



**LUH REPLACEMENT MOTORS
PROCEDURE**

LUH REPLACEMENT MOTORS PROCEDURE

PURPOSE

Provide clear and specific Instructions to Chromalox customers on Disassembly and Assembly of Replacement Motors PN 302912-003

SCOPE

This procedure is applicable for LUH units of 480V/3PH, 5kW or less.

RESPONSIBILITIES

It is the responsibility of Chromalox to provide a detailed procedure for disassembling and reassembling replacement motors for LUH model Air heaters.

It is the customer's responsibility to follow the instructions provided by Chromalox in detail to avoid any undesired situation.

WARNING

Risk of shock or electrocution!
**Disconnect power before performing
any maintenance or repairs on heaters.**

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TOOLS NEEDED FOR THE MOTOR REPLACEMENT



- Cordless drill/driver
- 1/4 Nut driver bit
- 3/8 Nut driver bit
- Torque wrench with 17mm crows foot
- Phillips head bit
- Wire/cable cutter
- Wire stripper
- Terminal Crimp Tool
- Flat Blade Screwdriver
- Heat Gun
- Scissors
- Mechanics gloves
- Eye protection



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MATERIAL NEEDED FOR THE MOTOR REPLACEMENT

Material Provided by Chromalox

- Cable Ties
 - Terminals
 - Loctite 290
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- Cable Ties = PN 075424019
- CABLE STRAP FOR DWH-LT
 - Terminals = PN 075504001
- TERM.CRIMP QCK.25",22-18AWG



LUH REPLACEMENT MOTORS PROCEDURE

DISASSEMBLE MOTOR PROCEDURE

1.0 Remove control panel cover screws, located on the bottom of the heater, using the drill/driver.



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DISASSEMBLE MOTOR PROCEDURE

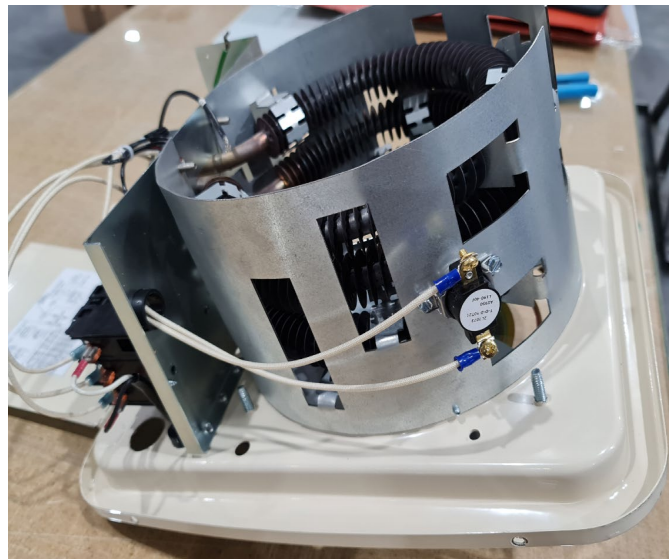
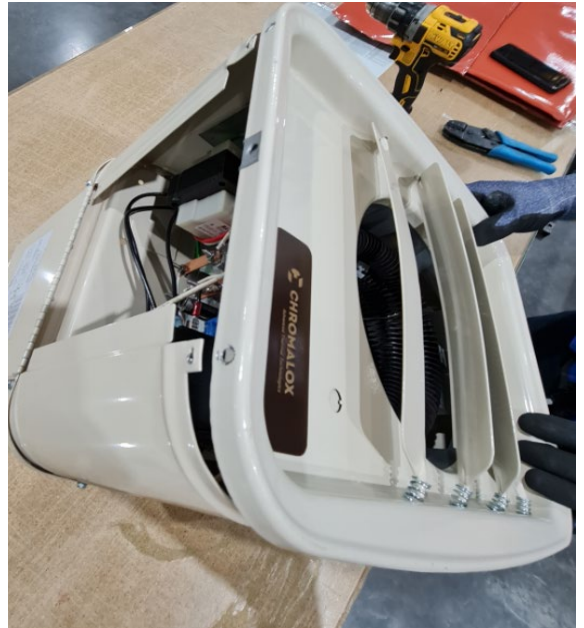
1.1 Remove the front panel screws using the drill/driver.



