Tools needed, to remove the spindle to replace the belt.

Note, tools needed may vary depending on revision. In this case, all of the standard set screws and button head screws use metric hex wrenches.

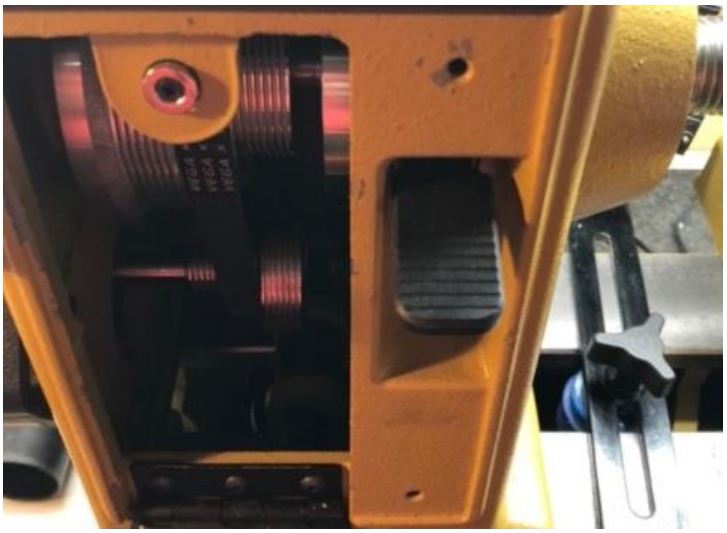
- 2mmm hex,
- 3mm hex,
- 6mm hex,
- rubber mallet,
- #1 Phillips screwdriver,
- blue loctite,
- needle nose vise grips wrapped in duct tape,
- 12pt, 19mm box wrench (you will want 12pts)
- Wooden block

Cut the box end 19mm wrench to a length of 4.75”, with a slit of ~0.35”

Start by unscrewing the magnetic stop shown below (P#1)

Next unscrew the cover to the spindle lock, using the 3mm hex.

Next, engage the spindle lock.



Pull on the plastic spindle lock tab to remove it.

Next, remove the hand wheel, there are 2 set screws to remove, using the 3mm hex.

Next raise the motor up.

Below, shows the motor in the up position.

Next, using the Phillips #1, remove the 4 screws to the encoder box.

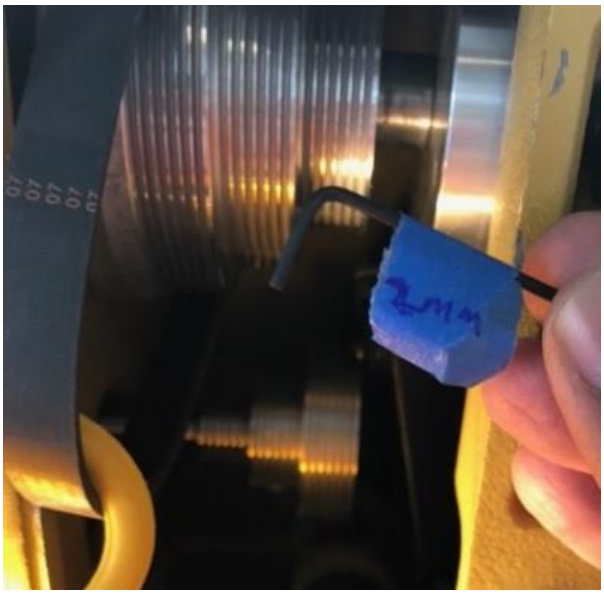
Below shows the encoder box lose.

Next move the belt, so it is free from the motor pulley.

Move the belt away from the middle pulley position, and rotate the spindle, until one of the set screws in the pulley is visible, and remove the set screw, using a 3mm hex. Rotate, 180° and unscrew the 2nd set screw.

Next, unscrew, the sensor collar.

Using a 2mm hex, unscrew the set screw from the stop collar. Move the encoder backward, to provide room for your hand.

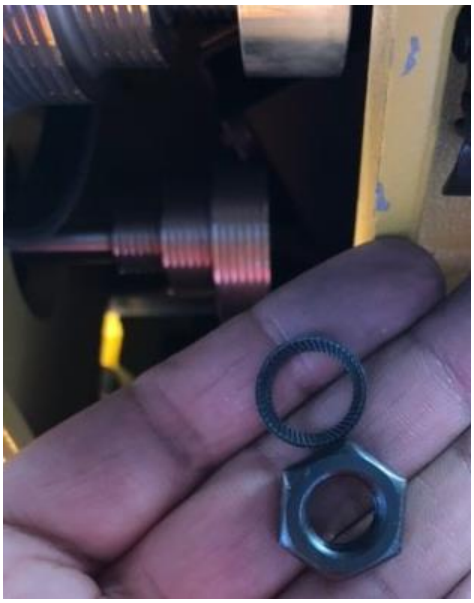


Slide the sensor collar, and the spindle pulley as far left as possible, and push the lock collar to the left and catch the key. Note, I have re-installed the Handwheel to make it easy to spin everything.

Here is the key from the lock collar.

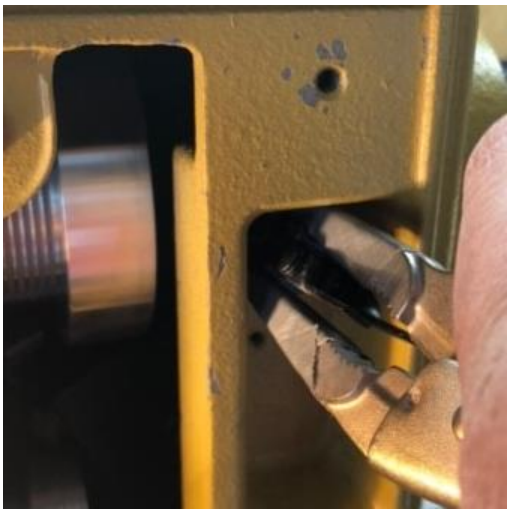
With the pulley, and the Sensor collar, on the far left, slide the slit 19mm box wrench up and over the spindle lock pin inside the housing and loosen the nut and washer.

