



02-020B
2 May, 2007

HOW TO INSTALL A KIT155 (OZONE OPTION) INTO AN M702 CALIBRATOR

I. PURPOSE:

To provide the user instructions on how to install the Ozone option into a M702 Calibrator.

II. TOOLS:

Phillips head screwdriver
Diagonal cutters or tube cutters
7/16" Open-End Wrench
9/16" Open-End Wrench
Allen wrench.

III. PARTS:

KIT000155 Ozone Option M702

IV. PROCEDURE:

In order to install the Ozone generator option into the instrument a few tubes need to be removed in order to accommodate the new O3 generator and GPT reaction chamber.

1. Remove power from the instrument.
2. Remove the screws that hold the top cover assembly on to the instrument.
3. Refer to the proper Diagram/Procedure/Pneumatic Diagram for the removal and installation of this Kit.

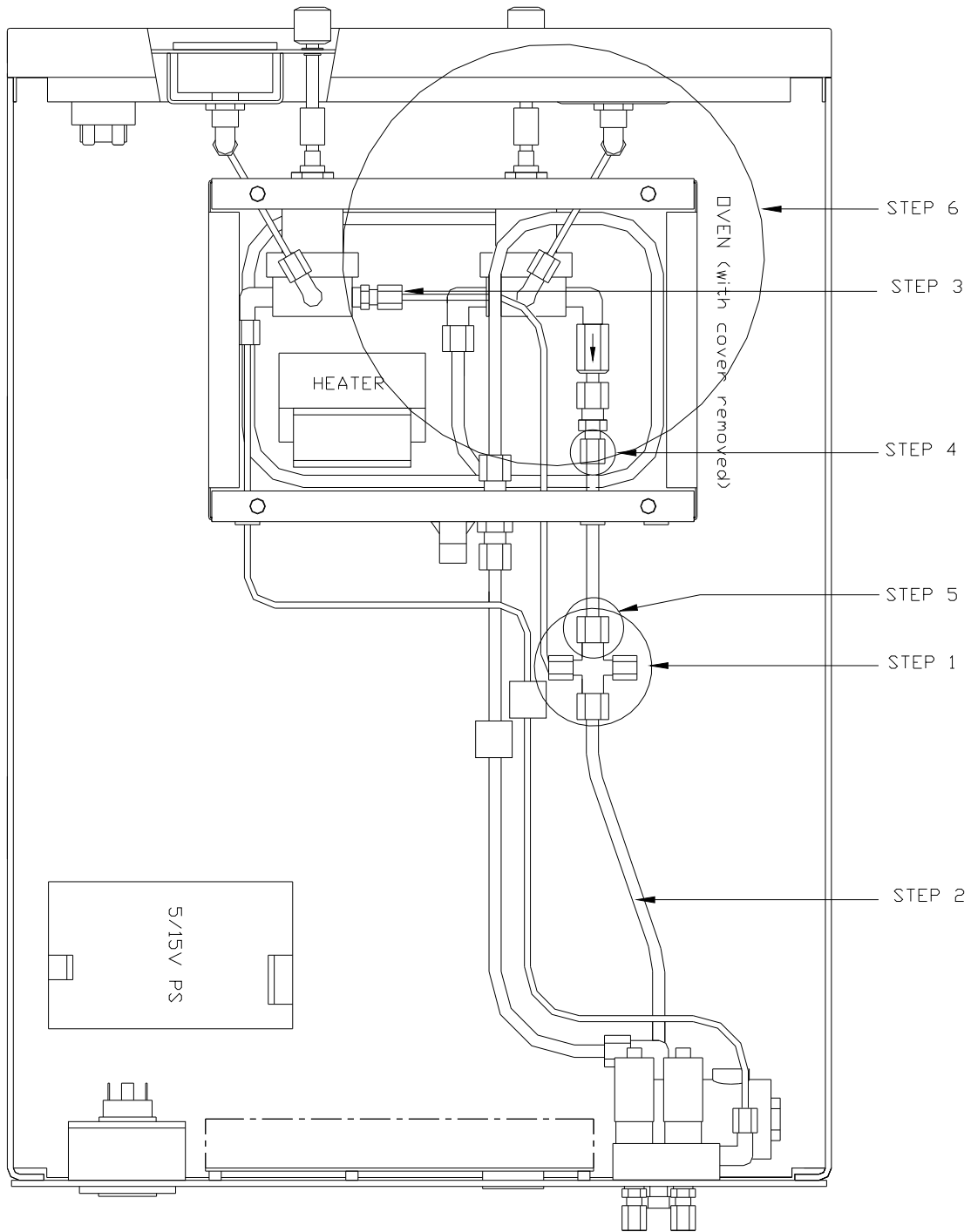
REMOVAL PROCEDURE

Refer to Diagram 1

1. Using the 9/16" Wrench disconnect all of the tubing attached to the Teflon Tee and remove the tee from the instrument. See Diagram 1 Step 1.
2. Disconnect and remove the tubing going to the CAL GAS OUT port on the rear panel of the instrument. See Diagram 1 Step 2.
3. Disconnect and remove the 1/8" Teflon tube that is connected to the pressure regulator shown in Diagram 1 Step 3.
4. Disconnect the tubing from the restrictor shown in Diagram 1 Step 4.
5. Next remove the Teflon nut and ferrules on the opposite end and pull the tubing through the rubber grommet on the oven shown in Diagram 1 Step 5. Remove the tubing from the instrument.
6. Disconnect the restrictor assembly at the elbow on the pressure regulator shown in Diagram 1 Step 6.
 - a. To disconnect the restrictor you must remove the pressure regulator from the oven.
 - b. There are two Allen head screws that attach the knob to the Regulator; you must remove these two screws in order to remove the knob.

- c. You will need to remove all of the other lines that are attached to the regulator in order to pull it out. Note the location of each line. You will need to replace them once you have finished installing the restrictor assembly.
- d. Remove the regulator with the attached restrictor assembly from the oven.
- e. Remove the restrictor assembly at the regulator using the 9/16" wrench. This assembly will be used later in the installation procedure.

DIAGRAM 1



How to Install an Ozone Option (KIT155) into a M702 Calibrator
02-020 Rev B
Page 3 of 11

INSTALLATION PROCEDURE (Installing the Hardware)

Diagram (1a.) shows what the instrument will look like after all of the old tubing is removed.

1. Install the Ozone Generator Power Supply to the chassis using the four screws and washers contained in the baggie labeled S/N 5. Location shown in Diagram 2 Step 1.
2. Install the Ozone Generator to the chassis using the two screws and washers contained in the baggie labeled S/N12. Location shown in Diagram 2 Step 2.
3. Install the GPT Reaction Chamber to the chassis using the two screws and washers contained in the baggie labeled S/N 11. Location shown in Diagram 2 Step 3.
4. Install the 24Volt Power Supply to the chassis using the remaining 4 screws and washers in the baggie labeled S/N 5. Location shown in Diagram 2 Step 4.
5. Install the Restrictor assembly (Restrictor 2) contained in the kit and attach it to the regulator using the Teflon tape provided in the KIT shown in Diagram 1b Step 5.
6. Take the Restrictor assembly (Restrictor 1) that was removed in Step 6 of the Removal procedure and install it onto Restrictor 1 using the Teflon tape provided in the KIT shown in Diagram 1b Step 6.
 - a. Once the Restrictor assemblies are attached to the regulator install the regulator into the oven and reconnect the knob using the two Allen head screws and then reconnect all of the lines that were disconnected in step 6c of the removal procedure shown in Diagram 2 Step 5 & 6.

DIAGRAM 1a.

