

To replace a silicone exhaust tube, follow the procedure below, using antistatic wrist bands and antistatic mats.

1. Remove the battery and white clips.

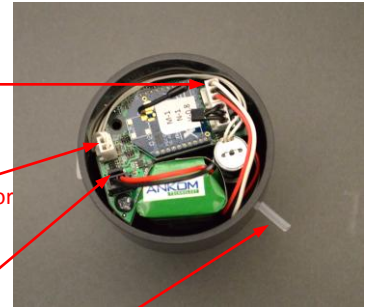
- a. Unplug and remove the battery from the module.
- b. Unplug the Solenoid connector (the white clip with two white wires coming out of it) by grasping the clip and pulling up gently.
- c. Unplug the pressure sensor connector (the white clip with the red, black, and white wires coming out of it) by grasping the clip and pulling up gently.

Pressure
Sensor
Connect

Solenoid
Connector

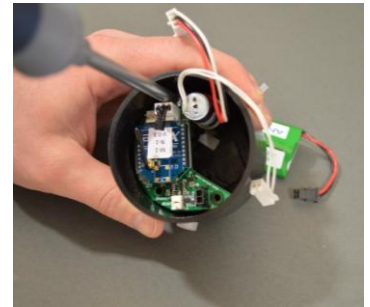
Battery

Silicone
Exhaust
Tube



2. Remove the circuit board.

- a. Using a Phillips head screw driver, remove the two screws that secure the circuit board into the module. Keep the screws for reassembly.
- b. Lift up the circuit board gently and place it on an antistatic surface.



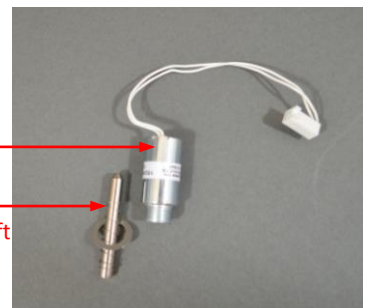
3. Remove the solenoid and associated parts.

- a. Using a flat head screwdriver, unscrew the solenoid (silver cylinder) by placing the flathead screwdriver into the slot in the top of the cylinder and turning it counterclockwise.
- b. Gently remove the solenoid by lifting it up slowly.
- c. Remove the stainless steel washer, spring, and shaft that were underneath the solenoid (exposed when removing the solenoid).
- d. Place them to the side, along with the solenoid.



Solenoid

SS Washer,
Spring and Shaft

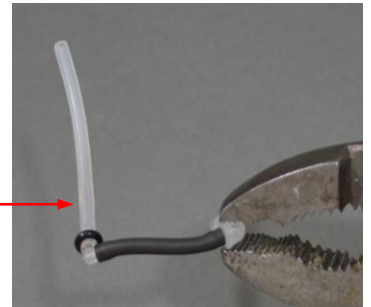
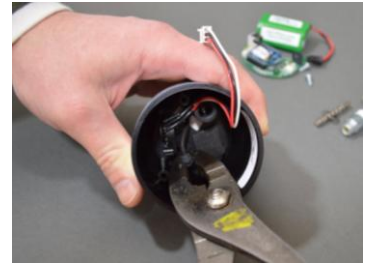


4. Remove the barbed elbow.

Using pliers, grasp the barbed elbow that is at the end of the black tube which is inserted into the bottom of the module, and pull directly up.

Note: You may need to apply a bit of force to have the barbed elbow release from the seal in the bottom of the module.

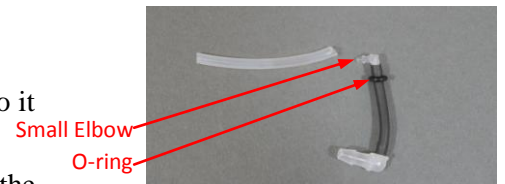
Once removed, the black viton tubing, barbed elbows, and clear silicone tube together are known as the Viton Tube Assembly (RF11).



5. Replace the silicone tube.

- a. Roll the black O-ring over the small elbow onto the black tube so it is out of the way of the silicone tube.
- b. Remove the old silicone tube from the barbed elbow and slide the new silicone tube over the barbed elbow.
- c. Roll the black O-ring back onto the clear silicone tube so it's clamping down onto the silicone tubing end, holding it in place.

Note: The black O-ring is there to prevent the silicone tube from being pulled off of the barbed elbow.

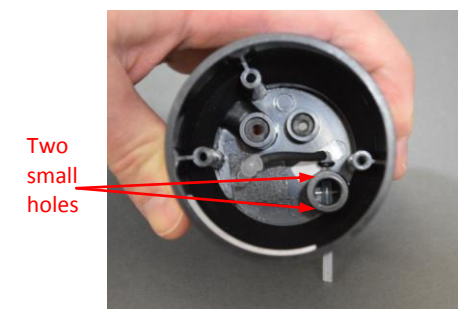
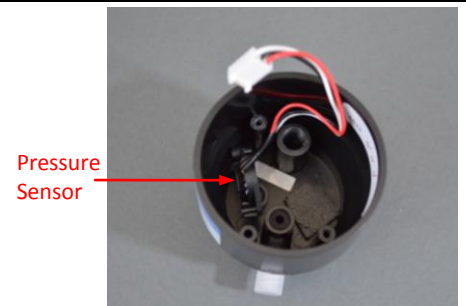


6. Feed the silicone tubing through the solenoid housing.

- a. Remove the pressure sensor (black sensor with red, black and white wires coming off if it) by grasping it with pliers, and pulling directly up.

