WIRE HARNESS REPLACEMENT KIT
USA (P/N 461107) AND AUSTRALIA (P/N 461108)
FOR MASTERTEMP® AND MAX-E-THERM® POOL AND SPA HEATERS

INSTALLATION INSTRUCTIONS

FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS CAN RESULT IN SERIOUS BODILY INJURY OR DEATH. THIS PRODUCT SHOULD BE INSTALLED AND SERVICED ONLY BY A QUALIFIED POOL SERVICE PROFESSIONAL. INSTALLERS, POOL OPERATORS AND OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS IN THE HEATER INSTALLATION AND USER'S GUIDE BEFORE USING THIS PRODUCT. THESE INSTRUCTIONS MUST BE LEFT WITH THE POOL OWNER.

Pentair Water Pool and Spa heater related products are available at:
https://www.pentair.com/en/products/pool-spa-equipment/pool-heaters.html
Call (800) 831-7133 for additional free copies of these instructions.

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS - SAVE THESE INSTRUCTIONS

Wire harness Instructions for USA and Australian heater models

The following instructions describe how to replace the wire harness in a MasterTemp or Sta-Rite pool and spa heater (USA and Australia models) that doesn't have RS-485 communication capability and a legacy Ignition Control Module. If you do not know what Ignition Control Module is installed, please contact customer service at 800.831.7133.

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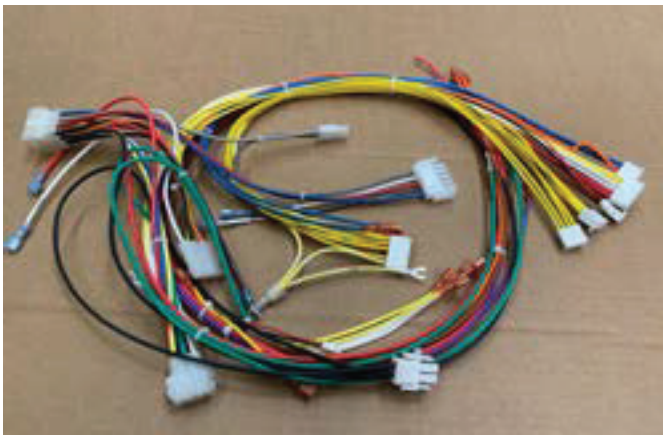
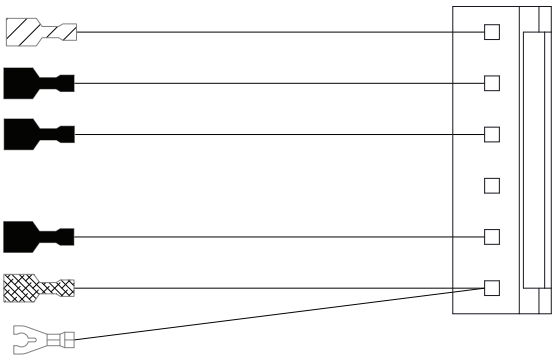
WIRE HARNESS REPLACEMENT INSTRUCTIONS (USA)

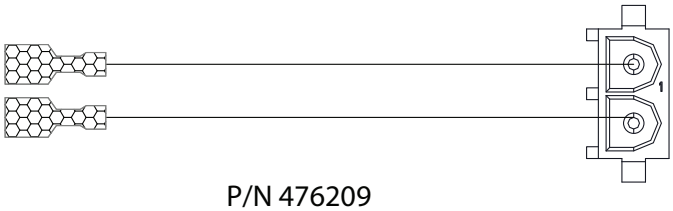


Parts List

P/N	Description	Qty.
466225	WH HRN US W/ FC	1
476204	ADAPT 6 PIN	1
476209	ADAPT F1-F2	1
476212	ADAPT 5 PIN	1
476250	INSTALLATION INSTRUCTIONS	1



