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Installing a new reticule in the Losmandy G11 polar scope, with auto-adjusting rubber “spring”

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Tools:

1. small flat-type “3.0” size screwdriver (for unscrewing reticule retainer ring)
2. 0.050 inch hex key (allen wrench) for adjusting the 3 reticule centering screws.
3. Two pieces cut from a standard rubber band, about 0.4 inch long (if you wish to remove one of the 3 adjustment screws with a rubber band “spring”)
4. Latex or similar gloves for handling reticule

Steps:

1. Unscrew front ocular, and place in a plastic bag to keep clean
2. Looking inside the front, you will see the reticule glass, held in place with a black retainer ring. The ring has flat slots 180 degrees apart.

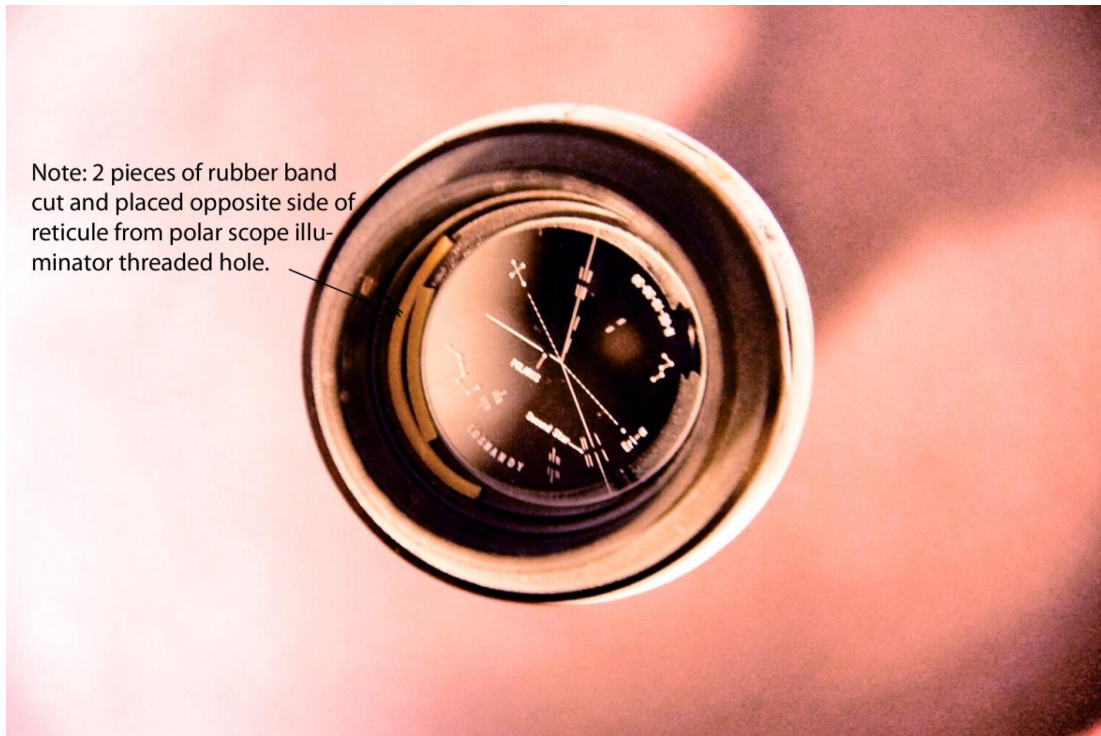


3. Looking at the existing reticule, you will be able (with a magnifier) to read “90 00 10” and “place Polaris here” from the front. When you replace the reticule, you must also be able to read the lettering properly from the front.
4. Use a small flat screwdriver, placed into one of the slots of the reticule retainer ring, and unscrew the retaining ring (normal right-hand threads).

