
- Remove the Coil (Solenoid Valve) (RPI Part #MTC023) of each valve, beneath each coil is a spacer that needs to be retained for reassembly.
- Use a Phillips screwdriver to remove the four screws securing the valve's stem to the manifold. These screws need to be retained for reassembly.
- Lift the valve's stem to expose the valve's plunger and seal.
- Remove the seal from the plunger and replace the seal with a new Valve Seal (Alcohol & Detergent) (RPI Part #MTS022). **Important:** Note the small red lever on the base of the valve. This lever will keep the valve open permanently if rotated, so do not rotate this lever. The position of the small red lever is as shown in **Figure 7 - Manifold Assembly Exploded View** only when inserting into the base of the valve. If left in this position, the lever will keep the valve open permanently. The correct position of the lever is 90˚ counterclockwise so that it is parallel to the manifold.
- Reattach the valve and coil to the manifold using the four mounting screws and nut that were retained from disassembly.
- Repeat these steps for both the A and B side manifolds.
- Leave the modules out of the machine and continue with the rest of the PM for ease of access to the other components.

Replacement of the Disinfectant Pump

- Electrically disconnect the pump (if not already done).
- Disconnect the 3/8" hoses from the pump (if not already done). It may be useful to use the Collet Release Wrench Set (RPI Part #RXT004) to remove the hoses. The use of a rag may be required due to excess fluid remaining in the pump.
- Use a Phillips screwdriver to remove the four mounting screws that secure the pump to the module. Save the screws and discard the pump.
- Install the new Pump (Disinfectant) (RPI Part #MTP025) using the existing mounting screws.
- Reconnect the 3/8" hoses by pushing them in as far as they can go and then reconnect the electrical connection.
- Complete these steps for both the A and B side pumps.

FIGURE 8 - Peristaltic Pump Cover



Remove the four screws holding the cover on the pump using a Phillips screwdriver. These screws are located in the middle on the top, bottom, left and right of the pump housing in a cross pattern.

Replacement of the Peristaltic Pump Tubes

- Before disconnecting any of the lines use a rag or small container for any excess fluid that may remain in the lines. It is important to label each line before disconnecting to ensure proper order when reconnecting the lines.
- The pumps are located behind the 0.2 micron filter assembly just to the left and right. The two on the left are alcohol and the two on the right are detergent. The top two provide for the A side of the machine and the bottom two provide for the B side.
- Disconnect both the inlet and outlet tubes from one of the pumps.

- Remove the four screws holding the cover on the pump using a Phillips screwdriver. These screws are located in the middle on the top, bottom, left and right of the pump housing in a cross pattern **(see Figure 8 - Peristaltic Pump Cover).**
- Remove the cover of the pump and pull out the old pump tubing. You may need to gently rotate the pinch roller to work the tubing out of the track.
- Use a new Peristaltic Pump Tubing Set (RPI Part #MTS024) and position the tube so that the Inlet and outlet are equal in length.
- Position the pinch roller of the pump so that it is in a diagonal position starting with the bottom to the left and the top to the right to insert the top part of the tube. Rotate the pinch roller counter clockwise to slightly to push in the rest of the tube.
- Reinstall the cover and screws for the pump. Reconnect the inlet and outlet tubes.
- Continue this process for all four pumps (2 Alcohol and 2 Detergent), the final step of this PM instruction is to prime these pumps.

Reinstallation of the Side A Module

- Before installing the side A module ensure that all PM parts have been replaced for that module.
- Reinstall the side A module using the three bolts set aside from disassembly. The longest screw is the one used near the compressor.
- Connect the 3/8" tube for the side A 4 station MAC valve manifold, the FL1 flow switch tube, water inlet for the side A manifold and the chamber valve inlet on the mixing block.
- Connect both of the check valves for the side A alcohol and detergent lines.
- Connect the air line from the compressor to the top of the air tank.
- Connect the hose at the bottom of the 0.2 micron water filter.
- Connect the FL1 flow sensor, FL2 flow sensor, 4 station MAC valve manifold, alcohol and detergent connector, compressor, disinfectant pump, side A isolation valve, and side A drain valve electrical connections.

Reinstallation of the Side B Module

- Before installing the side B module ensure that all PM parts have been replaced for that module.
- Reinstall the side B module using the three bolts set aside from disassembly. The longest screw is the one used near the compressor.
- Connect the 3/8" tube for the side B 6 station MAC valve manifold, the side B flow switch tube, water inlet for the side B manifold and the chamber valve inlet on the mixing block.
- Connect both of the check valves for the side B alcohol and detergent lines.
- Connect the FL1 flow sensor, FL2 flow sensor, 6 station MAC valve manifold, alcohol and detergent connector, compressor, disinfectant pump, side B isolation valve, and side B drain valve electrical connections.

Reinstalling the SSG Dosing Unit

- Before reinstalling the SSG unit ensure the 115V power connection in the back of the SSG unit is firmly in place.
- Place the SSG unit back inside the chassis of the reprocessor, but before sliding the unit all the way into the back of the machine, make sure to pull all hoses and cables away from the rear of the SSG unit.

