



**97-019 Rev B
2 May, 2007**

FIELD INSTALLATION OF THE IZS AND VALVE OPTION IN THE M100A ANALYZER

Scope: Installation procedure for perm tube oven and valves into API Model 100A SO₂ analyzer in the field.

Parts: API part number 014410000, M100A perm tube oven with valves

Tools:

1. Flat blade Screwdriver
2. Exacto Knife
3. Diagonal Cutters

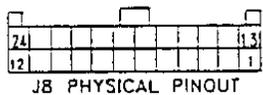
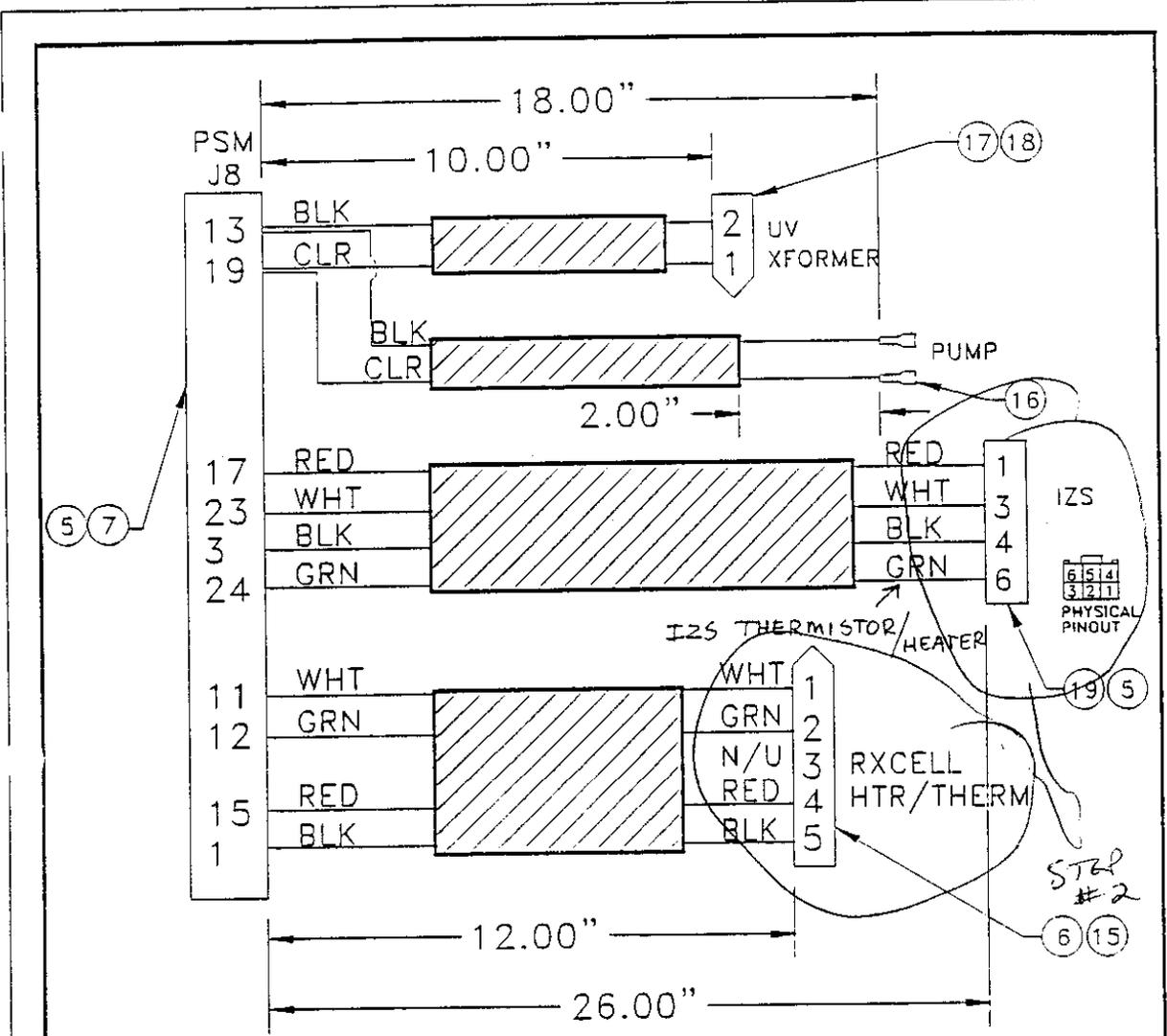
Procedure:

