



CAUTION—ELECTRICAL HAZARD!
Do not make adjustments to the circuit board when the electrical cord is plugged in. Unplug from wall before opening the protective housing.



DC Motor Wiring

45475 (Hill House), 33050, 3306, 3307, 3308

Wire Colors for Sherline DC Motors

Sherline DC motors are connected to the speed control circuit board as shown in Figures 1 and 2. Older motors had a light tan wire for the thermal overload sensor. On the newer motors that wire is now an orange color. Also, for many years the ground wire was green with a yellow stripe. The newest motors have a ground wire that is green. With the exception of these slight color changes, they are all wired in the same manner as the older DC motors.

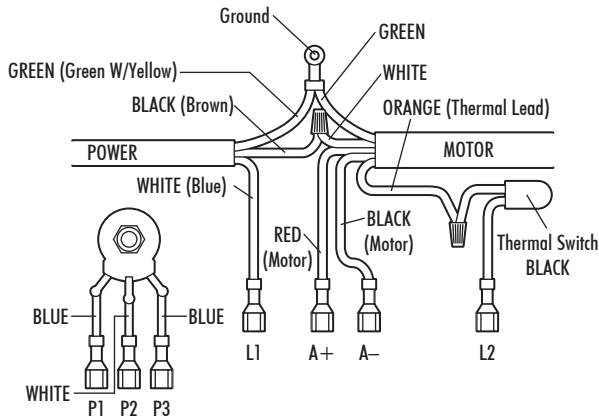


FIGURE 1—Wire colors for Sherline motor connections starting in late 2010. USA colors listed first, European colors noted in parentheses if different.

Installing the CE Compliant Noise Suppression Filter

If you are installing the CE Compliant Noise Suppression Filter (P/N 45500), remove the existing power cord from the speed control unit and replace it with the CE Compliant Noise Suppression Filter using the wiring instruction shown in Figure 1 above.

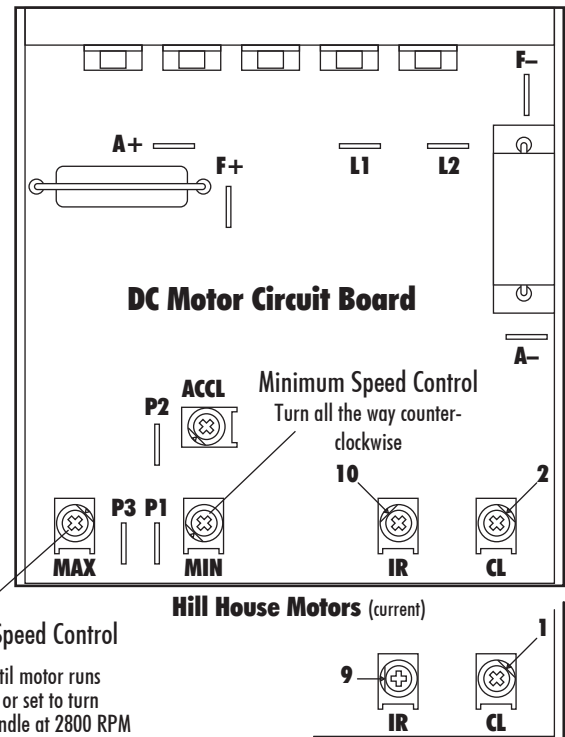
Identifying the Motor Manufacturer

If you are replacing an older Leeson brand DC motor (before 2002), you will need to adjust the IR and CL potentiometers as shown in Figure 2.

Sherline Motor Part Numbers:

- 45450—Leeson (internal brushes—discontinued)
- 45470—Hill House (external brushes—discontinued)
- 45475—Hill House (internal brushes—2020)

We recently upgraded our DC motor by switching from external brushes to internal brushes. The new motor with internal brushes (P/N 45475) will mean more torque and



Maximum Speed Control
Adjust until motor runs smoothly or set to turn headstock spindle at 2800 RPM if you have a tachometer.

FIGURE 2—Location of terminal connectors and adjustable potentiometers on the speed control circuit board.

more consistent running, not to mention a longer life for the brushes.

Speed Adjustment

Slightly different adjustments of the “IR” and “CL” potentiometers are suggested for Leeson and Hill House brand DC motors as shown above. The position numbers shown around the pots refer to positions of hands on the clock; i.e., 9 o’clock and 1 o’clock or 10 o’clock and 2 o’clock. If you are purchasing an assembled motor and speed control unit, these adjustments have been made for you at the factory; however, if you are purchasing only a replacement motor and connecting it for the first time to a Sherline speed control, you may have to adjust potentiometers as shown above to conform with the brand of motor you have received.

Thank you,
Sherline Products Inc.