

Burgess Optical Fine Focuser Installation Instructions



The Burgess Optics Fine Focuser is adapted to install on the Burgess 102f6 refractor and other refractors that have either a rack and pinion or Crayford style focuser.

The first step to install the Fine Focuser is to remove one of the two focus knobs on the focuser attached to the telescope. On the Burgess scopes, the original knobs are screwed onto the shaft. To remove one knob, grasp a knob in each hand and twist each knob in opposite directions as if unscrewing both knobs. One of the two knobs will loosen and can be removed. If the other knob is desired to be removed, that knob can be unscrewed by either racking the focus tube to the extreme position, preventing the focus tube from moving in the focuser, or securing the shaft with pliers while the knob is unscrewed.



The picture on the left illustrates the right focuser knob removed, showing the threaded end.

The flat surface on the bottom of the focuser below the shaft needs to be cleaned. The double sided tape will adhere much better if the surface is clean and free of oils and dirt. Soap and water can be used.

Caution: do not immerse your focuser in water to clean it.

There are two ways to install the Fine Focuser. The first way is to use the included double sided tape to adhere the Fine Focuser bracket to the focuser. The second way is to glue the bracket to the focuser. An adhesive such as SuperGlue or an epoxy can be used to permanently attach the bracket. The following instructions detail using the included double sided tape.



First, remove the backing from the double sided tape on the bracket and then position the backing paper over the very end of the tape, as illustrated. Doing so will allow the bracket to be positioned without the tape sticking too soon.



Position the Fine Focuser on the focuser shaft with the bracket adjacent the bottom of the focuser. The tape backing will stick out as shown.

Push the Fine Focuser toward the focuser and tighten the two setscrews over the threaded portion of the focuser shaft. Alternate tightening the setscrews until the Fine Focuser is attached securely to the focuser shaft.



Remove the tape backing from between the focuser and the Fine Focuser bracket. Hint: grab the top of the backing paper and pull straight up while rocking the paper from side to side. To not tear the backing paper.

After the paper is removed, firmly press the bracket against the focuser and allow the adhesive time to set.

To install the Fine Focuser with a glued bracket, remove the double sided tape from the bracket and apply only a single drop of glue to the bracket where it will contact the focuser. Position the Fine Focuser on the focuser shaft, tighten it to the shaft as described above, and then firmly press the Fine Focuser bracket against the focuser until the glue sets. Caution: depending upon the glue, the bracket may be difficult to remove after the glue sets.

Notes and troubleshooting:

Avoid racking the focuser tube to an extreme position and beyond. Doing so can cause the Fine Focuser bracket to twist relative to the focuser centerline. The twisting force from forcing the Fine Focuser to move the focuser past its extreme position may loosen the double sided tape and cause the bracket to pull slightly away from the focuser. This will result in excessive backlash when using the fine focus knob.

If the fine focus knob (the smaller diameter knob) seems to have excessive backlash, see if the Fine Focuser bracket moves relative to the focuser when turning the fine focus knob. If so, then either the double stick tape needs to be replaced or the Fine Focuser bracket needs to be glued to the focuser. The bracket does not require a strong connection to the focuser because the forces involved are low. However, the bracket does need to be solidly mounted to enable the Fine Focuser to work with minimal backlash.

If you feel the Fine Focuser dragging, it may be that the fine focus knob is set too close to the coarse focus knob. To correct, loosen the setscrew on the side of the fine focus knob, slide the knob slightly away from the coarse focus knob, and retighten.

If the coarse focus knob turns when the fine focus knob is turned, but the focuser tube does not move, then the Fine Focuser coupling has loosened on the focuser shaft. Tighten the setscrews on the Fine Focuser coupling.