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DISASSEMBLE MOTOR PROCEDURE

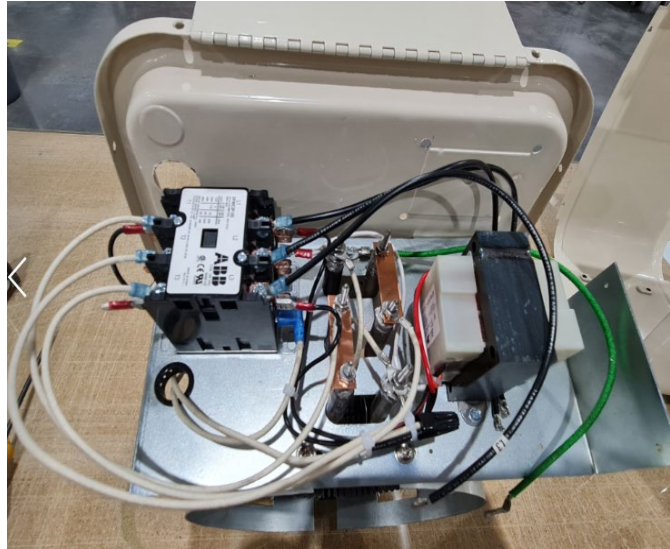
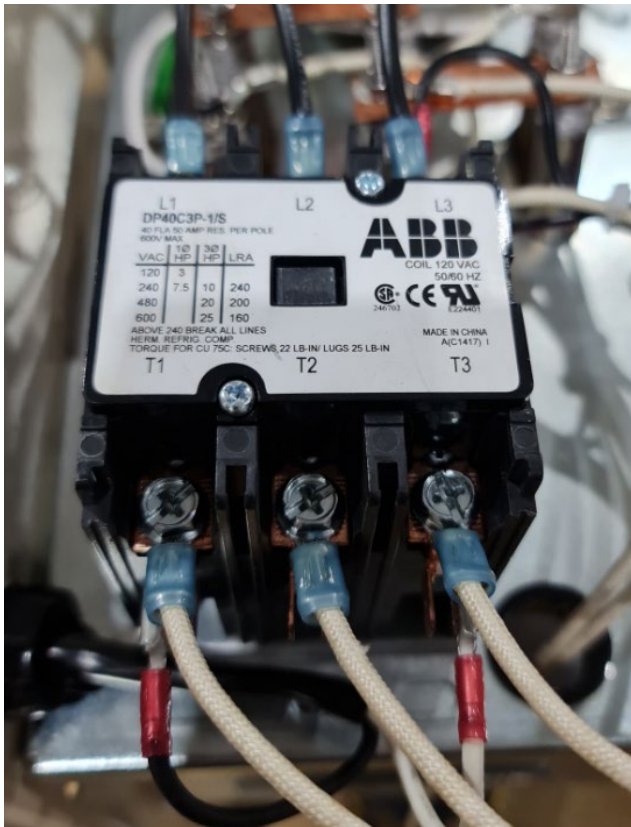
1.2 Remove the front panel by pulling forward, being careful of sharp metal edges. If panel does not release, double check that all screws have been removed. A plastic pry bar can also be used to separate panel.



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DISASSEMBLE MOTOR PROCEDURE

1.3 Remove T1 & T3 from the contactor (black & white cables). If difficult to identify, follow wires from motor into control compartment.



