



## HEQ5 Belt Modification Kit.

Thank you for your purchase. Please read these instructions fully before fitting.

Your package should contain –

- 2 of 47 tooth aluminium pulleys
- 2 of 9 tooth aluminium pulleys
- 2 of belts 6mm wide x 2.5mm pitch x 177.5 long
- 1 of white acrylic cover spacer.
- 2 of 5.0 x 32mm steel pins + collars
- 2 of white delrin idler rollers
- 6 of M3x16 long stainless steel socket head screws.
- 3 of allen keys, 1.5, 2.0, 2.5mm

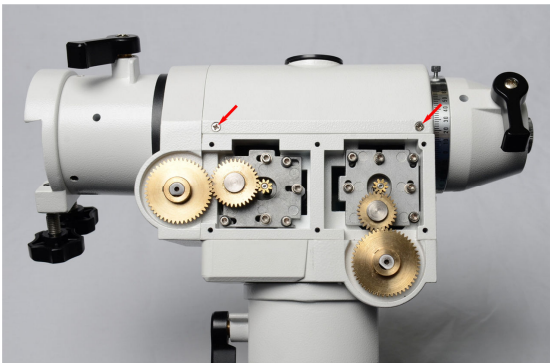
### Installation.

We recommend leaving the mount on its tripod and placing a clear working table along side.

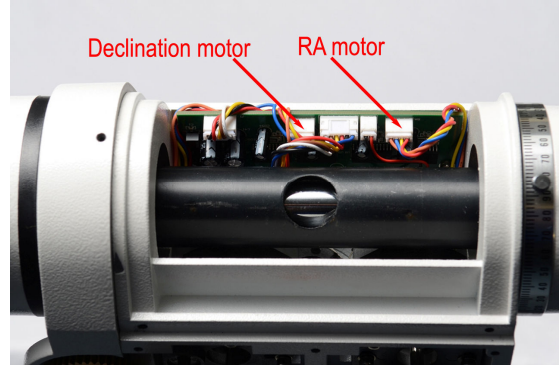
1. Remove the 6 x cover screws and place the front cover to one side.



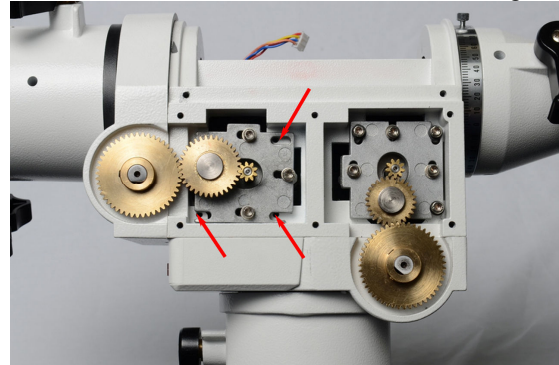
2. Remove the 5 declination shaft cover screws, 2 front and 3 at back of the mount. Place this cover to one side.



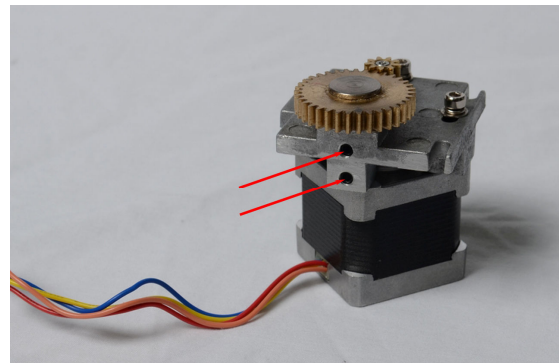
3. It is recommended to work on 1 axis drive at a time. Identify the declination motor connector and carefully un-plug the motor lead from the circuit board. Note the route of the motor wires. It may be necessary to un-twist the motor wires from other cables.



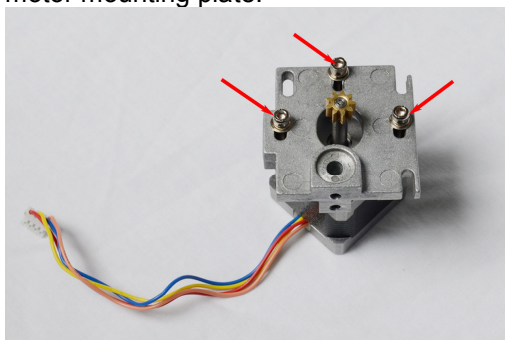
4. Remove 3 motor plate screws and carefully withdraw the motor from the mount housing.



