

Licor Calibrator Lamp Change Instructions

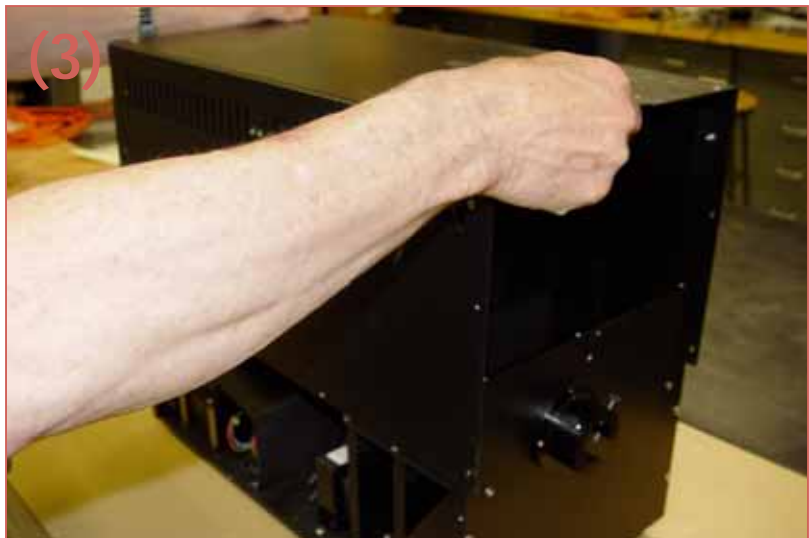
(1) Turn the switch off and remove power cord before removing screws



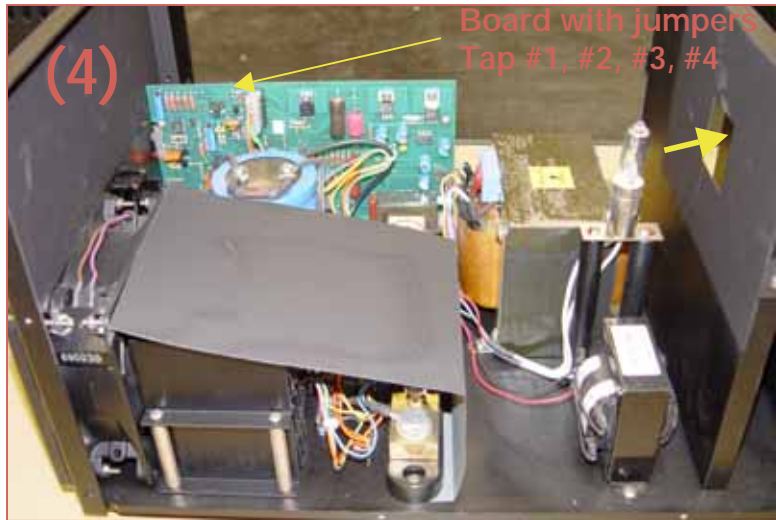
(2) There are 18 screws



(3) After removing all the screws lift the cover



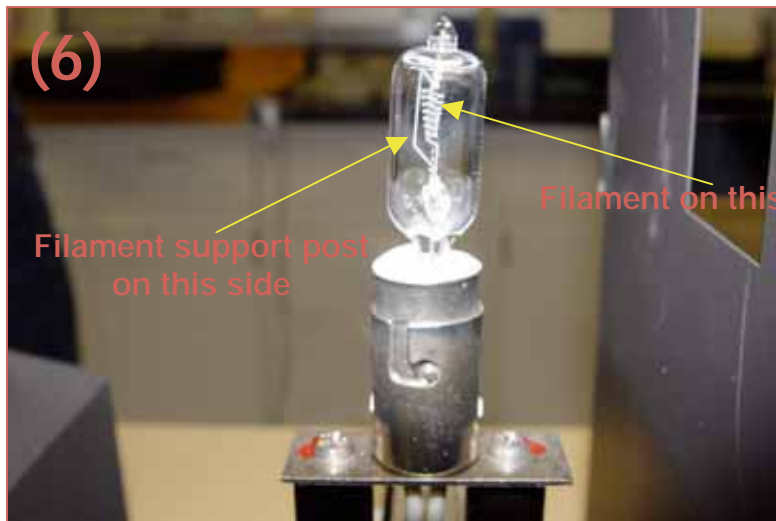
(4) View with cover removed



(5) Close up on the lamp



(6) Lamp filament and its support post should be used as a guide when orienting lamp with respect to the socket



