

## TECHNICAL BULLETIN

### Replacing a Variable Speed Controller Box

**This technical bulletin applies to RAMFAN blowers models:** EV400, EV420, EV600, EV620

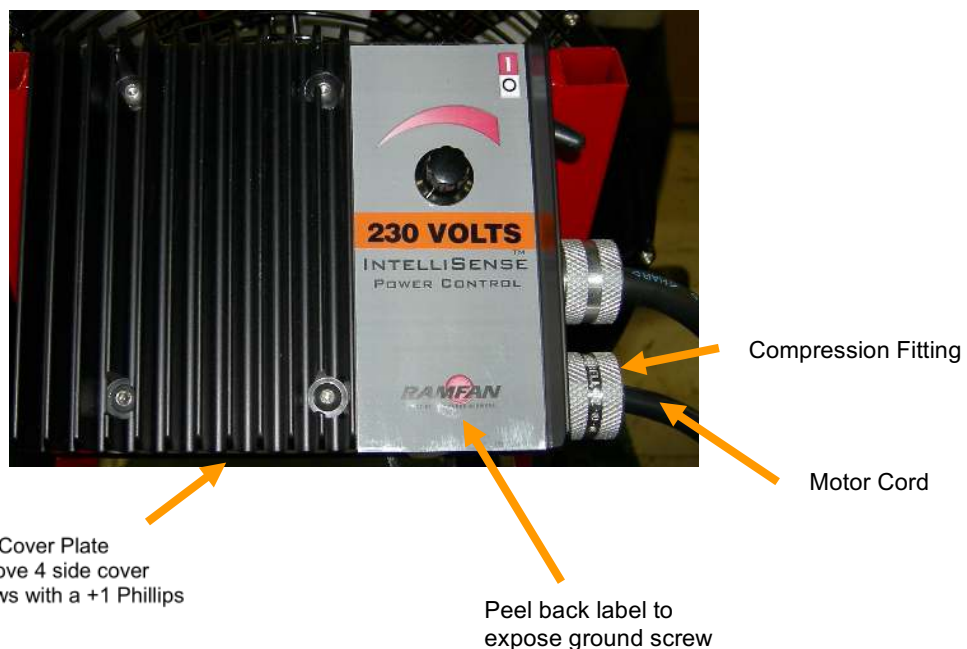
**Tools/Materials Required:** Wire strippers, needle nose pliers, wire cutter, wire crimper, #1 Phillips screwdriver, standard Phillips, ½” wrench and a ½” socket.

**Inspections:** Make sure fan is UNPLUGGED before moving on.

### Installation Instructions:

#### Removing old control box:

1. Remove side cover on control box (4 small screws).
2. Loosen motor cable compression fitting and grommet from control box.
3. Remove **BLACK** and **WHITE** (or **BROWN** and **BLUE**) motor wires from control board.
4. Peel back control panel label on control box cover/ heat sink.
5. Remove grounding screw and pull out **GREEN** ground wire.
6. Cut flag connector off **WHITE** (or **BLUE**) motor wire.
7. Pull motor wires out through compression fitting.
8. Remove the two bolts holding the control box assembly to blower frame (save bolts and nuts to secure new control box) set aside old control box.



### Installing new control box:

1. Secure new control box onto blower frame with bolts and nuts set aside from old controller box
2. Remove six (6) cover screws.
3. Gently remove lid and flip cover onto blower frame.
4. Route motor cable and wires through compression fitting.
5. Strip ¼" of insulation off the **WHITE** (or **BLUE**) wire and crimp new supplied right angle flag connector onto the **WHITE** (or **BLUE**) wire.
6. Tug on **WHITE** (or **BLUE**) wire and flag connector to ensure good crimp.
7. Secure **GREEN** ground wire to ground screw.
8. Connect **BLACK** (or **BROWN**) motor wire to the A+ terminal and the **WHITE** (or **BLUE**) motor wire to the A- terminal. If fan runs backwards, **BLACK** and **WHITE** (or **BROWN** and **BLUE**) motor wires need to be switched and you will need to re-crimp wire connectors.
9. Configure Max 16Amp Setting (See Picture on following page)

