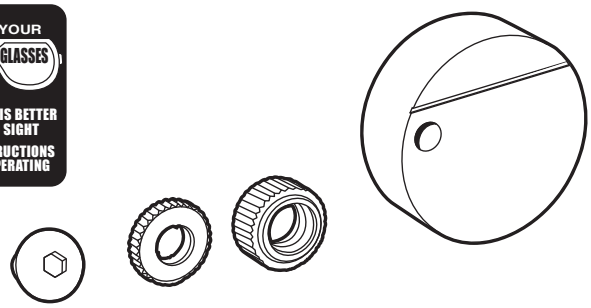


NOTE: This upgrade will not work on our mills. It could be used on the X-axis. However, there is not enough material on the mill saddle to drill and tap the 8-32 hole on the Y-axis.

SHERLINE PRODUCTS
INCORPORATED 1974

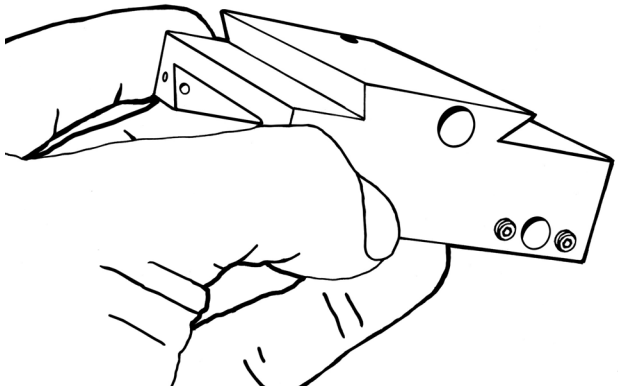
Lathe Backlash Upgrade Kit

P/N 40950/40951

Installing a Crosslide Anti-Backlash Lock on the Lathe

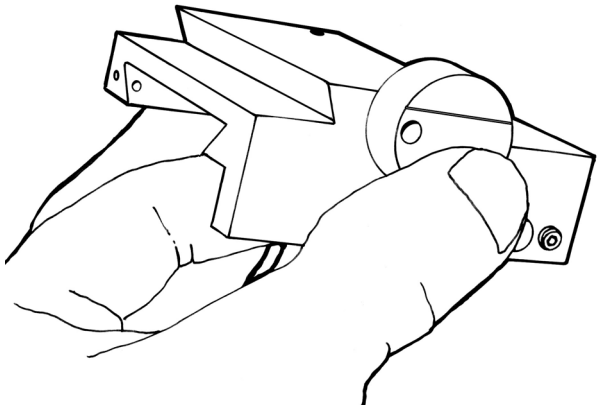
1. Remove the existing saddle from the lathe and remove the slide screw insert by releasing the 8-32 set screw that comes up from the bottom of the saddle. Use the leadscrew to pull the threaded brass insert out of the hole.

1



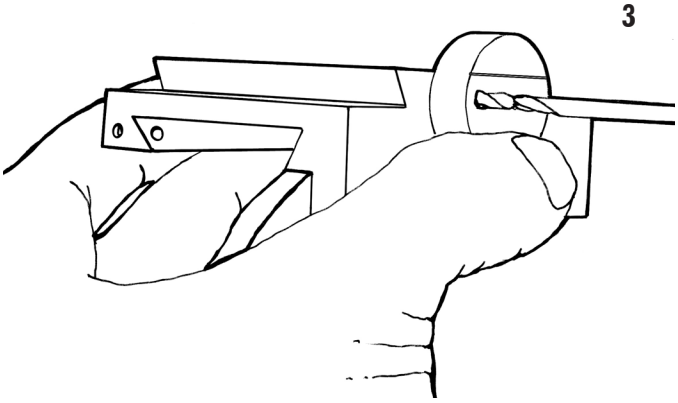
2. Place the round protrusion on the back side of the drill guide block into the leadscrew hole and line up the scribed line so it is parallel to the top of the saddle dovetail. You can clamp it in place, or you can just hold it place with your fingers while drilling. (Radial hole position between the 7 and 9 O'clock position is not extremely critical, only distance between the hole centers matters.)

2



3. Using a #29 drill in a portable electric drill or a drill press, drill the hole at least 1/2" deep using the hole in the block to position it. The steel drill guide block is not hardened, but that will not be a factor, as it is only designed to be used once. Chamfer the hole prior to tapping.