Below are the jam nut and spring washer that you just removed.



Next, take the needle nose pliers, and wrap them at least 4x, with duct tape, the more the better.

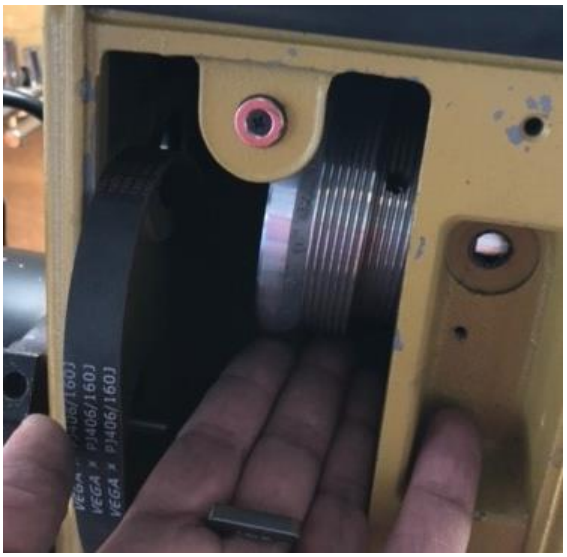
Grip the 14mm nut, and loosen counter clockwise. Adjust the position of the needle nose as you see fit. You may also use a thin 14mm wrench if you have one. (https://www.amazon.com/Grip-Thin-Wrench-Set-MM/dp/B001PTF9MY/ref=sr_1_3?crid=Q5QV4TJ18B8T&dchild=1&keywords=thin+metric+wrench+set&qid=1609209314&sprefix=thin+metric+%2Caps%2C234&sr=8-3)



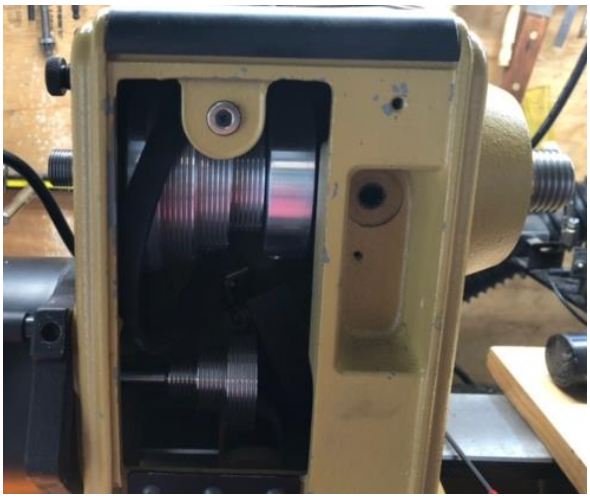
Below is what the Spindle Lock assembly looks like removed.

Next align all of the key way groves, so when you tap the spindle out, everything goes smoothly (may or may not be needed). Sorry this picture doesn't show it. More of a place holder.

Using the wooden block, and rubber mallet, tap out the spindle to the right, note to catch the pulley key (shown below).



Swap out the old belt for the new belt.



Next, using the box wrech and the thin 14 mm wrench or the needle nose pliers, re assemble the spindle lock, thread it back into the hole, and then tighten on the spring washer and nut.

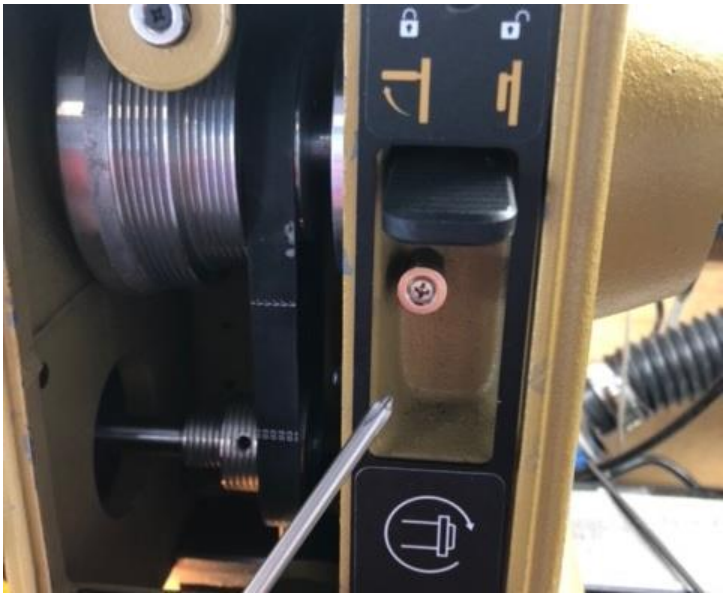
Next, with everything shifted to the left, reinstall the key for the stop collar, and use the sensor collar to push the stop collar over the key. Note, the stop collar lock should be engaged. Next, align the stop collar so that it is aligned with the spindle lock pin, note the collar will be biased to the right. Use the

2mm hex. Note, you may have to uninstall the motor, if your hands are too big, to make room to install the key. Once the key and the stop collar are in the correct spot, you may reinstall the motor.

Next, install the 4 screws for the sensor. Bias the sensor down, and gentle nudge upwards while tightening, but ensure the sensor does not touch the collar.

Next, place the pulley in the high position (far right), and adjust the spindle pulley as needed to align the belt. Then tighten the 2 set screws.

Install the magnetic stop for the spindle lock.



Lastly install the handle for the motor.