

## Losmandy Titan Reassembly

Ed Wiley and Daniel Maloney, Stellar Skies Observatories

Background: Wiley received a Losmandy Titan used from California. It worked very well with the Gemini 1 system, so Wiley did not bother to service it. However, when Wiley installed Gemini 2, it reported motor lag in both RA and Dec. Maloney, who is very experienced in mount servicing, strongly suggested that the mount needed to be serviced, leading to this report. Maloney figured out the problems as we tried various solutions.

We consulted the excellent *Titan Tips* by Bob Allevo. During disassembly Wiley noted that the order of parts was not exactly as described in this document. After much puzzling and fitting, Maloney concluded that this particular Titan 50 does not fit the order of reassembly described in *Titan Tips*. This may simply be due to variations in the Losmandy Titan (25 versus 50?), we don't know. What follows is the order of reassembly that seems to work for this particular specimen of the mount. We do not cover worm servicing and aspects of fine tuning.

Disassembly: To begin the process of cleaning and lubricating, the mount was disassembled in in order, with each part arranged linearly on a table. Bearings were then serviced and reassembly begun.

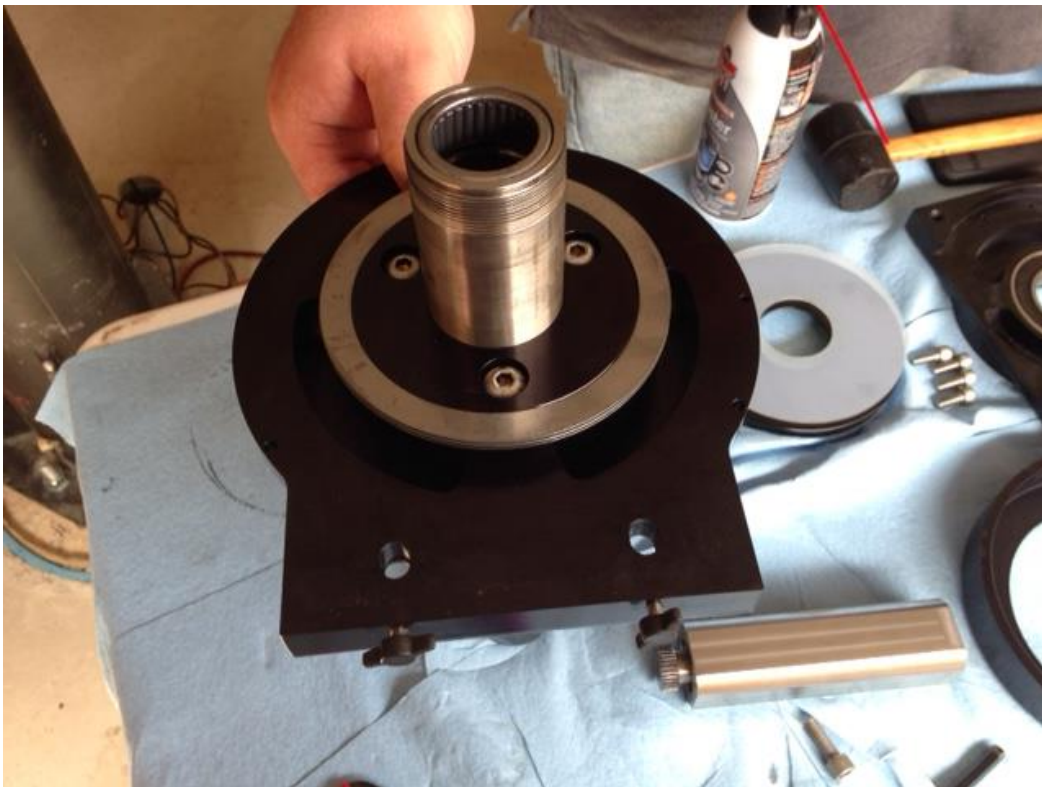


Photo 1. Race bearing placed on the Dec housing. Note that bearing has been degreased as much as possible and lubricated.

