

# ASSEMBLY INSTRUCTIONS SP / EQ5 MOTOR KIT

Contents:     2 x Motor Assembly (16 teeth on motor gear)  
              2 x Gear Wheel 58 teeth  
              2 x Cover Plate  
              1 x M6 bolt 16mm  
              1 x M6 bolt 40mm  
              2 x M6 spring washer  
              4 x M3 bolt 6mm

Tools required:     Philips screwdriver No 1  
                      Allen key 2.0mm  
                      Allen Key 5.0mm

This is a precision piece of equipment and care is needed to make sure that the mount is in a condition to give the best from the drive. The two slow motion shafts must not be difficult to turn but yet they must not be so loose that there is a lot of backlash present. There are adjustments controlling the fit of the worm in the wormwheel which should be done if these conditions exist. Also when the telescope axes are unclamped they should be free to turn without any drag, otherwise the bearings may need adjustment.

## **RA AXIS**

Remove large rectangular plastic cover by undoing small Philips screw. This reveals the metalwork for mounting the motor.

The large manual slow motion knob can be left on although it will not be usable when the motor is powered.

Assemble the 58 tooth gear (boss first) onto the RA slow motion shaft. It may be a tight fit, if so rub the shaft down with emery cloth to reduce its diameter slightly. The grub screw must be done up to rest on the flat of the shaft to stop rotation when in use.

Move the altitude control of the mount so that there is access to the motor mounting hole from the rear. Put the spring washer on the 40mm bolt and offer up to the Allen key. Slide the whole assembly up the rear until the bolt comes out and fix the motor plate to this. Screw in but do not tighten yet.

The position of the motor must be adjusted so that it is correctly lined up with the gear on the slow motion shaft. When it is correct there is very little backlash in the gears and the faces of the gears on the motor and the shaft are all parallel. The motor itself will be parallel to the mount metalwork. When all appears fine then tighten up the 58 tooth gear wheel and the motor mounting screw.

Rotate the slow motion knob to ensure the gears are not binding and there is very little backlash to the motor.

Finally assemble the gear cover metal plate with two M3 bolts.

## **DEC AXIS**

This follows the same procedure as the RA axis except the motor mounting bolt is 16mm long and is easily accessible on the mount.

## **POWER UP**

Check the motors operate to the slew rate required with the correct load on the telescope.

## **MAINTENANCE**

Occasional wiping of the gears may be necessary with a thin oil to remove deposits. The gears should also be greased using a lithium based grease with molybdenum disulphide.

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