1. Drop the rear panel by loosening the 2 screws and lowering the panel.
2. Locate the two connectors near the rear panel, (see attached drawing # 1323 and 1441 to identify these). One is a 4 pin and one is a 6 pin. They have shrink tubing on them. Cut away the shrink tubing.
NOTE: IF ONE OF THE CONNECTORS IS A 5 PIN, IN-LINE CONNECTOR, THAN YOU HAVE THE OLD STYLE CHASSIS. CONTACT API SERVICE FOR ASSISTANCE.
3. Drop the oven/valve assembly into the chassis.
4. Connect the 4 and 6 pin plugs into the connectors on the valve bracket.
5. Tighten 2 captive screws to fasten the oven/valve assy in the chassis.
6. Remove all fittings from the vacuum manifold (located on the floor of the chassis just in front of the rear panel), making note of where each tube connects on the manifold.
7. Remove 2 screws holding the vacuum manifold into the chassis and pull the manifold from the chassis.
8. Remove the plastic plugs from the main manifold.
9. Install the Orings, orifice, filter, spring and 1/8" male pneumatic connector into the manifold, (refer to drawing # 1441, page 6 of this procedure).
10. Install the 1/4" male and 1/4" elbow fittings into the manifold, (refer to drawing #1441, page 6 of this procedure).
11. Disconnect the fitting from the pump "inlet" connector and connect it to the elbow fitting on the vacuum manifold, (the one you installed in step 10, see drawing # 1100, page 5 of this procedure).
12. Leak check vacuum manifold after installing parts.

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13. Replace the vacuum manifold into the chassis by installing the 2 screws, re-attach the pneumatic fittings you removed in step 6.
14. Take the tygon tubing with the 1/4" brass nuts attached, (supplied with the kit as T1) and connect it between the main manifold and the "inlet" connector on the pump, (see drawing # 1100, page 5 of this procedure, step 13).
15. Mount the charcoal scrubber holder to the side of the analyzer, (see drawing # 1100, page 5 of this procedure, step 14), using screws supplied with the kit.
16. Install the charcoal scrubber into the bracket. The DFU filter side goes on the bottom.
17. Connect the output from the charcoal scrubber to the Teflon "tee" connector on the top of the perm tube oven (see drawing #1100, page 5 of this procedure, step 16). Use tube "T3" from the kit.
18. Connect the 1/8" Teflon tubing between the perm tube oven Teflon connector and the main manifold 1/8" brass connector, (see drawing #1100, page 5 of the procedure, step 17). Use tube "T2" from the kit.
19. Connect the sample filter to the "C" port of the "Z" valve, (see drawing #1441, sheet 3 of this procedure, step 18).
20. Connect the sample air inlet to the NO port of the "Z" valve, (see drawing #1100 and 1441, step 19).
21. Connect the valves "Z" and "S" to the perm tube oven as shown on drawing # 1441, page 3 of this procedure, step 20. Use the 1/8" Teflon tubing with the Teflon fittings, (tubings T4, T5 from the kit, as well as the tube which was connecting "S" valve port "C" to "Z" valve port "NC").
22. Leak check the unit.
23. Turn power on.
24. Press SETUP-MORE-VARS and enter 929 for the password.
25. Press JUMP and enter 23. Press ENTR. This should present you with the "ZS MODE" variable. If not, try pressing NEXT or PREV. If you are unable to locate this variable, record the software number (upper left corner of the display) and contact API customer service.
26. Press EDIT and enter the number 2. Press ENTR.
27. Locate JP2 (if installed on that version of the card) on the status temp card (01086) & remove the jumper on JP2.
27. Press EXIT to return to the main menu and cycle power on the analyzer.
28. Allow analyzer to warm up for 1 hour and proceed with the factory calibration procedure in the manual.

If you require any further assistance, please contact API customer service at 1-800-324-5190.