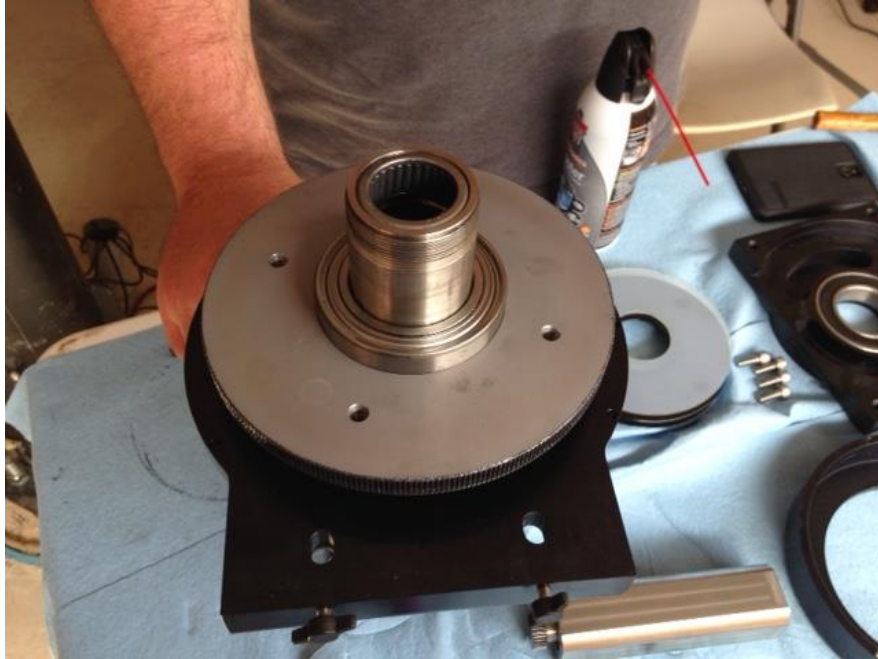


Photo 2. Dec gear placed on top of race bearing (again after clearing and lubricating).

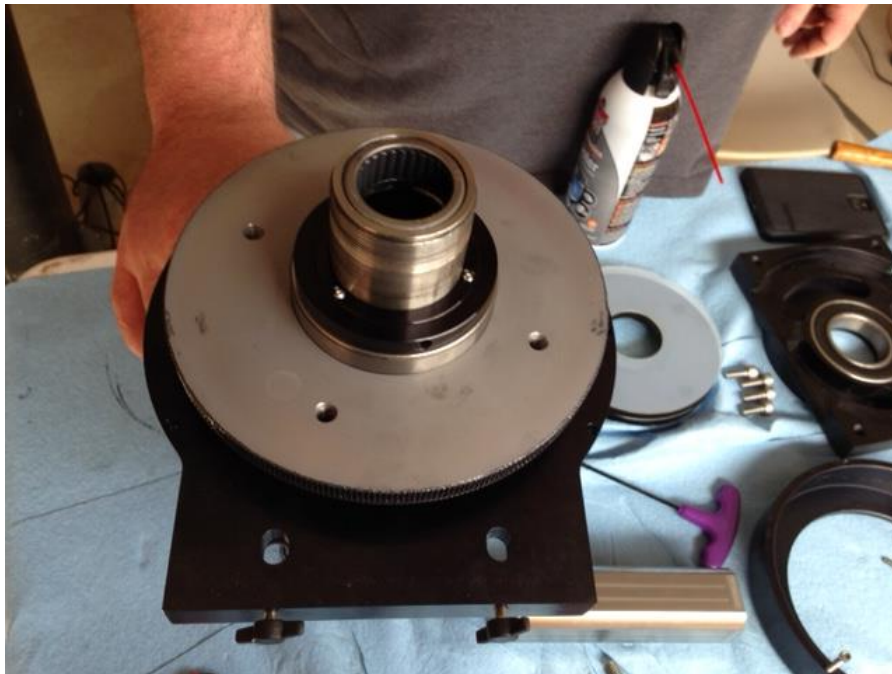


Photo 3 Gear “keeper” installed. It’s important to insure that the Dec gear is properly seated with gentle pressure during tightening of the “keeper.”



Photo 4. Gear housing fitted. Make sure that during installation you do not bump the gears.

