



## Telescope Performance Improvements

### TPI CGE Fine AZ adjuster- Installation and care instructions

Thank you for your purchase- Your CGE AZ adjuster allows easy and fine AZ adjustment to make your POLAR alignment far easier and more precise than the stock CGE adjuster. SUPERLUBE synthetic lubricant is included for application to the components. Cut a tiny hole in the corner of the lube “baggie” to use as an applicator- SUPERLUBE goes a long way!

Installation of the operating threads is a simple operation- Two options are available:

1-A knob operates the adjuster mechanism

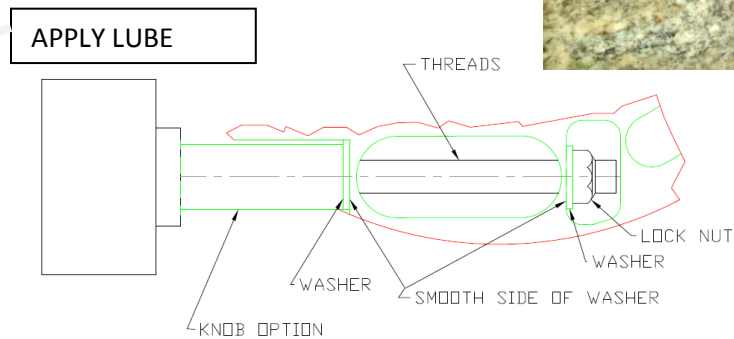
2-A “Low Profile” knobless design that requires a 3/16” Allen key to adjust

#### Option installation instructions.

1-Select the option you wish to install, place a 6mm washer on the shaft (smooth side of the washer should face the Aluminum of the adjuster disc)

2-Place the adjuster pin into the slot in the adjuster disc. (put a little lube into the top of the pin and around the sides of the pin)

3-Align the threaded hole with the holes (path) of the adjuster threads.



4-Pass the threads through the adjuster disc and start threading it into the adjuster pin. Continue threading until the washer seats on the aluminum disc and the adjuster pin is about half way in its travel as shown.



Apply a little lube on each side of the washer and onto the threads to fully coat them (keep lube from the last 3/8” of threads where the nut will fit)

5-Place a washer on the end of the threads as it passes through the end of the adjustment channel. Apply a little lube on each side of the washer- DO NOT GET LUBE on the last 3/8" of threads.

6-Using needle nose pliers place the supplied nylon lock nut on the threads and turn the knob or Allen adjuster to tighten the nut on the threads. Tighten the assembly until the nut contacts the washer and there is a very slight resistance (there should be no play between the nut and the knob adjuster).



7-Fully move the adjuster until the pin travels all the way to each side of the slot to spread the lube fully onto the threads and slot (add extra to fully coat)

8-After step 7 recheck the tension on the nut and tighten very slightly if needed to achieve the slight tension and no play.

### Installation of the adjuster to your mount

1-Remove the stock hold down knobs and the center 1/2" bolt holding the orange plate to the existing AZ adjuster.

2-Separate the 2 discs, and remove the 4 button head screws holding the disc to the CGE mount yoke.



Remove 4 bolts

3-Decide the orientation of the adjuster- the Knob or adjuster can be orientated to the front or to the back of the mount- This orientation also affects the alignment of the mount on the electronics pier. It is advised to trial fit the assemblies so you are sure of the desired arrangement. (The stock orientation is with the adjuster pointing toward the counterweight shaft)- orienting the adjuster to the back of the mount aids in adjusting the polar alignment while looking through the Eyepiece. NOTE orientation to the front of mount means the counterweight shaft is NOT over a single leg. **It is recommended that while on a tripod- use the front facing orientation-** while on a pier the rear facing OR front facing can be used.



Orientation to Rear of mount



Orientation to front of mount

4-Using the stock bolts- Attach the TPI disc to the mount- tighten firmly.

5-Carefully inspect the small slot in the stock orange disc- remove and smooth any burrs on the corners of the slot caused by the stock adjuster cam- clean away any dust and debris from BOTH discs. Any dirt between the mating surfaces will adversely affect the overall motion and smoothness of the adjuster. (smooth down any rough spots or nicks on the mating surfaces)

5-Apply some lube (thin coating) to the mating surfaces of the 2 base discs, the large round recess and boss, and to the pin where it will slide in the slot in the stock orange adjuster.

6-Assemble the orange disc to the TPI adjuster disc- watch that the pin fits into the slot in the orange disc.

7-Put a little lube on the smooth side of the large 1/2" washer and the large nylon washer and place it over the center threads (nylon washer first then the smooth, rounded edge side of the steel washer against the nylon)- rotate the washers to spread the lube and apply a small amount to the top of the washer so that it will be in between the washer and nut . Apply the nylon lock nut and tighten the nut (3/4 wrench or socket) until the steel washer JUST becomes difficult to move. DO NOT tighten excessively, you are looking for JUST SNUG while still allowing the washer to be moved and rotated (with some small resistance) Check adjuster for smooth operation and adjust if required.



APPLY LUBE



8-Install the supplied hold down wing bolts to the mount (be sure to use the supplied nylon washers between the knobs and the aluminum disc to protect the finish.) Clean away any excessive lube from the assembly.

ENJOY!



## Adjusting and care of your new Fine AZ adjuster

When adjusting your AZ adjuster make sure to LOOSEN the hold down knobs- This is imperative to prevent damage to the adjuster mechanism! Since you have properly tensioned the center bolt and nylon lock nut, there will be no play that will affect the ALT adjustment once the AZ knobs are released.

Periodic re apply of lube MAY be necessary due to use- if stiffness develops in the adjuster simply re-lube for best results (The initial application should last a several seasons at least)

Comments or questions please contact Dave Yates at [dave@tpiastro.com](mailto:dave@tpiastro.com)