NOTE: STRIP GREY INSULATION ON ALL CABLES 1.25" AND DRESS WITH .75" OF HEAT SHRINK

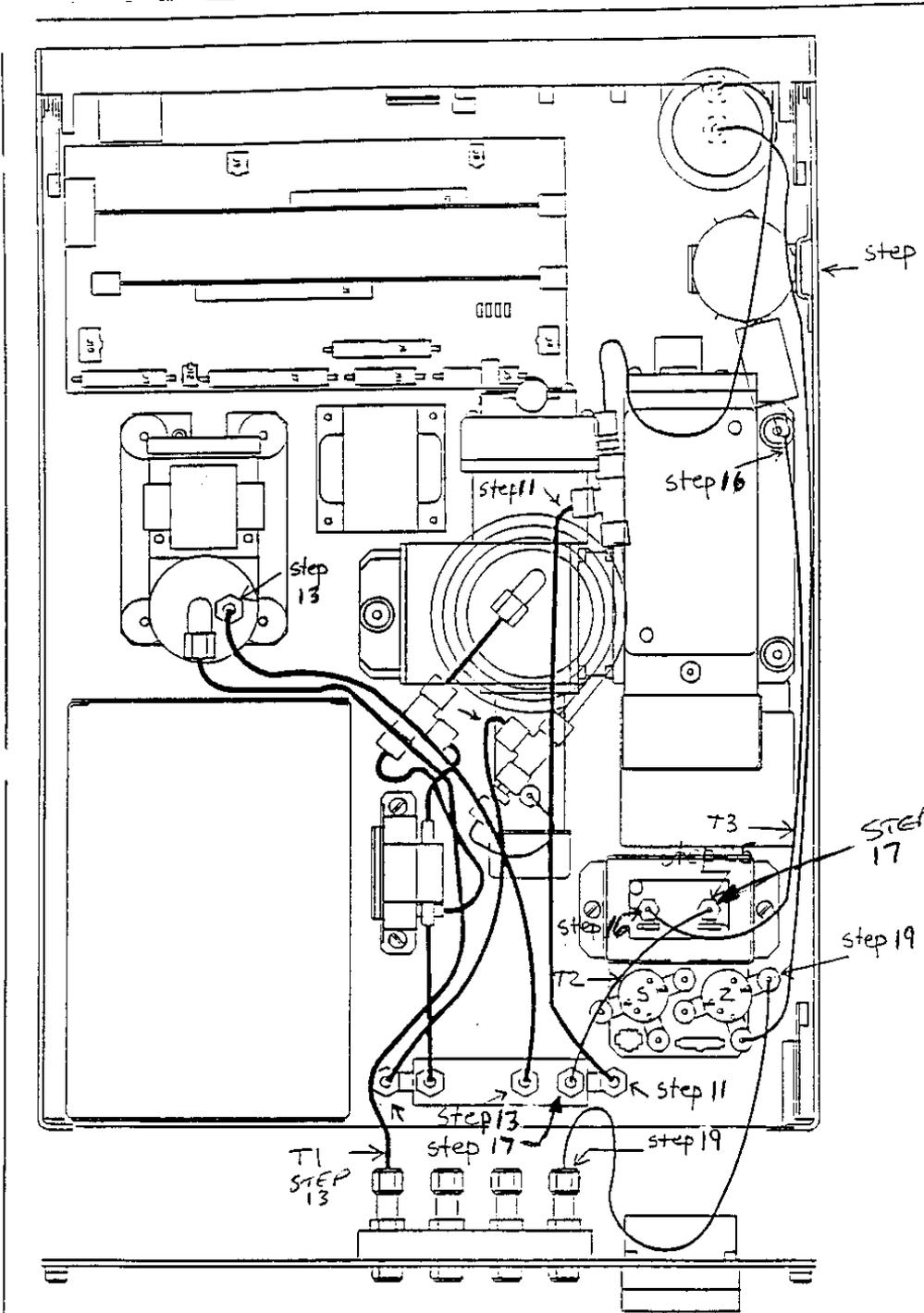
2/9/95	B: PIN 17 WAS 15	KL
11/7/94	A: INITIAL RELEASE	KL
DATE	DESCRIPTION OF CHANGE	BY

