

TECHNICAL DATA SHEET, GB47, 220-240V

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Trouble Shooting Guide

- **Symptom:** Unit is extremely noisy
- **Cause:** Possible worn bearing on cutter assembly. Remove container from blender. Slowly turn the cutter assembly from the bottom of the container. If it is hard to turn or feels loose/wobbly replace cutter assembly. Possible worn drive coupling. Check the teeth of the drive coupling. If worn, replace drive coupling outlined in repair guide.

- **Symptom:** During a normal cycle the machine stops
- **Cause:** The unit has possibly overheated without notice to the warning lights indicating to run a cool down cycle. Unplug the machine 15-30 minutes. Plug in the unit and try to operate. If the problem persists proceed to repair guide.

- **Symptom:** Unit will not turn on.
- **Cause:** No power at wall outlet, ensure the power outlet is operational and delivering the correct voltage. Power switch not turned on. Circuit breaker has tripped. Wire disconnected. Possible PC Board.

- **Symptom:** Power switch fails
- **Cause:** Check electrical connections. Ensure the PVC switch cover is present (moisture protection). If problem persists, proceed to Repair Guide.

- **Symptom:** When switch is in OFF position, display is ON.
- **Cause:** Power Switch/Circuit Breaker failure. Measure the continuity at switch. If the terminals are shorted proceed to Power Switch section of Repair Guide.

- **Symptom:** No jar sensor indicator
- **Cause:** Magnets missing on container or container not seated, check to verify the 4 magnets are present on bottom of container and container is seated on base. Additional causes are bad PC board, wire connector, jar sensor, or loose wire connections.

- **Symptom:** Motor runs 3-7 seconds and quits. Speed Sensor Failure displayed on screen.
- **Cause:** Main board failure (triac), broken magnet on motor shaft, Hall Effect sensor failure. Refer to repair guide.

- **Symptom:** The unit displays a "Speed Sensor Error" and an audible "click" is evident when the start button is pressed (this is the relay applying power to the motor).
- **Cause:** Possible failed main PC board. Inspect lead wire connections between motor and main board. Inspect the hall effect switch and plug. Ensure the hall effect magnet is present on the motor shaft. Check continuity through motor field coils. Check motor brushes. Reconnect wires as needed; replace the motor or motor brushes as needed.

- **Symptom:** Blender is tripping wall circuit breaker.
- **Cause:** Unit needs a dedicated 15-amp circuit (no additional electrical devices should be operating on this circuit). If problem persists with the unit operating on a dedicated circuit the cause could be a shorted bridge rectifier on the main board (main board failure).

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- **Symptom:** Unreadable display or missing pixels, or pixels will not illuminate.
- **Cause:** Display board failure or Main Board. Replace, refer to repair guide.

- **Symptom:** During a normal cycle, unit is running too fast.
- **Cause:** Speed control function on main board has failed. Replace main board, Refer to repair guide.

- **Symptom:** One or more buttons on touch pad will not function correctly.
- **Cause:** Touch pad failure. Replace, refer to repair guide.

- **Symptom:** USB THUMB DRIVE will not upload custom program.
- **Cause:** Ensure unit is turned off prior to loading custom program. Ensure USB is inserted into port correctly. If blender will still not accept custom program a different USB may need to be required, the USB board may need to be replaced. Ensure the USB board cable is connected to USB board. Refer to repair guide.

- **Symptom:** Rubber around the quiet shield appears to be degrading
- **Cause:** The seals between the upper and lower parts of the quiet shield have an aggressive fit. This is to help the blender effectively dampen sounds. To prevent premature failure, you could have them apply a light coat of food safe grease to the area. We recommend a Molykote 111 grease or equivalent. This can be purchased off the shelf, on-line, or from HBB.

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Repair Guide

Quiet Shield Removal

- Remove the Quiet Shield by sliding the locks forward and lifting up on the shield assembly.

Housing Disassembly

- Turn the switch to the “off” position and unplug the machine.
- Remove quiet shield
- Place the unit upside down and remove the four screws from the lower housing and remove the lower housing. The feet do not need to be removed.
- Remove the gasket by pulling it off the middle housing.
- Remove the eight screws (one is in the strain relief recess) that hold the middle housing to the top housing.
- Flip the housing upright resting the middle housing top housing assembly on the bottom housing.
- Remove the jar pad
- Remove the four screws that hold the top housing to the middle housing.
- Carefully lift the top housing from the unit, wires will limit your movement.

