



15 Discovery Way, Acton, MA 01720

Phone: (978)263-3584, **Fax:** (978)263-5086

Web Site: www.piacton.com

**Operating Instructions
for
Triple Grating Turrets
SP-300i/500i**

Ver 2.0

Supplemental Instructions for Acton Models With Kinematically Mounted Triple Grating Turret

This Acton series monochromator/spectrograph is supplied with two kinematically mounted triple grating turret assemblies that are interchangeable in the monochromator/spectrograph without re-alignment.

To interchange the triple grating turrets in the monochromator/spectrograph, refer to the section below labeled "Grating Turret Interchange". For general operation of the Acton series monochromator/spectrograph, refer to the enclosed standard Acton monochromator/spectrograph manual.

CAUTION: THE OPTICAL SURFACES IN THE MONOCHROMATOR/SPECTROGRAPH ARE EXTREMELY DELICATE AND CAN BE PERMANENTLY DAMAGED BY CONTACT WITH ANYTHING. DO NOT TOUCH, TALK OR BREATHE ON THE OPTICAL SURFACES.

Grating Turret Interchange

A) Changing Grating Turrets:

The following procedure is recommended for interchanging grating turrets. Observe proper optical handling procedures.

1. Locate the storage container with the grating turret to be installed. The turrets are marked I, II & III as indicated in Figure 1 in this section.

Turret I contains the following 3 gratings:

Position 1:	G/mm @
Position 2:	G/mm @
Position 3:	G/mm @

Turret II contains the following 3 gratings:

Position 1:	G/mm @
Position 2:	G/mm @
Position 3:	G/mm @

Turret III contains the following 3 gratings:

Position 1:	G/mm @
Position 2:	G/mm @
Position 3:	G/mm @

Become familiar with the components as labeled on Figures 1, 2 and 3 in this section.

2. Scan the instrument to grating #1 and the **highest** wavelength position.
3. Place the monochromator in a clean, dust free area.
4. Remove the screws from the monochromator access cover and remove the access cover. Become familiar with the grating turret and its components.
5. Locate a 9/64 ball end hex driver (Bondhus #9/64)*. Refer to Figure #3 and with the 9/64 ball end hex driver, loosen the turret clamping screw #1. (**NOTE:** All 3 turret clamping screws are captive). Loosen the turret clamp screw #2 and then #3.
6. Use extreme care so as not to touch the grating surfaces and grasp the top plates of the grating turret, refer to Figure 2. Lift the grating turret straight up off the grating spindle assembly. If the turret cannot be lifted up, assure the 3 clamping screws are disengaged from the grating spindle assembly.
7. Place the removed grating turret assembly on a clean surface.
8. Remove the plastic cover from the grating turret storage container. Loosen the 3 grating turret clamping screws. **NOTE:** These screws are captive. **CAUTION:** Do not hit the grating surfaces as permanent damage will be caused.
9. Carefully grasp the grating turret by the top plates. **CAUTION:** Do not touch the grating surfaces. Lift the grating turret out of the storage container.
10. Locate the grating turret # on the grating turret assembly. Assure the monochromator is as grating #1 and **highest** wavelength position. Refer to Figure #1 and place the grating turret on the grating spindle with the turret # located as shown.
11. Assure the turret is properly seated, the ball in the cone hole and the rod in the vee groove.
12. Lightly tighten clamp screw #1, then #2 and #3. (**NOTE:** To assure maximum reproducibility, the clamping screws must be tightened in this sequence and to 3 inch pounds of torque.) Tighten screw #1, to 3 inch pounds of torque, then #2 and #3. The grating turret is now installed.
13. Place the access cover on the monochromator. Replace and tighten the 8 cover screws.
14. Install the removed grating turret into the storage container and tighten the 3 clamp screws. Replace the plastic cover.

