



Acorn: Changing from High-Speed to the Low-Speed/High-Torque Pulley Grooves

1. 99% of the time, you will use your headstock spindle in the High-Speed range and pulley groove.
2. Changing from High-Speed to Low-Speed/High-torque will be done mostly on the lathe or chucker lathe when you are cutting harder materials or need to use lower spindle speeds to avoid chatter or other problems.
3. The High-Speed pulley groove is the groove closest to the end of the spindle. The Low-Speed/High-Torque pulley groove is the groove closest to the headstock body shown below (See Figure 1).

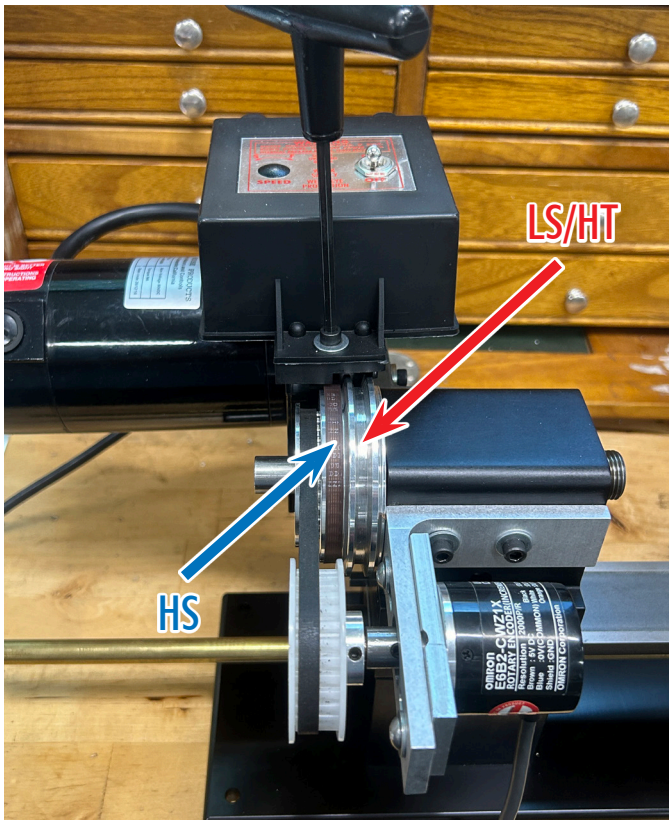


FIGURE 1—The red arrow indicates the location of the low-speed/high-torque pulley groove.

4. To change the drive belt from the High-Speed to the Low-Speed, follow these steps.
 - A. Unscrew the speed control clamping screw (see Figure 2).

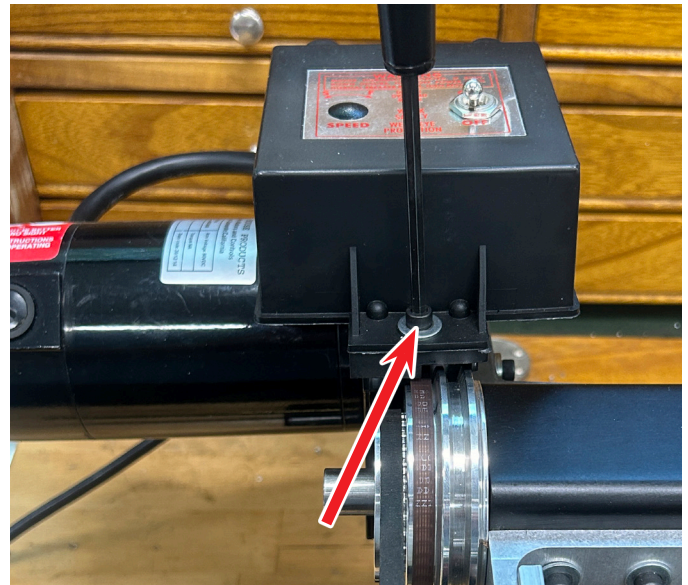


FIGURE 2

- B. Raise the speed control housing up to gain access to the motor bracket adjustment screws (see Figure 3).