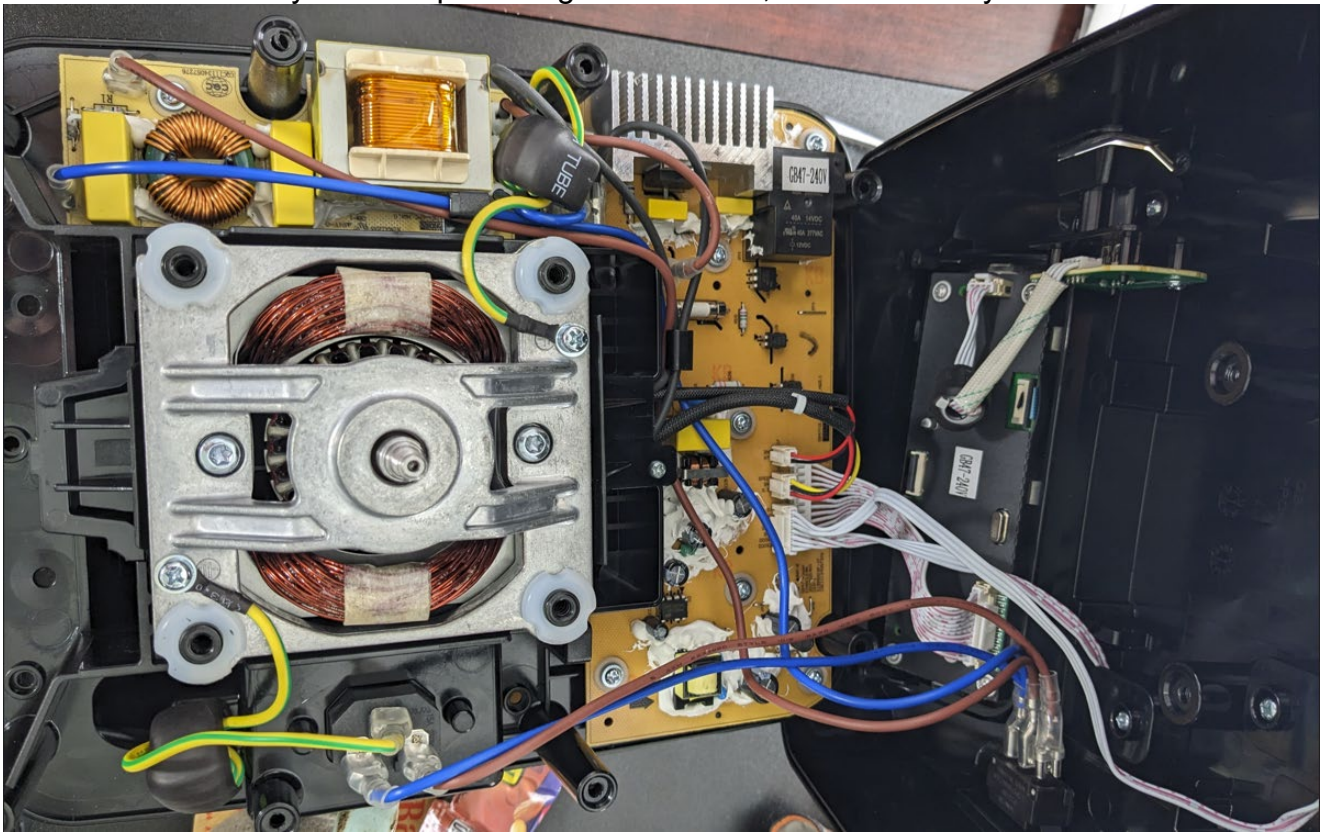
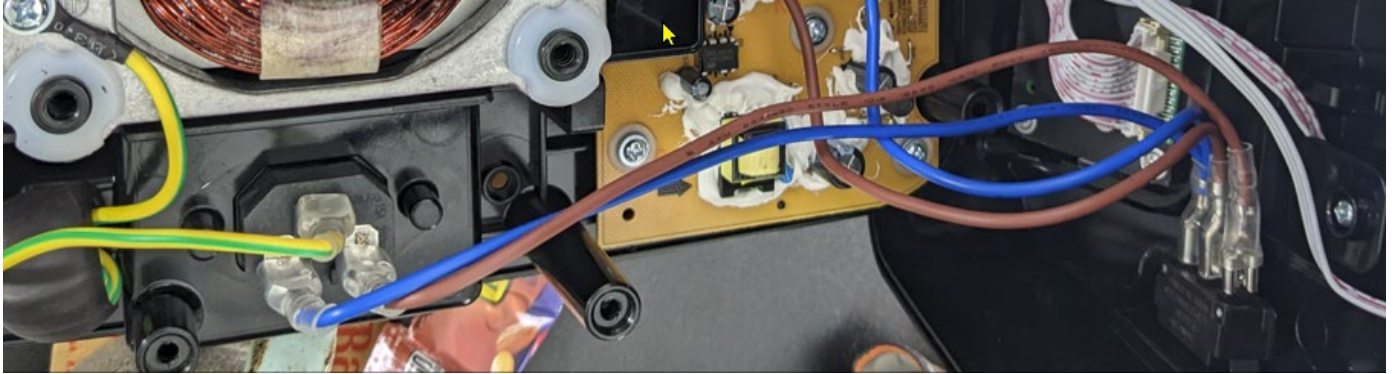


