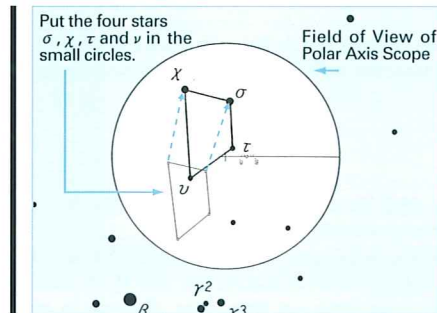


## Using a Polar Axis Finder in the Southern Hemisphere

The polar axis scope also contains a reticle for the southern hemisphere. The reticle shows the relative positions of four stars near the south celestial pole. The stars are Sigma ( $\sigma$ ), Tau ( $\tau$ ), Chi ( $\chi$ ) and Upsilon ( $\nu$ ) of Octantis.

- ① Point the polar axis of the mount toward Octantis.
- ②~⑤ Refer to the instructions described for using in the northern hemisphere.
- ⑥ While looking through the polar axis scope, adjust the mount in altitude and azimuth or rotate the polar alignment reticle until the four stars mentioned above are in the respective circles on the reticle. The polar alignment reticle is rotated by moving the telescope in right ascension.

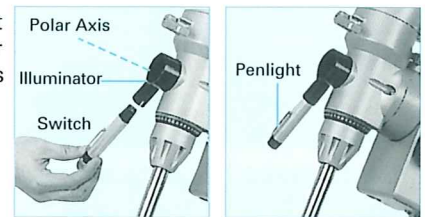


Octantis

Star	Magnitude
$\sigma$	5.5
$\chi$	5.2
$\tau$	5.6
$\nu$	5.7

### How to use a Polar Axis Scope Illuminator (OPTIONAL)

- ① The illuminator is installed on the front of the polar axis. When turning on the penlight switch, the field of view of the polar axis scope is illuminated in dim red so that the polar alignment reticle can be seen clearly. The penlight can be switched on by turning its switch either way.
- ② When polar alignment is completed, remove the illuminator.
- ③ The penlight is also useful as a map light when looking at a star chart, etc.

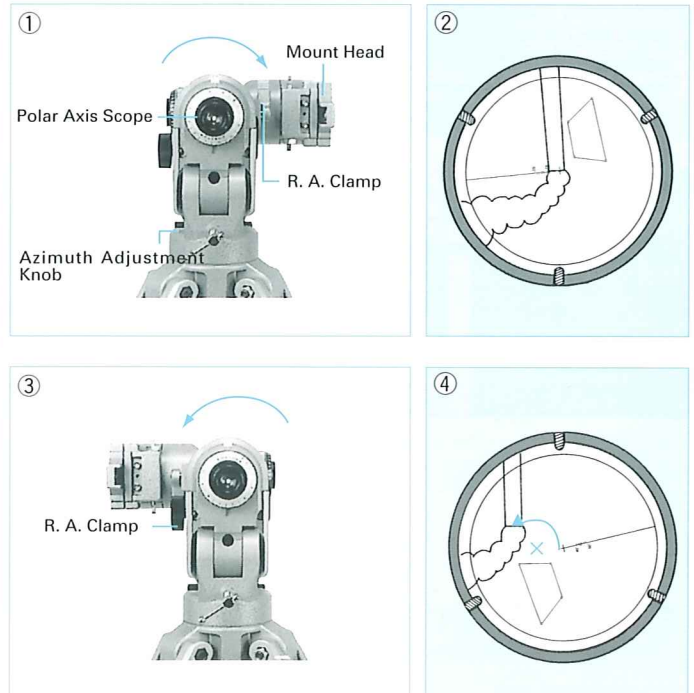


## Aligning the Polar Axis Scope

The polar axis scope is optional for the GP2 mount. If the adjustment screws are loosened or if the mount is jarred severely, the polar axis scope may have to be realigned. The optical axis of the polar axis scope must be made parallel to the rotational (R. A.) axis of the mount and the Polaris circle which indicates the proper position of Polaris relative to the pole must be set to the R. A. and hour graduation and date graduation.

