

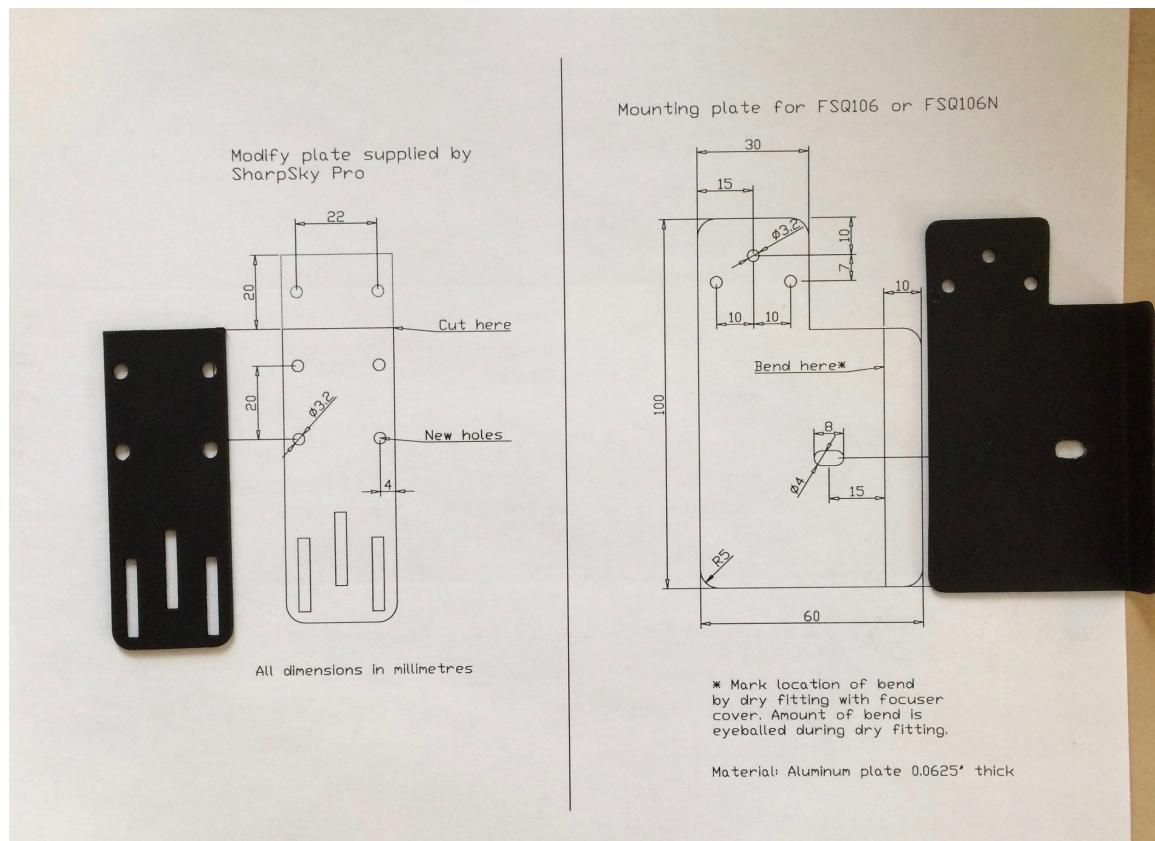
FSQ106 or FSQ106N focuser bracket for SharpSky Pro

C.Y. Tan
3/21/17

License

- Copyright 2017 C.Y. Tan
- This document is licensed under Creative Commons Attribution-ShareAlike 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-sa/3.0/>

Parts for the bracket



Two parts are required:

