Quill Stop V2 Installation Guide 11/16/2014

Thank you for purchasing the Quill Stop for the Sieg X3 (Grizzly G0463) and SX3 (Grizzly G0619) mills. Your feedback is always appreciated. Please email questions and comments to gregpriest@cox.net.

What's Included

1. Quill Stop Plate
2. Stop Block
3. 1/2-20 Button Nut
4. 1/2-20 x 9" Threaded Rod
5. 1/4-20 x 1" Socket Head Cap Screw (1)
6. 1/4-20 x 5/8" Socket Head Cap Screw (2)
7. 8-32 X 1" Socket Head Cap Screw (1)
8. 1/4-20 x 1/2" Socket Set Screw (1)
9. Plastic Spacer
10. Installation instructions

Installation

1. Remove power to the mill.

2. Remove tooling from the spindle.

3. Lower the mill head to its lowest point while still being able to lower the quill to its lowest point.

4. This step for SX3 mills only. Remove the Display Bracket and Block and Stud (Grizzly parts G0619008 & G0619009) from the Spindle Sleeve (G0619010) and Digital Spindle Depth Unit (G0619029).

5. Test the fit of the Quill Stop Plate to the spindle and spindle collar. If the Plate does not easily slide up onto the spindle collar, then continue with this step. Otherwise, skip to the next step.

   Due to minor variations in the diameter of the spindle collar, it may be necessary to expand the Plate slit slightly to slide the Plate up over the spindle and onto the spindle collar. If this is required, install the supplied #8-32 socket head cap screw (SHCS) on the top side of the 1/4-20 hole along the slit and tighten the #8-32 SHCS to expand the slit slightly in the Plate to allow the Plate to slide up over the spindle and onto the spindle collar. Align the Plate vertically on the spindle collar. When positioned, remove the #8-32 SHCS.

6. Thread the supplied 1/4-20 x 1" SHCS into the end of the Plate with the slot. Slide the Plate up onto the spindle collar (the non-rotating part). Align the front edge of the Plate with the front edge of the bottom of the mill head, and align the Plate in the vertical center of the spindle collar. Place two parallels between the top of the Plate and the bottom of the mill head. Push the Plate upward against the parallels and mill head and lock the quill. Tighten the 1/4-20 SHCS.

7. This step for SX3 mills only. Rotate the Plate and adjust the tongue of the mill's depth gage so that the two holes for the mill's depth gage align with the two holes in the Plate. Fasten the tongue of the mill's depth gage to the Plate using the two screws that were removed from the mill's depth gage bracket earlier. Unlock the quill and remove the parallels. Check that the quill moves up and down freely and that the Mill's depth gage / Plate connection is not binding and interfering with the quill operating smoothly. If there is binding, then loosen the depth gage screws, loosen the Plate's 1/4-20 SHCS, and rotate the Plate slightly, then re-tighten all screws and re-check for a smooth operation of the quill.

8. Screw the flattened end of the 1/2-20 threaded rod into the hole in the Plate leaving one or two threads of the flat showing above the surface of the Plate. Secure the threaded rod using the supplied 1/4-20 socket set screw.

9. If you have the stainless steel button nut, turn it upside down with the larger diameter surface facing up. This will act as a rest for the Stop Block. The top and bottom of the steel black oxide Button Nut are the same so orientation of this type of Button Nut is irrelevant. Slide the Button Nut down over the 1/2-20 threaded rod until it contacts the torsion spring cover on the side of the mill head. Release the button and rotate it counter clockwise to provide a slight clearance with the torsion spring cover.

10. Slide the Stop Block down over the 1/2-20 threaded rod so that it sits on top of the Button Nut. A plastic spacer is provided to center the 1/2-20 threaded rod in the center of the 5/8" hole in the Stop Block. Slide the supplied plastic spacer down over the 1/2-20 threaded rod (this is a bit difficult due to the tight fit), and continue down through the hole in the Stop Block. The Stop Block should now be level and correctly positioned on top of the Button Nut.

11. Insert a 9/32" transfer pin or drill through one of the holes in the Stop Block and mark a spot on the side of the mill head. Remove the Stop block and drill and tap a 1/4-20 hole at the spot just marked in the side of the mill head. Be careful to make sure the drill is perpendicular to the mill head. Use a 1/8" drill to drill a pilot hole, then a #7 or 13/64" drill for the final hole. Chamfer and tap the hole (use a tapping block if available). Replace the Stop Block and secure it to the mill head with the supplied 1/4-20 x 5/8 SHCS. Repeat this procedure for the other Stop Block hole.

12. Remove the Stop block and Button Nut from the 1/2-20 threaded rod and then slide the Stop Block down the 1/2-20 threaded rod and secure it to the side of the mill head. The 1/2-20 threaded rod should be centered and move freely in the 5/8" Stop Block hole.

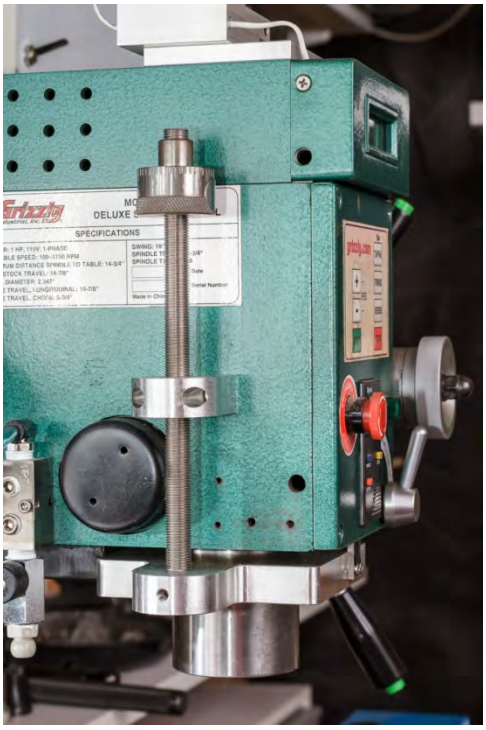
13. Slide the Button Nut down over the 1/2-20 threaded rod to any spot above the Stop Block and check the operation of the Quill Stop by rotating the quill until the Button Nut contacts the Stop Block. Minor adjustments may be made to the position of the Stop Block and the rotation of the Plate by loosening the fasteners, adjusting, and re-tightening the fasteners.

Quill Stop V2 Installation Guide 11/16/2014

Operation

The Quill Stop is simple to operate, simply press the button and the nut disengages from the thread. Slide to desired position and release the button to engage the threads. Turning the nut then allows for precision micro-adjustments of depth of cut.

The Quill Stop is great for doing chamfers. With the Spindle stopped and the chamfer tool in the spindle and centered on the hole, lower the quill until the chamfer tool seats in the hole. Then lower the Button Nut until it contacts the Stop Block. Rotate the Button Nut clockwise a half-turn to back out of the hole a bit and release the quill. Lower the spindle using the quill to make sure that the chamfer tool is not contacting the part. Start the spindle turning (150 RPM is recommended for chamfers) and lower the spindle using the quill. Then start a cycle of rotating the Button Nut counter clockwise in small increments while checking the depth of the chamfer by lowering and raising the quill. This is a great way to sneak-up on the correct chamfer depth.



Installed Profile

Installed Front

Installed Close-up

Install & Tighten Threaded Rod

Stop Block Setup

Mark Stop Block Holes

Tighten Stop Block

Fasten Depth Gage to Plate