P/N 476204



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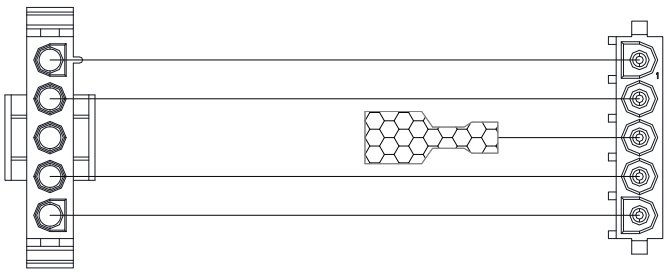
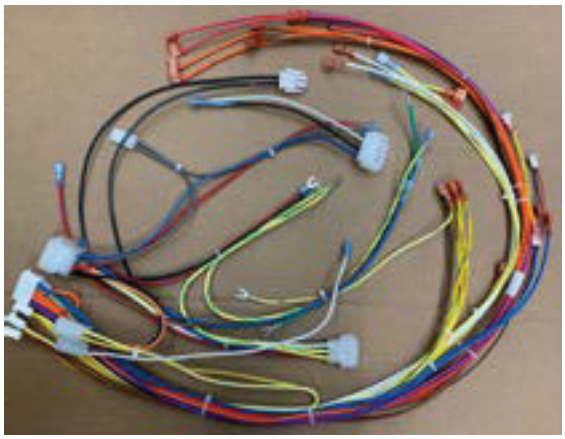
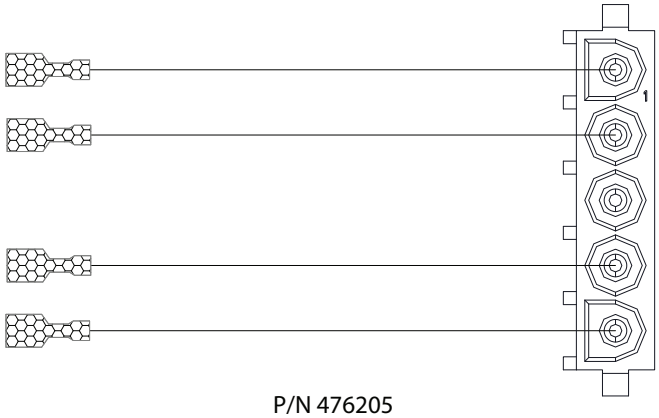


P/N 476212



Parts List

P/N	Description	Qty.
476226	WH HRN AUSTRALIA W/ FC	1
476205	ADAPT 5 PIN FOR AU	1
476250	INSTALLATION INSTRUCTIONS	1



P/N 476205

WIRE HARNESS REPLACEMENT INSTRUCTIONS (USA)

When installing this kit, basic safety precautions should always be followed. Read and follow all instructions.

Required installation tools:

- Powered socket/nut driver
- 1/4" nut driver bit
- 5/16" socket and nut driver
- 3/8" nut driver

CAUTION!: Before unplugging ICM connector plugs, be sure to match the wire identification on both the existing and replacement wire harnesses.

CAUTION! Before starting: Always disconnect AC power to the heater before proceeding with the wire harness replacement instructions.

To replace the wire harness on a MasterTemp® or Max-E-Therm® Heater:

1. **MasterTemp Heater:** Remove right side panel from the heater (Fig. 1 and Fig. 2).

FIG. 1
MasterTemp STD Heater

FIG. 2.
MasterTemp 125 Heater

2. Max-E-Therm Heater: Unbolt the four bolts and separate the jackets halves. Pull hair pin clips. (Fig. 3).
3. Press the plastic clips on the control panel assembly.
4. Lift control panel assembly off of support plate.
5. Disconnect the connectors from the control panel assembly.

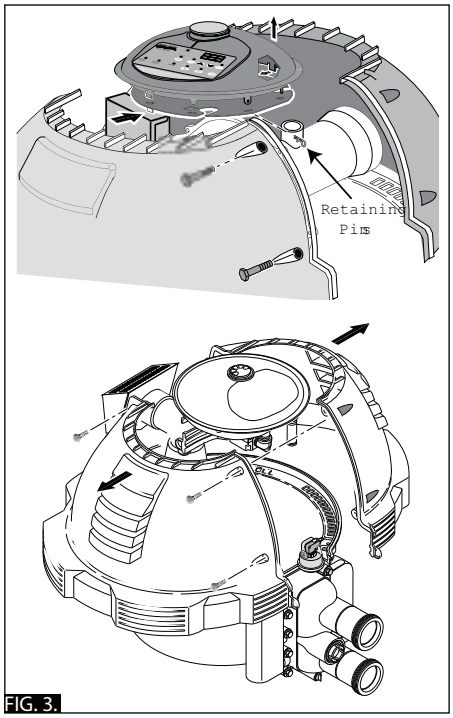


FIG. 3.
Max-E-Therm Heater

6. LEGACY WIRE HARNESS (USA) (P/N 42001-0104): Disconnect all connector plugs and wires from all heater components. Remove the wire harness from the heater.
7. Install wire harness (USA) (P/N 476221): BEFORE YOU START, LAY OUT THE WIRING HARNESS.
8. Route the 12-pin plug in the control box from the back. The plug is shown from inside the control box. Note: Narrow key hole in the upper right corner of the plug. (Fig. 4).

