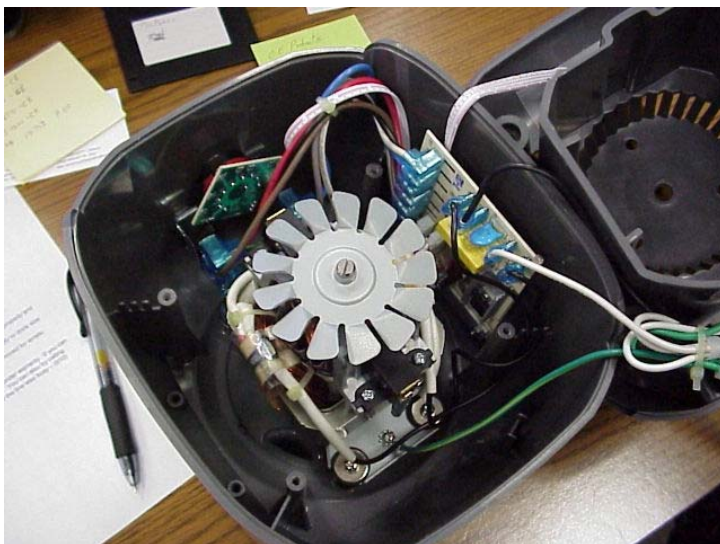# HBH450R Blender Technical Information

Trouble Shooting Guide

- **Symptom:** During a normal cycle the machine stopped.
- **Cause:** The unit has possibly overheated. Check the electric circuit. Check the reset switch. If both check OK unplug the machine and allow it stand for 15-30 minutes. Plug it back in and try running the machine.

Repair Guide

Housing Disassembly (see figure 1)

- Turn power switch to "off" position and unplug the machine.
- Remove feet.
- Remove the four screws under the feet.
- Carefully lift bottom from unit; wires will limit your movement.

Figure 1. Machine interior.

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Wiring Detail

Cord (see figure 2)

- White cord lead splits with one lead connecting to the PC board terminal N and one lead connecting to the inside terminal of the circuit breaker switch.
- Black cord lead connects to the outside terminal of the circuit breaker switch.
- Green cord wire connects to the motor ground.

Figure 2. Cord and circuit breaker switch.

PC Board (see figure 3)

- The lead without the TCO from the motor field connects to terminal M1.
  There should be no current reading.
- The lead with the TCO from the motor field connects to terminal M2.
  There should be line current when cycle start is activated.
- One white lead from the cord connects to terminal N. There should be no current reading.
- The black lead from the center terminal of the circuit breaker switch connects to terminal L.
  There should be line current.
- The 4-conductor cable from the LED cycle counter connects to terminal J7.
- The 3-conductor cable from the timer control connects to terminal J8.

Note: When making the following connections "top" and "bottom" are relative to the machine assembled and sitting upright.

- "Off " terminal lead connects to the top terminal of the on/off switch.
  -5 VDC reading with switch in off position.
- "On" terminal lead connects to the center terminal of the on/off switch.
  -5 VDC reading while the machine is running.

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- "Start" terminal lead connects to bottom terminal of the on/off switch.
  Momentary -5 VDC when start switch is activated.
- "Pulse" terminal lead connects to the top terminal of the hi/low/pulse switch.
  -5 VDC when pulse switch is activated.
- "High" terminal lead connects to the bottom terminal of the hi/low/pulse switch.
  -5 VDC while running on high speed.
- "Low" lead connects to the center terminal of the hi/low/pulse switch.
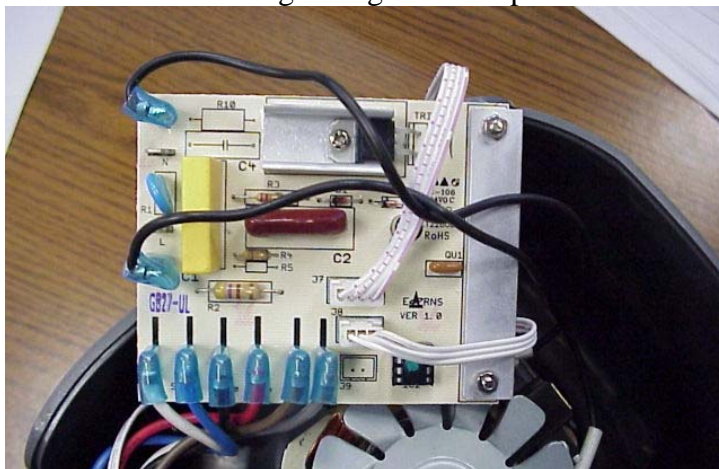 -5 VDC while running on high or low speed.

Figure 3. PC Board

Switches

- Important: The ground harness must be connected to the on/off switch, the hi/low/pulse switch and the motor ground.
- The switches are keyed to ensure alignment.
- The timer has a single pin and hole for alignment.
- See PC board wiring instructions for switch wire placement.

Motor Removal and Replacement

- Disassemble housings as described in **Housing Disassembly** above.
- Remove the drive socket using a straight screwdriver and a ½ inch hex key.
- Remove the two ground screws.
- Disconnect the motor leads from the PC board.
- Remove the four screws securing the motor to the upper housing.
- Lift the motor from the shroud.
- Re-assemble in reverse order.

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PC Board Removal and Replacement

- Carefully slide a long Philips head screwdriver between the board and the housing and remove the two screws that secure the bracket.
- Lift the PC board from the machine and disconnect the wires.
- Re-assemble in reverse order.

How to Determine Cycle Count

- Turn the power switch to the "off" position.
- Unplug the machine.
- Turn the machine upside down and position so that you can look into the three holes on the bottom/front of the machine.
- Plug the machine into a power source.
- Count and record the number of flashes from the LED lights; first Red, then Yellow, then Green.
- Once complete add two zeros to the end. This is your cycle count.
- Example: Red – 2, Yellow – 0, Green – 8. You have recorded 208. At the end add two zeros - 20800. Your cycle count is 20,800.

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