Figure 1 – Internal View of Housing

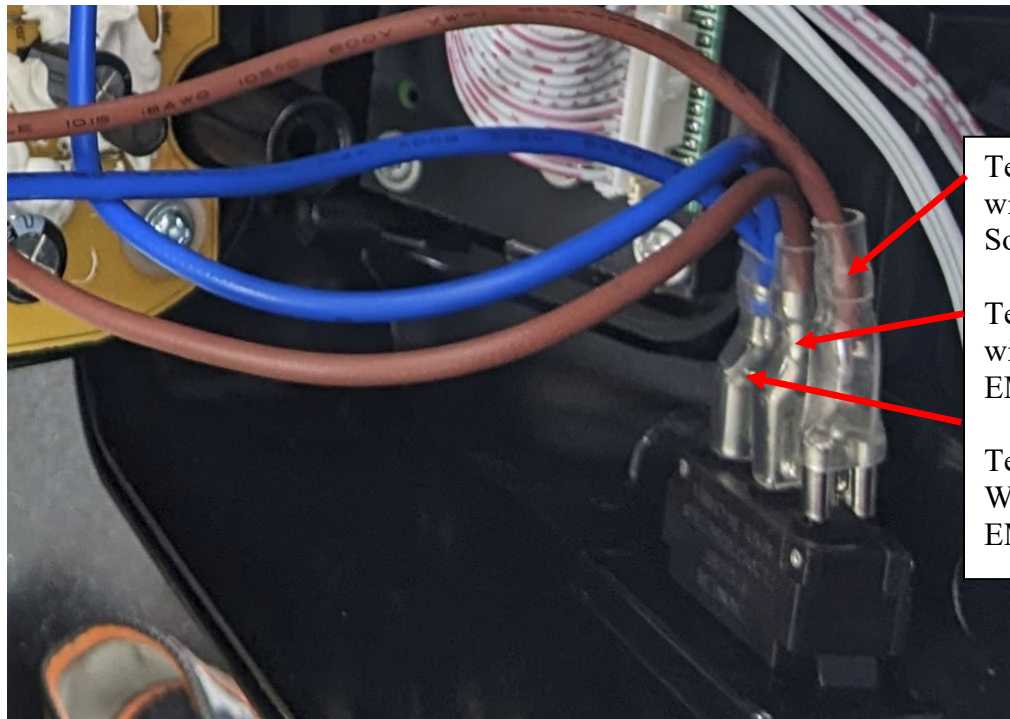
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View showing Circuit Breaker / Power Cord Socket Wiring (Figure 2)



Terminal #1 – Brown wire from Power Cord Socket “L” terminal.

Terminal #2 – Brown wire from “L” on EMC PCB

Terminal #3 – Blue Wire from “N” on EMC PCB

Figure 3. Interior View of illuminated Circuit Breaker Switch

Circuit Breaker Wiring Details (Power Cord See Figure 3)

- The Brown wire on Terminal 1 of the circuit breaker routes to the “L” terminal of the Cord Socket
- The Blue Wire on Terminal 3 routes to the “N” terminal on Cord Socket and connects to the “N” terminal on the EMC PCB.
- The Brown Wire on Terminal 2 routes to the “L” terminal on the EMC PCB.

