
Repair Instructions - Unistat Motor Replacement

To replace the motor on a heater circulator



To suit: TU3, TU3 200W

Approvals		
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Safety Reminder

Replacing the Unistat motor requires the technician to hold a suitable electrical licence.

These instructions do not purport to address all potential safety issues, if any, associated with the product's use. It is the responsibility of the user of these instructions to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.

Before attempting any of the following, perform the actions listed below:

- Turn OFF power to the machine.
- Unplug the machine.

Summary

These instructions show how to remove the old motor and how to install a new one on a Unistat heater circulator.

Tools Required	
Screw Driver	Philips Head
Wire cutters	
7 mm and 8 mm spanners	Open ended

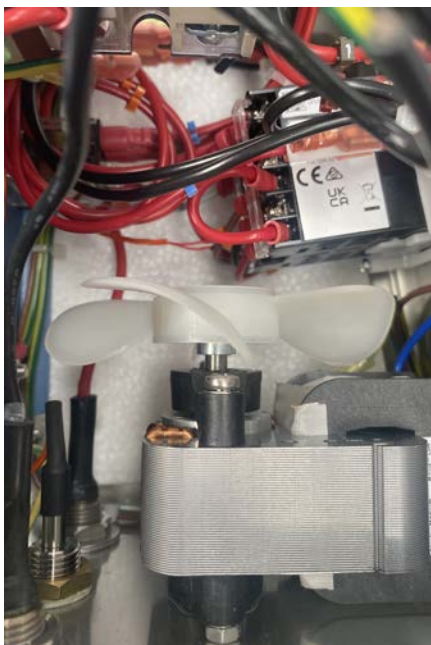
Kit Contents		
Item	Description	Quantity
50924	Unistat Motor Std - B08TL02	1
	Cable ties	5

Section 1: Preparation



Disconnect the Unistat from the power supply and remove the IEC cable. Lay the unit flat on its side. Undo the screws located on either side of the Unistat cover. Once the screws are removed, carefully take off the cover. Disconnect the earth wire from the cover that is connected to the body of the Unistat. Place the disconnected cover to one side.

Section 2: Remove old Unistat Motor



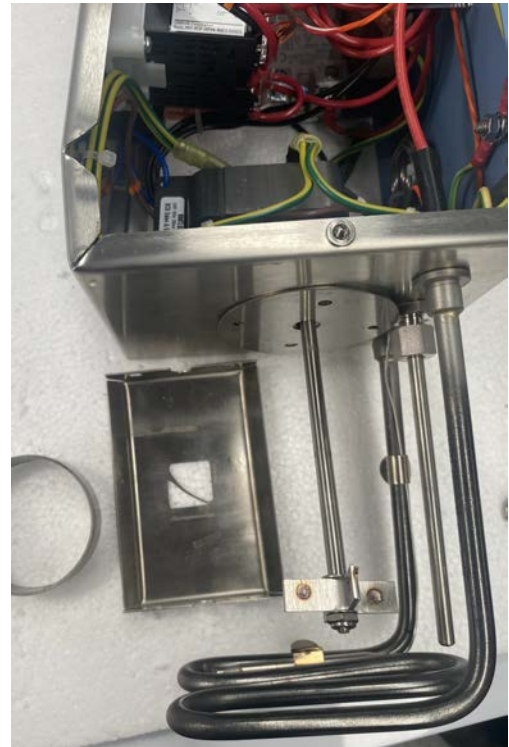
To remove the plastic cooling fan from the Unistat motor. The easiest way to do this is to lever with off with a screw driver.



