

12-008A

15 JUNE 2012

ADDING A THIRD MFC TO AN M700E / T700 CALIBRATOR

I. PURPOSE:

The note will give instructions on how to convert a calibrator from a two MFC configuration, into a three MFC configuration.

II. TOOLS:

1. 7/16" wrench
2. 1/2" wrench
3. 9/16" wrench
4. 5/8" wrench
5. Crosshead screw driver

III. PARTS:

1. TAPI 3MFC Firmware
2. Service Note 02-039F (E series) / 10-020B (T series), Installing new firmware
3. TAPI KIT000340

IV. PROCEDURE:

1. Upon receiving KIT000340, it is absolutely essential that you contact TAPI to receive the most current 3MFC firmware for your specific model calibrator and configuration.
2. Verify that the calibrator is turned off. Remove the lid to your calibrator.
3. Locate the MFC's. In Figure 1 notice the placement of the Dilution MFC (DIL MFC) and the Cal Gas MFC (CAL1 MFC). Also notice the MFC plug labels DIL1, CAL1, and the unused CAL2. As seen in Figure 1, remove the CAL Gas line from the CAL1 MFC, and from the top of the inlet manifold shown in figure 4. Remove the CAL Gas line completely, as a new one is included with KIT000340. Remove the cable plug from the DIL MFC. Remove the DIL Pressure line from the stainless steel tee. Remove the port connector on the stainless steel tee, from the inlet of the DIL MFC. Remove the DIL Air line from the inlet manifold located on the instrument rear panel, seen in Figure 4. Remove the entire DIL Air line and the stainless steel tee from the unit as a new line and stainless steel tee are included with KIT000340. Remove the line out at the front of the DIL MFC, from the analyzer completely, as a new one is included with KIT000340. Now remove the two screws located on the underside of the chassis, from the DIL MFC.

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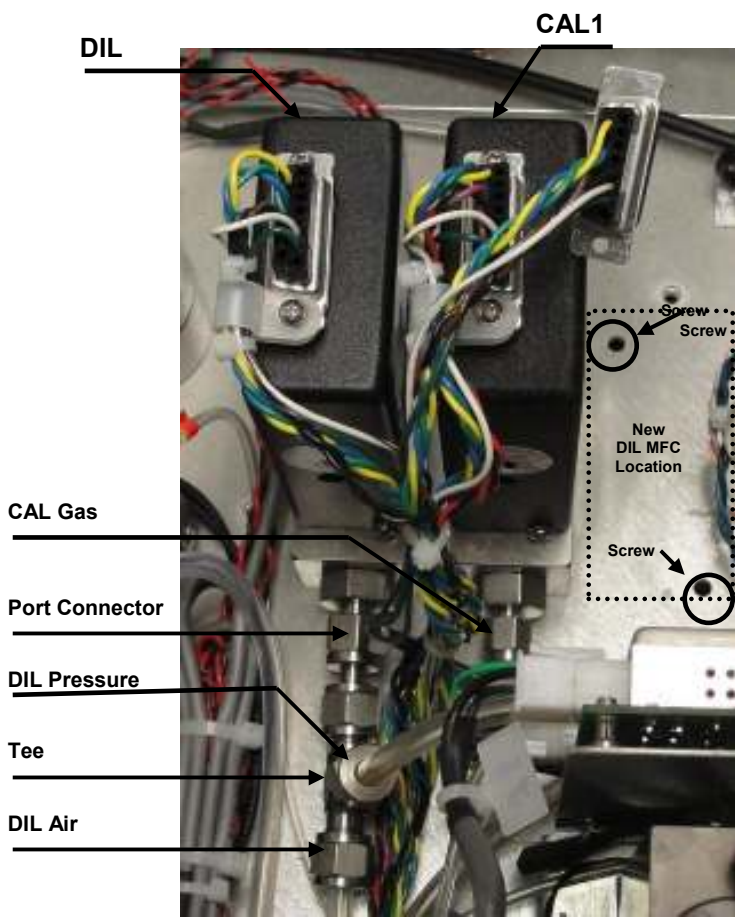


Figure 1



Figure 2

4. Install the new DIL Air line and stainless steel tee and connector, provided with KIT000340 to the DIL Air MFC as seen in Figure 3. Install the other end of the DIL air line, to the inlet manifold shown in Figure 4. Position the DIL MFC to the new chassis location indicated in Figure 1. Fasten the DIL MFC in place using the previously removed screws. Install the DIL Pressure line to the remaining port on the tee. Be careful not to damage the electronics on the surrounding UV lamp power supply.