Note: It is very important that you pull straight up and not go side-to-side because this may break the barbed end off of the pressure sensor. You may have to pull up with a bit of force to remove the barbed end from the seal. This will give you more room to feed the silicone tubing through the solenoid shaft holes.

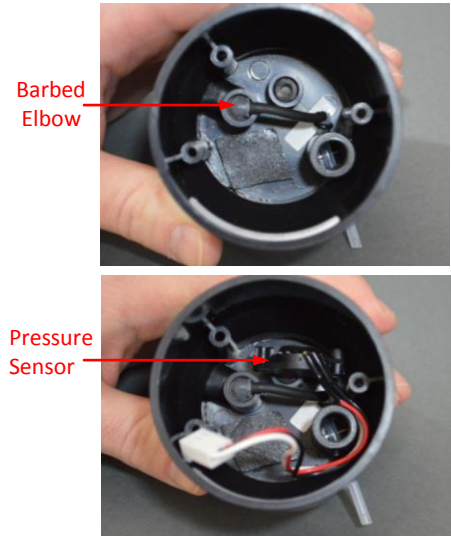
- b. Feed the silicone tubing through the two small holes inside the module at the bottom of the solenoid shaft housing so it comes out of the hole on the outside of the module. The tubing must lie on the top of the metal pinch bar in the solenoid shaft.



7. Reassemble the Module.

- a. Plug the other barbed elbow from the Viton Tube Assembly back into the seal in the bottom of the module by grasping the barbed elbow with the pliers and forcing the elbow in the seal until the elbow sits flat on the seal.
- b. Grasp the pressure sensor with the pliers and push it down into the seal in the bottom of the module until it sits flat on the seal. Be sure to only push straight down and not side-to-side.

Note: Be sure that the wires of the pressure sensor are routed around the solenoid shaft housing as depicted in the picture.



8. Secure the solenoid.

- a. Take the shaft with the spring around it and place it in the solenoid shaft housing.

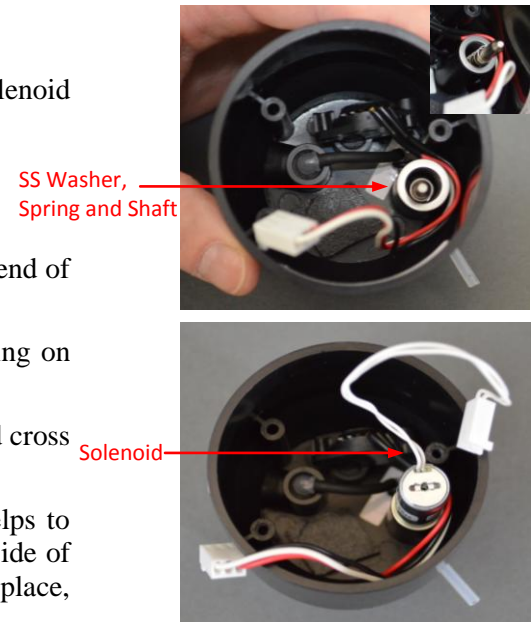
Note: Check that:

- The shaft is sitting on top of the silicone tube.
- The spring is sitting on top of the little washer at the end of the shaft and did not screw around the washer.

- b. Place the stainless steel washer around the shaft so it is sitting on top of the solenoid shaft housing that the solenoid screws into.
- c. Start to screw the solenoid back into the hole by hand to avoid cross threading. Don't use a screwdriver at this point.

Note: When holding onto the module during this step, it helps to hold the silicone tube in place by pinching it against the outside of the housing with a finger. This will keep the silicone tube in place, directly below the solenoid shaft.

- d. Once you have tightened it as much as you can by hand, tighten further using a flathead screwdriver. Do not over tighten.



9. Reattach the circuit board.

- a. Place the circuit board back inside of the module housing.
- b. Using the two screws, secure the circuit board.
- c. Run the wires back to their proper locations as depicted in the picture and reconnect the clips.



10. Test the module for leaks.

- a. Attach a bottle to the module.
- b. Plug a battery into the module.
- c. Apply pressure to the module.
- d. Start the GPM software and click record. (1 sec Live Interval, and 1 min Recording Interval)
- e. Let the module sit for about an hour and monitor for pressure loss.

Note: If it loses pressure right away, this means there is a large leak that will require diagnostic work. The loss of a little pressure (0.04-0.07 psi) may be a result of the system cooling down from the repair. After letting the system sit for a while, the pressure should stabilize.

