

7mm & 8mm Closed End – “Grabber” Mandrel

This system is designed to allow a woodturner to turn blanks with a turned end, meaning that they do not have a through hole normally required for turning most projects. This allows the woodturner to have the freedom to create turnings never before possible.



finished samples

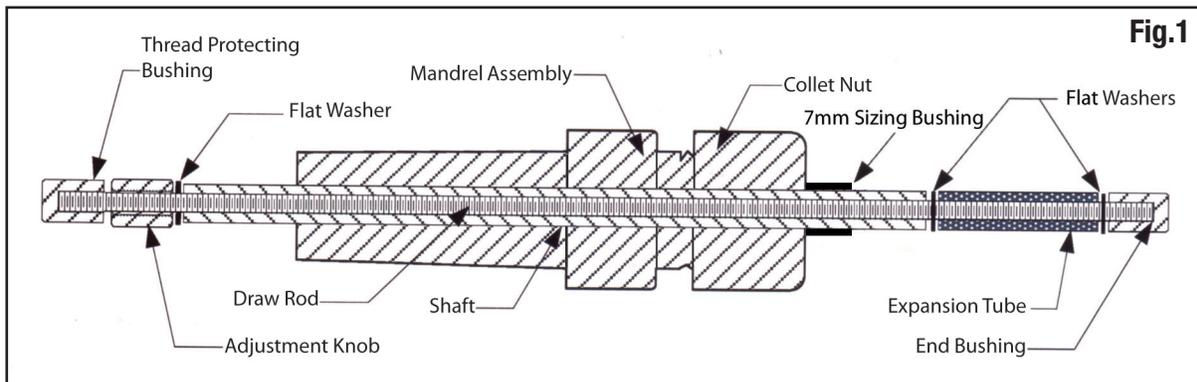


Fig.1

Assembly (See Fig. 1 – Note that the mandrel may be supplied pre-assembled.)

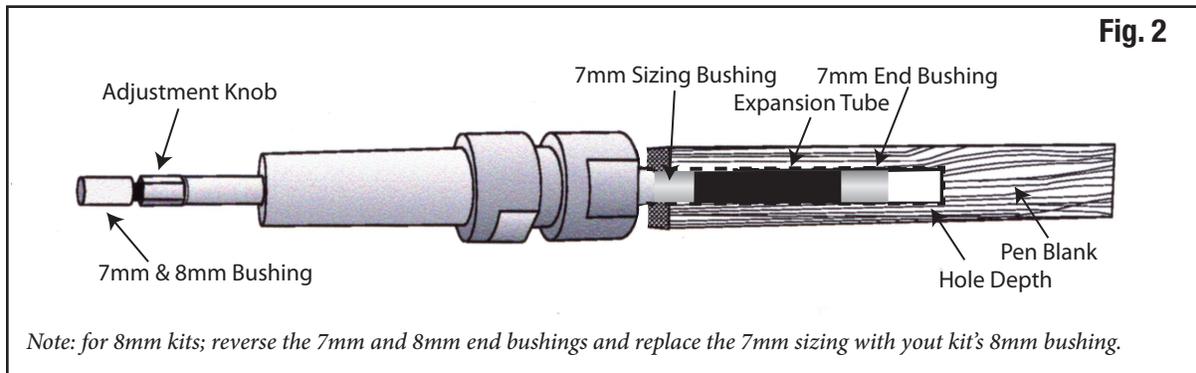
- 1) From one end of the threaded draw rod, slide the expansion tube onto the draw rod until over a 1/4" of thread is exposed.
- 2) Place a flat washer over the exposed thread.
- 3) Thread on the end bushing- 7mm or 8mm depending on your project. Finger tighten as tight as possible.
- 4) From the other end of the draw rod, slide on the other flat washer.
- 5) Slide the shaft over the draw rod.
- 6) Slide the lock washer over the draw rod.
- 7) Slide the on 7mm sizing bushing.
- 8) Thread on the adjustment knob until all the components are snug.
- 9) Slide the mandrel assembly into the collet mandrel from the Morse taper end.
- 10) **IMPORTANT!** Place the unused 7mm or 8mm End bushing as a thread protector on the exposed threads on the rear. This prevents damage to the threads when tapping the mandrel out of the Morse taper with a knockout bar.

Blank Preparation

- 1) Measure and note the length of the tube.
- 2) Drill a hole in the blank a little deeper than the length of the tube. Allow enough extra depth for trimming plus approximately 1/8". Do not drill through the blank. Leave sufficient room to part and turn a round end on the blank (at least 1")
- 3) Note the depth of the hole in the blank. You will need this measurement later.
- 4) Rough up the outside of the tube using a course grit sandpaper.
- 5) Glue the tube into the blank using CA, epoxy or poly glue. Allow time for the glue to dry.
- 6) Trim the end of the blank using a barrel trimmer. If the tube is shorter than the barrel trimmer pilot shaft, it will be necessary to adjust the position of the cutter on the shaft so the pilot does not bottom out.

