

Orion® AstroTrack™ 9V DC Motor Drive for EQ-1B Mount

#21047

For owners of an Orion telescope that includes the EQ-1B equatorial mount (see list at right) – which is slightly different from the standard Orion EQ-1 mount -- you will need to replace the mounting bracket that comes pre-installed on the AstroTrack motor drive (#7812) with the extra one included in this package. This Addendum provides instructions for how to replace the bracket and install the motor drive on the EQ-1B mount. For more information about the AstroTrack motor drive itself and its operation, refer to the instruction manual IN 154

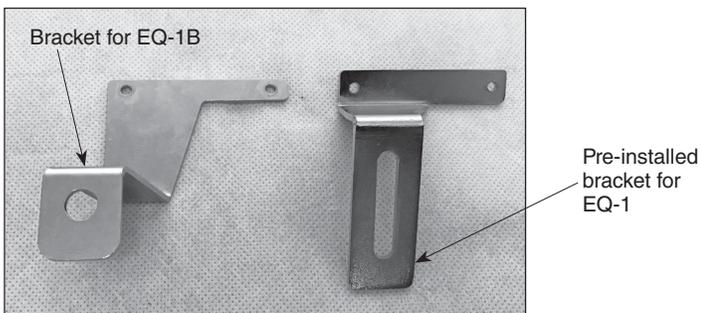


Figure 1. The AstroTrack bracket for the EQ-1B mount (left) is different from the pre-installed bracket for the EQ-1 (right).

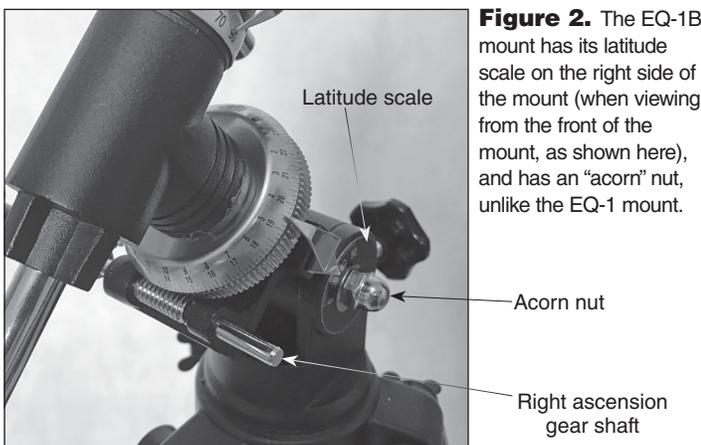


Figure 2. The EQ-1B mount has its latitude scale on the right side of the mount (when viewing from the front of the mount, as shown here), and has an “acorn” nut, unlike the EQ-1 mount.

Identifying the EQ-1B Mount

The extra bracket included separately in this package allows installation of the AstroTrack motor drive onto the EQ-1B equatorial mount (**Figure 1**). The pre-installed bracket on the motor drive does not fit the EQ-1B, so must be replaced. As of this writing, telescopes that include the EQ-1B mount are:

- Orion SpaceProbe II 76mm Equatorial Reflector
- Orion Observer 80ST 80mm Equatorial Refractor
- Observer II 70mm Equatorial Refractor

The EQ-1B equatorial head looks different in many ways from the EQ-1 equatorial head. **Figure 2** identifies a couple of the differences. The EQ-1B mount:

1. Has its latitude scale on the **RIGHT** side of the mount (when facing the front of the mount) as shown, not on the left side like the EQ-1.
2. Has a rounded “acorn” nut in the center of the latitude scale, whereas the EQ-1 does not use acorn nuts.

Assuming that you have identified your mount as the EQ-1B type from the above, you can now proceed with the replacement of the bracket as follows. You will need a small Philips screwdriver and an adjustable wrench or 9/16” crescent wrench.

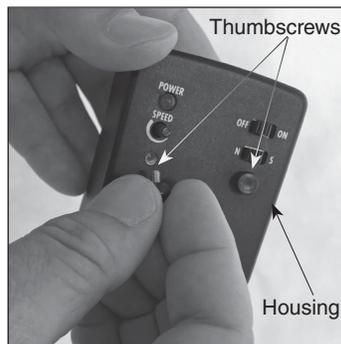


Figure 3. Remove the two thumbscrews to remove the housing from the motor drive.

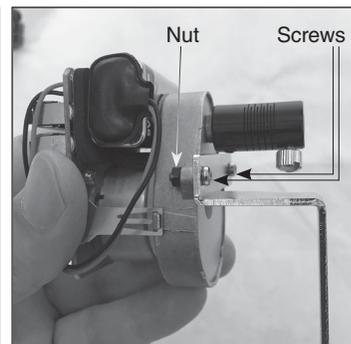


Figure 4. Remove the pre-installed bracket by unscrewing the two attachment screws.

