MASSO: 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).

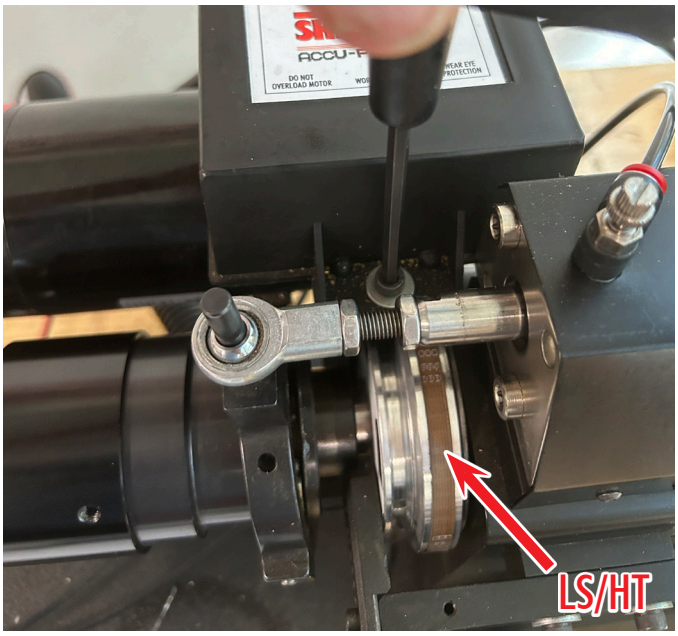

FIGURE 1—The red arrow indicates the location of the low-speed/high-torque pulley groove.

4. To change the drive belt from the High-Speed to the Low-Speed, follow these steps.
   A. Turn the controller off so there is no power to the optical encoder.
   B. Disconnect the green optical encoder connector. We are disconnecting this so it will not get disconnected accidentally during the belt change process.

CAUTION: You must connect or disconnect the green optical encoder connector with the power off, or you will damage the optical encoder! (see Figures 2 and 3).

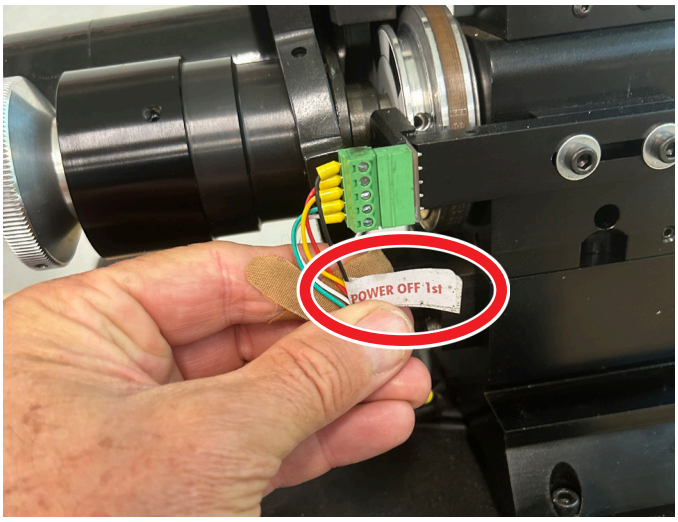

FIGURE 2—There is a tag on the encoder wires to remind you to turn the power off first before connecting or disconnecting the optical encoder.

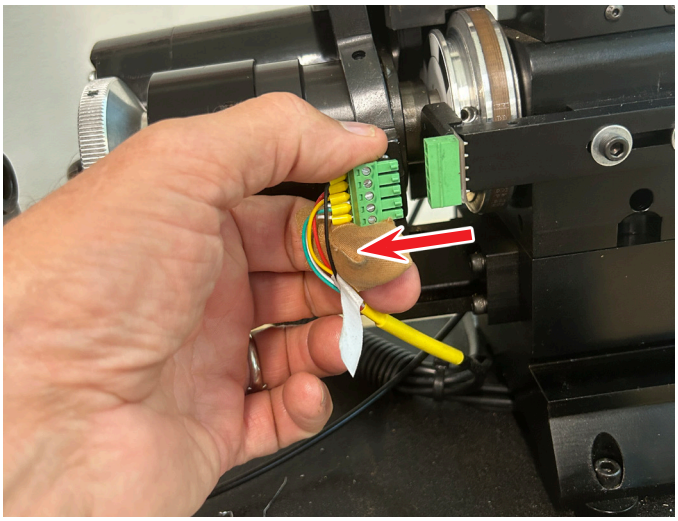

FIGURE 3—Disconnecting the optical encoder wires.