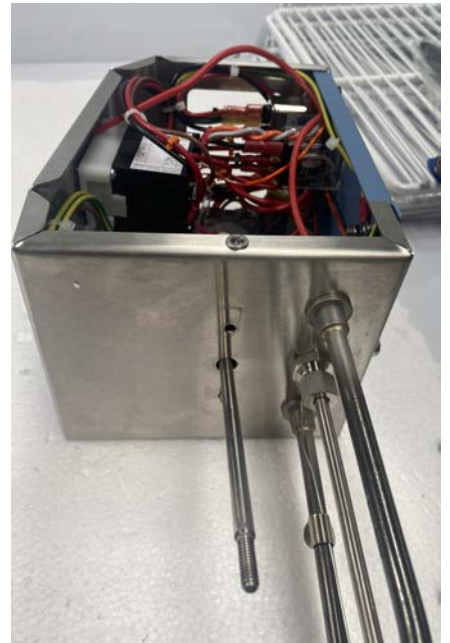
Remove the bottom metal plate of the cylindrical impeller enclosure by unscrewing the 2 screws on the bottom of the metal plate.



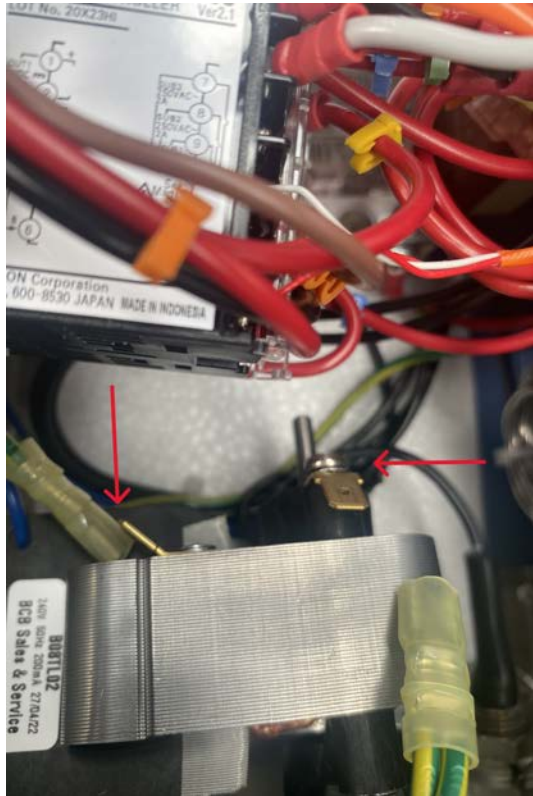
To remove the cylindrical impeller housing and the top metal cover, use a set of pliers to hold the nuts that secure the shaft guard to the top metal cover while you unscrew the screws. This will cause the cylindrical impeller housing and the top cover to come loose. However, at this point, you still won't be able to remove it.