FIG. 4.

9. Connect the 5-pin plug into the ICM from the new wire harness as shown in Fig 21. If the heater has the legacy ICM. Connect the 5-pin wire adapter (476205) to the corresponding terminals in the ICM (S1/120, L1, L2 and S2). Connect the female multi-pin connector of the adapter to the new wire harness. (Fig. 5).

FIG. 5.

7. Install the bushing in the top of the control box. Use (Fig. 6)

FIG. 6.

8. Route the Red and Green wires into the Control Box through the bottom hole. Plug the Fireman's jumper into the terminal board. Install bushing. Note: The plugs are shown in the control box and the Fireman's jumper installed. (Fig. 7).

FIG. 7

9. If the heater has a legacy ICM, connect each wire from P/N 476204 wire adapter to its correct location labeled in the ICM. Otherwise, connect the multi-pin connector from the Wire Harness to lower right side of ICM as shown in Fig 8.

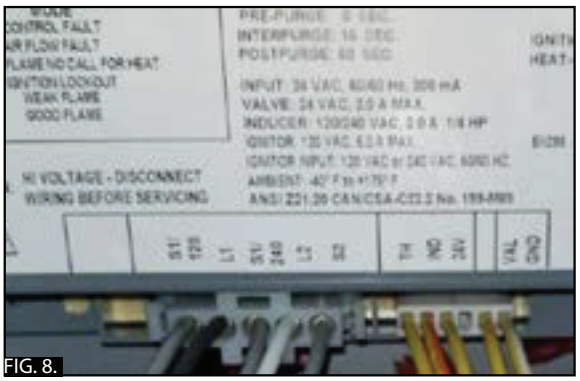


FIG. 8.

10. Connect the Stack Flu sensor. (Fig. 10)

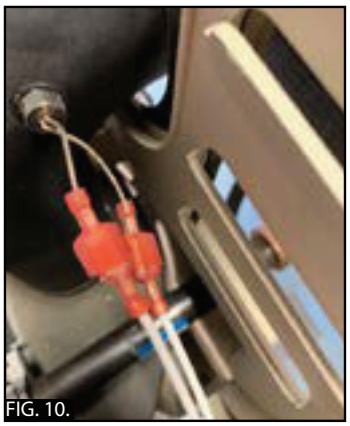


FIG. 10.

11. Connect the Gas Valve. (Fig. 11).

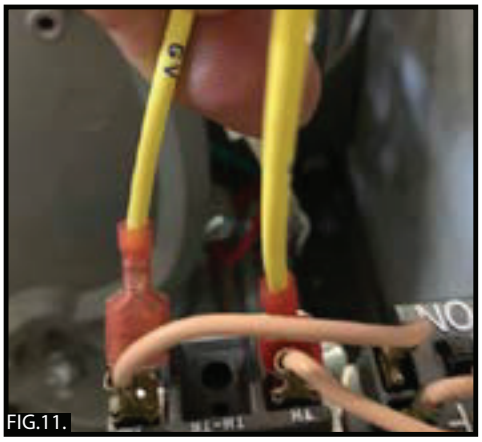


FIG.11.

12. Connect the Blower assembly. (Fig. 12).

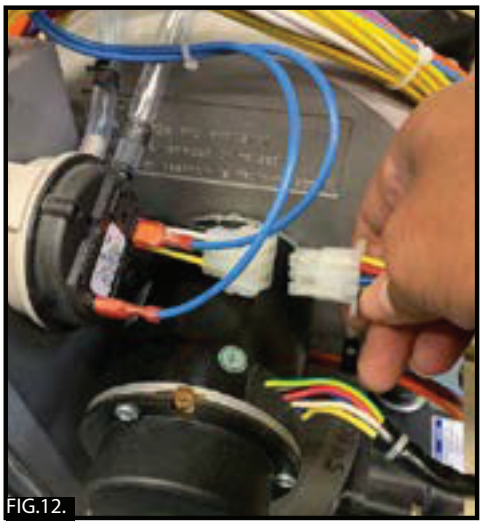


FIG.12.