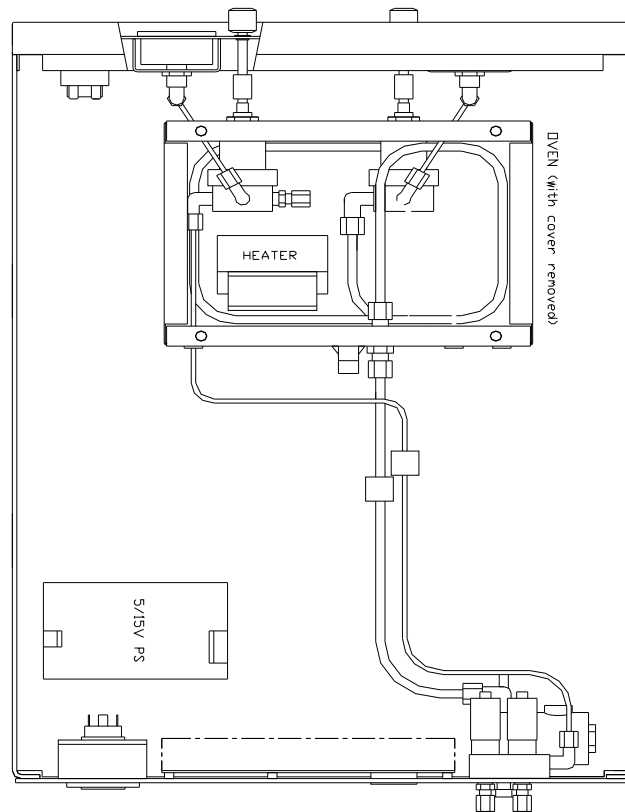
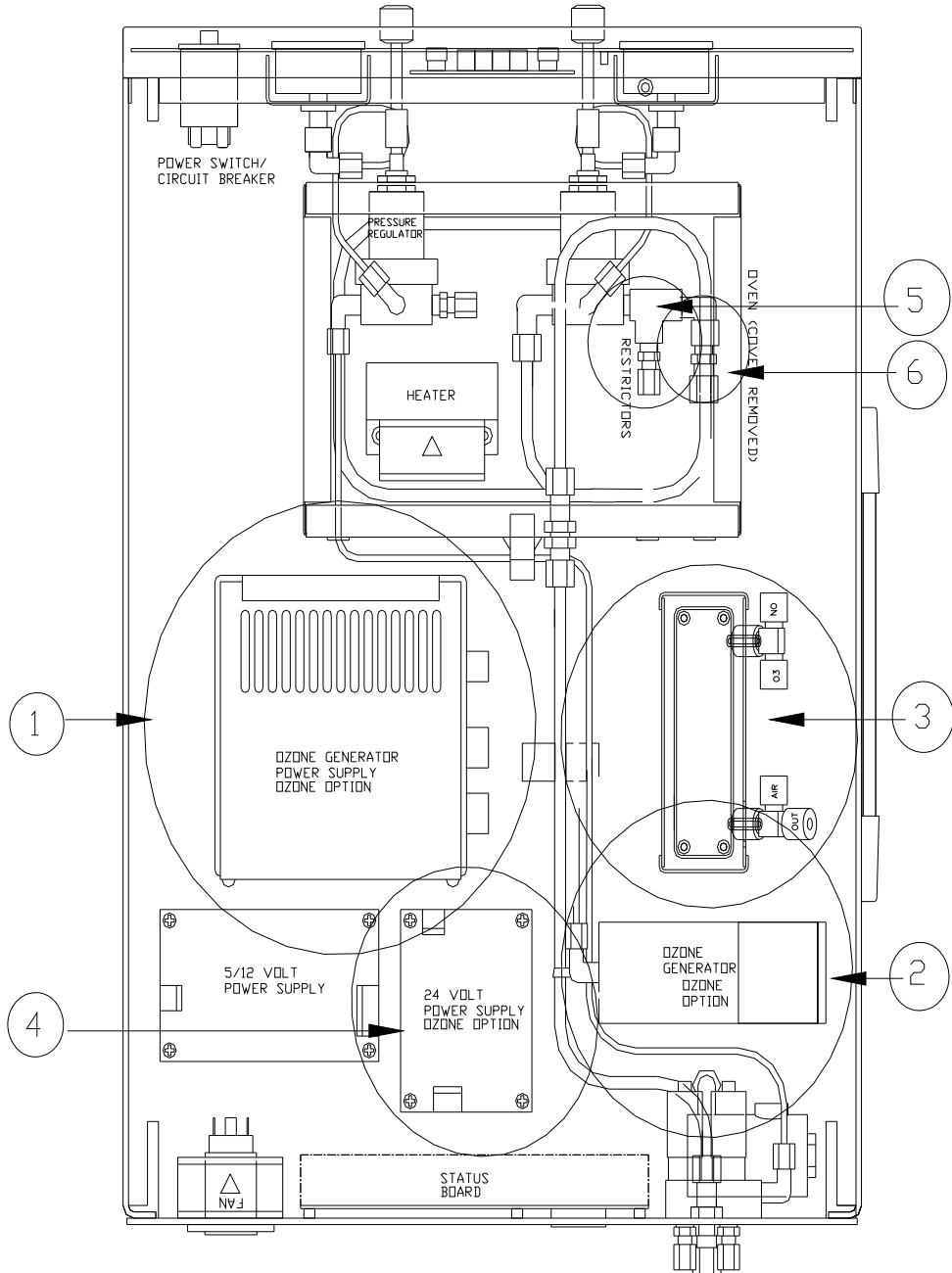
