DSK022
CHECK VALVE KIT
INSTALLATION INSTRUCTIONS

1. Turn off the air and water supply lines (by decoupling the quick disconnect fittings if present). Raise the shield and remove the "A" and "B" bottles.

2. Lay the unit face down on a clean soft surface and remove the two (2) screws from the back housing. Remove the two (2) screws recessed in the bottom of the unit and separate the two cabinet sections.

3. Prepare the three (3) Check Valves (RPI Part #DSV023) as follows **(see Figure 1)**.

FIGURE 1

FLOW

ADAPTOR FITTING (RPI PART #RPF944)

CHECK VALVE (RPI PART #DSV023)

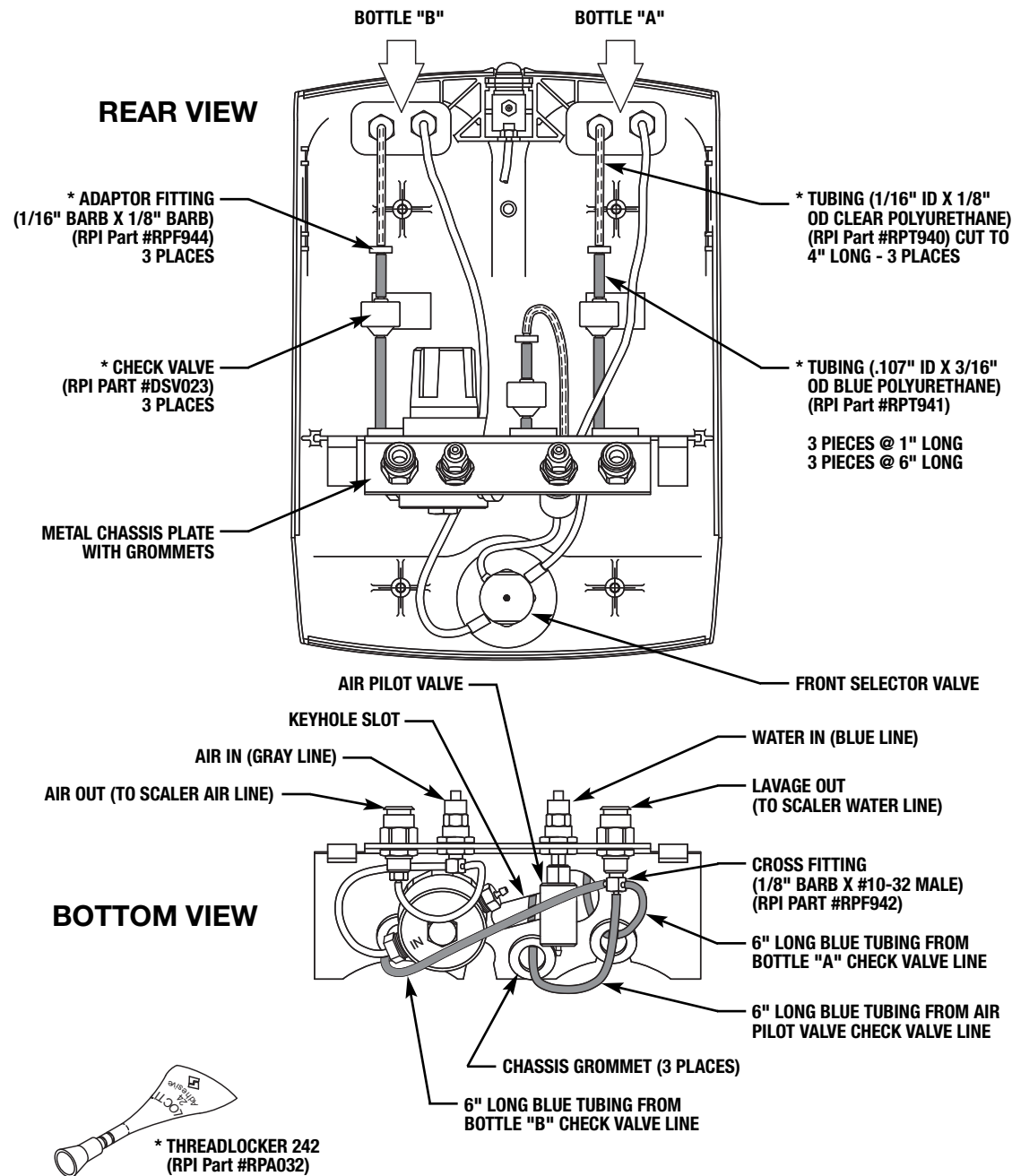**4" LONG CLEAR TUBING**　**1" LONG BLUE TUBING**　**6" LONG BLUE TUBING**
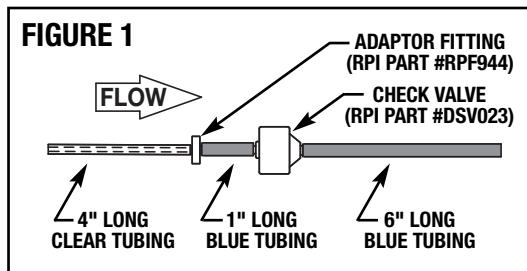
4. Cut the **Blue** Polyurethane Tubing (RPI Part #RPT941) into three (3) 1" long pieces and three (3) 6" long pieces. Cut the **Clear** Polyurethane Tubing (RPI Part #RPT940) into three (3) 4" long pieces **(as shown in Figure 2)**.

