

Model 5200-2 Power Supply

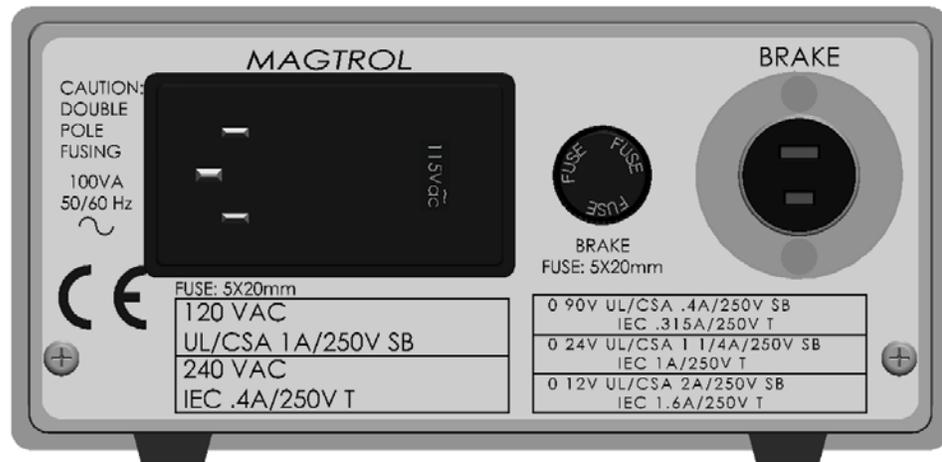
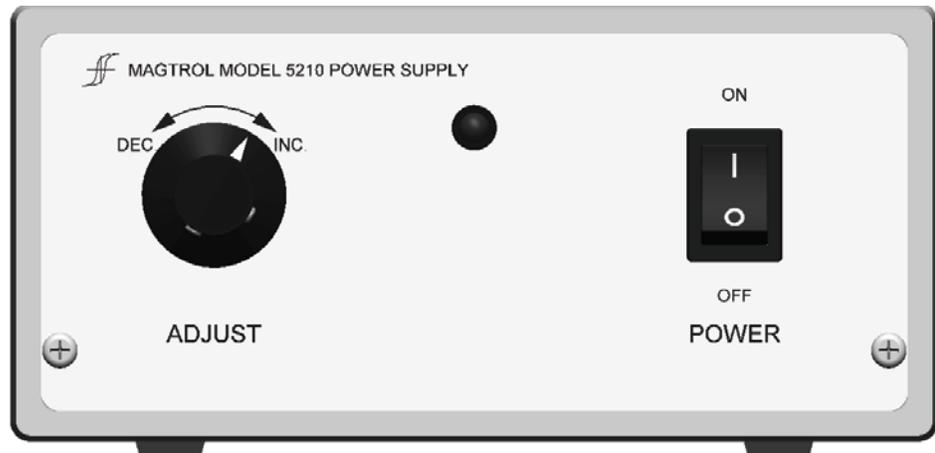
1.0 INTRODUCTION

The Model 5200-2 is a basic unregulated power supply that is designed for use with Magtrol's Dial Weight Dynamometers.

1.1 SPECIFICATIONS

Brake Voltage	0 to 24 VDC
Current Range	0 to 1000 mA
Braking Control	10-turn potentiometer
Brake Fuse (5 × 20 mm)	UL/CSA 0.400 A 250V SB IEC 0.315 A 250V T
Line Fuse (5 × 20 mm)	120 V: UL/CSA 1.0 A 250V SB 240 V: IEC 0.4 A 250V T
Power Requirements	100 VA
Voltage Requirements	120/240 V AC 50/60 Hz

1.2 FRONT AND REAR PANEL



1.3 CIRCUIT DESCRIPTION

Hysteresis brake control power must be in the form of direct current. The transformer, bridge rectifier and filter capacitor provide a source of DC power from the AC line voltage. Transistor Q1 is a PNP Darlington power device connected as an emitter follower to amplify the control potentiometer voltage setting. CR2 is a transient suppression diode connected in parallel with the brake coil to absorb negative inductive surges.

2.0 CONFIGURATION

2.1 INPUT POWER

The 5200-2 is shipped set for 120 V_{rms} power. This can be verified by observing the location of the round white tab in the fuse holder of the power line filter module that is located on the rear panel - it should show through the 120 V hole.

2.1.1 Setting Line Power to 240 V

1. Remove the line cord.
2. Remove the fuse holder to access the inner module.
3. Remove the small circuit board with the white tab.
4. Rotate and reposition the white tab so that when the board and fuse holder are reinserted, the round point of the white tab now inserts into the small round hole on the fuse holder that is opposite the 240 V position.



Note: Of the four (4) voltage positions shown on the fuse holder, only the 120 V and the 240 V positions are active. Selecting either the 100 V or the 220 V position will not apply line power to the power supply. Therefore, use only the 120 V or 240 V positions.

