



TELEDYNE INSTRUMENTS

Advanced Pollution Instrumentation

A Teledyne Technologies Company
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SERVICE NOTE

97-041 REV B
2 May, 2007

CHANGING THE PMT IN M100A

- I. **Scope:** To guide you through changing the PMT tube
- II. **Tools Required:**
 - A. #2 Phillips Head Screwdriver
 - B. 1/8" and 1/4" wrenches
- III. **Parts:**
 - A. New PMT tube (P/N 01340)
 - B. Desiccant baggies (P/N DR-02)
- IV. **Procedure:**
 - A. Turn the instrument off and unplug the unit from power.
 - B. Remove the cover from the unit and set aside.
 - C. Unplug the following electrical connections:
 - Cooler power
 - UV Detector ribbon cable
 - Grounding strap from UV detector cover to chassis
 - Rcell heater and thermistor connector
 - UV lamp
 - Shutter power
 - PMT Preamp cable (ribbon cable) at motherboard (J5)
 - D. Disconnect the 1/4" line and the 1/8" line from the top of the Rcell.
 - E. Remove the three #8 screws that hold the sensor assy into the chassis and lift the sensor assy out of the chassis.
 - F. Remove the four #6 screws that hold the cooler drive board onto the heatsink assy for the cooler.
 - G. Remove the four screws that hold the heatsink assy to the PMT housing and the two screws that hold the cold block to the heatsink assy.
 - H. Remove the four #6 screws that hold the black cover onto the PMT side of the PMT housing.
 - I. With the black cover off remove the PMT housing. Remove the desiccant baggies from the PMT housing.
 - J. With a long screwdriver push the PMT cold block out of the PMT housing from the cooler end to the black cover end.

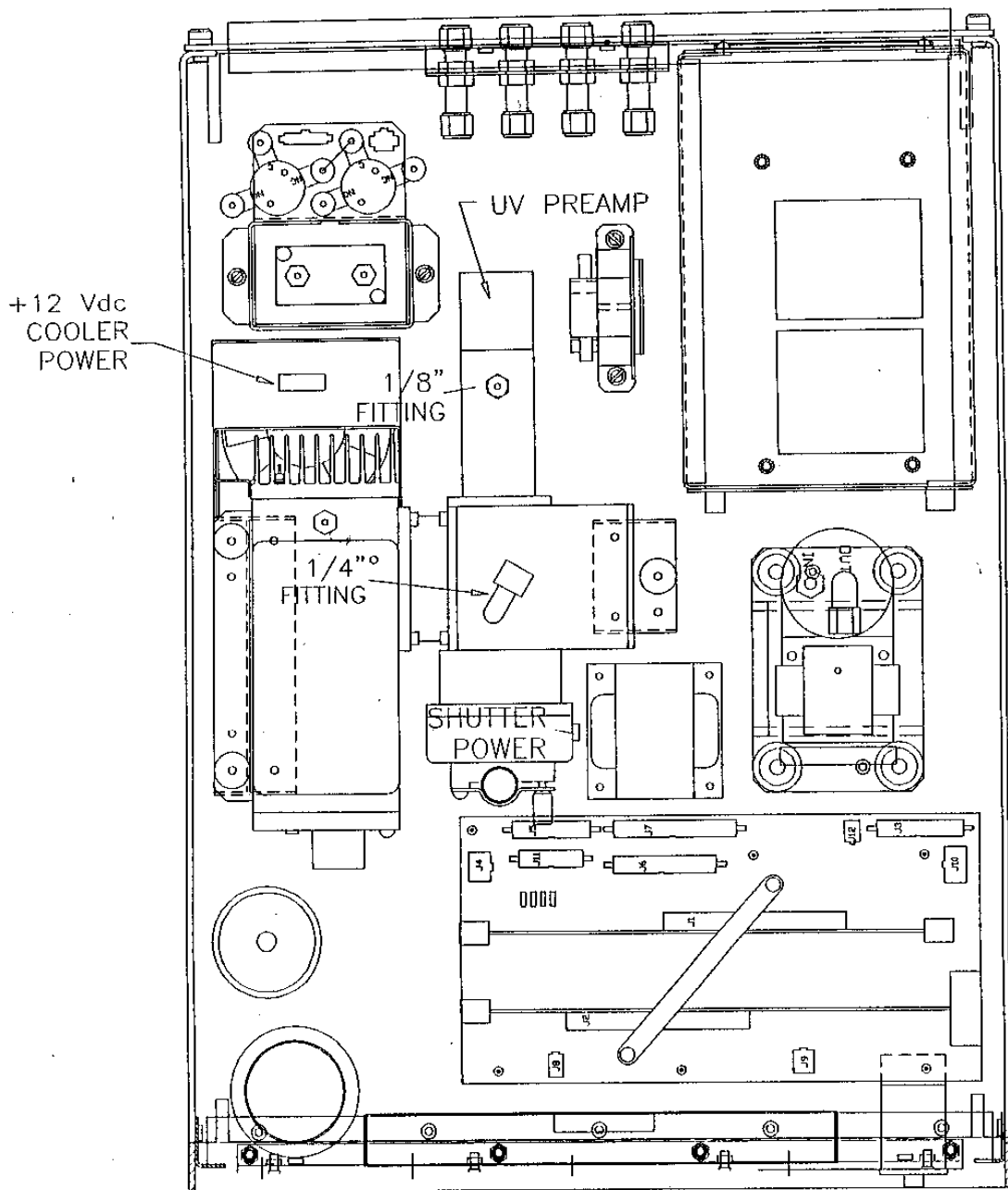
**NOTICE THE DIRECTION OF THE PMT
SO THAT WHEN YOU PUT THE PMT BACK INTO THE
HOUSING THE PMT IS FACING THE RCELL.**

