Belt Drive Spindle Kit

Installation Instructions

Tools Required:
4mm hex wrench
5/64 hex wrench
3/32 hex wrench
10mm open end wrench
Spanner wrench to hold spindle
Small screw driver
#2 Phillips head (cross point) screw driver
Snap ring pliers

1. Remove the motor, save the three 6mm SHCS for later use in mounting the motor.

2. Remove the top cover plate from the head stock box.

3. Remove the shifter gears and the shift fork.

4. Remove the snap ring on the spindle. Save the snap ring for installation of the new spindle pulley.

5. Remove both gears and the spacer from the spindle.

6. Remove the two 6mm SHCS from under the head stock box that fasten the box to the quill.

7. Remove the box, motor and speed control; set them aside for now.

8. If you are going to install the new spindle bearings there is an excellent set of instructions at http://groups.yahoo.com/group/hf47158toCNC/files/
or
http://groups.yahoo.com/group/hf47158toCNC_Moderated/files/ in the file called Spindle Bearing - Replacement.pdf.

9. Remove the clear plastic pulley guard using the 3/32 hex wrench you only need to loosen the two screws that fasten it to the motor mounting place and then lift it straight up.

10. Position the new motor mounting plate on the top of the quill with the spindle nut roughly centered in the 2-inch hole.

11. Fasten the plate in place using the two-M6x20 screws and lock nuts supplied with the kit. The M6x20 socket head cap screws are inserted from the top of the plate with the washers and nuts on the underside of the quill flange.

12. Insert the key in the key slot on the spindle, and slide the new spindle pulley onto the spindle, large pulley toward the plate.

13. Tighten the setscrew to secure the pulley to the spindle with the pulley down as far as possible. You may reinstall the snap ring as an extra measure of security if desired.

14. Attach the three stand off spacers to the plate using the provided M6x 20 hex head bolts and washers. Leave them slightly loose for easier installation of the motor.

15. Disconnect the motor from the speed control, you should make note of where the white and black wires from the motor are attached to the forward / reverse switch.

16. Disconnect the green ground wire for the motor from the metal box.

17. Remove the metal nut on the inside of the red box and remove the motor wire and strain releaf from the red box..

18. With the motor shaft facing you, remove the spring clip and the gear from the motor shaft. Remove the key and save it for the step 18. Remove the second spring clip.

19. Install the original key in the key way on the motor shaft centered between the snap ring grooves. Install the new motor pulley on the motor shaft, install one of the spring clips, pull the motor pulley against the spring clip and tighten the setscrew.