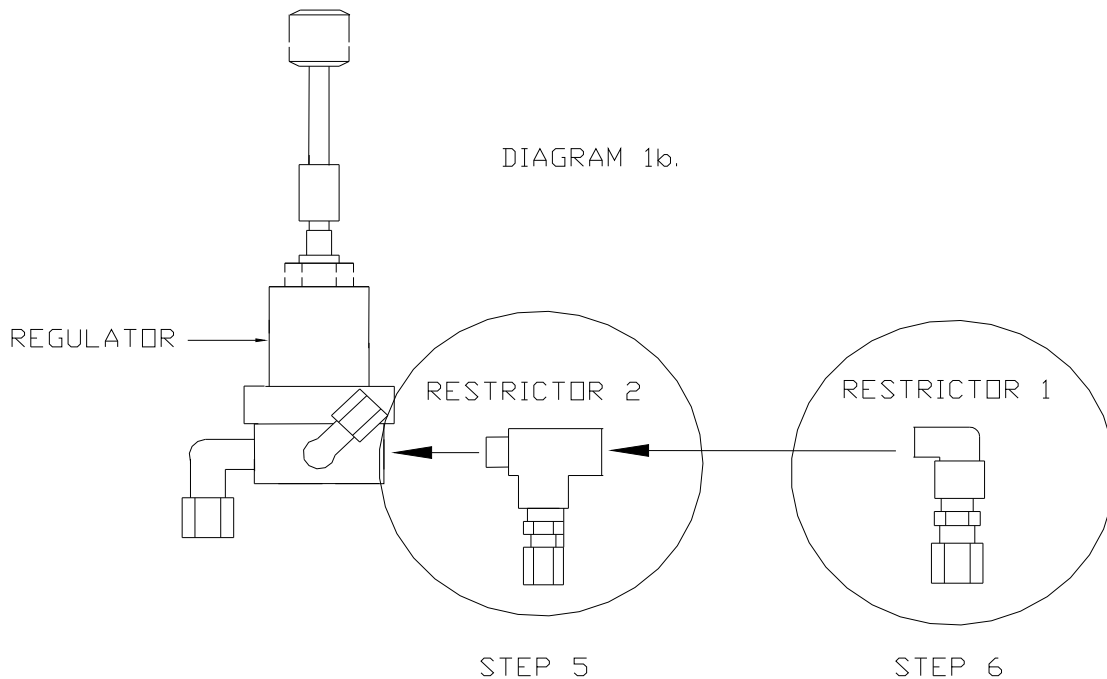


