BLENDTEC

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Service Manual for C825 Baskin-Robbins

REVISON

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RELEASE INFORMATION

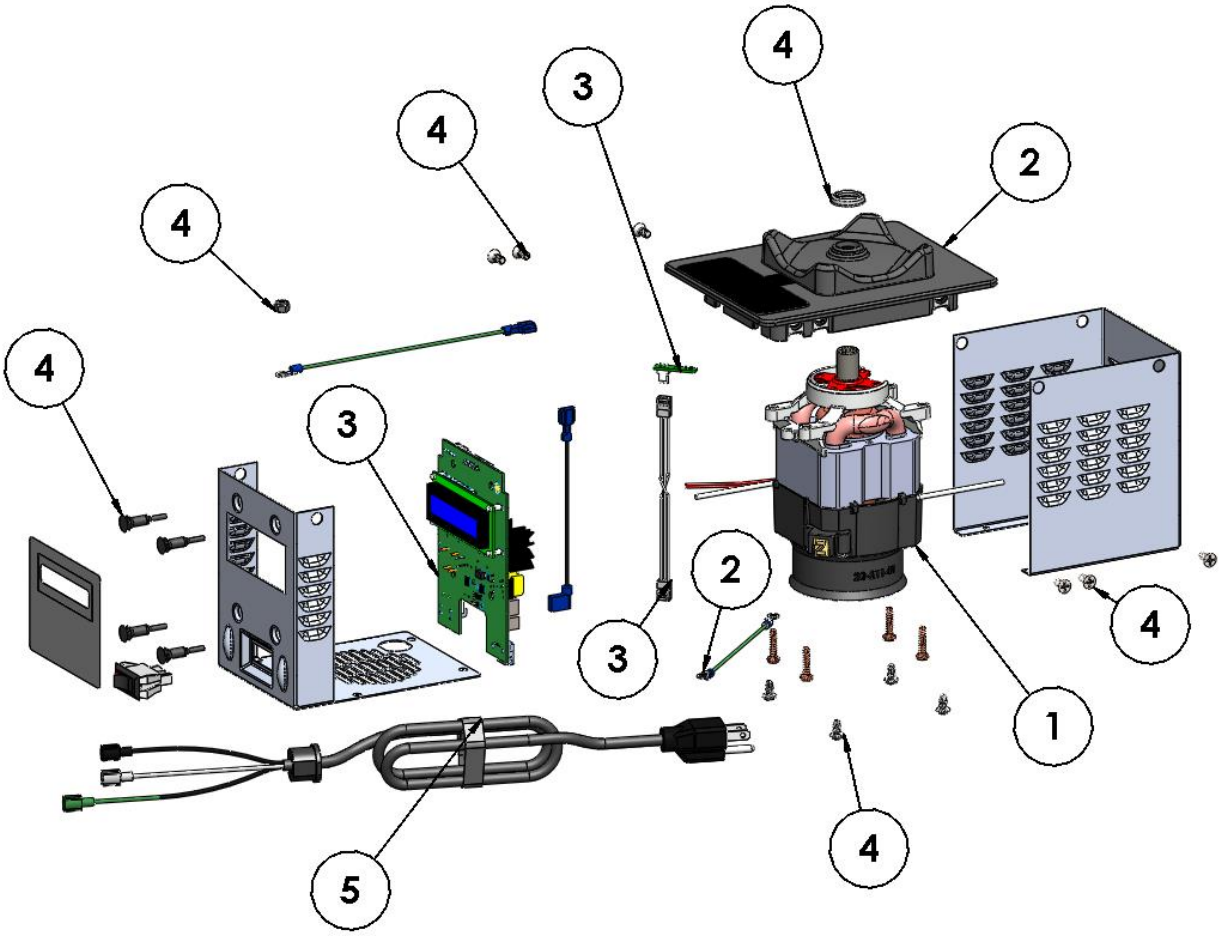
July 2023



PROPRIETY INFORMATION:

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Exploded View



Bill of Materials

Item numbers refer to Exploded View on previous page

Item Number	*Part Number*	*Service Kit Name*
1	11-220-01-SRV-02	Blender Motor Service kit, Ametek, 1-1/2” Stack, 120V, ICB
2	SRV-511-BR	Service Kit ICB Top Housing/Motor Mount Baskin Robbins
3	SRV-512-BR	Electronic Assembly with Firmware, ICBU C825
4	SRV-513	Service Kit, ICB, Hardware,
5	SRV-514-40	Service Kit, ICB, Power Cord, Type B