13. Connect the Air Flow Switch. (Fig. 13).

FIG. 13.

14. Connect wires to terminal board connections. Match wire identification with terminal marking. (Fig. 14).

FIG. 14.

15. From outside the Control Box, push the clip through its hole in the back of the box. (Fig. 15).

FIG. 15.

16. Connect F1 and F2 plug into the ICM. If the heater has the legacy ICM, connect the 2-pin wire adapter (476209). Connect the other end of the (476209) adapter to the wiring harness. (Fig. 16).

FIG. 16.

17. Connect 5-pin plug into the ICM from the wire harness. If the heater has the legacy ICM. Connect the 5-pin wire adapter (476212) to the corresponding terminal in the ICM (lower left side). Connect the other end of the adapter to the corresponding wires in the wire harness.
(Fig. 17).

FIG. 17.

18. Mount the bundle of wires on the blower. Plug in the blower motor. (Fig. 18).

FIG. 18.

19. Plug in the transformer. (Fig. 19).

FIG. 19.

20. Route wires (HL, AGS, WP) to the manifold. (Fig. 20).

FIG. 20.

21. Connect the Thermistor sensor and High Limit Switch. Note: The Thermistor sensor is located at the top of the manifold. The High Limit switch is located at the bottom of the manifold. (Fig. 21).

FIG. 21.

22. Connect the Water Pressure Switch and AGS switch. The AGS is located on the right side. (Fig. 22).

FIG. 22

23. Plug the harness into the back of the circuit board. (Fig. 23).

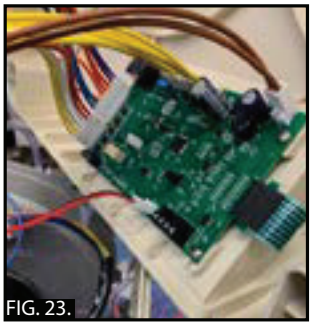


FIG. 23.

24. If the heater does not have an RS-485 port on the circuit board, you may discard the RED and BLACK cable that came with the wiring harness. (Fig. 24).

FIG. 24.

25. Reassemble the heater control panel assembly. Be sure that the control panel can be adjusted without having to lean over the exhaust vent.

WIRE HARNESS REPLACEMENT INSTRUCTIONS (AUSTRALIA)

When installing this kit, basic safety precautions should always be followed. Read and follow all instructions.

Required installation tools:

- Powered socket/nut driver
- 1/4" nut driver bit
- 5/16" socket and nut driver
- 3/8" nut driver

CAUTION!: Before unplugging ICM connector plugs, be sure to match the wire identification on both the existing and replacement wire harnesses.

CAUTION! Before starting: Always disconnect AC power to the heater before proceeding with the wire harness replacement instructions.

To replace the wire harness on a MasterTemp® or Max-E-Therm® Heater:

1. **MasterTemp Heater:** Remove right side panel from the heater (Fig. 1 and Fig. 2).

FIG. 1.
MasterTemp STD Heater

FIG. 2.
MasterTemp 125 Heater

2. Max-E-Therm Heater: Unbolt the four bolts and separate the jackets halves. Pull hair pin clips. (Fig. 3).
3. Press the plastic clips on the control panel assembly.
4. Lift control panel assembly off of support plate.
5. Disconnect the connectors from the control panel assembly.

