

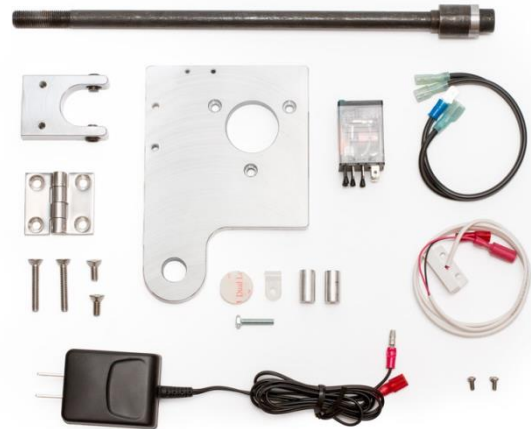


## Spindle Brake Flip Little Machine Shop 5500 Mill Installation Instructions

The enclosed Spindle Brake Flip is for use on the Little Machine Shop 5500 mill. The Spindle Brake locks the spindle and removes power to the mill to facilitate tool changes. With the Spindle Brake engaged, power to the mill is cut allowing for safe tool changes.

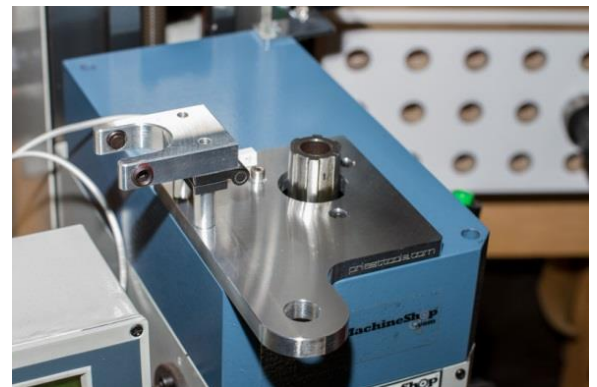
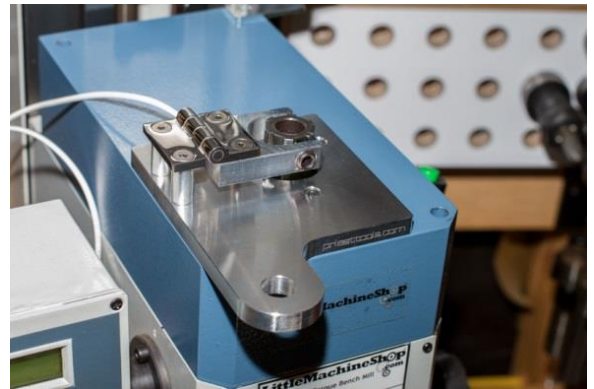
### What's Included

1. Spindle Brake Flip plate
2. Spindle Brake Flip fork
3. Modified R8 drawbar
4. Stainless steel hinge & #10 mounting screws
5. 12VDC relay
6. 12VDC power adaptor
7. Safety switch and mounting screws
8. Relay connecting wire
9. 3/4" Aluminum spacers (2)
10. Wire clip
11. Velcro fastener
12. Hex cap screw, M4 x 20mm



### Step by Step Installation Instructions

1. Unplug the mill from the electrical source.
2. Unscrew and remove the spindle cover.
3. Remove the 3 socket cap screws securing the spindle cover collar and remove the collar.
4. Fasten the supplied safety switch to the Spindle Brake Flip plate using the supplied screws.
5. Mount the hinge onto the fork using the short #10 socket cap screws. With the hinge on the left side of the fork, the magnet must be facing to the back. Mount the hinge and fork onto the left side of the Spindle Brake Flip plate using the long socket cap screws and spacers. When finished with this step, the assembly should look like the picture to the right.





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6. Slide the Spindle Brake Flip plate down over the spindle and align the left side of the plate with the left side of the mill head. Install two of the three socket cap screws removed previously in the front-center and right rear holes of the plate. Install the supplied socket cap screw and spacer in the left-rear hole of the plate. Do not tighten these at this point.
7. Flip the locking “fork” of the Spindle Brake down over the top of the spindle. It is usually necessary to rotate the spindle by hand so that the female splines of the spindle match the socket set screws in the Spindle Brake “fork” until they mesh.
8. Two adjustments are usually required at this point to complete this part of the installation. The first is to adjust the Spindle Brake plate so that the Spindle Brake “fork” is in good alignment with the spindle. If necessary, move the plate in small increments to get the best alignment with the spindle.

The second adjustment is to the socket set screws on the Spindle Brake “fork”. The “fork” should slip easily over the spindle, but without excess play. The screw settings may be just right out of the box, but in case they are too tight or loose adjust the screws accordingly. Once the adjustments are complete, tighten the socket cap screws securing the Spindle Brake Flip plate to the top of the mill.

