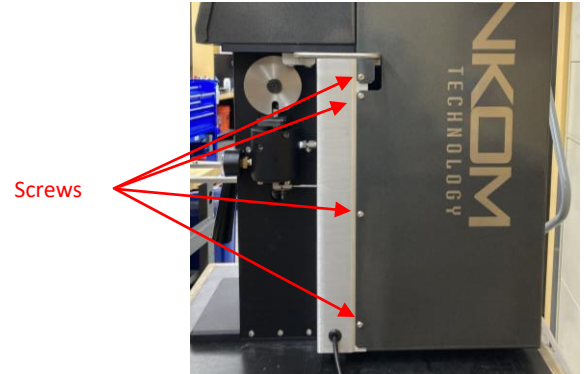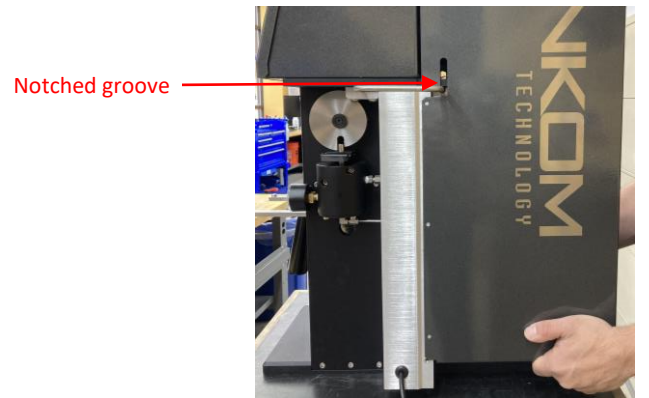**1. Remove the back cabinet.**

a. Remove the eight screws (four on each side of the instrument) that secure the back cabinet onto the instrument using a 1/8" Allen wrench. Set aside the screws for later use.

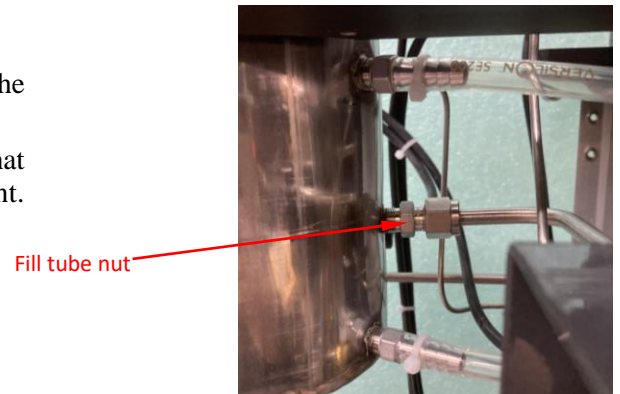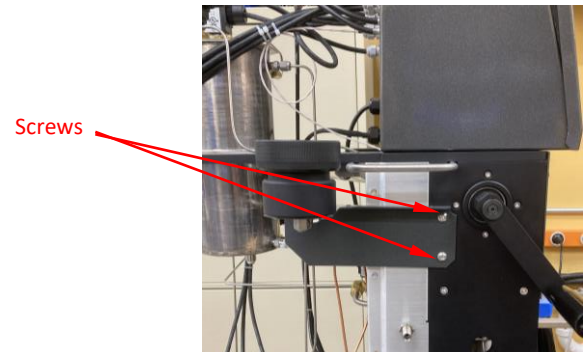b. Lift up then pull back so the handles on each side slide out of the notched groove.

Screws

Notched groove

2. Remove the Fill Cup Assembly.

a. Using a 9/16" wrench loosen the fill tube nut on the back of the condenser reservoir.

b. Using a 5/32" Allen wrench remove the two screws that hold the fill cup assembly to the side of the instrument. Set the fill cup assembly and screws aside for later use.
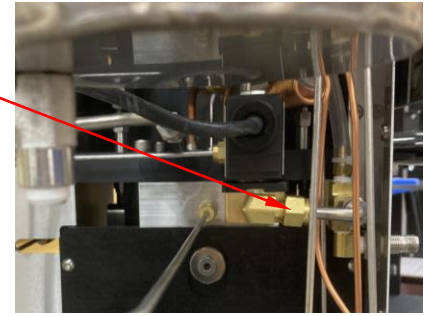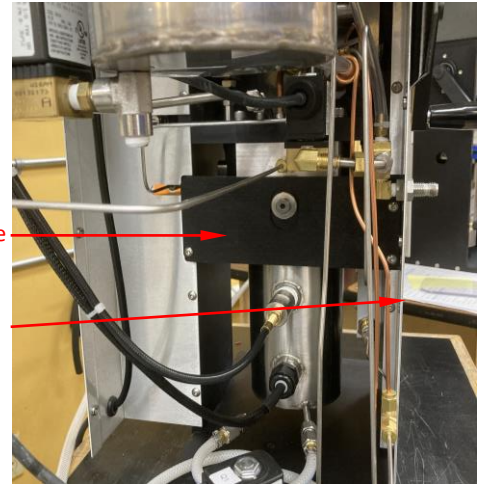
Fill tube nut

