



Quill Stop Precision Matthews PM-25MV Installation Guide

Thank you for purchasing the Quill Stop for the Precision Matthews PM-25MV mill. Your feedback is always appreciated. Please email questions and comments to gregpriest@cox.net.

What's Included

1. Quill Stop plate
2. Quill Stop block
3. Button nut
4. 1/2-20 threaded rod
5. 10-24 x 1 1/8" socket cap screw
6. 10-24 x 1/4" socket set screw
7. 1/4-20 socket cap screws (2)
8. Installation instructions

Tools Required

1. Hex keys: 3/32, 5/32"
2. Metric hex key: 2.5mm
3. #1 Phillips screwdriver
4. Parallels



Installation

1. Remove power to the mill and remove tooling from the spindle.
2. Lower the mill head to its lowest point while still being able to lower the quill to its lowest point.
3. Thread the 10-24 x 1" socket cap screw through the hole with the slot of the Quill Stop plate. Leave 2-3 threads loose on the screw. Slide the plate up onto the quill sleeve near the top. It may be necessary to gently spread the slot with a flat screwdriver to get the plate up onto the quill sleeve. Align the front edge of the plate with the front edge of the bottom of the mill head. 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 to ensure a parallel fit. Tighten the socket cap screw.
4. Thread the 1/2-20 rod with the flat-end into the hole in the Quill Stop plate so it is flush with the bottom of the plate. Position the flat outward so that it will face the 10-24 x 1/4" set screw. Install and tighten the 10-24 set screw.
5. Slide the Button Nut down over the 1/2-20 threaded rod until the top of the nut is just above the top edge of the red E-Stop switch. Slide the Stop Block down over the 1/2-20 threaded rod so that it sits on top of the Button Nut with the 1/2-20 threaded rod centered in the stop block hole. The Stop Block should now be level and correctly positioned on top of the Button Nut.
6. 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; a tapping block is useful for this. 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



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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.

7. Remove the Stop block and Button Nut from the 1/2-20 threaded rod. Slide the Stop Block down over the 1/2-20 threaded rod and secure it to the side of the mill head making sure it is level. The 1/2-20 threaded rod should be centered and move freely in the Stop Block hole.
8. 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. Congratulations, installation of your new Quill Stop is complete!

Operation

The Quill Stop is simple to operate, simply press the button and the nut disengages from the thread. Slide to the 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.

