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Installing Z-Axis Spring Upgrade
For Desktop Tools

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Introduction

This upgrade adds a spring assembly to the Z-axis to prevent it from lowering when the machine is powered off. This requires partial disassembly of the Z-axis, as well as drilling and tapping a hole into an aluminum plate. If drilling and tapping metal is unfamiliar, seek assistance from a local machine shop.

Remove Z-Axis Assembly from Gantry

Before you begin, remove the bit from your router or spindle and place a block of material under the spindle to keep it from dropping. Then remove the two motor support bolts as marked in the photo below. Support the spindle as you lift the assembly up and off the gantry.
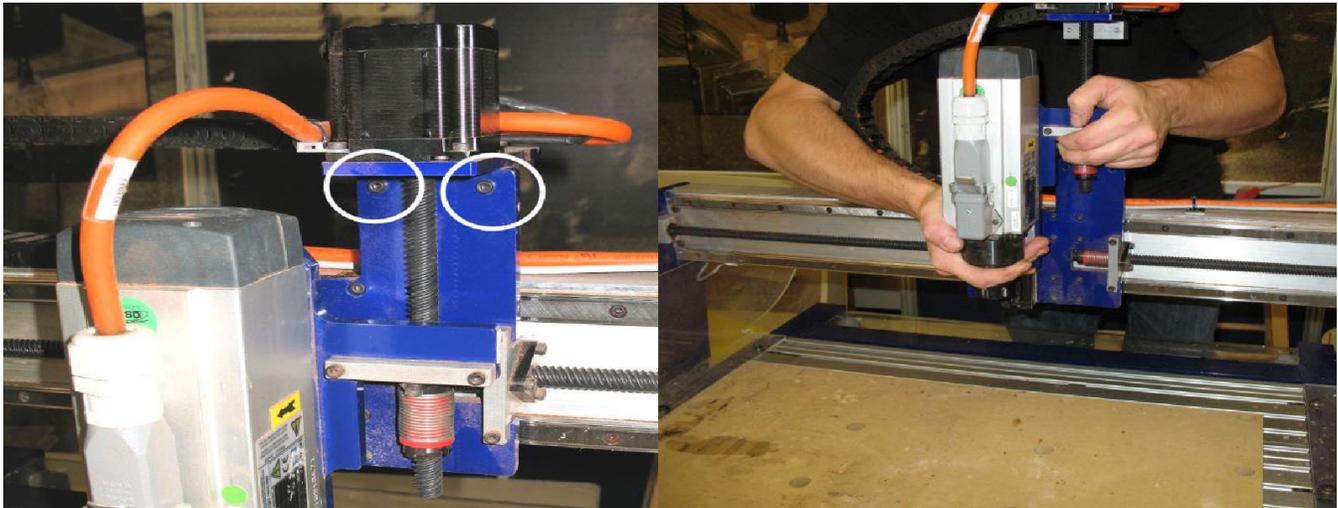

Carefully set down the Z-axis assembly. Remove two mounting bolts for the lead screw housing (photo below left), and four spindle mounting bolts from the back of the plate (photo below right). Remove the plate from the spindle.
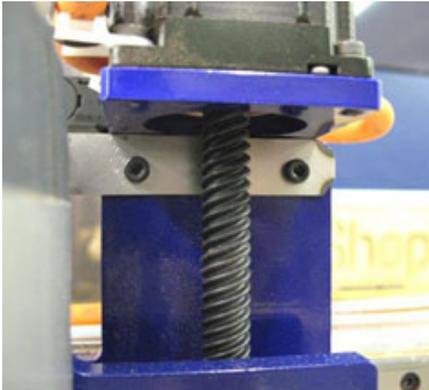
Drill and Tap New Hole

Locate the position of the new hole according to the drawing. Use a drill press to drill the 4.2mm or 11/64" hole. The tapped size must be exactly M5x.8 to fit the shoulder bolt included with the kit.
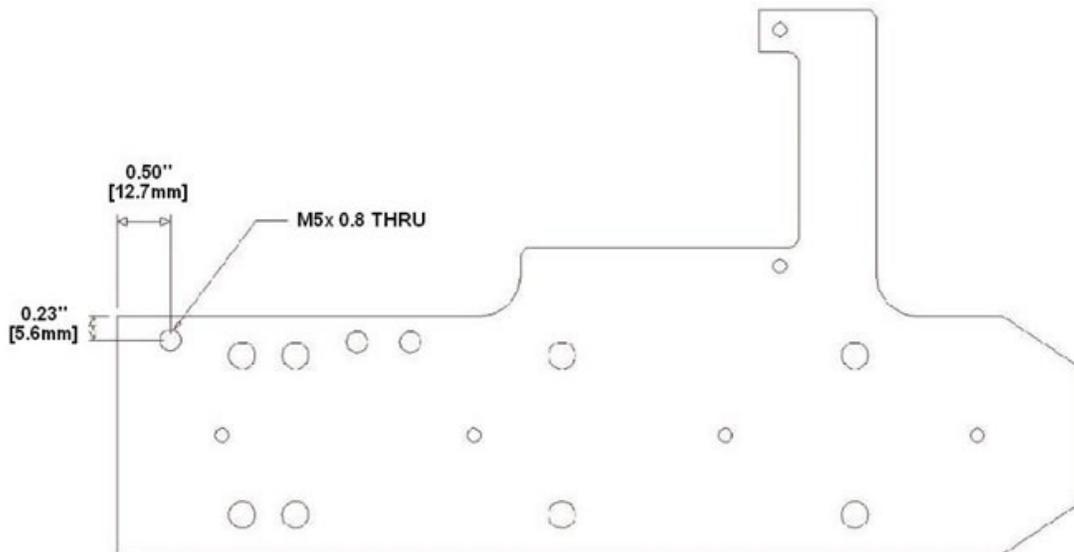
Reassemble Z-Axis and Add Spring Assembly

Reassemble the Z-axis. Prior to sliding the rail into the linear guide bearings, clean any sawdust or chips from the area to avoid pulling grit into the bearings.

Mount the spring bracket directly under the Z-axis motor, orienting it so the hook is facing up and to the left. Make sure that all other mounting bolts are in tightened in place.

Loop a 12" section of cable through one end-loop of the spring, and thread the cable up through the axis assembly until it can be held from the top. The spring should be suspended as shown in the photo at right.

Place the shoulder bolt through the lower end-loop and into the new hole.

Use the cable to pull the top end-loop onto the bracket hook and remove the cable.