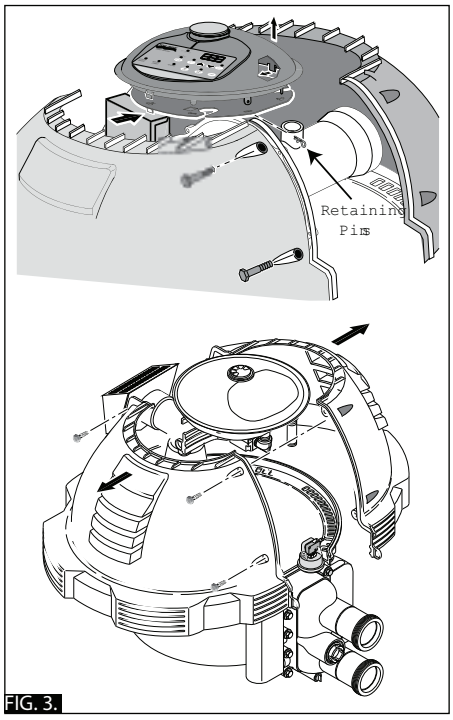


FIG. 3.
Max-E-Therm Heater

6. LEGACY WIRE HARNESS (USA) (P/N 42001-0104): Disconnect all connector plugs and wires from all heater components. Remove the wire harness from the heater.
7. Install wire harness (USA) (P/N 476221):BEFORE YOU START, LAY OUT THE WIRING HARNESS.
8. Place the 12-pin plug in the control box from the back. The plug is shown from outside the control box. Note: narrow key in upper right corner of plug. (FIg. 4)

FIG. 4.

9. Put the Flat-5 pin plug, 2-pin plug and multi-pin connector into the control box. Install the bushing if the heater has a new control board (with an RS-485 port connection. Also, put the Flame current cable into the control box. (Fig. 5).

FIG. 5.

10. Route the Red and Green wires into the Control Box through the bottom hole. Plug the Fireman's jumper into the terminal board. Install bushing. Note: The plugs are shown in the control box and the Fireman's jumper installed. (Fig. 6).

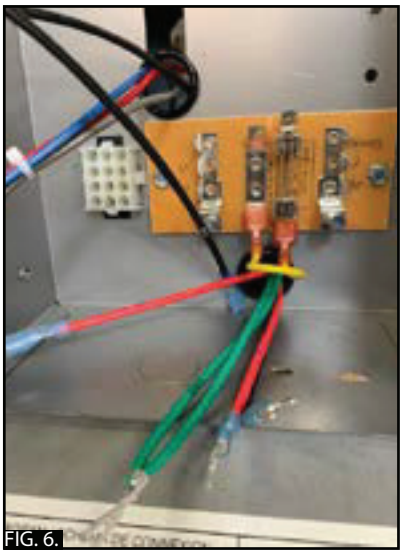


FIG. 6.

11. Connect 5-pin plug to the lower left side of the ICM. Connect the S1/240 gray wire to the left side of the 5-pin plug. (Fig. 7).

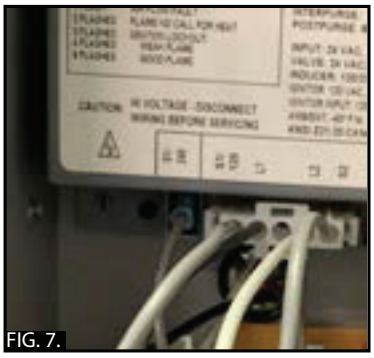


FIG. 7.

12. Connect wires to terminal board connections. Match wire identification with terminal marking. (Fig. 8).

FIG. 8.

13. Connect 240VAC gray cable with ¼" female terminal to ¼" tab at the lower left side of ICM. (Fig. 9)

FIG. 9.

14. Connect the Blue/Yellow wire to TH ¼" tab at ICM. (Fig. 10).

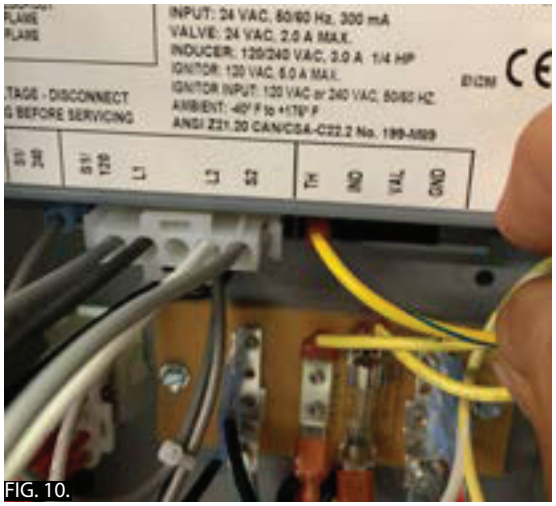


FIG. 10.