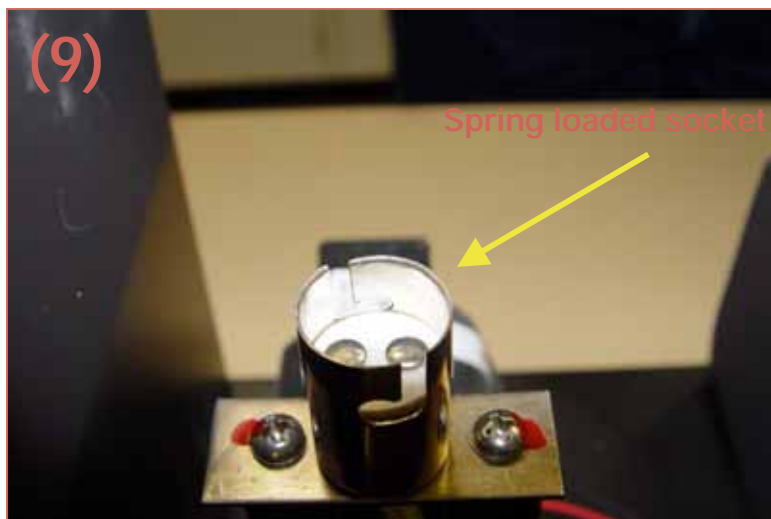
(7) Never touch lamp's envelope; use Kim Wipe to grab the metal on lamp base (see Picture 11)



(8) Press the edge of lamp's base (see Picture 11); press the edge and twist



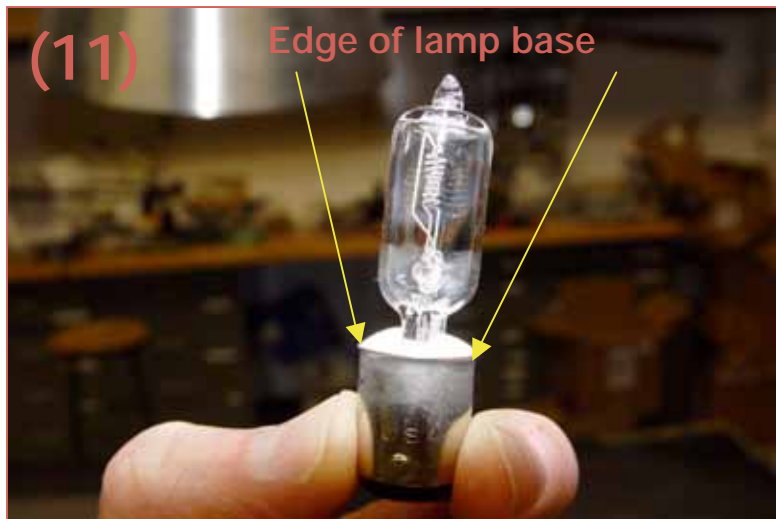
(9) Lamp is spring loaded in the socket. It may require a significant pressure for lamp to move down; fingers may hurt



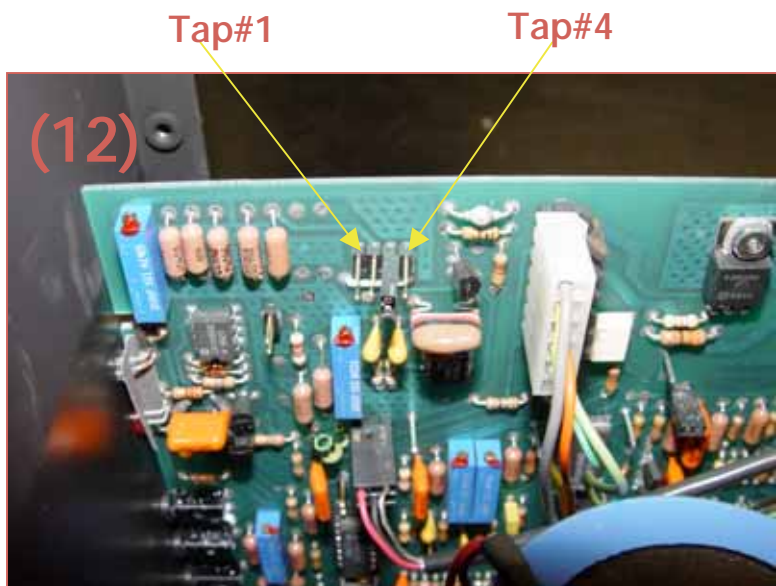
(10) Hold lamp by its base. If any evidence of finger prints, clean with acetone or AAPER 200 proof ethyl alcohol and Kim Wipe



