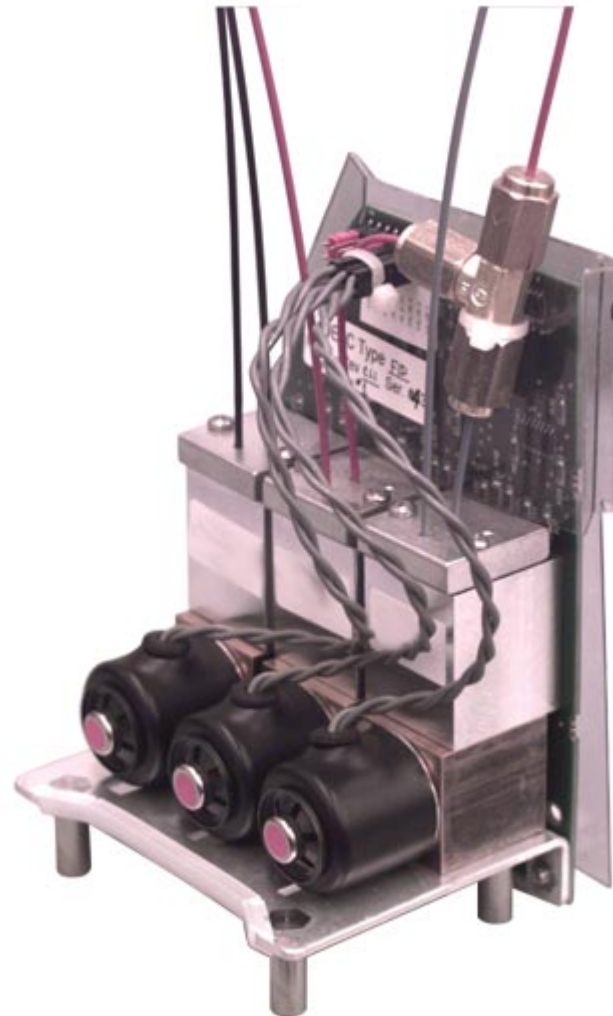
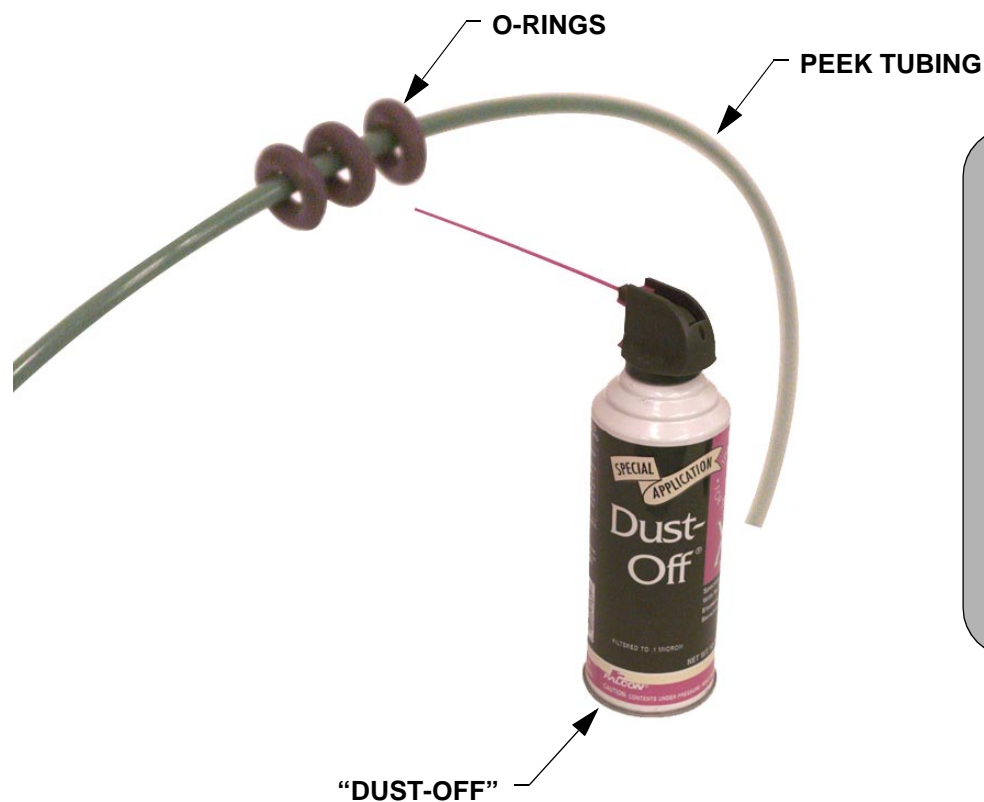


ASSY, DETECTOR EFC



O-RING INSPECTION



NOTES: (UNLESS OTHERWISE SPECIFIED)

1. DO NOT TOUCH BAKED O-RINGS AT ANY TIME.
2. REMOVE BOTH TYPES OF BAKED O-RINGS FROM STORAGE JAR WITH TWEEZERS.
3. INSPECT BOTH SIDES OF THE BAKED O-RING FOR CRACKS UNDER UNDER A MICROSCOPE.
4. CLEAN BAKED O-RINGS BY INSERTING A PIECE OF PEEK TUBING THRU CENTER OF O-RING AND SPRAY THOROUGHLY WITH "DUST-OFF" (AS SHOWN).
5. ONLY CLEAN WHAT WILL BE IMMEDIATELY USED.
6. WHENEVER O-RINGS ARE USED, USE "DUST-OFF" TO CLEAN PART SURFACE BEFORE AND AFTER ADDING O-RINGS.

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. INSTALL FRITT INTO BLOCK WITH ARBOR PRESS TOOL. PRESS UNTIL FRITT IS FULLY SEATED AGAINST BLOCK FACE.