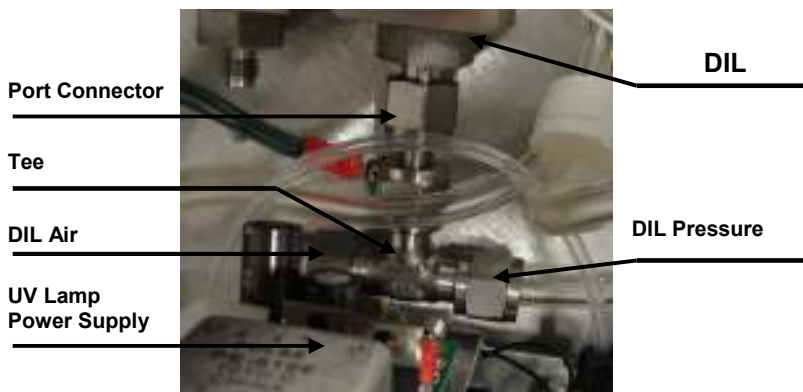


Figure 3

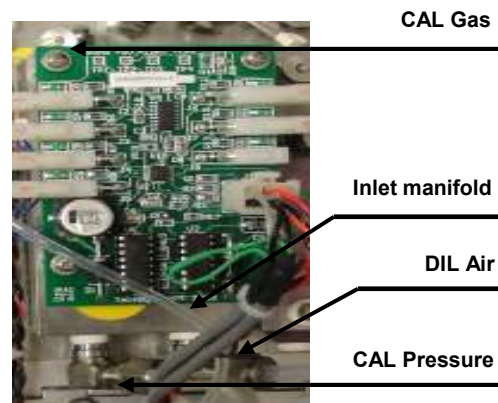


Figure 4

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5. As seen in Figure 4, install the new CAL Gas line included in KIT000340, to the inlet manifold. Remove the CAL Pressure line from the inlet manifold in, and cap the now open port on the inlet manifold with the 1/4" stainless steel cap included in KIT000340.
6. The CAL2 MFC will come with fittings attached. Where the DIL MFC used to be, install the CAL2 MFC, and secure in place with the screws provided. Connect the new CAL Gas line to the Cal gas port on the inlet manifold seen in Figure 4. Connect the fittings on the new CAL2 MFC to the CAL1 MFC as shown in Figure 5. Connect the new bent stainless steel end of the CAL2 MFC to the CAL Pressure line. The CAL Pressure line will now be longer than necessary so you may loop the excess line if needed. Connect the CAL2 Cable Plug to the new CAL2 MFC. At the front of the CAL1 and CAL2 MFC's, connect the CAL Gas out lines as shown in Figure 6. Install the new DIL Air out line as shown in Figure 6.