INTERCHANGING TURRETS

FIGURE 1

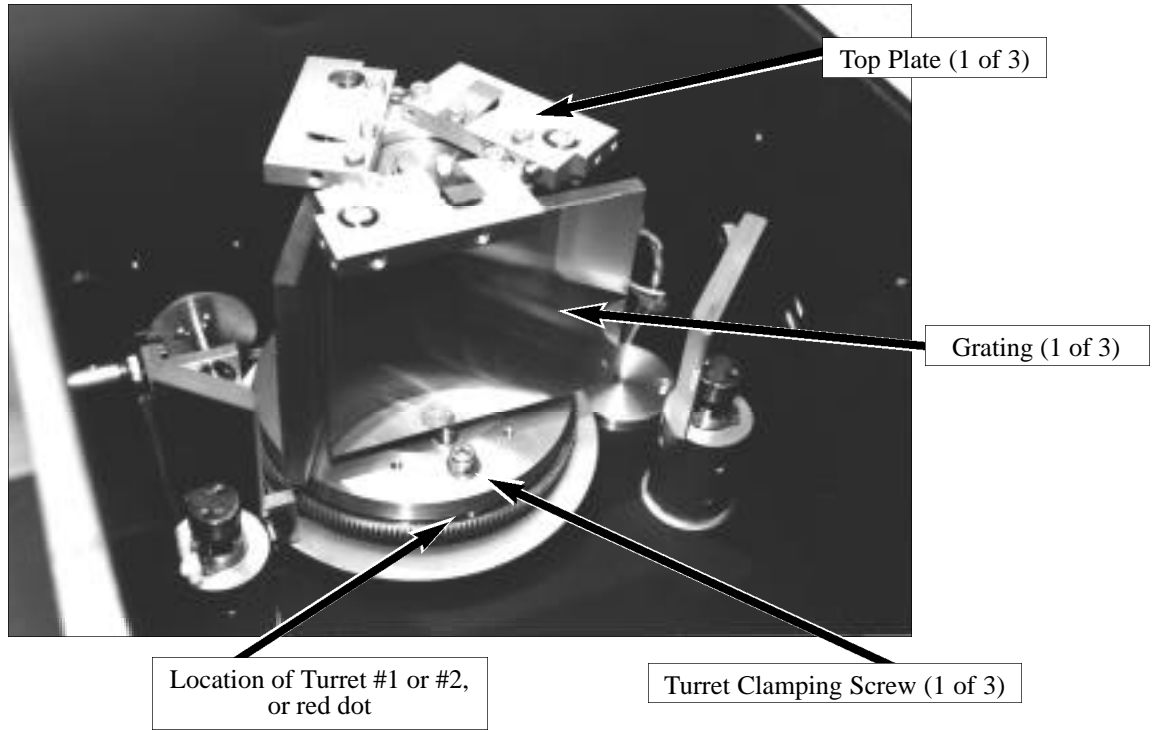


FIGURE 2

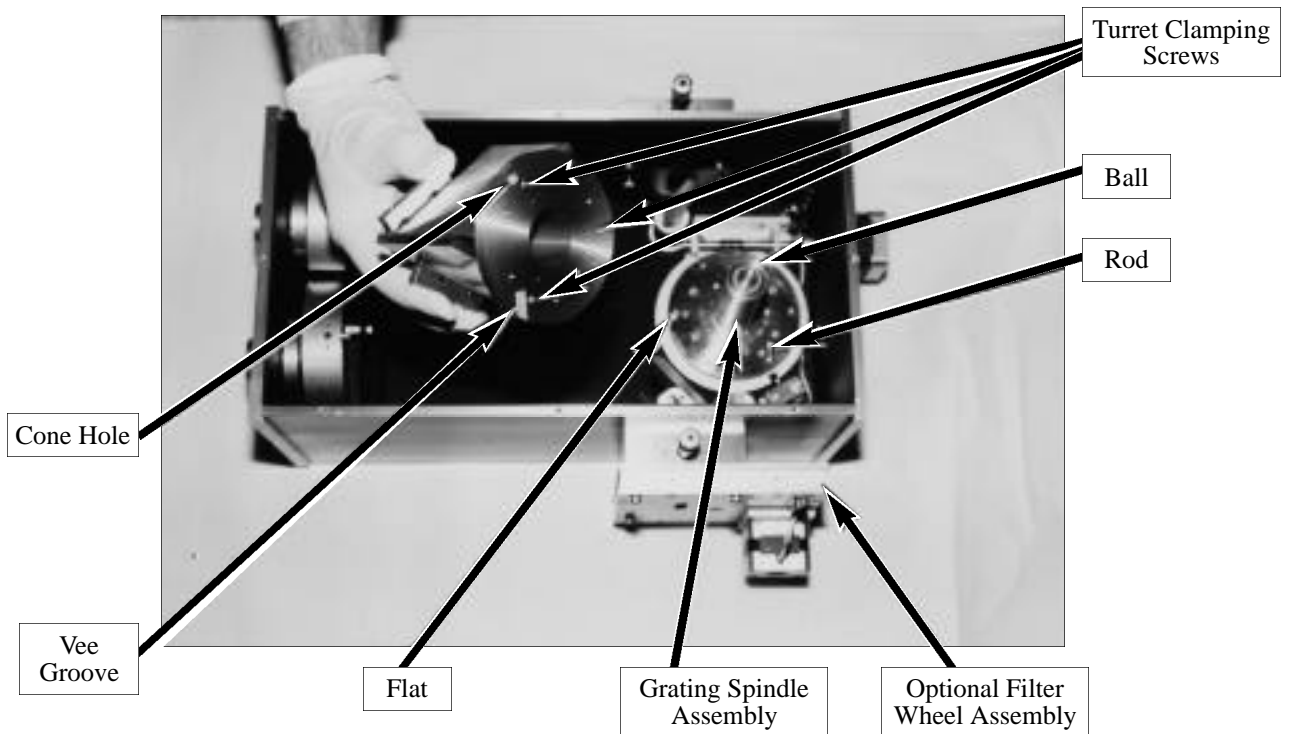