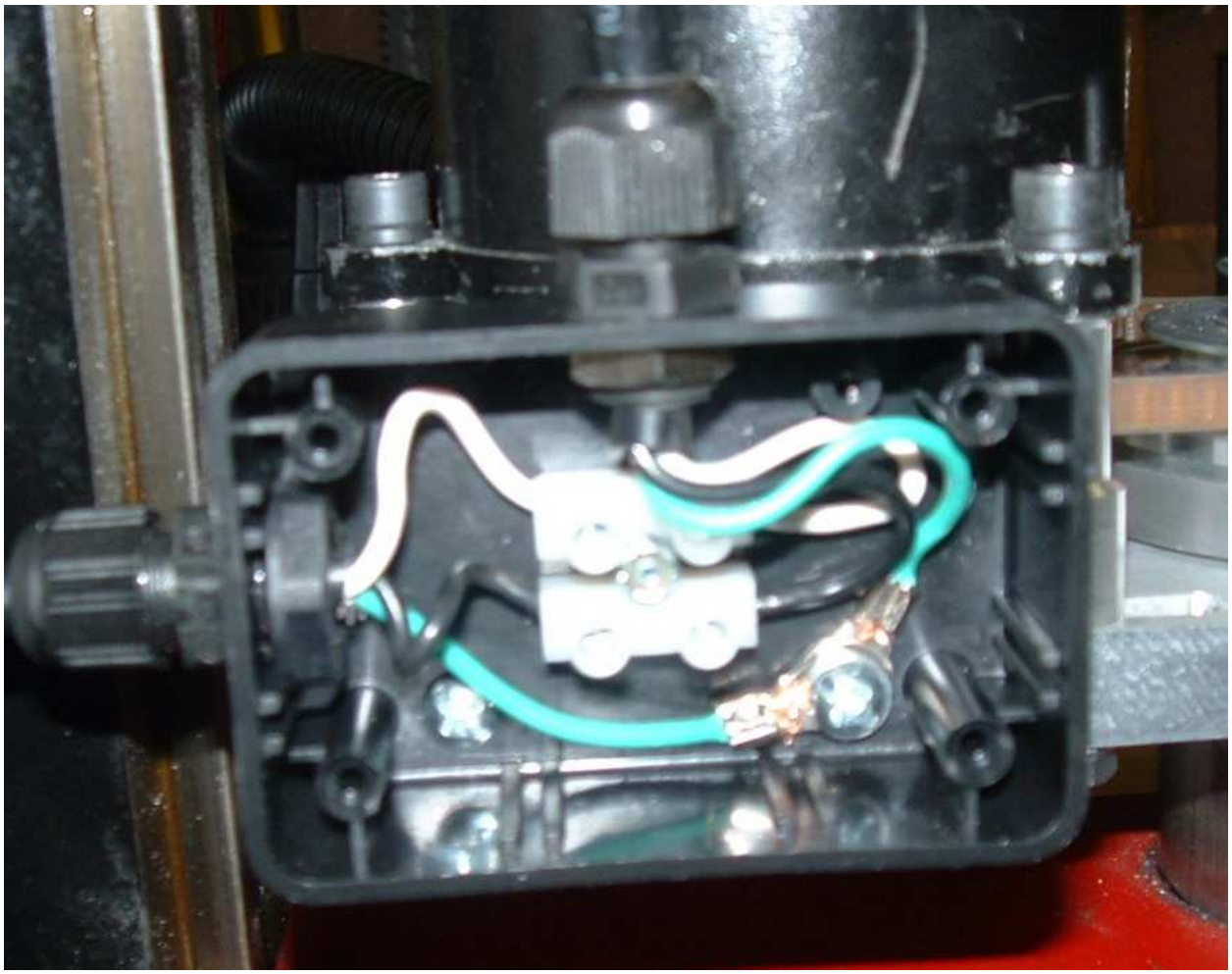
NOTE: the spring clip may not engage on some motors, this is alright as there may be a slight difference in some motors. Check for free rotation of the motor.

20. Place the belt over the spindle pulley, and engage the large groove on the pulley.

21. Engage the belt in the small groove of the motor pulley and attach the motor to the three stand off spacers using the original M6-18 screws and washers saved from step 1.

22. Adjust the position of the motor to provide reasonable tension on the belt and secure the adjustment using the 3 M6-20 hex head bolts on the bottom of the plate.
DO NOT stretch the belt, just make it reasonably snug.

23. Mount the 2 inch by 3 inch black box on the left side of the belt drive mounting plate using supplied 8-32 x 3/8" screws. The screw with the star washers goes in the position toward the front of the belt drive base plate. The green wire from the motor goes between the star washers on this screw. The matching green wire from your extension power cable also attaches to this screw under the second the washer. Splice an extension on the motor cable to provide a length that suites you. You should be able to find 18-3 stranded power cord wire at your local home center. (An old computer power cord will also most likely be 18-3 and can be used for this)



24. Make sure every thing rotates freely by hand with no binding.

25. You are now ready to test your newly installed JD-CNC belt drive spindle kit. The pulley steps are designed to provide nominal speed ranges of 0-2000 RPM, 0-4000 RPM and 0-8000 RPM. Your speeds may vary depending on you r motor and speed control. We have seen Rpm's as high as 9750 RPM in the high range.