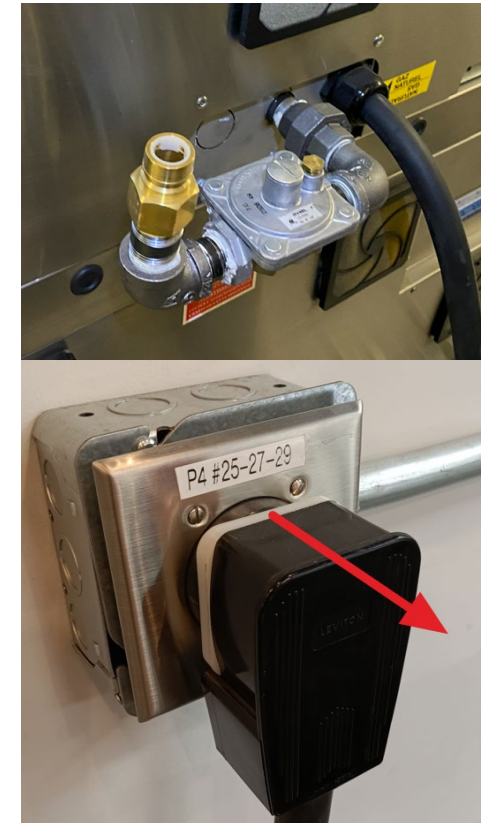


VOLCANO CHANGE 120V HOT SURFACE TO 24 V SPARK IGNITION SYSTEM

Step 1

Shut off main power switch and disconnect plug from the wall.

Shut off or unplug gas.

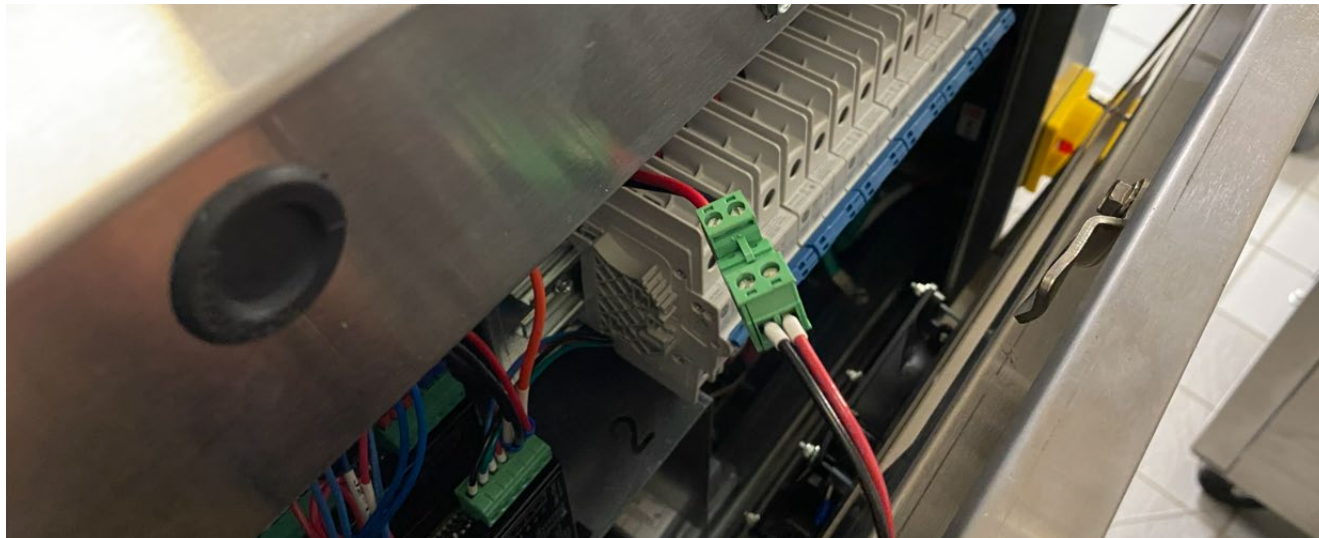


Step 2

Remove rear panel.

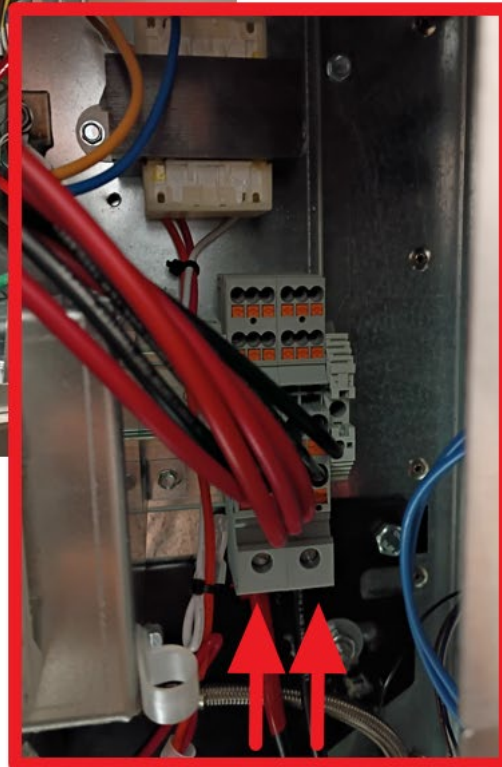
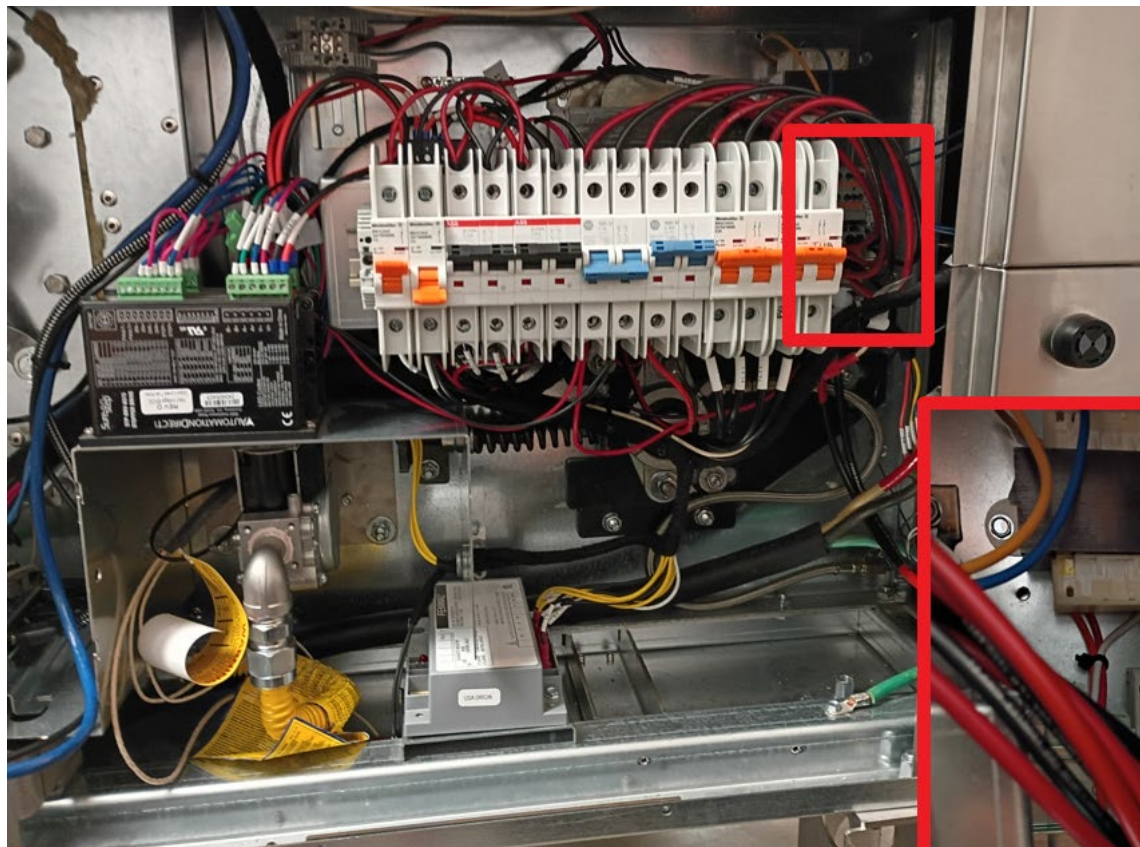
Be careful

Unplug the cooling fan connector before removing completely the panel*** .



Step 3

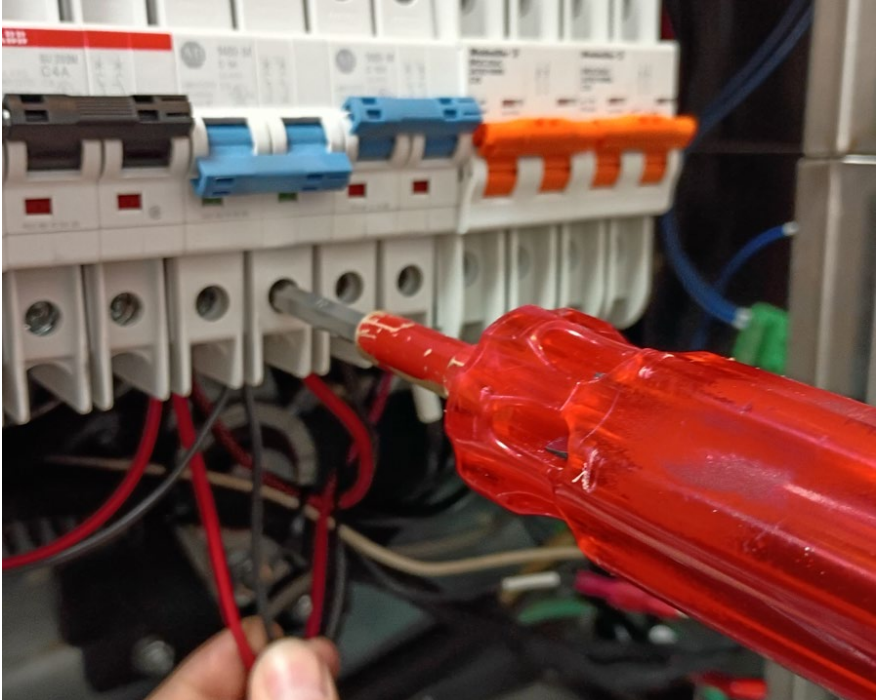
Locate main power distribution terminal bloc and ensure it is oriented with input wire upside down as shown.



Step 4



Unplug both 24 VAC blue & yellow output from transformer 4L21 & 4L12 on TR1 harness branch.

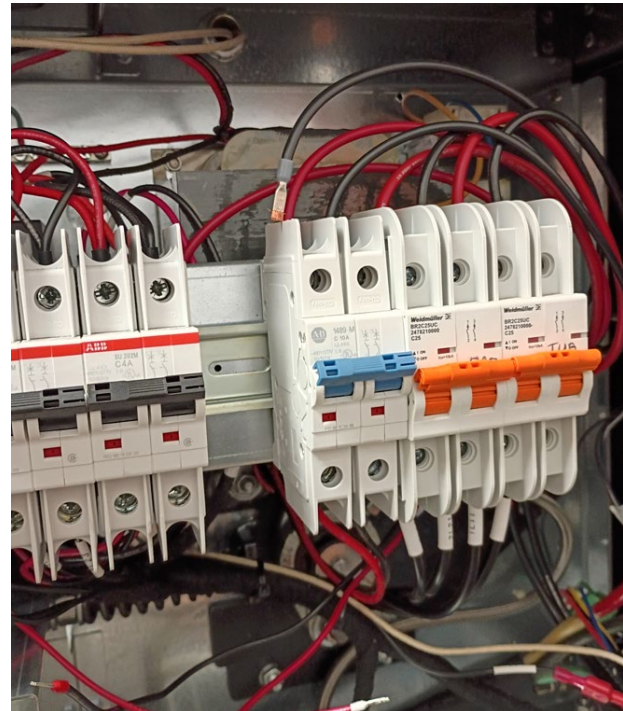


Unplug all input and output wires from the 1A transformer breaker CB4.

Step 5

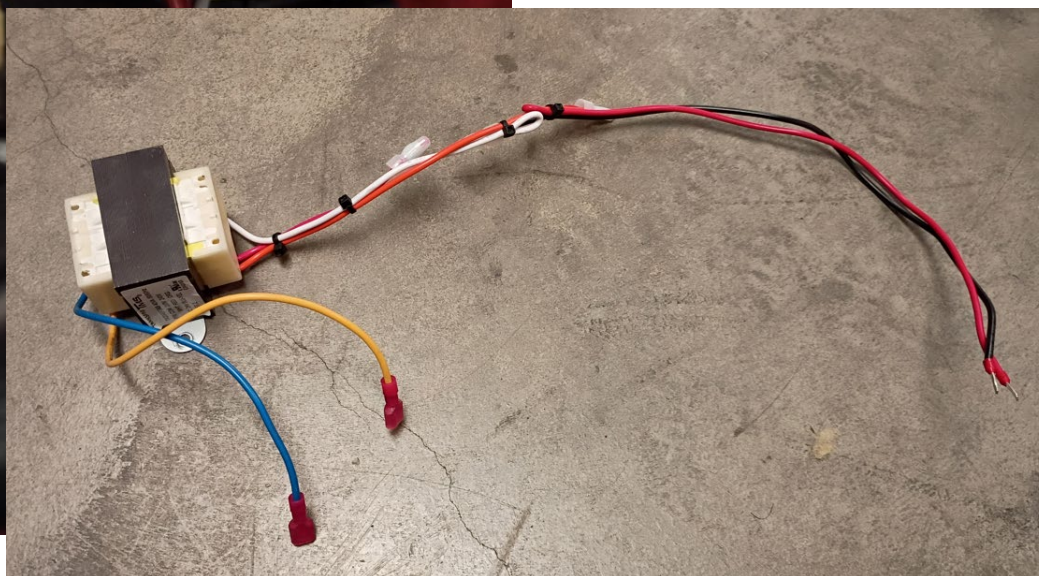
Remove the 1A breaker.

Use a small flat screw driver to pull out the underneath tab to disengage breaker.



