ARE30 / ARE36

service manual

CAUTION

BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

TABLE OF CONTENTS

TABLE OF CONTENTS

General

Read and follow all instructions before using your oven o prevent the risk of fire, electric shock, injury to person , or damage when using the range. This guide doesn't cover all condition that may occur. For further assistances contact your service agent or manufacture.

 This is a safety symbol, To alert you to potential hazards that can kill or hurt you and others. All safety messages will follow the safety alert symbol and either the word **"WARNING" or "CAUTION".**

 **WARNING** This symbol will alert you to hazards or unsafe practices which could cause serious harm or death.

 **CAUTION** This symbol will alert you to hazards or unsafe practices which could cause bodily injury or property damage

 WARNING

- **DO NOT step or sit on the door, install the Anti-tip bracket that came with the range.** The range could be tipped, and injury might result from spilling hot liquid, food or the range itself. If the range is pulled away from the wall for cleaning or service or any other reason, ensure that the anti tip device is properly reengaged when the range is pushed back against the wall.
- **DISCONNECT power supply cord from the outlet before servicing**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.** Failure to do so can result in severe personal injury, death or electrical shock.
- **DO NOT touch burners, grates or interior surfaces of oven.**
- **Heating Elements / Burners** may be hot even though they are off.
- **Interior surfaces of oven become hot enough to cause burns.**
- **During and after use, do not touch or let clothing or other flammable materials Contact burners, grates or interior surfaces of the oven until they had had time to cool.** Other surfaces of the appliance may become hot enough to cause burns. Among these surfaces are the oven vent opening and trim around them, Surfaces near opening such as the oven door, control panel and knobs windows.

General

- **DO NOT store items of interest to children in cabinets above a range or on the countertop near the range.** Children climbing on or near the range to reach items could be seriously injured.

CAUTION

- **Always use a Potholder or oven mitts when removing food from the oven, opening / closing the oven door or operating the knobs.** You can be burned by cookware it will be hot, Oven control panel and knobs can become hot with prolonged or repeated door openings, Caution should be used metal surfaces will absorb heat from open doors. Use an oven mitt when handling metal surfaces.
- **Be Careful when working on the range and handling sheet metal and stainless-steel parts.** Sharp edges may be present and can cut you. Wear protective coverings when handling.
- **Be Careful not to bend or damage fan blades during service.** Failure to do so can result in noise , vibration and poor performances when operating.
- **Be careful not to scratch, chip the oven liner or cook top enamel when removing screws for service.** Use a hand screwdriver not a power driver when removing screws that contact the enamel surfaces.
- **Turn off power to unit prior to making any repair.**
- **Never use the oven door handle to pull or push the range in to position.** Doing so will damage the oven door frame and hinge receivers.
- **Never lift the oven door off the range by the handle.** Lift the oven door by the sides when removing and installing. Failing to do so can result in personal injury to you and the appliance.

IMPORTANT SAFETY INSTRUCITONS

- Be sure your appliance is properly installed and grounded by a qualified electrician or technician.
- Do not repair, replace or modify any part of this appliances unless specifically recommended in the user manual. All repairs and service should be referred to a qualified technician.
- Always disconnect power to the appliance before doing any service, by unplugging cord, removing the panel fuse or switching off the circuit breaker.

⚠ WARNING

- **ALL RANGES CAN TIP**
- **INJURY TO PERSONS COULD RESULT**
- **INSTALL ANTI-TIP DEVICES PACKED WITH RANGE**
- **SEE INSTALLATION**

- **DO NOT** step or sit on the oven door, Anti tip bracket must be installed on the range.
- Remove storge drawer and verify that the rear foot has been inserted into the anti tip device .

⚠ WARNING

- **DO NOT touch burners, grates or interior surfaces of oven.**

- Burners, grates may be hot even though they are off.
- Interior surfaces of an oven become hot enough to cause burns.

- **During and after use, do not touch, or let clothing or other flammable materials contact burners, grates or interior surfaces of oven until they have had sufficient time to cool.**

- Other surfaces of the appliance may become hot enough to cause burns among these surfaces are oven vent openings and surfaces near these openings, oven doors, and windows of oven doors.

⚠ WARNING

- **DO NOT store items of interest to children in cabinets above a range or on the back guard of a range.**

- Children climbing on the range to reach items could be seriously injured.

- **DO NOT Leave children unattended** – Children should not be left alone or unattended in the area where this appliances is in use. They should never be allowed to sit or stand on any part of the appliances.
- **NEVER use your appliance for warning or heating of the room**
- **Storage in or on Appliance –** Flammable materials should not be stored in an oven or near surface elements or burners. Be sure all packing material are removed from the appliance before operating it. Keep plastics, clothing and paper away from parts of the appliance that may become hot.
- **Wear proper Apparel** – Loose fitting or hanging garments should never be worn while using the appliance.
- **DO NOT USE WATER ON GREASE FIRES -** Turn off the oven to avoid spreading flames. Smother fire or flames by closing the oven door or covering pot with lid. Use a dry chemical or baking soda fire

⚠ WARNING

- **DISCONNECT power supply cord from the outlet before servicing.**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.**

- Failure to do so can result in severe personal injury, death or electrical shock.