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DISASSEMBLE MOTOR PROCEDURE

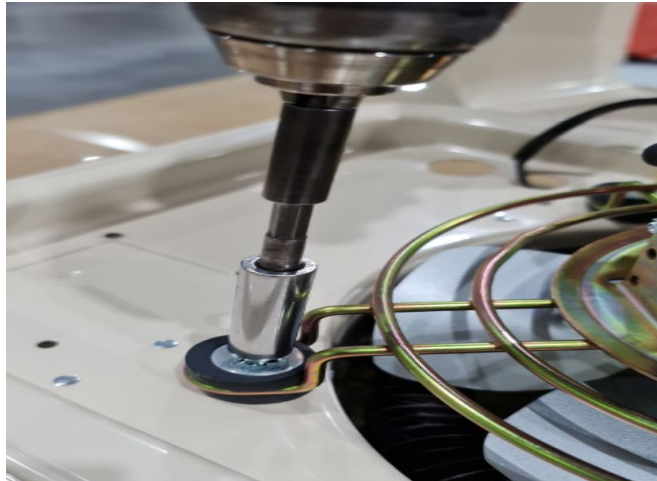
1.4 Pull out the cables from behind the orifice / gasket.



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DISASSEMBLE MOTOR PROCEDURE

1.5 Remove the screws from the fan guard.



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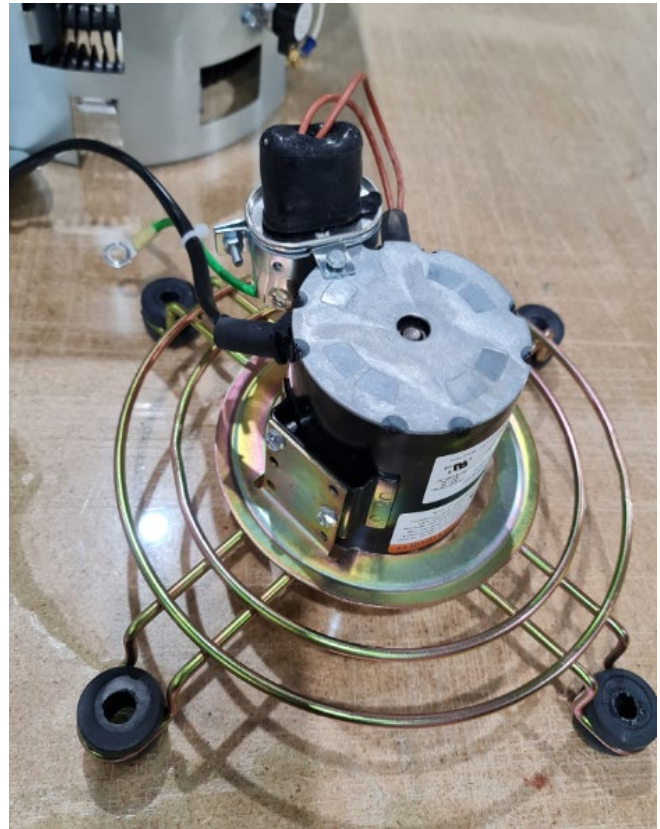
1.6 Remove the set screw from the fan blade using the flush cutter.