Step 6

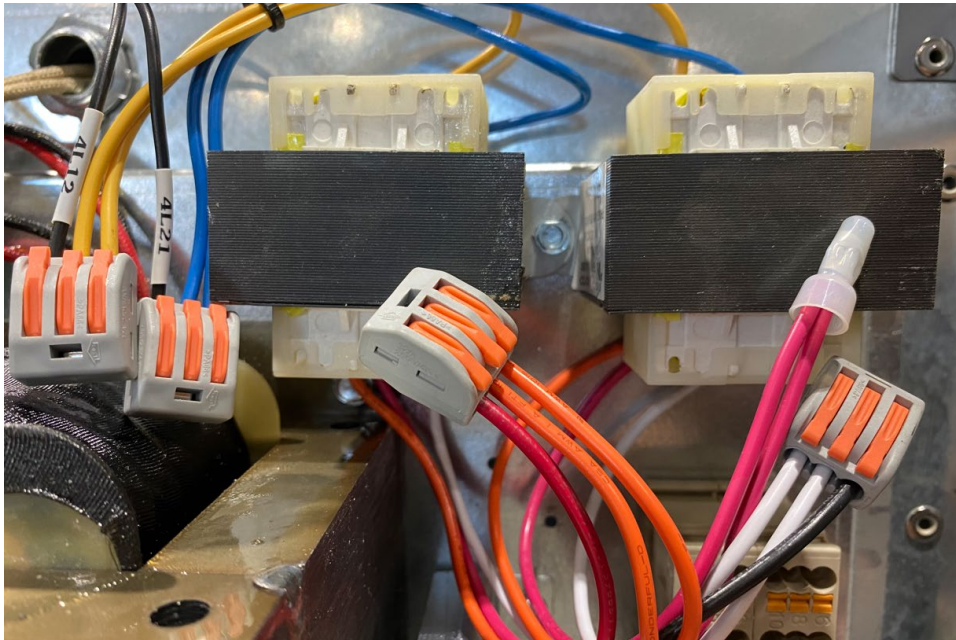
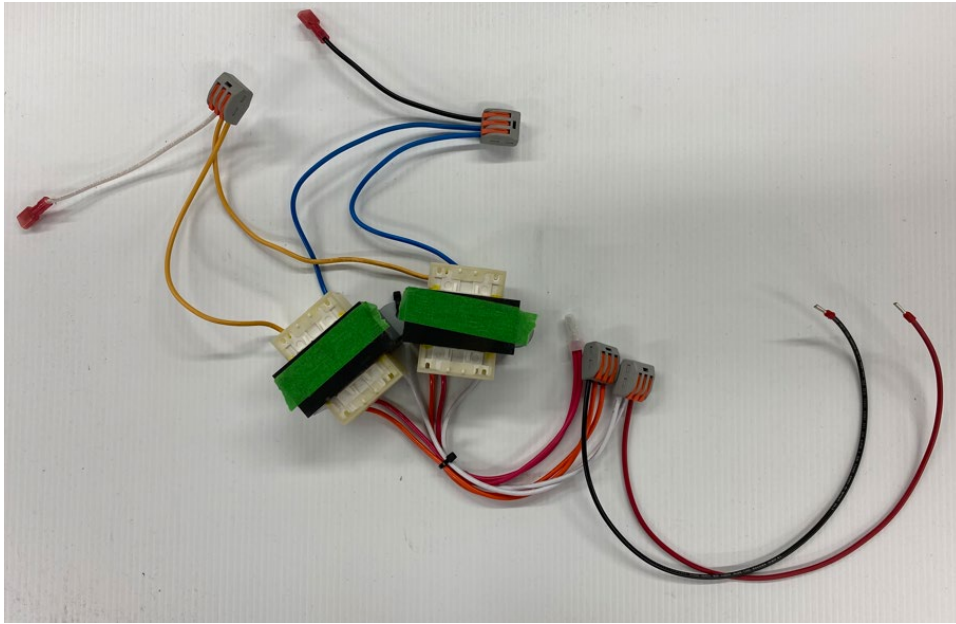
Remove the 24 VAC transformer by removing both selftap screws.



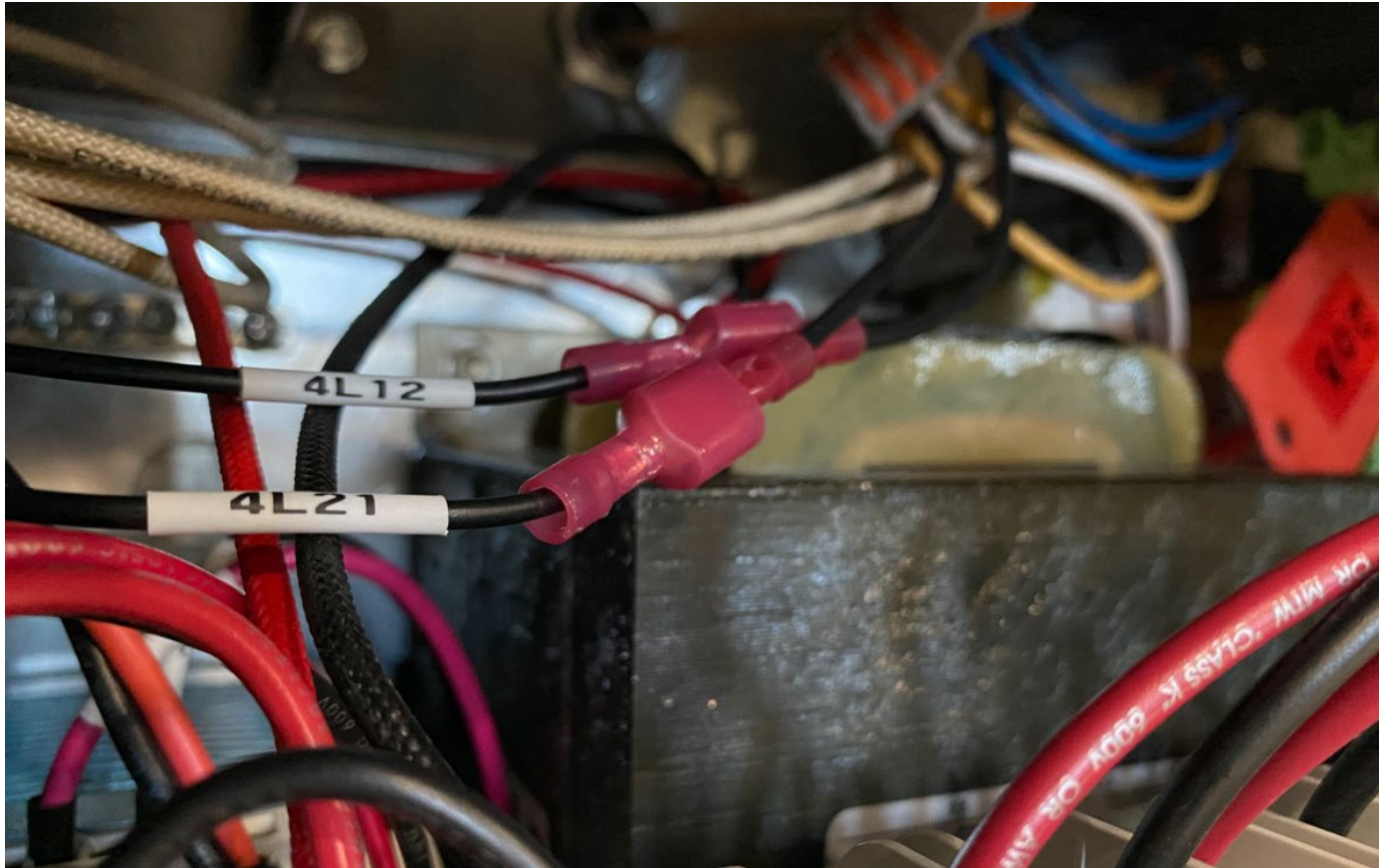
Step 7

New transformers are already prewired as shown. HR06-0029-A

Install the new transformers with new selftaping screws in the same corner than the previous one as shown. Transformer can be tilted for easiest installation.



Step 8



Plug both 24 VAC output transformer connectors to 4L12 & 4L21 wires.

- 4L12 should be plugged on neutral white & yellow wires.
- 4L21 should be plugged on hot black & blue wires.

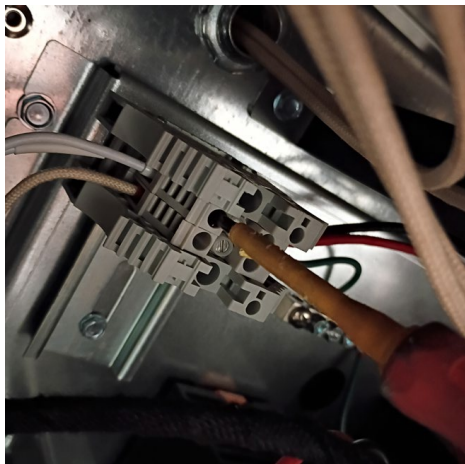
Step 9

Unscrew black wire 3L25 from the 3A breaker.

Unscrew white wire 3L0 from terminal bloc

These wires and breaker will not be used anymore but can be keep in place.

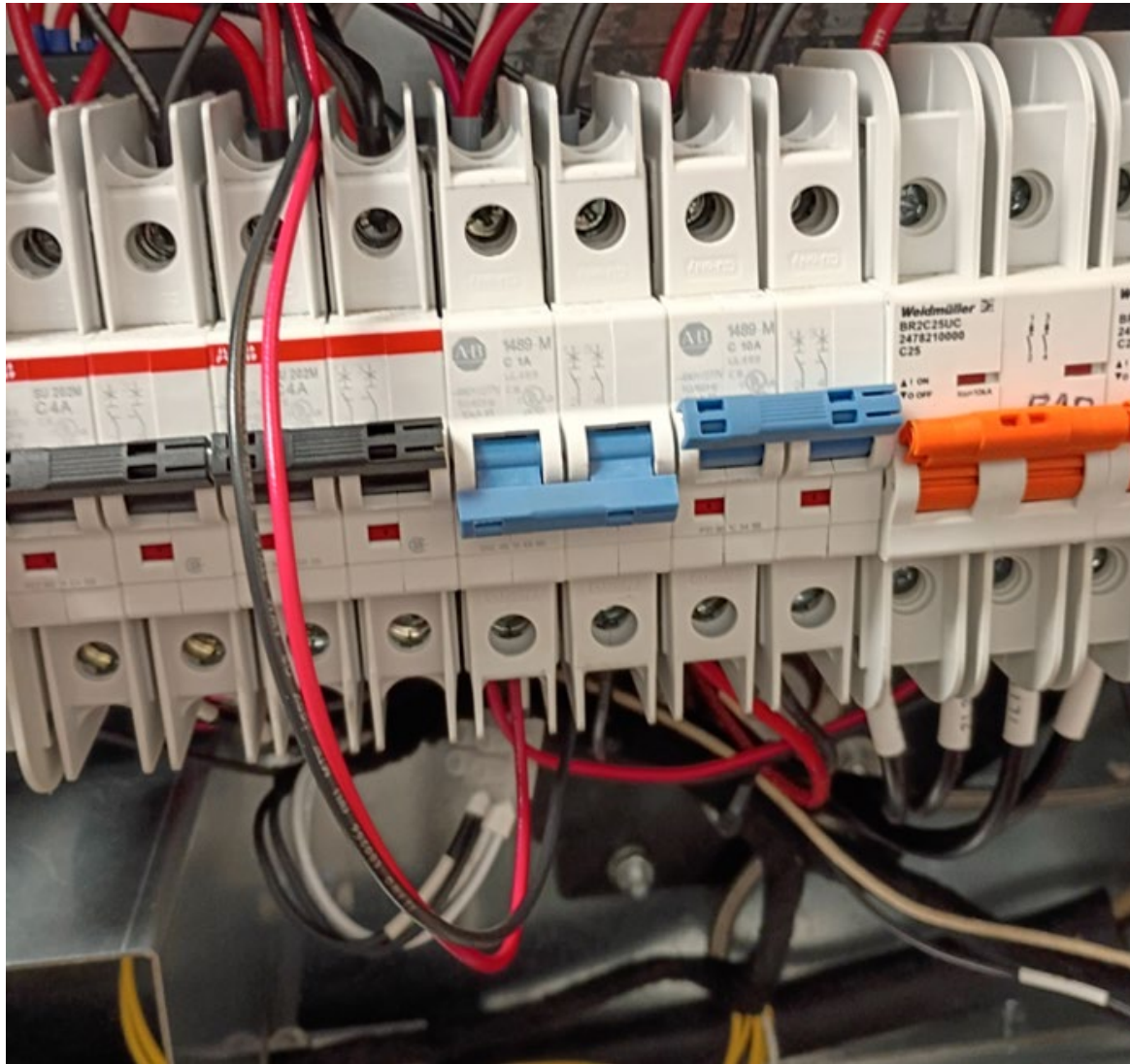
Isolate the 3L25 and 3L0 wires with crimped pig tail terminals.



Step 10

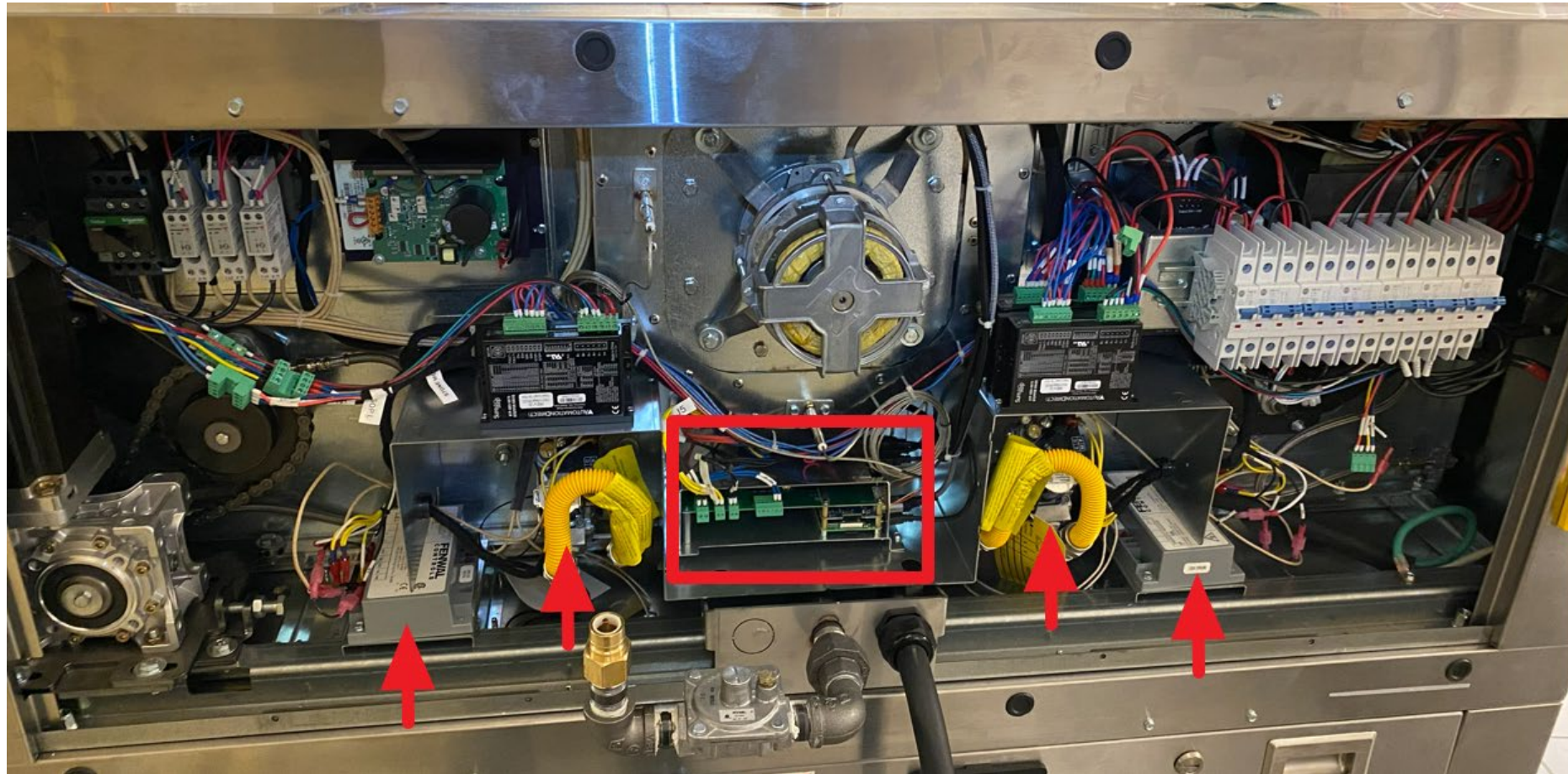
Install the new 2A breaker.