C. Unscrew the speed control clamping screw (see Figure 4).

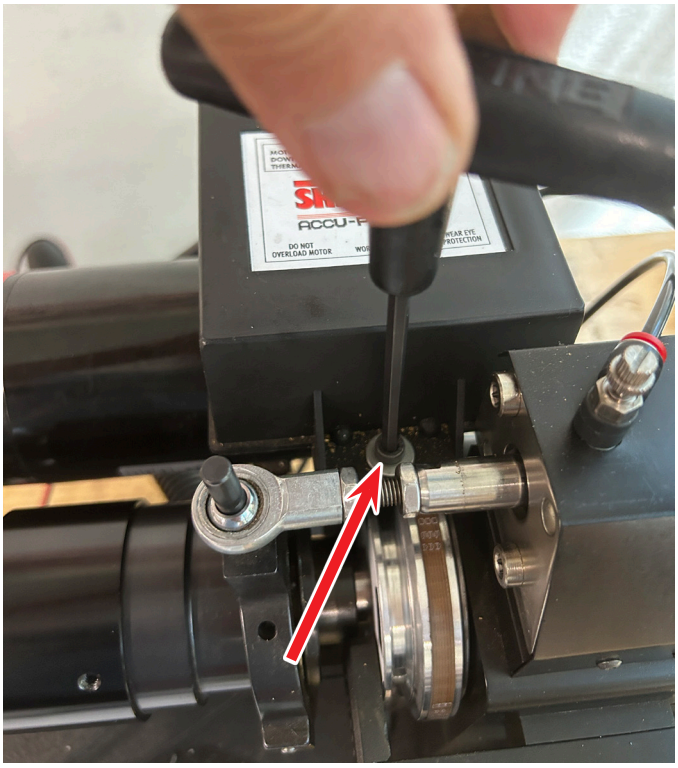

FIGURE 4

D. Raise the speed control housing up to gain access to the motor bracket adjustment screws (see Figure 5).

FIGURE 5

E. Loosen the two motor bracket adjustment screws (see Figure 6).

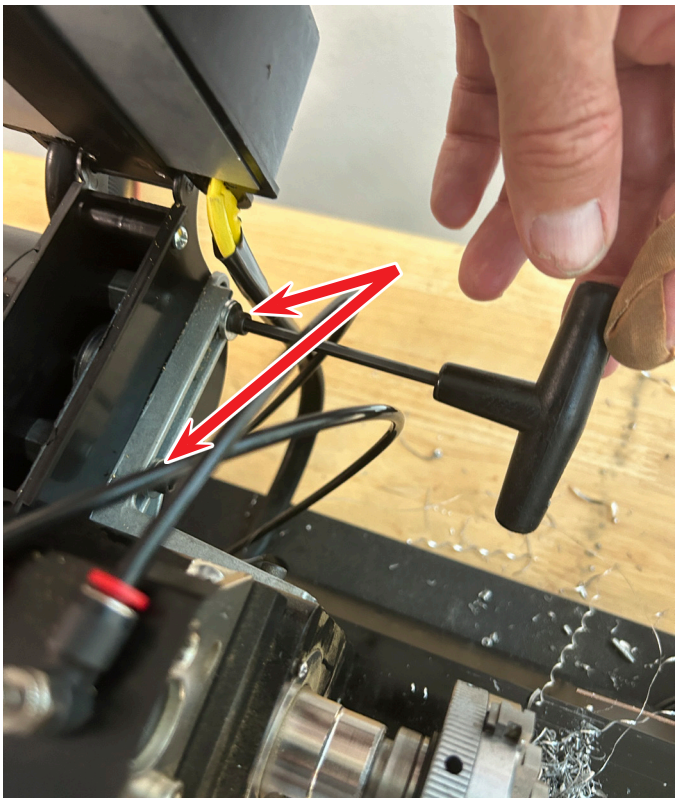

FIGURE 6—The red arrows show the locations of the two bracket adjustment screws.

F. pull the motor towards the headstock pulley to gain some slack in the drive belt.

G. Turn the headstock pulley and walk the drive belt off of both High-Speed pulley grooves on the headstock pulley and the motor pulley. Then, continue to turn the pulley to walk the belt onto the Low-Speed pulley grooves (see Figure 7).