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DISASSEMBLE MOTOR PROCEDURE

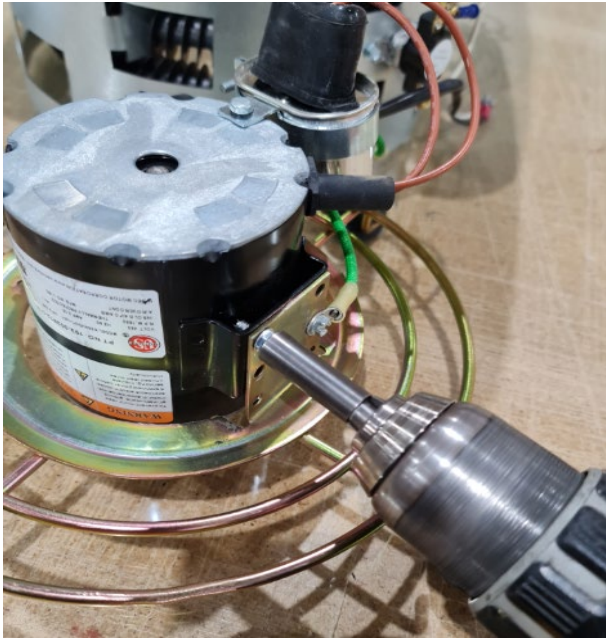
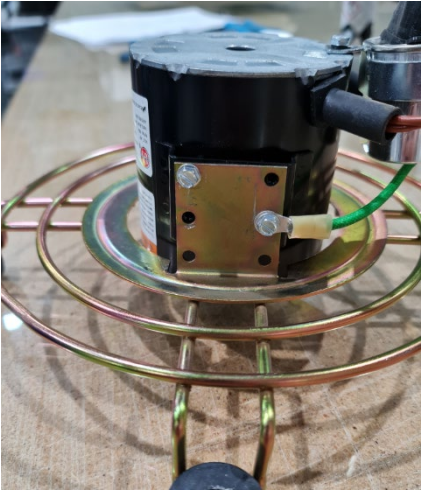
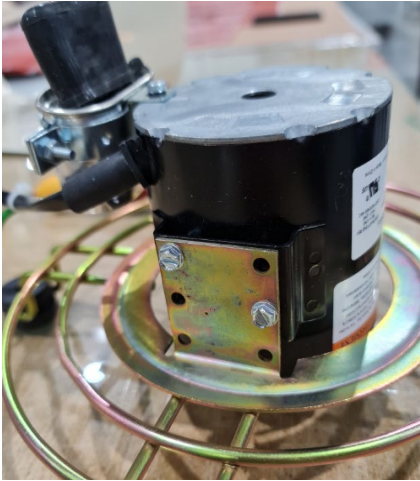
1.7 Remove the fan blade from the fan guard.



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1.8 Unscrew the motor screws located at the sides of the Motor's bracket. (2 on each side)



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DISASSEMBLE MOTOR PROCEDURE

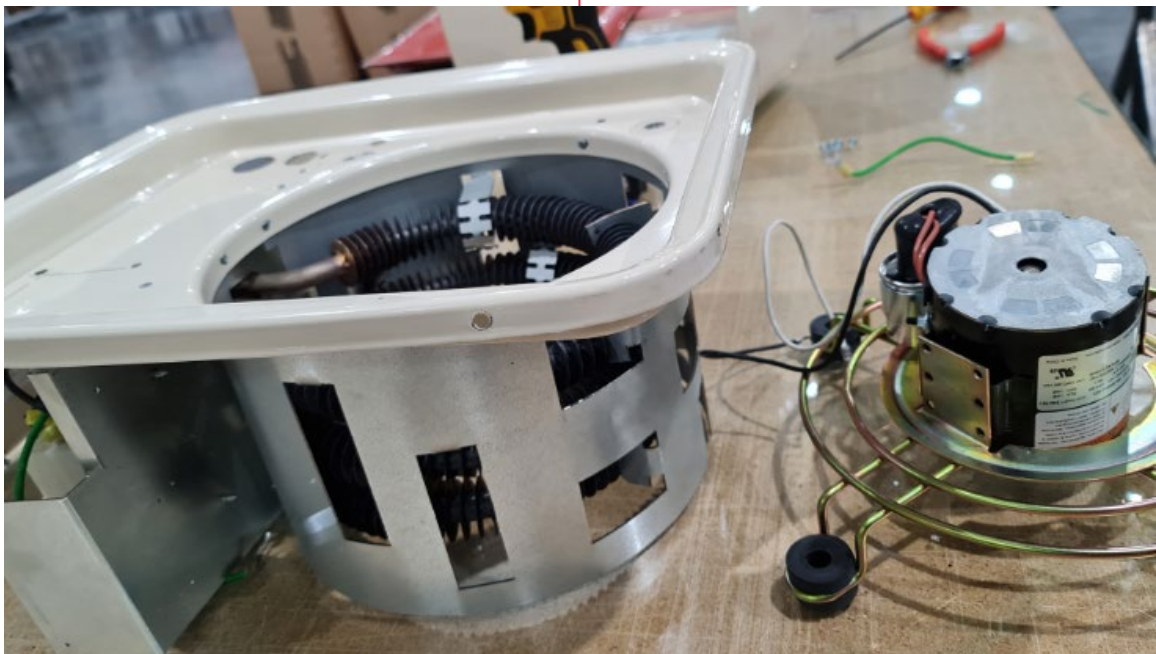
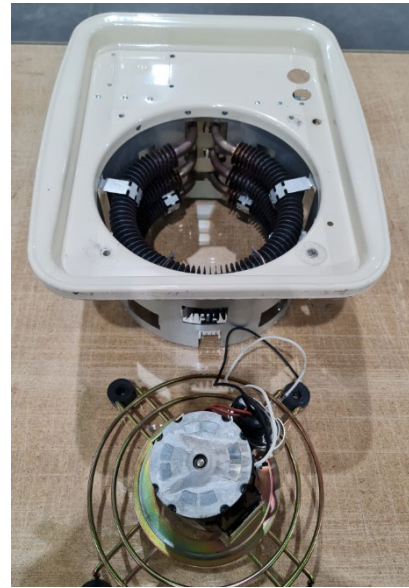
1.9 Cut the motor's cable ties