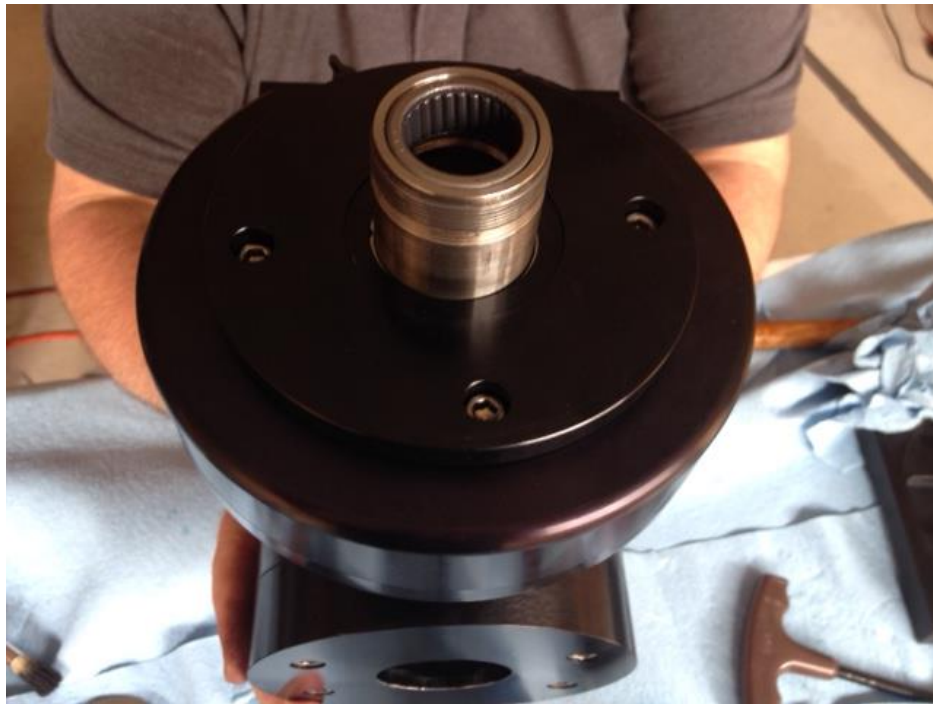


Photo 5. The bottom clutch plate is then installed.





Photo 6. This is the first part of the installation that differs from Titan Tips. Compare to photos 8 and 9 below. The wavy washer is installed in the machined recess of the lower clutch plate BEFORE the installation of the clutch pad (see Photo 7).

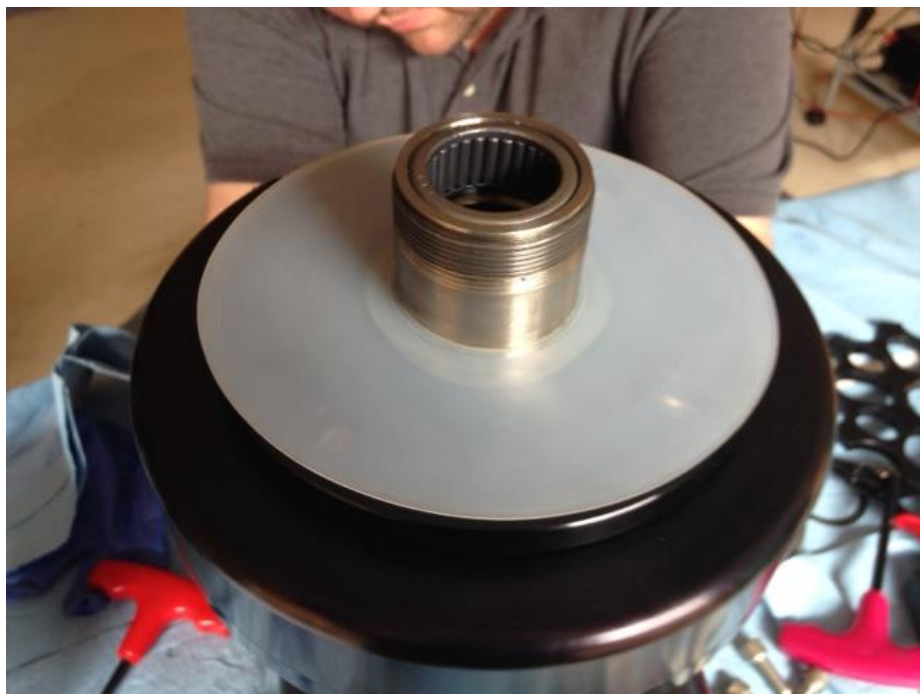


Photo 7. The clutch pad is installed directly over the wavy washer.