IMPORTANT SAFETY INSTRUCITONS

- Make sure your range is properly adjusted by a qualified service or gas technician for the type of gas (Natural or LP) that is being used. Your range can be converted tor use with either type of gas.
- **NEVER – Block vents** (air holes) of the range they provide necessary air inlet and outlets that are necessary for the range to cooperate correctly . Vents are located at the rear of the cook top, back panel and at the top and bottom of the oven door along with at the bottom of the range in the storage drawer compartment.

SURFACE COOKING

- **IF the top burner flame goes out, Gas will still be flowing to the burner until the knob is turned to the " OFF" position. Do not leave the burners "ON" unattended - Note: HRG, HRD and TRG models do have auto re -ignition feature all other models do not.**
- **Use Proper pan size** – This appliance is equipped with one or more surface / burners of different sizes. Select cookware with flat bottoms and large enough to cover the surface of the heating unit. The use of undersized cookware will expose a portion of the heating unit to direct contact and may result in ignition of clothing. Proper relationship of cookware to heating unit will improve efficiency and cooking speed.
- **NEVER Leave Surface Units Unattended at High Heat Settings** – Boil overs may cause smoking and greasy spill overs may ignite.
- **Protective Liners –** Do not use aluminum foil to line surface burners or drip pans, doing so may result in risk of electrical shock or fire and damage to the finish of the range.
- **Glazed Cooking Utensils-** Only certain types of glass, Glass/ceramic, ceramic, earthenware or other glazed cookware's are suitable for use on the range top with out breaking due to thermal shock (sudden temperature change) Consult cookware manufacture owners manual for correct use.
- **Cookware handles should be turned inward and not extend over adjacent surface units** – to reduce the risk of burns and ignition of flammable materials.
- **Be sure you know which knob operate each surface unit** - Make sure you have turned on and off the correct surface unit.
- To prevent burns, Always be sure that all controls are in the "OFF" position and all grates and oven surfaces are cool to the touch before disassembly or cleaning .

IMPORTANT SAFETY INSTRUCITONS

SELF –CLEAN OVENS

- **Do Not Clean Door Gasket-** The door gasket is essential for a food seal, Care should be taken not to rub, damage or move the gasket. If gasket is damaged replace it.
- **DO Not Use Oven Cleaners** – No commercial oven cleaners or oven liner protective coatings of any kind should be used in or around any part of the oven.
- **Clean in the SELF CLEAN cycle only the parts of the oven cavity**- Broiler pan and all racks should be removed.
- **Never keep pet birds in the kitchen** - The health of birds is extremely sensitive to the fumes released during and oven self clean cycle. Fumes may be harmful or fatal to birds. Move birds outdoors or well-ventilated area before running self clean cycle.
- **Important Instruction** - In the event of an error code during the self clean function and (E) with a number will be displayed. Turn off oven by control or by turning off the power supply. Have unit serviced by a qualified appliance service technician.

Vent hood

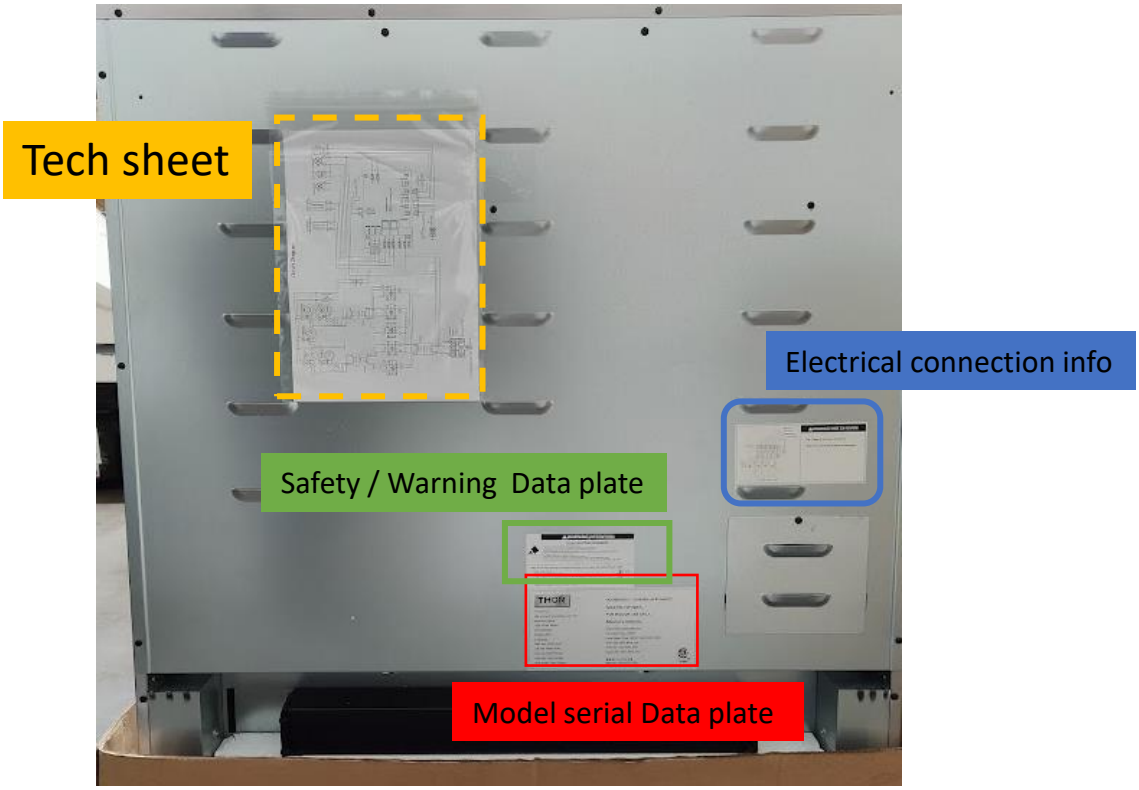
- **Clean Vent hood frequently** – Grease should not be allowed to accumulate on the hood surface, blower or the grease filters. Failing to keep hood clean increase chance of grease fire.