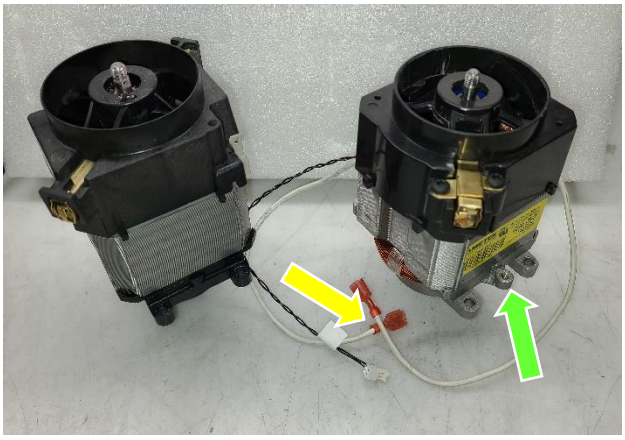
Motor Replacement

Note: The Purpose of this section is to explain the differences between new and old versions of the "ICB" products made by Blendtec. Several updates have been made to the ICB product line over the course of time. Your blender may have outdated or obsolete components that should be replaced. The updates are relatively simple, but they improve the longevity and durability of the product.

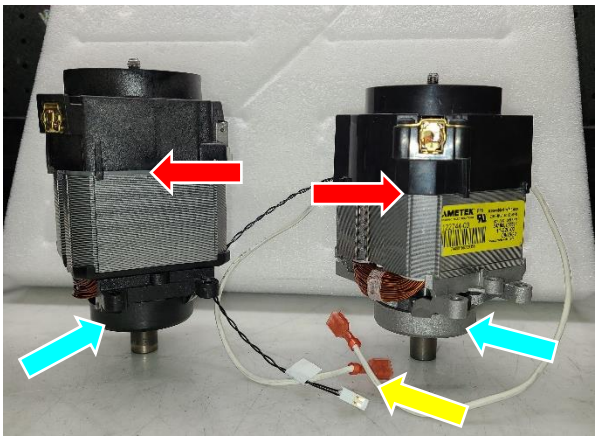
New motor for all ICB models

Blendtec will no longer be manufacturing the motors used in the ICB products. Blendtec has partnered with the motor manufacturing experts at Ametek to provide customers with high quality motors. This change was made to alleviate supply chain challenges and provide customers with a higher quality motor. There is no need to replace your current Blendtec-manufactured motor if it is still functioning; however, all replacement motors purchased will be motors manufactured by Ametek. The new Ametek motor is designed to be a drop-in replacement with a few minor changes to supporting components.

The following steps explain how to replace a Blendtec motor with an Ametek motor.



Blendtec (old) motor shown on left. Ametek (new) motor shown on right



Blendtec (old) motor shown on left. Ametek (new) motor shown on right

Visual differences between the Blendtec motor and the Ametek motor (pointed out in images above).

- **Mounting Brackets** (Blue Arrows)
  - Blendtec motor has black plastic mounting bracket
  - Ametek motor has aluminum casted mounting bracket
- **Motor wires and thermistor** (Yellow Arrows)
  - Blendtec motor does not have integrated motor wires or thermistor
  - Ametek motor has integrated motor wires and thermistor
- **Height difference** (Red Arrows)
  - Blendtec motor laminations are 1.75" tall
  - Ametek motor laminations are 1.50" tall
- **Dedicated ground/earth mounting hole** (Green Arrows)
  - Blendtec motor does not have a dedicated mounting hole for the ground wire
  - Ametek motor has a dedicated mounting hole for the ground wire



- ***Unplug the blender from the power source! Do not attempt to service a machine that is connected to a power source!***

