

Z- and X-axes limit switches and mounting hardware.

VIDEO INSTRUCTIONS AVAILABLE
 For instructions on adjusting your limit switches, please visit our YouTube channel at <https://youtu.be/H97Gr2EuK5U>.

SHERLINE PRODUCTS
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Lathe Limit Switch Mounting Retrofit Instructions

Retrofitting your CNC Leadscrew Lathe with Limit Switches

To mount the eccentric triggers on the Z- and X-axes of your leadscrew lathe, you will need to drill and tap some holes on your lathe saddle. Below you will see print copies for the 8-32 hole locations that you must drill and tap in your saddle for the eccentric triggers (see Figure 1).

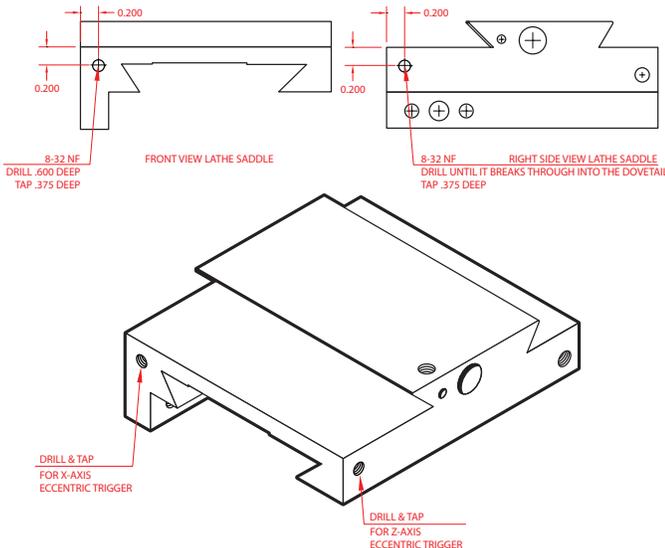


FIGURE 1—CNC leadscrew lathe saddle 8-32 hole locations diagram for the eccentric triggers.

You will need to remove the lathe saddle from the bed in order to drill and tap the Z-axis hole (see Figure 2).

NOTE: The saddle nut is mounted and aligned using a “push-pull” system. There are two set screws (P/N 40600) on either side of the 10-32 SHCS (P/N 40670) that holds the saddle nut in place.

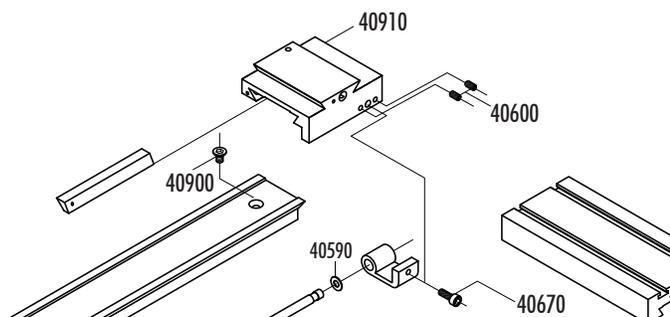


FIGURE 2—Exploded view of the lathe saddle and saddle nut.

When you remove the 10-32 mounting screw (P/N 40670), **DO NOT** adjust the two set screws (P/N 40600) at all (leave them as they are). This will allow for a more accurate assembly. Here is a link to the *Saddle Nut Replacement* instructions ([4017inst.pdf](#)). These instructions tell you how to remove the saddle nut and how to adjust the saddle nut when you reassemble your lathe.

Only drill as deep as needed (not .600"), and then tap by hand as deep as needed. The drill is going to break through into the dovetail area on the Z-axis. After you have drilled and tapped the hole, use an X-acto knife (hobby knife) and cut out any burrs that are in the dovetail area.

Z-Axis Leadscrew Limit Switch

Install the eccentric trigger for the Z-axis using the 8-32 SHC screw (P/N 68042 and P/N 12050 respectively) that you just drilled and tapped (see Figure 3).



FIGURE 3

Now you need to install the Z-axis limit switch mounting bracket on the leadscrew stepper motor mount. Remove the two screws on the backside of the lathe that hold the stepper motor onto the motor mount. Align the bracket holes with the stepper motor mounting holes and reinstall the two SHC screws (see Figure 4).