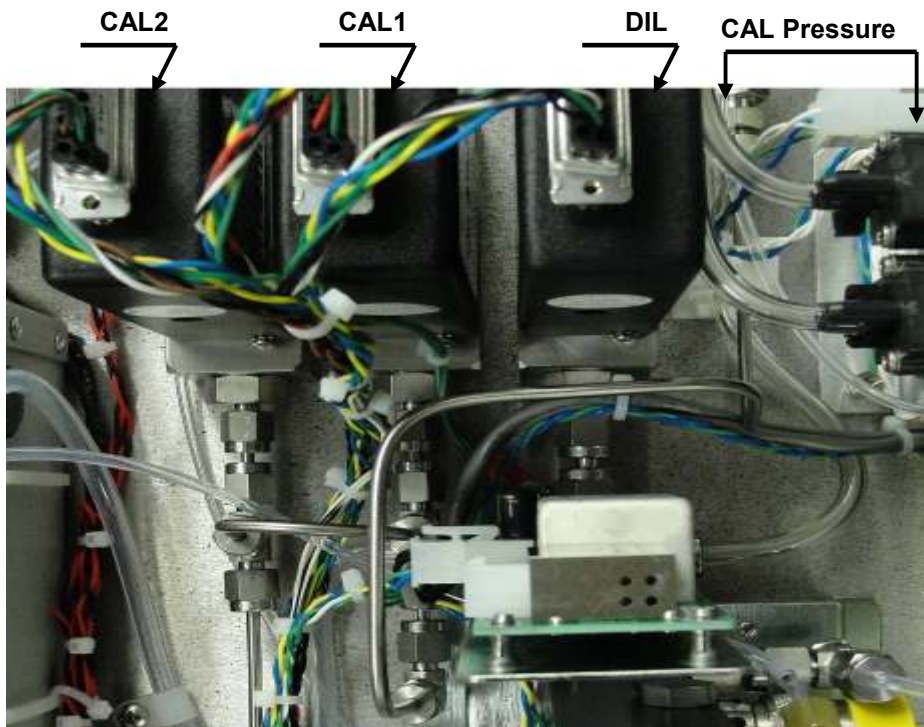


Figure 5

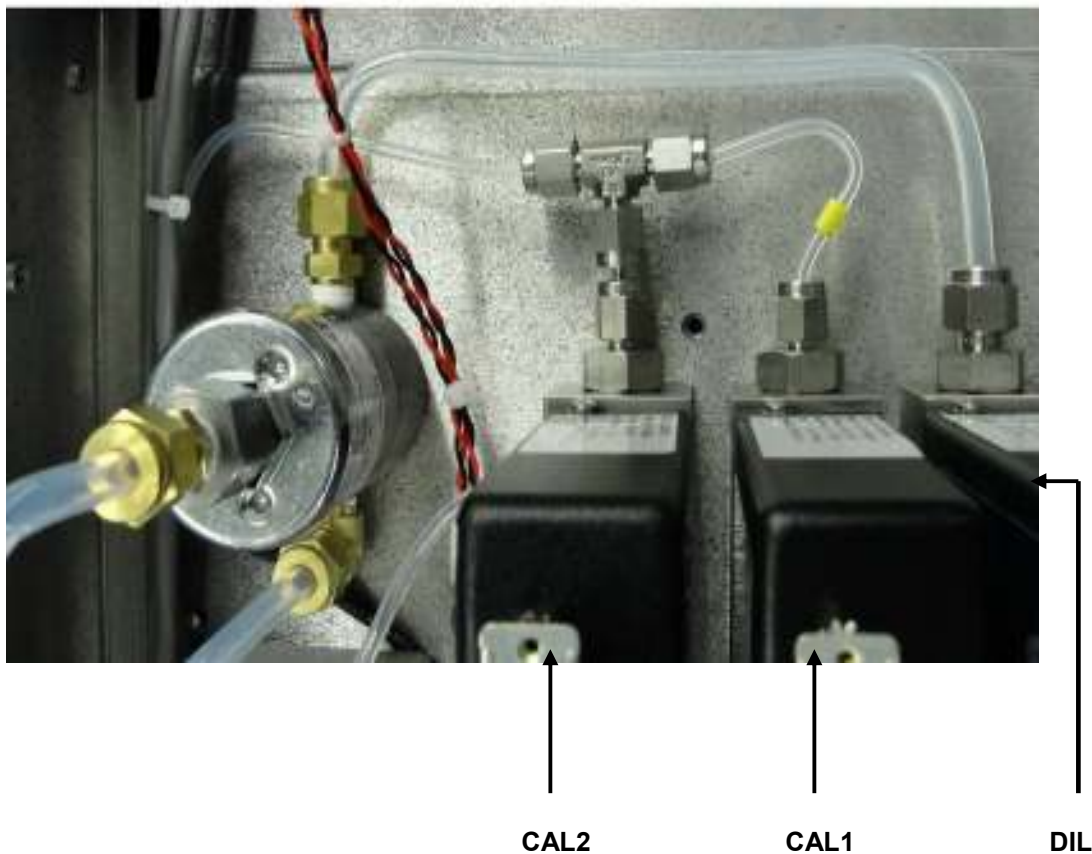
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Figure 6



7. Verify all fittings have been tightened and perform a leak check on the calibrator.
8. Install the latest TAPI 3MFC Firmware. For an M700E Calibrator, use Service Note 02-039 "Installing New Firmware into an E Series Analyzer. For a T700 Calibrator, use 10-020 "T Series Firmware Update".
9. On the front panel display press "SETUP", "MORE", "DIAG", and scroll until you find "MFC CALIBRATION" then press "ENTER". You should see "MFC1", "MFC2", and "MFC3", if you do not, than the 3MFC firmware is not correctly installed. Press "MFC1", and verify that it is set for the correct flow for MFC1, if it is not then press "EDIT" "YES" and enter the correct flow. Repeat for each MFC.

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