- K. When you get the PMT cold block out of the PMT housing remove the two nylon screws that hold the PMT and HVPS into the cold block.
- L. Pull the HVPS and PMT out of the cold block and replace the PMT with the new one.
- M. Put the PMT and HVPS back into the cold block and ensure that the PMT is pointing in the direction of the Rcell.
- N. Reinstall the cold block back into the Rcell in the reverse order of the removal ensuring that the PMT is facing the Rcell. Before you install the black cover onto the PMT housing, place the new desiccant baggies into the PMT housing and ensure that the o-ring is in the groove of the black cover.
- O. Reinstall the sensor assy into the unit in the reverse order of the removal and reconnect all of the electrical connectors (make sure that you don't forget the ribbon connector on the bottom of the UV detector).
- P. Flow check and leak check the instrument and ensure that all of the temps and pressures are correct before beginning to calibrate the instrument. If the unit is not leak checked, you will be calling API because it will not be working correctly.
- Q. If you run into any problems when performing this contact me here at the factory for assistance.
- R. Phone: (619) 657-9800 (in the USA 1-800-324-9816)
Fax: (619) 657-9816

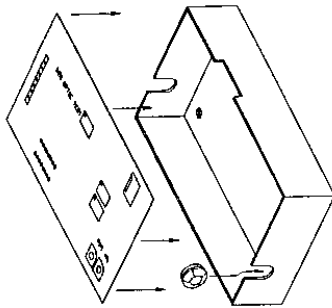
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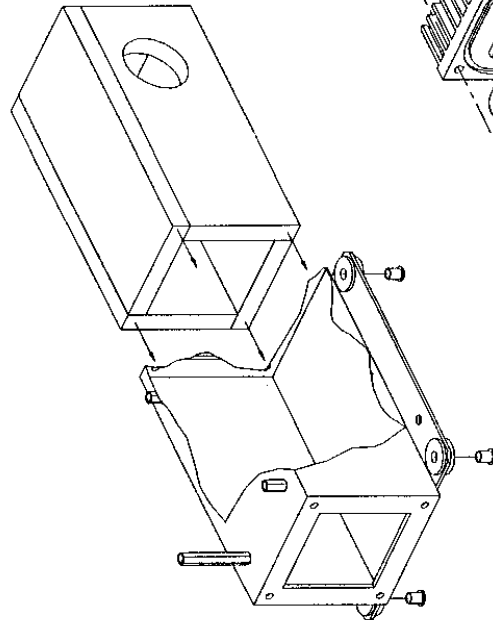
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HEATSINK ASSY FOR TEC.