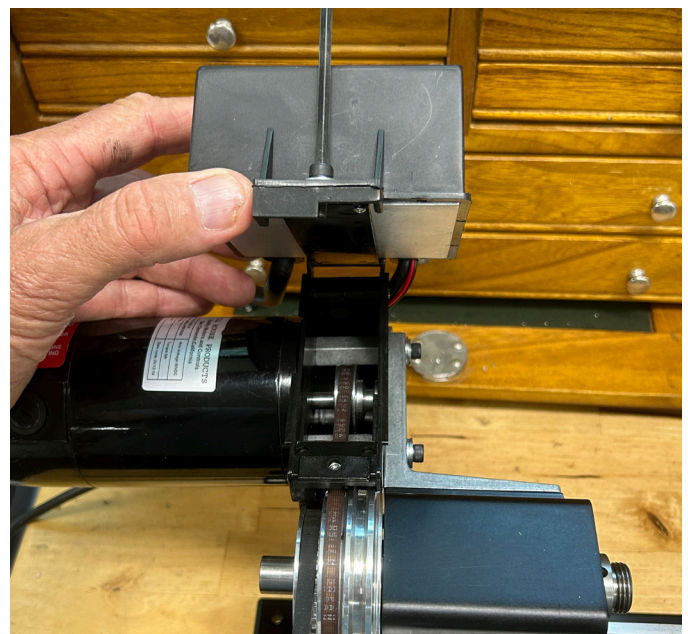


FIGURE 3

C. Loosen the two motor bracket adjustment screws (see Figure 4).

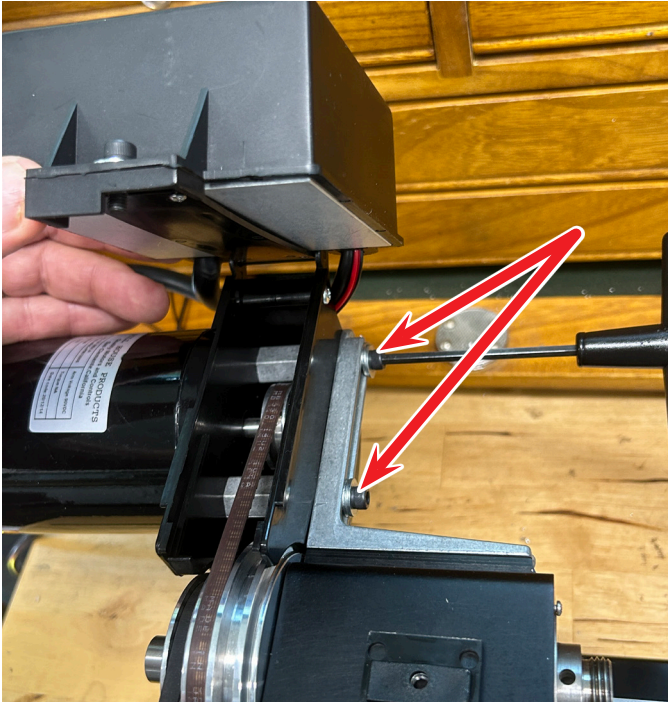


FIGURE 4—The red arrows show the locations of the two bracket adjustment screws.

- D. pull the motor towards the headstock pulley to gain some slack in the drive belt.
- E. Turn the headstock pulley and walk the drive belt off of the motor pulley first to the smaller low-speed groove (see Figure 5). Then, reverse the pulley direction and walk the belt onto the larger low-speed groove on the headstock pulley (see Figure 6).