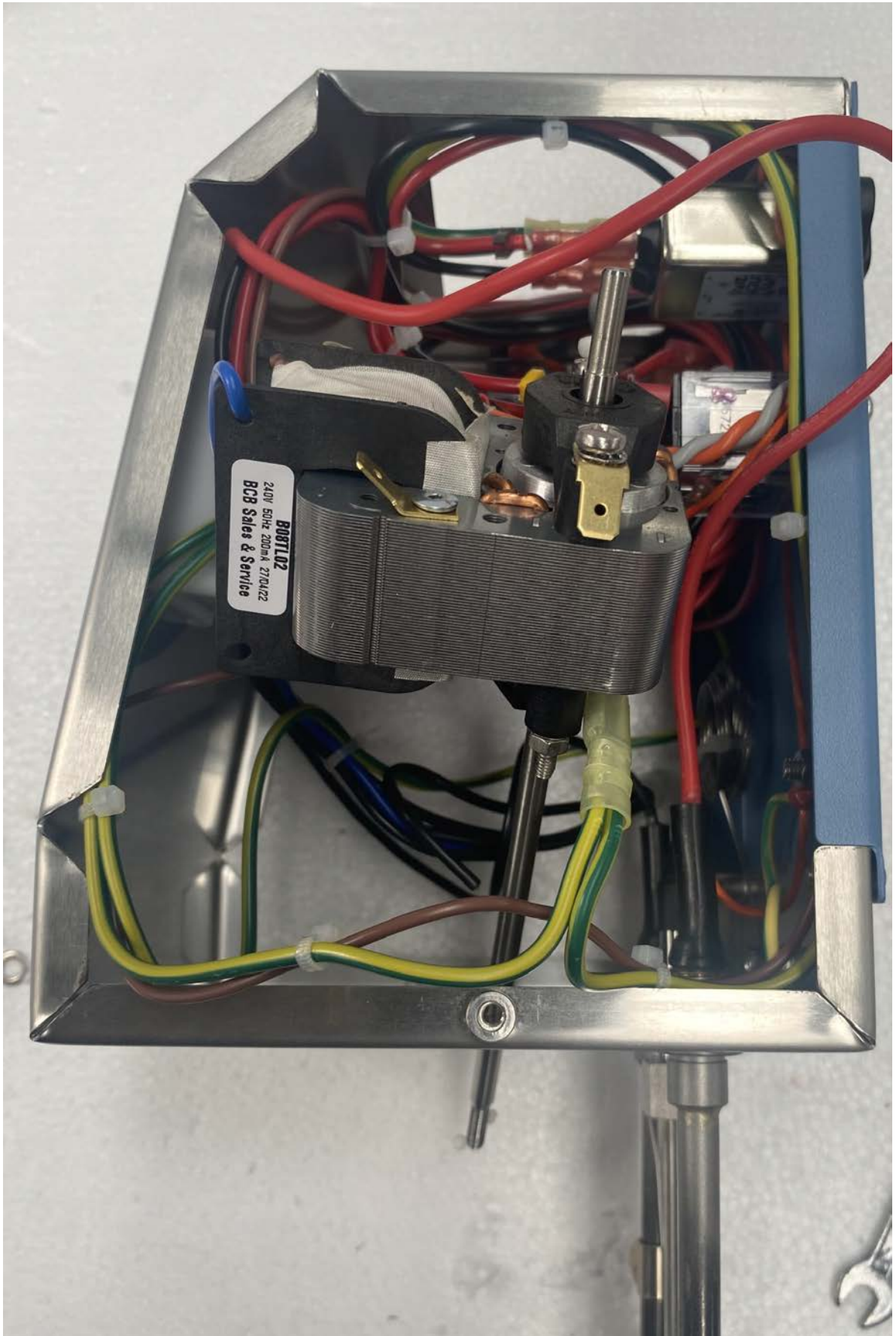
To remove the shaft guard, use a 7mm spanner to unscrew the nuts on the underside of the heater circulator. Once the nuts are removed, lift the Unistat motor so the screws come through the bottom of the Unistat. Then, remove the shaft guard. To remove the cylindrical impeller housing, slide the motor upwards to create clearance between the impeller and the heating element. Finally, slide the circular top plate along the shaft to remove the impeller.



To remove the impeller, hold the motor shaft with grip pliers and use a 10mm spanner to loosen the nut holding the impeller in place. Pay attention to the arrangement of the washers and nuts, as they need to be put back in the same way when reassembling the impeller. After removing the impeller, slide the top plate covering the cylindrical impeller housing off the end of the shaft.

