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Service Note

05-022
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M200AU VALVE RETROFIT

I. PURPOSE:

This service note describes how to install the Valve option into a standard M200AU analyzer without any options.

II. TOOLS:

#2 Phillips head Screwdriver
#1 Phillips head Screwdriver
Flat head Screwdriver
9/16th wrench

III. PARTS:

042070000 OPTION, INLET MANIFOLD, M200AU

The electronics used in T-API analyzers are sensitive to Electrostatic Discharge (ESD). When working on any T-API device, please ensure that you are properly grounded prior to handling or touching any electronic circuitry in the analyzers! For more information on how to protect sensitive components from ESD during handling, please contact T-API customer service and ask for the ESD Service note number 03-022A.

IV. PROCEDURE:

1. First take a flow meter and connect it to the Sample Inlet on the back of the analyzer and make sure the flow rate is around 950cc +-10%, if it isn't trouble shoot the analyzer for the cause of the bad flow, if it is turn power off to the analyzer and remove the power cord. Using the Phillips head screwdriver, remove the screws holding the cover on the analyzer. Remove the cover.

2. Take the valve manifold/PCA assembly and mount it on the rear panel with two #8 3/8" screws. Remove the ¼" tubing from the inside portion of the Sample Inlet fitting and connect it to the elbow fitting on the Valve Manifold. Take the ¼" piece of tubing coming from the straight ¼" fitting and connect it to the sample inlet fitting. (See Figure 1)

3. Locate the CPU and V/F assembly in the front of the analyzer. Loosen and swing open the black hold down bracket over the CPU assembly. Loosen the flat head captive screw that holds the CPU and V/F board to the mother board. Remove the ribbon cables on the CPU board and the

power cable that connects the backplane to the motherboard. Pull the entire assembly out of the analyzer.

4. Take the #1 Phillips head screwdriver and remove the screw holding the CPU to the V/F board. Remove the CPU from the Backplane. You should now have the CPU board by itself. Take the SN-25 (6-32 1/4) screw and put it through the hold in the middle of the CPU board, with the head of the screw on the backside of the board. Install the HW-78 stand off on the screw. Do not over tighten or it will strip the stand off.

5. Take the 020370000 ISBX PORT board and install it on the CPU board in J19. The nylon stand off should go through the hole in the 020370000 board. Take the SN-8 (#6 nut) and tighten it on the stand off, securing the CPU board to the 020370000 board. Take care not to over tighten the nut or it will strip the stand off. (See Figure 2)

6. Take the 021300000 cable and plug the 4pin connector into J1 of the 02037 ISBX PORT board. Reinstall the CPU board into the backplane and the replace the screw/standoff holding the CPU to the V/F board. Reinstall the CPU V/F assembly back into the motherboard. Tighten the flat head captive screw and replace the black hold down bracket. Run the 021300000 cable back to the Valve driver manifold board and plug it into J5. (See Figure 2)

7. Take the 021290000 cable and plug it into J6 of the Valve Driver manifold board. Run the other end of the cable to J3 of the Main Power Supply. (See Figure 2)

8. Make sure all cables are neatly and safely ran through the analyzer. Make sure all fittings are tight and all cable connecters firmly attached. Replace the cover of the analyzer. Plug the analyzer back in to the power outlet and turn it on.

9. After the analyzer as gone through its boot up hit {CLR} to clear the warning, then hit {SETUP}{MORE}{VARS} Enter 929 for the password {ENTER} now hit the SET> button until you get to FACTORY_OPTIONS. This will be one of the very last VARs. Press {EDIT} add 4 to what ever number is currently there. So if it was 0, change it to 4. Press {ENTER}. Now press exit till you return to the main menu. Power the analyzer off then back on.

10. When the analyzer boots back up clear the system reset warning and it should now say CAL CALZ CALS. If it doesn't go back into the VARS and make sure FACTORY_OPTIONS is set for 4. Otherwise take a flow meter and hook it up to the Sample Inlet on the back of the analyzer and verify that there is still 950cc/min +-10% of flow. Move the flow meter to the Zero and Span ports verifying that there is no flow at either port. Cap the sample inlet and verify the Sample pressure and the Rxcell pressure drop to <10" and are equal to each other.