- Input on top.
- Output on bottom to the new 24 VAC transformer red and black wires. Don't forget cooling fan wires too in the same breaker output.



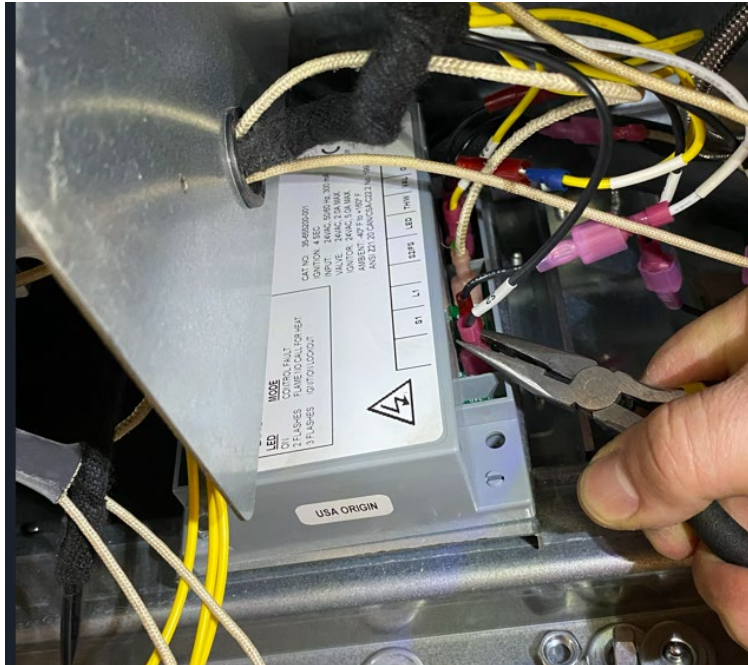
Step 11

Locate burners, ignition module and control board.



Step 12

Remove ignition modules



Before disconnect all wires from the ignition module be sure they are identified:

- 1MV or 2MV (Main Valve)
- 24VAC+
- 24GND

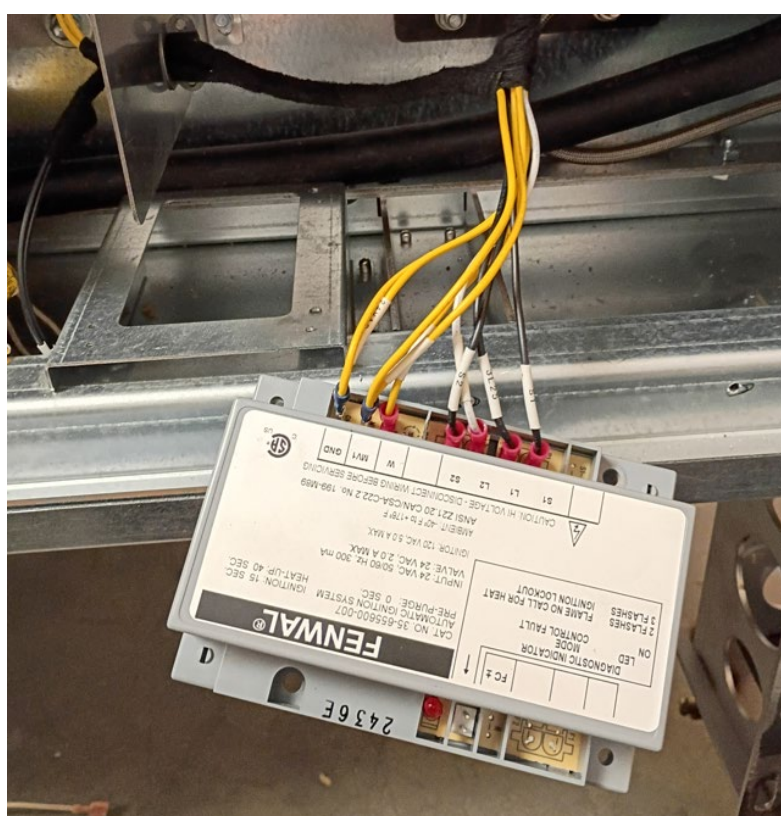
If not identify them with marking tape.

Keep only yellow wires. Use a zip tie to wrap the other ones away. They not going to be used anymore.

Step 13

Unscrew and remove the ignition module.

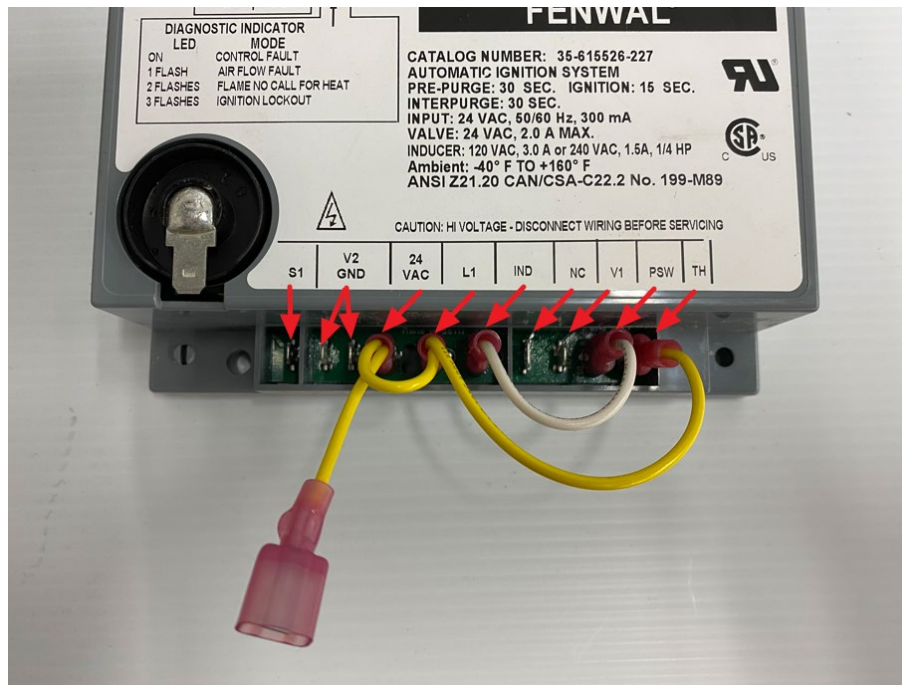
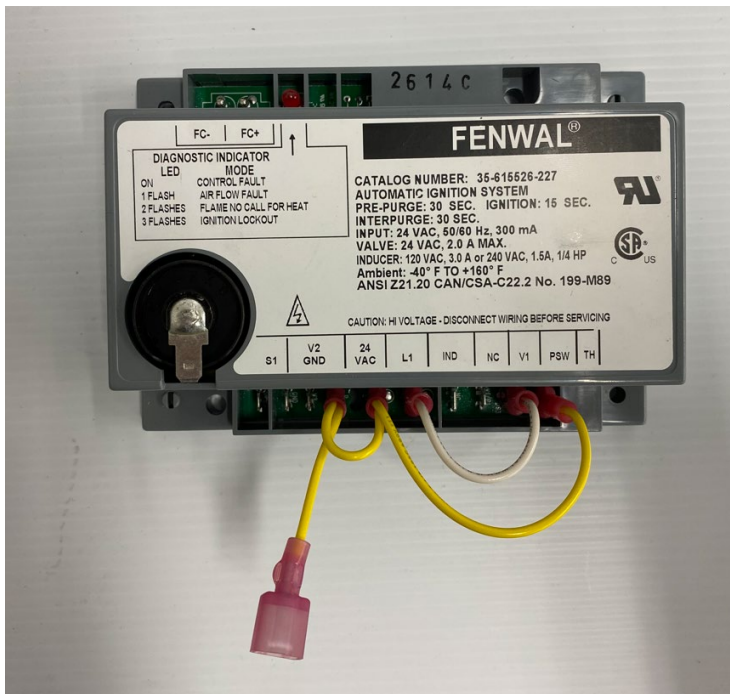
Repeat previous steps to remove the second ignition module.



Step 14

Replace old ignition modules by the new spark ignition control modules 24 VAC.

These new modules are easily recognizable with their spark coil.

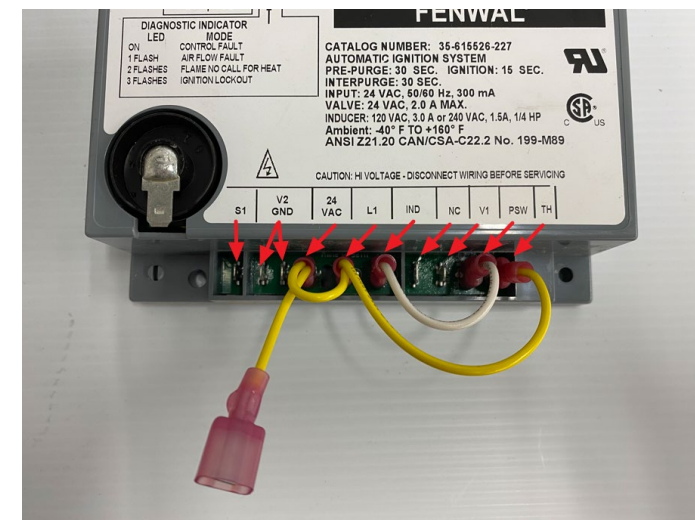


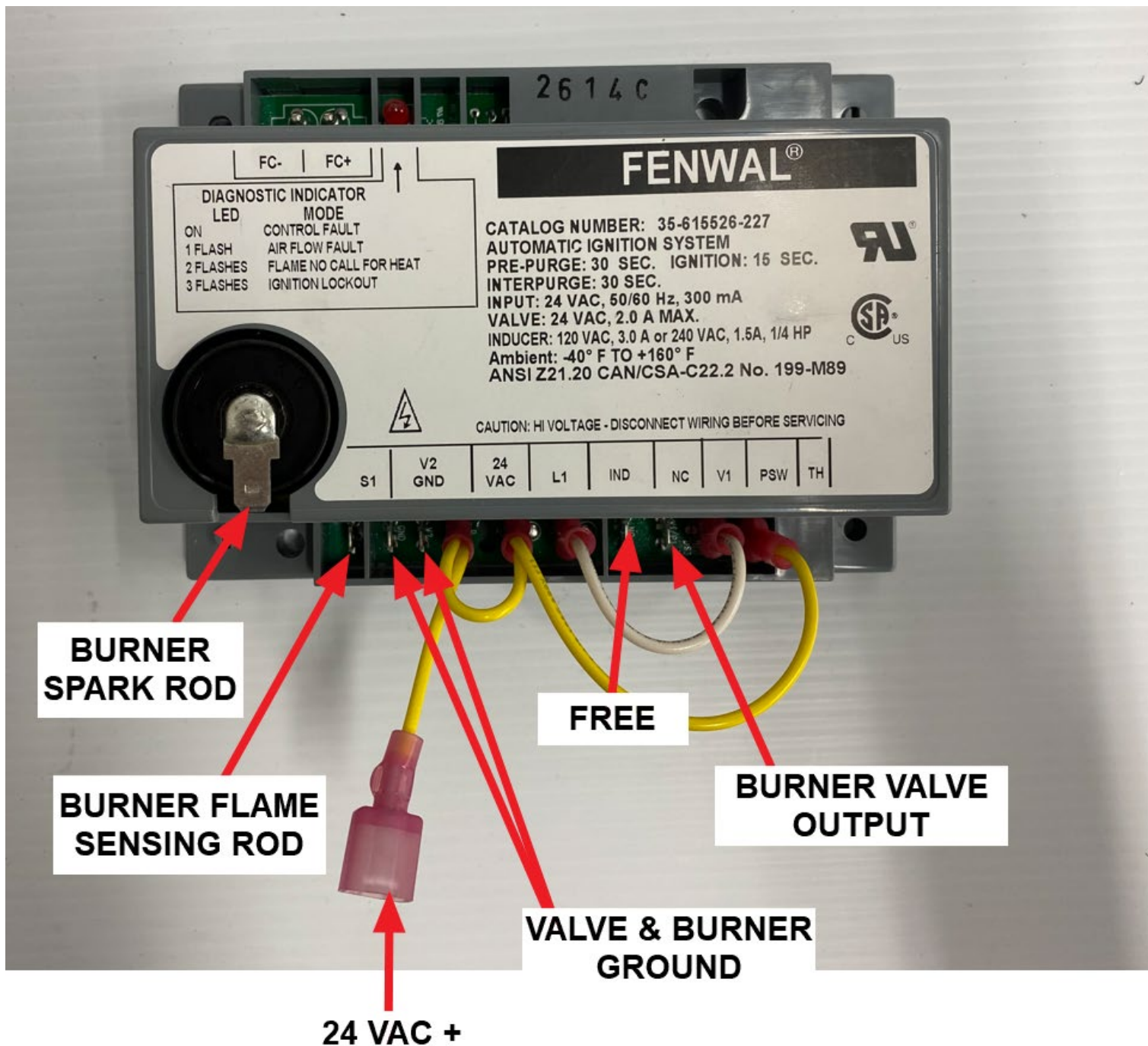
Use selftaping screws to hold it in place.

New ignition module come already prewired with replacement connector.

