

Spindle Brake for X3 Installation Guide

Thank you for purchasing the Spindle Brake from Priest Tools. I developed this tool because I found it awkward and cumbersome to make tool changes using the spindle spanner and hex wrench supplied with my mill/drill. So I searched the Internet for a better tool, but did not find a satisfactory solution.

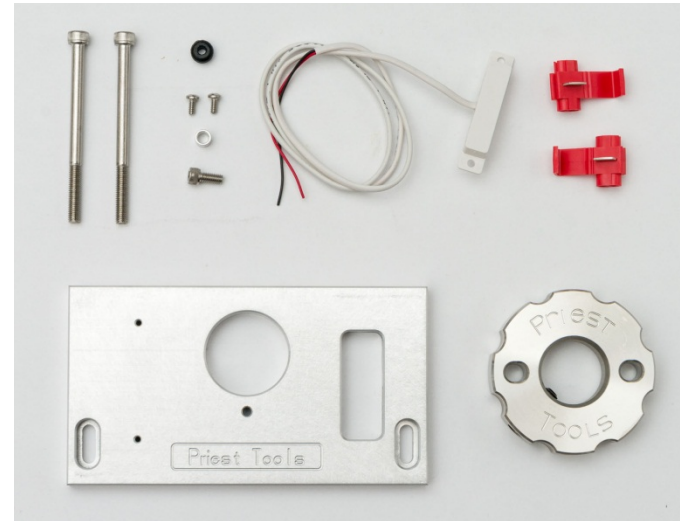
I decided to design and build a tool that made tool changes easier and more convenient. The Spindle Brake is made from alloy 303 stainless steel and is machined to exacting specifications in state-of-the-art CNC machining centers. The Safety Switch ensures that the mill cannot be turned-on while the Spindle Brake is in place. The Spindle Brake is a very high quality tool that works well and is a great addition to your collection of mill accessories.

I am very interested in your feedback on this product. Please email me with your questions, comments, or concerns at gregpriest@cox.net. If requested, I will respond to your inquiry at my earliest opportunity.

I hope you enjoy using the Spindle Brake from Priest Tools for many years to come.

Greg Priest
Priest Tools, Inc.

What's Included



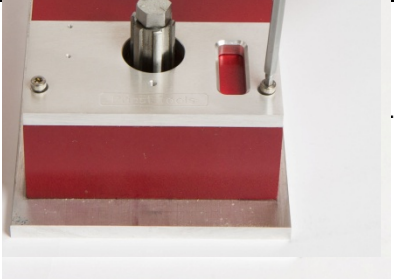

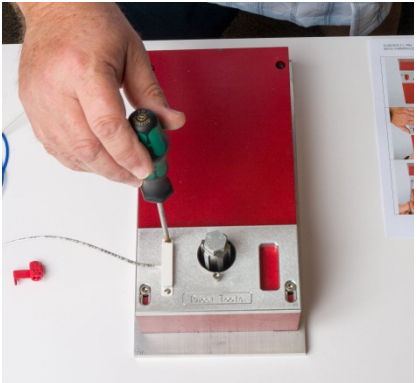
Hardware

1. Spindle Brake disc
2. Spindle Brake plate
3. Safety switch
4. 5 x 70mm socket cap screws (2)
5. 8-32 x 3/8" socket cap screw
6. 1/4"OD x 3/16" L x #8 spacer
7. #4-40 x 1/4" pan head machine screws (2)
8. 22-18 AWG wire tap connectors (2)
9. Rubber grommet
10. Instructions

Tools required for installation

1. #1 Phillips screw driver
2. 9/64" & 4mm hex wrenches

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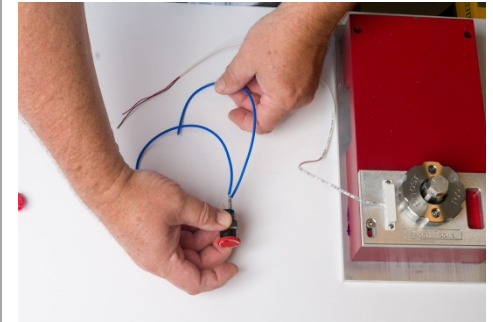
		<p>6. Attach the Spindle Brake Plate to the mill cover using 2 supplied 5 x 70mm socket cap screws. <u>Do not tighten the Plate at this time.</u></p>	
<p>4. Remove Drawbar Cap.</p>		<p>7. Install the #8-32 x 3/8" socket cap "lock" screw and spacer.</p>	
<p>5. Remove two front screws of mill Cover. I've found that it's easier to get these screws out using a straight hex key versus a ball-point key. The straight hex key "grabs" the inside head of the socket screw better than a ball-point key.</p>		<p>8. Install the safety switch to the Spindle Brake plate using the 2 supplied #4-40 x 1/4" pan head machine screws.</p>	

