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**ADJUSTMENT OF LAMP DRIVER SUPPLY FOR THE M400, M401, & M700**

**I. BACKGROUND:**

In some M400 analyzers, a certain noise signal has been observed. This noise appears as a continuous “spiking” of the signal which gets worse over time and has been described as “painting the chart”. One unique characteristic of this noise is the fact that a power cycle on the analyzer will cause the noise to disappear for as long as a few days.

**II. SCOPE:**

This procedure will instruct the user on the proper procedure for verifying the lamp driver voltage, followed by peaking the lamp and adjustment of the bench detector.

**III. TOOLS:**

Philips head screwdriver  
Digital or Analog Voltmeter

**IV. PROCEDURE:**

- A. Remove power and cover from the analyzer.
- B. Remove the cover from the lamp power supply. Attach a DVM across TP7 and TP14 of the lamp power supply.
- C. Apply power to the analyzer. Input zero air to the analyzer.
- D. Adjust the pot, (RV1) until the DVM reading is  $20.0 \pm 0.5$ VDC.
- E. Press the TEST button until O3REF=XXXX MV is displayed.
- F. Turn the lamp adjustment pot (located under the small removable cap at the front of the bench) 20 turns counter clockwise, then 5 turns clockwise. Connect the meter ground to TP3 of the V/F card. Measure volts at J1-3 of the motherboard.
- G. Loosen the thumbscrew at the rear of the bench. Grasp the lamp cable at the rear of the bench and rotate the lamp until the highest voltage is achieved.
- H. If you cannot get above 3.5 VDC at J1-3, connect the DVM to the lamp driver supply and adjust the voltage at TP7 to 21.5 volts. **DO NOT EXCEED 21.5 VDC!**
- I. Adjust the lamp adjustment pot at the front of the bench until J1-3 voltage is  $4.5 \pm 0.1$  VDC. If you cannot get higher than 3.5V you may need to replace the lamp.
- J. Disconnect the meter and replace the lamp power supply cover.
- K. Replace the cover on the analyzer.

If you have questions regarding this or any API equipment, please contact an API Customer Service Representative by phone or fax.