Be careful identifications are not aligned with connectors

Wires ident.	Ignition module ident.
SPARK IGNITOR <i>Biggest spark plug silicon wire (magnetic suppression core EMI resistant wire) with large female terminal</i> <i>from burner</i>	Top spark coil
FLAME SENSE <i>red silicon wire with small female terminal</i> <i>from burner</i>	S1
1MV1/2MV1	V1
24VAC+	On pre-jumped wiring 24 VAC, L1 & TH
24GND	V2 GND
Burner GND micamat wire <i>from burner</i>	V2 GND
Do not plug	NC free





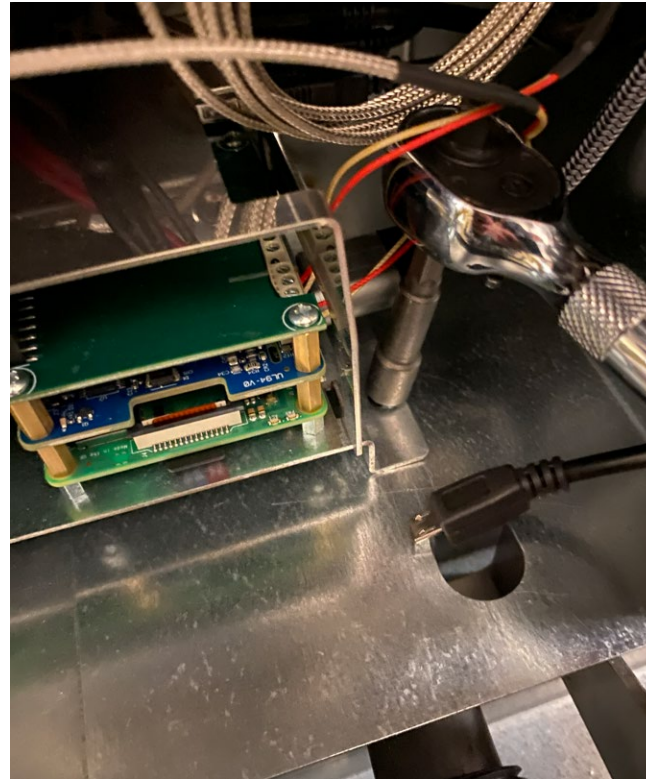
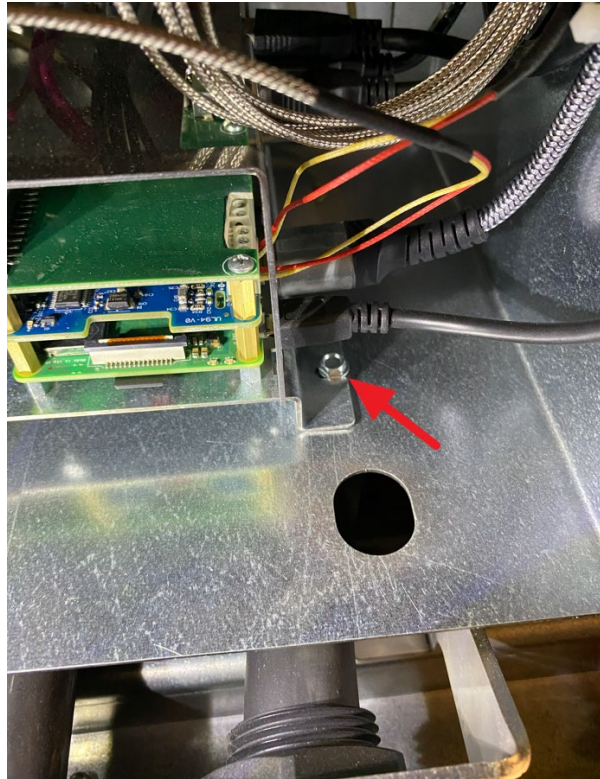
Step 15



Repeat previous steps to install the second ignition module.

Step 16

Remove control board



Unscrew the retaining selftapping screw.

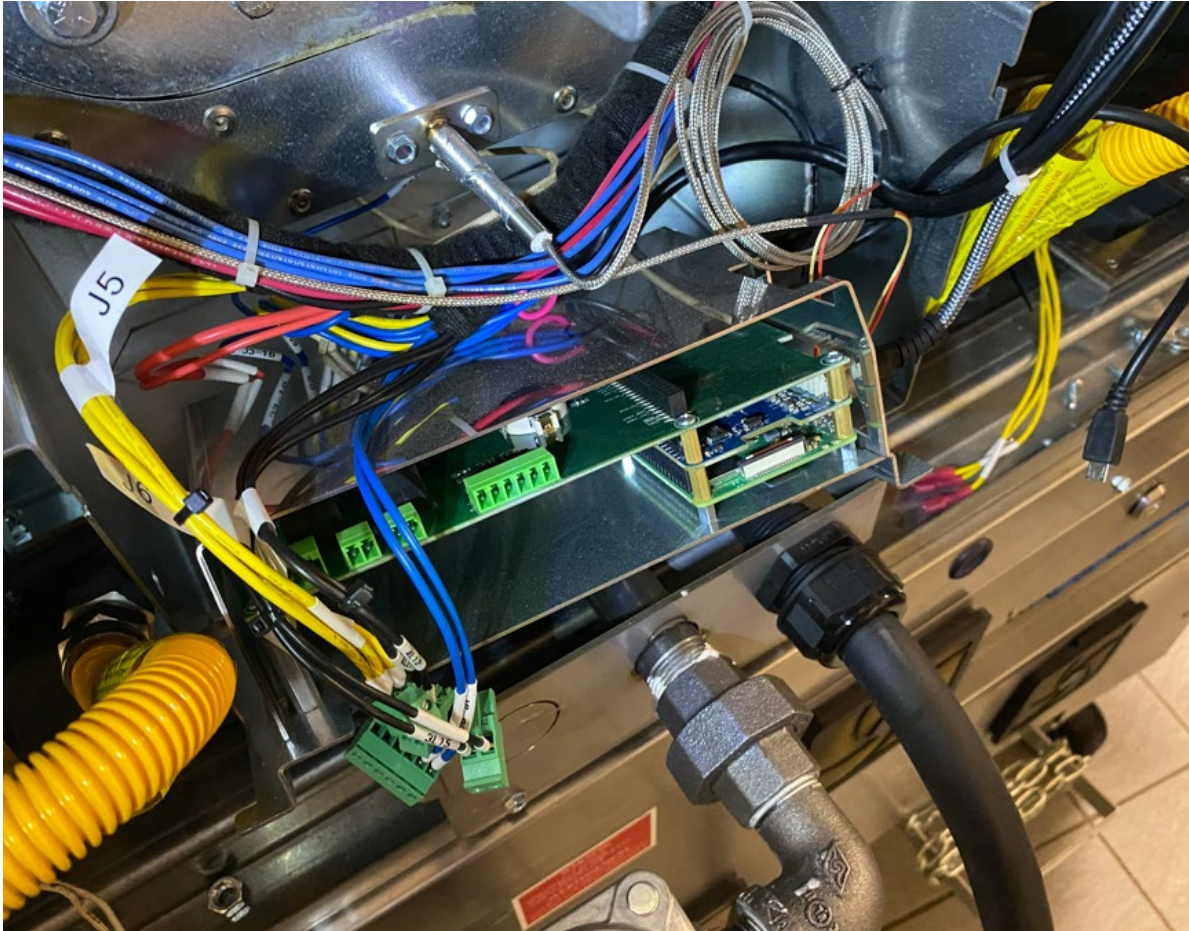
Step 17

This cable shown can be discarded. It not going to be used anymore.



Step 18

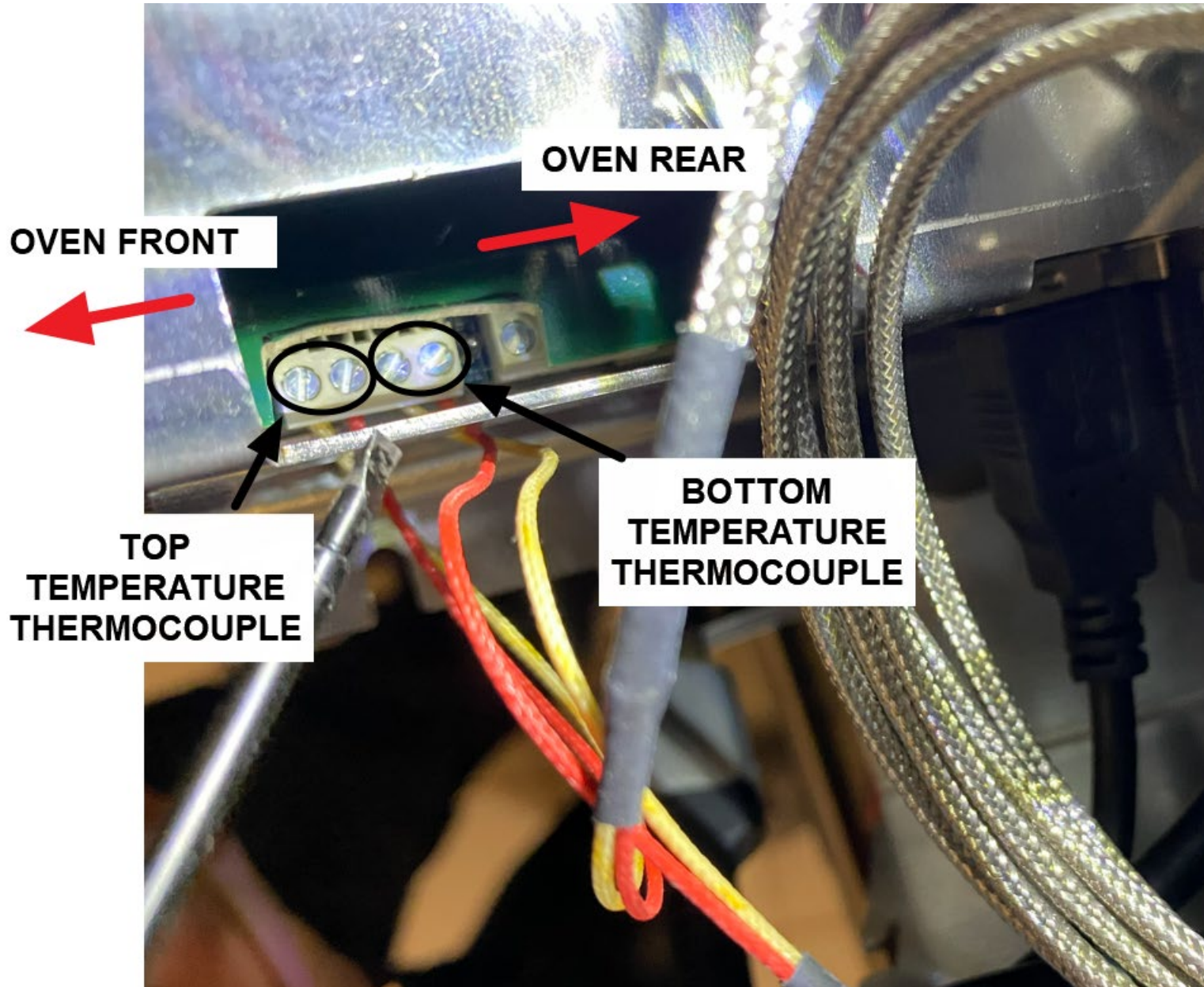
Remove all connectors from the board in front and behind.



Step 19

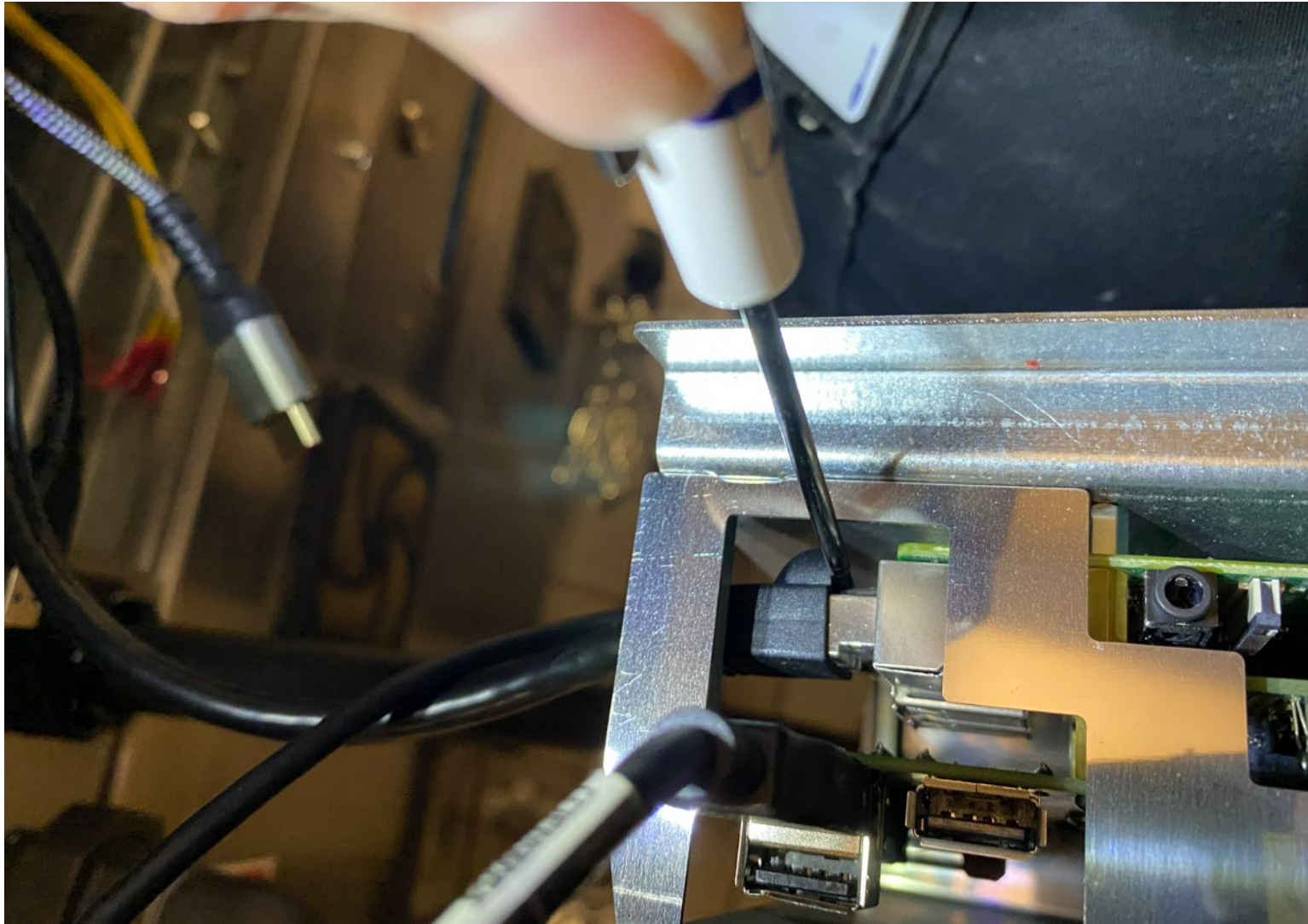
Use a small screwdriver to unscrew the thermocouple wires.