1. Remove the santoprene blender-base gasket. Set it aside

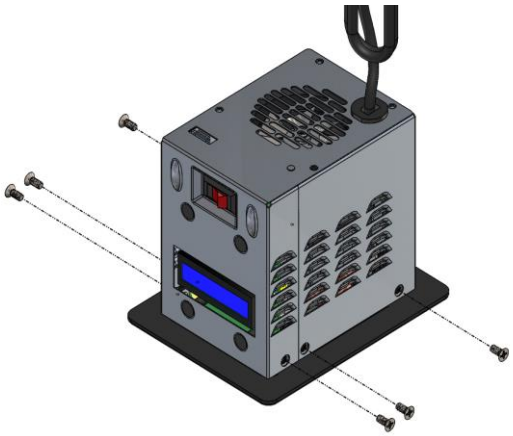




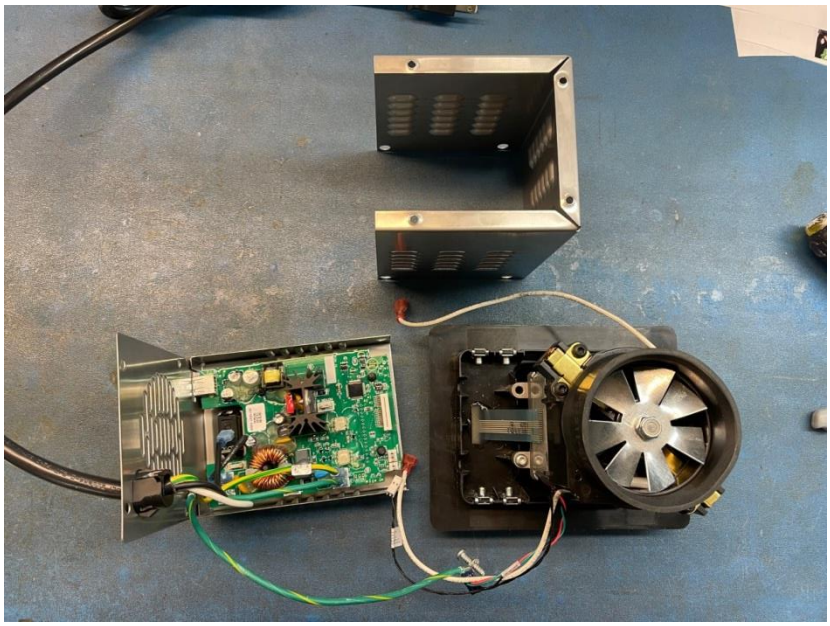
2. Remove the 4 #10-24 X 3/8” type F screws that secure the two housings together. Set them aside



3. Remove the 6 #8-32 X 3/8” screws that secure the front housing and back housing to the ICB motor base. Set them aside

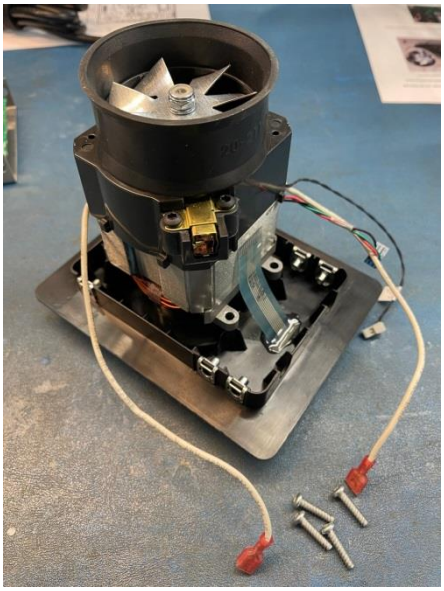


4. Unplug the 10” white wires from the circuit board. Discard them.
5. Unplug the thermistor and the inductor harness from the circuit board. Discard the thermistor. Keep the speed sensor harness.
6. Disconnect the touchpad ribbon from the circuit board. All electrical connections between the two sub-



assemblies should be disconnected now.

7. Remove the 4 #8-32 X 3/4” screws that secure the motor to the ICB motor base. Set them aside. The sling ring should be the only thing holding the motor to the ICB motor base.