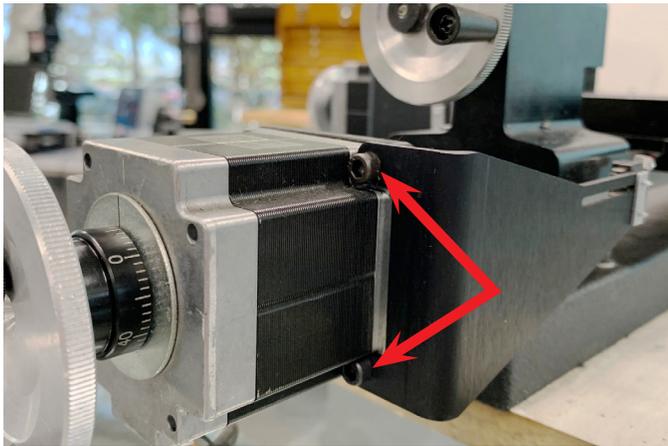


FIGURE 4—The red arrows show the location of the two stepper motor mounting SHC screws.

X-Axis Crossslide Limit Switch

Install the eccentric trigger for the X-axis using the 8-32 SHC screw (P/N 68042 and P/N 12050 respectively) that you just drilled and tapped (see Figure 5).

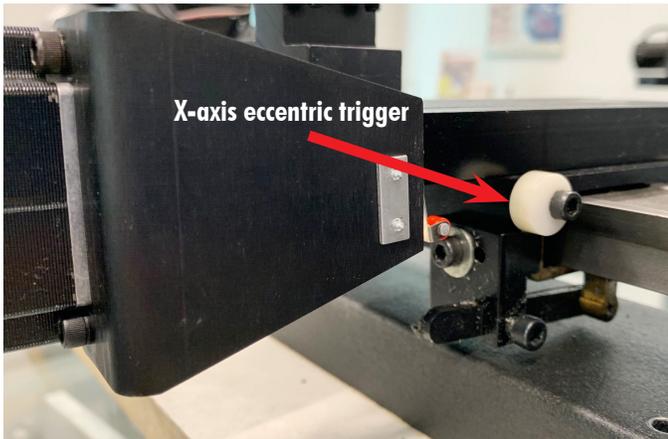


FIGURE 5

Now you need to install the X-axis limit switch mounting bracket on the crossslide stepper motor mount like you did for the Z-axis. Remove the two screws on the tailstock side of the lathe that hold the stepper motor onto the motor mount. Align the bracket holes with the stepper motor mounting holes and reinstall the two SHC screws (see Figure 6).

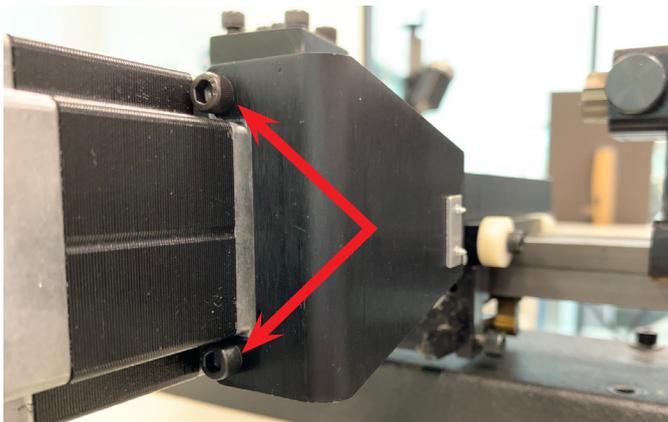
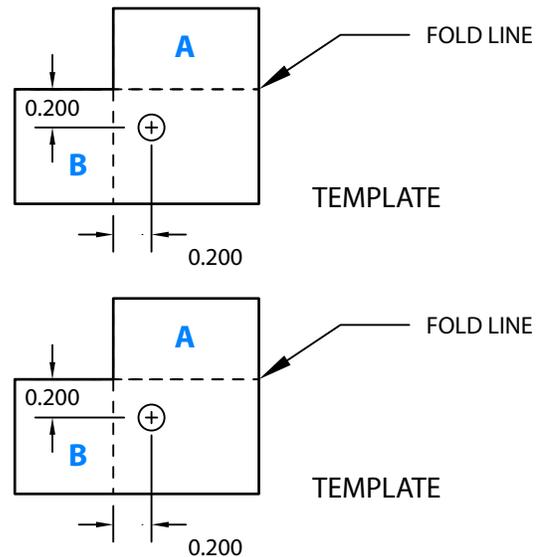


FIGURE 6—The red arrows show the location of the two stepper motor mounting SHC screws.