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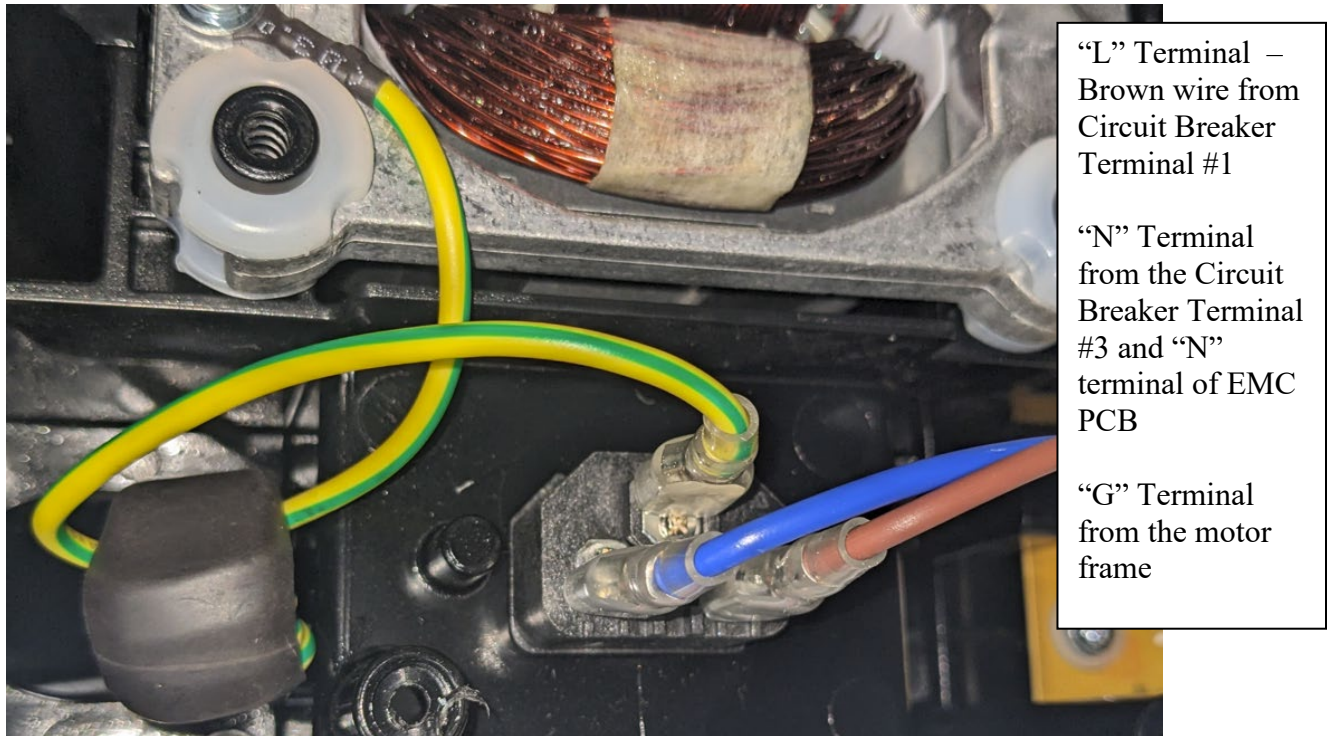


Figure 4. View of Circuit Breaker Switch

Circuit Breaker Wiring Details (Power Cord See Figure 4)

- The Brown wire on “L” Terminal of the Cord Socket routes to the #1 terminal of the Circuit Breaker Switch
- The Blue Wire on “N” Terminal routes to the #3 terminal on Circuit Breaker and connects to the “N” terminal on the EMC PCB.
- The Green/Yellow wire routes to the motor frame and passed through EMC Core.

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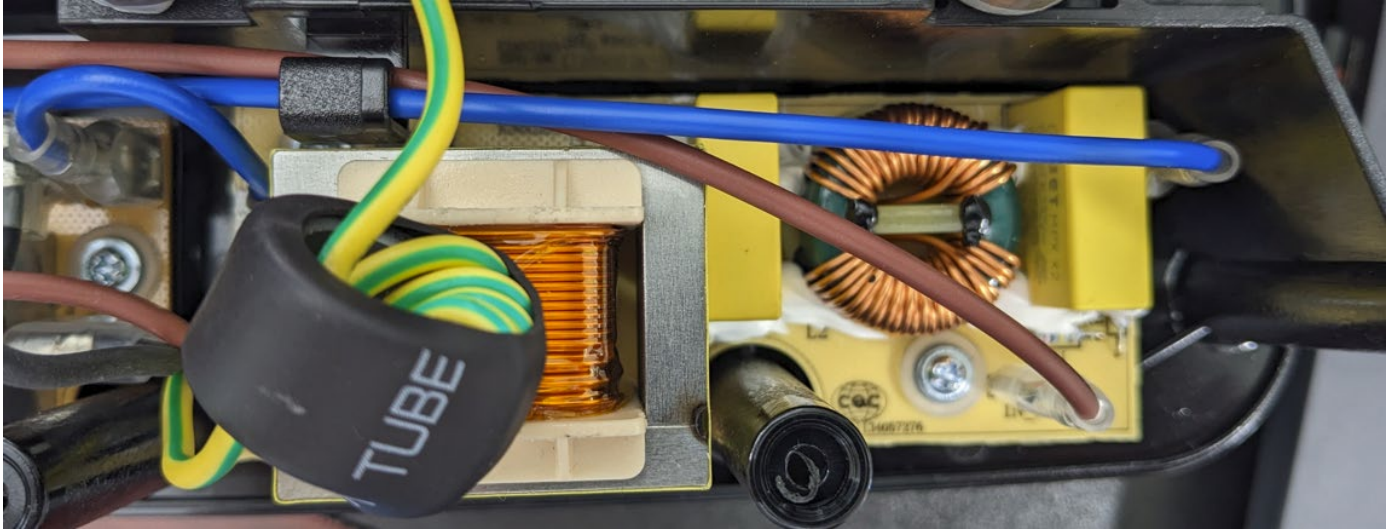