DIAGRAM 2

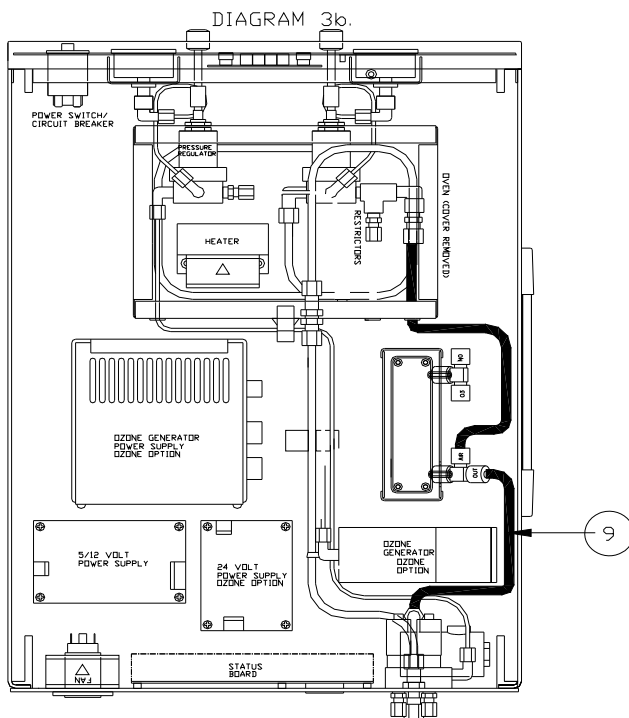
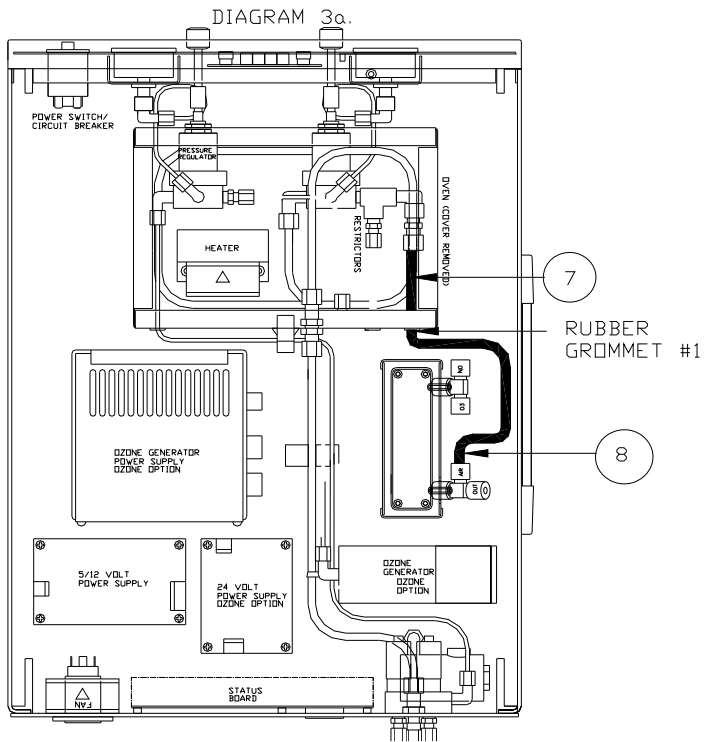