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ASSEMBLE REPLACEMENT MOTOR PROCEDURE

**1.0 Place replacement motor
in the same position as the
one that was removed
(same orientation)**



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ASSEMBLE REPLACEMENT MOTOR PROCEDURE

1.1 Screw in the screws removed from the motor's bracket (2 on each side)



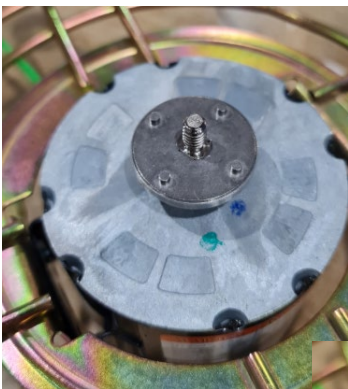
Don't forget to install the ground wire prior screwing in the screw on the Motor's bracket.



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ASSEMBLE REPLACEMENT MOTOR PROCEDURE

1.2 Assembly the motor's hardware bracket on the motor's shaft along with the black rubber provided with the hardware included in each motor, make sure that orifices of the gasket matches the position of the bracket.



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1.3 Assembly the fan blade on the motor's shaft, above the black gasket installed previously.

Make sure that fan blade orifices matches to the ones of the black gasket rubber.

Make sure that fan blade orifices matches to the ones of the black gasket rubber.



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ASSEMBLE REPLACEMENT MOTOR PROCEDURE

1.4 Apply a drop of Loctite 290 on the top of the motor's shaft (on the fan blade)



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1.5 Install the screw set over the fan blade scrolling down by hand, later you will need to use the flush cutter to adjust it / tight it. Once tightened by hand use the torque wrench to tighten to 8-10 in-lb. Stop if locknut flange begins to distort.



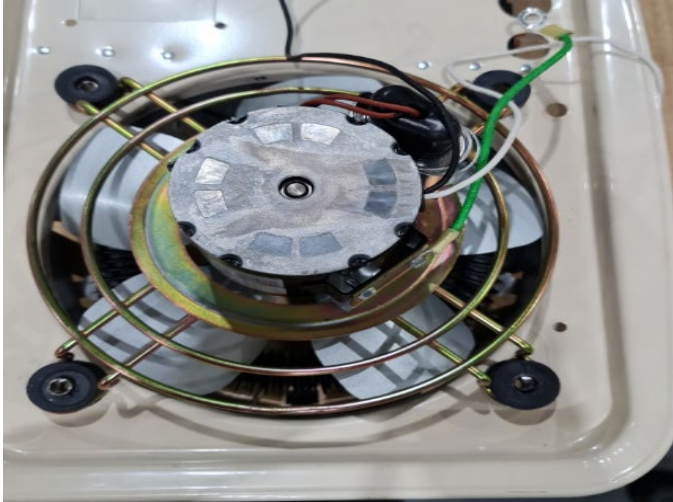
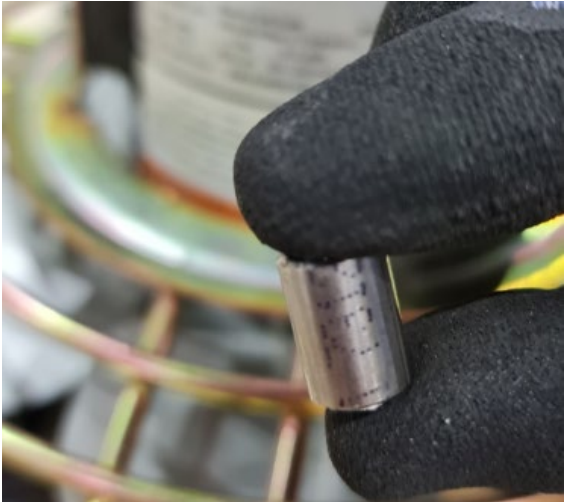
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1.6 Mount fan guard on the back panel of the unit.