OVEN

- **Use Care When Opening the Oven Door** – Let hot air and steam escape before you remove or place food in the oven.
- Do No Heat Unopened Containers – build up of pressure may cause container to burst and result in injury.
- **Keep Oven Vent Ducts Unobstructed-** The oven vent is located at the back of the unit. Never block any of these vent and never place plastic or heat sensitive items on or near the vents.
- **DO NOT LINE OVEN CAVITY WITH FOIL** – Permeant damage will be done to the oven liner finish.

Model serial tag

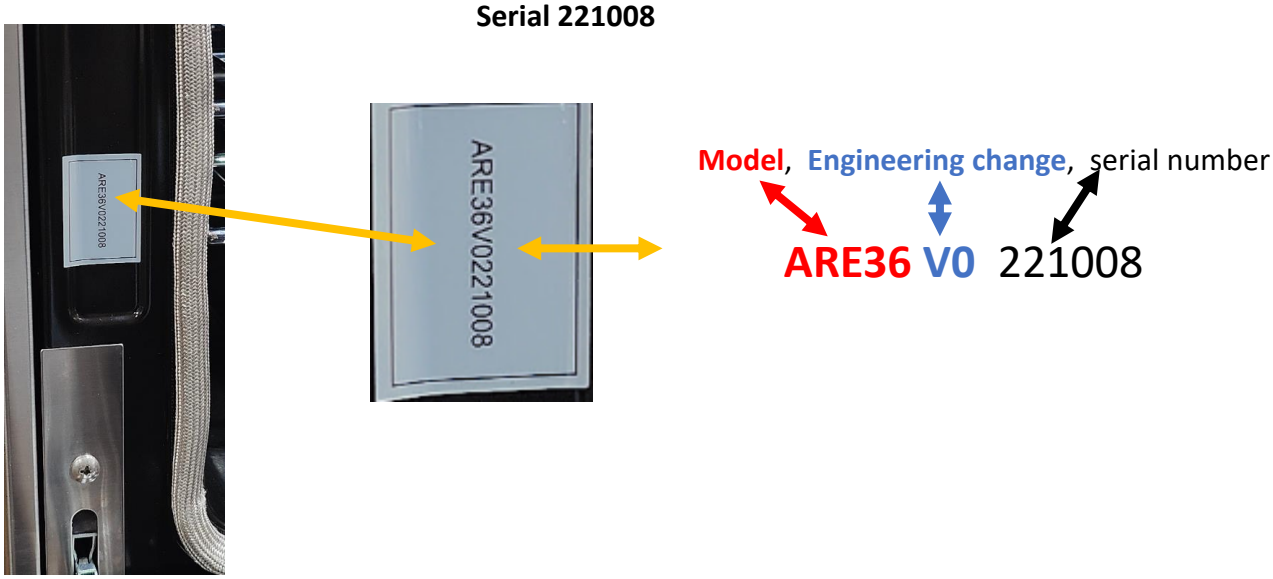
Back of Unit



Oven door Frame Model/serial tag location

(Cavity frame face above left hinge)