Screws

3. Remove the side plate.

a. Using a 9/16" wrench, loosen the 1/4" vent tube nut on the X61.

b. Using a 1/8" Allen wrench remove the four screws that secure the side plate to the instrument. Do not remove the screws in the black guide plate.

c. Carefully move the side plate over towards the right to make more room for removing the X61 assembly. Be careful not to pull too hard because the side plate will still be connected.

d. Set aside the screws for later use.

¼" Vent tube nut

Guide plate

Side plate

4. Remove the X61 Vent Valve Assembly.

a. Using a flathead screw driver remove the electrical plug.

b. Loosen and remove the X61 Vent Valve Assembly. If you are unable to loosen the X61 by hand, use a wrench to hold the T-fitting from turning and use another wrench to grab the body of the X61 valve to loosen. Once loose, finish removing it by hand. Do **not** loosen the valve using the 90° 1/4" fitting.

Note: If the 1/8" straight fitting does not come out, use a wrench to hold the T-fitting and use pliers to remove the 1/8" straight fitting.

c. Use a wire brush to clean out the threads of the T-fitting.

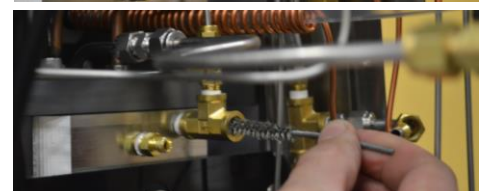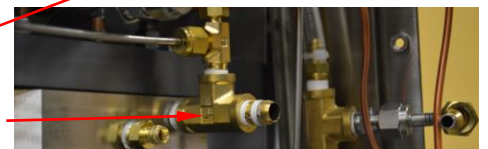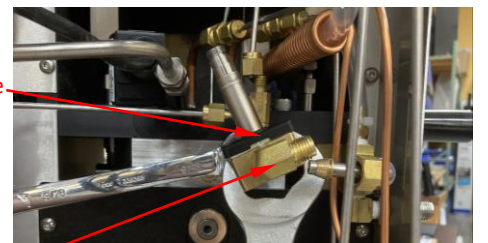**Note:** In some models, the valve replacement system may resemble a different build.
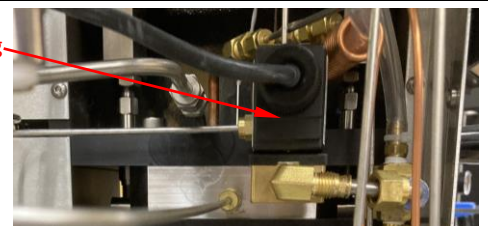This service procedure is effective for both iterations.
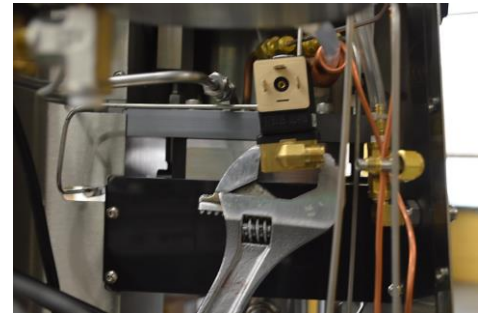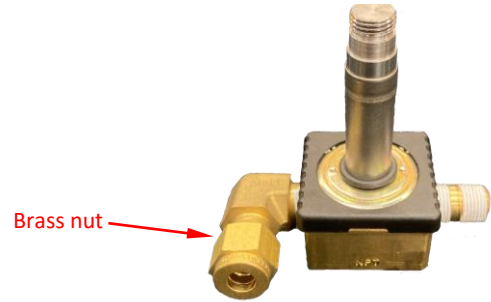
Electrical plug