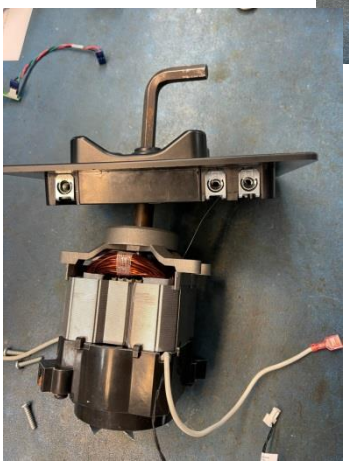


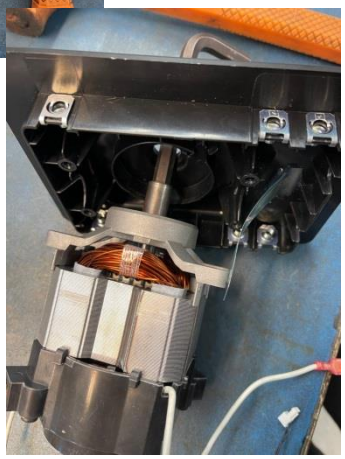
8. Remove the sling ring.
    a. Lay the motor on its side.

b. Use a 3/8” Hex key/ Allen Wrench or a flat punch, and a hammer to lightly tap the motor socket through the sling ring. EXCESSIVE FORCE IS NOT NECESSARY AND MAY DAMAGE COMPONENTS. The sling ring should be undamaged and will be used on the new motor.
c. The motor will fall through the hole and will be free of the sling ring and the ICB motor base.





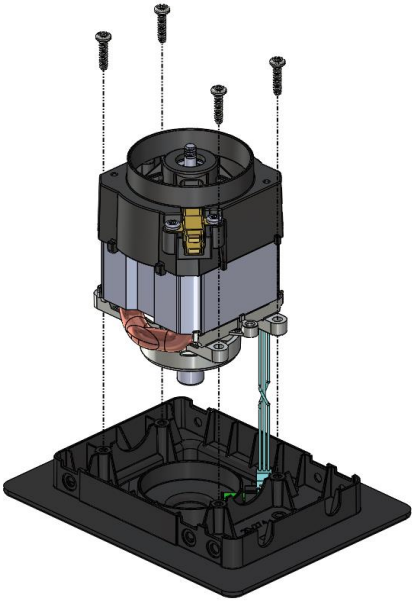


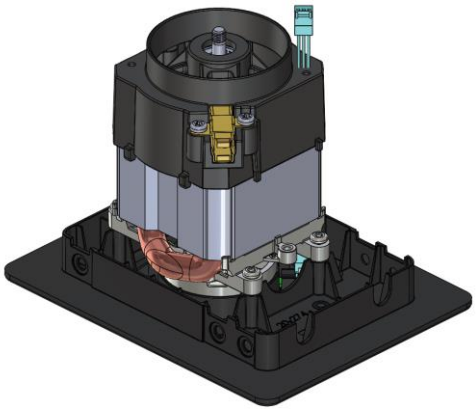


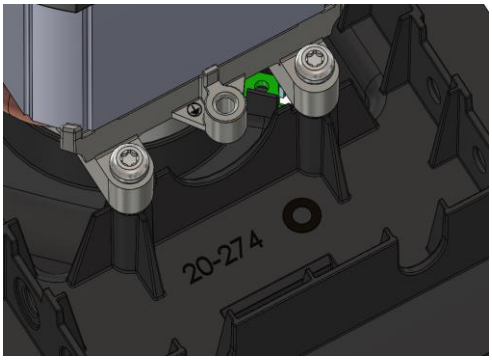
Discard the motor.

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Place the new Ametek motor on the ICB motor base. Orient the motor such that the ground mounting hole is facing the front of the machine. See green circles in images. Fasten the 4 #8-32 X 3/4” screws to the threaded motor mounting holes. Torque the screws to 13-14 in/lbs.

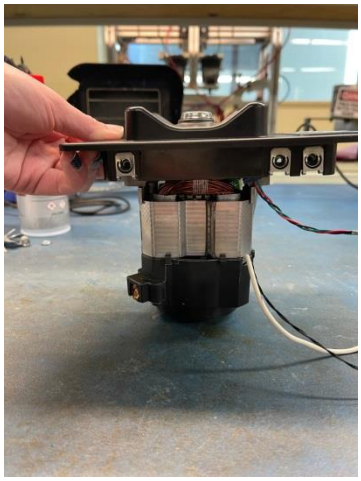


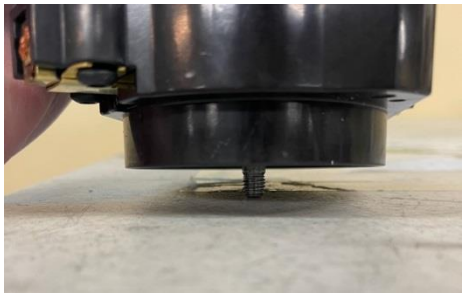




9. Press sling ring onto the socket. **THE SLING RING <u>MUST</u> BE INSTALLED BEFORE THE FAN!**
    a. With one hand, hold the motor right side up with the shaft resting on a hard surface.