Figure 5 - EMC PCB Wiring Details

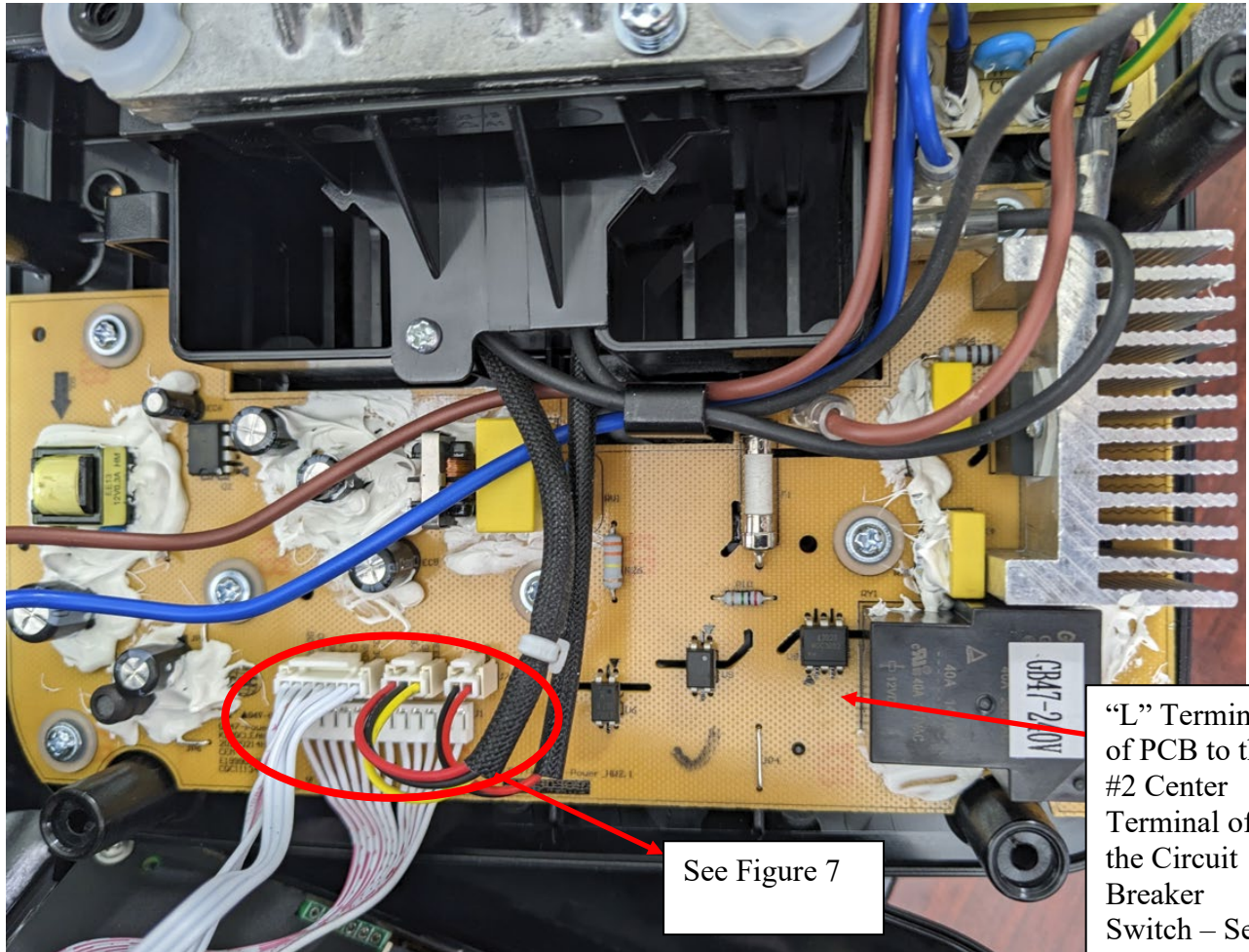
EMC PCB Wiring Details (Figure 5)

- The Brown wire (right side) on “L” Terminal of the EMC PCB routes to the #2 terminal of the Circuit Breaker Switch
- The Blue Wire (right side) on “N” Terminal of the EMC PCB routes to the #3 terminal on Circuit Breaker and connects to the “N” terminal on the Cord Socket.
- The Green/Yellow wire (left side) routes to the motor frame and passed through EMC Core.
- The Brown wire (left side) routes to the “L” terminal on the Main/Power PCB.
- The Blue wire (left side) routes to the “N” terminal on the Main/Power PCB.