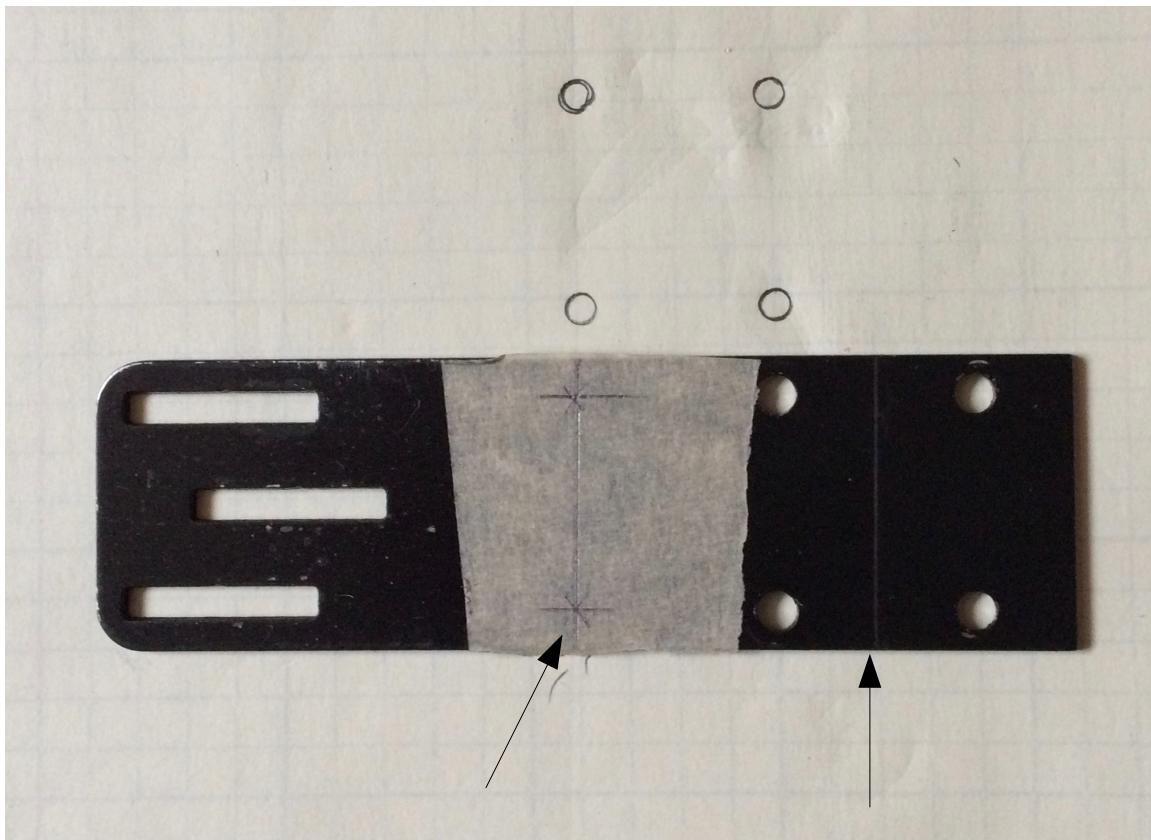
- 1)A modified plate from the SharpSky Pro kit.
- 2)A new plate that is made from 1/16" thick aluminum plate. I will call this the "FSQ106 mounting plate".

Showed here are both plates that I have painted in camouflage black.

The drawings for the bracket can be found at the end of these slides and at this link:

[FSQ106 focuser bracket.](#)

Modifying the SharpSky Pro mounting plate



New holes
drilled here

Cut here

In this design, the motor is mounted closer to the focuser shaft than the where the original mounting holes are. In order to mount the plate closer, I drilled new holes in the plate. And I cut the plate so that nothing sticks outside the motor.

The FSQ106 mounting plate



The FSQ106 mounting plate lip is bent so that it fits on the cover of the focuser. The direction of the bend determines which side the motor can be mounted. I chose the side that is opposite the finderscope.

Final installation



The FSQ106 mounting plate is held on with a M4-0.7 16 mm screw and a washer.

The motor on its mounting plate is attached to the FSQ106 mounting plate with the provided screws from the SharpSky Pro kit.



It is important to align the motor shaft and the focuser axle as well as possible. By sheer coincidence, the motor shaft and the motor axle align closely in this setup. It still requires small adjustments though. I made these adjustments by filing the 3 holes on the FSQ106 mounting plate so that the motor shaft and focus axle is better aligned. The way I did this was to affix the coupler onto the focuser axle and then inserting the motor into the coupler without tightening the set screws for it. To check for alignment, I then rock the focuser knob back and forth to make that there is no stiction. I then install the mounting screws between the mounting plate and the modified plate one by one, always checking that there is no stiction. If the holes and the slots on the mounting plate and the modified plate do not align, I file the holes to accommodate the screws. I'm done after the three screws are mounted. I then tighten the set screws on the coupler for the motor. The next step is to check that electrically, the motor can rotate the focuser smoothly.