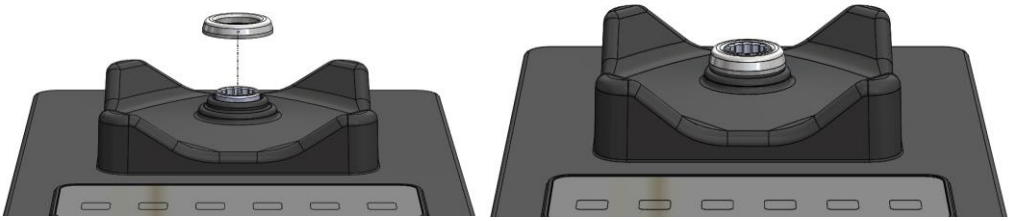




    b. With the other hand, place the sling ring on the motor socket and use a rubber mallet to **LIGHTLY TAP** the sling ring onto the socket. **BE GENTLE!!! <u>YOU DO NOT NEED A</u>**

LOT OF FORCE TO SECURE THE SLING RING TO THE SOCKET. AS LONG AS YOU ARE GENTLE, YOU WILL NOT DAMAGE THE UNIT.

10. Ensure the sling ring is evenly pressed onto the socket and that it does not rub on the top of the ICB motor base. Rotate the motor 360° to make sure it does not contact the ICB motor basePress sling ring onto the socket. **THE SLING RING MUST BE INSTALLED BEFORE THE FAN!**



11. Ensure fan gasket is installed as shown below.



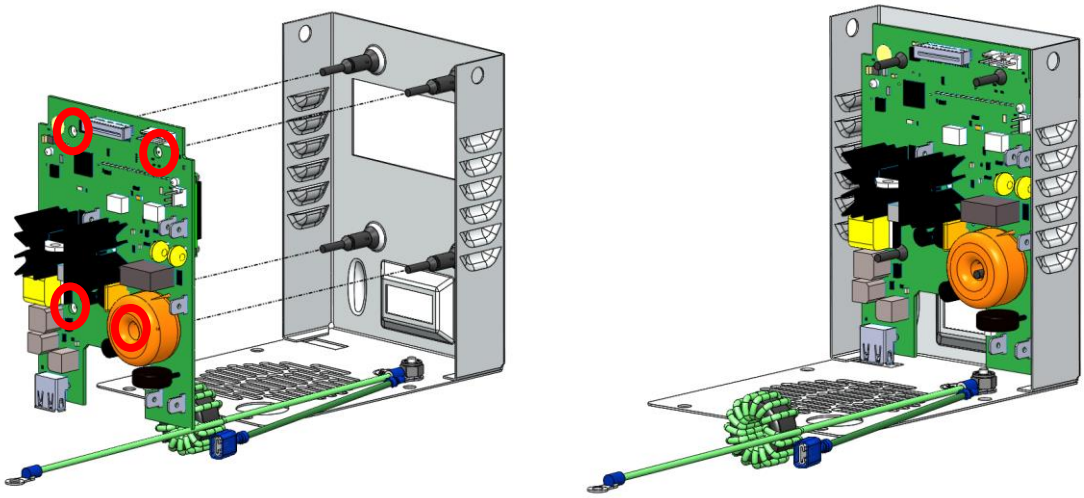
12. Unplug all wires from the circuit board.

13. The circuit board can be removed from the PCB mounts by pulling up on the old circuit board. The PCB mounts will deform and slide/ pop through the holes on the circuit board.



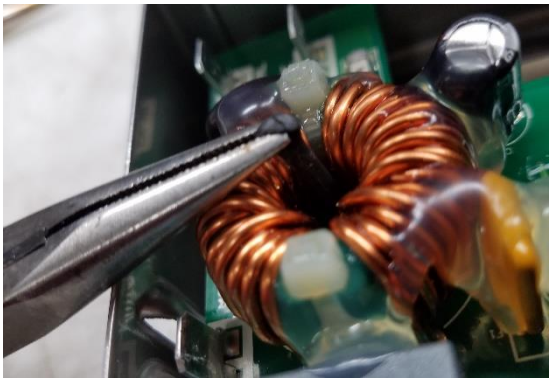
14. With the circuit board removed, add the ground wire to the threaded stud on the front housing.
    a. Place the 6-32 nyloc nut on the threaded stud and tighten it to 13-14 in/lbs.