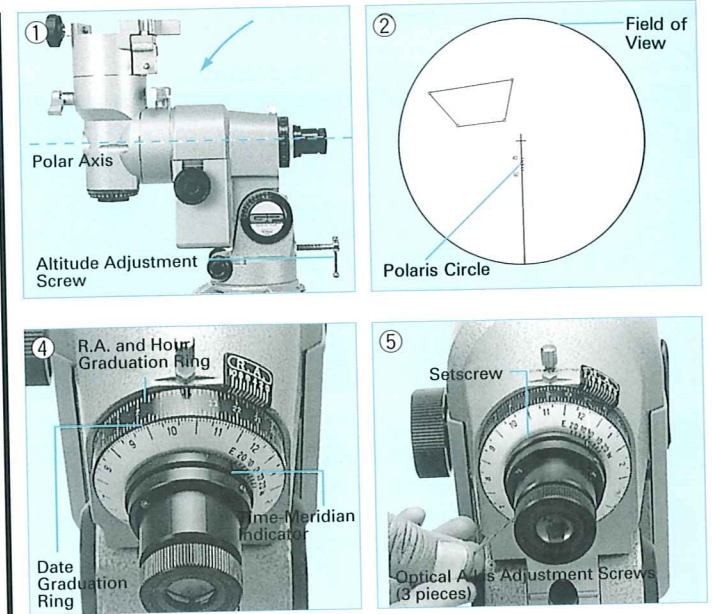
### How to know if the optical axis of the polar axis scope is parallel to the rotational axis of the mount

- ① Remove the optical tube, counterweight shaft and counterweight from the mount. Release the R. A. clamp and rotate the mount head until it is on the right side of the mount.
- ② Find an object in excess of 1km away and center it in the field of view.
- ③ Release the R. A. clamp again and rotate the mount head so that it is on the left side of the mount.
- ④ If the optical axis of the polar axis scope is parallel to the rotational axis of the mount, the object will be kept at the center. If not, it will move off center as shown on the illustration.



## [How to set the Polaris circle to the R. A. and hour graduation and date graduation]

- ① Incline the polar axis by turning the altitude adjustment screw so that it is parallel to the ground.
- ② Release the R. A. clamp and rotate the polar axis until the Polaris circle on the reticle is directly below. (Ignore the southern hemisphere reticle.)
- ③ Fasten the R. A. clamp.
- ④ Set "0 hour" on the R. A. and hour graduation ring to the R. A. indicator after loosening the graduation-ring setscrew. Re-tighten the graduation-ring setscrew. Turn the date graduation ring until October 10th lines up with 1:00a.m. on the R. A. and hour graduation ring. (At this time on this date, Polaris is at upper culmination.)
- ⑤ Loosen the setscrew that secures the ring with the time meridian indicator. Turn the ring until the time meridian indicator points to the "0" mark on the time meridian offset scale. Re-tighten the setscrew.



## [How to make the optical axis of the polar axis scope parallel to the rotational axis of the mount]

- ① Release the R. A. clamp and rotate the mount head until it is on the right side of the mount.
- ② Find an object in excess of 1km away and center it in the field of view. (The optical axis is at the center of the field of view.)
- ③ Rotate the mount head again so that it is on the left side of the mount. The object originally seen at the center will describe a semicircle around the point where the mechanical axis is pointing and will move off center.
- ④ Determine how far and in what direction the optical axis moved from the mechanical axis. By turning the optical axis adjustment screws, move the optical axis toward the point where the mechanical axis is pointing. Keep in mind that the image in the polar axis scope is inverted.
- ⑤ Repeat this process until the optical axis of the polar axis scope is centered on the rotational axis of the mount. When properly aligned, the object remains centered while rotating the mount.