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Power Board PCB Wiring Details (Figure 6)

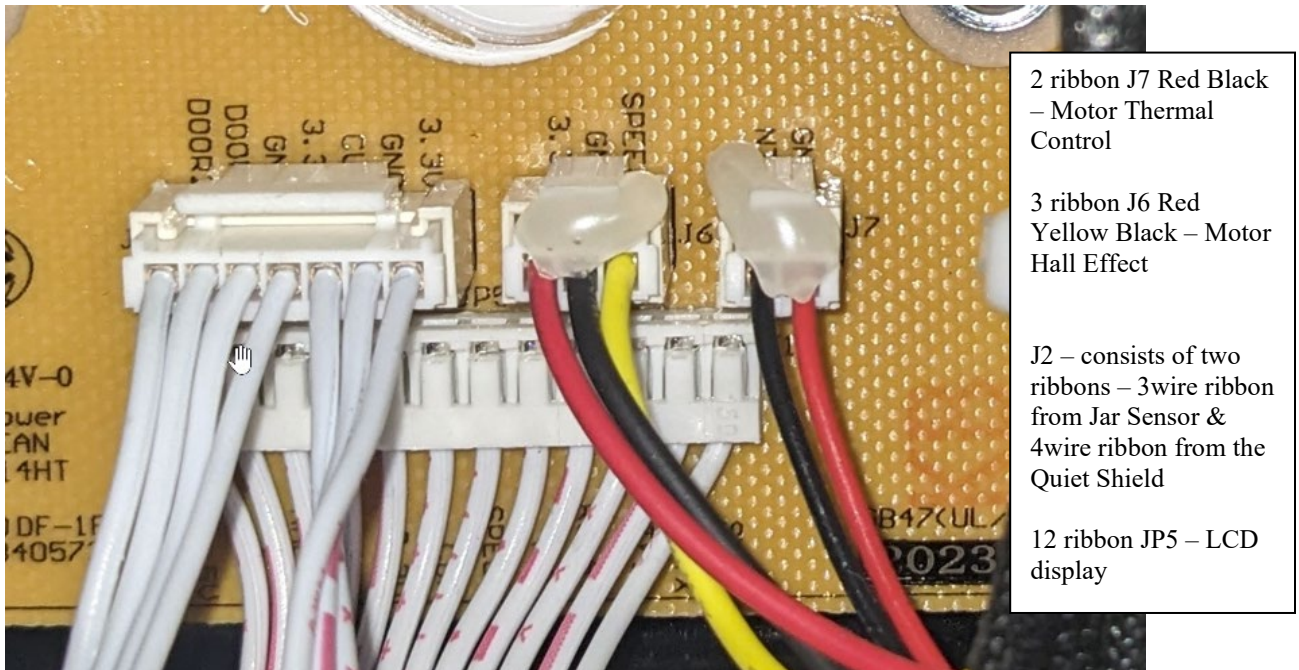
Figure 6 Power Board PCB Wiring Details

- Brown wire (on upper right) routes to the “L” terminal on the left side of EMC Board.
- Blue wire (on upper right) routes to the “N” terminal on the left side of EMC Board.
- Black wire “Motor N” terminal (on upper right) routes to the Motor non-thermal control device side.
- Black wire “Motor L” terminal (on upper right) routes to the Motor thermal control device side.
- Red/Black/Yellow ribbon J6 3 wires route to the Motor Hall Effect sensor.
- Red/Black ribbon J7 2 wires route to the Motor NTC Thermal control device.
- J5 Connector = unused
- White ribbon J2 consists of 3 wires routed to the Jar Sensor on the underside of the Upper Housing & 4 wires routed to the Quiet Shield Sensor.
- Large White JP5 is the receptacle for the 12 wire ribbon from the LCD display.