If thermocouple wires are not accessible, cut the wires and splice the tip for reinstallation.



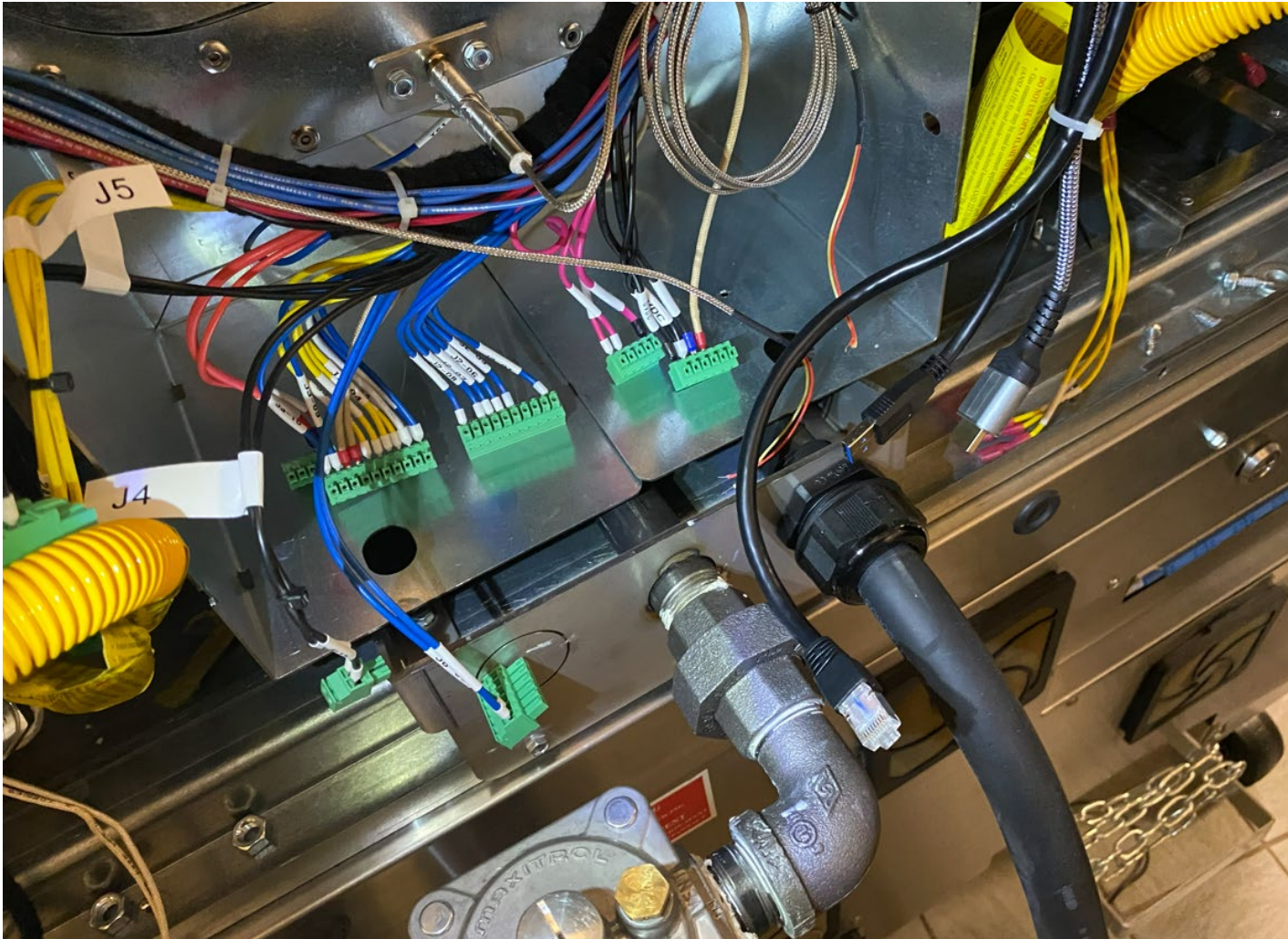
Step 20

Use a small screw driver from the side to remove the rear ethernet cable. This cable will not be used anymore. Use a zip tie to keep it attach somewhere.



Step 21

Remove the control board



Step 22

Re-install the new control board which is an improved version resistant to electromagnetic interference and ready with new spark igniter program.



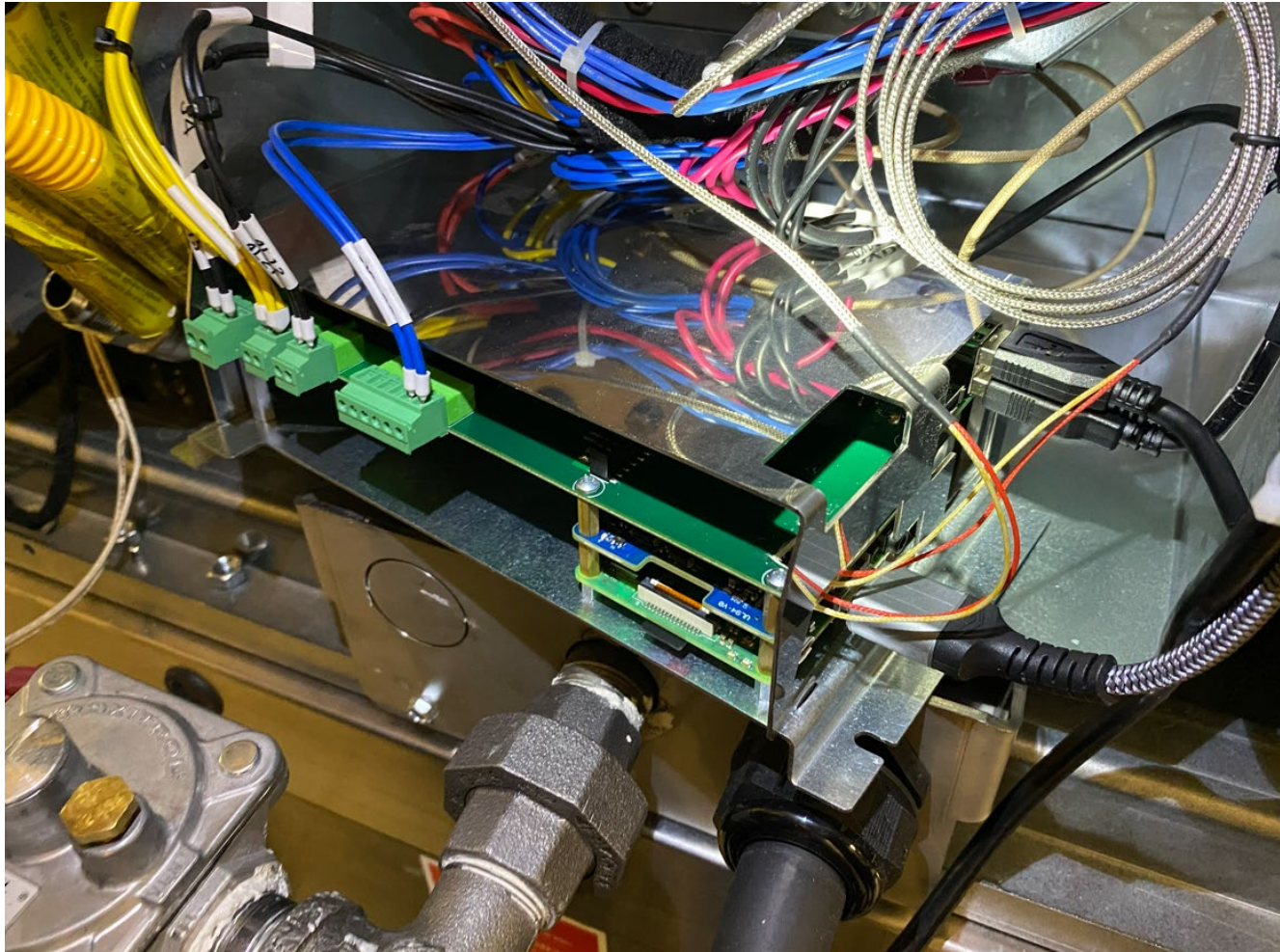
Step 23

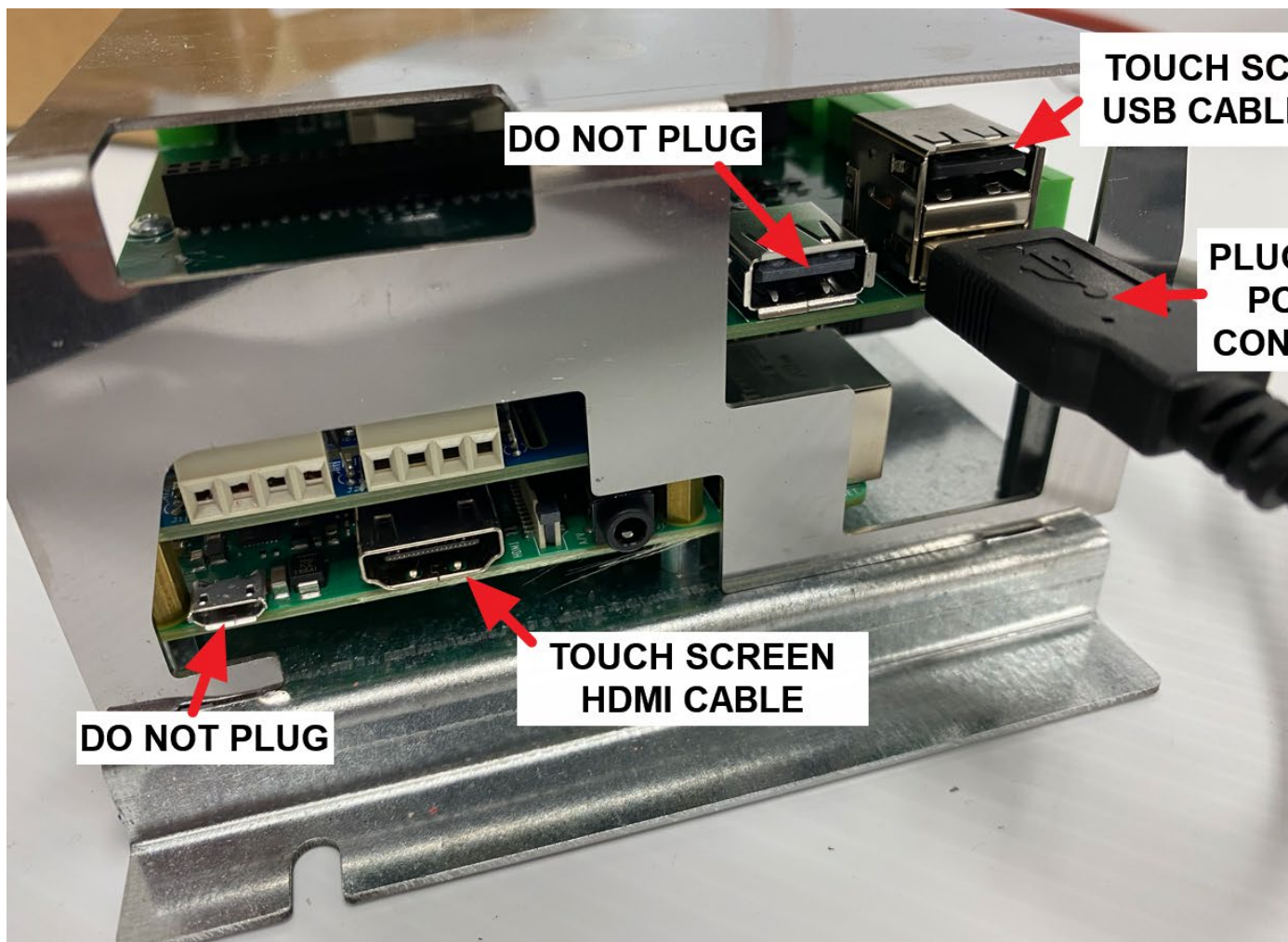
Plug all connectors on the new control board.

Don't forget to screw back the thermocouple wires.

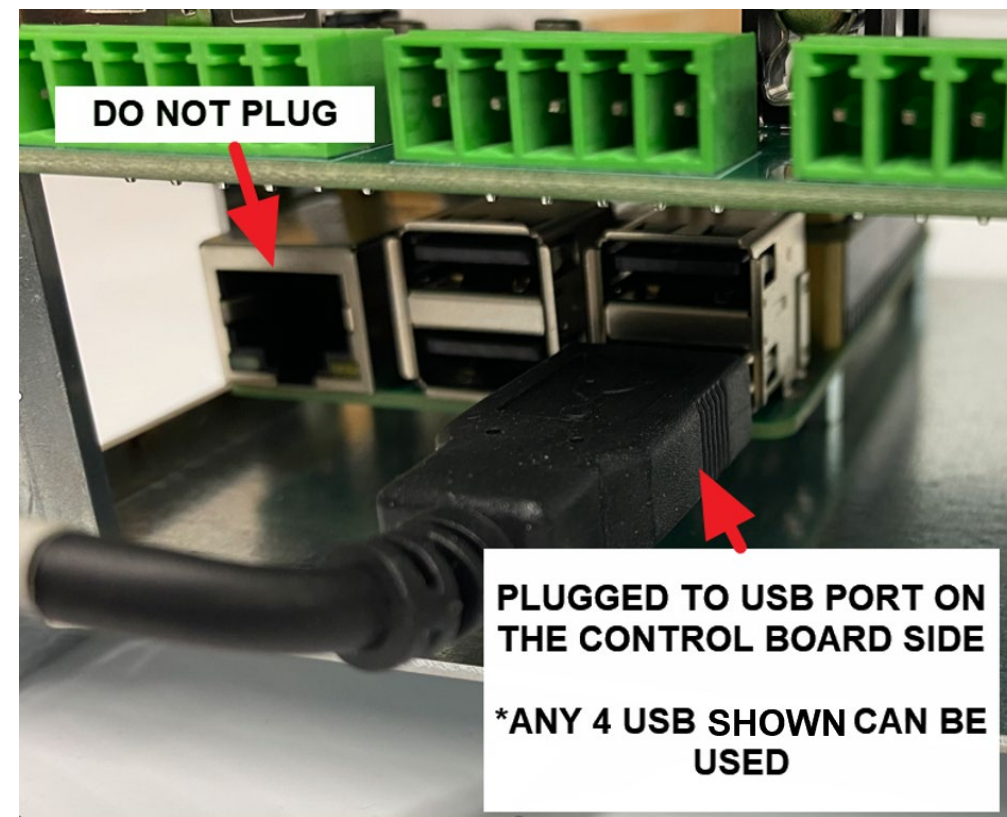
- Top sensor → First from the front (ident 0)
- Bottom sensor → Second from the front (ident 1).