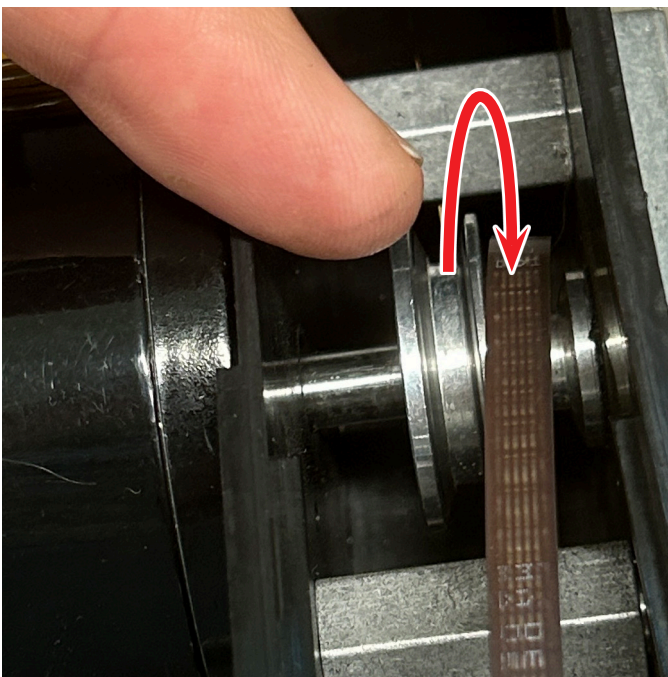


FIGURE 5

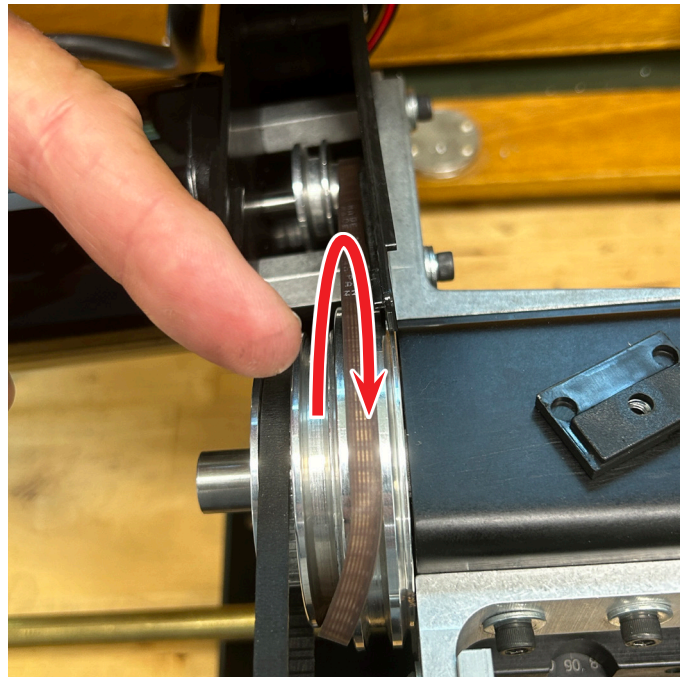


FIGURE 6

- F. Place a larger hex wrench (7/32" or 1/4") between the motor bracket and the head of the first motor bracket adjustment screw. Then, using the hex wrench like a pry bar, force the motor away from the headstock to tighten the drive belt (see Figure 7).

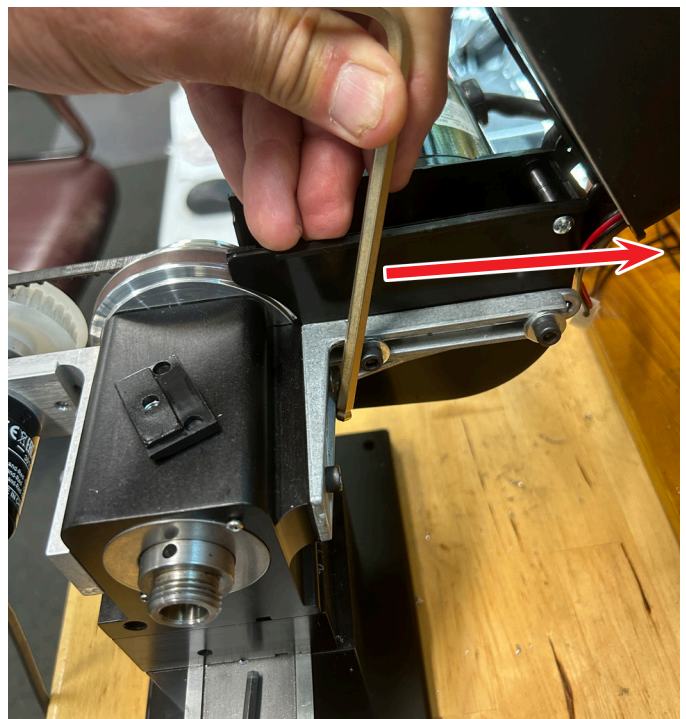


FIGURE 7—Force the motor away from the headstock in the direction of the red arrow.

- G. While forcing the motor away from the headstock, tighten the two motor bracket adjustment screws (see Figure 8).