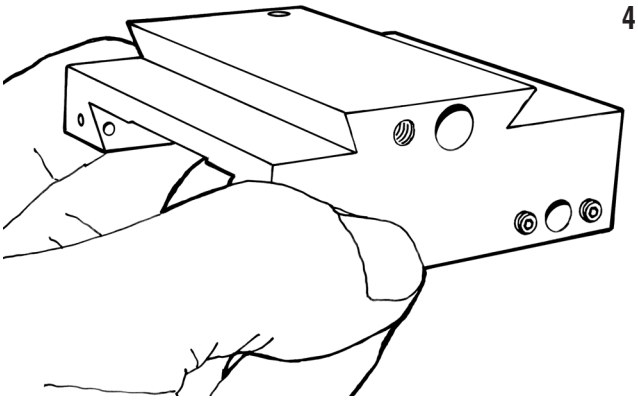
3



4. Tap the hole with an 8-32 thread at least 3/8" deep.

   NOTE: The tap must be perpendicular to the face of the lathe saddle in order to tap the hole in the proper location. If the tap is not perpendicular it will tap at an angle. The screw will not go in straight, and this will force the star gear lock location to be too close or too far away. If you blow it and your tapped hole location or angle is wrong you can rotate the drill guide block down to the 7-8 o'clock position and try again.

4



5. Install the star gear lock with the flat side against the saddle using the 8-32 button head screw. Do not tighten.
6. Re-install the slide screw insert in the saddle and lock it in place with the 8-32 set screw from beneath.

   This set screw has to be tight, but not too tight. Tighten the set screw until snug, and then turn the slide screw to see how much resistance there is. The slide screw should turn easily. Now tighten the set screw a bit more and turn the slide screw again. Keep tightening the set screw until you feel resistance. Once you feel resistance stop there.

   NOTE: If the anti-backlash nut comes out of your saddle as shown below, there are only three reasons for this to happen.

   A. The slide screw nut inside the saddle is turning (tighten the set screw).

   B. The slide screw nut inside the saddle is being pulled out (tighten the set screw).

   C. The anti-backlash nut is not locked in place by the anti-backlash lock, and it is turning. Check the mesh between these two parts and tighten the 8-32 screw.
7. Thread the new brass anti-backlash nut half way onto the crosslide leadscrew with the lip side facing the saddle (see Figure 5). Thread the leadscrew back into the slide screw insert until it is at least halfway into the saddle. Thread the backlash nut down against the side of the saddle so the knurled teeth engage with those on the star gear lock (see Figure 6). Tighten it firmly finger tight and then tighten the button head screw in the star gear lock to lock it in place. Measure backlash as described in your Sherline instruction manual. Proper adjustment should be between .001" (.03mm) and .003" (.07mm) of backlash.

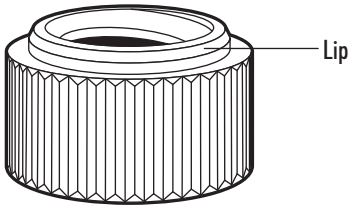


FIGURE 5—Close-up detail of the lathe anti-backlash nut (P/N 50130L/51130L). The backlash nut must be inserted with the lip against the saddle.

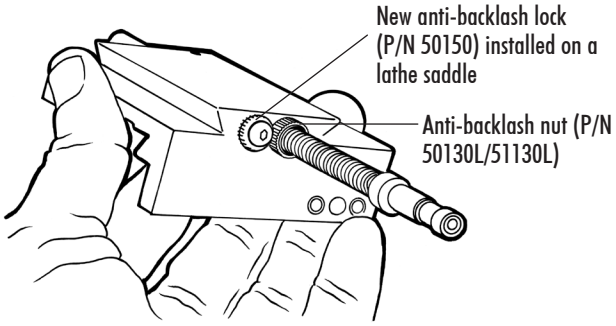


FIGURE 6

Using the Sherline Gib Removal Tool

When removing a tapered 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.

Thank you,
Sherline Products Inc.

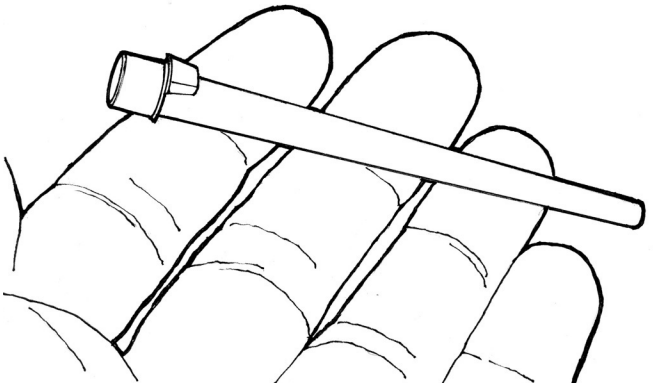


FIGURE 7—Starting in November, 2013, a gib removal tool is included with each Sherline lathe or mill. The tool is made from a sprue produced in the gib molding process. It is the same material as the gib and will not harm the gib or the machine's metal parts.

Parts List

NO. REQ.	PART NO.	DESCRIPTION
1	40920	Lathe Anti-Backlash Drill Guide
1	50130L	Lathe Anti-Backlash Nut (51130L metric)
1	50150	Anti-Backlash Lock (10/98)
1	50211	8-32 X 1/4" Button Socket Screw