COLD BLOCK

PMT HOUSING

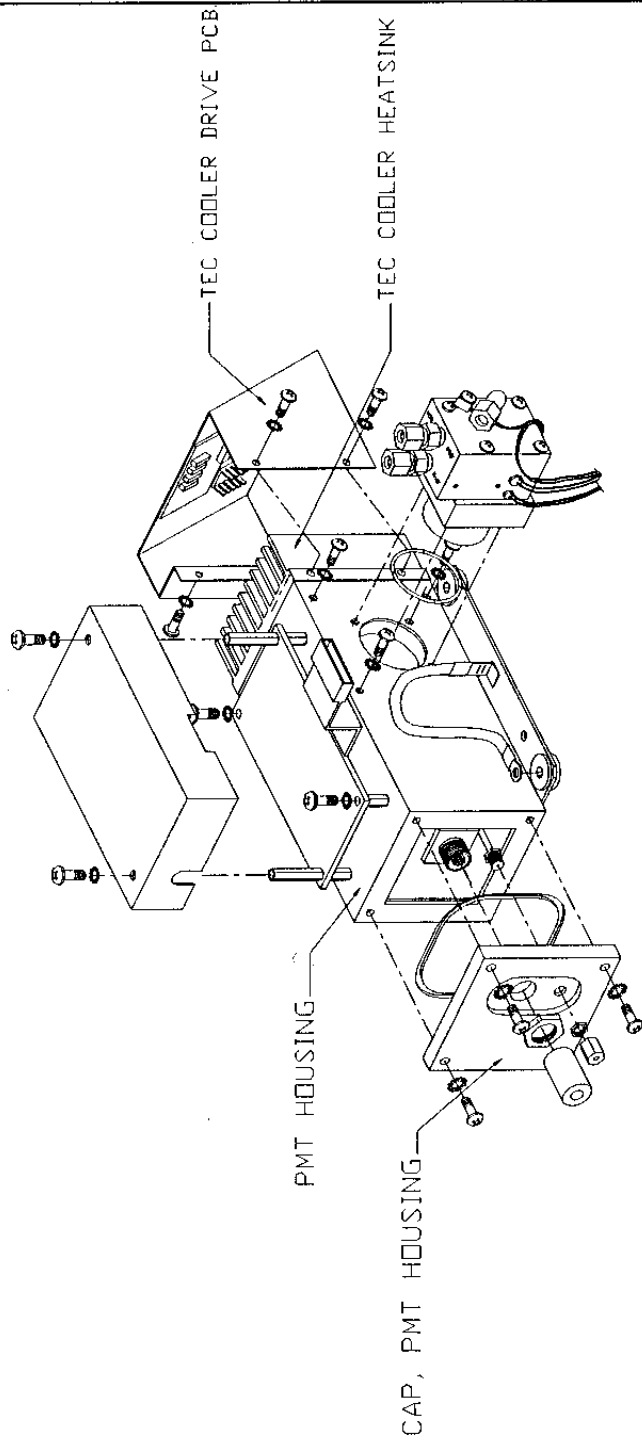
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8/27/97	E: CHG COVER HOLES	SSM
7/19/95	D: ADDED NOTE 2	RH
6/09/95	C: ADDED INSIDE DETAILS	KL
5/03/95	B: ADDED INSIDE RUBBER, REVISED CELL, REDRAWN ISOMETRIC	KL
9/14/94	A: INITIAL RELEASE	KL
DATE	ECR#	BY
API ADVANCED POLLUTION INSTRUMENTATION INC. SAN DIEGO, CA.		
APPROVALS	DATE	
DRAWN J. HALL	9/94	
CHECKED		
APPROVED		
DO NOT SCALE DRAWING		SCALE 1/2
ASSY, NOx SENSOR, M200A		REVISION E
STG DRAWING NO. 01134		SHEET 1 of 2

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8/27/97		E: ADDED I/N 11 & NOTE 3		SSM		-API		ADVANCED POLLUTION INSTRUMENTATION INC.		SAN DIEGO, CA.	
7/19/95		D: ADDED NOTES 1 AND 2		RH		APPROVALS		DATE		ASSY, NOx SENSOR, M200A	
6/09/95		C: ADDED O-RINGS		KL		DRAWN J. HALL		9/94		SIZE DRAWING NO. 01134	
5/03/95		B: ADDED INSIDE RUBBER, REVISED CELL, REDRAWN ISOMETRIC		KL		CHECKED				REVISION E	
9/14/94		A: INITIAL RELEASE		KL		APPROVED				SCALE 1/2	
DATE		DESCRIPTION OF CHANGE		BY		DO NOT SCALE DRAWING		SCALE 1/2		SHEET 2 OF 2	

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