

S E R V I C E N O T E

SUPERSEDES: 5517A/B/C/D-04

**5517A/B/C/D Laser Heads**

**Serial Numbers:** 0000A00000 / 9999A99999  
 US00000000 / US99999999

**To Be Performed By:** Agilent-Qualified Personnel

**Situation:**

In many incidences, the temperature adjustment process for the laser heads had been found being adjusted incorrectly. The result of in-correct adjustment might shorten the life of the laser tube and some other un-predictable laser head performance. This service note is important addition to the manual instructions when replacing the laser tube or the control board.

**Solution / Action:**

1. After the Laser Tube or the control board has been replaced, the heater voltage must be correctly readjusted! The adjustment is done with the pot (R16) to the right of U11 on the control board.
2. The adjustment must be performed when the laser tube is at room temperature, 21 to 25 degrees C (approx. 70 to 77 degrees F). If the laser High Voltage Power Supply or heater have been on, allow at least two hours with +/-15 Vs off before performing this adjustment.

*Continued*

DATE: July 2001

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
<b>MODIFICATION RECOMMENDED</b>			
ACTION CATEGORY:	<input checked="" type="checkbox"/> IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS:	LABOR 1.0 Hours
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> SERVICE CENTER	SERVICE INVENTORY:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	USED PARTS:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AUTHOR: EL	ENTITY: 0200	AGILENT RESPONSIBLE UNTIL: July 2002	
		ADDITIONAL INFORMATION:	



3. To make sure that the tube does not begin heating perform the following with the laser head "OFF":
  - a. On A3, the control board, change the HEATER jumper, JMP7, from NRM to OFF.
  - b. ON A1, connector board, UNPLUG J3, the Hi Voltage Power Supply.
4. Turn "ON" the laser head and measure the Voltage on Test Pin 11 (A3TP11). It should be between .2 and .3 volts.

**NOTE:**

The measurement should be done immediately after the head is turned on.

5. Calculate the heater adjust set point using the following equation:  
 $V_{set} = 1.285 \times V(A3TP11) + 0.005 \text{ Volts}$
6. Measure A3TP15 and adjust A3R16 until it equals  $V_{set}$  to  $\pm 1$  millivolt.
7. Turn off the laser head. Move the HEATER jumper from OFF to NRM and PLUG J3, the HV Power Supply back onto its connector on A1.
8. Turn on the laser head again and wait until it locks.

**NOTE:**

If the laser does not lock, wait for two hours and repeat Step 1 - 5 using following equation:  $V_{set} = 1.285 \times V(A3TP11) + 0.01$  Volts then repeat Step 6 - 8.

Measure A3TP11. It should be between 5 and 7.5 Volts! Leave the head on for another half an hour and measure A3TP11 again. The voltage will have decreased, but it should still be between 5 and 7.5 Volts!