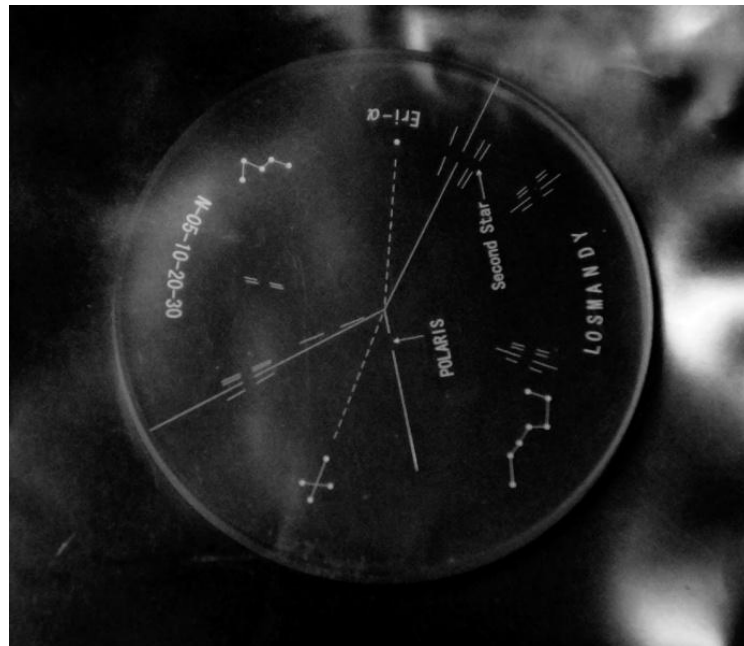


5. Using a 0.050 inch hex key wrench, loosen the 3 centering screws on the outside of the barrel
6. We will replace one of these screws with a piece of rubber band (if desired)
7. Loosen all 3 small setscrews, so that they do not protrude into the reticule space.
8. If desired to use the rubber band, unscrew the setscrew facing AWAY from the LED screw insert until its socket is close to the outer surface. This will identify where the rubber band is located.

9. Now glove your hands, with latex or other gloves, so you cannot get fingerprints or dust on the new reticule.

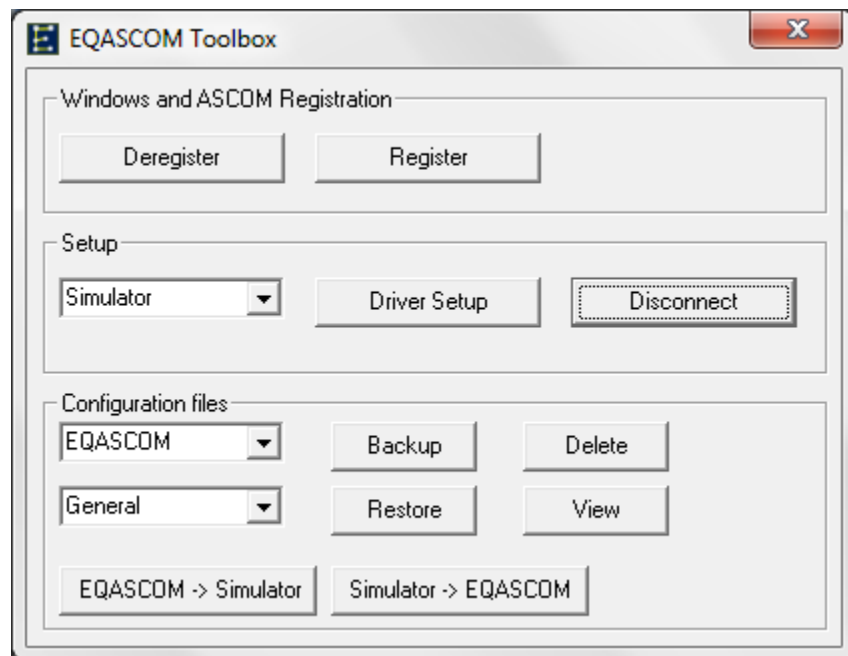


10. Place the new reticule into the polar scope, and ensure the lettering is readable from the front.
11. Note that the new (05 -10-20-30 marked) reticule glass is slightly thicker than the original (90 00 10) marked reticule.