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Corporate Offices: 89 Hangar Way, Watsonville CA 95076 - USA
Toll Free USA & Canada: (800) 447-1001
International: +1(831) 763-7000
Customer Support: support@telescope.com

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1. Make sure the power switch is in the OFF position. Unscrew the two thumbscrews on the front panel and remove the housing (**Figure 3**).
2. Using a small Philips screwdriver, remove the two screws that hold the pre-installed bracket on the motor drive (**Figure 4**). Use your finger and thumb to hold the small nut while you turn the screw counterclockwise. If that doesn't work you will have to use a pair of needle-nosed pliers or a small adjustable wrench to hold the nut when turning the screw.
3. Remove the bracket.
4. Now install the bracket for the EQ-1B by lining up the two small holes of the bracket with the holes in the motor drive.
5. Insert one of the screws through the aligned holes from the bracket side and place the nut on the screw end. Then use the screwdriver to tighten the screw while holding the nut with your fingers (or the pliers or wrench) (**Figure 5**). Repeat with the other screw. The motor drive with attached bracket should look like **Figure 6**.
6. Now reattach the housing using the two thumbscrews you removed in step 1. (Make sure you have installed the 9V battery first; refer to "Installing the Battery" in the AstroTrack's instruction manual.)

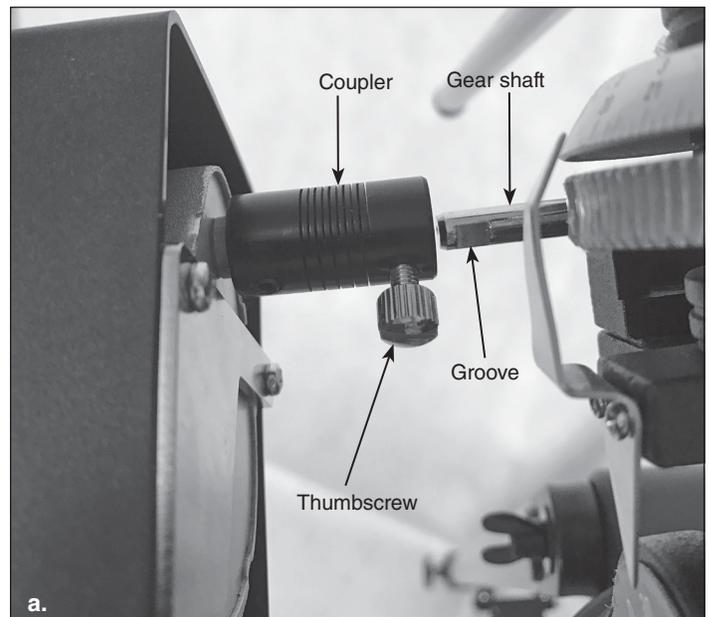


Figure 7. a) First fasten the drive coupler onto the R.A. gear shaft, aligning the thumbscrew with the groove on the shaft end. **b)** Then place the bracket hole over the threaded post.



Figure 8. The AstroTrack installed on the EQ-1B equatorial mount.

Now the AstroTrack motor drive is ready to be installed on the mount. The installation procedure is nearly the same as described in the AstroTrack's instruction manual. For the EQ-1B mount, however, you will remove the acorn nut on the right side of the mount head (see **Figure 2**). Then slip the drive coupler over the right ascension gear shaft, as described in the AstroTrack's manual, making sure the thumbscrew on the coupler is aligned with the flat "groove" in the gear shaft (**Figure 7a**). Place the large hole in the bracket over the threaded post that was exposed by removing the acorn nut (**Figure 7b**). Then re-install the acorn nut. You will need an adjustable wrench or 9/16" crescent wrench to loosen and tighten the acorn nut.

Figure 8 shows the AstroTrack installed on the EQ-1B mount.

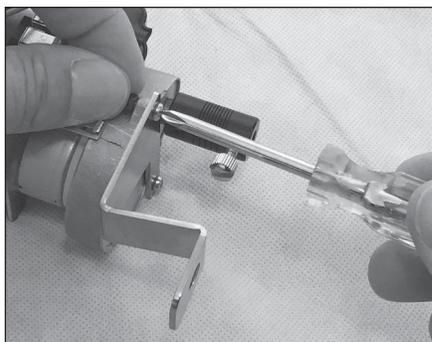


Figure 5. Install the new bracket for EQ-1B mount as shown using the two screws and nuts.

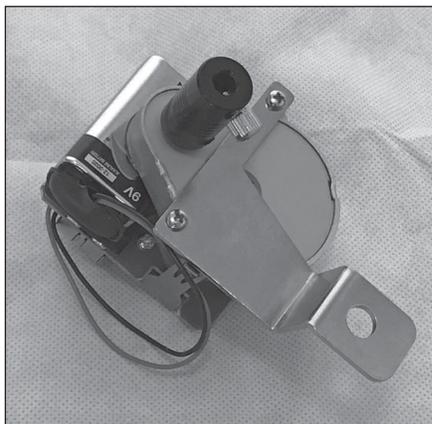


Figure 6. The bracket for the EQ-1B mount fully attached.