Model and serial together
Model ARE36
Serial 221008



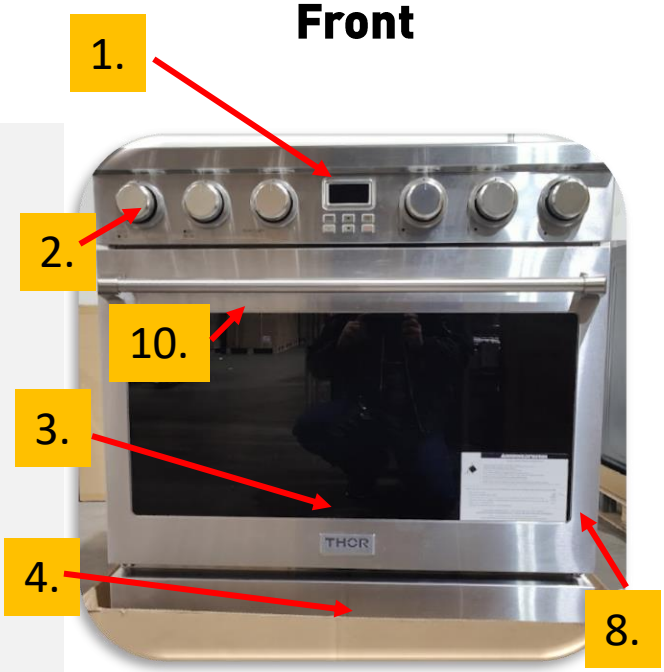
SPECIFICATIONS

Specifications		
Model		ARE30 / ARE36
Overall	Width	30" / 36"
	Installation type	Free standing
	Color	SS
Control	Oven	Electronic control
	Cooktop	Electric
	Display	Digital / Push button
	Electronic clock timer	Yes
	Control lock	No
	Preheat signal	Yes
	Special features	Bake
		Broil
		Convection Bake
		Convection roast
		Warm
		Pizza
		Cook time
		Timer
Cooktop	Material	Glass
	Elements	Electric
Power	LF	Inner1,500W outter 1,500W
	RF	30" 3,000W / 36" 1,500W inner 1,500W outter total 3K
	LR	1,200 Watt single
	CR	100 Watt warming zone (36" only)
	RR	1,200 Watt single
Oven	Capacity	4.55 Cu. Ft.
	Broil Burner	3,500 Watts
	Bake Burner	3,000Watts
	Convection system	Yes, 2,500 RPM fan motor
	Convection element	None
	# racks	2 standard racks
	Interior light	120 V 40watt halogen
	Proof	No
	Keep warm	Yes
	Self Clean	No
	Door lock	No
	Control lock	No
Drawer	Type	No
	Element	None
	Warming rack	None
Cutout Dimensions	Exterior W	30' / 36"
	Exterior H	36" to 37"
	Exterior D	24"
	Net weight	
Power needed	Rating	240 volt, 60 Hz, 50amps

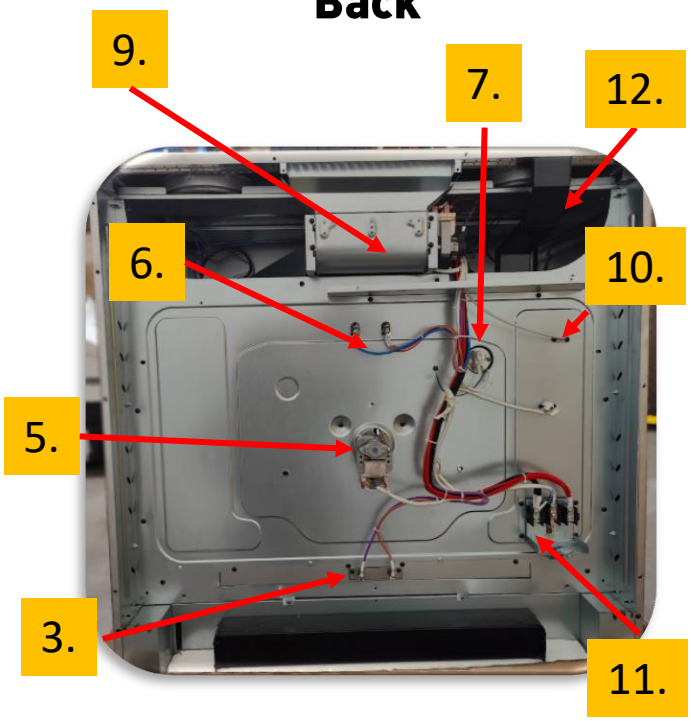
Parts of the Range

1. Digital control
2. Infinite switch
3. Hidden bake element
4. Toe kick panel
5. Convection fan
6. Broil Element
7. Oven light
8. Hinge Receiver
9. Cooling fan / Hall sensor
10. Oven sensor
11. Terminal block (power cord)
12. Oven vent
13. Hot surface indicator light
14. 3,000-watt dual elements
15. 1,200-watt single zone