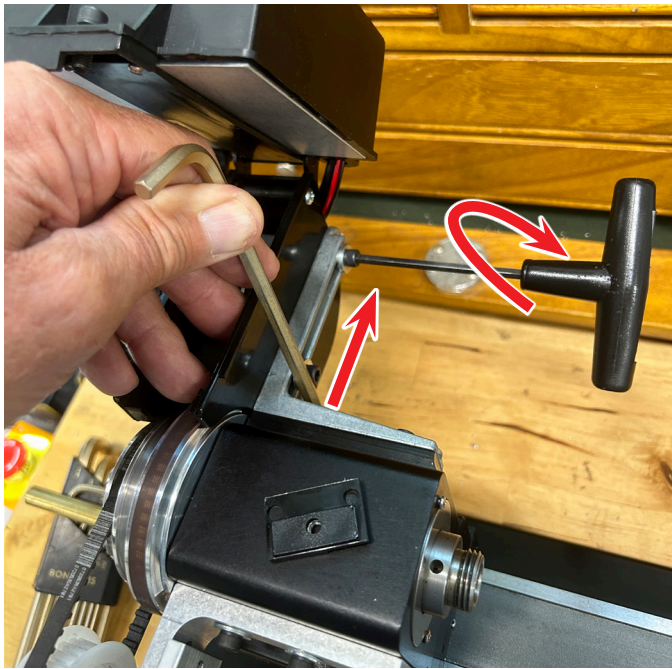


FIGURE 8

H. Place the lock-nut tab back in the belt cover slots (see Figure 9).

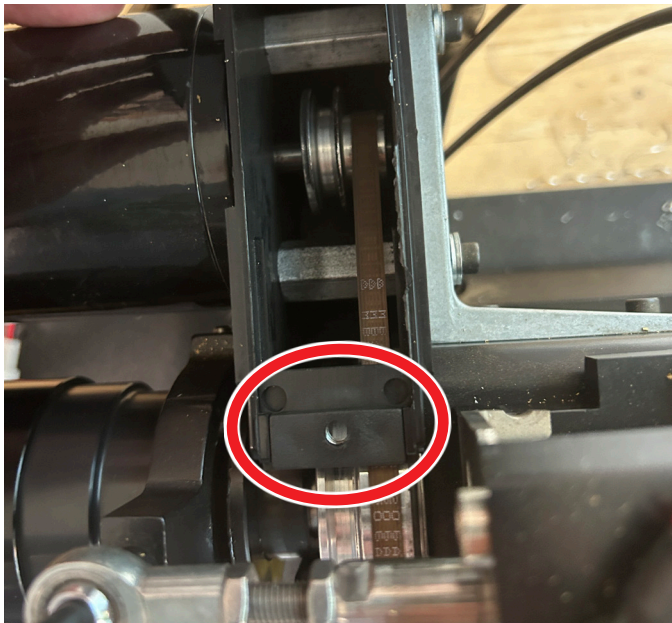


FIGURE 9—Location of the lock-nut tab.

- I. Lower the speed control housing. Align the locking screw with the tab, and tighten the locking screw.
5. Now, change the Main Spindle Settings.