Introduce spacer and screws on the fan guard and unit orifices



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1.7 Place Washer over the spacer and the black gasket



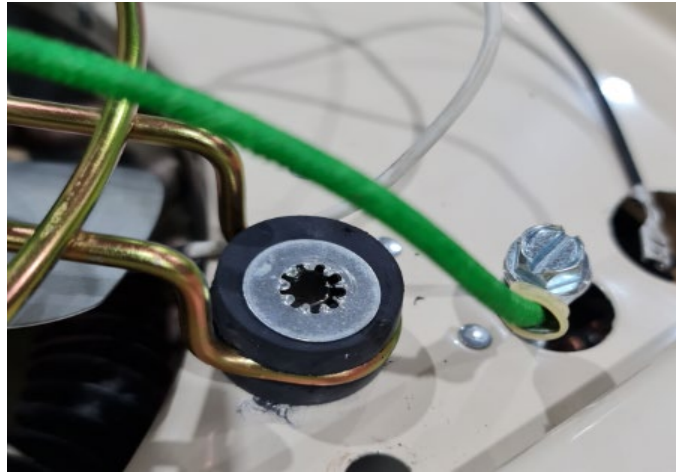
Install the screw thru the spacer, unit orifice and black gasket.



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1.8 Repeat the previous step on 3 of the 4 orifices, on the 4th install 1st the ground terminal wire to screw and then proceed to install it over the spacer, washer and black gasket.



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ASSEMBLE REPLACEMENT MOTOR PROCEDURE

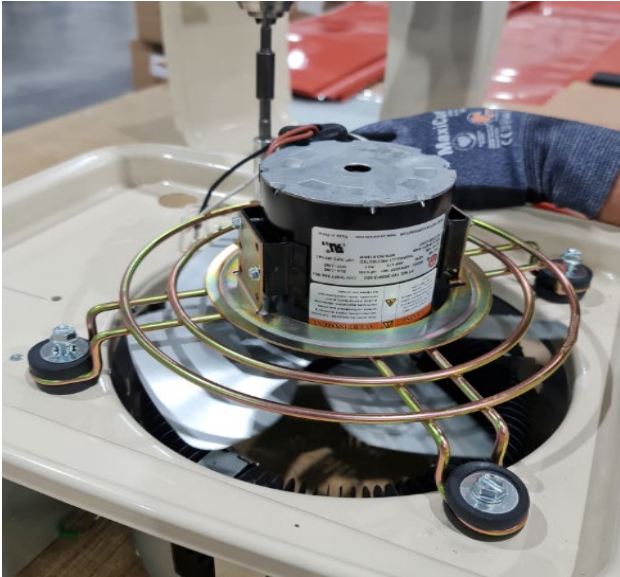
1.9 Make sure that all 4 assemblies were placed correctly on the orifices and rotate fan blade to ensure proper clearance from inner case.



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1.10 Start screwing all 4 screws down.



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1.11 Install the Sleeving provided by Chromalox, you need to pass the motor's cables (white & black) thru the sleeving.



