

SYNTA SKY-WATCHER DOBSONIAN ALTITUDE ENCODER INSTALLATION

1) The Altitude encoder can be installed on either side of the rocker box. We recommend to install it on the same side that you normally stand when observing through the eyepiece. Remove the two carry handles and compare them to the image in Fig 1. The handle with the longer bolt is called the 'tensioning handle'. It can also be identified by it having a washer, a ball thrust bearing and second washer already installed on its collar.



Fig. 1 Carry handles. Tensioning handle at top.

2) Fasten the supplied Alt encoder coupler into the Alt bearing on the side of the rocker that the encoder will be installed, as shown in Fig. 2. This coupler is designed to be substituted for the handle with the shorter bolt when using the scope. The tensioning handle should be inserted into the other Alt bearing. The encoder coupler should be fastened all the way into the bearing and washers or thrust bearings should not be added to it. Check that when the optical tube is rotated in Alt that the coupler now rotates with it. When transporting the telescope, the coupler should be unfastened and the carry handle with the shorter bolt re-inserted in its place.



Fig. 2 Encoder coupler

3) Using the supplied M3 hex key, loosen the M4 socket head screw in the side of the coupler and insert the encoder shaft into it as shown in Fig 3. Fasten the encoder shaft in place by tightening the socket head screw.

4) Insert the supplied 5/16" socket head shoulder thumbscrew into the circular tangent arm locating coupler as seen in Fig 4.

5) With one hand, rotate the tangent arm around to approx. the 4 o'clock position as shown in Fig 3. With the other hand, slide the locating coupler beneath the slot in the tangent arm so that the shoulder screw is mid-way along the length of the slot. Moving the coupler out of the way for one moment, place some masking tape on the side of the rocker in the area where the coupler will be mounted. Again, slide the coupler beneath the slot in the tangent arm so that the shoulder-screw is mid-way along the length of the slot. Being careful not to shift the position of the locating coupler, remove the shoulder screw so as to allow the tangent arm to be positioned out of the way. Using the three mounting holes as a template, carefully spot three holes approximately 2mm deep using a 2mm drill bit. Drilling the white Melamine material requires some care so as to avoid cracking it and the masking tape should provide some assistance in this regard.



Fig. 3 Encoder & tangent arm

6) Very carefully remove the masking tape. Using three supplied 5g x 16mm self-tapping wood screws, fasten the locating coupler in place. Locate tangent arm slot above the locating coupler. Thread the 5/16" socket head shoulder thumbscrew through the slot and into the locating coupler. Tangent arm should be free to 'float' and slide on silver colored shoulder of shoulder thumbscrew.



Fig. 4 Locating coupler and shoulder thumbscrew

7) Fasten two of the supplied self adhesive cable clips onto the side of the rocker near the end of the tangent arm to act as strain reliefs for the encoder cable. Orient one clip with the opening one way and the other clip with the opening oriented 180 degrees with respect the first.

8) The Alt encoder is designed to be easily removed whilst transporting the scope. Simply loosen the set screw on the encoder coupler to free the encoder shaft and remove the shoulder thumbscrew to free the tangent arm. Then unscrew the encoder coupler from the mount and replace with the original carry handle with the shorter bolt.

PARTS LIST -

1. Altitude encoder coupler
2. Altitude encoder and tangent arm bracket
3. M3 hex key for coupler M4 socket head cap screw
4. Altitude tangent arm circular locating coupler
5. 5/16" socket head shoulder thumbscrew
6. Qty 3 x 5g x 16mm self tapping wood screws
7. 2 x cable clips