X61 Valve

90° ¼" fitting

T-fitting

5. **Install the new X61 Vent Valve Assembly.**
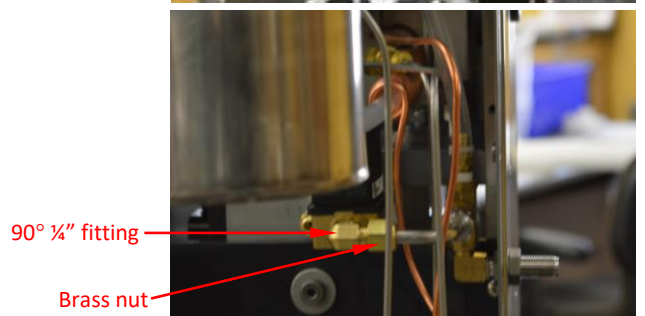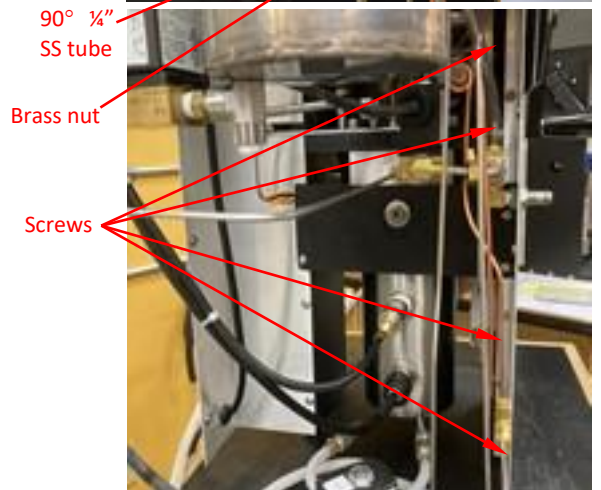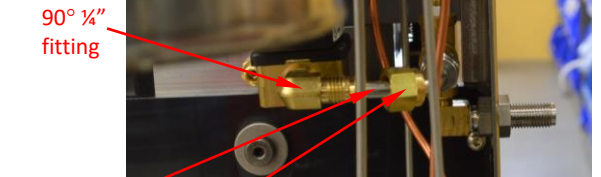
    a. Remove the brass nut from the new X61 Vent Valve Assembly.

    b. Install the new X61 Vent Valve Assembly on the T-fitting. Finger tighten as far as possible and finish tightening with a wrench. Ensure the brass nut is very tight. Leaking from this fitting will result in having to repeat the entire Service Procedure over.

    Note: Do not tighten the X61 by the 90° 1/4" fitting. Ensure the 90° 1/4" fitting points to the right.
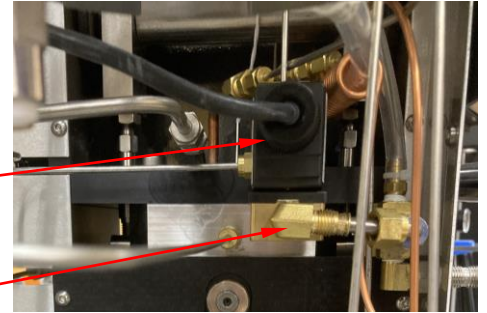
Brass nut

6. **Re-attach the side plate.**

    a. Finger tighten the brass nut on the 90° 1/4" SS tube to the 90° 1/4" fitting. Ensure that the 90° 1/4" SS tube and 90° 1/4" fitting are lined up evenly before tightening.

    b. Reinstall the side plate using the four screws set aside in step 6.

    c. Use a 9/16" wrench to tighten the brass nut on the 90° 1/4" fitting.

90° ¼" fitting

90° ¼" SS tube

Brass nut

Screws

90° ¼" fitting

Brass nut

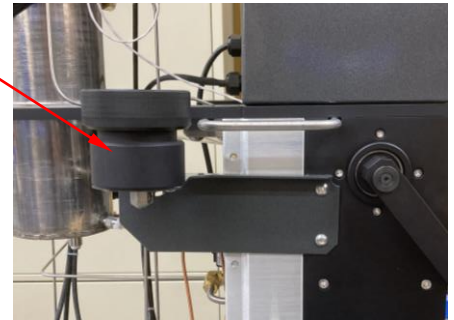| 7. | **Plug the electrical plug into the X61 valve and use a flathead screw driver to secure it in place.** | |

Electrical plug
X61 Valve

| 8. | **Reattach the Fill Cup Assembly.** | |

Fill Cup Assembly

| 9. | **Check Fittings for Leaks.** | |

a. Perform a run with the back cabinet off.

b. Put soapy water on the T-fitting.

c. Look for bubbles. If there are bubbles that means there is a leak and the fitting needs to be tightened. To tighten this fitting, return to step one and repeat the procedure.

T-fitting