2. FRITT TABLE 1

DASH NO.	NAME	FRITT P/N (03-9256XX-01)/LABEL		
		CHANNEL		
		1	2	3
01	FID	79/100	79/100	81/1000
02	TSD	79/100	78/25	81/1000
03	ECD	80/250	-----	-----
04	TCD	79/100	80/250	-----
05	PFPD	79/100	79/100	79/100
06	TCD (H2)	79/100	79/100	-----

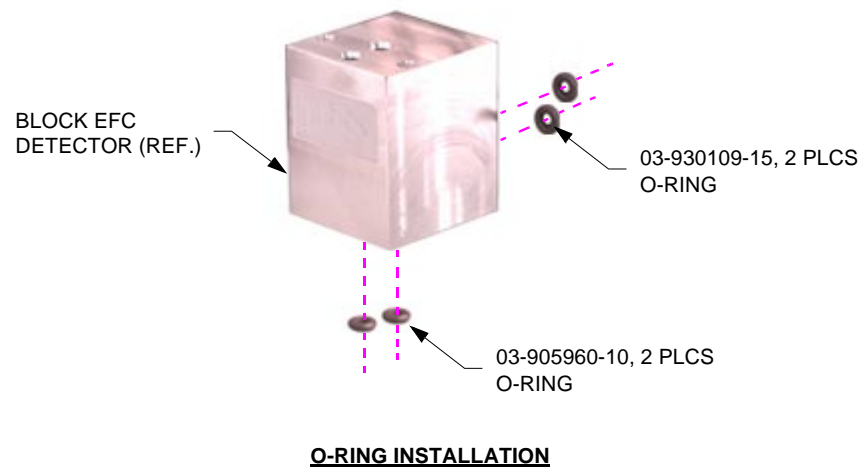
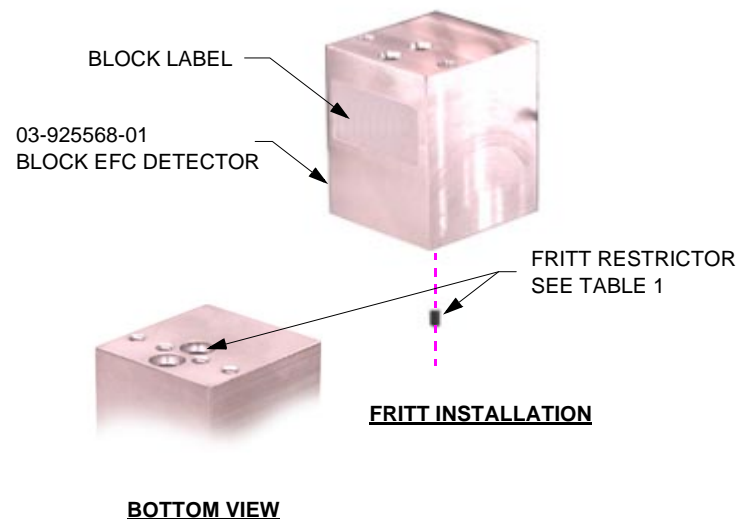
3. FRITT HANDLING

- CLEAN 1 PACKAGE (25 EA.) AT A TIME
- KEEP IN CLEAN GLASS VIAL
- HANDLE ONLY WITH TWEEZERS

4. LABEL BLOCK

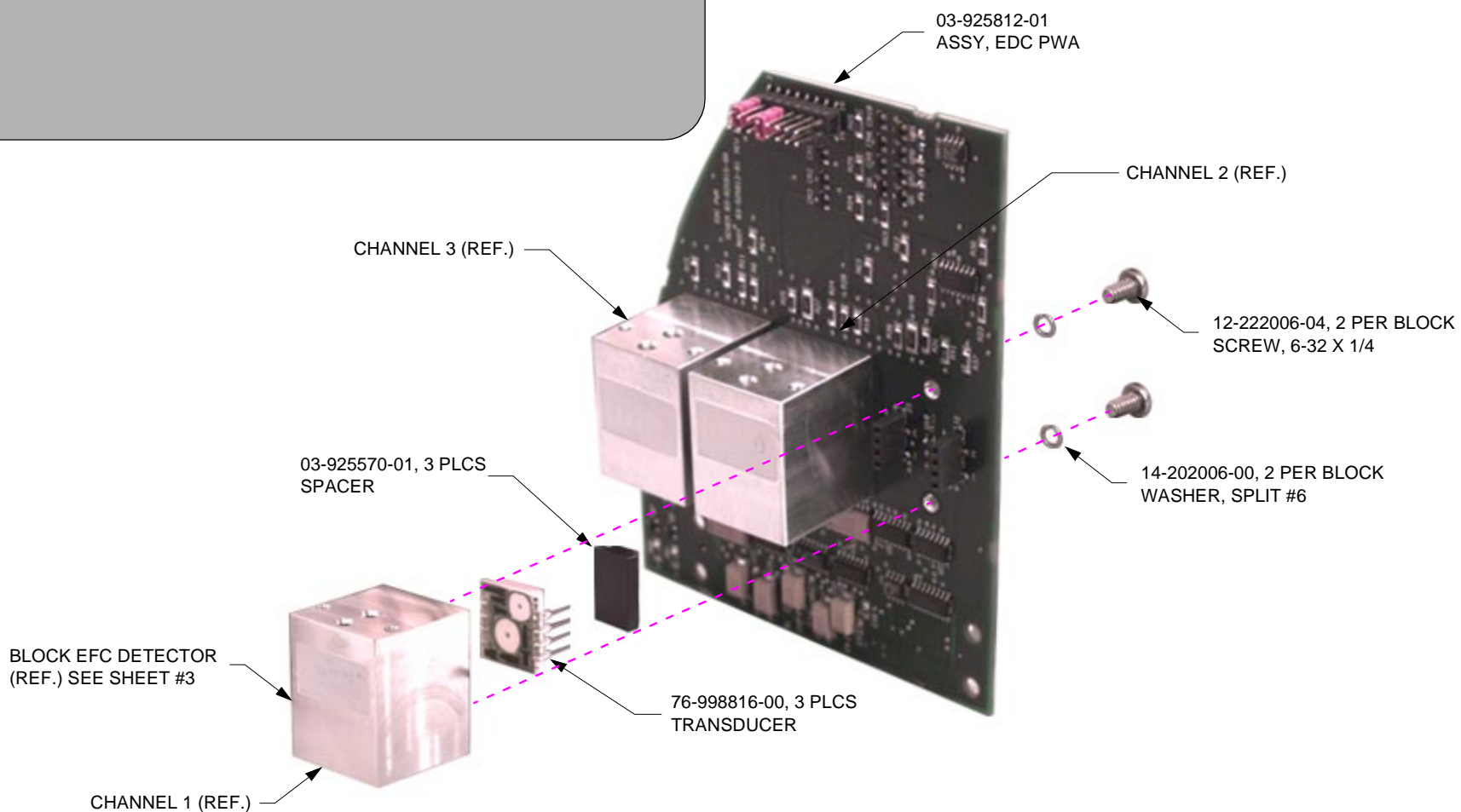
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. SEE O-RING PRE-ASSEMBLY INSPECTION PROCEDURE OR CLICK ON IMAGE.
2. AFTER CLEANING O-RING & MATING SURFACE, SET O-RINGS IN PLACE WITH TWEEZERS. (DO NOT TOUCH O-RINGS).
3. FIRMLY SEAT O-RINGS IN BLOCK.
4. INSPECT SEATING OF O-RINGS, IF NECESSARY PRESS TO SEAT USING TWEEZERS.
5. AFTER O-RING PLACEMENT, "DUST OFF" AGAIN.