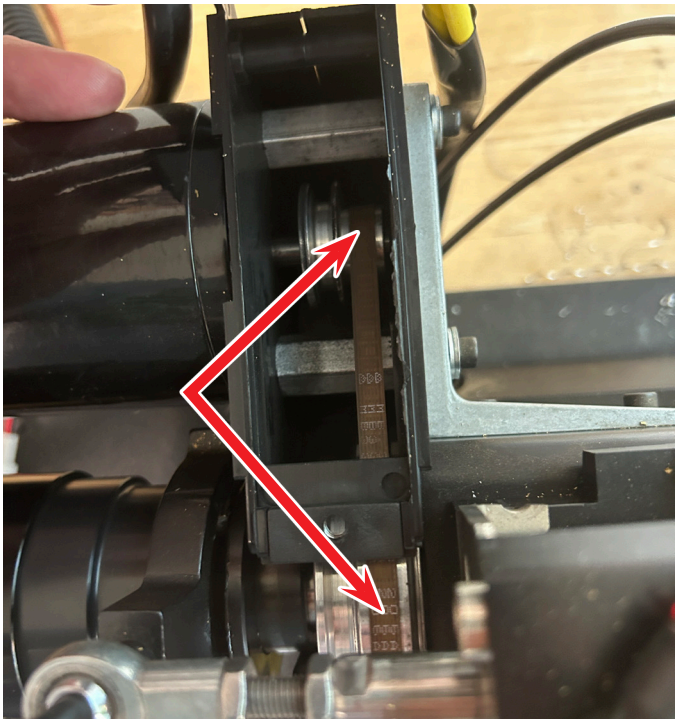

FIGURE 7

H. Place a larger hex wrench 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 8).

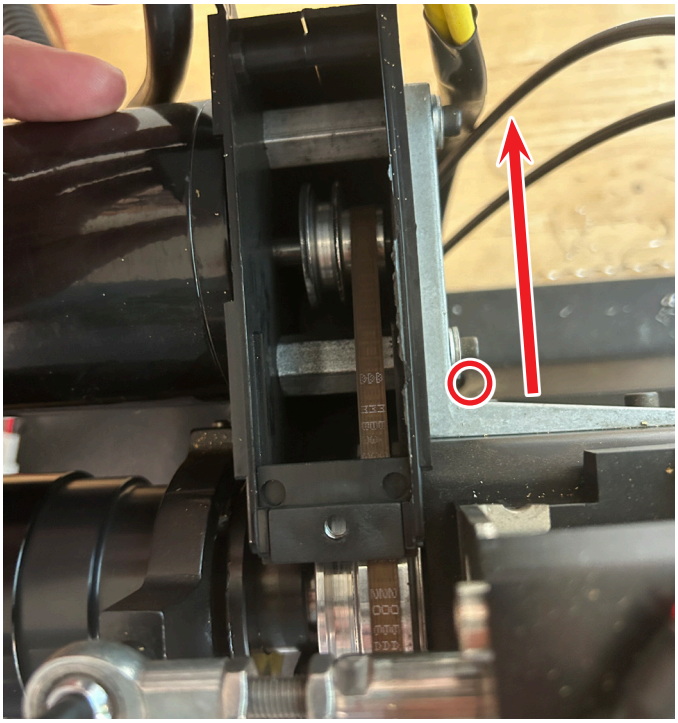

FIGURE 8—The red circle indicates where to place a large hex wrench for leverage.

I. While forcing the motor away from the headstock, tighten the two motor bracket adjustment screws.

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

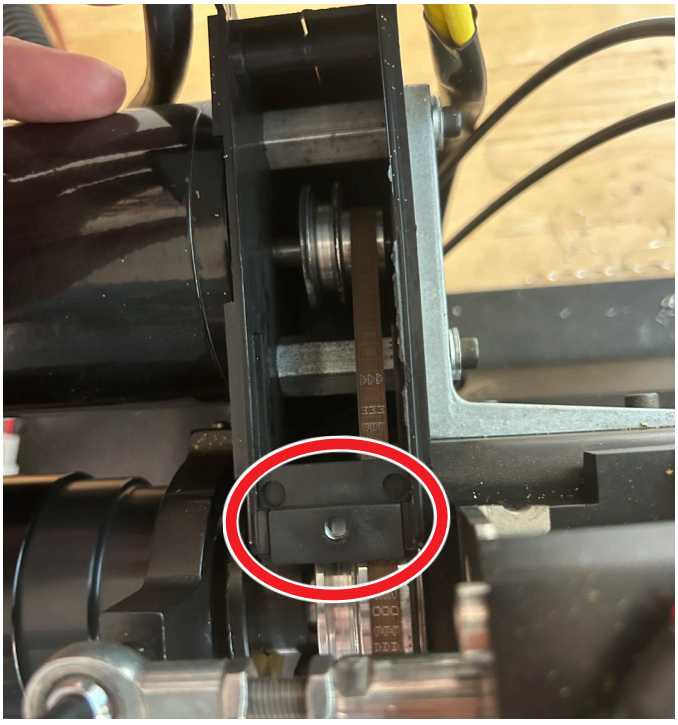

FIGURE 9—Location of the lock-nut tab.

K. Lower the speed control housing. Align the locking screw with the tab, and tighten the locking screw.

5. With the power OFF, reconnect the green optical encoder connection. Be sure that all five pins are in the five female outlet holes (see Figure 10).