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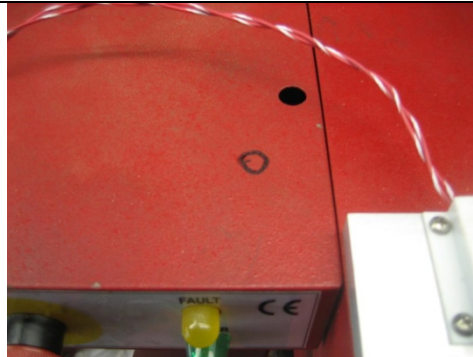
9. Place the Spindle Brake Disc over the spindle and onto the Plate. Rotate the Disc so that one of the slotted holes in the Disc slides down over the Lock Screw. Adjust the Plate so that the Lock Screw is in the center of the slotted hole in the Disc. Tighten the plate to the top of the mill by tightening the supplied 5 x 70mm socket cap screws.



11.



10. Locate and drill a 1/4" hole in the top of the control box 1" from the side where the control box meets the belt cover and 1.5" from the front edge of the control box. Deburr the hole and install the supplied black rubber grommet in this hole. Run the wire leads from the Safety Switch through this grommet into the Control Box.

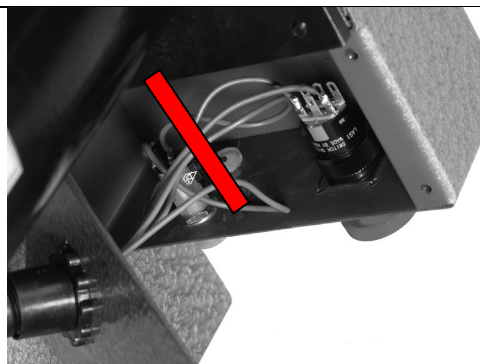


12. Take **ONE** of the wires soldered to the back of the E-Switch and cut the wire half-way between the E-Switch and where the wire runs back into the mill.

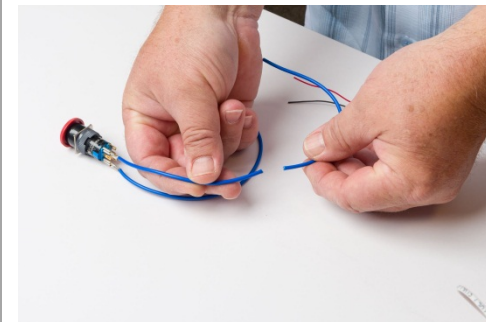


11. The safety switch will now be spliced into one of the wires connected to the Emergency Switch (E-Switch).

Remove the bottom cover of the Control Box.

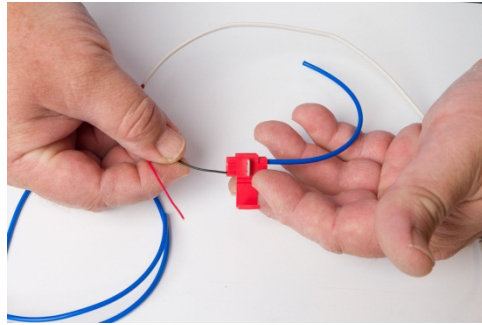


13. Using the supplied wire connectors, splice the Safety Switch between the ends of the E-Switch wire cut in the previous step.

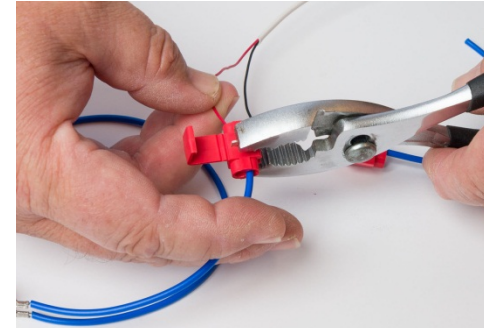


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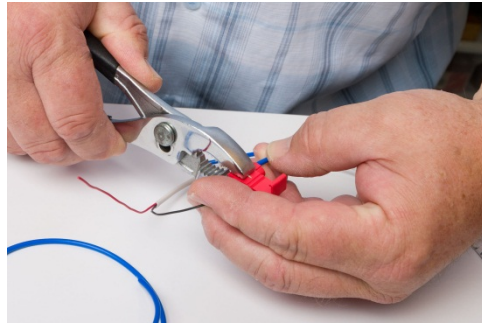
14. Insert one of the Safety Switch leads into the “closed-end” channel, and insert one end of the wire cut in the previous step in the “open-ended” channel of the connector.