11. Press CALZ on the front panel and hook up the flow meter to the Zero Port on the back of the analyzer, verifying that there is 950cc/min of flow. Move the flow meter to the Sample Inlet and Span ports to verify that there is no flow at either port. Cap the sample inlet and verify the Sample pressure and the Rxcell pressure drop to <10" and are equal to each other.

12. Press EXIT then CALS and hook up the flow meter to the Span Port on the back of the analyzer, verifying that there is 950cc/min of flow. Move the flow meter to the Sample Inlet and the Zero ports to verify that there is no flow at either port. Cap the sample inlet and verify the Sample pressure and the Rxcell pressure drop to <10" and are equal to each other.

13. If the above tests pass return the analyzer to normal operation.

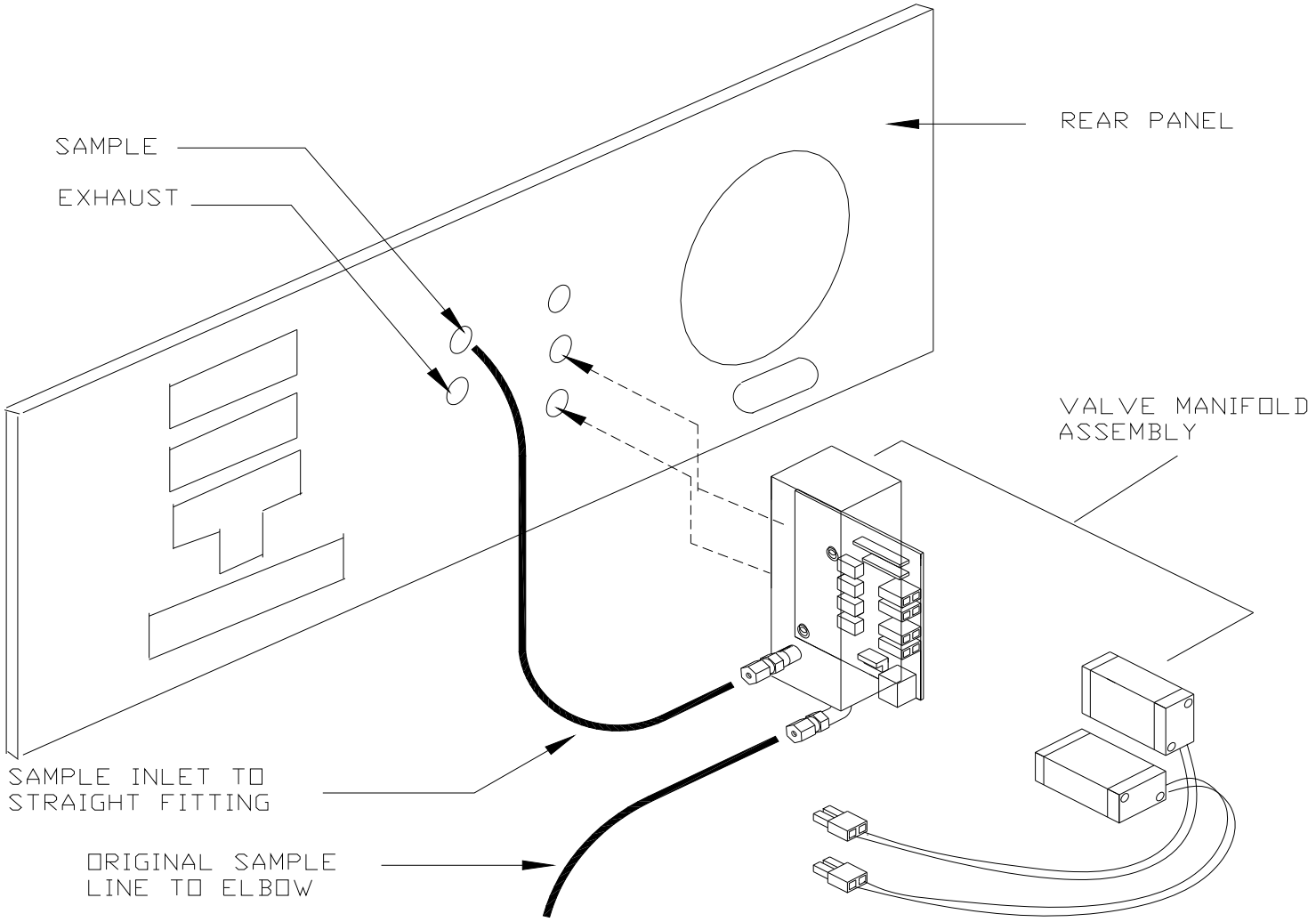

FIGURE 1

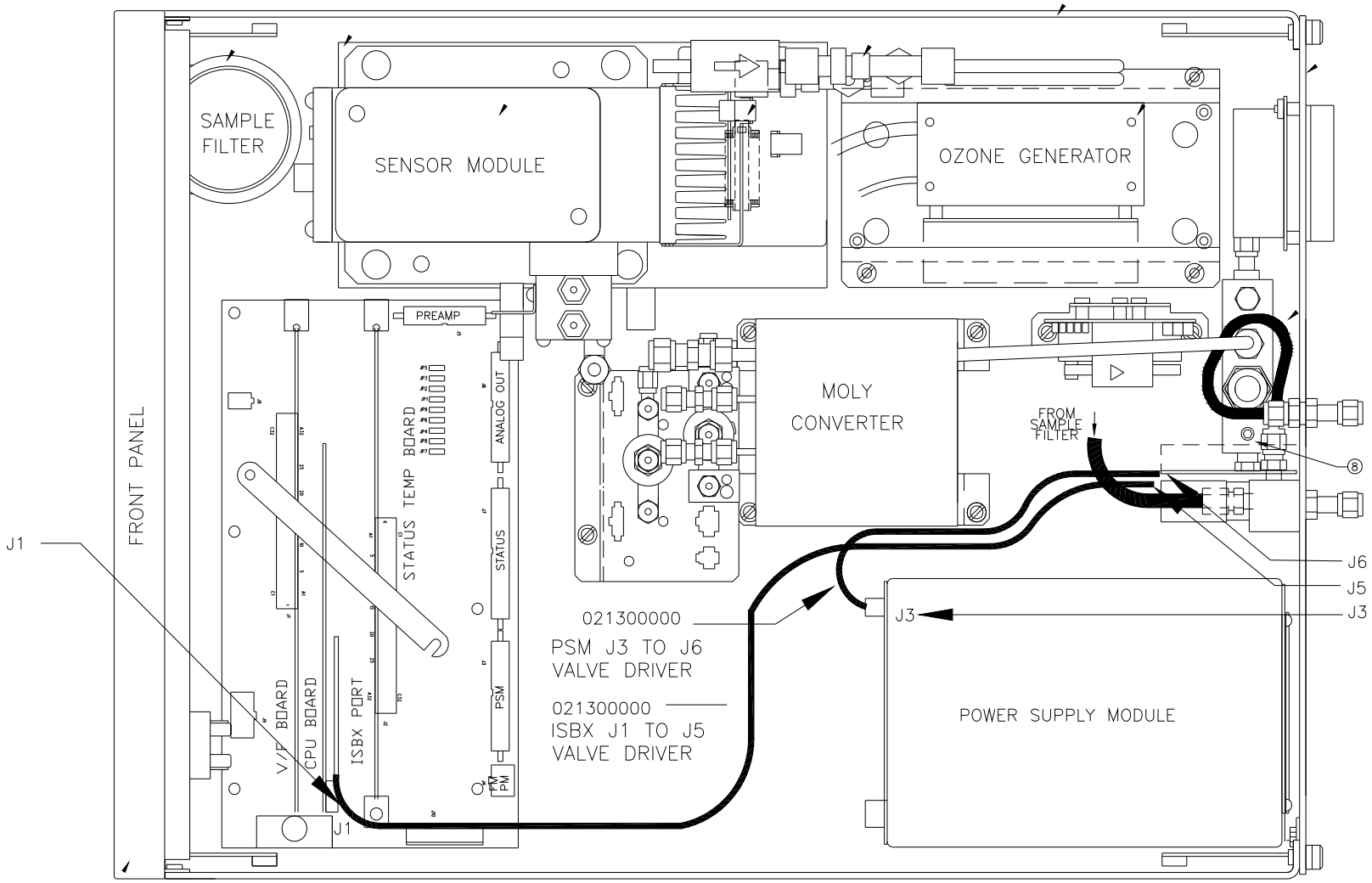

FIGURE 2