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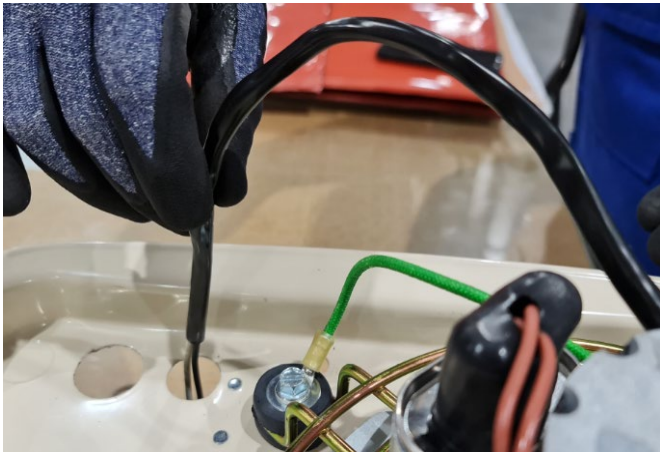
1.12 Apply heat evenly along the sleeving using the heat gun.



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1.13 Introduce sleeving with the motor's cables in the orifice where black bushing was removed.



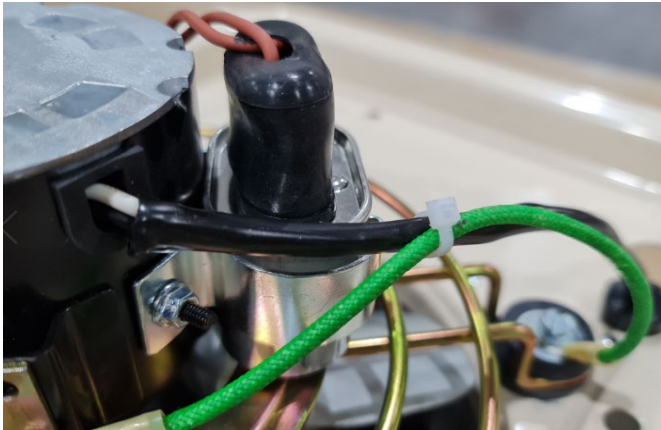
Install them inside the black bushing, as showed in the picture below applying pressure



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1.14 Install cable ties along the sleeving and ground wire to join them and cut excess.



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1.15 Cut the cables (black & white) from the motor the ones that were pulled out from the orifice on point (7.2) cut these at the length of the contactor using the flush cutter.



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ASSEMBLE REPLACEMENT MOTOR PROCEDURE

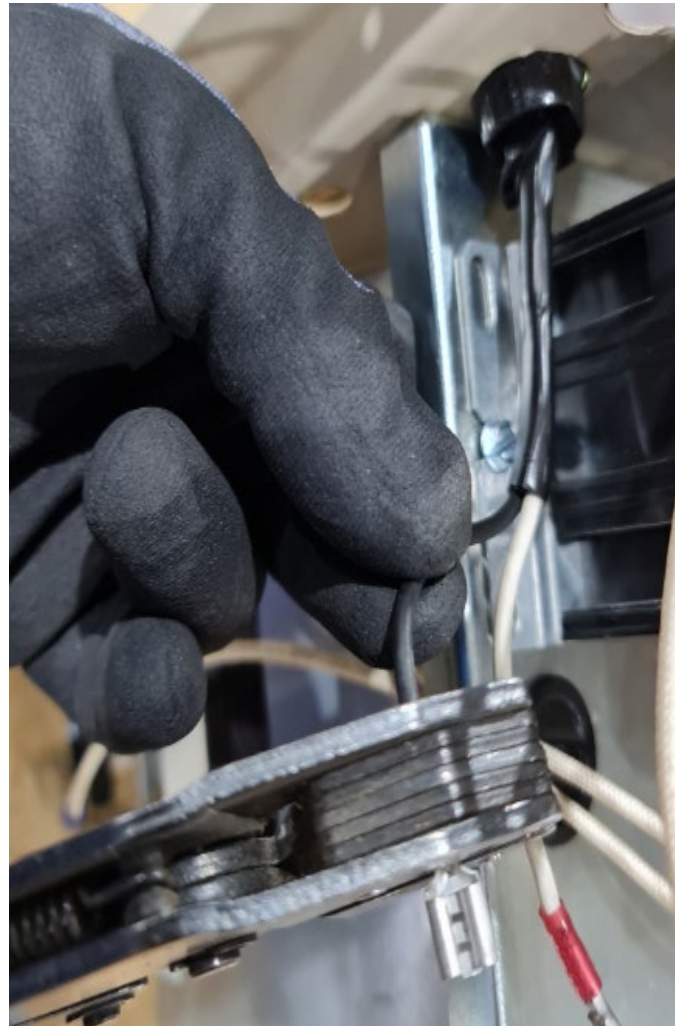
1.16 Strip down the motor cables (black & white) to $\frac{1}{4}$, using a stripper wire.