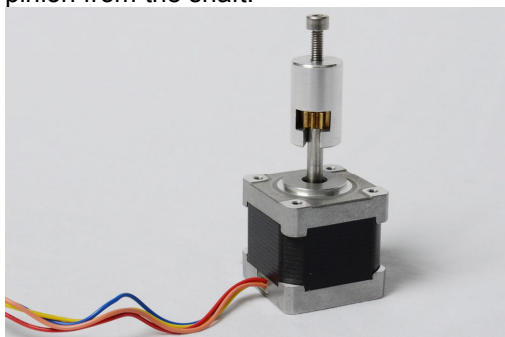
5. Slacken 2 grub screws in the edge of the motor plate and remove the idler gear and shaft. Place to one side.



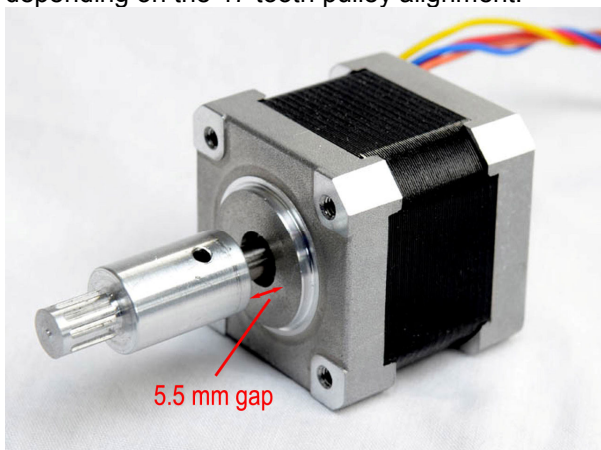
6. Note the position of the motor wires relative to the motor plate for later re-assembly, Dec and RA wire position are different. Remove 3 screws from the motor mounting plate.



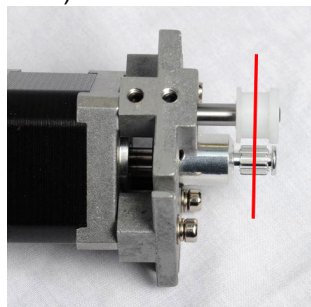
7. Place the pinion extractor over the pinion gear. Locate the tip of the extractor screw in the centre of the motor shaft and tighten the screw to pull the pinion from the shaft.



8. Fit the 9 tooth pulley on to the motor shaft and gently 'nip' the 2 x m3 grub screws. (Nip is to gently tighten with the allen key without using excessive pressure.) Do not over tighten. An approx. 5.5mm gap will be between the pulley and the raised face of the motor. This may need to be adjusted later depending on the 47 tooth pulley alignment.



9. For the Dec axis, fit the 5.0mm pin and idler roller in to the motor plate and tighten the top m4 grub screw. The pin should be positioned so the pulley and idler are centred. (The larger idler fits to the RA axis.)

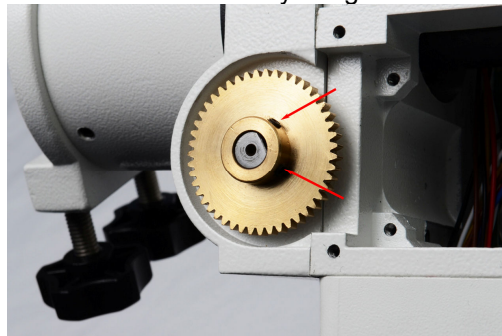


Note: the 5.0mm hole may have residual loctite which will need to be cleaned before fitting the pin. The pin should be a free sliding fit.

10. Replace the screws holding the motor plate and motor. Position the motor wires as noted in step 6.



11. Slacken the 2 grub screws holding the drive gear. The gear may need to be gently levered off the end of the worm shaft. Clean any burrs left on the worm shaft by the grub screws.