- Once the SSG unit is in place, reinstall the four screws that secure the unit to the chassis.
- Align the sliding drawer with the tracks of the SSG unit and push in the drawer all the way.
- Place both A and B bottles back into the drawer and re-connect them to the system.

Detergent and Alcohol Bottle Reinstallation

- Mount the alcohol and detergent bracket using a 3/8" Allen key and the four screws from disassembly.
- Connect the sensor harness to the red level sensor cables.
- Connect the feed lines for both the alcohol and detergent bottles.
- Before installing the bottles, wipe down the uptake tubes of both the alcohol and detergent bottles with a lint free rag**.**
- Remove the red check valve of each bottle with either your fingers or needle nose pliers. **See Figure 9 - Check Valve (Alcohol and Detergent).**
- Clean the hole and surrounding area where the check valve was located.
- Install a new Check Valve (Alcohol and Detergent) (RPI Part #MTV028) for both the alcohol and detergent bottles.
- Install the alcohol and detergent bottles.

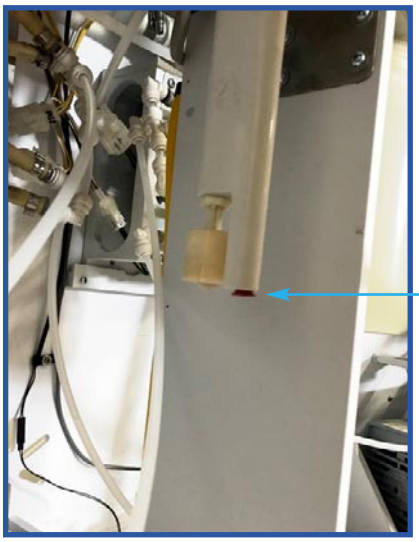
Replacement of the Basin Sensor Covers

- Remove the original basin sensor cover. **IMPORTANT:** Make sure to note the orientation of the original sensor cover, the new cover must be installed facing the same direction which should be with the single hole toward the back of the basin and the two holes towards the front **(see Figure 10 - Cover (Basin Sensor) Orientation).**
- Install both new Covers (Basin Sensor) (RPI Part #MTC029).

Operational Check

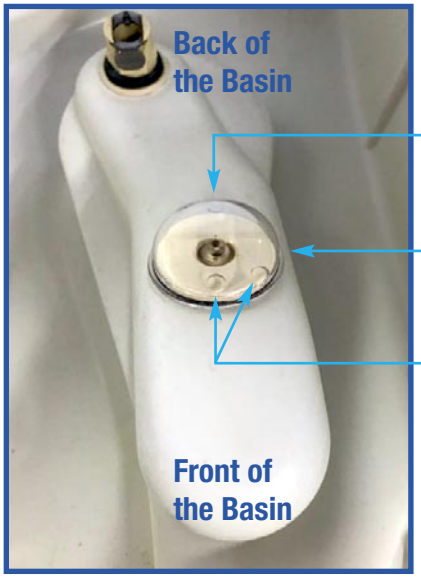
- Before continuing, it is a good time to ensure all components/manifolds that were taken out have been reinstalled and all tubing and electrical connections have been reconnected.

FIGURE 9 -
Check Valve (Alcohol and Detergent)



Remove the red check valve of each bottle and clean the hole and surrounding area where the check valve was located. Install a new Check Valve (Alcohol and Detergent) (RPI Part #MTV028) for both the alcohol and detergent bottles.

FIGURE 10 - Cover (Basin Sensor) Orientation



- Plug the unit into the power outlet and ensure the unit powers up and goes into an idle state. The unit is idle when the side A and B yellow LED Indicators above and below the LCD display are **NOT** illuminated.
- Open the incoming water supply valve slowly to avoid breaking any seals.
- Press **SETUP, 43, ENTER.** This will bleed the air out of the 0.2 micron filter. Place a small container under the bleed valve to collect water. Open the bleed valve slowly until all air is purged from the filter housing and water flows freely. Close the valve and then press **STOP** twice.
- In each basin install a restrictor adaptor.
- The following steps will be used to prime the pumps of the reprocessor. Each pump and corresponding valve will need to be turned on by the unit's programming until water is seen coming out of the restrictor in the basin related to the side the pump is meant to fill.
    1. To activate the side A alcohol pump, select station **A**. Press **88, ENTER** to enter diagnostics mode. Press **135, ENTER** and then open the alcohol valve by pressing **0, ENTER** to access valve control. Press **18, ENTER, 12, ENTER** and then turn on the pump by pressing **3, ENTER.** When fluid can be seen coming out of the restrictor adaptor press **0, ENTER** to turn off both the pump and valve.
    2. To activate the side A detergent pump while still in the valve control section press **18, ENTER, 1, ENTER.** This will open the valve. To activate the pump press **19, ENTER.** Turn off the pump once water is seen coming from the restrictor adaptor by pressing **0, ENTER.**
    3. Press **ADD AIR** then **START** to remove the fluid from the side A basin. Allow the basin to drain completely (around 30 seconds) before pressing **CANCEL** and **ENTER** to stop the draining procedure.
    4. Repeat Steps 1-3 for side B for both the alcohol and detergent pumps