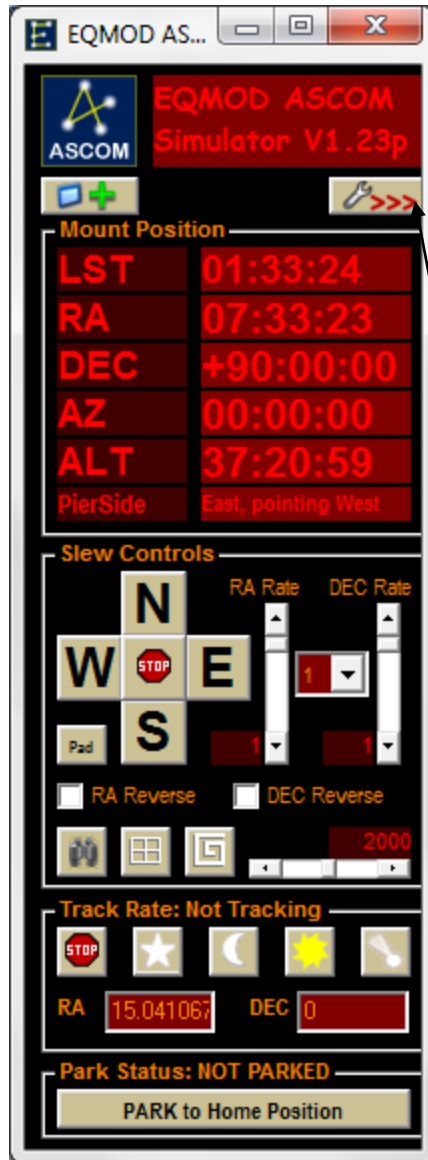


12. Place the black retainer ring, with the slots facing outward, into the polar scope

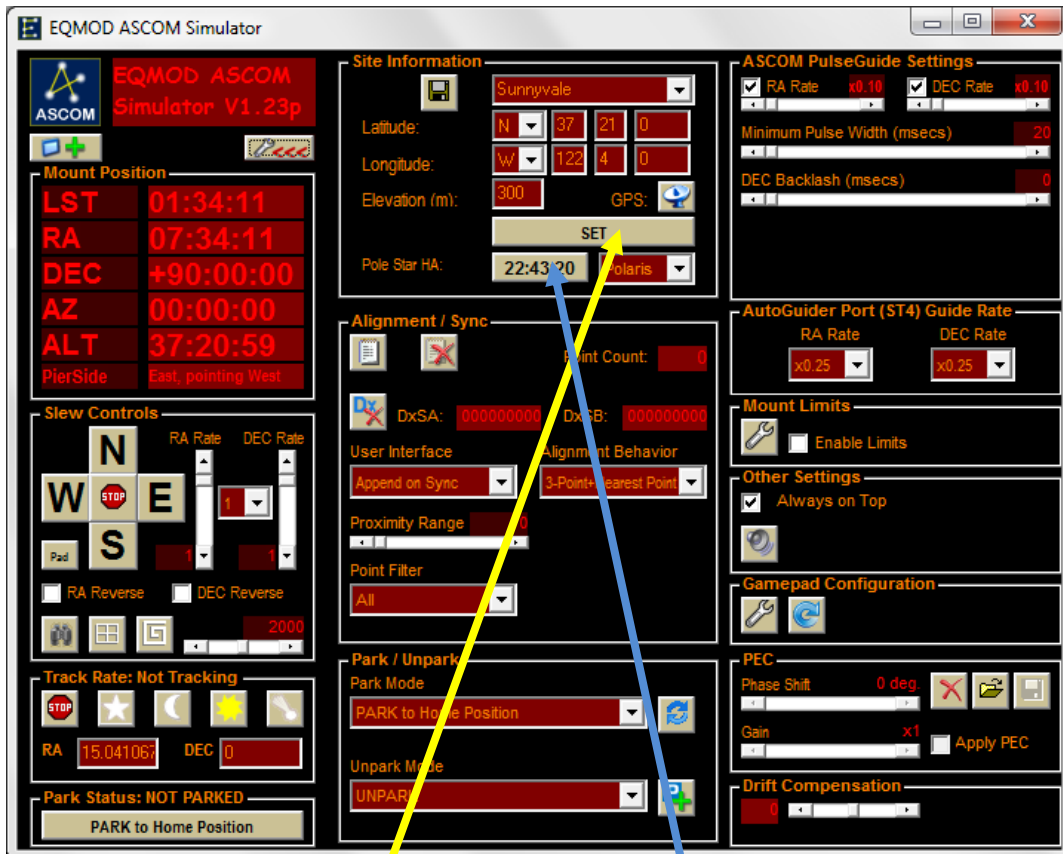
13. Use the small flat screwdriver to carefully screw the retainer ring down toward the reticule. Be sure to leave a gap above the reticule glass, so the glass is not compressed by the retainer ring.
14. Using the 0.050 inch hex wrench, screw down the 2 (or 3) centering screws so that the glass reticule appears centered in the polar scope.
15. Screw in the front ocular so that you can focus on the reticule lettering.
16. Place the polar scope into the RA axis of the mount.
17. Rotate the mount head as much as possible, and look for the center of the polar scope reticule to remain centered in the sky or background image. Adjust the 2 (or 3) centering screws until the reticule center does not move as you rotate the RA axis.
18. Now you can use the polar scope to polar align the mount.
19. To see what the view through the polar scope should look like at any moment, from any location, use the software program (for example) EQASCOM Toolbox, from the EQMOD website.
 - a. After you boot the EQASCOM Toolbox, select Setup: Simulator
 - b. Press Test Connect button