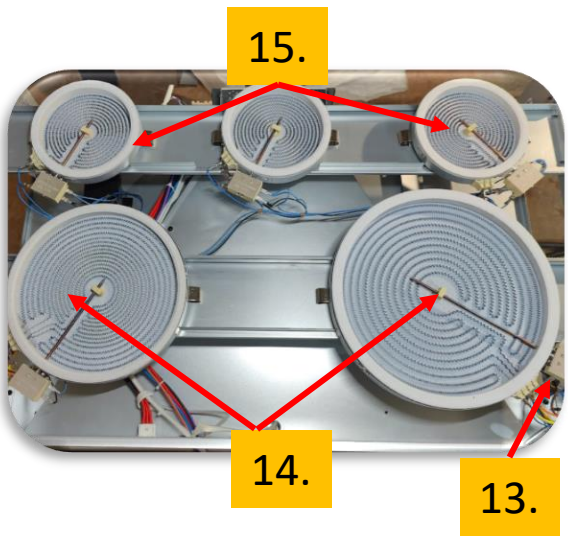
Front



Back



TOP



Component Access

Removing the oven door

1. Open oven door to fully open position. **Fig.01** Locate hinge lock tab

2. Using a flat head screwdriver, Flip the lock tab up and back. **Fig.02**

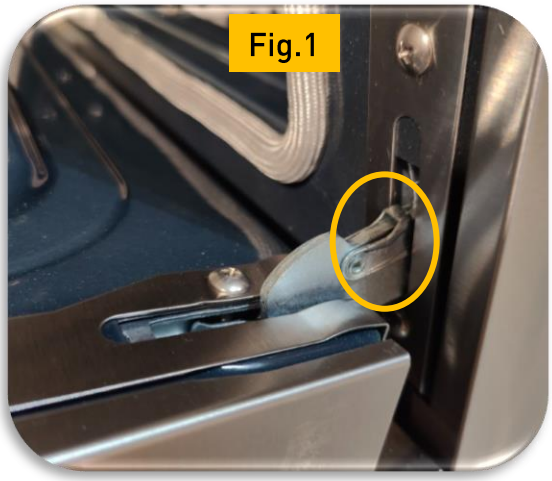
3. Close the oven door to the point where the door is resting on the hinge lock tabs. **Fig.03**

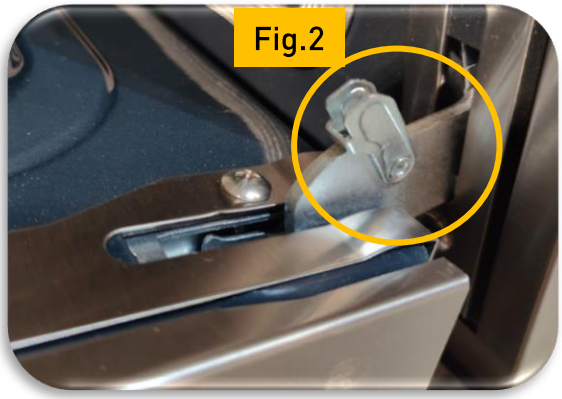
4. Grasp oven door with both hands (**NOT by the handle**) push the oven door forward until the hinge tilts inside the hinge receiver door will be 2 to 3" from fully closed

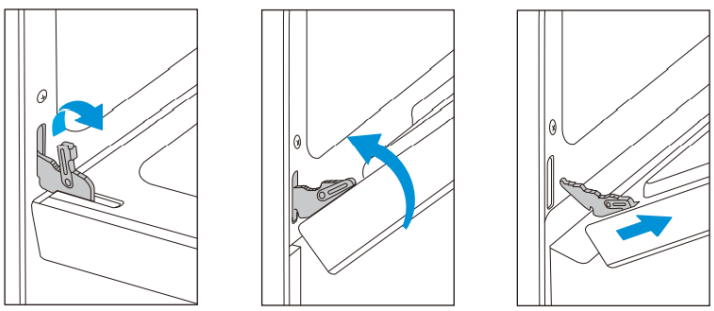
5. Lift oven door up slightly to disengage the hinge slot from the receiver . Now pull oven door straight back.

6. Remove oven door.

7. Reinstall in reverse order







Component Access

Removing the Control panel

1. Disconnect power supply to the range.
2. Remove oven door. Locate the two control panel screws located under control panel on left and right sides. See **Fig.01** remove screws X2.

3. Grasp control panel on the left and right sides, Slide control panel straight up until the top left and right control panel tabs are released from the oven body hook loops. (Lift about 1/2") Pull control panel forward. See **Fig.02**

4. When control panel is pulled forward There will be control panel support hook on the left and right side, There are two positions the released control panel can be hung in. **Position 1** control panel tilted forward (trouble shooting and component check position, **Position 2** control panel dropped down to access and disconnect wire harness. For complete panel removal. See **Fig.03**