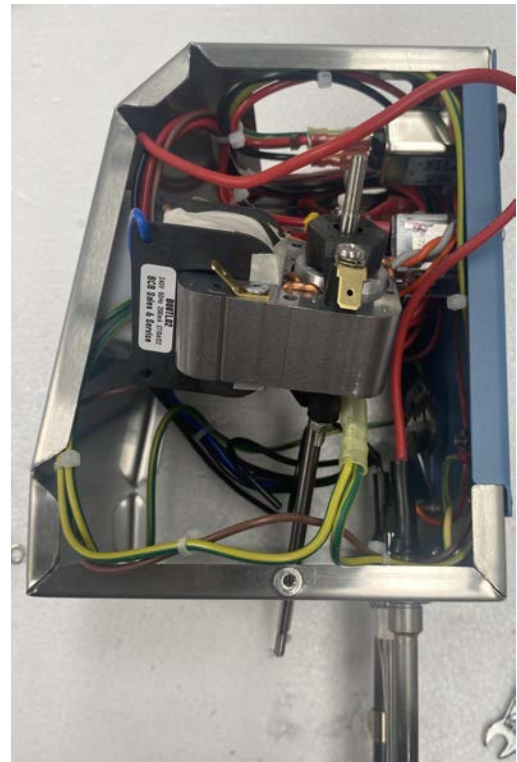
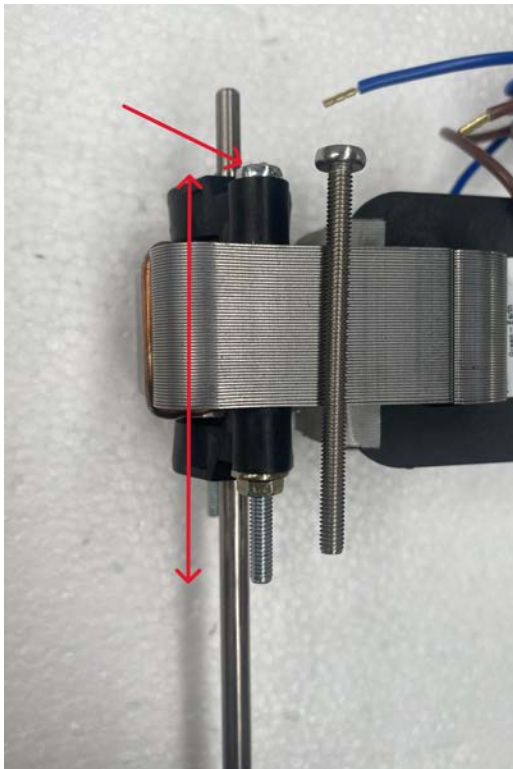
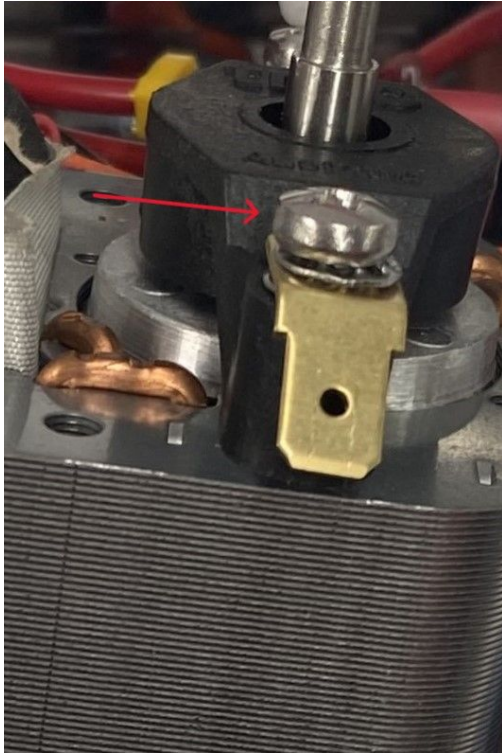


Disconnect the earth wires from the spade clips on the motor. Use a wire cutter or similar tool to cut the cable ties holding the brown wire to the other wires, which connects the Unistat motor to the controller. Unscrew the brown wire from the controller. The blue wire from the motor is bundled with other non-terminated wires at a BP Connector. Cut off this connector and then you will be able to separate and remove the blue motor wire from the group of wires.