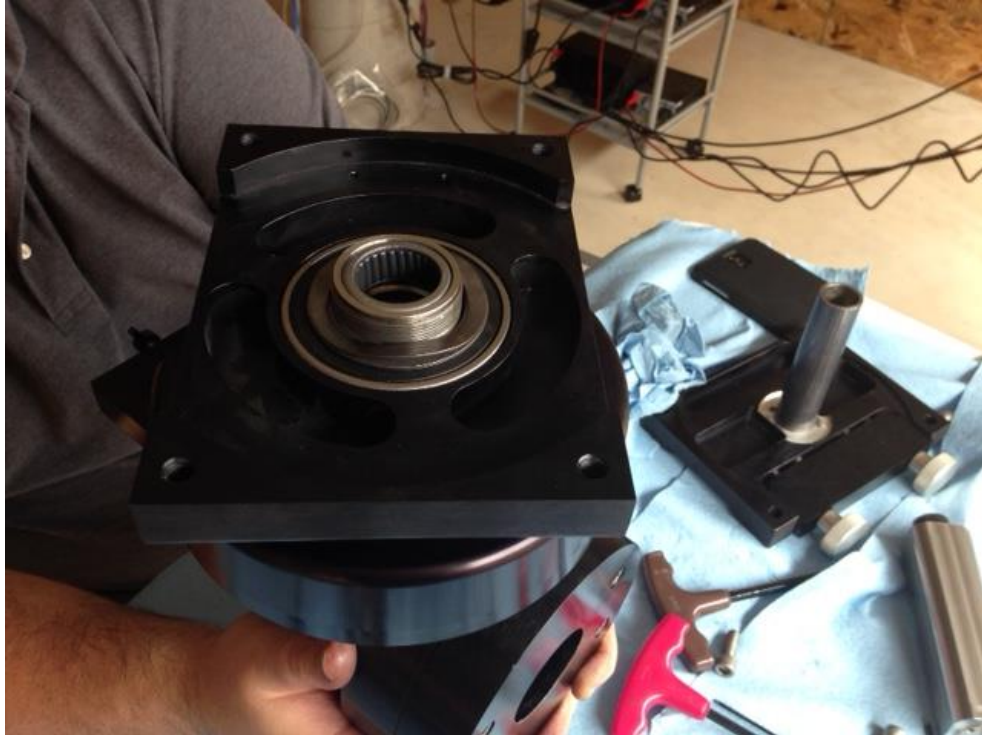


Figure 8. The plate that holds the Pressure Wheel is slipped onto the shaft. Note there that there are two washers, a normal one under the wavy washer. This is NOT correct for this mount. There should only be the normal washer, the wavy washer was installer earlier over the lower clutch plate.



Photo 9. Detail of Photo 8. Again, ONLY the flat washer is installed, NOT the wavy washer and not two wavy washers. More explanation: If you try to install as in this photo, the pressure wheel does not work properly, it binds because there is not enough clearance once the snap ring is installed.



Photo 10. The pressure wheel is mounted. Screw it down far enough to permit the snap ring to be installed. Photo from Titan Tips.



Photo 11. Snap ring shown before the pressure wheel is screwed down to permit installation. Photo from Titan Tips.

Once done, simply install the saddle with its shaft.

The RA assembly is relatively simple. In particular, the wavy washer goes into the machined recess of the of the lower clutch face behind the clutch.

Other notes:

1. It is entirely possible that the “Titan Tips” placement of the wavy washer below the pressure wheel was correct for that particular Titan. When we tried that configuration the pressure wheel suffered binding.
2. Although the “Titan Tips” suggests that the hex screws that hold the worm housing should be loose, we found that the worm housing wiggled when hex screws were loose. Snugging them up did not seem to affect worm performance.