Fig.1

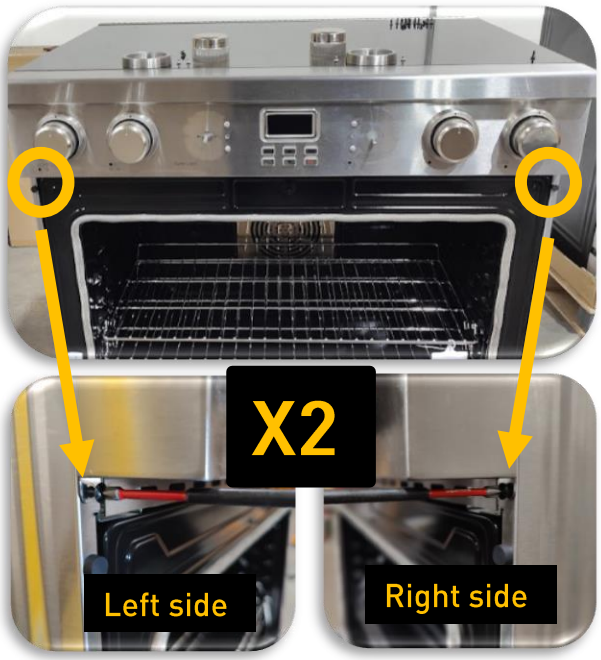


Fig.2

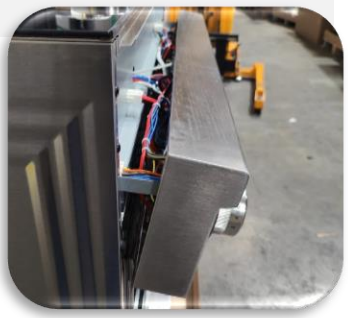
Range side control panel hook slots

Control panel tabs

Fig.3

Position 1

Position 2



Component Access

Removing the Control panel cont.

1. With control panel hanging in position 2 locate and remove quick disconnects **(note not all models will have quick disconnects)**. See **Fig.01** For models with out quick disconnects remove Infinite switch from the control panel by removing bezels and bezel screws.

2. If unit has quick disconnects remove J1 thru J4 connectors see **Fig.02.**

3. Remove terminal connectors and wires from the Relay PCB. See **Fig.03**

4. Control panel can now be separated from the range. **Fig.04**

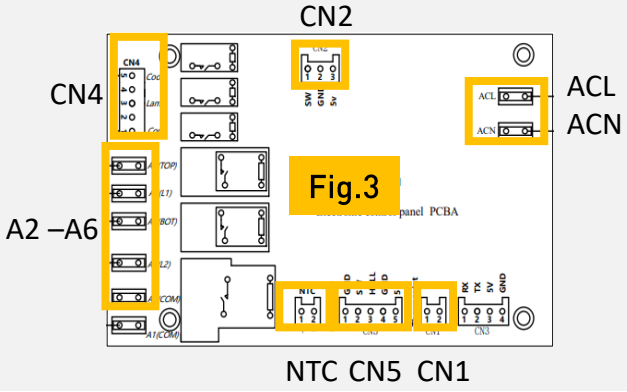
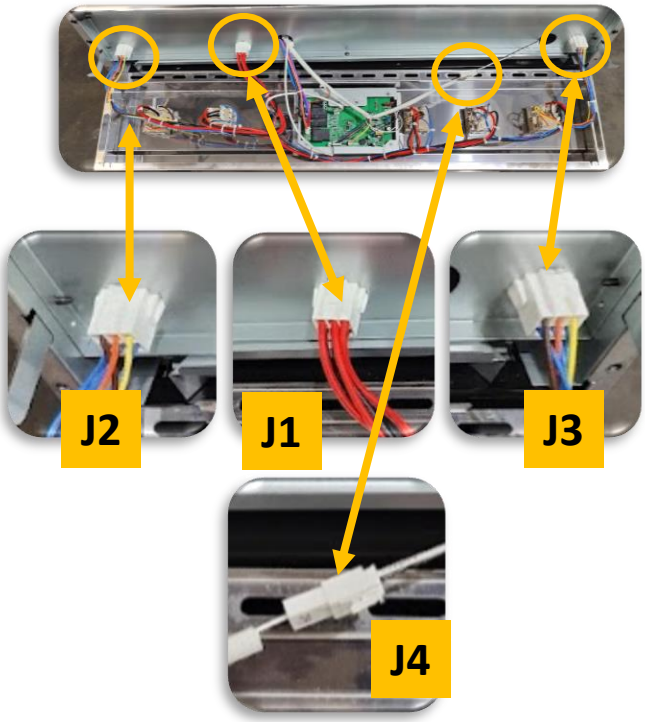


Fig.3

Fig.1

Fig.2



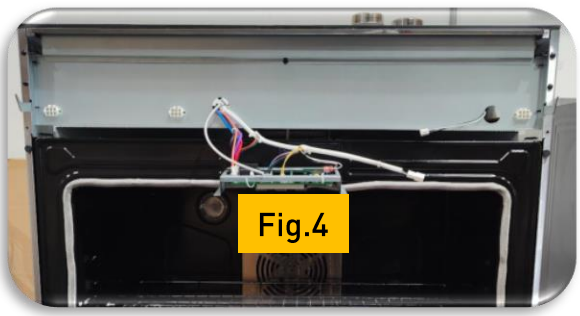


Fig.4

Component Access

Replacing Relay PCB

1. Disconnect electrical supply to range, remove control panel (see prior page for removal of control panel).

2. Remove knobs to the left and right of the digital control. **Fig.01**

3. Remove the two screws holding the bezel ring in place for each side, remove Bezel rings **Fig.01**

4. With Bezel rings removed it will expose two screws per side holding relay PCB bracket. **Fig.02,** Remove the two screws per side