Yellow wire first from front, red wire second behind.



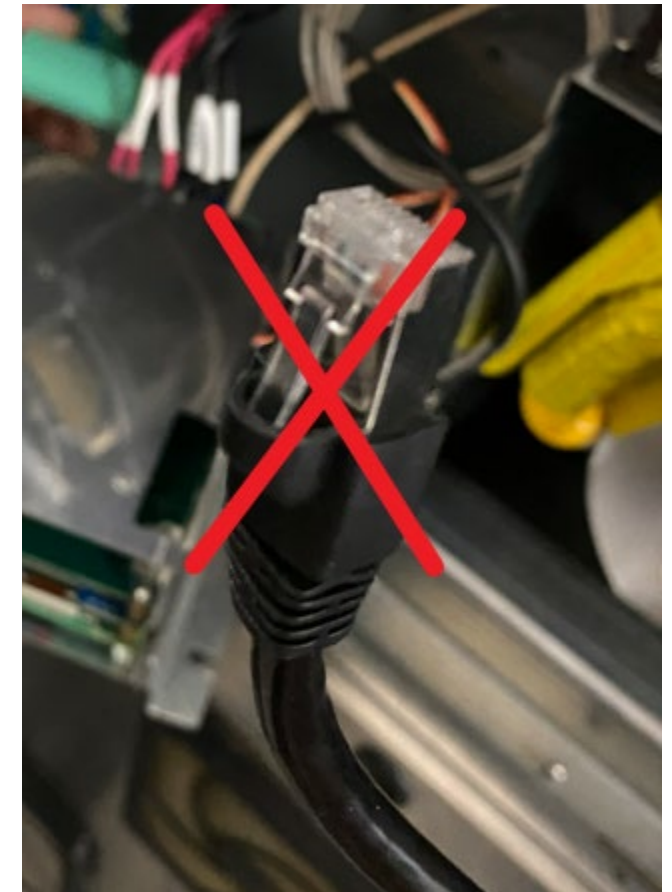
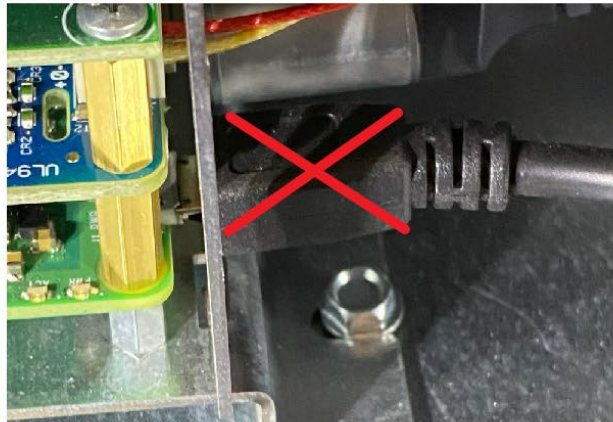
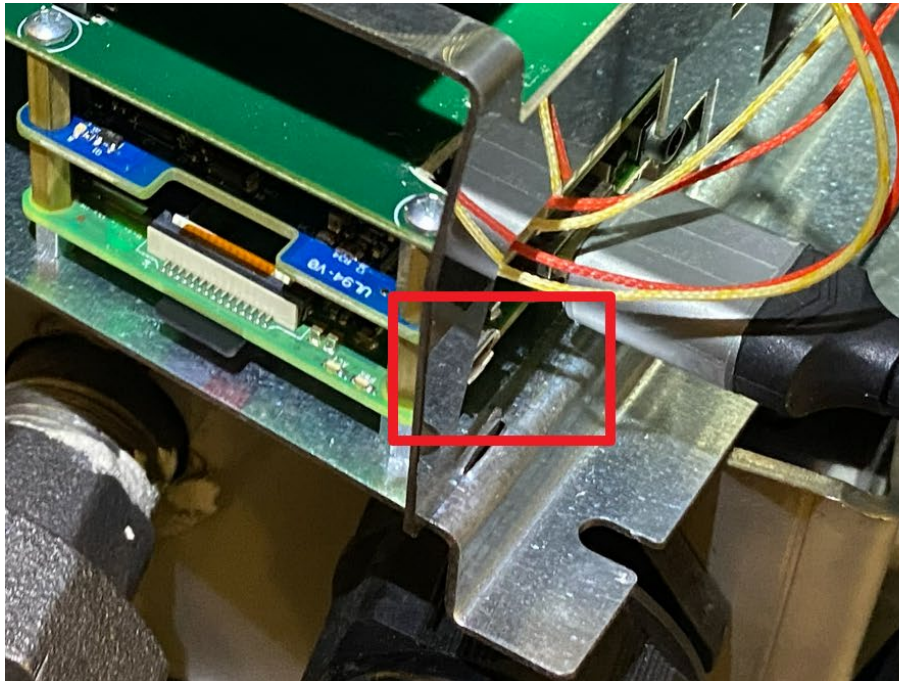


See pictures for HDMI
and USB connections
location



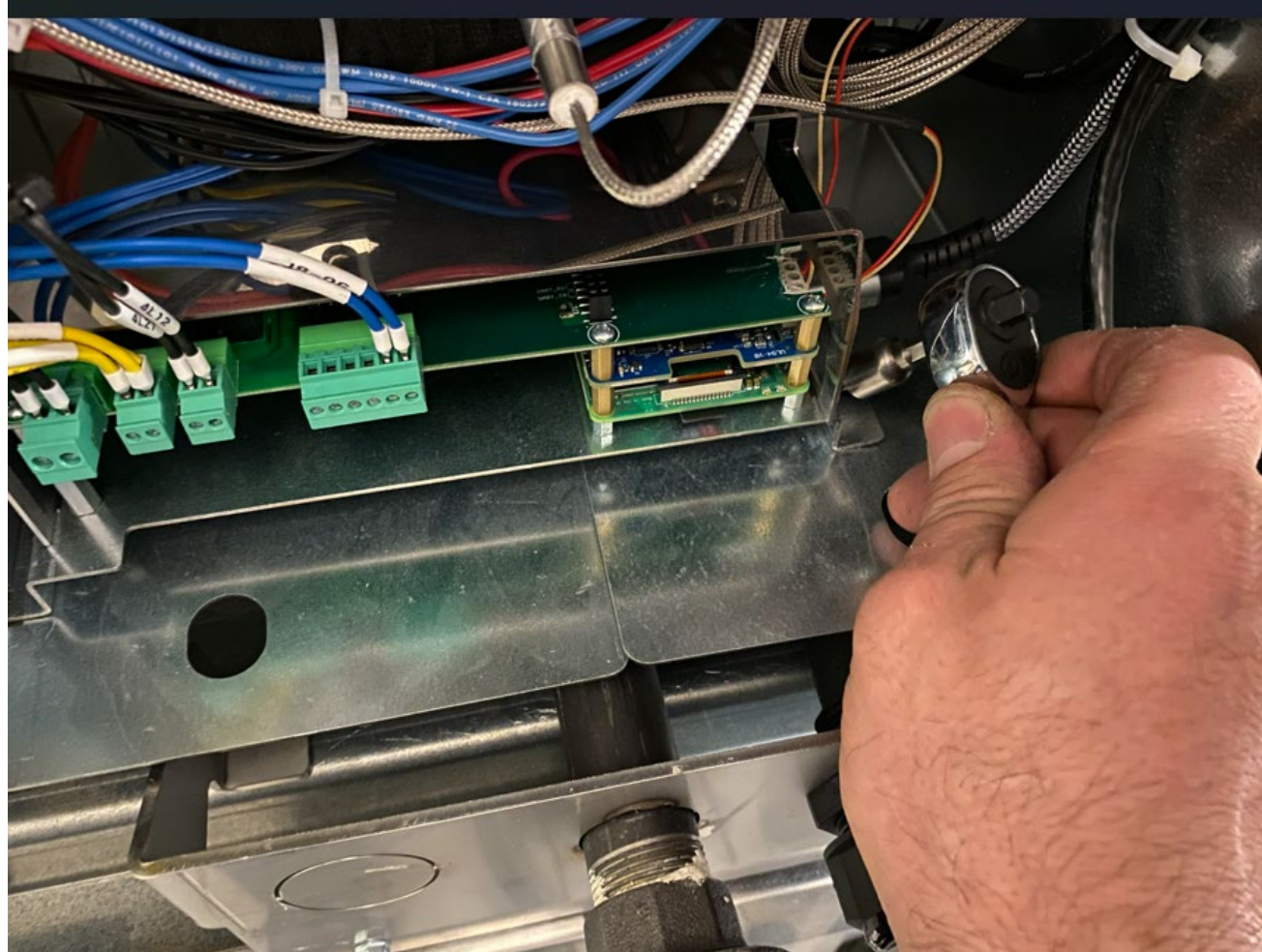
Step 24

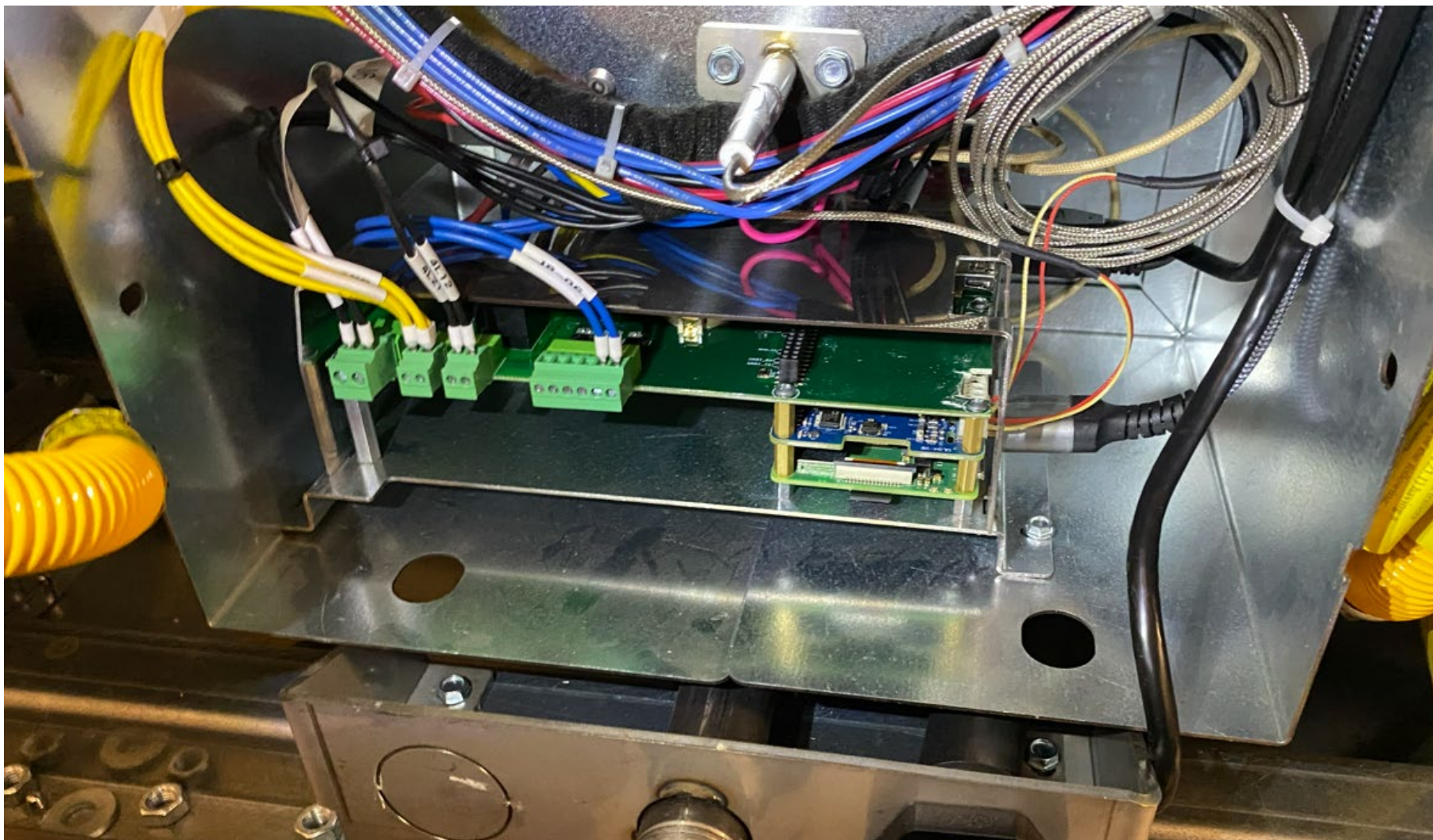
Remember to avoid plugging the unnecessary ethernet cable and micro USB cable.



Step 25

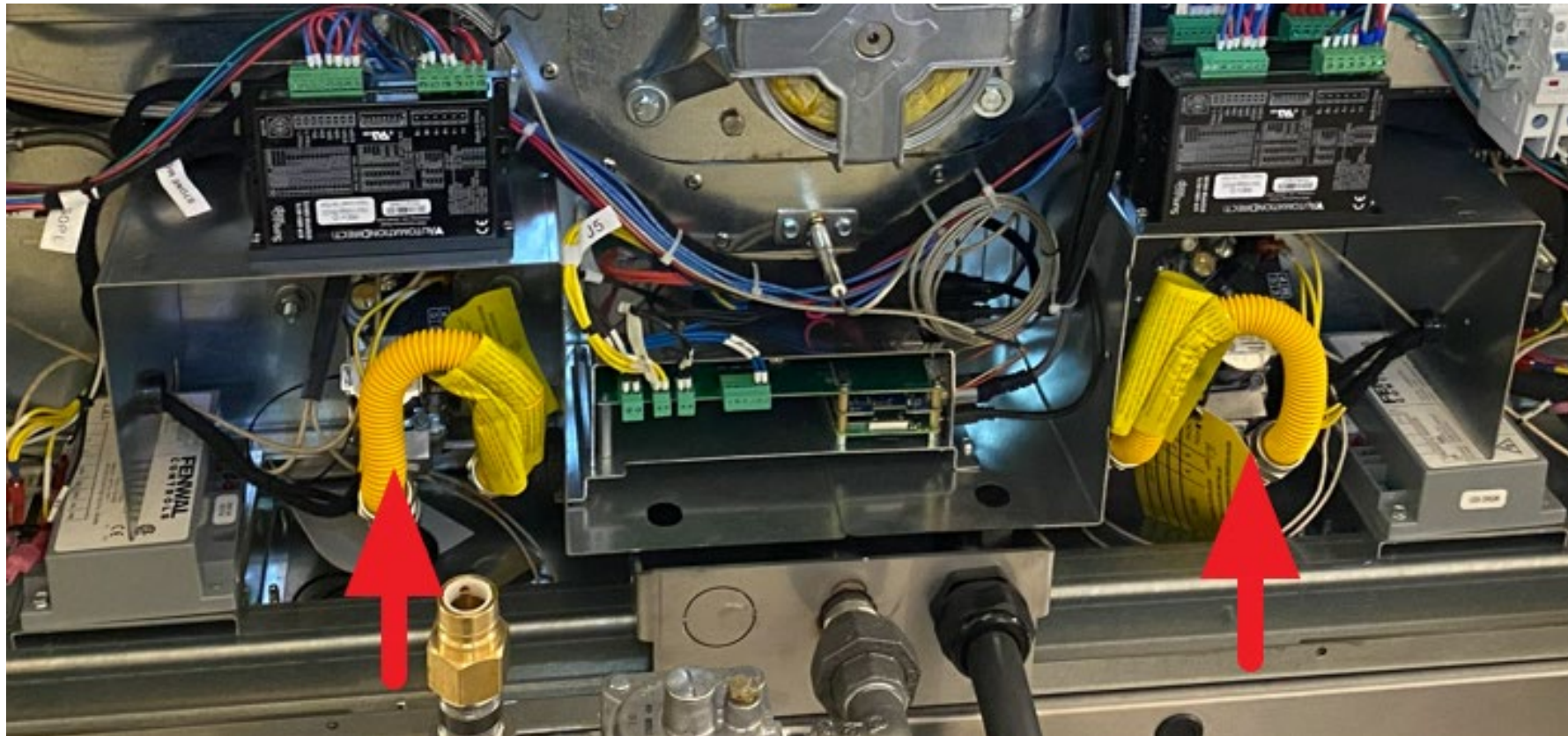
Secure the new control board in place with the self tapping screw.