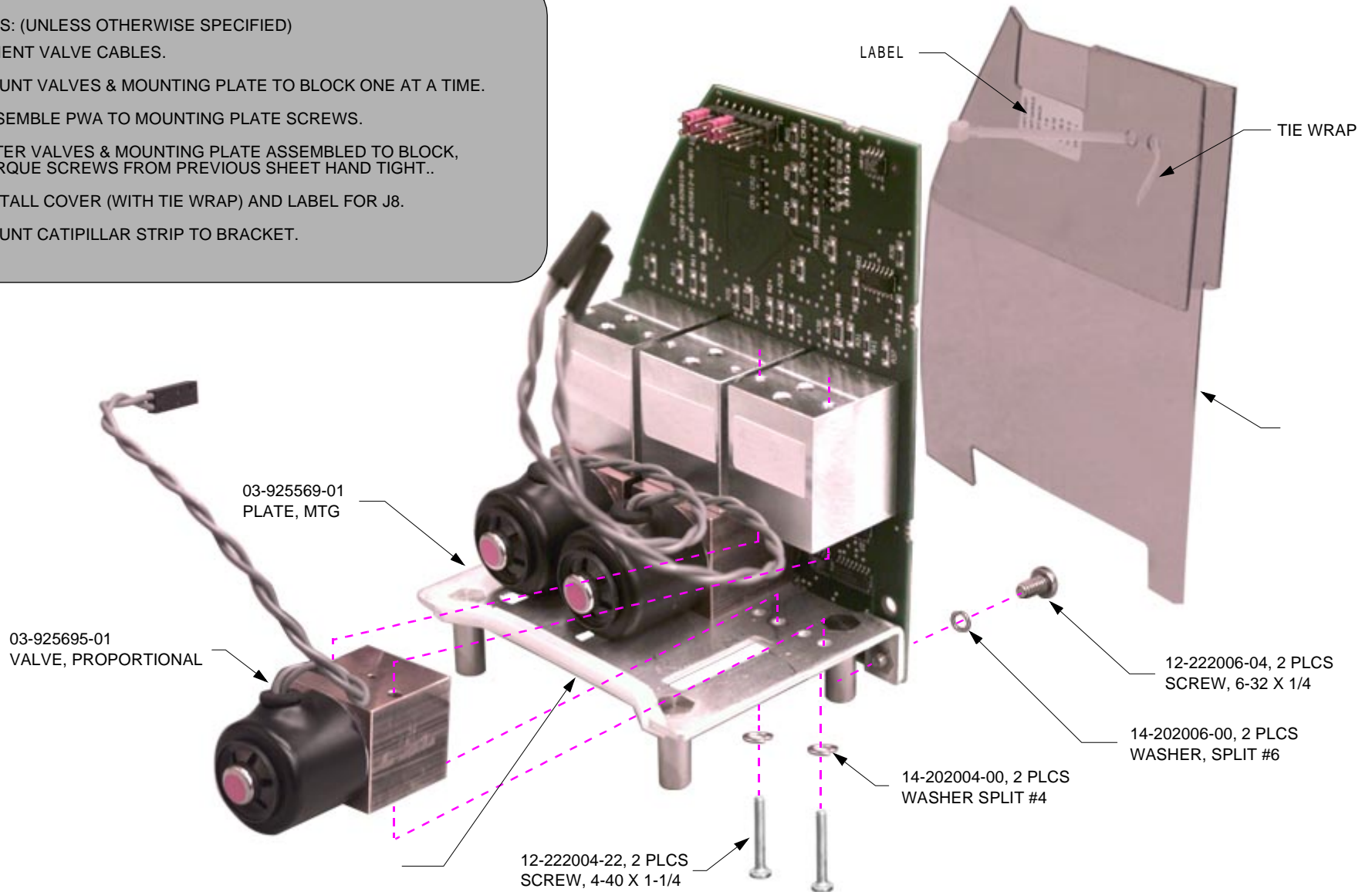
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ASSEMBLE PART AS SHOWN. START SCREWS (3 TURNS) BUT DO NOT TORQUE COMPLETELY.
2. REPEAT FOR EACH CHANNEL WITH BLOCK PER TABLE 1.
3. FOR CHANNELS WITH OUT BLOCK, INSTALL RESISTOR (P/N 31-408353-00 NOT SHOWN) INTO J6 AND/OR J4 AS REQUIRED.



NOTES: (UNLESS OTHERWISE SPECIFIED)

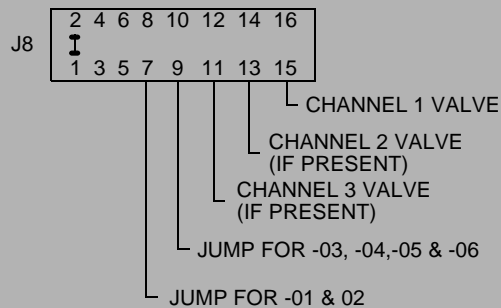
1. ORIENT VALVE CABLES.
2. MOUNT VALVES & MOUNTING PLATE TO BLOCK ONE AT A TIME.
3. ASSEMBLE PWA TO MOUNTING PLATE SCREWS.
4. AFTER VALVES & MOUNTING PLATE ASSEMBLED TO BLOCK, TORQUE SCREWS FROM PREVIOUS SHEET HAND TIGHT..
5. INSTALL COVER (WITH TIE WRAP) AND LABEL FOR J8.
6. MOUNT CATIPILLAR STRIP TO BRACKET.



NOTES: (UNLESS OTHERWISE SPECIFIED)

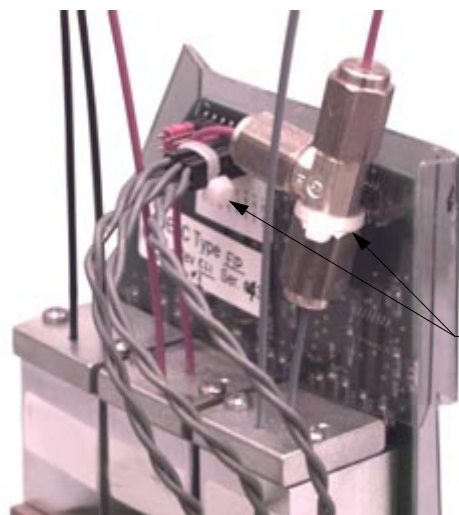
1. ASSEMBLE TUBING/MANIFOLD/FERRULE AND SCREWS TO BLOCK. (SEE TUBING TABLES) HAND TIGHT.