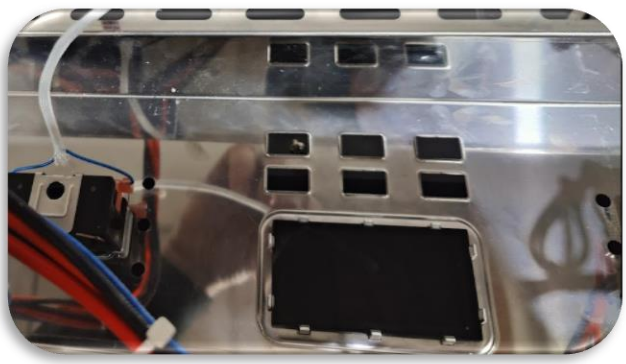
5. Remove all wires and connectors from the relay PCB.

6. Relay PCB can be removed from the control panel. **Fig.03**

Fig.1

Fig.2

Fig.3.



Component Access

Replacing Infinite switch

1. Disconnect power to range. Remove Infinite switch knob. Locate the two-screw securing bezel ring and Infinite switch. **Fig.01** Remove screws .

2. Open control panel to giant access to infinite switch. **Fig.02** see section on removing control panel.

3. Remove wires from infinite switch and replace switch. Take care not to damage wire terminal and cause loose connections. Wire terminal numbers are printed on the white silicone covers. See **Fig.03** for wire locations.

Fig.1

Fig.2

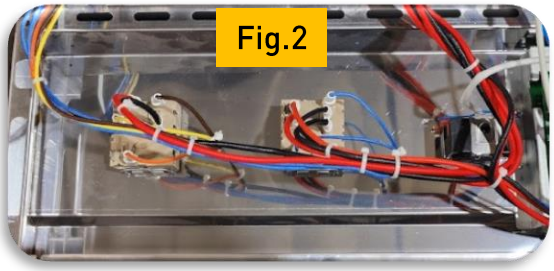
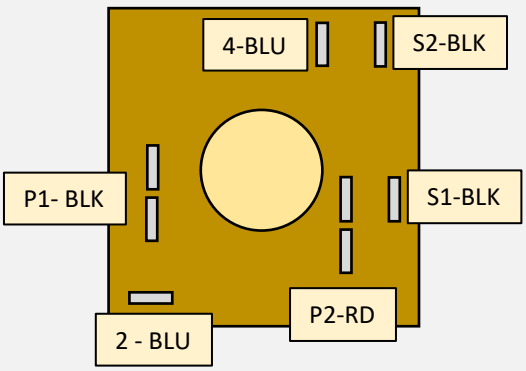
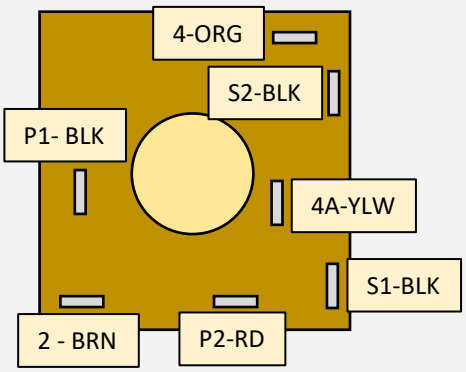


Fig.3

Single element INF SW
LR & RR Loc



Double element INF SW
LF & LR Loc



Position		LR single	RR Single	LF double	RF Double
Terminal #					
INF SW	Wire #	Wire colors			
P1	P1	BLK	BLK	BLK	BLK
P2	P2	RD	RD	RD	RD
2	2	BLU	BLU	BRN	BRN
4	4	BLU	BLU	ORG	ORG
4A	4A			YLW	YLW
S1	S1	BLK	BLK	BLK	BLK
S2	S2	BLK	BLK	BLK	BLK

Component Access

Rear access panel

1. Disconnect power to range. Remove range from its installed position. Locate and remove the 20 screws indicated by the yellow arrows