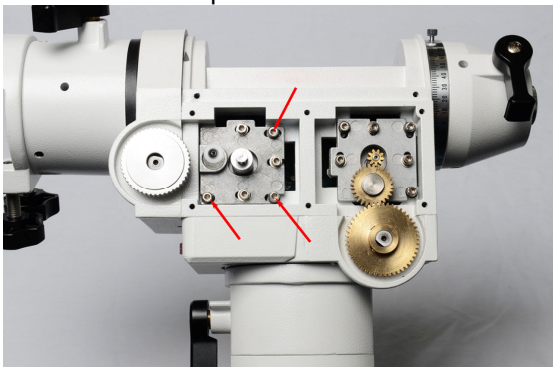


12. Fit the 47 tooth pulley on the worm shaft and 'nip' the 2 retaining grub screws. A gap of 1.0 to 2.0mm should be behind the pulley and housing.

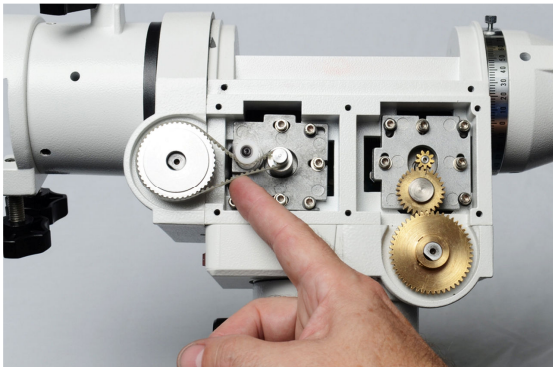




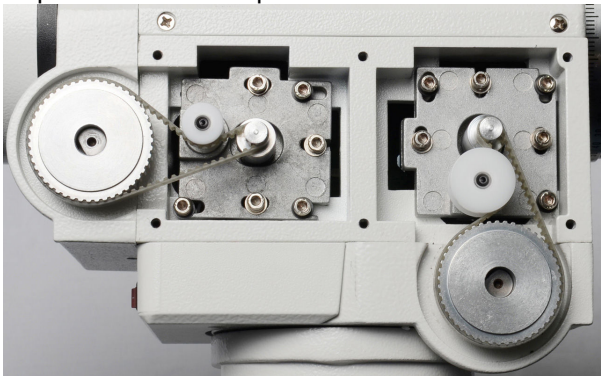
13. Replace the motor in to the mount housing carefully feeding the motor wires back to the circuit board. Carefully check the wiring does not interfere or touch the declination shaft. Replace 3 x screws to secure the motor plate.



14. Loop the toothed belt around the pulleys and roller as shown. Gently slide the motor plate to tension the belt and 'nip' the screws to hold in position. The belt should deflect about 2mm with very light finger pressure only. Do not over tension the belt.



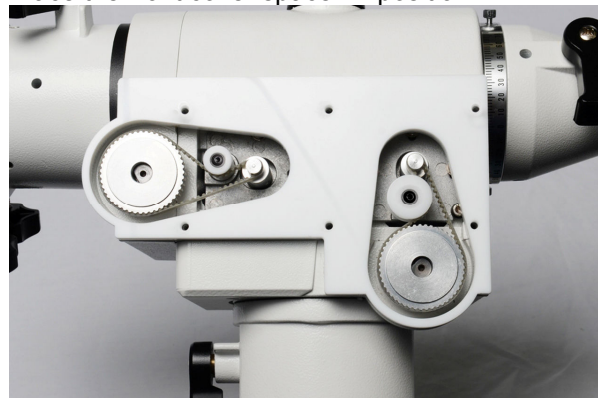
Repeat the above steps 3-14 for the RA motor.



Once the RA belt has been fitted it is now a good opportunity to check the drive operation. Power up the mount and slew the axis drives using your handset.

15. Replace the declination shaft cover in position and secure using the original 5 countersunk screws.

Place the front cover spacer in position.



Fit the front cover in position on the spacer and using 6x M3x16 socket head screws, gently tighten down.



Your belt conversion is completed.

For further information or advice about fitting the belt kit please e-mail Rowan Astronomy at [sales@rowanastronomy.com](mailto:sales@rowanastronomy.com)

A .pdf version of this instruction sheet with higher resolution photos is available in the support section of [www.rowanastronomy.com](http://www.rowanastronomy.com)