hairs of the finder. This is done by loosening and tightening the screws on the two brackets holding the finder to the main telescope tube. Once the finder is set accurately, it should be possible to locate any object in the heavens--even when reasonable high power is being employed on the main telescope.

ORIENTATION OF THE EQUATORIAL MOUNTING: In order to secure accurate tracking of celestial objects with or without a clock drive, the polar axis of the telescope should be positioned North. Since a portable telescope is usually moved about considerably, it is unnecessary to do more than carefully align the polar axis by visual sighting of the Polaris. Before each Astrola telescope is shipped, the latitude is carefully set. A permanent observatory telescope, which is not to be moved about, would require at least several nights of meticulous adjusting to bring the polar axis into near perfect alignment with the true Celestial North Pole.

USING THE SETTING CIRCLES: In using the Magnusson Setting Circles, the following steps should be taken: First, after setting the polar axis of the telescope as near to the true North Pole as possible, place the telescope on a bright star of the first magnitude--star centered in the field of view with a low power eyepiece; secondly, referring to Norton's Star Atlas or Atlas of the Heavens giving R.A. and Dec. of objects in the heavens, check the correct R.A. (right ascension) of the star and revolve the slip ring R.A. circle on the polar axis to indicate the same R.A. as the star. The telescope may be moved to a new object such as faint nebulae or a star cluster, otherwise difficult to find. The R.A. circle reads directly, increasing as the telescope is moved East. The circle is divided into 24 hours, with subdivisions reading directly to five minutes of arc. The Dec. or declination setting circle on the declination axis has been pre-set at our shop to read 90 degrees on the North Celestial Pole and 0 degrees on the Celestial Equator. This circle should never require adjustment. The R.A. circle will be rotated whenever necessary to reset on a reference star.

THE ELECTRIC CLOCK DRIVE: Your telescope has been entirely pre-balanced before leaving our shop and the electric clock drive has been accurately adjusted for friction clutch tension. It should not be necessary to make any more adjustments. However, if necessary, the following proceedures may be followed: Remove the cover of the clock drive box, note that three Allen Screws are located 120 degrees apart around the outer part of the friction clutch backplate which are slightly adjustable for friction clutch tension; should the telescope be too stiff or too free in turning on the polar axis, these screws may be adjusted accordingly; a small ten-tooth gear is attached to the output shaft of the motor and this meshes with the larger gear on the worm gear block. The worm block is adjustable on the housing plate to remove any backlash in the gear train. There is an end thrust adjustment in the housing of the worm gear which should be adjusted with your small Allen Wrench if there should be any end play in the worm. The above are the only required adjustments on the clock drive should there be any at all since we make all of the fine adjustments on the clock drive before the telescope is shipped to you.

HINTS ON OBSERVING WITH YOUR ASTROLA: Whenever possible, set the instrument up so that it is completely ready for the evening's observing about one-half or one hour before beginning serious observations. This time will