(11) Hold lamp by its base. Note the edges you will be pressing on when removing or installing the lamp



(11) Note position of Tap #1, #2, #3 and #4. In Picture 12 the jumper is on the Tap #3.



Three pages from Licor Calibrator manual

Section III

PREOPERATION PROCEDURE

3.1 LAMP INSTALLATION

Before shipping, the lamp is removed and packed in a compartment at the end of the shipping carton. Handle the lamp carefully at all times to prevent damaging the filament or the quartz envelope.

To install the lamp, remove all of the screws located near the edges of the cover on the top, the sides, and along the bottom of the sides (a total of 18 screws). Do not remove the 4 recessed screws located near the ventilation holes on the sides. These screws hold a light baffle over the ventilation holes. Take the cover off by slowly lifting it straight up and off. It may catch on the baffles, but a slight side-to-side motion should free it up.

CAUTION: To prevent electrical shock, the power cord should be unplugged whenever the cover is off or any of the interior components are being serviced. All components and connectors inside the 1800-02 are capable of delivering a hazardous electric shock.

The lamp should always be handled with the tissue paper wrapping between your fingers and the envelope of the lamp (Figure 2). Failure to do so will leave an oily residue from your fingers on the envelope which can result in premature lamp failure. If the lamp envelope is inadvertently touched, it must be cleaned with a lint free cloth and a methanol-water mixture before energizing to prevent burning any residue onto the quartz bulb. The contact pins on the bottom of the lamp should also not be touched when installing the lamp.

In order for the halogen regenerative cycle of the lamp to function properly the lamp must operate at a very high temperature. To prevent the circulation fan from cooling the lamp a protective baffle has been placed over the fan which extends down to the shunt resistor. This baffle should not be removed since it will affect the operation of the lamp.

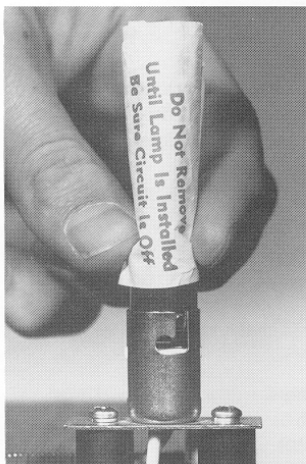


Figure 2. Correct lamp installation procedure.

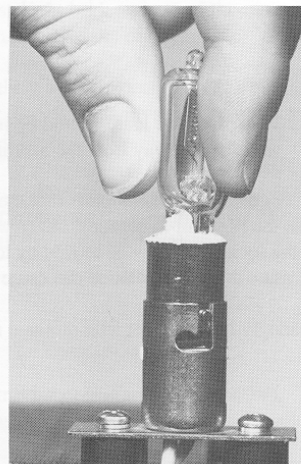


Figure 3. Incorrect lamp installation procedure.

The lamp socket is a bayonet type which requires the lamp to be pushed down and twisted into place. Grasp the lamp by the base so that all downward pressure is only on the base (Figure 2) and not on the more fragile envelope. For proper alignment the lamp must fit tightly into the socket.

Several aspects of the lamp installation are critical for proper operation. First, the lamp must be installed in the proper direction. There are two possible orientations; however, the lamp is calibrated in one specific orientation and should be installed as shown in Figure 4. The filament support wire should be on the side opposite the instrument port and the black mark on the ceramic base of the lamp should also face away from the instrument port. Installing the lamp backwards will result in irradiance values that could deviate from those indicated on the certificate of calibration.