3.0 OPERATION

Torque is controlled by adjusting a ten turn ADJUST control that is located on the front panel of the 5200-2 power supply. This control adjusts the output voltage to the dynamometer coil from 0 to about 34 volts DC. Since this voltage is unregulated, the dynamometer coil current will vary as a function of coil temperature (resistance changes) and line voltage. As the dynamometer torque is proportional to power supply current, the torque variation will also be a function of both coil temperature and line voltage.



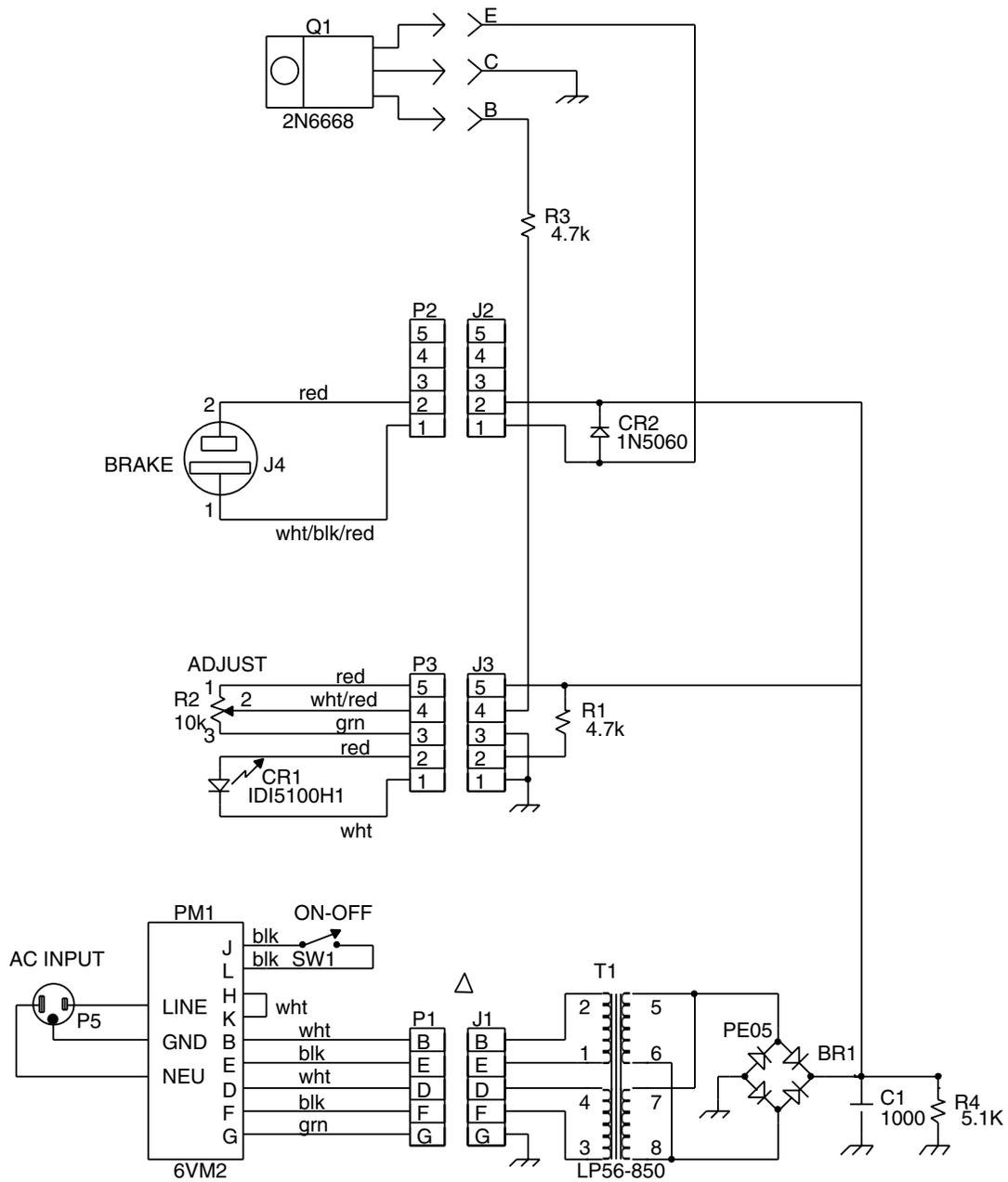
Note: If these fluctuations are undesirable for your application, you should order the current regulated power supply, MAGTROL Model 5210-2.

4.0 MAINTENANCE

4.1 FUSE REPLACEMENT

Pry out the fuse holder with the blade of a small screwdriver, remove and replace the fuse. For 120 V_{rms} power, use a 1 Amp fuse. For 240 V_{rms} power, use a ½ Amp fuse.

APPENDIX A: SCHEMATIC



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