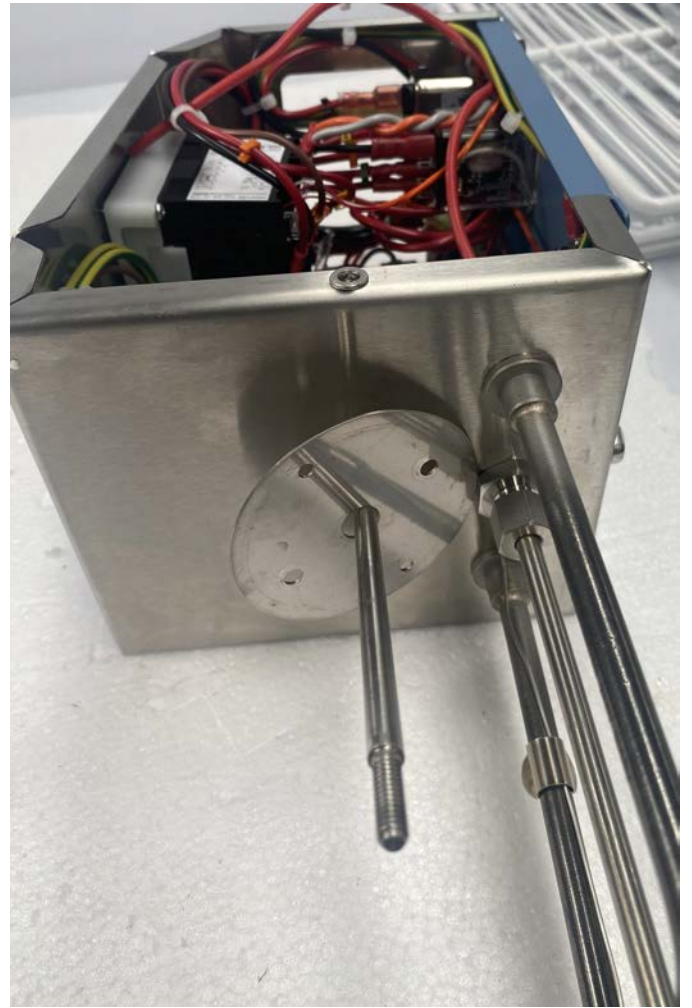
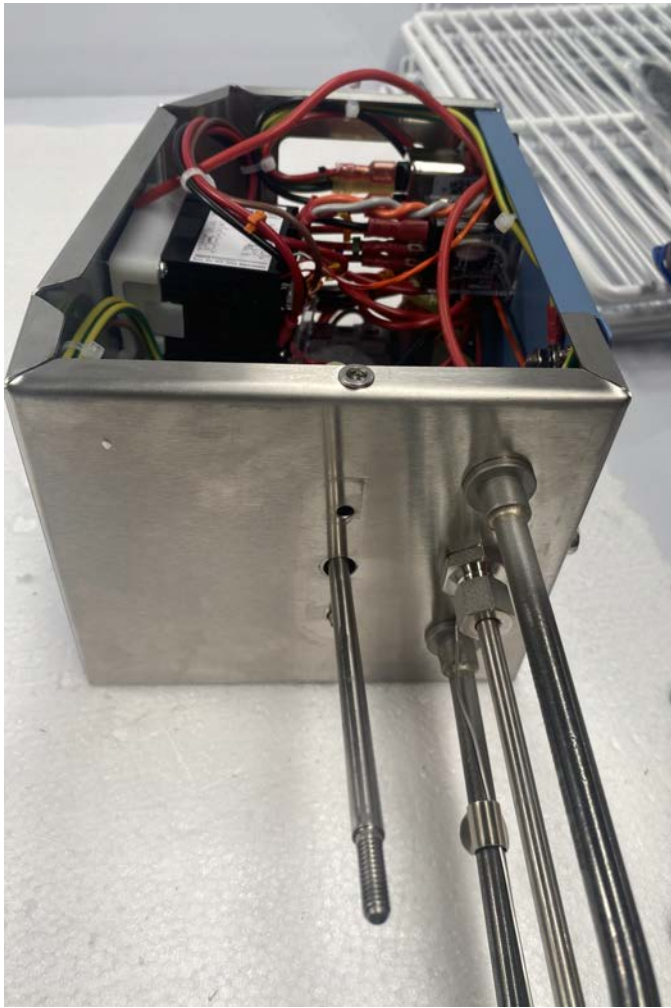


Once the wires are removed, you can slowly slide the old Unistat motor out from the heater circulator housing.