TOLERANCES
 X± XXX±
 XX±

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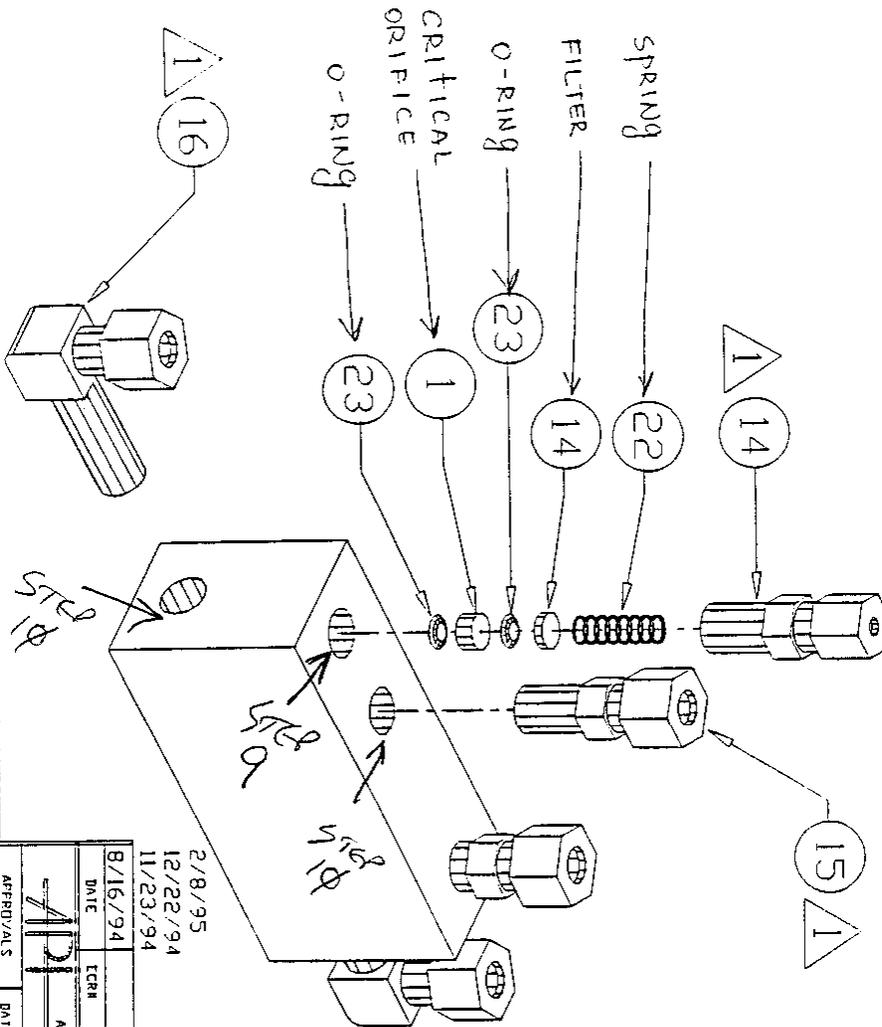
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APPROVALS	DATE	CBL, PWR DISTRIBUTION M100A	SIZE	DRAWING NO.	REVISION
DRAWN REYNA RUIZ	8/12/94		A	01323	B
CHECKED		DO NOT SCALE DRAWING	SCALE		SHEET 1 OF 1



ADVANCED POLLUTION INSTRUMENTATION INC. SAN DIEGO, CA.			
APPROVALS		DATE	M100A PNUMATIC DIAGRAM
DRAWN			W/ IZS
CHECKED			
APPROVED			SIZE DRAWING NO. REVISION
11/18/94	3- CHANGED KICKER PLUMBING	KL	3 01100 B
9/29/94	AN INITIAL RELEASE	KL	SCALE SHEET 2 OF 3
DATE	DESCRIPTION OF CHANGE	BY	

▲ USE TEFLOM TAPE ON THREADS
 ▲ LEAK CHECK ASSY WHEN DONE



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2/8/95	D: SEE SH 1	KL
12/22/94	C: ADDED LEAK CHECK NOTE	KL
11/23/94	B: EDITS TO SHEET 2	BB
8/16/94	INITIAL RELEASE	KL
DATE	TECH	BY
ADVANCED POLLUTION INSTRUMENTATION, INC. SAN DIEGO, CA		
APPROVALS	DATE	
BRW/JH	8/94	
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DO NOT SCALE DRAWING	SIZE DRAWING ID	REVISION
	A 01441	D
	SCALE	SHEET 3 OF 3