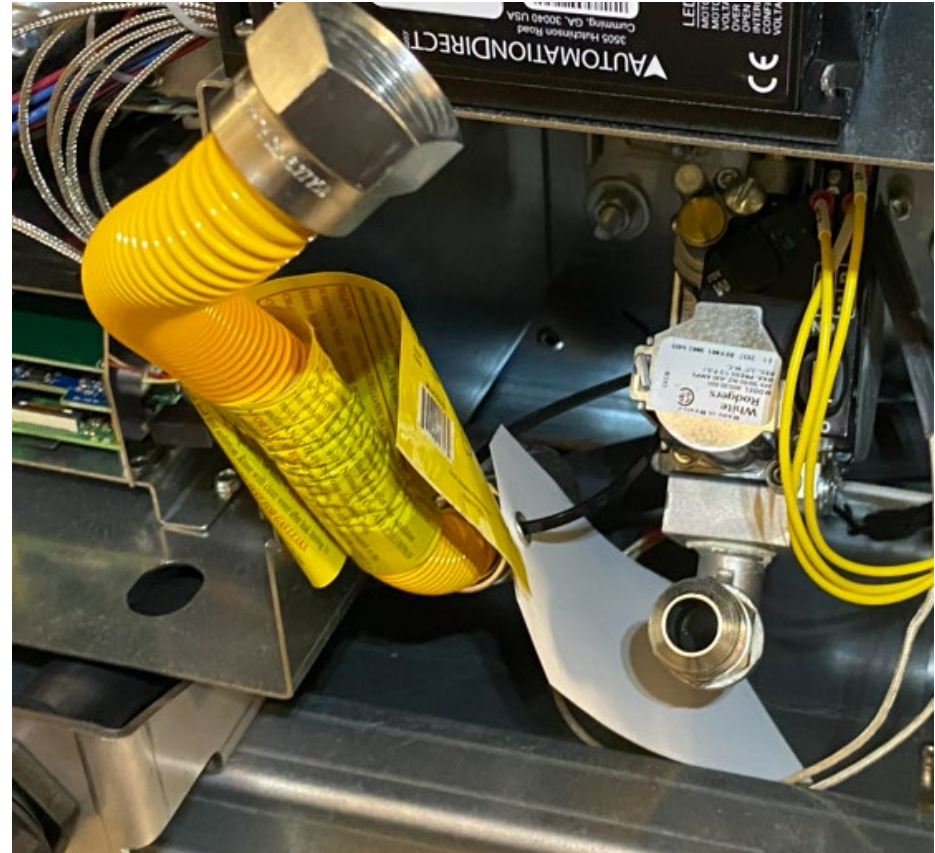
Step 26

Remove burners and replace them for new burners with spark igniters.



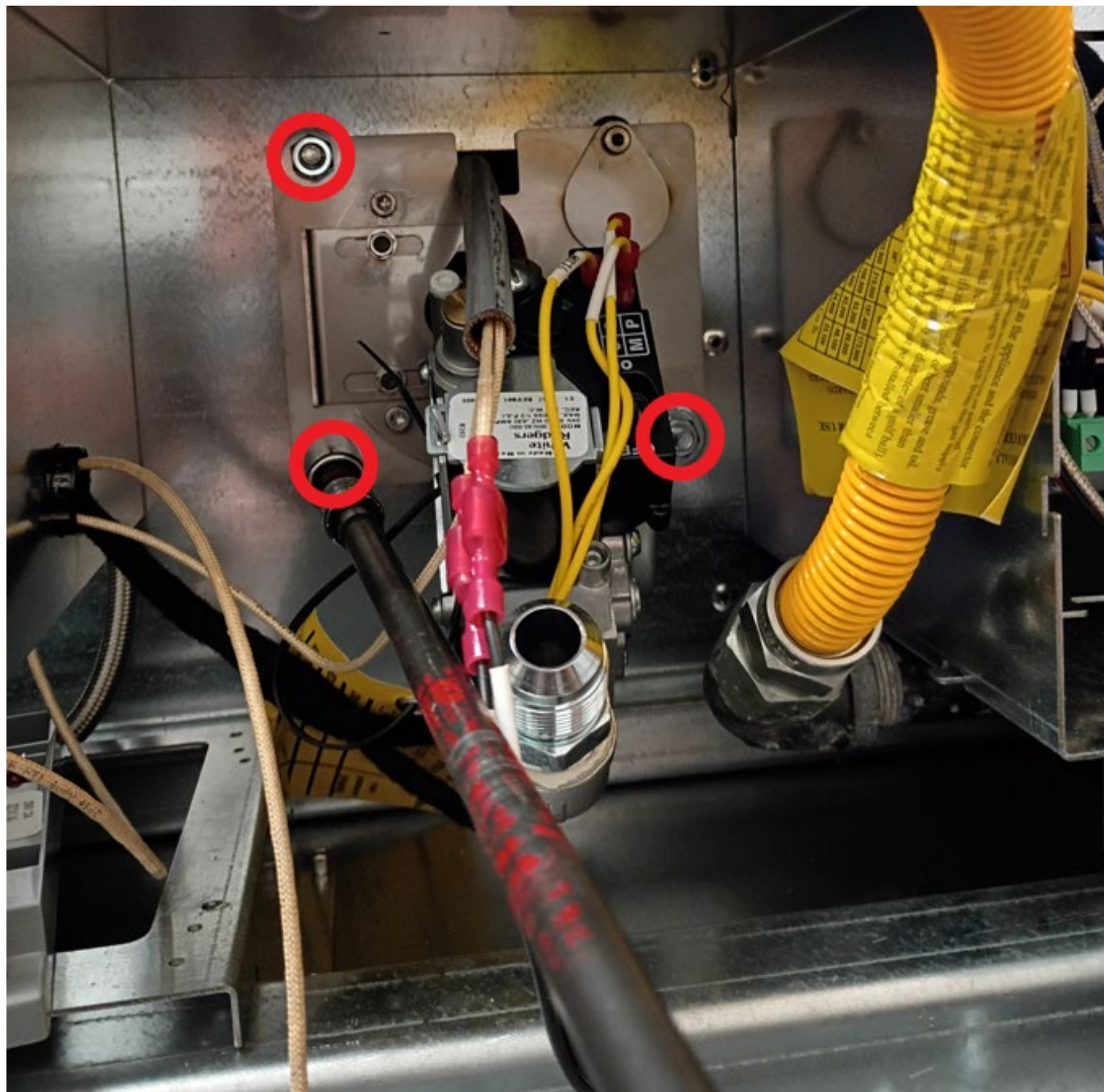
Step 27

Remove yellow flexible gas hose.



Step 28

Remove the 3 retaining nut.



Step 29

Slightly pull back the burner.

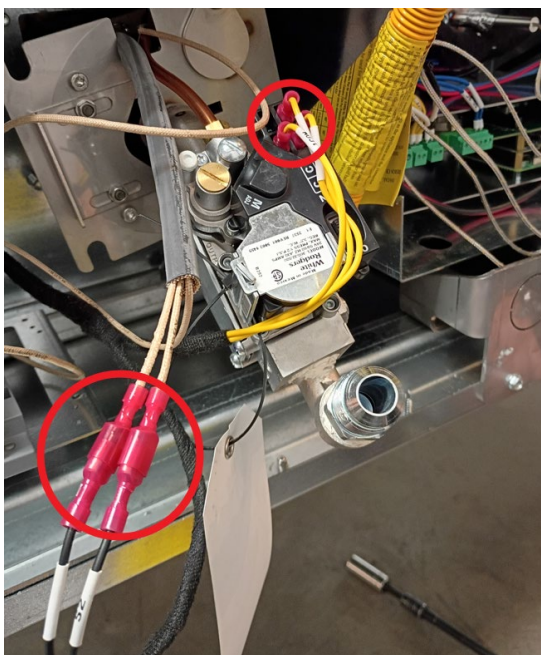
Before removing valve wires, be sure they are identified:

COM (Common)

P (Pilot)

M (Main)

If not identify them with marking tape.



Step 30

Disconnect all burner wires.

Use zip ties to wrap S1 & S2 wires they not going to be used anymore.



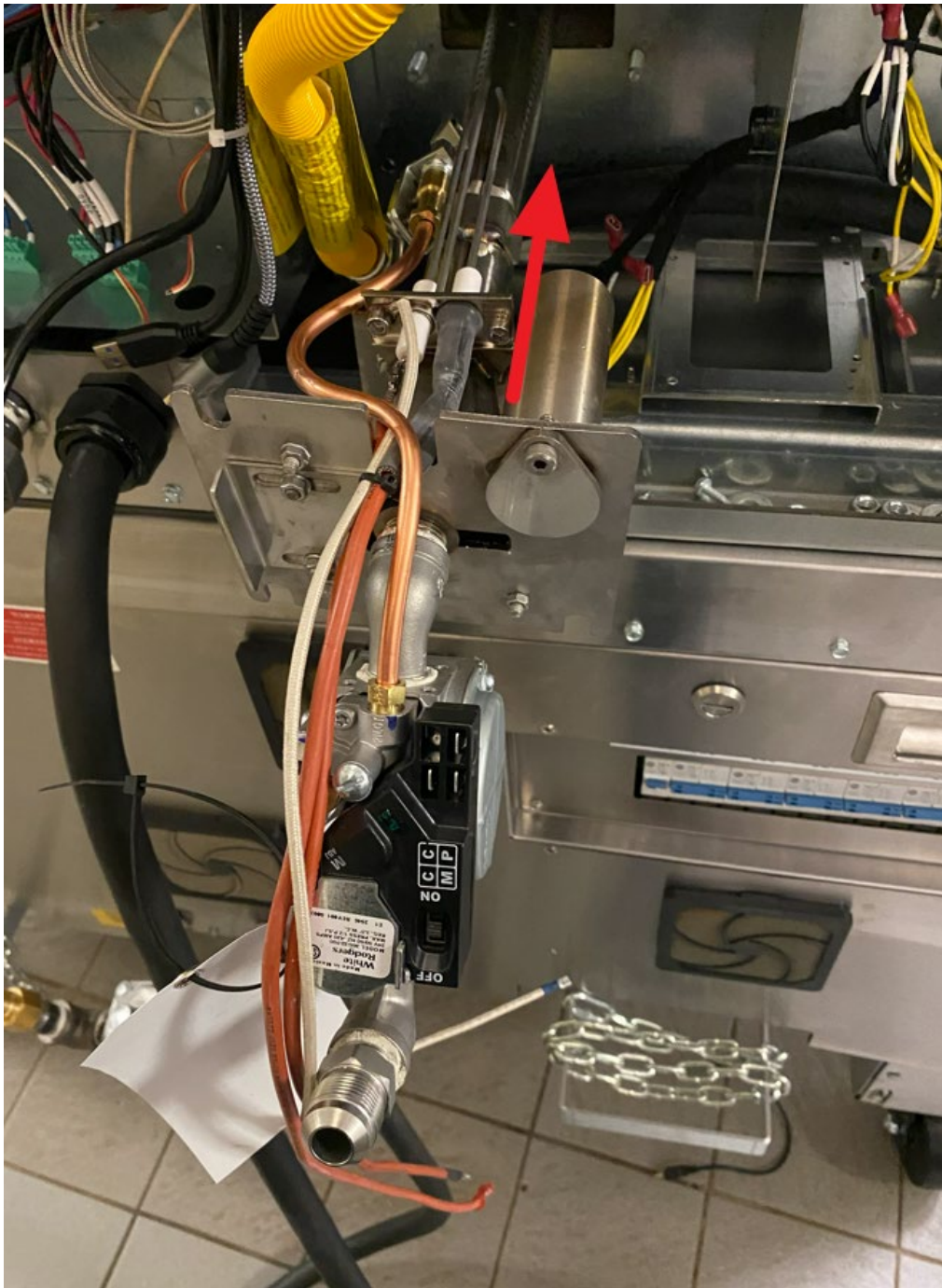
Step 31

Remove the burner
Repeat previous steps
for the second burner.