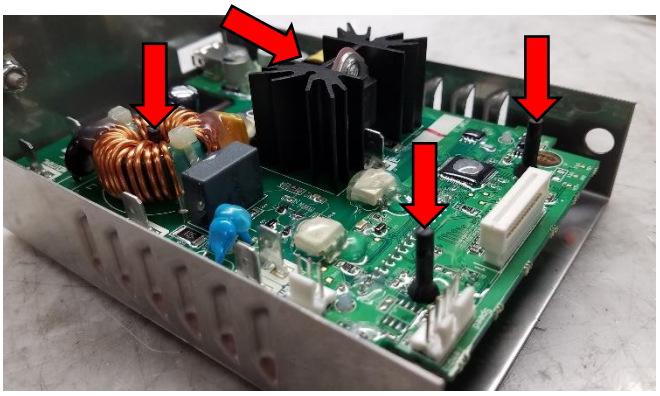
15. Re-attach the circuit board to the PCB mounts (Holes in circuit board circled in red).



    a. Orient the circuit board so that the display lines up with the display hole on the front housing. (the ferrite shown on the ground wire will only be on international models)

b. Pull the PCB mounts through the 4 holes on the circuit board. (Needle nose pliers work well for pulling the PCB mount through the holes in the circuit board.)

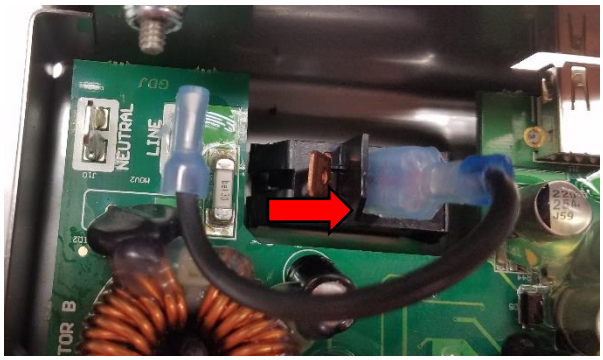




16. Re-connect wires to the circuit board

a. Connect the 180° tab of the 4” black wire to the right terminal on the rocker switch, and the 90° tab to the terminal labeled “LINE” on the circuit board.





b. Connect the line wire (Brown or White) of the power cord to the left terminal on the rocker switch.

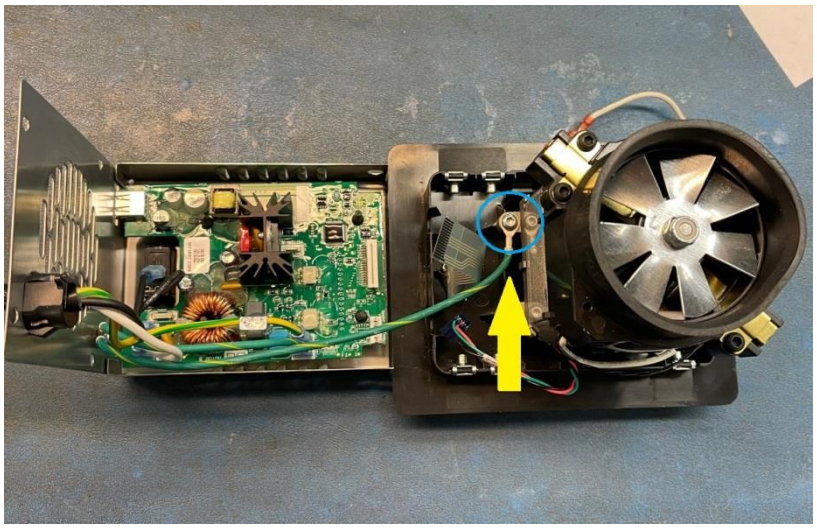
c. Connect the neutral wire (Blue or Black) of the power cord to the terminal labeled “NEUTRAL” on the new circuit board.

d. Connect the ground wire (Green and Yellow) of the power cord to one of the terminals labeled “EARTH” on the new circuit board.

e. Connect the housing ground wire to the remaining terminal labeled “EARTH” on the new circuit board.