2. CONNECT PIN OUT AS REQUIRED.

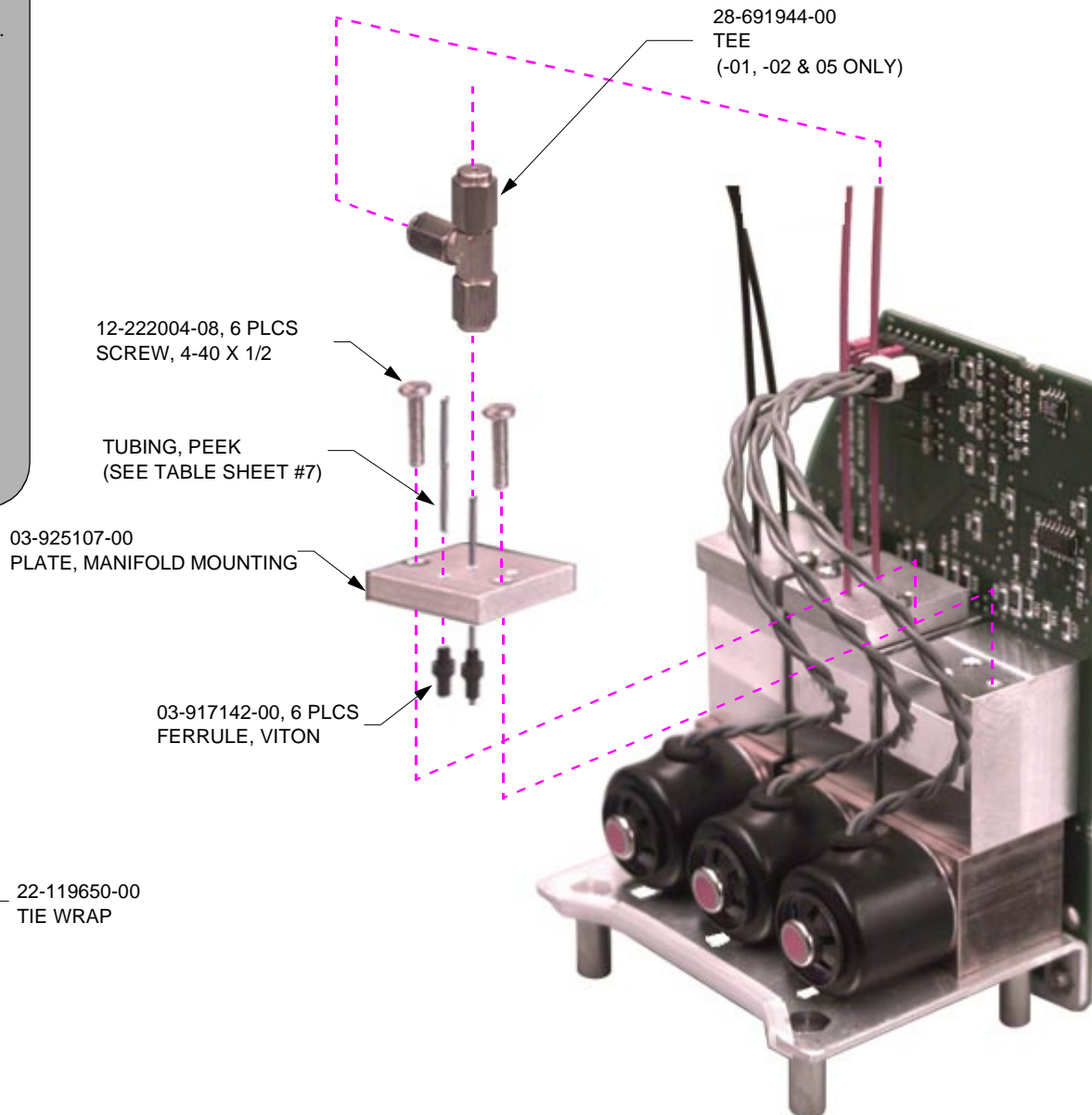


3. TIE WRAP VALVE CONNECTORS TOGETHER. SEE DETAIL A.

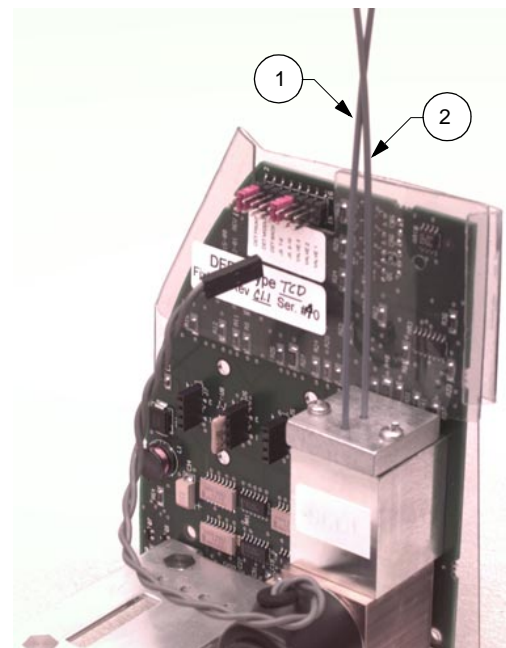
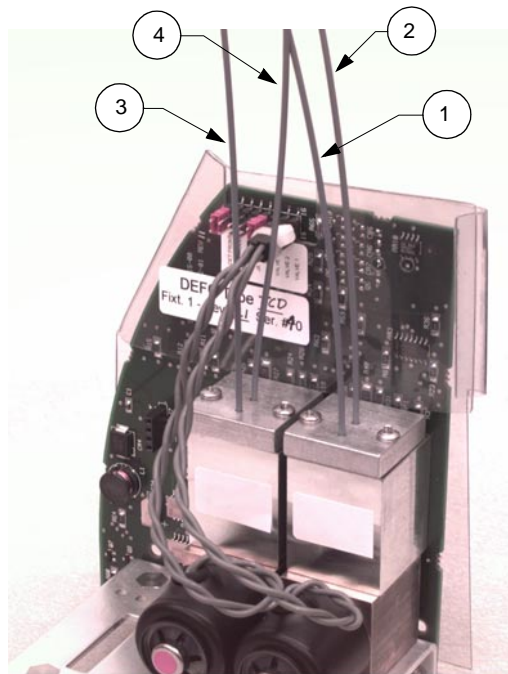
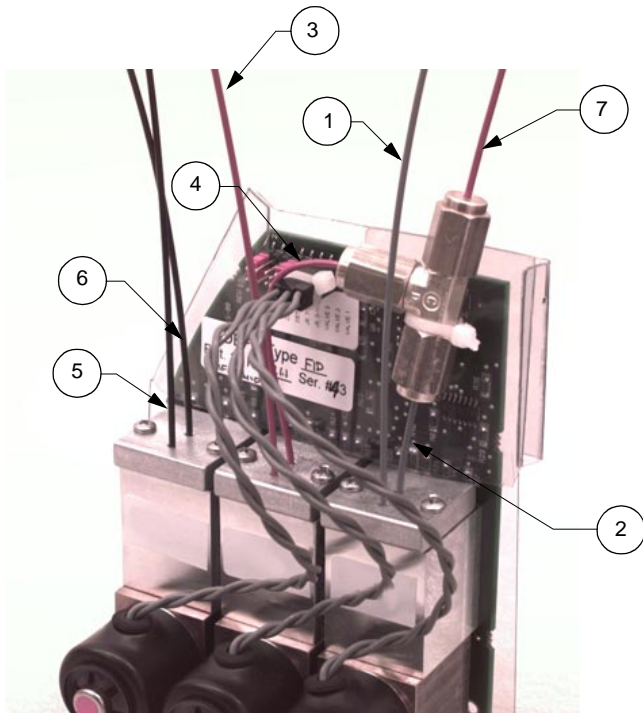
4. TIE WRAP TEE TO COVER IF PRESENT.