How to Install an Ozone Option (KIT155) into a M702 Calibrator
02-020 Rev B
Page 5 of 11

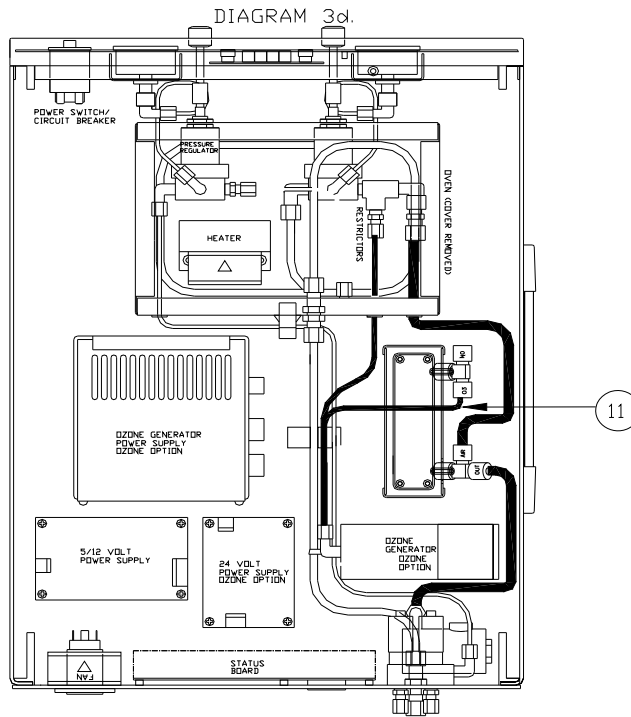
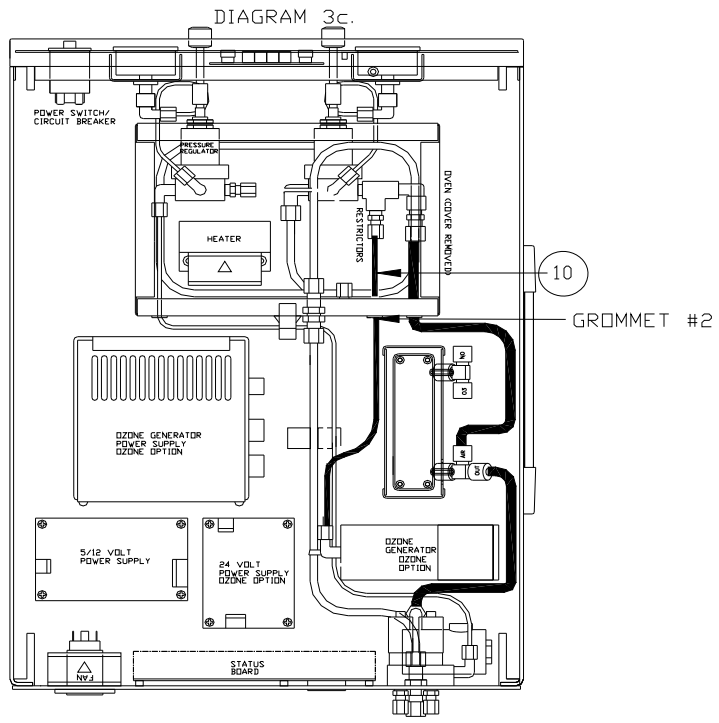