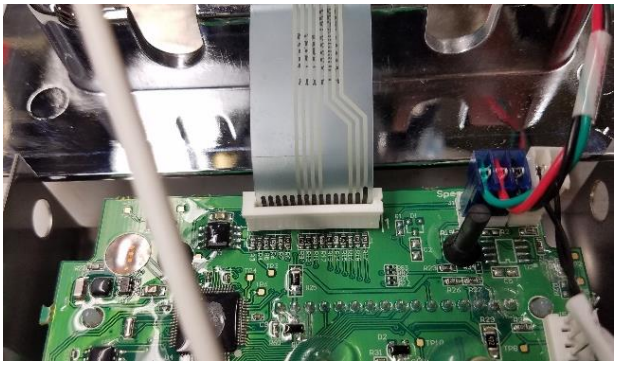
17. Place the two sub-assemblies end to end as shown in the picture. Fasten the other end of the ground wire to the ground mount on the motor bracket. Use the green ground screw. Tighten to 13-15 in-lbs. See green circle in image.

    f. If the motor bracket does not have a dedicated grounding mount, use the front-left motor mount screw. Do not use the green screw, use the motor mounting screw. See alternate grounding location in image (marked with yellow arrow).

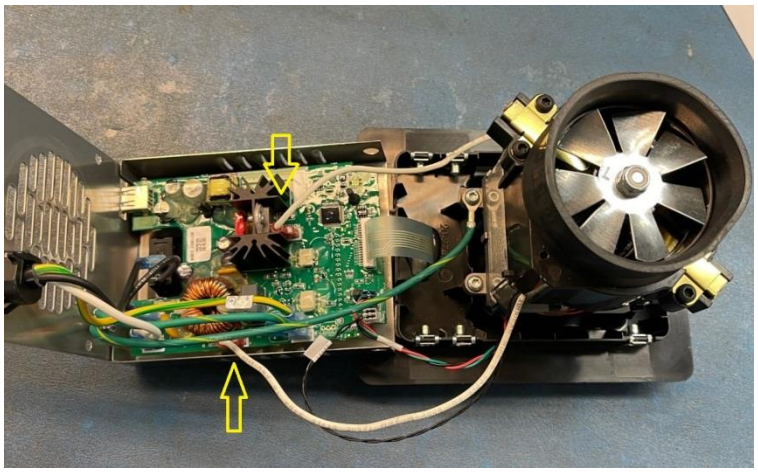


18. Connect the remaining wires to the circuit board.

    a. Connect the touchpad ribbon to the locking ribbon connector. Ensure the ribbon locking connector is fully locked.

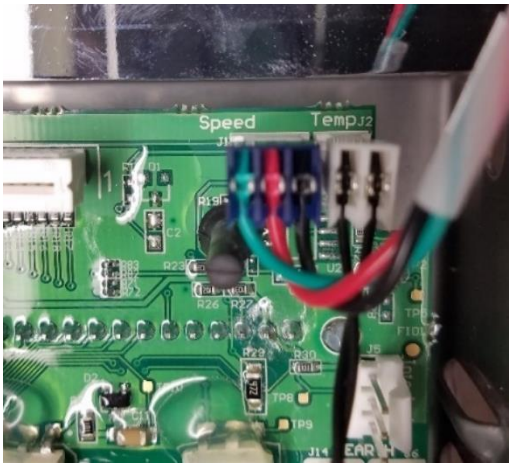


b. The white motor wires go to the terminals labeled “Motor A” and “Motor B”.