DETAIL A.



TUBING TABLES



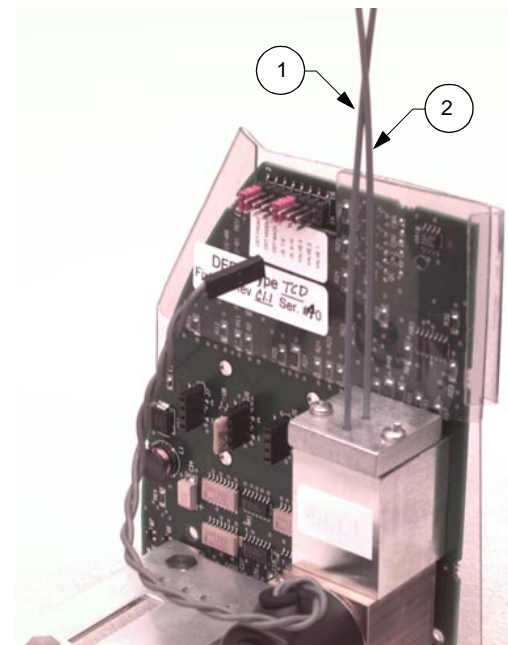
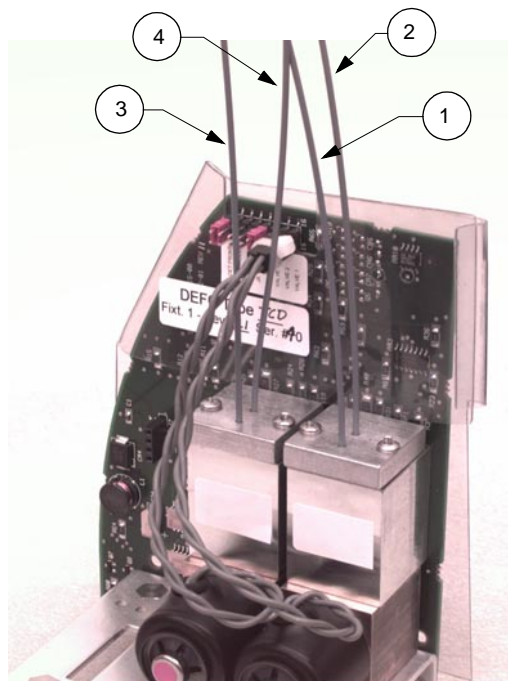
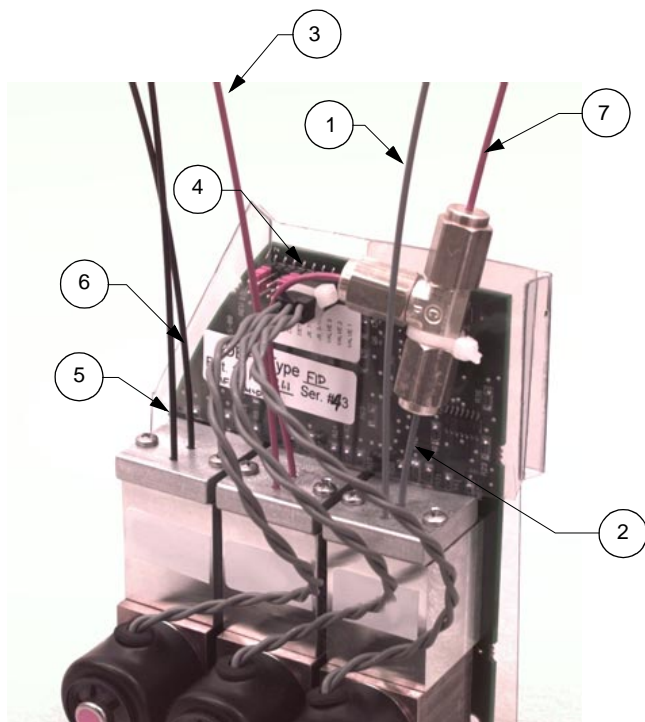
NOTE: ITEM 1, 3 & 5 ARE INLET TO BLOCKS

TABLE FOR -01, -02 & -05			
ITM	TUBE P/N -01 (FID)	TUBE P/N -02 (TSD)	TUBE P/N -05 (PFPD)
1	03-925838-16 (BLUE)	03-925838-16 (BLUE)	03-925840-16 (BLACK)
2	03-925838-02 (BLUE)	03-925838-02 (BLUE)	03-925840-02 (BLACK)
3	03-925839-16 (RED)	03-925839-16 (RED)	03-925839-16 (RED)
4	03-925839-04 (RED)	03-925839-04 (RED)	03-925839-04 (RED)
5	03-925840-16 (BLACK)	03-925840-16 (BLACK)	03-925840-16 (BLACK)
6	03-925840-26 (BLACK)	03-925840-26 (BLACK)	03-925840-23 (BLACK)
7	03-925839-26 (RED)	03-925839-26 (RED)	03-925841-12 (NATURAL)