INSTALLATION PROCEDURE (CONT.) Installing the new tubing

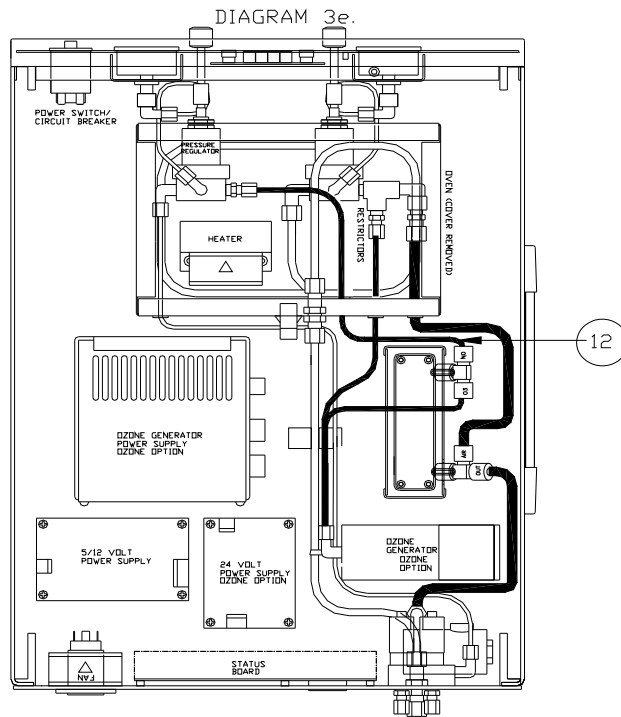
7. Take the 1/4" Teflon tubing contained in the KIT labeled #9 and connect it from Restrictor 1 to the AIR IN port on the GPT chamber. Use the 1/4" brass nut and ferrules attached contained in the KIT to connect one end of the tubing to Restrictor 1 as shown in Diagram 3a. Step 7. Next, push the other end of the tubing through rubber grommet #1.
8. Attach the other end of the tubing in the above step to the AIR IN port on the GPT Reaction Chamber assembly shown in Diagram 3a. Step 8.
9. Take the 1/4" Teflon tubing contained in the KIT labeled #9 and connect it to from the Out port of the GPT Chamber to the Cal gas out port on the rear panel shown in Diagram 3b. Step 9. NOTE: Unscrew the Right Rear foot on the analyzer and install the screw attached on the tubing clamp through the foot and the clamp and use the nut to tighten the clamp down.
10. Take the 1/8" Teflon tubing contained in the KIT labeled #10 and connect it from Restrictor 1 to the Brass elbow on the Ozone Generator, connect one end of the tubing using the 1/8" brass nut and ferrules on the Ozone generator, push the other end of the tubing through grommet #2 as shown in Diagram 3c Step 10 connect this end of the tubing to Restrictor 1 using a 1/8" brass nut and ferrules contained in the KIT.
11. Take the 1/8" Teflon tubing contained in the KIT labeled #11 connect it from the 1/8" Stainless steel elbow on the Ozone Generator to the to the O3 port on the GPT chamber as shown in Diagram 3d. Step 11.
12. Take the 1/8" Teflon tubing contained in the KIT labeled # 12 and connect it from the 1/8" Teflon fitting on the GPT chamber to the Regulator as shown in Diagram 3e. Step 12. Use a 1/8" Stainless steel nut and ferrules contained in the kit to connect the end of the tubing that attaches to the Regulator.



How to Install an Ozone Option (KIT155) into a M702 Calibrator
02-020 Rev B
Page 7 of 11



How to Install an Ozone Option (KIT155) into a M702 Calibrator
02-020 Rev B
Page 8 of 11