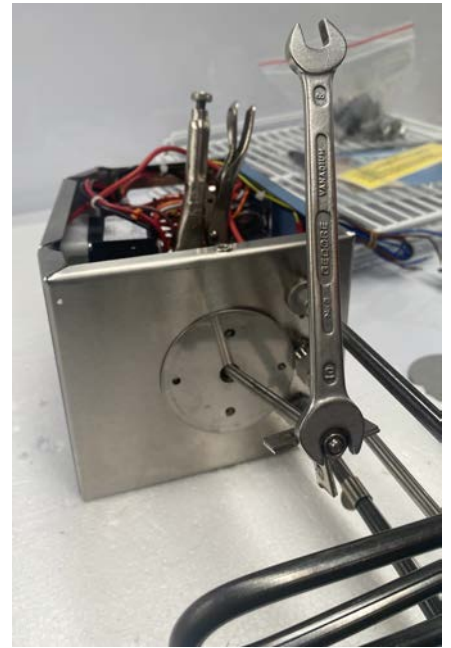
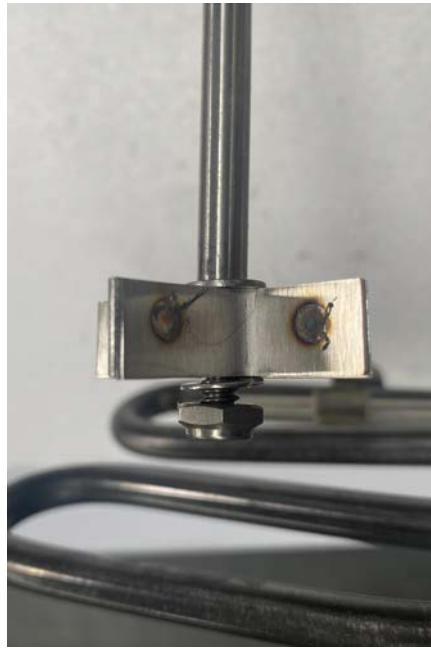
Section 3: Installation



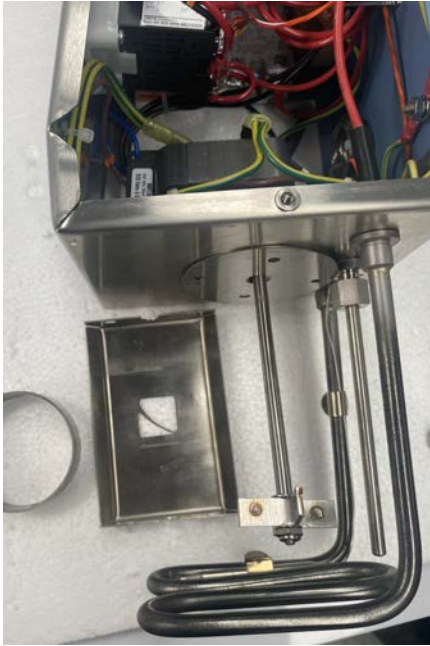
Remove the screws on either side of the shaft from the old Unistat motor. Do the same for the screws in the new Unistat motor. The screws supplied with the new Unistat controller are too long, and need to be replaced with the screws from the old Unistat motor. You will also need to remove the gold Earth spade clip under the screw of the old Unistat motor and add it to the new Unistat motor. Once this is done, slide the motor through the bottom of the heater circulator.



Slide the top plate that covers the cylindrical impeller housing on the shaft.



To attach the impeller, hold the shaft of the motor with grip pliers and then taking a 10mm spanner screw the nut onto the shaft to hold the impeller in place. Please take note of the arrangement of the washers and nuts in the above picture.