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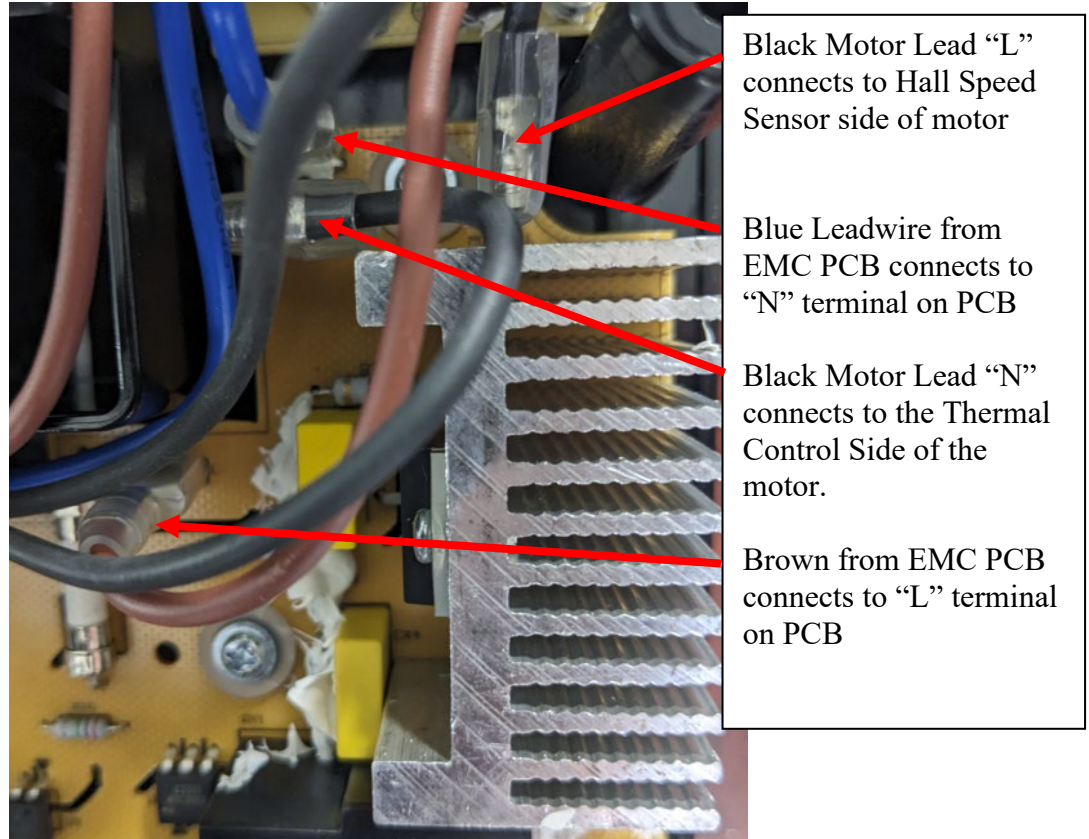
Power Board PCB Wiring Details – enlarged view of ribbon connectors (Figure 7)

- Red/Black ribbon J7 2 wires route to the Motor NTC Thermal control device.
- Red/Black/Yellow ribbon J6 3 wires route to the Motor Hall Effect sensor.
- J5 Connector = unused
- J2 7 wires consists of White ribbon 3 wires routes to the Jar Sensor on the underside of the Upper Housing & White ribbon 4 wires routes to the Quiet Shield sensor.
- Large JP5 is the receptacle for the 12 wire ribbon from the Control Panel LCD

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Power Board PCB Wiring Details – enlarged view of Leadwire Connections (Figure 8)

Motor Removal and Replacement

- Turn the switch to the "off" position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Remove ground wire from motor
- Lift motor out of unit.
- Disconnect motor leads, Hall Effect ribbon & thermal protector ribbon from the PCB and replace with new motor.
- Replace wire ties and assemble in reverse order.

Motor Brush Removal and Replacement

- Turn the switch to the "off" position and unplug the machine
- Remove Quiet Shield & Disassemble Housing
- Remove Motor
- Remove 2 screws holding brace over brush holder and remove brace. Remove brush assembly. Insert new brush assembly and reinstall brace and screws. Repeat process for the other side of the motor.
- Assemble in reverse order

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Power Board Removal and Replacement

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Remove the 7 screws from the power board.
- Transfer the wires from the terminals of the old main board to the new main board one at a time.

EMC Board Removal and Replacement

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Remove the 2 screws from the power board.
- Transfer the wires from the terminals of the old main board to the new main board one at a time.

Control / LCD Board Removal and Replacement

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Disconnect the USB Board Ribbon Cable
- Disconnect the 12 wire ribbon from the Power Board but leave the USB ribbon connected (it will catch the control board when it comes loose).
- Starting at the lower right corner (looking at the front of the control panel – there is a small drain in the watershed rib on the lower front edge) – use a screw driver to disengage one of the snap-locks securing the Control / LCD board while gently pressing the board out. See figure 9.
- Once one snap is disengaged, progress around the control board until all snaps have become disengaged. The board will fall out.
- Remove the USB ribbon from the control board and attach to the new control board.
- Snap the NEW control board back into the Upper housing.
- Reconnect the 12 wire ribbon from the Power Board.
- Re-assemble in reverse order.



Figure 9

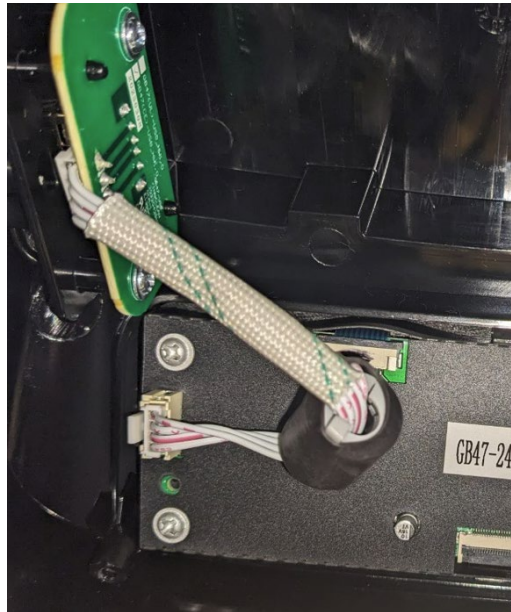
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USB Board Removal and Replacement (see Figure 10)

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Remove the 2 screws from the USB board.
- Disconnect USB ribbon cable from Control / LCD board.
- Install new USB Board.
- Connect the USB ribbon cable to the Control / LCD board.
- Re-assemble in reverse order.