15. Connect the Orange/Yellow wire to IND ¼" tab at ICM. (Fig. 11).

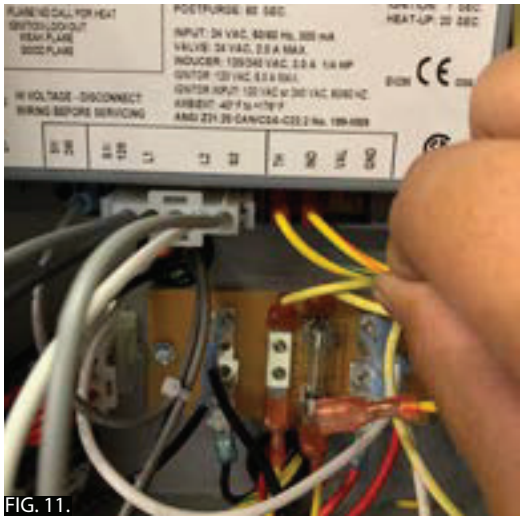


FIG. 11.

16. Connect the Red/yellow wire to VAL ¼" tab at the ICM. (Fig. 12).

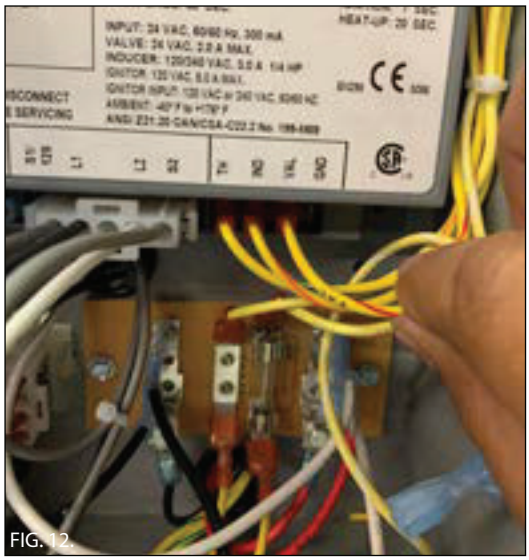


FIG. 12.

17. Connect the White/Yellow wire to GND ¼" tab at the ICM. (Fig. 13).

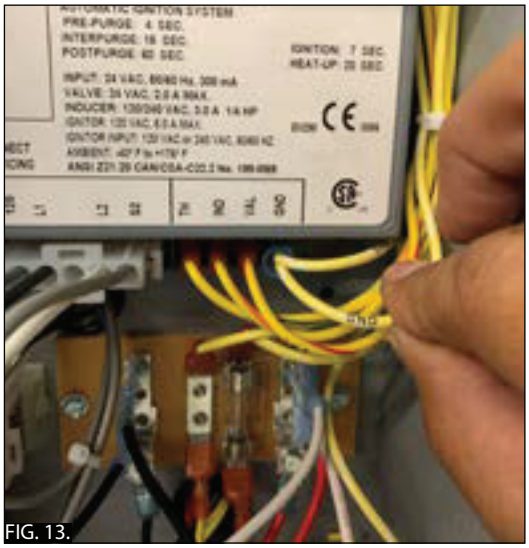


FIG. 13.

18. Connect the 24 VAC plug at the upper right side as shown in Fig. 14.

FIG. 14.

19. From outside the Control Box, push the clip through its hole in the back of the box. (Fig. 15).

FIG. 15.

20. Connect the 2 pin adapter wire to F1 and F2 at the ICM. Connect the other end of the 476209 adapter to the wiring harness. (Fig. 16).

FIG. 16.

21. Connect the 5-pin plug into the ICM from the new wire harness as shown in fig 17. If the heater has the legacy ICM. Connect the 5-pin wire adapter (476205) to the corresponding terminals in the ICM (s1/120, L1, L2 and S2). Connect the female multi pin connector of the adapter to the new wire harness. (Fig. 17).

FIG. 17.

22. Mount the bundle on the blower plug in the blower motor. (Fig. 18).

FIG. 18.

23. Plug in the transformer. (Fig. 19).

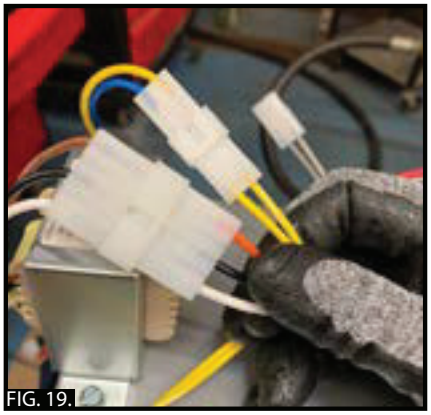


FIG. 19.