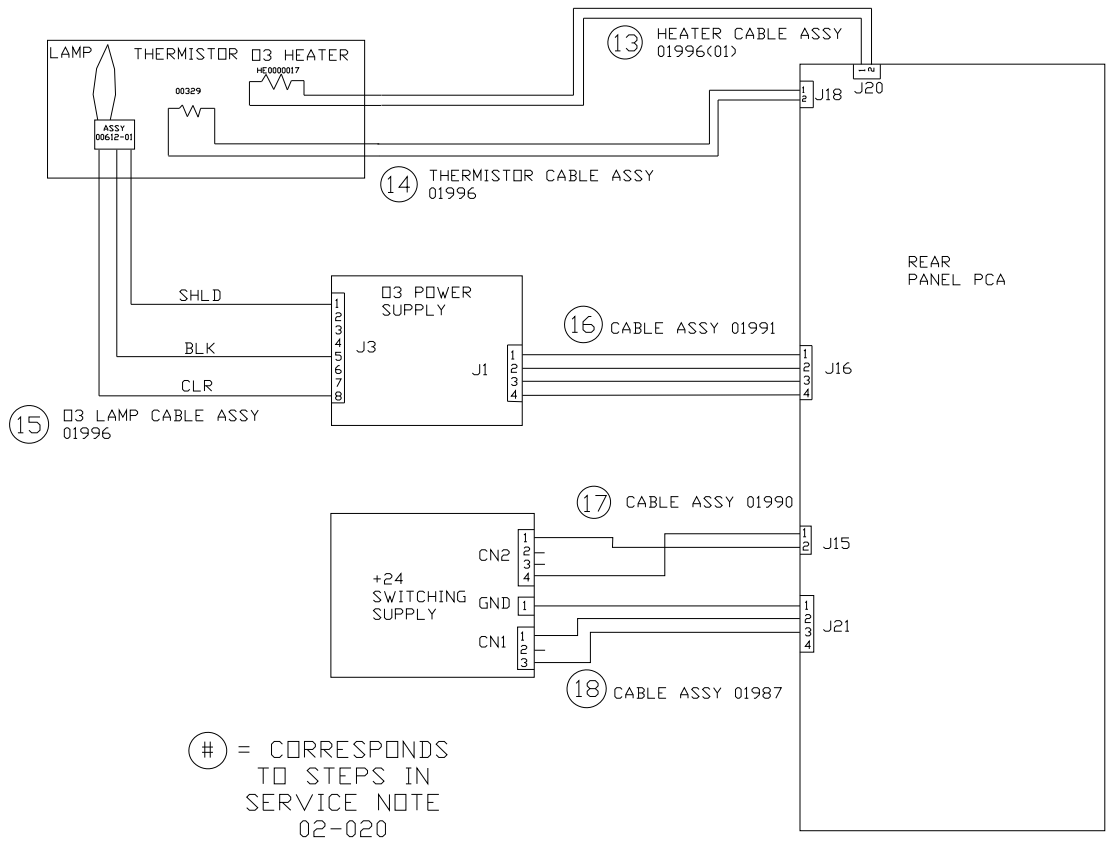


INSTALLATION PROCEDURE (CONT.) connect the cable assemblies.