USB & Control / LCD Board Wiring Details – enlarged view of Connections (Figure 10)

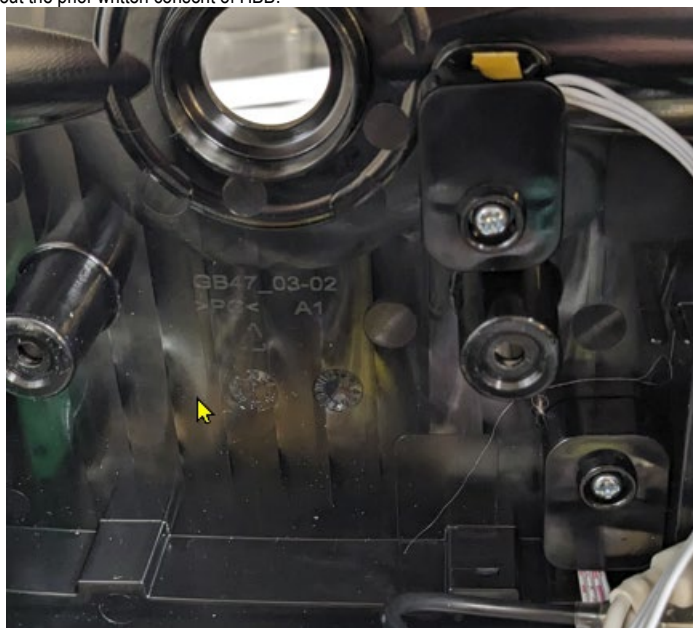
Quiet Shield Sensor/Jar Pad Sensor Removal and Replacement (Figure 7)

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Disconnect ribbon cable from the Power PCB.
- Remove screws from brackets securing the sensors and remove mounting brackets from upper housing.
- Sensors are captured over bosses for proper placement.
- Identify the proper orientation of the sensors and install new ones over bosses in upper housing.
- Replace mounting brackets and screws.
- Reconnect ribbon to the Power PCB
- Re-assemble in reverse order.

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Jar Sensor & Quiet Shield Sensor Wiring Details – enlarged view of Connections (Figure 7.)

Control Panel Label Removal and Replacement

- Turn the switch to the “off” position and unplug the machine
- Remove LCD Board Assembly
- With a small flat tip screwdriver or similar tool gently lift one corner of existing control panel label from the Control Panel and slowly peel away until removed.
- Remove any remaining adhesive residue from the upper housing left by the label. The new touch pad will not adhere correctly if the residue is not completely removed.
- Peel the paper off of the back of the new control panel label. Start by lining the top corners of the new label with the top corners of the control panel and work from top to bottom. The adhesive on the label is **very sticky**. Accuracy is imperative when placing the label on the control panel. Once the label is in place, gently work any air pockets out pushing from the center out to the sides.
- Assemble in reverse order.

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Circuit Breaker / Power Switch Removal and Replacement

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Disassemble Housing
- Remove Wires from switch and mark for reference.
- Remove old switch by pressing inward on the retaining springs on the switch sides and push from inside to outside upper housing. NOTE: The replacement switch comes with an exterior moisture seal. It is retained on the switch with four small tabs.
- Assemble the new Exterior moisture seal onto switch by snapping into place.
- Press new switch into place through outside of upper housing until it locks into place. Ensure moisture seal installed on new switch – this prevents moisture ingress.
- Reassembly in reverse order.

Replacing the Drive Coupling

- Turn the switch to the “off” position and unplug the machine
- Remove Quiet Shield
- Turn the unit upside down. Remove bottom cover. Place a Flat Screwdriver into the bottom of the motor drive.
- Grasp the drive coupling at the top of the blender base with non-slip tool and hold the screwdriver in place while turning the drive coupling counterclockwise. Alternate method: use a 14mm 12point socket in an impact driver set to CCW direction. This will loosen the drive coupling enough so that it can be removed by hand. Replace with new drive coupling.

A 12point socket (not 6 point) with an impact driver will quickly remove the clutch



12 point on left, 6 point on right

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How to Determine Cycle Count

- Hold the SELECT button on the unit until “Program Unit Select of Scroll” is displayed.
- Press the down arrow until “Information Select or Scroll” is displayed.
- Press Select
- Scroll through the options until “Cycles into Warranty” is displayed.
- Press select and warranty cycles will be displayed.

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