My SharpSky Pro mounted on my FSQ106



Replacement coupler



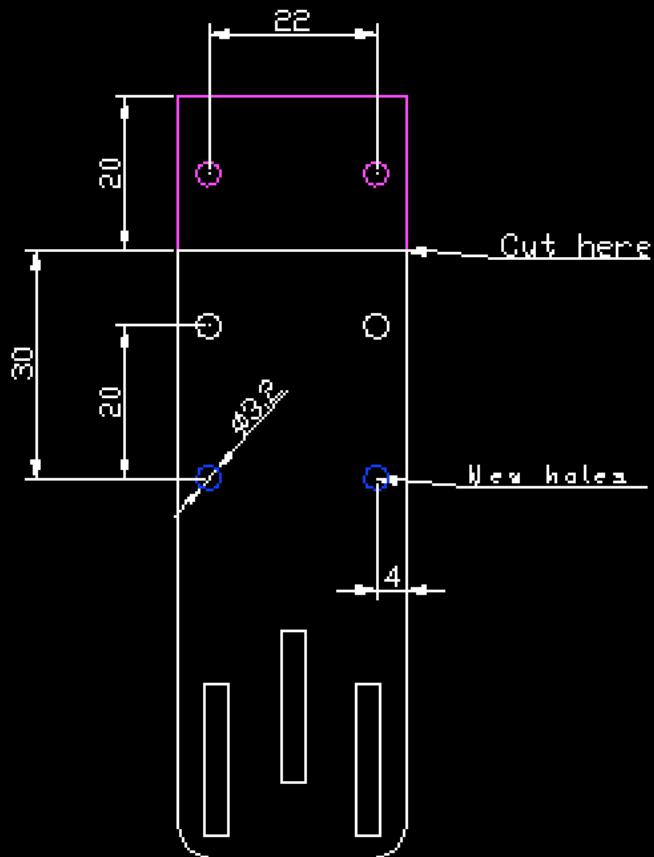
I replaced the flexible beam coupler that came with the kit because the taper at the end of the focuser axle made it difficult for me to tighten the coupler onto it with set screws. The compression fitting of the replacement, a jaw coupler (also called spider coupler) gave a much better grip on the focuser axle.

The 5mm to 8 mm jaw coupler that has compression fittings can be bought from Amazon. Here's the [link](#).

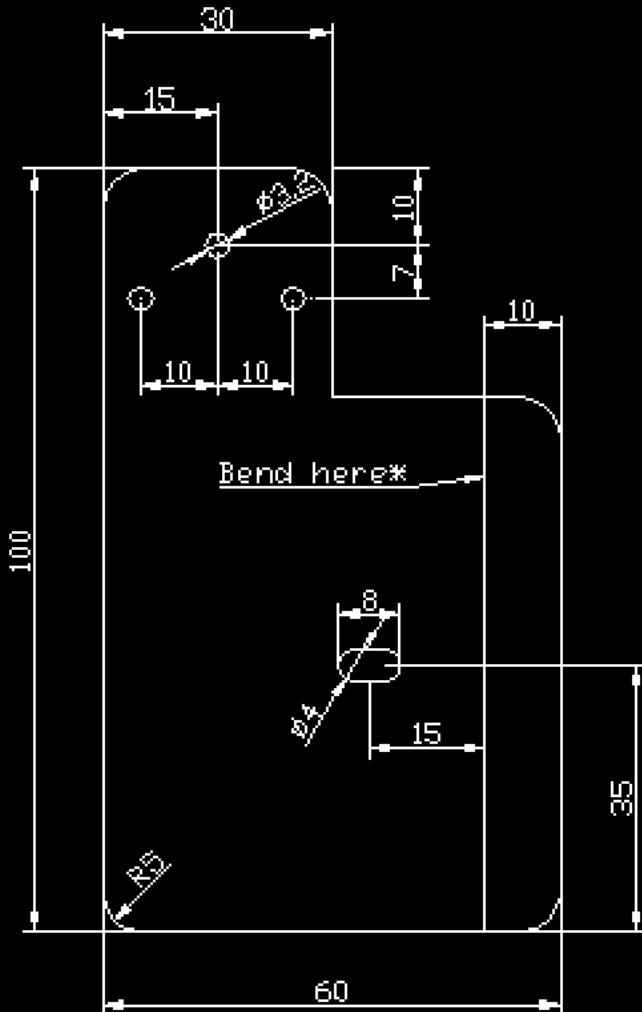
Again, I used the same procedure described on slide 6 for attaching the motor to the focuser with the bar coupler.

Mounting plate for FSQ106 or FSQ106N

Modify plate supplied by
SharpSky Pro



All dimensions in millimetres



* Mark location of bend
by dry fitting with focuser
cover. Amount of bend is
eyeballed during dry fitting.

Material: Aluminum plate 0.0625" thick