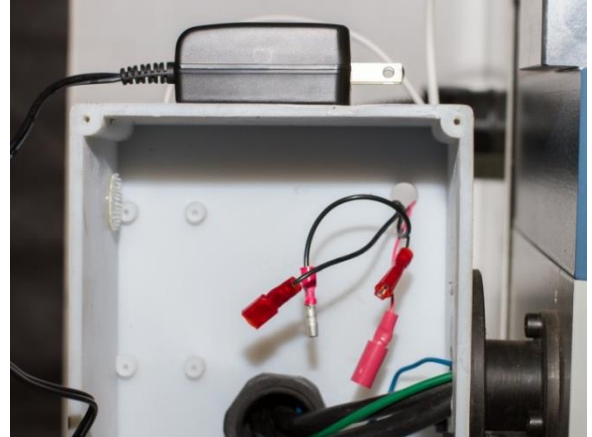
9. Remove the front panel of the control box and gently let the front panel hang down



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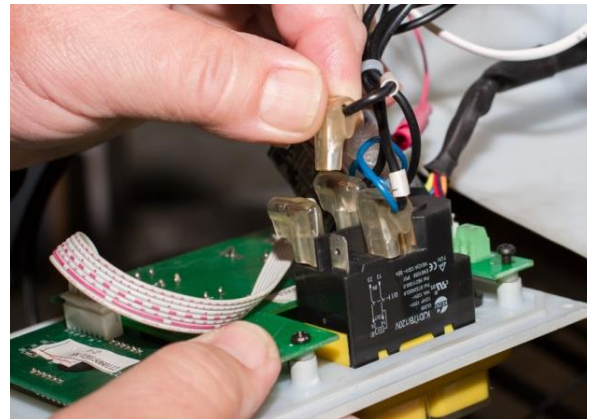
below the front of the control box. Mark a point in the upper right corner inside the control box about 3/4" from the top and 1/2" from the side. Drill a 3/8" hole at this point and debur the hole. Run the safety switch wires and 12VDC power adaptor wires through the hole and into the control box.

10. Refer to the Wiring Diagram and picture at the end of this document for the next several steps.



11. Remove the wire marked 1 indicated in the picture to the right from the E-stop switch.

12. Plug the supplied 1/4" male connector of the 16awg black wire into this female connector removed from the E-Stop switch in the previous step. Plug the other end of this wire with the .187" female connector into the #8 male connector of the relay.

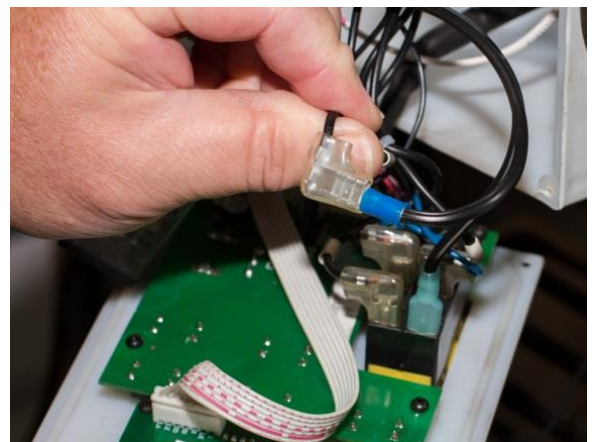


13. Plug the supplied 1/4" female connector of the 16awg black wire into the male connector on the E-Stop switch. Plug the other end of this wire with the .187" female connector into the #12 male connector of the relay.

14. Plug the female and male barrel connectors together of the 12VDC power adaptor and safety switch.

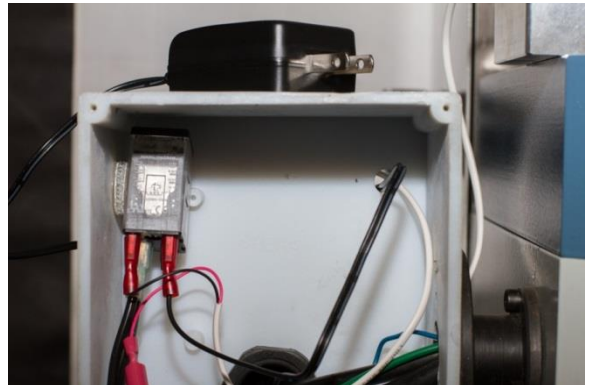
15. Plug the female quick disconnect terminal of the 12VDC power adaptor into #13 of the relay.

16. Plug the female quick disconnect terminal of the safety switch into #14 of the relay. The relay is now fully wired and should look like the following picture.



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17. Peel the cover tape from one side of the Velcro fastener and stick to the side of the relay. Peel the tape from the remaining side of the Velcro fastener and press into the back left corner inside the control box.
18. Replace the cover of the control box.
19. Restore power to the mill and test the operation of the safety switch by flipping the Spindle Brake “fork” open and closed. When the Spindle Brake is engaged (down over the spindle), power to the mill should be off. When it is flipped back up over the spindle, power to the mill should be on.



Congratulations, your Spindle Brake Flip is now installed and ready for use!

Please email the address below with your comments and questions.

### Wiring Diagram

12VDC Adaptor		Safety Switch	
1	-----	1	
2	┌──┐	2	
	└──┘		
x		x	
x		8	to mill E-Switch wire that was disconnected
x		12	to E-Switch 1/4" male connector from which the wire was removed
13	└──┘	14	
	Relay		



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### Spindle Brake Flip 5500 Wiring Picture

