

SETTING HOME POSITION

For German Equatorial Mounts

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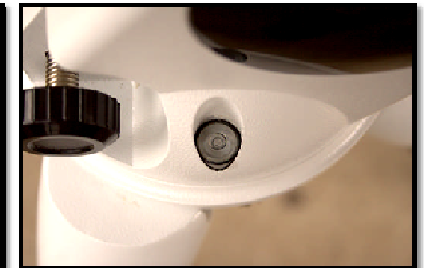


The method described below represents my interpretation of the method written by Mon in the Documentation for the EQMod project. This setting is crucial in order to correctly home position a German Equatorial Mount in order to achieve a relatively good GoTo first time the mount is powered up. It is also important for the use of setting circles on non-GoTo mounts. The tutorial is done using my mount, a EQ6 mount from Synta, identical to the Orion Atlas one, but it can be without any problem extrapolated for any other GEM.

1. Level the mount to the best of your abilities using the tripod or mount bubble.



Before leveling



After leveling

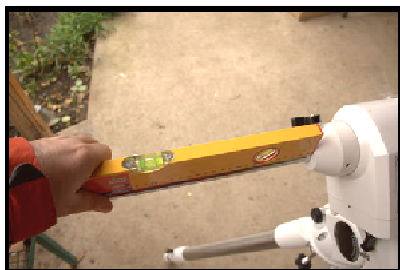
2. Rotate the RA mount head so that when viewed from the back, the counterweight shaft is to you left. Place the level on the shaft and level it to the best of your abilities.



Without counterweights, the OTA will get tend to fall to one side, so be sure that you lock firmly the RA and when you unclamp it, you hold it well.



Rotate RA with Cw Shaft to the left



Level the shaft to horizontal

3. Set the RA setting circle to read 6 where the pointer is. The scale to be used is the bottom one for Northern Hemisphere and the upper one for the Southern Hemisphere. Screw tightly the setting circle in this position.



6 o'clock set on the RA setting circle



Alternatively you can rotate the Cw shaft to the right and set the hour to 12 o'clock, but this will inverse the next steps. I personally don't recommend it unless you are very familiar with this technique and for personal reasons you prefer it the other way around.

4. With the mount still tilted counterweight shaft horizontally, unclamp and set the DEC to horizontal position according to the bubble level. Clamp mount when leveled.



Level the OTA to horizontal position



Check bubble level



If you don't like doing the Home Setting with OTA on the mount you can skip this step and after 3 you can go to 6 and then to the ALTERNATIVE METHOD.



There might be misalignments in you OTA due to the dovetail, so there might be problems when mounting the OTA later on.

5. Set the DEC Setting Circle to read the exact latitude of your site. The same number should be found on you mount's altitude setting. For my site this is 45° N. The scale should be chosen so that when you move the bottom of the OTA upwards, the scale goes to "zero" degrees.



45° set on the DEC Setting circle

6. Unclamp RA axis and move the mount to "zero" and clamp it. Unclamp and move DEC axis to 90° and then clamp it again.



Move RA axis to "zero" reading



Move DEC axis to 90° reading



If OTA is mounted, pay attention when unclamping so it will not slip uncontrolled.

7. The telescope should now point straight to the North Celestial Pole. The position should be similar to the one in the picture below.



Telescope pointing straight up to the NCP.

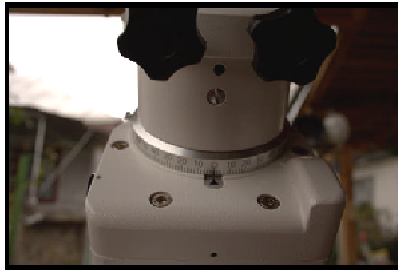
ALTERNATIVE METHOD

- NO OTA -

After unclamping the RA axis and setting it to read “zero”, place the bubble level to the head of the mount, where the dovetail should be be. Set it to horizontal and set the setting circle of the DEC axis to read “zero”. Then unclamp and rotate the DEC axis to read 90°.



Level DEC axis

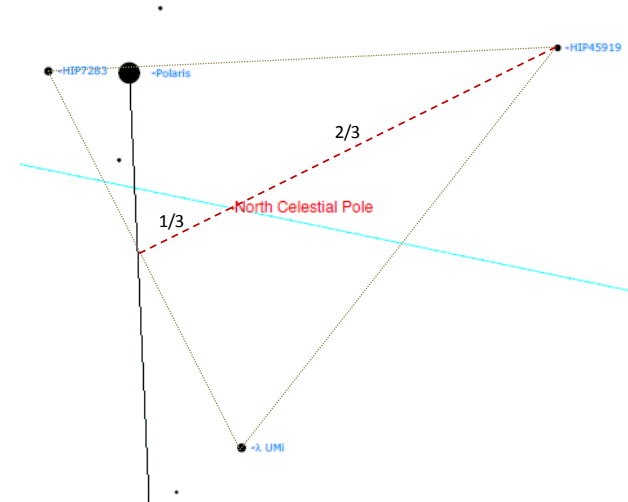


Set DEC Setting Circle to read “zero”



Rotate DEC axis to 90°

Now, if the true field of view of the telescope + eyepiece used is a little above 2°, Polaris should be in view. Also, the Polaris area asterism should become apparent, thus enabling us to roughly evaluate the Polar Alignment of our mount.



The stars in the asterism are around 7 – 7.5 in magnitude and the angular distance between them with some room to spare is 2° 12'. For this method, and for others I recommend a low power eyepiece with a large FOV. I for example use a 50mm ERFLE design that coupled with my system yields a 3° true field of view.



There are many Eyepiece calculators available on the Internet, but this one suites me fine:
<http://www.davidpaulgreen.com/tec.html>