

## Adding a Motor Drive to an EQ80-A Mount

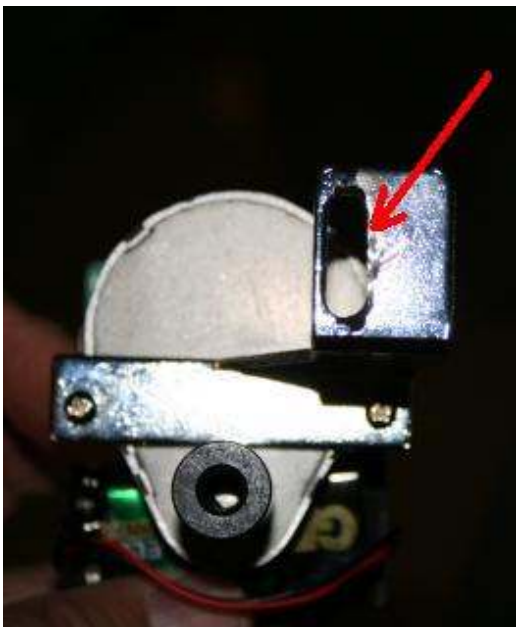
I purchased a new Meade EQ80-A GEM mount for \$50 from Telescope Warehouse on Ebay. I am using this mount with my Orion 102mm Mak as a grab and go configuration. Having recently gotten into CCD Astrophotography, I got the bug to add a RA motor drive to the mount to try and use it to take some pictures. There is supposed to be a motor drive available for this mount, but after quite a bit of searching I was unable to locate a dealer who carried them or was able to get them. On to the next best thing, off to see what I could find to make work. My almost local Telescope dealer (20/20 Telescope) had an Orion EQ-2 AstroTrack drive that looked like it would work. Well, it's not quite a bolt on but a few simple mod's and we are on our way.



- 1) You need to remove the clutch lock lever and mounting post.
- 2) Remove the gear off the drive shaft.



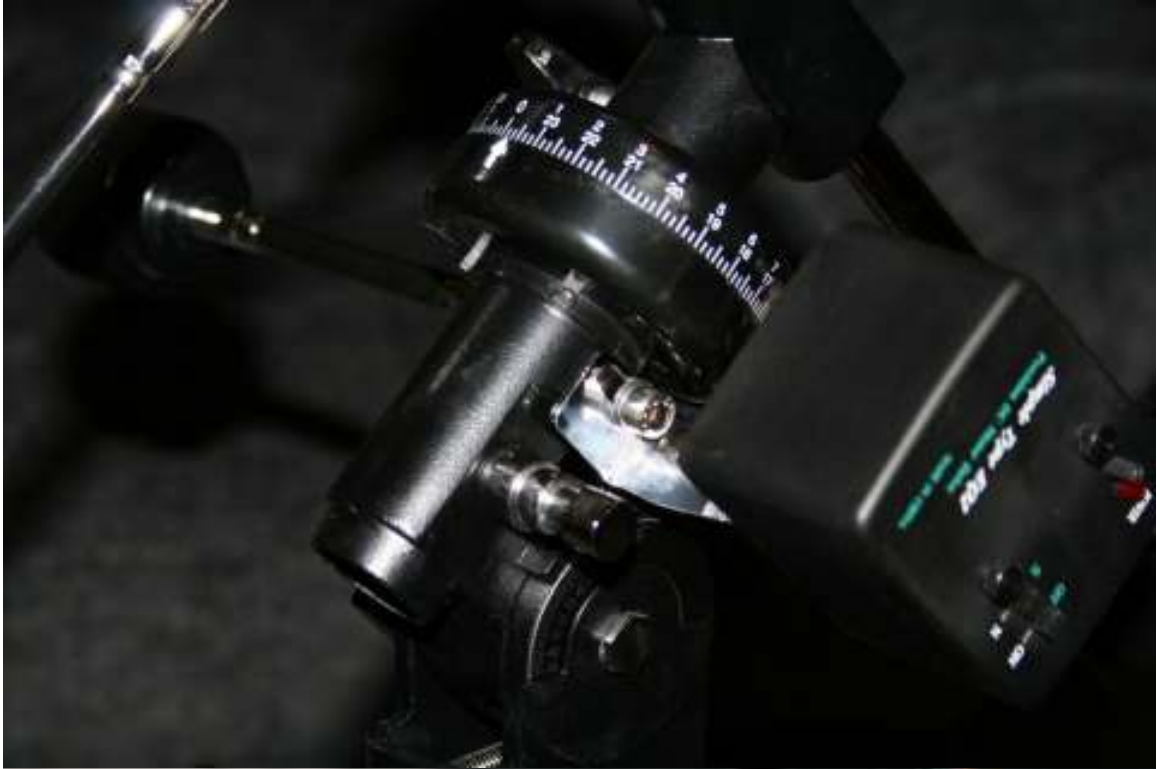
The hole for the clutch shaft aligns up real nice for mounting the AstroTrack drive mounting bracket. This hole is tapped with metric #6 threads. Off to the hardware store and I picked up a few short metric #6 stainless steel fasteners, lock and flat washers to go with them. I settled on a hex (Allen) head one with one flat and one lock washer. Along comes my first problem. The fastener is a larger diameter than the slot in the drive mounting bracket. Out with the Dremel tool and a small grinding stone and I enlarged the slot slightly. I removed a small amount of material from the one side of the slot, approximately 1/64" or 1mm, just enough so the fastener fit through without binding.



The ascension drive shaft is nice and round and chrome plated. The AstroTrack drive coupler has a thumb screw for locking it to the mount drive ascension shaft. Without a doubt the coupler would slip on the chrome shaft at some point in time. The solution was to put a flat on the shaft. Using a felt tip marker I placed a mark directly across from the thumb screw on the slow motion drive cable. This was done on purpose to have a point of reference as the thumb screws on both sides would always align directly across from one another. Back out with the Dremel tool and I ground a flat spot into the shaft.



At this point we are all finished with the required mod's and the AstroTrack drive will bolt right up.





As you can see, with the exception of it being mounted upside down it's a perfect fit.

So I put the Mak (102mm F12.7 1300mm) back on and went out in the back yard. Did a quick polar alignment found M31 and after a few tweaks to the speed control I felt it was tracking at a reasonable rate. Put in a 9mm eye piece and centered it in the FOV. Watched for awhile, then went back in the house and cleaned up my mess. Came back, it's now an hour later and M31 is still sitting dead center in the FOV. I hate to say it, but it looks like it tracks better than my LXD55 mount.

\$60	Meade EQ80-A mount (50+10 shipping)
\$36	Orion AstroTrack EQ-2 drive
\$ 1	Stainless Steel Metric Fastener and washers
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\$97	Total Investment

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