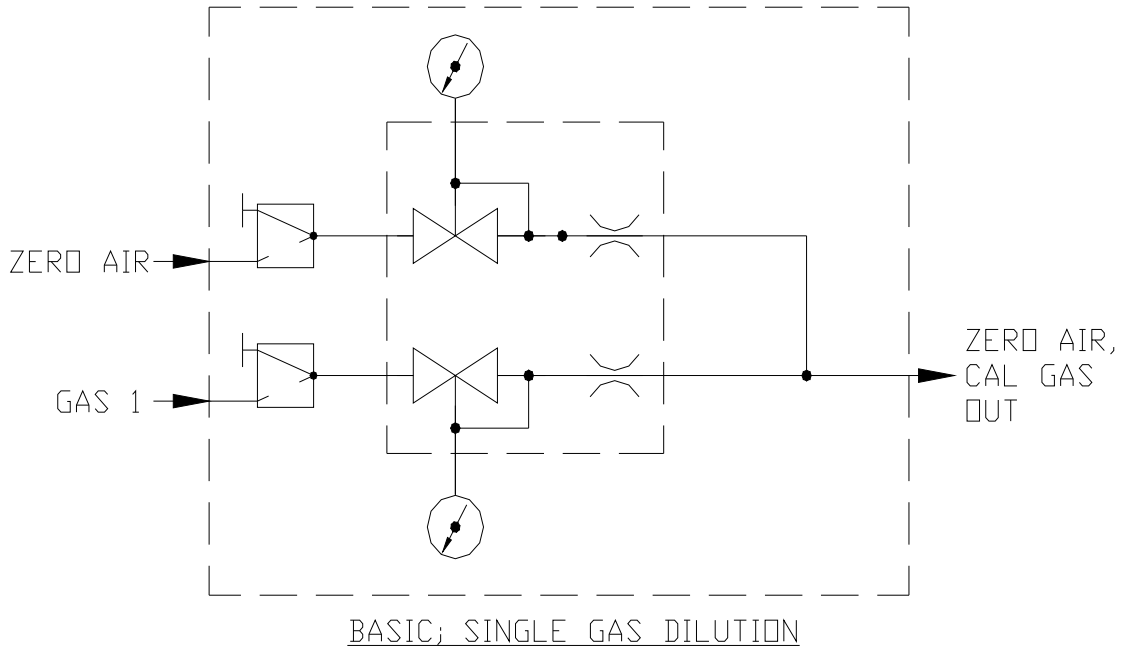
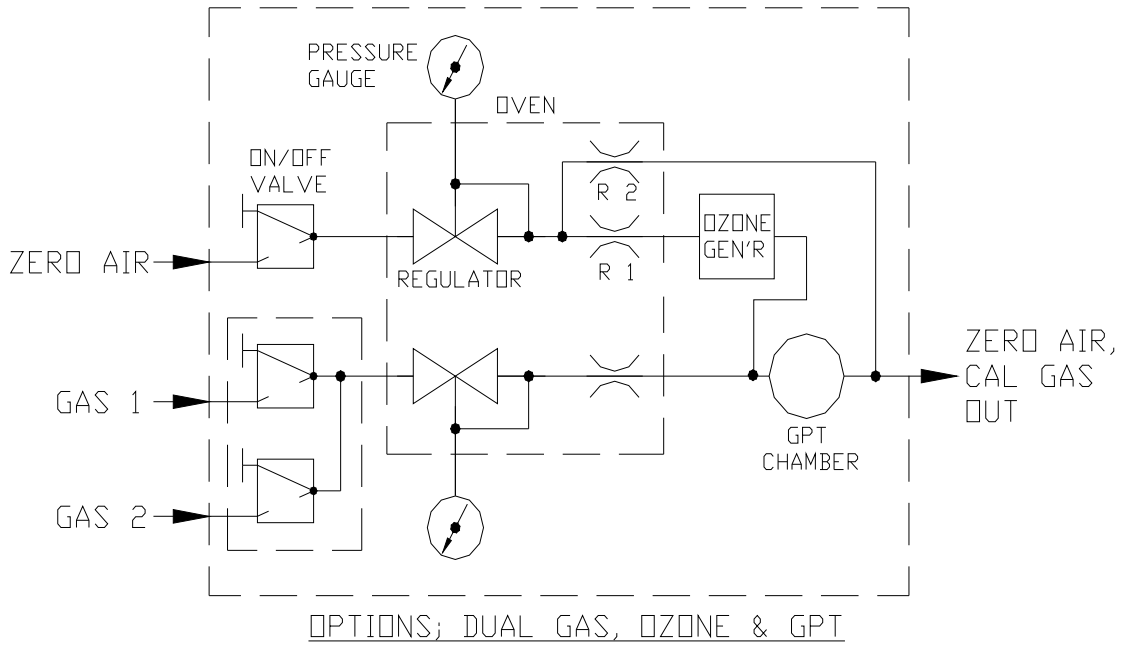
When connecting all of the cable assemblies refer to the Wiring Diagram.

13. Locate the heater cable assembly (Red wires) labeled 01996 (01) on the Ozone Generator and connect it to J20 of the rear panel PCA.
14. Next locate the thermistor cable assembly (Yellow wires) labeled 01996 on the Ozone Generator and connect it to J18 on the rear panel PCA.
15. Install the Lamp into the Ozone Generator (if not already installed) and connect end with the 2-pin connector to J3 of the O3 Power supply.
16. Locate the cable assembly 01991 and connect one end to J1 on the O3 Power Supply board (if not connected already) and the other end to J16 on the rear panel PCA.
17. Take the cable assembly labeled 01990 and connect the end with the 4-pin connector to CN2 on the 24Volt Power Supply board. Next take the end with the 2-pin connector and connect it to J15 on the rear panel PCA.
18. Take the cable assembly labeled 01987 and take the end with the 4-pin connector and connect it to J21 of the rear panel PCA. Take the end with the 3-pin connector and connect to CN1 on the 24V Power Supply. Connect the ground strap to GND on the 24V Power Supply.
19. Ensure that the instrument does not leak. See section 3.3 of the M702 Operators manual.
20. Once you have installed all of the components, tubing and cables you must now perform the steps in the M702 Operators Manual Section 8 through Section 11.
21. The instrument is now ready for use.

WIRING DIAGRAM



PNEUMATIC DIAGRAM



How to Install an Ozone Option (KIT155) into a M702 Calibrator
 02-020 Rev B
 Page 11 of 11