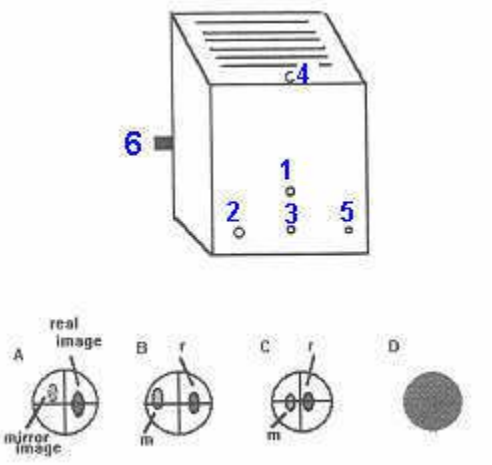
Zeiss HBO MERCURY/XENON LAMP EXCHANGE/ALIGNMENT

by Emile Meylan copyright 12/2/2003



1.**(Remove Fan) Pull the collector focus knob (6) (remove collector lens) (loose screw to separate socket / lamphouse)**

2 Loose the knurled screw holding the contact wire and remove the old lamp together with the cooling Heat-sink. Hold the lamp down with the heat-sink supported on a flat table. Holding the heat-sink with one hand, loose the screw and remove the old lamp. Remember **never touch the bulb with your hands!** (If you do touch the bulb, gently wipe off with 100% EtOH).

Remember, when you replace the bulb back into the socket, try to line up the heat sink so that it is parallel to the front of the socket. Because the lamp housing is in a small space, it will be easier to position the socket into the housing, if the heat sink is lined up!

After you have replaced the arc lamp, and closed the lamphouse, turn on the power, open the shutter and take off the nosepiece dust caps or remove an objective from the nosepiece to allow the fluorescence light to be projected down to the stage area. Place a white piece of paper on the stage and move the 3FL to the position which is the most dim.

3. Adjust the black **(collector focusing knob (6)** so that the real and mirror images are at their smallest size which will be their most focused. Remember that when you install a new bulb the first adjustment that usually needs to be checked is the real image up and down control **lamp height adjustment (4).** Adjust the up and down control of the real image until both the real and mirror images are visible in the field .

4. Adjust the focus/size of the **mirror image focus (3)** so that the real and mirror image are at the same focus/size.

5. Adjust the real image position using again **lamp height adjustment (4)** and **Lamp Left/Right (5)** so that the real image is centered up and down and is just to the side of center!

6. Once the REAL image is positioned, move the MIRROR image using left and right controls **Mirror Left/Right (2)** and **Mirror Up/ Down (1)** controls so that the mirror image is centered up and down and on the opposite side of center from the REAL image. Remember that although the REAL image controls move both the real and mirror images, the mirror image controls move only the mirror image.

7. Finally, by using the **Collector focus knob (6)**. defocus/spread the beam to achieve the most evenly illuminated field. The final spreading of the beam is easiest checked on a piece of paper or an actual fluorescent specimen.

8. FINAL NOTE: A newly installed bulb should burn for at least 3 hours before being turned off. Always remember, the total lifetime of a bulb is a product of the total hours on the bulb as well as the # of times it has been turned on and off. Hence, be conscious of the future use of the bulb during the course of a day, before you make the decision to turn the bulb off. If the bulb has been turned off and you realize that you need it again, you should wait for 20 minutes before turning it back on again.