Installing the Partridge RA Extension on Losmandy G11

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Tools:

3/16 inch hex key (allen wrench)

[If desired for DEC indicator ring friction improvement: flat screwdriver, and 3 small metric Orings]

Steps:

1. Remove OTA and any mounting rings if present.

You may wish to separately remove the OTA first, then remove the mounting rings and dovetail, to reduce the weight of each component.

- 1B. Remove the OTA.
- 1C. Remove the dovetail and mounting rings.
- 2. Disconnect the DEC motor cable, so the DEC axis can be removed without interference.
- 3. Remove all counterweights from the large stainless steel counterweight shaft
- 4. Remove counterweight shaft (large stainless steel shaft unscrews from DEC axis)
- 5. Unbolt the 4 hex-head stainless steel bolts from the front of the mount, shown below. Be careful removing the final bolt, as the DEC front and 4" dovetail top are heavy.
- 6. On the workbench, put the DEC assembly so that the round back of it is facing up.

7. Unbolt the 4 hex head bolts (3/16 inch socket) using the hex key allen wrench. You will then see the front top which facing surface touches the RA friction plastic disk.



8. Looking at the back face of the RA assembly that was removed, you will see the picture below.



9. Remove the existing black metal spacer disk, about 1/2 inch thick, shown in the image above. You will re-use the 4 stainless steel bolts that hold that in.



10. Install the new RA spacer disk, using the 4 existing hex head bolts.



11. Tighten down the 4 bolts.

12. You may wish to remove the RA axis from the G11 mount, to clean the friction disk and mating surfaces with isopropyl alcohol and paper towels. To do this, unscrew the back tension knob and its compression washer and roller bearing and washers. Then pull the RA shaft out from the mount along its axis. Once you pull this axis off, you will see the plastic friction disk.



13. Once removed, you will now see 3 stainless steel flat head bolts that hold down the RA indicator ring (marked from 0 degrees to 360 degrees).



14. If you wish to improve the friction holding that indicator ring, unscrew the 3 stainless bolts, and install small rubber O-rings on the shaft under the screw top of each. Then screw these back down. I used 5mm ID x 9mmOD x 2mm sized rubber O-rings available at auto parts stores.





15. Clean the (white) friction disk with alcohol on both sides, and also clean the mating black anodized aluminum surfaces with alcohol. Dry off the surfaces with a clean paper towel.

16. Install the RA shaft back, and install the rear roller bearing, compression washers and compression spring, and knurled back knob.



17. Install the front of the DEC axis, using the original 4 hex head bolts. Be careful as the DEC axis front is heavy. Put the 4 screws into the countersunk bolt holes. Allow at least one bolt to extend through its hole, and then line up that single bolt into the tapped hole. Once one bolt is lined up and started, the other 3 bolts will start more easily.





- 18. Tighten down the 4 front bolts.
- 19. Rotate the RA axis and ensure there is smooth rotation, and that the Dovetail mount does not collide with any motor parts.



- 20. Reinstall the Counterweight shaft.
- 21. Install the counterweights, but putting them toward the far end (bottom, pointing down) of the counterweight shaft.
- 22. Install the dovetail plate (and rings if applicable).
- 23. Install the OTA.
- 24. Reconnect the DEC axis motor cable.
- 25. Balance the RA axis, by loosening the RA axis nut at the back of the mount, and then sliding the counterweights on the shaft until the telescopes is balanced in RA.
- 26. Balance the DEC axis, by loosening the DEC axis nut above the counterweights, then adjusting the dovetail position, until the telescope is balanced in DEC. Anticipate the weight of any imaging camera gear you will be using.
- 27. Tighten both RA and DEC axis so they do not slip.
- 28. Optional: Check for excess play in the RA axis, and adjust the worm spacing as necessary.
- 29. Done.

