



**TELEDYNE
INSTRUMENTS**

Advanced Pollution Instrumentation

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Service Note

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CATALYTIC OZONE SCRUBBER RETROFIT KIT AND PROCEDURE

I. Scope:

This procedure shows how to retrofit a catalytic ozone scrubber in a Model M200A & M201A analyzer. The catalytic ozone scrubber is a welded cartridge which mounts inside the Model M200A molybdenum converter canister. The ozone rich exhaust gas from the reaction cell passes through the scrubber before entering the exhaust manifold and leaving the analyzer. The cartridge operates at approximately 80°C, picking up heat from the temperature controlled molybdenum converter cartridge. We recommend that the charcoal ozone scrubber in the pump pack be retained to remove the last traces of ozone.

II. Tools Required:

- A. Phillips screwdriver.
- B. Two 7/16" wrenches.
- C. Two 9/16" wrenches.
- D. Wire cutters (diagonal cutters)

III. Parts:

- A. KIT000036

Requisite: Molybdenum converter assembly 011320000 with 022090000 housing and 022100000 cover. This housing and cover have the required holes in them for the ozone scrubber to come through. If you look at the attached diagram you will see that the "front" of the moly has 4 holes and the "rear" has two holes in it.

IV. Procedure:

1. Turn off the analyzer.
2. Remove the moly converter cover. (It may be necessary to remove the converter from the chassis to do this.)

BE CAREFUL, THE CONVERTER CARTRIDGE MAY STILL BE VERY HOT!

3. If the thermocouple wire is coming out of the hole in the front of the cover that the ozone scrubber will now be coming out of, you must take the thermocouple out of that hole. You will be moving it down to the hole that the heater wires are coming out of. To get the thermocouple wire through the rubber grommet, you will have to cut the grommet with a pair of wire cutters and slip the thermocouple wire into the grommet and then put the grommet back into the hole in the moly housing.
4. Insert the ozone scrubber in the corner of the converter housing. (You may need to remove the thermal insulation and cut away a corner to make room for the scrubber).
5. If the 1/8" stainless tubing is in the way of the scrubber tube, bend the 1/8" tubing to provide the clearance.
6. Replace the thermal insulation. There should be some insulation between the converter cartridge and the scrubber cartridge. There does NOT need to be any insulation between the scrubber cartridge and the can wall.
7. Replace the converter lid.
8. Replace the converter assembly in the analyzer chassis.
9. Cut the 1/4" black TFE tubing from the reaction cell exhaust fitting and attach the cut end to the ozone scrubber inlet, using the 1/4" SS union.
10. Remove the 1/4" black exhaust tubing from the 4th connection in the exhaust manifold at the rear of the chassis.
11. Move the drier tubing (1/4" clear TYGON) from the 3rd connection to the 4th connection in the exhaust manifold.
12. Connect the outlet of the scrubber to the 3rd position in the exhaust manifold.
13. LEAK CHECK THE ANALYZER.
14. The analyzer should now be ready for use.

WE RECOMMEND THAT YOU KEEP THE CHARCOAL OZONE SCRUBBER IN PLACE AT THE PUMP PACK. THIS REMOVES THE LAST TRACES OF OZONE AND SERVES AS A BACKUP.

See drawing #02550.

