

### Planetary Retaining Ring Replacement Instructions

The Burgess Optical/ TMB Planetary eyepieces shipped prior to December 16, 2005, were made with a retaining ring that had a smooth inside surface. This smooth surface resulted in flaring when bright objects were off-axis. Burgess Optical / TMB is giving replacement retaining rings to all purchasers of the 4mm, 6mm, and 9mm Planetary Eyepieces sold and shipped before December 16, 2005.



The following instructions detail replacing the retaining rings. The picture on the left shows two retaining rings for a pair of 9mm Planetary Eyepieces. The only tool required is a small jeweler's screwdriver, such as one might use to tighten the screws on a pair of eyeglasses.



Anyone who feels uncomfortable replacing the retaining ring as outlined here, please feel free to contact Burgess Optical at their information number of 865-769-8777.

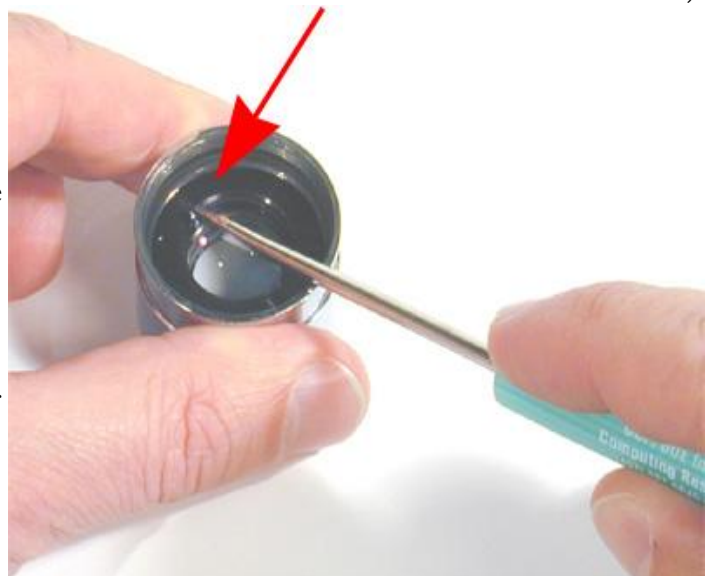
**1.** The first step in replacing the retaining ring is to unscrew the barrel from the eyepiece. The picture on the right shows the barrel after it is unscrewed from the body of the eyepiece.



To unscrew the barrel, grasp the eyepiece body in one hand, grasp the chrome-plated barrel in the other hand, and twist. The barrel unscrews with a twisting motion.

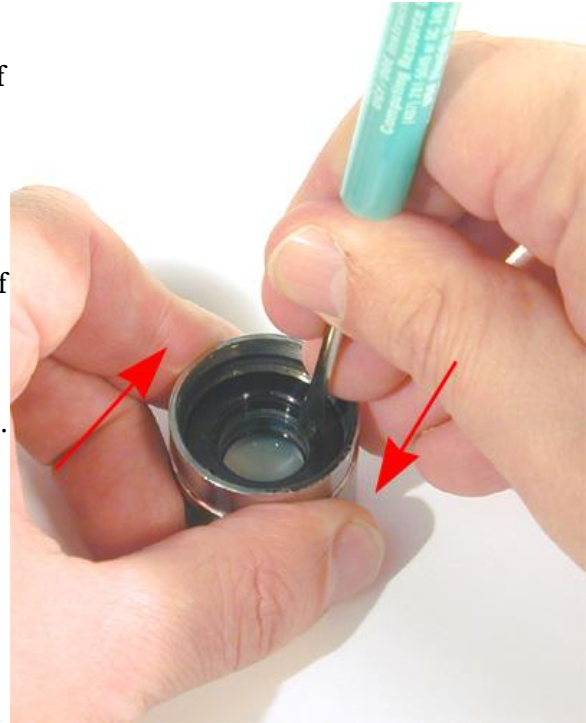
**2.** After the barrel is unscrewed, place the barrel with the filter-threaded end on a flat, smooth surface. The inside of the barrel will be facing up.

**3.** The next step is to loosen the retaining ring. Inside the barrel is a flat plate with a threaded hole. Inside the threaded hole is the retaining ring. To loosen the retaining ring, insert the tip of the screwdriver into one of the two slots in the top of the retaining ring. Holding the barrel firmly, move the tip of the screwdriver in the direction indicated by the arrow. The ring will rotate when sufficient pressure is applied.



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**4.** The next step is to remove the retaining ring. Hold the screwdriver almost straight up and place the tip of the screwdriver into one of the slots in the top of the retaining ring. Position the fingers of the hand holding the screwdriver such that one fingertip will prevent the screwdriver from slipping into the barrel and another fingertip will prevent the screwdriver from moving away from the side of the barrel. The picture to the right shows the right hand holding the screwdriver with one fingertip riding the top of the barrel and another fingertip against the side of the barrel.



Rotate the barrel clockwise (as indicated by the arrows) while holding the screwdriver stationary. The retaining ring will unscrew from the barrel.

**5.** When the top of the retaining ring rises above the level of the flat plate in the barrel, grasp the outside threads of the retaining ring by pinching the ring with your fingernails. Continue rotating the barrel to completely unscrew the ring.

**6.** Dispose of the old retaining ring. Installing the replacement retaining ring is the reverse of the above steps. Verify that the inside bore of the replacement retaining ring has a series of micro-baffles. The baffles look like thin threads. Do not be concerned with any reflections seen from the baffle flats. These reflections are outside the range of being visible

**7.** Pick up the new retaining ring by pinching the outside threads with your fingernails. Make sure that the slots are facing up. Position the replacement ring over the threaded opening and rotate the barrel in the opposite direction to screw in the ring.

**8.** When it is not possible to easily grasp the ring with your fingers, use the screwdriver as illustrated above to keep the ring from rotating as you rotate the barrel.

**9.** When the ring is snug, tighten the ring in the barrel by holding the screwdriver as shown in the picture associated with Step 3. Push the ring so it is tight. Do not use a lot of force. To ensure the ring is tight, pick up the barrel and shake it. You should not hear the glass move inside the barrel.

**10.** The next step is to screw the barrel onto the eyepiece body.

**11.** The last step is to take your Planetary Eyepiece outside, insert it into your favorite telescope, and enjoy the wonderful view through it.