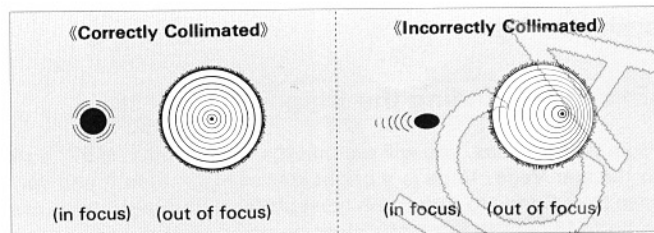


HOW TO COLLIMATE THE OPTICAL SYSTEM OF A NEWTONIAN REFLECTOR

The optical performance of your telescope is directly related to its collimation. Your Newtonian reflector was collimated at the factory before shipment. However, if the telescope is roughly handled or jarred severely, it may have to be collimated.

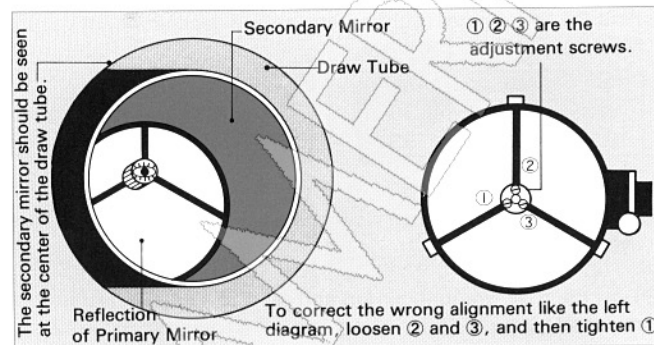
Checking the Collimation of Your Telescope

Look at a bright star through the telescope. If the star is seen as a small dot at the center of the field of view, it is collimated correctly. You can also check the collimation by getting out of focus a little to enlarge the image. See the illustrations.



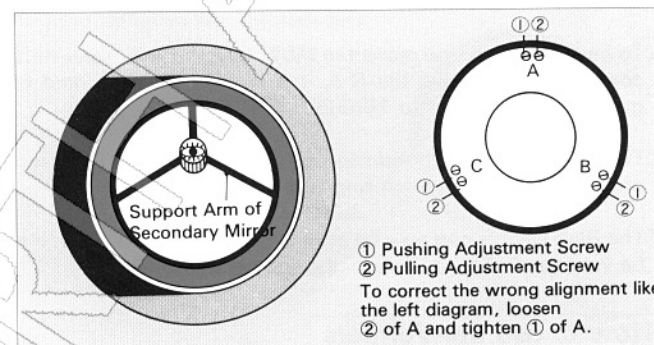
Adjusting the Secondary Mirror

Point the telescope toward a brightly lighted area and look into the draw tube without attaching any eyepiece. If it looks like the diagram (right), both the primary and secondary mirrors need adjustment. First, adjust the secondary mirror. Loosen three adjustment screws on the secondary mirror holder. Adjust the aspect of the secondary mirror so that it faces toward the draw tube correctly, and center the reflection of the primary mirror in the secondary mirror with the three adjustment screws while fastening.



Adjusting the Primary Mirror

If the reflection of the secondary mirror is not centered like the diagram (right), the primary mirror needs adjustment. There are three pairs of adjustment screws behind the primary mirror frame. One of the pair screws is for pushing adjustment and the other is for pulling adjustment. Loosen one first and then tighten the other to take up the slack. With these adjustment screws, center the reflection of the secondary mirror in the primary mirror. If you hold out your hand on the opening of the tube so that it is reflected on the primary mirror, you will quickly find which screws should be adjusted.



Collimated Optical System

On the collimated optical system, you can see a set of concentric circles with the reflection of your own eye in the middle when looking into the draw tube. See the diagram. It would be difficult to have the optical system collimated perfectly the first time. It becomes easier with practice.