A. Click on Utility F7 (see Figure 10).

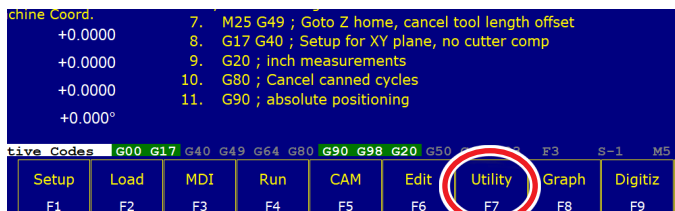


FIGURE 10

B. Click on Acorn Wizard F10 (see Figure 11)

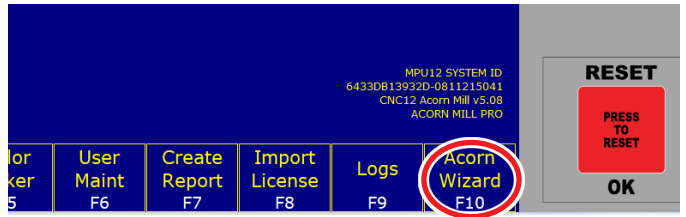


FIGURE 11

C. Click on Spindle #1 and you will see that the “Max speed at high range” is set to 2800 (see Figure 12).

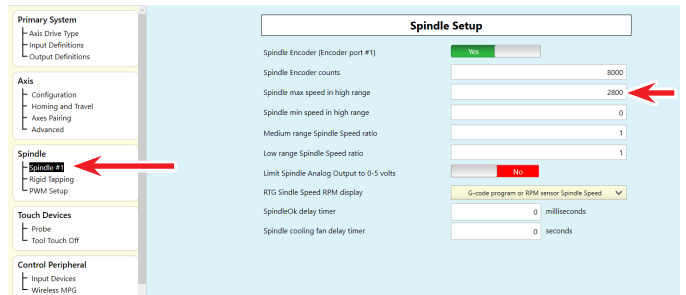


FIGURE 12

D. Change the max speed to 1400. Then, click on “Write settings to CNC control configurations” (see Figure 13)

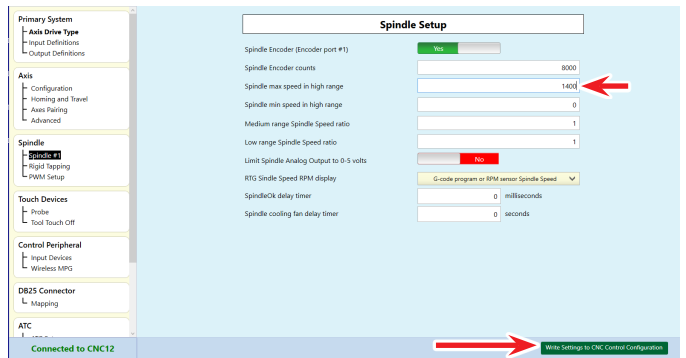


FIGURE 13

E. Now, you will be prompted to close the Wizard and restart CNC 12. Turn the power switch on the Acorn controller box off and close the Wizard down (see Figure 14).

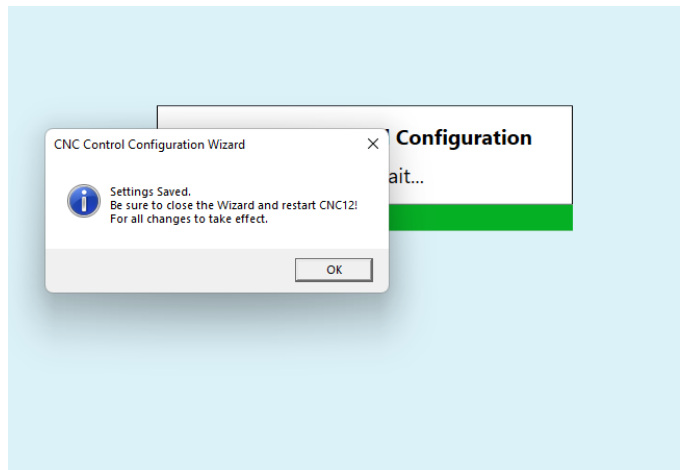


FIGURE 14

F. Click on Shut Down F10 (see Figure 15).

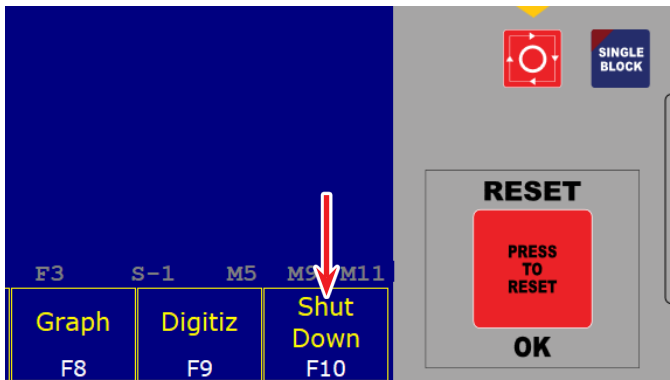


FIGURE 15

G. Then click on Exit CNC12 F9 (see Figure 16).



FIGURE 16

H. Now, power on the Acorn control box and wait 30 seconds. Then start the CNC12 and you should be good to go.

6. You will now have an actual, usable RPM range of approximately 70 to 1,300, with substantially higher torque.

Thank you,
Sherline Products Inc.