

**SHERLINE
PRODUCTS**
INCORPORATED 1974

Video instructions can be found on YouTube.com at
<https://www.youtube.com/watch?v=d2wIzuTBiRE>

Lathe Assembly and Backlash Adjustment

Introduction

Starting in November 2013, backlash adjustment has been added to the lathe crossslide. Similar in design to the anti-backlash adjusters on the mill X- and Y-axis, the crossslide backlash can now be adjusted to a range of .001" to .003" (.03mm-.07mm).

Removing the lathe from the box

After removing the bubble pack that fills excess spaces, turn the lathe tailstock handwheel counter-clockwise to release pressure on the motor and accessory boxes packed between the headstock and tailstock. Remove the boxes and set aside. Turn the box over and lift it off the lathe and cardboard. Remove the two screws that hold the lathe to the wooden shipping base.

Installation of the crossslide table on a new lathe

The lathe crossslide table is located under the front cardboard flap in the lathe packaging. After removing the lathe from the box, retrieve it from under the flap and remove the protective foam material. The saddle gib has been installed and pre-adjusted at the factory. Remove the rubber bands that secure it in place during shipping.

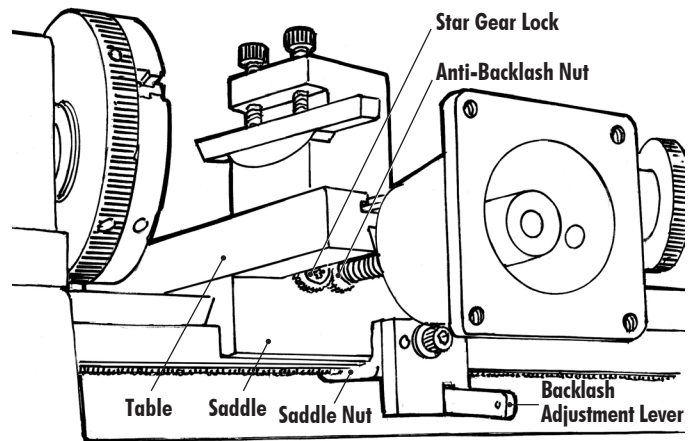
The star gear anti-backlash lock is already secured to the front of the saddle. Using the smallest hex key included in the parts box, loosen the button head screw that holds it in place. (Do not remove it, just break it loose so the star gear lock can turn freely.) The anti-backlash nut will already be factory installed on the crossslide leadscrew.

Align the dovetail on the bottom of the table with the top of the saddle and slip the table onto the dovetail until the leadscrew enters the hole in the front of the saddle.

While pushing the table toward the saddle, start turning the crossslide handwheel in a clockwise direction to start the leadscrew into the threads of the nut inside the saddle. Turn the handwheel until the rear of the crossslide is about even with the back of the saddle.

Adjusting backlash

From underneath the table, thread the anti-backlash nut down the leadscrew until it is flush against the side of the saddle and the knurled teeth are engaged with the teeth of

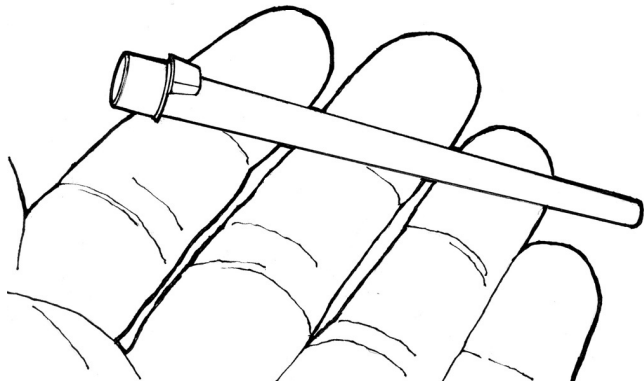


Note that on CNC lathes, backlash is also adjustable on the long leadscrew. This is optional on the manual lathe by adding the optional P/N 4417Z/4417M.

the star gear lock. Tighten the anti-backlash nut as tight as you can with your fingers or use one of the hex keys to push gently on the teeth of the anti-backlash nut to tighten it. **DO NOT OVERTIGHTEN!** Finally, tighten the button head screw in the center of the star gear lock to secure the anti-backlash nut in place.

Check the amount of backlash by turning the handwheel in one direction and stopping at an even mark on the handwheel. Then turn the handwheel the other direction and note how many marks are moved before you can feel friction on the handwheel. If the handwheel very hard to turn or there is less than .001" (.02mm) of movement, loosen the star gear lock and then loosen the backlash nut a small amount. Re-tighten the star gear lock screw. Adjust until you get to the range of .001" to .003" (.03mm-.07mm) of movement. A more accurate way to check the backlash is by using a dial indicator on the front or back surface of the table to see exactly when the table starts to move when changing directions.

—Joe Martin



Starting in November, 2013, a gib removal tool is included with each Sherline lathe or mill.

Gib Removal Tool

When removing a plastic gib for adjustment or replacement, first release the set screw or socket head screw that secures the gib lock. (The gib lock looks like a bent wire that goes through a hole in one end of the gib.) Then use a mallet to tap on this plastic tool to drive the gib out of the dovetail from the back end. Do not use a metal tool like a screwdriver. This can damage the gib and/or the metal ways of your machine. Pulling on it with pliers can also damage the gib if it is to be re-used. If this tool is not available, use a length of wooden dowel or other non-metal material to drive the gib out from between the dovetails if it cannot be easily removed by hand.