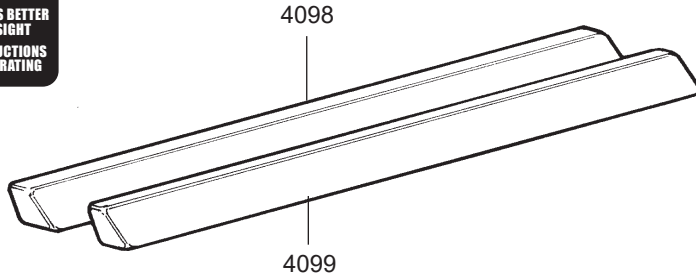




NOTE: 4098 and 4099 look similar. If you look carefully at the drawing below you can see that the 4098 gib is slightly thicker than 4099.



SHERLINE
PRODUCTS
INCORPORATED 1974

Gib Replacement

P/N 4098 (Lathe crossslide, Mill X- and Y-axis),
P/N 4099 (Lathe saddle, Mill Z-axis)

Building up an evenly worn gib

The gib material we use contains a lubricant and should wear almost indefinitely with normal use. The only reasons you would replace a gib would be if it is broken or if it goes in to the maximum adjustment and the slide is still loose. Breaking one while it is in place on the machine would be almost impossible, and a gib that goes in too far can often be corrected by removing it and putting one or two layers of mylar tape on the back side (the side that doesn't wear against the dovetail) to build up the thickness. This should be done neatly and any excess tape trimmed off with a hobby knife.

Improving fit on a worn lathe bed or mill column

A slide that is loose in one place and binds in another is a sign that the bed is worn, normally in the middle where most of the movement occurs. If you are a good craftsman, you may improve the fit with a sharp, flat, fine pitched mill file. Using the file flat on both top rails of the bed, remove a small amount of material from the thick end or ends until the slide moves freely throughout its travel. The worst that can happen is you could end up buying a new bed, which would have been the case anyway.

Replacing gibs

The gibs are molded from a composite material. Their purpose is to make final adjustment on machine tool dovetails to compensate for tolerances and wear. Sherline's gibs are molded in a 5-3/4" length and each end is cut off to fit the particular slide it is being used on. The gib that fits against the bed on the lathe and mill column is different than the gibs used on the lathe crossslide and XY base of the mill. (See drawing above.)

Before removing the old gib, make sure you understand the way it works. A corresponding angle has been machined into the slide where the gib is located. On your Sherline tool, there is also a difference in angle between the front and back surfaces of the gib. This keeps the gib in place in all directions with just one simple gib lock.

Gibs must be held in place so they can't tighten or loosen. On Sherline tools, they are held with a P/N 4082 gib lock. Drilling the hole for this lock will be the only difficult part of the replacement procedure. We have fixtures at the factory to do this job, but it can be done at home with a little care.

After removing the old gib, clean the slide and lubricate with a light oil. Push the gib material into the slot from the end that has the gib lock. This is the larger end. Make sure there isn't any "play" between the gib and dovetail and that the slide can still move. Check each end of the gib by moving it up and down in the slot to make sure it fits tightly.

The tapers and angles are machined quite accurately and should work without further fitting when installed. If for some reason this is not the case, the fit can be improved by removing a very small amount of material from the end that is too thick. Material can be removed by scraping using a sharp utility knife blade held vertically to the gib surface. Scrape to remove material from the end opposite the end that is loose. The same thing can be accomplished with 320 grit wet/dry sandpaper. Place the sandpaper on a flat surface and rub the end opposite the one that is loose. Once satisfied with the fit, mark the gib on each end where it exits the saddle.

Drill a 3/32" or .093" (2.36mm) diameter hole for the gib lock .400" (10mm) from the mark that represents the position the slide will fit the gib. The location and angle can be determined from the old gib. The hard part is drilling the hole into an angled surface. A center drill is a must for this job. You may want to tack glue each end of the gib to something that can be held in a vise to make it easier to work on. The part can then be broken loose from the glue when the drilling is done. The glued ends will be sawed off when the gib is trimmed to size. The hole can also be drilled slightly oversize and filled with epoxy. Put wax on the gib lock where it goes into the hole so the epoxy won't stick to it. The epoxy will fill the void and the lock will be properly located. Whatever your choice of methods, the gib lock cannot keep the gib from fitting properly. Once the hole is drilled, use a hack saw or hobby saw to cut off the excess material on the marks you made previously. Install the gib and gib lock, tighten the set screw that holds the gib lock in place and you're ready to go back to work.

We hope that this will help you fit up a new gib. Should you find the job to be more than you wish to attempt, you may return the lathe or mill to Sherline and we will fit up new gibs for \$20.00 plus return shipping cost.

Thank you,
Sherline Products Inc.

(Refer to page 13 of the SHERLINE INSTRUCTION GUIDE (P/N 5326) for more detail. Refer also to exploded views of the lathe and mill.)