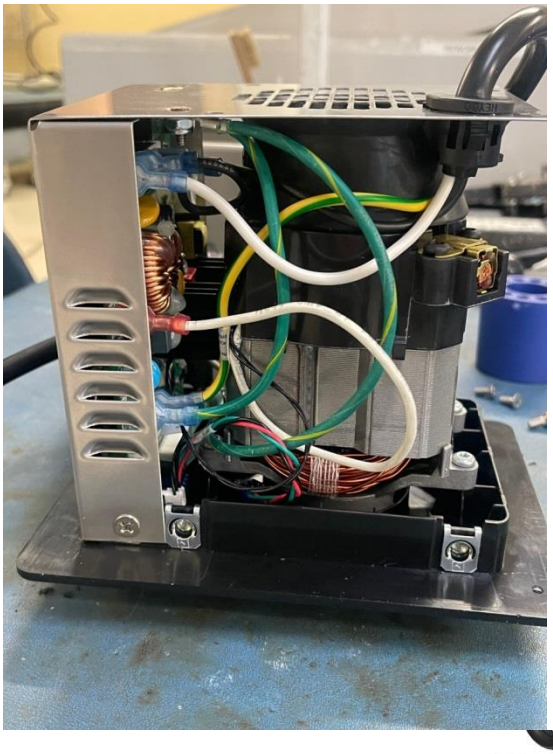
c. Connect the thermistor to the 2-pronged terminal labeled “TEMP.”

d. Connect the speed sensor harness to the 3-pronged terminal labeled “SPEED.”



19. Rotate the 2nd sub-assembly (the one with the circuit board) 90° so that the fan vent is directly over the fan. Tuck the ferrite ground wire between the motor and the circuit board.

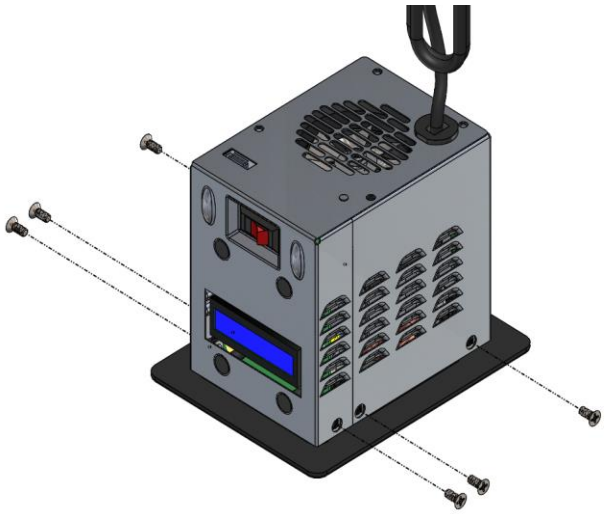
20. Slide the back housing in between the two sub-assemblies. Ensure all wires are inside the housing and are not pinched between anything. (Several wires removed from image for clarity)





21. There are 6 holes (3 on the left side, 3 on the right side) along the sides of the housings and ICB motor base. Use the 6 #8-32 X 3/8” screws to secure the front housing and back housing to the ICB motor

base. See pictures for clarification. Tighten screws to 20-25 in/lbs.



22. Use the 4 #10-24 X 3/8” type F screws to secure the back housing to the front housing. The holes are located on the bottom, around the fan vent. See image for clarification. Tighten until flush with the front housing.

23. Attach the **santoprene blender-base gasket (20-205)** to the motor base (gasket not







included in exploded view or bill of materials). See pictures for clarification.

24. Test motor to make sure it works properly.



Error Code Explanations and Troubleshooting:

Error Code	Root Cause	How to Correct
Error: Overtemp Condition Detected	Motor overworked	Allow motor to cool then try again
	Motor damage	Replace motor
Error: Overload Condition Detected (motor spins for 2 seconds)	Defective speed sensor	Replace speed sensor
	Defective speed sensor jumper wire	Replace jumper wire
	Magnet disc missing/damaged	Replace motor
Error: Overload Condition Detected (motor does not spin)	Worn out brushes	Replace motor
	Bad connection between control board and motor	Connect/replace jumper between control board and motor
	Defective internal wiring in motor	Replace motor
Error: Temperature sensor not detected	Temperature sensor not connected to PC board	Connect temperature sensor
	Temperature sensor damaged	Replace temperature sensor
Error: Zero crossing not detected	Defective zero crossing circuit on circuit board.	Replace circuit board
	Power line noise	Remove noise from power line
Error: Reset error detected	Controller reset itself	If error recurs replace control board
Error: Read/Write error detected	Incorrect data written to EEPROM	If error recurs replace control board
Error: Motor control error detected	Magnet disc issue such as missing magnets, improper magnet orientation	Replace motor
	Defective speed sensor	Replace speed sensor
	Defective speed sensor Jumper wire	Replace speed sensor jumper wire
	Defective speed sensor circuitry on control board	Replace control board

Electronic Schematic