TABLE FOR -04 & -06		
ITM	TUBE P/N -04 (TCD)	TUBE P/N -06 (TCD/H2)
1	03-925838-16 (BLUE)	03-925839-16 (RED)
2	03-925838-26 (BLUE)	03-925839-26 (RED)
3	03-925838-16 (BLUE)	03-925839-16 (RED)
4	03-925838-26 (BLUE)	03-925839-26 (RED)

TABLE FOR -03	
ITM	TUBE P/N (ECD)
1	03-925838-16 (BLUE)
2	03-925838-26 (BLUE)

TEST AND CALIBRATION PROCEDURE DETECTOR EFC



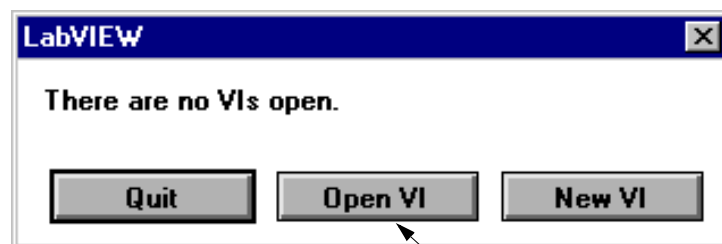
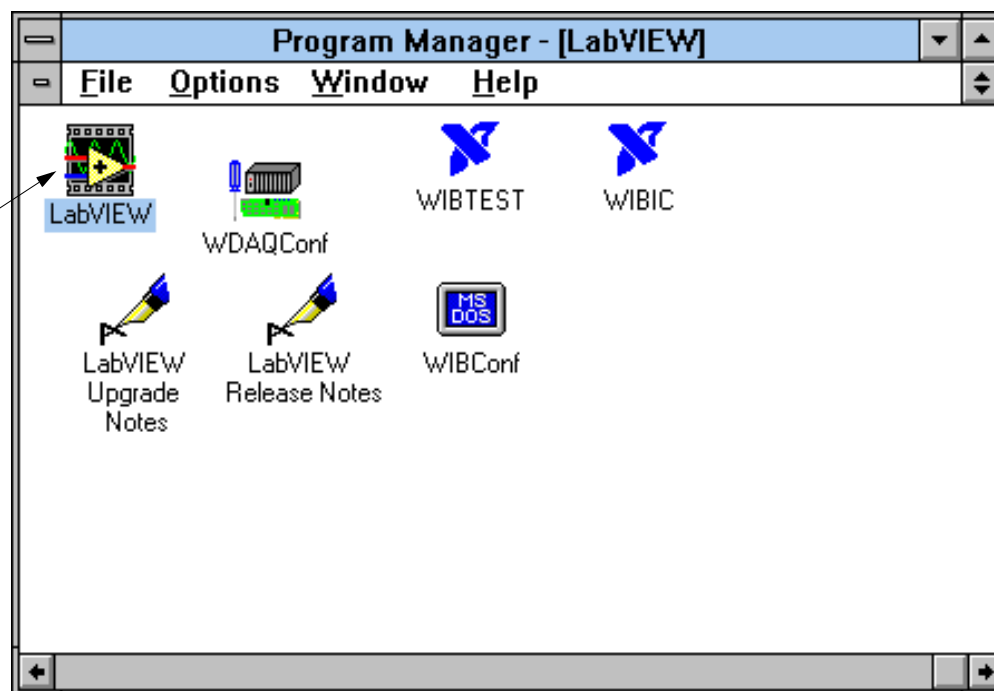
NOTES: (UNLESS OTHERWISE SPECIFIED)

1. CONNECT FLAT CABLE.
2. CONNECT DEFC CARRIER INLET(S) TO TEST BENCH CARRIER INLET (MANIFOLD WITH CROSS "T" IF REQUIRED)
3. CONNECT DEFC CARRIER OUTLET(S) TO TEST BENCH CARRIER OUTLET (MANIFOLD WITH CROSS OR "T", IF REQUIRED).
4. PLUG PRESSURE SENSOR ON TEST STAND.
5. JUMP SPLIT VALVE TO VENT ON TEST STAND.

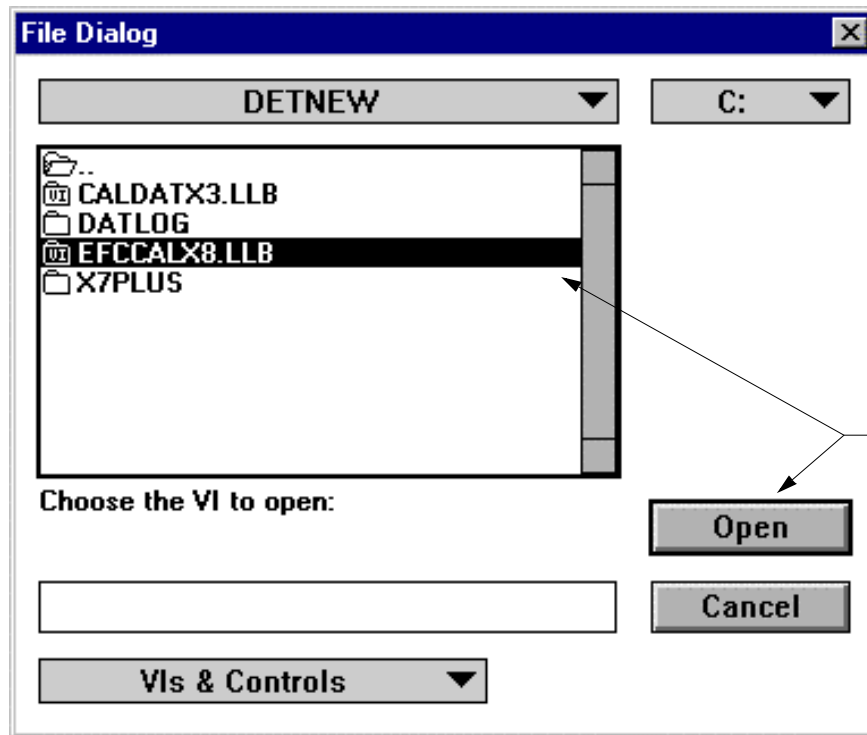
ITM	DEFC P/N (03-925609-XX)	CARRIER IN	CARRIER OUT
1	-01, -02 & -05 (FID, TSD, PFPD)	1, 3 & 5	4, 6 & 7
2	-04 & -06 (TCD, TCD _(H2))	1 & 3	2 & 4
3	-03 (ECD)	1	2