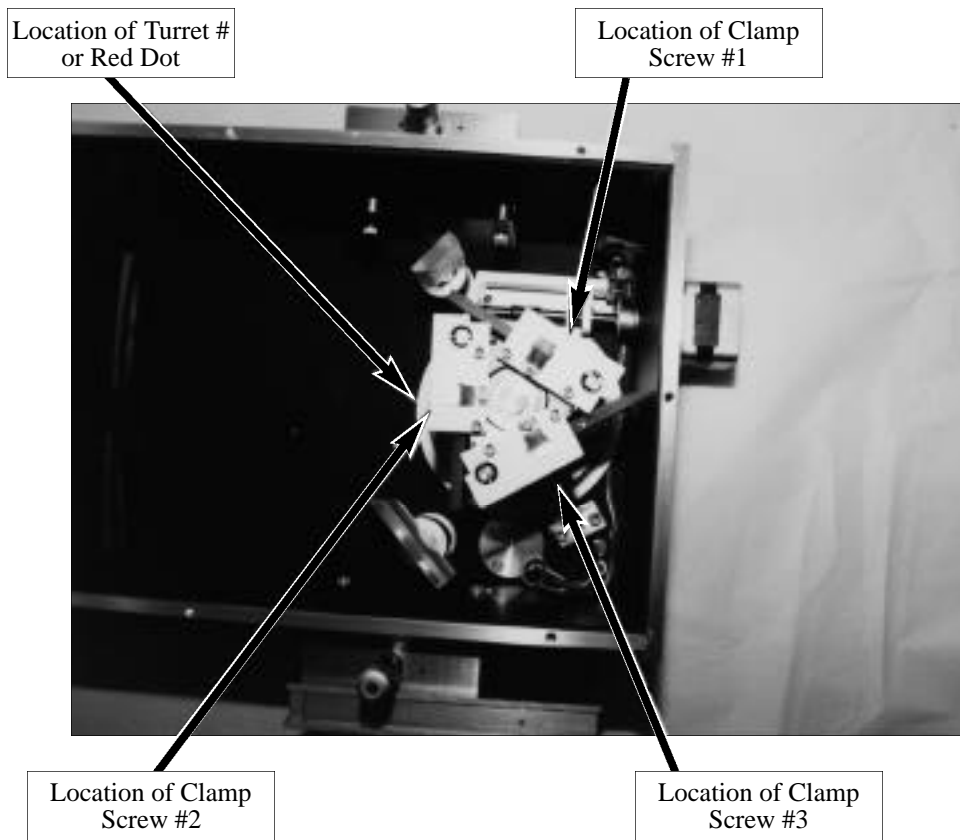


FIGURE 3



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