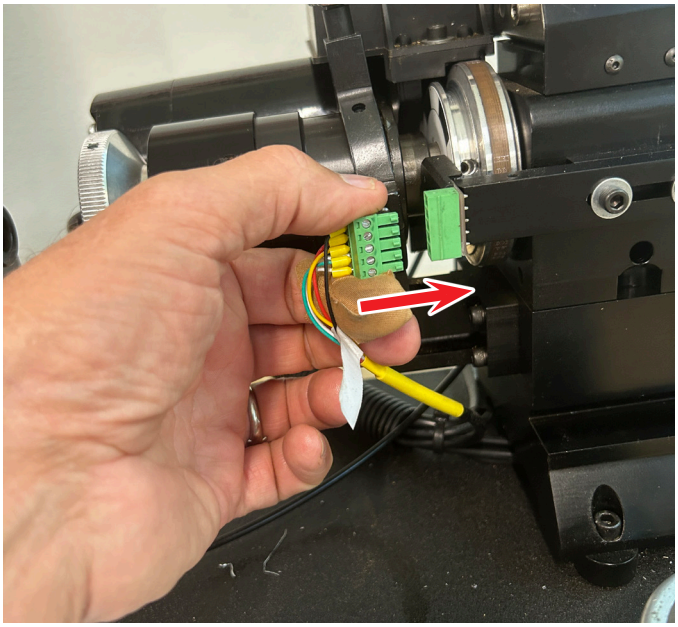

FIGURE 10—Reconnecting the optical encoder wires.

6. Now, change the Main Spindle Settings.

   A. Click on F1 Setup.

   B. Enter the password.

   C. Double click on "Main Spindle" and the "Main Spindle Settings" box will open.

   D. When the box opens, the "Maximum RPM (at 10 volts)" will be set at 2800 (see Figure 11).

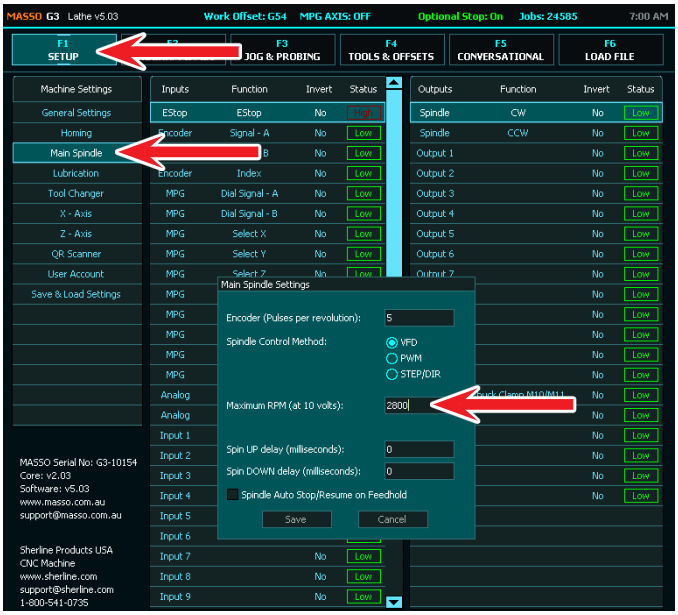

FIGURE 11

E. Enter (1450) and click on “Save” (see Figure 12).

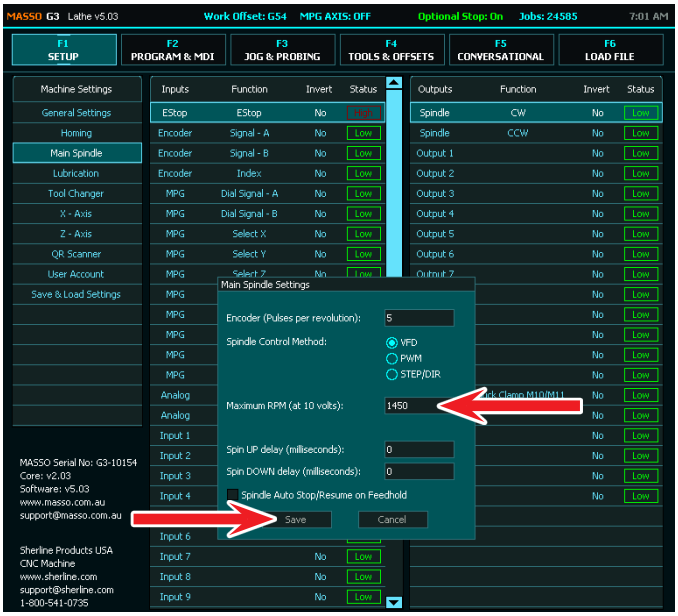

FIGURE 12

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

Thank you,
Sherline Products Inc.