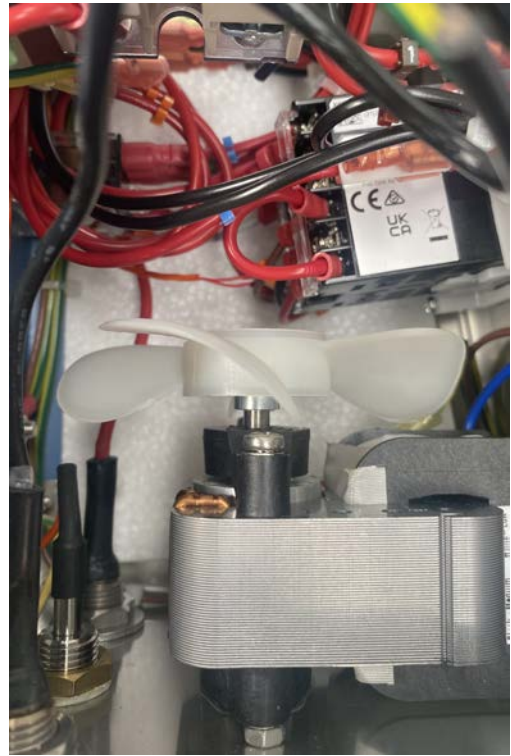
Slide the top of cover of the cylindrical impeller housing cover down the shaft till it is resting on top of the impeller. Put the cylindrical impeller housing around the impeller. Slide the shaft guard onto the exposed screws of the Unistat motor and screw the nuts back on using a 7mm spanner.



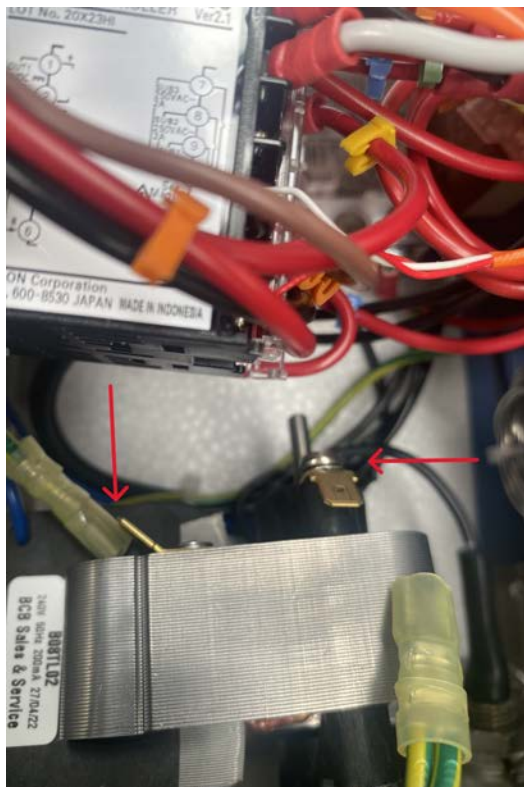
Screw the bottom of the shaft guard to the cylindrical impeller housing cover by using a pair of pliers to hold the nut as you tighten the screws in place.