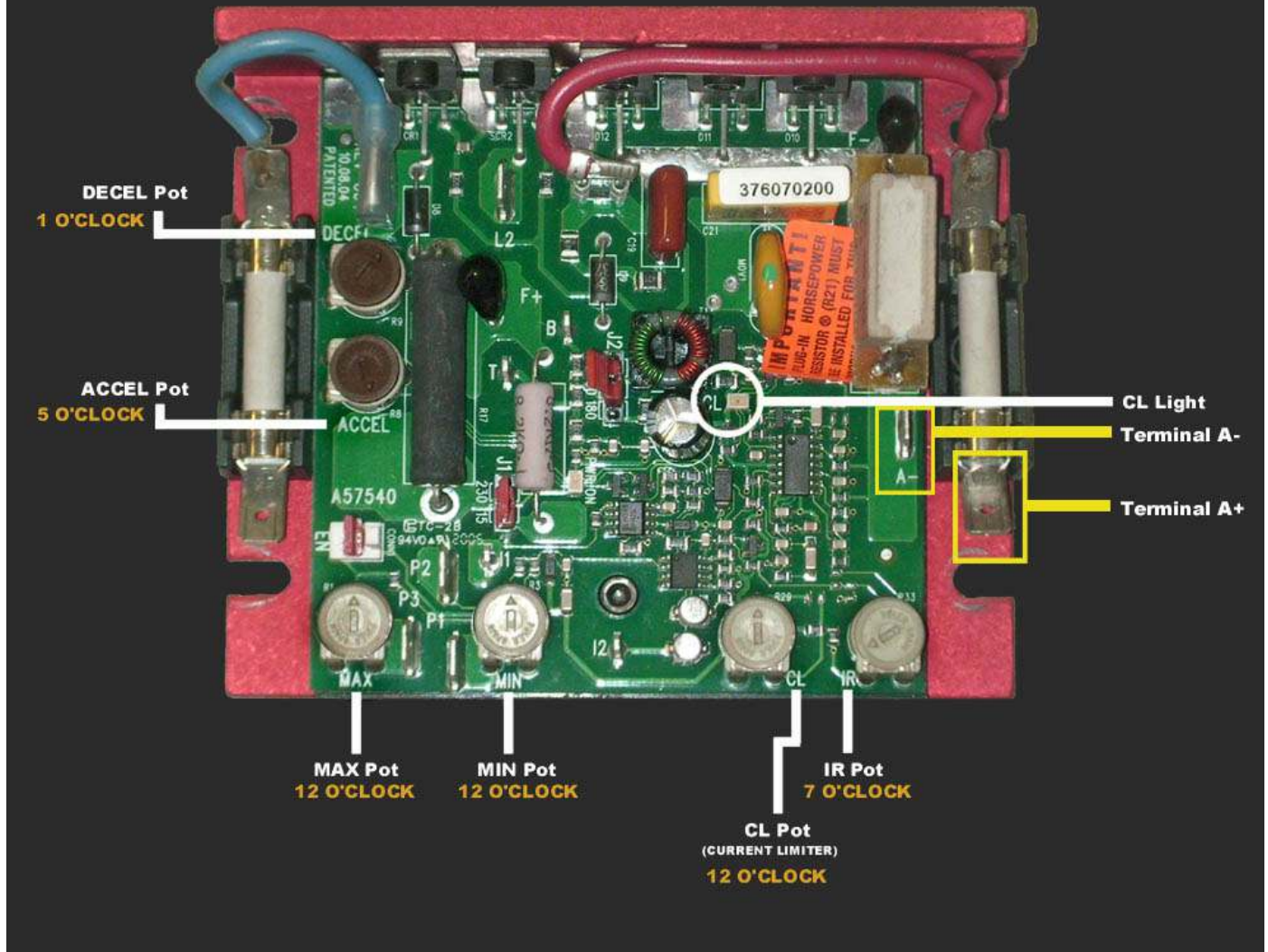
- a) Set DECEL Pot to 1 o'clock
- b) Set ACCEL Pot to 5 o'clock
- c) Turn IR Pot CCW, then back 1/8 turn to 7 o'clock
- d) Set MAX Pot to 12 o'clock (high Speed)
- e) Set MIN Pot to 12 o'clock (low Speed)
- f) Set CL Pot to 12 o'clock (current limiter)
- g) Attach amp meter to AC side (power cord)
- h) Start fan. (AC amps should be 2-3amps) adjust MIN Pot as needed. Ensure CL LIGHT is NOT ON!
- i) Turn fan to "High" speed using the speed control knob. Adjust MAX Pot to max AC amps on meter. AC amps should be set at **14amps MAX**.

### **BEFORE CONTINUING TO STEP j READ THE DIRECTIONS FIRST.**

- j) Adjust CL Pot, turn CCW until **RED CL light turns on**, turn CL Pot CW until **CL RED light turns off**. Turn Speed Pot down to LOW Speed and back up to HIGH Speed. **There should be one flicker of the light.**
- k) Turn speed control to lowest position ensuring it responds, recheck low speed amperage, should be 2-3 amps AC.
- l) If readjustments are needed **YOU MUST TURN THE CL POT BACK TO 12 O'CLOCK BEFORE ANY ADJUSTMENTS CAN BE MADE,** then return to step 6.

### **IT MAY TAKE A FEW TRIES TO SET THE CONTROLLER**

## FOR MAX 16AMP, SET TO 14AMP



10. Push grommet into compression fitting and screw on compression cap tightly.
11. Gently flip over control box cover and secure it with six (6) screws, make sure wires are inside box.
12. Plug in fan and make sure fan blade is spinning in the right direction; if it is spinning backwards then you have your **BLACK** and **WHITE** (or **BROWN** and **BLUE**) motor wires crossed.