LABVIEW TEST AND CALIBRATION PROGRAM DETECTOR EFC

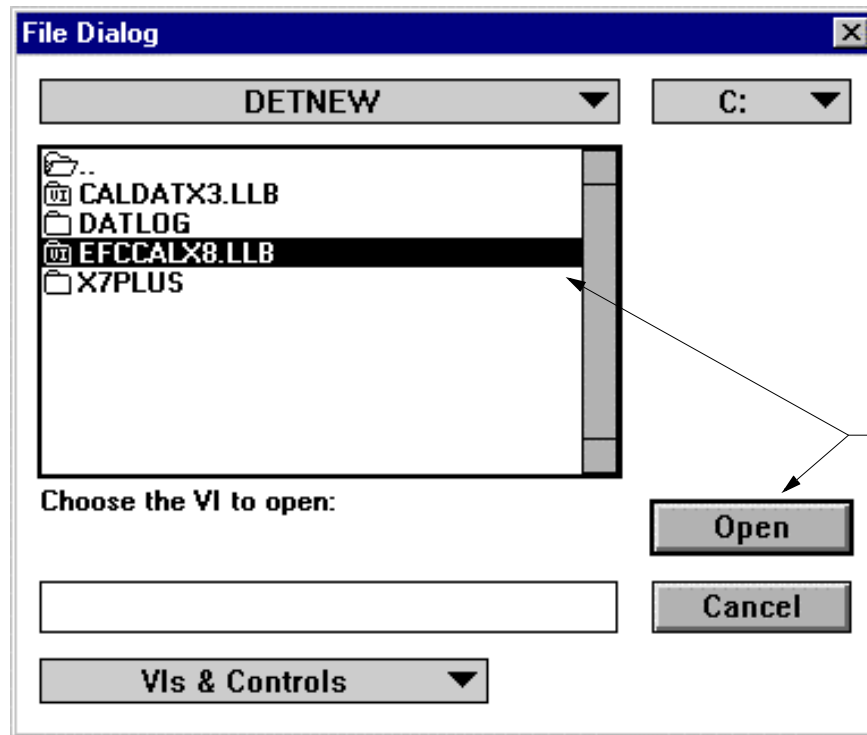
1. IN THE PROGRAM MANAGER LAB VIEW WINDOW, DOUBLE CLICK ON LAB VIEW ICON. A WINDOW WITH HEADING " UNTITLED 1" WILL APPEAR, CLOSE IT.



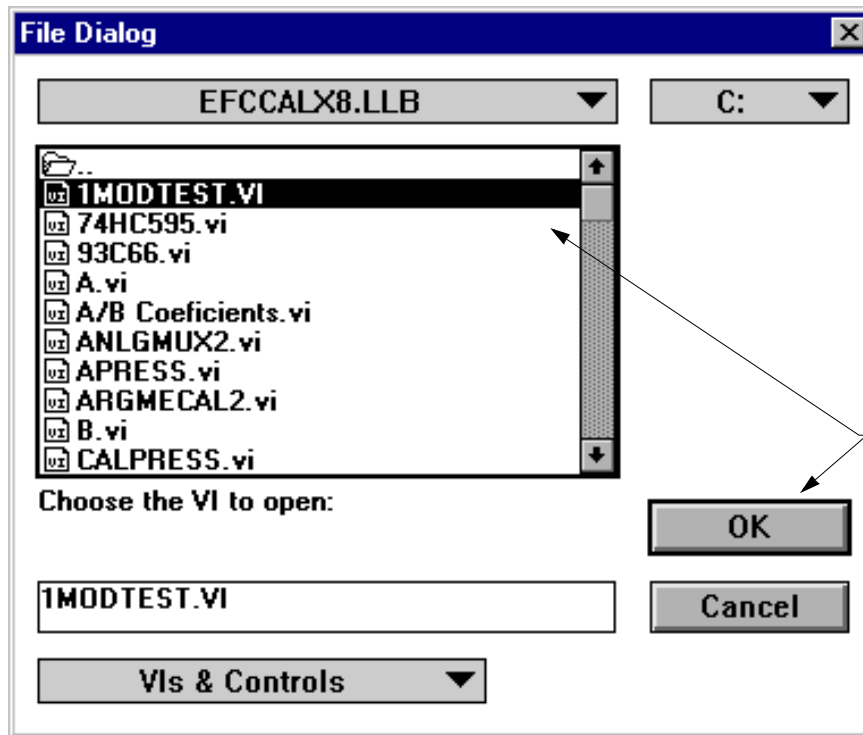
2. CLICK ON THE OPEN VI BUTTON.



3. HIGHLIGHT AND OPEN



4. HIGHLIGHT AND OPEN



5. HIGHLIGHT AND "OK"

7. CLICK ON ARROW TO GO TO "QUICK TEST".

The screenshot shows the 1MODTEST.VI software interface with the following sections:

- Test Sequence:** A list of test steps (1st, 2nd, 3rd, 4th) with corresponding step numbers (1, 2, 3, 4) and a secondary list (5th, 6th) with numbers (5, 0).
- Test Codes:** A legend defining codes 0 through 6: 0 = No Test, 1 = Module Functional Test, 2 = Pressure Calibration, 3 = Helium Calibration, 4 = Nitrogen Calibration, 5 = Hydrogen Calibration, 6 = Custom Gas Calibration.
- Setup Parameters:** Fields for Func. Test Warm up (Mins) (10), Leak Test (Mins) (1.5), and Calibration Warm up (Mins) (30).
- Fixture#:** A dropdown menu set to 1.
- Ref. Flow Ser#:** A dropdown menu set to 0.
- Software Revision:** A red box displaying 1.00.
- Tank Pressure (psi):** Three dropdown menus for Helium, Nitrogen, and Hydrogen, all set to 105.
- Fixture Test:** A yellow button labeled "Fixture Test" with an "OFF" indicator below it.
- Group 0, 1, 2:** Three pink boxes, each containing TYPE# and REV# dropdown menus, all set to 0.
- FUNCTIONS:** A dropdown menu currently showing "QUICK TEST" with a value of 5.
- Type Codes:** A list of codes: 0 = Illegal, 1 = 1079, 2 = Special, 3 = 1041, 4 = Valves, 11 = FID, 12 = TSD, 13 = ECD, 14 = TCD (NO H2), 15 = PFPD, 16 = TCD (H2 only).
- Use Old Ser. #:** A vertical column of 11 green circles, each with a number (0-10) next to it.