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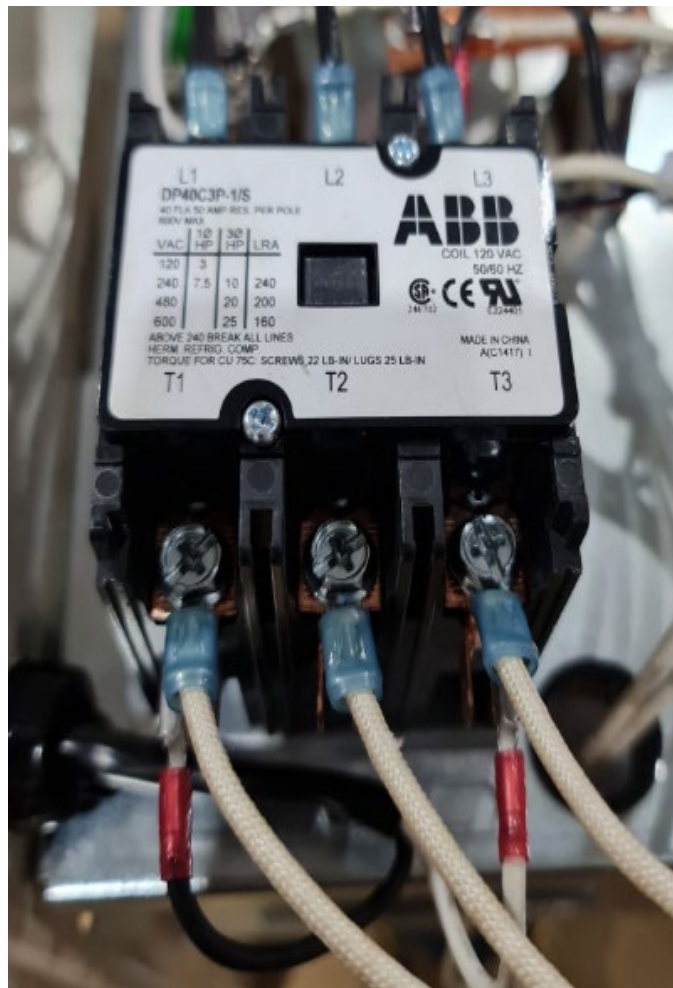
1.17 Crimp the stripped motor cables (black & white) using the terminals provided by Chromalox (PN 075504001) and a crimping tool, crimp it using the color code of the terminal (red)



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1.18 Connect the motor cables (black & white) to the contactor lines T1 (black cable) & T3 (white cable)



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**1.19 Mount case on the unit,
make sure that it is installed
inside of the back panel
edges.**



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1.20 Screw in the screws of the back panel to the case using the drill/driver on low velocity (4 from Dewalt Mfg)



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1.21 Install and screw on the front panel of the case.
(Chromalox label must be oriented to the unit's connection box)



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1.22 Install and screw in the front panel of the case.
(Chromalox label must be oriented to the unit's connection box)



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1.23 Close the connection box lid by screwing the screws.



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Final Inspection

1.24 Reconnect power to unit and turn on heater.

Ensure fan blade and motor wiring are correct by inspection airflow direction.

Listen for any signs that the fan blade is not balanced, such as a loud intermittent whirring or excessive vibration.