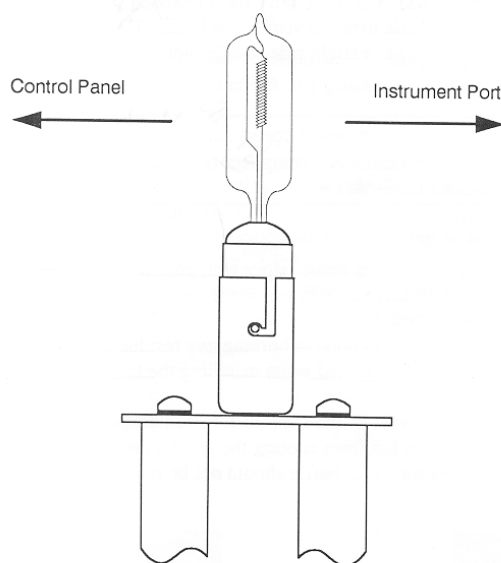


Figure 4. The lamp should be installed with the filament support wire facing away from the instrument port as shown.

A second critical aspect of lamp installation is that the position of the socket must not be changed. If the position of the socket changes, the filament-to-sensor distance will change, resulting in different irradiance values at this new distance. Normally the socket can only be moved by loosening the screws on top of the mounting posts. However, a strong sideward pressure during installation can cause the lamp socket to bend, causing poor lamp orientation.

The lamp should fit snugly in the socket with minimal movement toward or away from the instrument port.

3.2 SETTING THE POWER JUMPER

Each lamp is calibrated at a specific power setting. This setting can vary from lamp to lamp so a jumper is provided which allows the user to adjust the power setting. The jumper is initially set at the factory but it should be checked after the lamp is installed.

The power jumper is located on the circuit board (Figure 5). The power setting is given on the calibration certificate for the lamp as a number from 1 to 4 which corresponds to the 4 pairs of pins on the jumper connector (numbered 1 through 4 from left to right). The power (Watts) associated with each setting is given below.

1	2	3	4
175.9	183.5	191.5	199.8

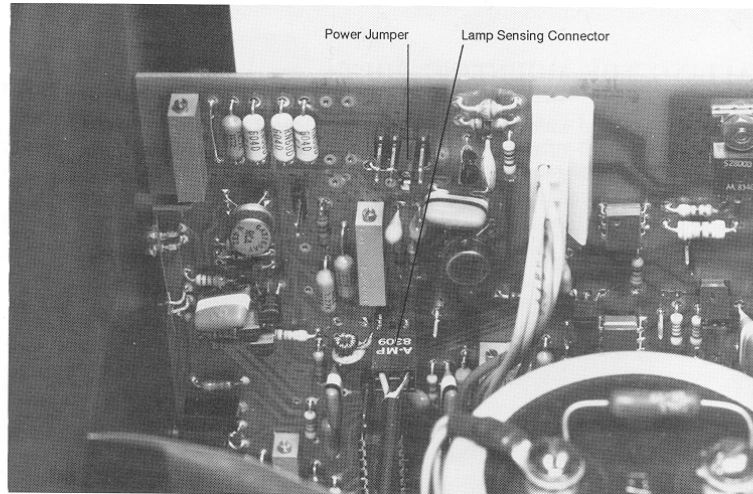


Figure 5. Location of the power jumper.

To change the power jumper, pull the black plastic jumper straight back and off of the pins and then push it back onto the proper pair of jumper pins. Be careful so that the pins are not bent or damaged.

Before replacing the cover, check the wiring connectors and the wiring connections at the circuit board to make sure they have not been loosened during shipment. In particular, check the lamp sensing connector (Figure 5). Lamp damage could result if this connector is loose while the 1800-02 is running.

Replace the cover and screw in all the screws around the cover. It is important that all screws are put back in place since they add to the rigidity of the case and keep light from penetrating through the cover. Note that the side of the cover with the notch in it goes on the side of the 1800-02 with the instrument port.

3.3 FUSE INSTALLATION

The lamp is protected with a 2 amp fuse located on the control panel (Figure 8, Section IV). The power supply is also protected with a fuse located directly beneath the lamp fuse. A 3 amp fuse should be installed for operation with 210-252 VAC and a 6 amp for 105-126 VAC.