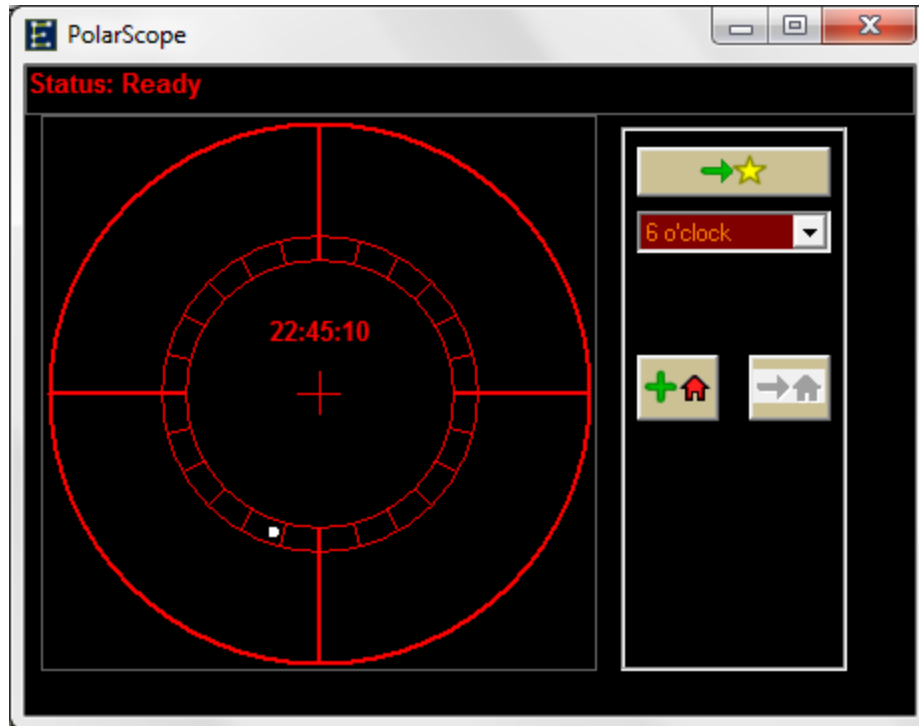
- c.
- d. Then you will see



- e. Press the “tools >>>” button or expand the right side of the window



- f. Now set your Latitude and Longitude to the proper values.
- g. Press the “Set” button
- h. Select “Polaris” from the dropdown box below the “Set” button
- i. Press the changing Clock button below “Set” button.
- j. You will now see the image you should see through the Polar scope
- k. This shows the rotation of the Polaris star.



- l.
- m. Now rotate the Polar scope body so that the Polaris position is correct with respect to the image shown by the EQASCOM PolarScope simulator program, like the image above.
- n. Then adjust the ALT and AZIMUTH of the mount, until the star Polaris is in the correct position indicated by the polar scope reticule.