Mounting Blank on Mandrel (See Fig. 2)

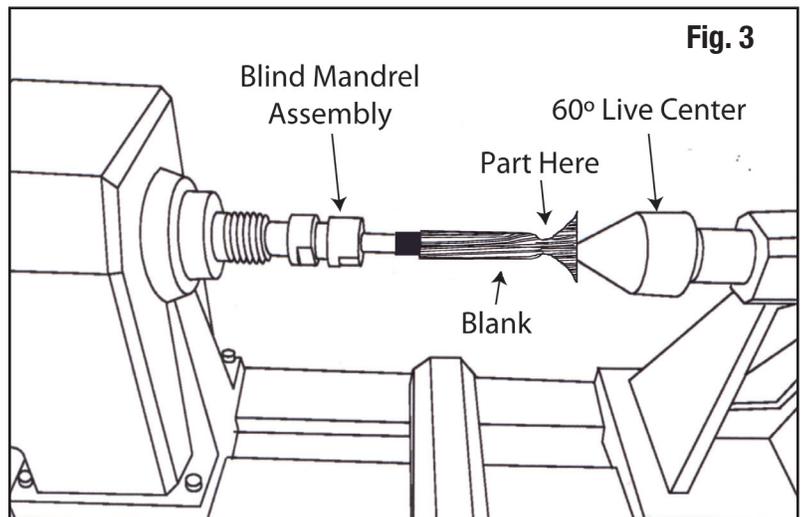
- 1) Mounting the blank is done with the blind mandrel/collet assembly out of the lathe.
- 2) Make sure the collet nut is loose so the mandrel shaft can slide back and forth.
- 3) Clean the expansion tube. Proper operation depends on the tube being clean so that it can grip the inside of the tube. The tube can be cleaned with a moist paper towel and a little soap. Most any cleaner/solvent will work including alcohol and acetone as long as it does not leave a film on the tube. Dry the tube.
- 4) Place the kit's sizing bushing over the mandrel.
- 5) Slide the blank onto the mandrel up to the bushing.



- 6) Slide the collet chuck so that the chuck and bushing are against the blank.
- 7) Tighten the collet nut.
- 8) Turn the adjustment knob clockwise to expand the expansion tube. It may be necessary to grip the thread protector to keep the draw rod from rotating as you tighten the adjustment knob.
- 9) Once the expansion tube starts gripping, hold the blank in one hand while turning the adjustment knob with the other. Turning the blank while holding the adjustment knob will also work.
- 10) When the adjustment knob or blank can no longer be turned by hand, install the assembly in the Morse taper in the head of the lathe.

Turning the Blank (Fig. 3)

- 1) Once the collet chuck is in the lathe head, install a live center, such as the PSI #LCENTLT2 Live Tailstock Center with 60° point, in the tail stock.
- 2) Allow the center to make contact with the blank as it is installed. In other words, do not force the blank to make the tailstock center meet the center of the blank. This will cause wobbling once the center is removed.
- 3) Start the lathe and begin rounding the blank. Take light cuts to start. As the blank meets the tool, the mandrel will tighten in the tube.
- 4) After the blank is rounded, note where the hole ends in the blank from the previously noted hole depth. This can be done by marking on the blank or using a piece of tape on the front of the tool rest. Knowing where the end of the hole is prevents accidentally cutting into the hole and ruining the project.
- 5) It is a good idea to turn the part down as far as possible with the live center in place. It is also good to sand and apply your finish before doing the final separation from the live center.
- 6) Separating the live center from the part using a parting tool. Slide the tailstock away from the blank.
- 7) Once the part is separated from the live center, carefully finish off the end of the blank. Avoid using excessive pressure which could bend the mandrel.
- 8) To remove the turned blank from the mandrel, tap the collet out of the head stock. Avoid hitting the draw rod directly. (If you didn't protect the end of the draw rod with an end bushing, use a 10mm tube in front of the knockout bar.)
- 9) Loosen the adjustment knob. Once it is loose, push the draw rod forward. Remove the part from the mandrel.



Replacing the Expansion Tube (Note that an extra 6" of tubing is supplied.)

- 1) Remove the end bushing and washer from the end of the mandrel.
- 2) Slide the old expansion tube from the draw rod.
- 3) Cut a short piece of expansion tube from the extra tubing using a single edge razor blade or sharp knife. Make sure the ends of the tube are square.
- 4) The length of tube depends on the part you want to turn. A 1" length works best in most cases.
- 5) Slide the new expansion tube over the draw rod, replace the washer, install and hand tighten the end bushing.