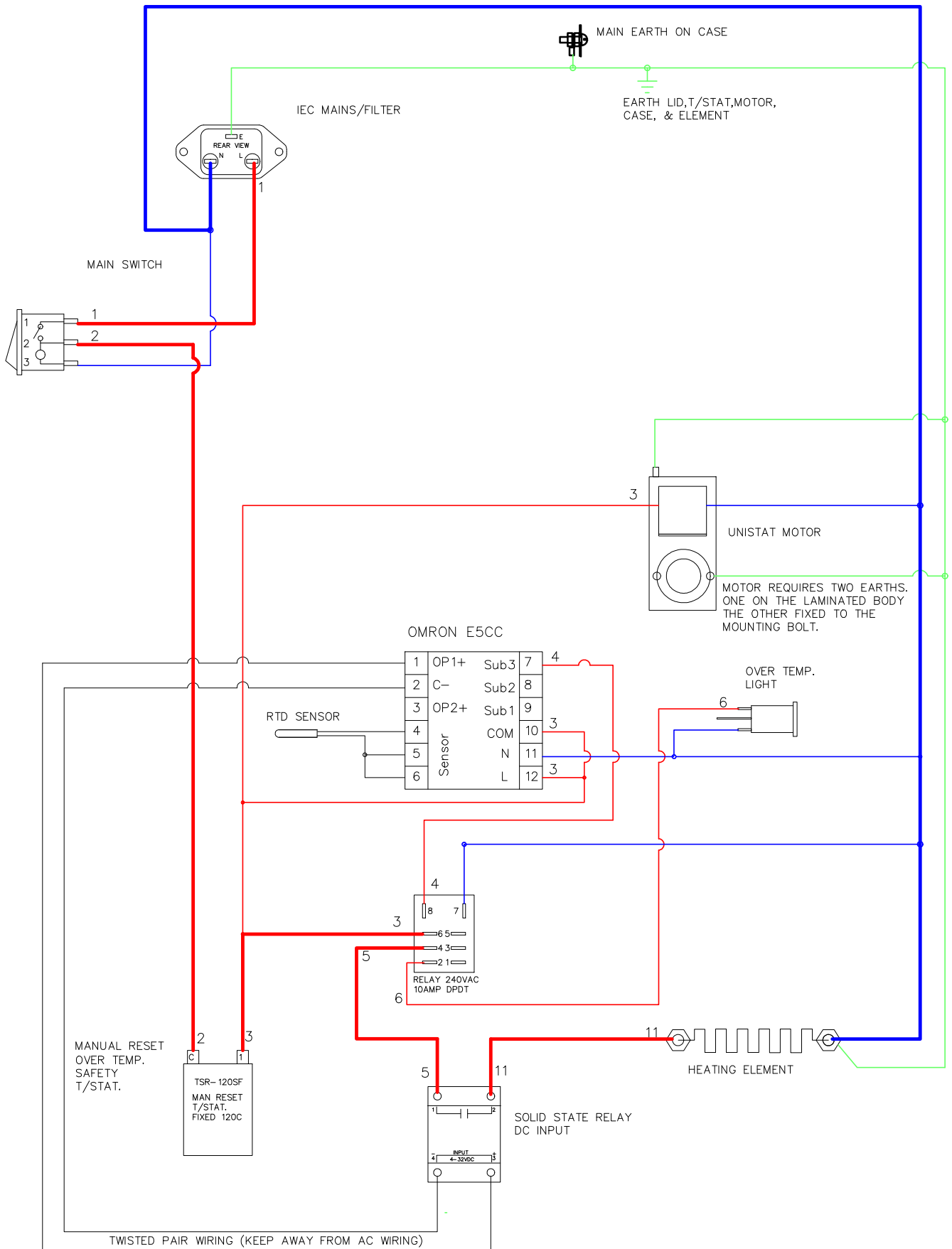
Align the cylindrical impeller housing between the top and bottom covers and screw together.



Reattach the plastic cooling fan, by sliding it over the shaft.



Reattach the earth wires to the gold spade clips. Reconnect the brown wire to the Omron controller as per the attached wiring diagram.



HEATING ELEMENT	1000 WATTS	2000 WATTS
WIRE SIZE	1.0sq.mm V105	1.5sq.mm V105

PRODUCT:	BATHS:HEATER/CIRCULATORS,DIGITAL.	30-08-21: New Style TU3
MODEL No:	TU-3,TU-4	19-12-12: Replaced 3216 with E5CC control.
DRAWING No:	TU3 & 4 ELEC.	27-3-12: 10 AMP SWITCH
DESCRIPTION:	WIRING DIAGRAM FOR DIGITAL UNISTAT	13-4-11: CHANGED FROM WIRE COLOURS TO NUMBERS
ISSUE DATE:	19-12-12	21/9/09: CHANGED T/STAT TO MRST



For the blue wire, bundle this wire and the other loose and non terminated wires. Crimp them together with a BP Connection.

Section 4: Power ON



Reconnect the earth wire to the cover of the Unistat. Put the cover back in place it on the Unistat and reinsert the screws to fix it in place.

Section 5: Support and Contact

Repair and Support is available over the telephone Monday through Thursday from 8:30am to 4pm and Friday 8:30am to 2pm. Please contact service@thermoline.com.au for email technical support. You can also visit our website at www.thermoline.com.au for access to additional useful troubleshooting guides, operating manuals, and technical information.

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