   NOTE: Early models had 90° bottle coupler elbow fittings (current models have straight bottle coupler fittings as shown in figure 2). If the unit you are upgrading uses the 90° elbow fittings, cut the **Clear** Polyurethane Tubing (RPI Part #RPT940) into two (2) 3" long pieces and one (1) 4" long piece.

   4A. Install the cut clear tubing onto the small barb on the Adaptor Fitting (RPI Part #RPF944). Install the 1" long blue tubing to the large barb on the Adaptor Fitting.

   4B. Attach the "IN" port of each Check Valve (RPI Part #DSV023) to the 1" long blue tubing from step 4A.

   4C. Attach the "OUT" port of each Check Valve (RPI Part #DSV023) to the 6" long pieces of blue tubing. Verify that the flow direction goes from the 1" long blue tubing to the 6" long blue tubing as shown in **(see Figure 1)**.

5. Cut the three (3) clear tubes attached to the 3-port tee on the lavage port and remove the 3-Port Tee.

6. Install the new Cross Fitting (RPI Part #RPF942) to the lavage port using loctite Threadlocker 242 (RPI Part #RPA032) - included in this kit. Tighten the Cross Fitting to 11 ± 1 in. lbs. Loosen lavage mounting nut and reposition appropriately **(see Figure 2)**.

7. Slide the three (3) existing metallic dual check valves upward away from the chassis grommets.

8. Disconnect the clear tubing and the metallic dual check valve from the side of the air pilot valve and discard.

9. Pick one (1) of the new Check Valve Assemblies you prepared earlier (use the 4" long clear tubing assembly if you had shortened two (2) of the Check Valve Assemblies to 3" long). Insert the blue tubing through the center chassis grommet and attach blue tube to the center port on the Cross Fitting (RPI Part #RPF942) installed in the lavage port **(see Figure 2)**. Loop the clear tubing back down through the 'Keyhole Slot' and connect to the side port on the air pilot valve.

10. Disconnect the metallic dual check valve from the Bottle "A" coupler fitting and discard. Pick another Check Valve Assembly and insert the blue tubing down through the right chassis grommet and attach the blue tubing to the right port on the Cross Fitting (RPI Part #RPF942) installed in the lavage port **(see Figure 2)**. Attach the clear tubing from the Check Valve Assembly to the coupler fitting for Bottle "A" taking care to ensure that the tubing does not get damaged or kinked.

11. Disconnect the metallic dual check valve from the Bottle "B" coupler fitting and discard. Select the last Check Valve Assembly and insert the blue tubing down through the left chassis grommet and attach the blue tubing to the left port on the Cross Fitting (RPI Part #RPF942) installed in the lavage port **(see Figure 2)**. Attach the clear tubing from the Check Valve Assembly to the coupler fitting for Bottle "B" taking care to ensure that the tubing does not get damaged or kinked.

12. Slide the metal chassis plate against the housing. Check for pinched tubing. Inspect the clear tubes at the front selector valve for secure attachment. Reattach both bottles and reconnect the air and water lines.

13. Verify that there is no backflow into either bottle and that the selector switch is properly routing each of the three water paths. Also check for leaks (air or water) anywhere inside the unit, at the quick disconnect fittings, around the selector switch and around the o-rings to the bottles. Test and Calibrate per OEM calibration instruction SOP #PS-100.

FIGURE 2

BOTTLE "B"　BOTTLE "A"

REAR VIEW

* ADAPTOR FITTING (1/16" BARB X 1/8" BARB) (RPI Part #RPF944) 3 PLACES

* CHECK VALVE (RPI PART #DSV023) 3 PLACES

METAL CHASSIS PLATE WITH GROMMETS

* TUBING (1/16" ID X 1/8" OD CLEAR POLYURETHANE) (RPI Part #RPT940) CUT TO 4" LONG - 3 PLACES

* TUBING (.107" ID X 3/16" OD BLUE POLYURETHANE) (RPI Part #RPT941)

3 PIECES @ 1" LONG
3 PIECES @ 6" LONG

FRONT SELECTOR VALVE

AIR PILOT VALVE
KEYHOLE SLOT
AIR IN (GRAY LINE)
AIR OUT (TO SCALER AIR LINE)

BOTTOM VIEW

WATER IN (BLUE LINE)
LAVAGE OUT (TO SCALER WATER LINE)
CROSS FITTING (1/8" BARB X #10-32 MALE) (RPI PART #RPF942)
6" LONG BLUE TUBING FROM BOTTLE "A" CHECK VALVE LINE
6" LONG BLUE TUBING FROM AIR PILOT VALVE CHECK VALVE LINE
CHASSIS GROMMET (3 PLACES)
6" LONG BLUE TUBING FROM BOTTLE "B" CHECK VALVE LINE

* THREADLOCKER 242 (RPI Part #RPA032)

* PARTS INCLUDED IN CHECK VALVE KIT (RPI Part #DSK022)