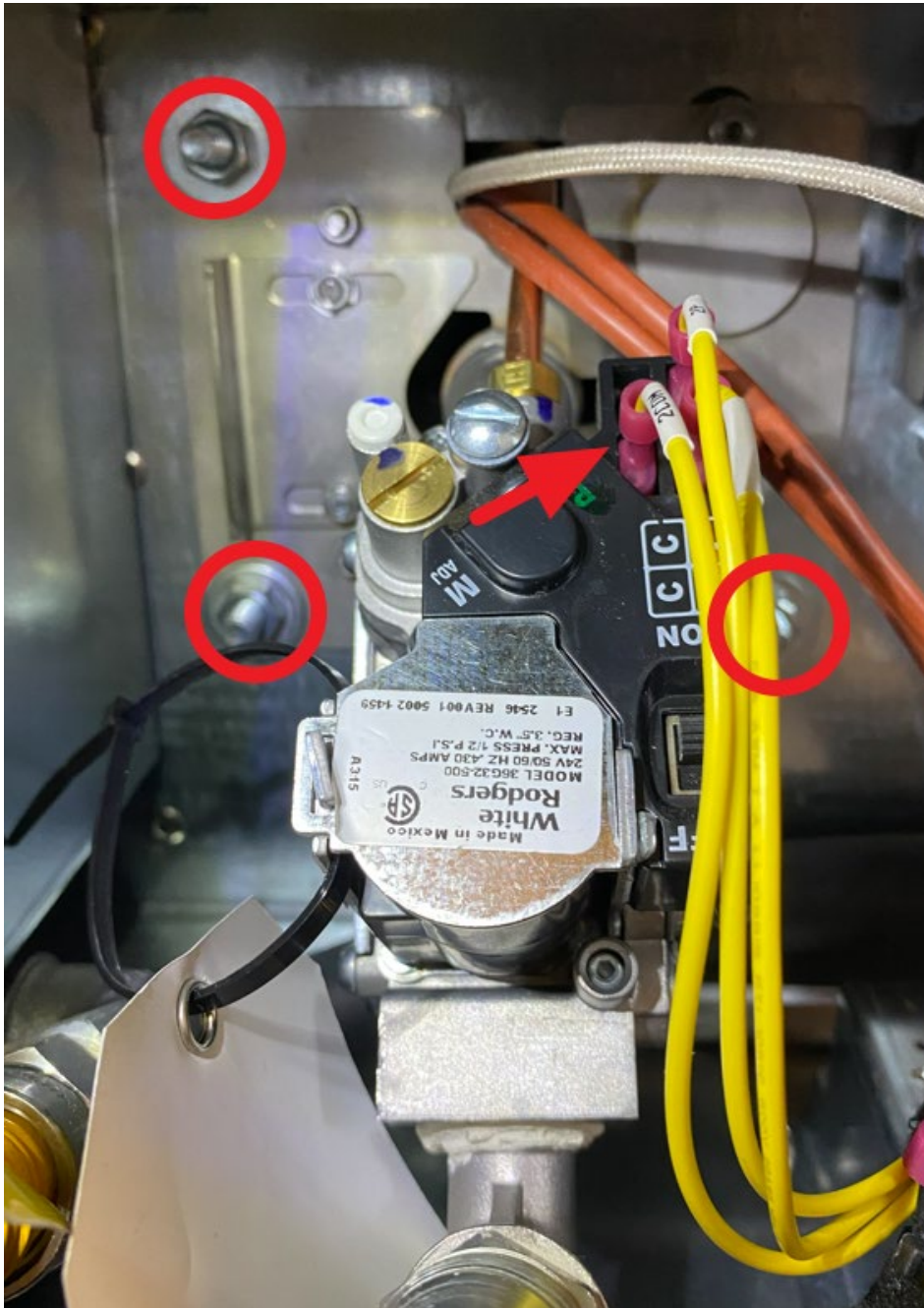
Step 32

Re-install new burner



Step 33

Secure the burner in place by tightening the 3 nuts and plug 3 wires to properly identified connectors, C common, P pilot, M main.



Step 34

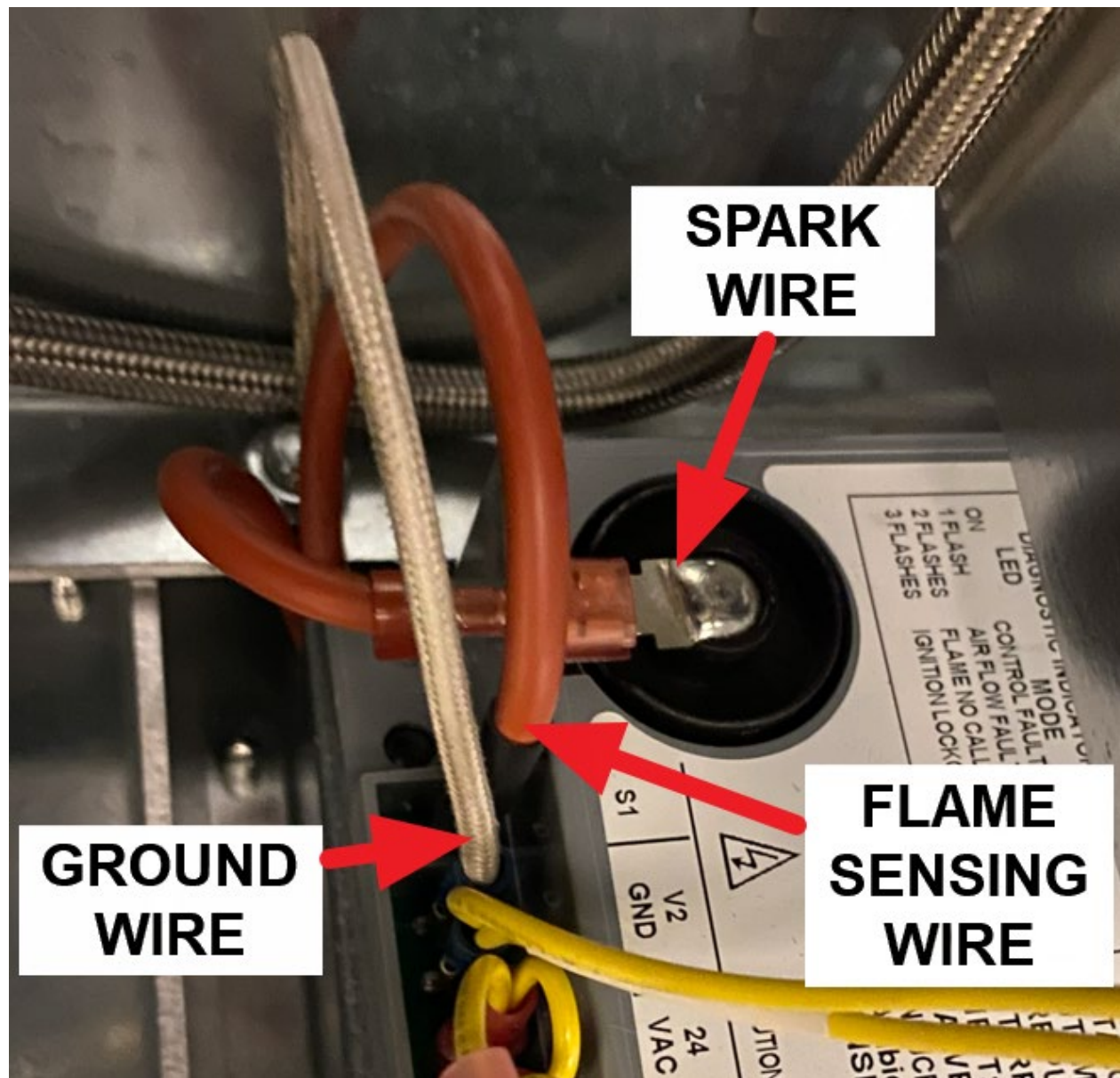
Reinstall and slightly tight back the yellow flexible gas hose.
Repeat previous steps for the second burner reinstallation.



Step 35

Plug flame rods wires in the ignition module.

- Spark coil wire
- Flame sensing rod wire



Step 36

Testing

1. Plug & open gas valve
2. Plug electricity & turn the switch on
3. Start the oven and verify that both burner ignite properly
4. Let the oven reach 250 F temperature
5. Measure the flame sensor signal using the pin on the ignition module 1 & 2

A multimeter with DC micro amp fonction (uA) is required

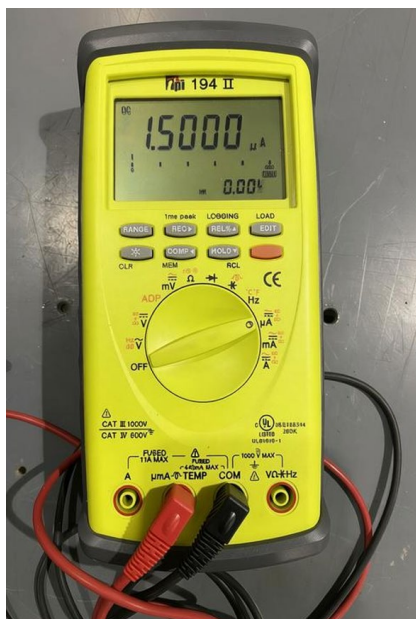
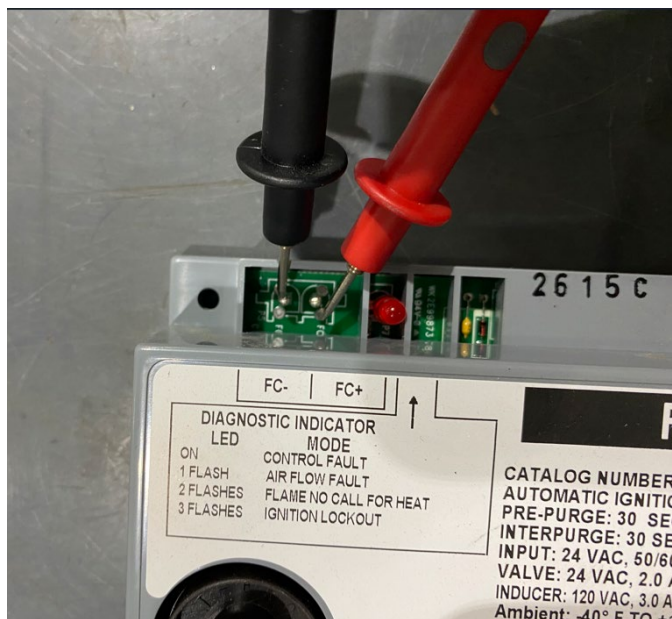
Step 37

Flame sensing testing

Once the oven has reach 250 F stone temperature, set the temperature to 200 F to force the burner to low fire than measure the flame sensing micro Amp. signal.

*****Flame sensing signal must be at least over 1.2 uA*****

If the signal is lower see next step for adjustments

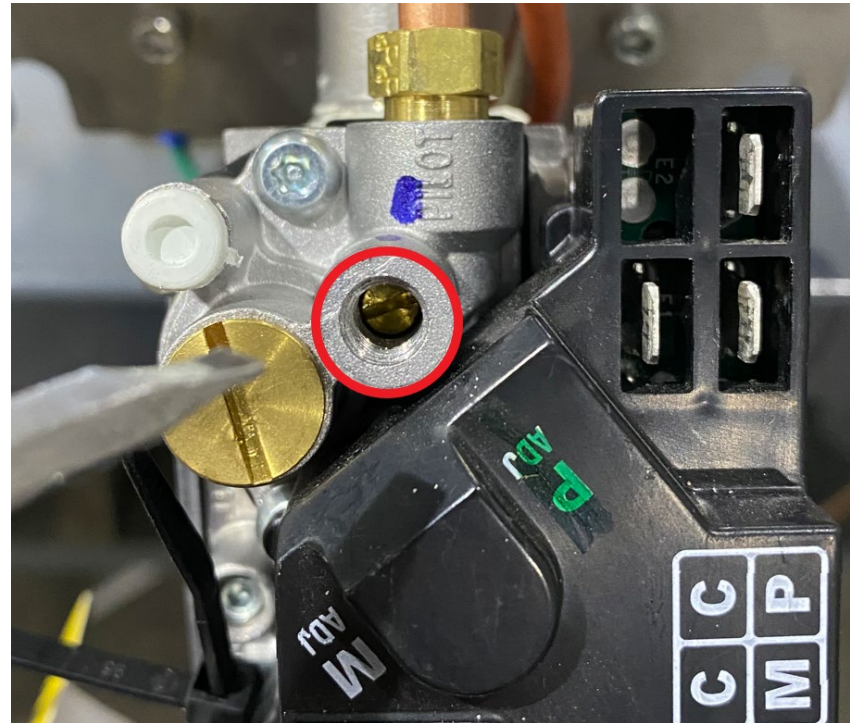


Step 38

Flame sensing adjustment

If the flame sensing reading is too low:

Try to adjust the pilot flame pressure screw. Turn the screw while measuring the μA until it reach about 1.5 μA .

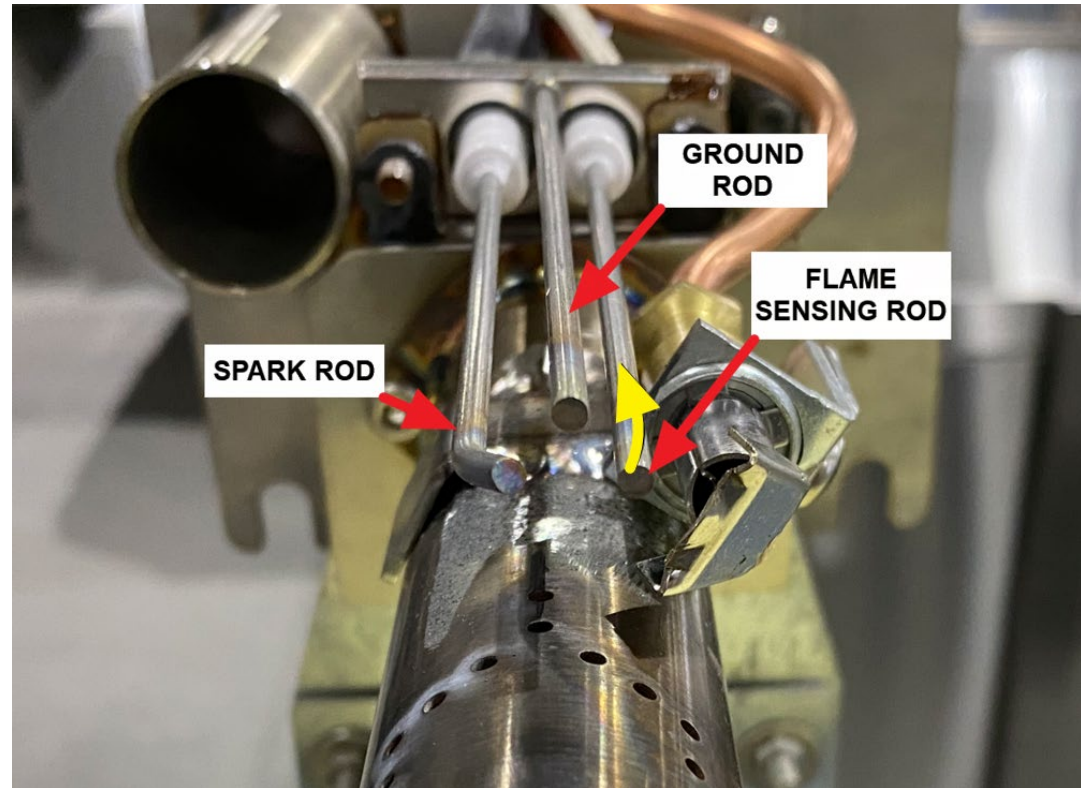


Step 39

Flame sensing adjustment

If the flame sensing reading is still too low:

Turn off the oven and pull out the burner to adjust the flame sensing rod. Bend it upward 1/8 inch.



Step 40

Once flame sensing reading is ok and there is no error put back rear panel in place.

Don't forget to plug back the cooling fan. Make sure all wires clears the cooling fans.