Run a Cycle On Both Sides to Inspect and Verify the Following:

- All cycle parameters meet the appropriate settings.
- All sensors are functioning properly.
- Proper cycle operation.
- No leaks during either the disinfection or rinse cycles.
- External water pressure meets installation requirements during flush mode (35-40 PSI).
- The alcohol and detergent solutions inject as desired (if used).
- During the disinfectant and rinse phases verify that the basin fills to the appropriate level.
- No fumes or excessive noise is noted.
- When the disinfectant cycle starts, press the **TEST** button on the GFI and wait five seconds before pressing the **RESET** button to reapply power. The unit should resume the cycle where it left off.
- Completion of a full disinfectant cycle on each side with no alarms present.
- During the cycle, inspect under both basins for any leaks inside the unit and bleed off any excess air from the housing using the bleeder valve.
- Ensure the proper date and time is shown on the display. If not, press **SETUP, 2, ENTER** (for the date) and **SETUP, 3, ENTER** (for the time).
- Ensure the interior of the cabinets are clean and wiped down of any fluid or debris.

Adjusting the Drain Times

- Drain times for rinse water and disinfectant must be checked periodically to verify they are set to the optimum times.
- Select side A and enter diagnostics mode by pressing **88, ENTER.** Select **135, ENTER.** Press **61, ENTER** to access the drain times.
- The first number is for the rinse drain time followed by the disinfectant drain time. The rinse drain time value should be set to 105 seconds. If this is not correct, press **110, ENTER**. The disinfectant drain time should be set to 110 seconds. If this is not correct, press **120, ENTER.**
- Remain in diagnostics mode and perform the same checks for side B.
- Follow the ***Leak Tester Option-Check*** **(see page 17)** to ensure proper operation of the internal leak tester.
- If all of the checks pass, the unit must have a waterline disinfection completed before any endoscopes can be processed.

Waterline Disinfection Procedure

- Both stations must be in an idle state to begin this procedure. Default disinfection time is an hour and a half.
- Attach a restrictor adaptor to the basin's endoscope connector port.
- Press **SETUP,** then **6,** then **ENTER,** and finally **START.**
- The display will flash the reminder message of **"Attach Restrictor"**. If not done so already connect the restrictor adaptor and press the **START** key.
- The disinfectant will remain in the lines for the programmed disinfection time.
- Open the internal water supply valve by pressing **SETUP, 43,** then **ENTER.** This provides water to the 0.2 micron filter housing by opening the incoming water supply solenoid valve. A counter will begin counting down from 250 to 0 seconds. Once the counter reaches 0 it will automatically close the water supply solenoid valve if it is not manually closed first.
- Use a container that holds a minimum of 1 liter of liquid and place it under the drain hose coming from the top of the 0.2 micron filter housing.
- Drain the purge line by slowly opening the valve at the top of the drain hose.
- Allow the purge line to drain until all flow stops.
- Close the valve and tap the line to encourage removal of any excess water.
- Remove the container, dump the fluid and press **STOP** to shut off the incoming water supply solenoid valve.
- Press **STOP** one more time to exit the setup menu.
- Once the disinfection cycle has been completed you will need to purge the 0.2 micron water filter housing of any air.

Leak Tester Option-Check

- Connect a manometer to the leak test outlet in the A side basin.
- To test the leak test board select side **"A"** and press **SETUP, 88, 135, 51, ENTER, 54,** and **ENTER** to set up the test.
  a. Press **95, ENTER,** and the display will show **3C.**
  b. Slowly increase pressure on the manometer. As the pressure rises the display will read **34** if pressure is greater than 1 psi and **31** if pressure is greater than 3 psi.
  c. Slowly decrease pressure using the release valve on the manometer. As pressure decreases the display will read **35** if pressure is less than 3 psi and **3F** if pressure is less than 1 psi.
  d. Press **CANCEL**.
- Test the leak tester system by pressing **56, ENTER** to verify 3 psi control pressure and press **57, ENTER** to verify 1 psi hold pressure.
  a. Use the release valve to bleed pressure out of the system to ensure the tester maintains 1 psi.
  b. Press **50,** and **ENTER** to vent the system.
- Test the internal leak test by pressing **56, ENTER,** and allowing the pressure to stabilize.
  a. Press **57, ENTER,** and monitor the pressure for a minimum of 5 minutes to ensure the pressure neither increases or decreases by more than 4 mmHg.
  b. Record the both pressure and time on the test report then vent the system by pressing **50, ENTER.**
- Repeat all previous steps for the B side basin.
- The display readings for the B side leak test board are as follows:
  a. As pressure increases: **1C** if pressure is greater than 1 psi and **8C** if pressure is greater than 3 psi.
  b. As pressure decreases: **9C** if pressure is less than 3 psi and **FC** if pressure is less than 1 psi.

The annual PM procedures are now complete. Be sure to visit the RPI website, **www.rpiparts.com** to find a complete list of RPI parts to fit Medivators DSD Edge machines, download a copy of these instructions to your computer or mobile device, find detailed information about all of the parts included in this PM Kit, and access free technical support.

replacement parts industries, inc

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