6. FROM FUNCTIONS PULLDOWN MENU, SELECT "QUICK TEST".

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. REFER TO THE DEFC TROUBLESHOOTING FLOW CHART TO TEST ERRORS.
2. IF NOT TEST ERRORS, GO TO WINDOWS AND SELECT 1MODTEST.

10. IN THE GRP BOX, INDICATE THE TYPE CODE OF THE DEFC IN EACH GROUP (CODES IN LOWER LEFT HAND CORNER OF DISPLAY).

11. CLICK ON THE ARROW TO BEGIN "QUICK TEST".

9. FROM THE "QUICK TEST SETUP" PULLDOWN MENU, SELECT FULL TEST.

8. INPUT FLOW SENSOR NUMBER (LOCATED ON FLOW SENSOR)

The screenshot shows the QUICKTEST.vi software interface with the following sections:

- Quick Test Setup:** Includes a dropdown menu set to "FULL TEST", a "Test List" (1. Modules Present, 2. EEPROM, 3. Switching Valves, 4. Flow & Pressure, 5. Leak Test, 6. Temperature Controller), and input fields for "TEST #", "MOD #", "Flow.Ser#", "Leak(Mins)", "Full EEPROM Test", and "Mux Test".
- Controller:** Features three "SET" boxes (SET1, SET2, SET3) with values of 0.00, and several indicator lights (Det.Test, Det.Pwr, Hi Frit, Inj.Test) with associated dropdowns and buttons.
- Detector EFC Setup:** Contains three "GN" boxes (GN1, GN2, GN3) with values of 55, and three "OFF" boxes (OFF1, OFF2, OFF3) with values of 127. A large "QUICK TEST" button is at the bottom right.
- Type Codes:** A list of codes: 0 = Illegal, 1 = 1078, 2 = Special, 3 = 1041, 4 = Special, 11 = FID, 12 = TSD, 13 = ECD, 14 = TCD (NO H2), 15 = PFPD, 16 = TCD (H2 only).

NOTES: (UNLESS OTHERWISE SPECIFIED)
 1. REFER TO THE DEFC TROUBLESHOOTING FLOW CHART TO TEST ERRORS.
 2. IF NO TEST ERRORS, ENTER DEFC TYPE AND PWA REV. ON APPROPRIATE LABEL.

14. INPUT FLOW SENSOR NUMBER

16. CLICK ON ARROW TO BEGIN "TEST AND CALIBRATE".

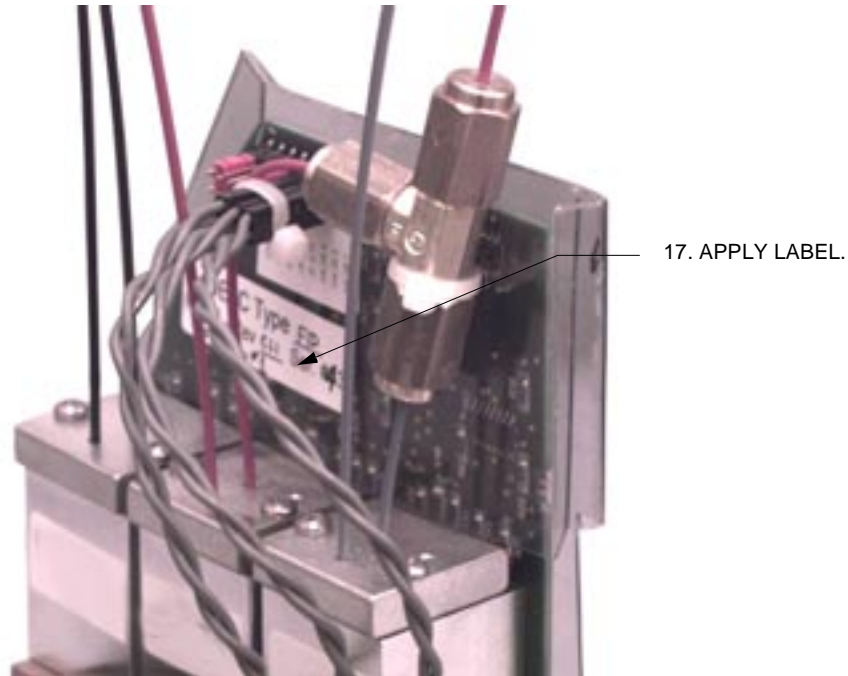
15. ENTER THE FIXTURE NUMBER.

13. ENTER THE DEFC TYPES CONNECTED IN EACH GROUP AND THE PWA REV. (TYPE CODES IN LOWER RIGHT CORNER OF DISPLAY).

12. FROM FUNCTIONS PULLDOWN MENU, SELECT "TEST AND CALIBRATION".

The screenshot shows the 1MODTEST.VI software interface with the following sections:

- Test Sequence:** A list of test steps (1st to 5th) with up/down arrows for each.
- Test Codes:** A legend defining codes 0 through 6: 0 = No Test, 1 = Module Functional Test, 2 = Pressure Calibration, 3 = Helium Calibration, 4 = Nitrogen Calibration, 5 = Hydrogen Calibration, 6 = Custom Gas Calibration.
- Setup Parameters:** Fields for Func. Test Warm up (Mins) (10), Leak Test (Mins) (1.5), and Calibration Warm up (Mins) (30).
- Fixture#:** A field containing the number 1.
- Ref. Flow Ser#:** A field containing the number 0.
- Software Revision:** A field containing 1.00.
- Tank Pressure (psi):** Fields for Helium (105), Nitrogen (105), and Hydrogen (105).
- Fixture Test:** A toggle switch currently set to OFF.
- Group 0, 1, 2:** Sections for entering TYPE# and REV# for each group.
- Use Old Ser. #:** A vertical column of 11 green buttons labeled 0 through 11.
- FUNCTIONS:** A pull-down menu currently showing QUICK TEST.
- Type Codes:** A list of codes: 0 = Illegal, 1 = 1079, 2 = Special, 3 = 1041, 4 = Valves, 11 = FID, 12 = TSD, 13 = ECD, 14 = TCD (NO H2), 15 = PFPD, 16 = TCD (H2 only).



NOTES: (UNLESS OTHERWISE SPECIFIED)
1. AFTER LABEL APPLIED, BAG & SEAL IMMEDIATELY.

DEFC Trouble-shooting Flow Chart

Diagnostic Rules:

1. Always investigate Leak and Flow Sensor Errors first
2. Always Verify Detector type.
3. If "Channel X Not Operating" with "Fritt out of Tolerance" message, ignore fritt message.