Lathe Saddle Template Instructions

Cut the templates out on the solid lines. Fold the templates on the dashed lines and tape it in place on the top of your lathe saddle. Position the target on the sides of the saddle and the A-fold on top of the saddle and the B-fold on the side of the saddle. The targets indicate the hole locations for the eccentric trigger mounting 8-32 screws (see Figure 7).

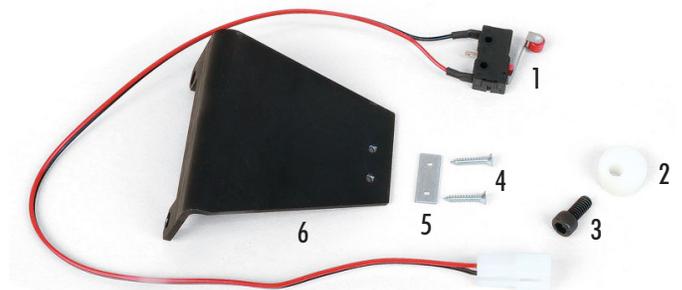
LATHE SADDLE ECCENTRIC TRIGGER HOLE TEMPLATE LOCATION



PRINT OUT AT 100%. DO NOT REDUCE OR ENLARGE.

FIGURE 7

P/N 8773 X-axis limit switch, mount, eccentric trigger, and screws



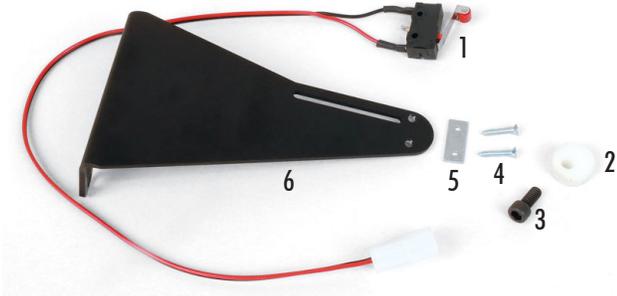
X-axis limit switch parts, clockwise from top right:

- (1) P/N 68040: limit switch w/pigtail
- (2) P/N 68042: Eccentric trigger
- (3) P/N 12050: 8-32 x 3/8" SHCS**
- (4) P/N 68048: #2 Phillips x 1/2" flat-head sheet metal screws (2 ea.)
- (5) P/N 68046: Limit switch mounting tab
- (6) P/N 68031: X-axis limit switch mount
- (7) P/N 67124: Zip ties (2 ea.)

Video Instructions

For instructions on adjusting your limit switches, please visit our YouTube channel at <https://youtu.be/H97Gr2EuK5U>. These instructions are for the ball screw mill, but the principles still apply to the lathe.

P/N 8774 Z-axis switch, mount, eccentric trigger, and screws



Z-axis limit switch parts, clockwise from top:

- (1) P/N 68040: Limit switch*
- (2) P/N 68042: Eccentric trigger*
- (3) P/N 12050: 8-32 x 3/8" SHCS***
- (4) P/N 68048: #2 Phillips x 1/2" flat-head sheet metal screws (2 ea.)*
- (5) P/N 68046: Limit switch mounting tab*
- (6) P/N 68020: Z-axis limit switch mount*
- (7) P/N 67124: Zip ties (2 ea.)*

P/N 8778 XZ Leadscrew Limit Switch Assembly Set

- (1) P/N 8773: X-axis limit switch parts*
- (2) P/N 8774: Z-axis limit switch parts*

Metric Screw Equivalents

For those who live outside of the USA and don't have access to an 8-32 tap, the metric equivalent to the screw is listed below.

The metric thread equivalent and screw lengths for the inch screws are as follows:

P/N 12051: 4 x 0.7 mm x 10 mm long = 8-32 x 3/8" SHCS