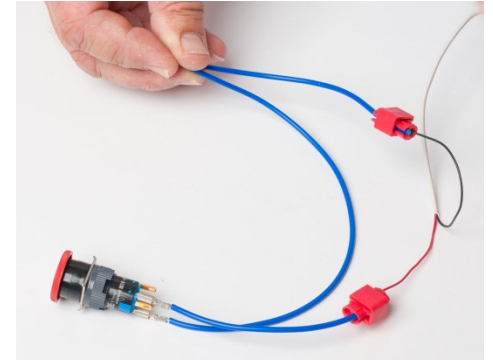
17. Connect the other Safety Switch lead to the other cut wire from the E-Switch in the same manner.



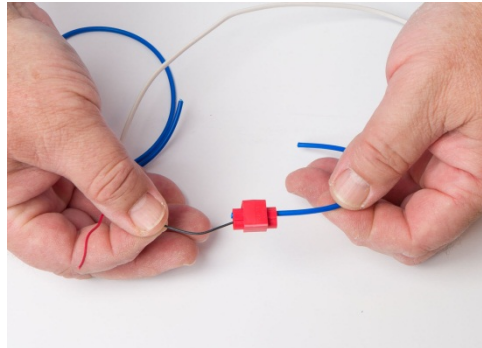
15. Compress the connector with a pair of pliers.



18. The completed splice should look similar to the picture on the right.



16. The first completed splice should look like the picture to the right.

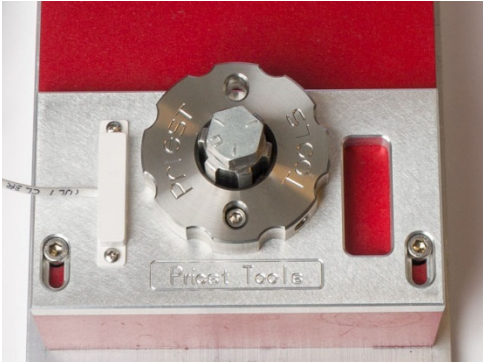


19. The Safety Switch should now be spliced in one of the wires soldered to the mill's E-Switch.

With this modification, either the E-Switch or the Safety Switch, when activated, can cut power to the mill.



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<p>20. Replace the bottom cover to the Control Box.</p> <p>21. Re-connect power to the mill and test the operation of the Spindle Brake.</p>		<p><u>Adjusting The Spindle Brake</u></p> <p>There are two basic adjustments that allow the Spindle Brake to operate smoothly.</p> <ol style="list-style-type: none">1. The alignment of the slotted holes in the Spindle Brake Disc to the lock screw in the Plate.2. The tightness of fit of the Spindle Brake Disc as it slides over the top of the spindle.
<p>22. Slide the Spindle Brake disc down over the top of the drawbar and spindle. With the Spindle Brake disc correctly in place, the spindle should be locked and the power to the mill cut. When lifting the disc off of the plate power should return to the mill.</p>		<p><u>Alignment of Spindle Brake Plate and Disc</u></p> <p>The Plate can be adjusted by loosening the two 5x70MM socket cap screws holding the plate to the top of the mill. Slide the Disc over the top of the spindle and rotate it into place flush with the surface of the Plate. If the lock screw is not in the center of the slotted hole in the Disc, then adjust the Plate and re-tighten the mounting screws for the Plate.</p>
<p>23. Store the Spindle Brake disc in the slot on the Spindle Brake Plate. This way, you will always know where it is and it serves as a visual cue as to whether or not the Brake is installed.</p> <p>Congratulations, the installation of your new Spindle Brake is complete!</p>		<p><u>Adjustment of Tightness of Fit of Spindle Brake Disc to Spindle</u></p> <p>The self-locking 5/16-18 socket set screw can be turned using a 5/32" hex wrench to tighten or loosen the fit of the Disc as it slides along the mill spindle. This screw has been pre-set at the factory, but you may wish to fine tune the Disc's fit with the spindle of your mill.</p>