24. Run wires (HL, AGS, WP, etc) to the manifold. (Fig. 20).

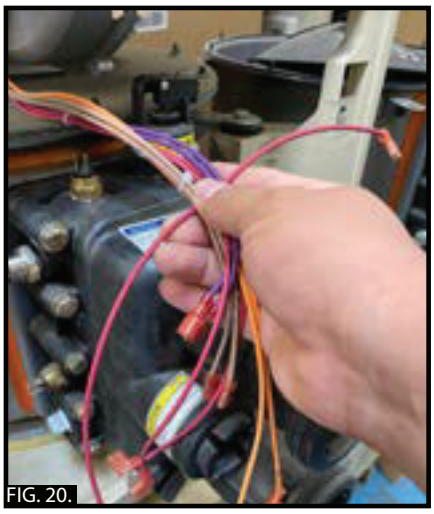


FIG. 20.

25. Connect the Thermistor sensor and High Limit Switch. Note: The Thermistor sensor is located at the top of the manifold. The High Limit switch is located at the bottom of the manifold. (Fig. 21).

FIG. 21.

26. Connect the Water pressure switch, High limit switch (45°) in the top port of the manifold and the AGS switch located on the right side of the manifold. (Fig 22).

FIG. 22.

27. Plug the harness into the back of the board. (Fig. 23.)

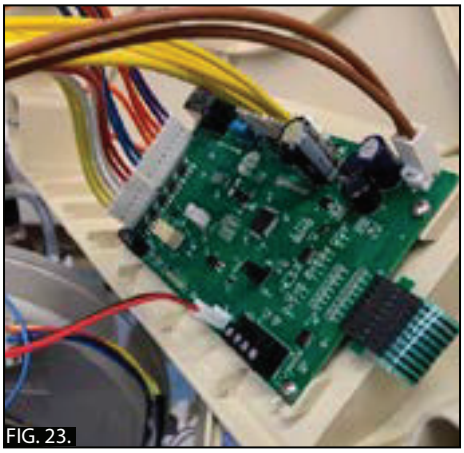


FIG. 23.

28. If the heater does not have an RS-485 port on the circuit board, you may discard the RED and BLACK cable that came with the wiring harness. (Fig. 24).

FIG. 24.

29. Reassemble the heater control panel assembly. Be sure that the control panel can be adjusted without having to lean over the exhaust vent.

30. Connect the Stack Flu sensor. (Fig. 25).

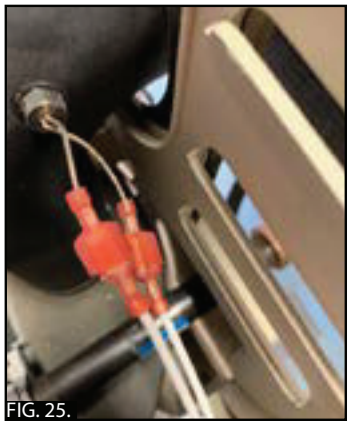


FIG. 25.

31. Connect the Gas Valve. (Fig. 26.).

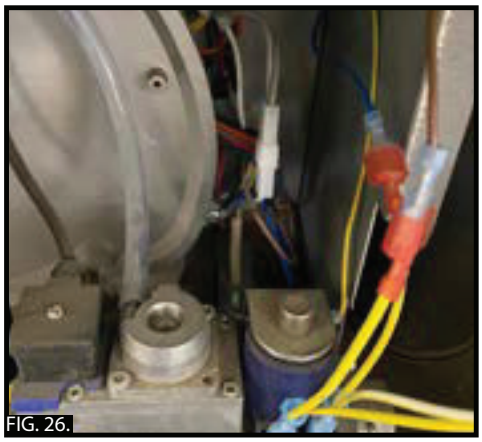


FIG. 26.

32. Connect the Air Flow Switch. (Fig. 27).

FIG. 27.

33. Connect the cables that supply power to the heater. (Fig. 28).

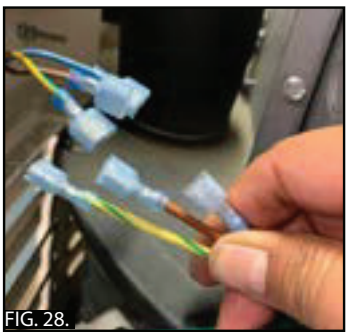


FIG. 28.

34. Reassemble the heater control panel assembly. Be sure that the control panel can be adjusted without having to lean over the exhaust vent.

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