2. Remove rear access panel from range. **Fig.02**

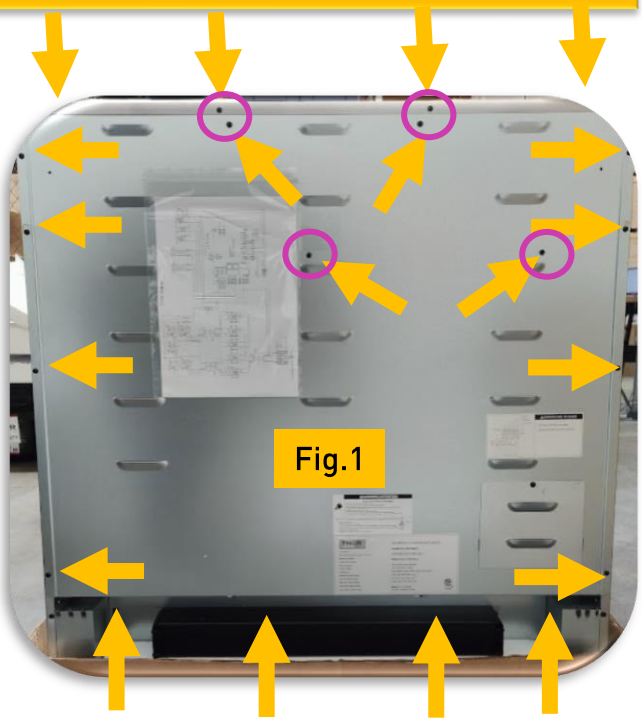
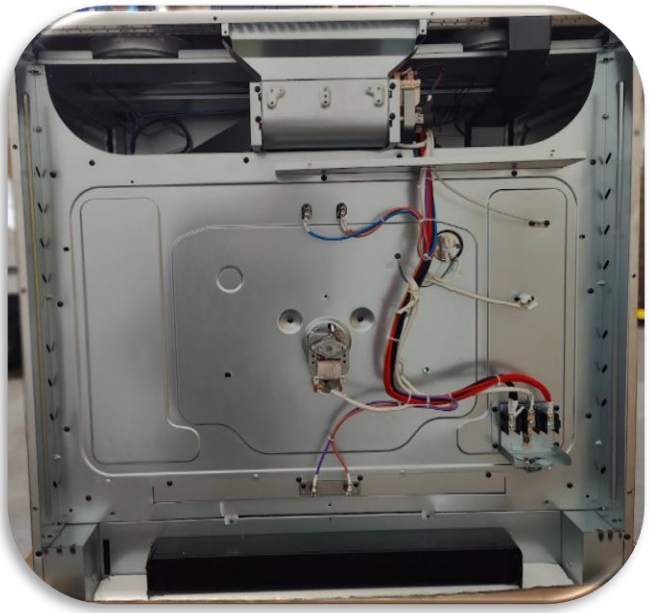


Fig.1

Fig.2



Component Access

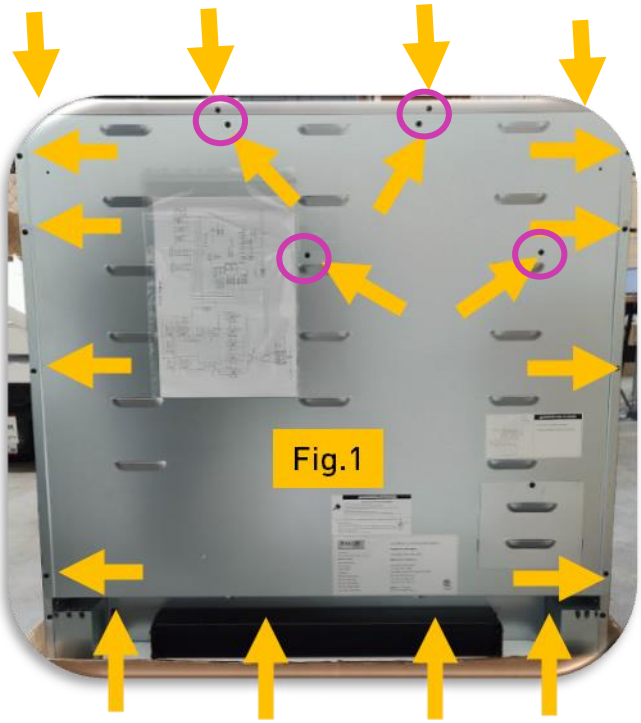
Terminal block

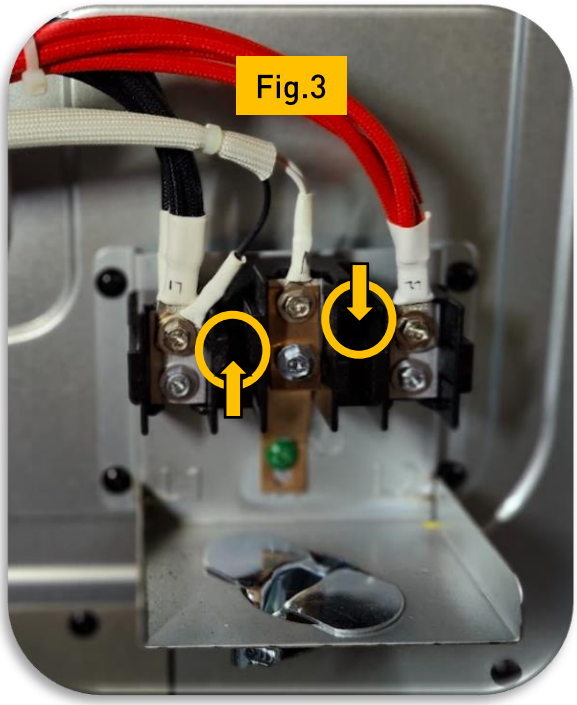
1. Disconnect power to range. Remove range from its installed position. Locate and remove the 20 screws indicated by the yellow arrows

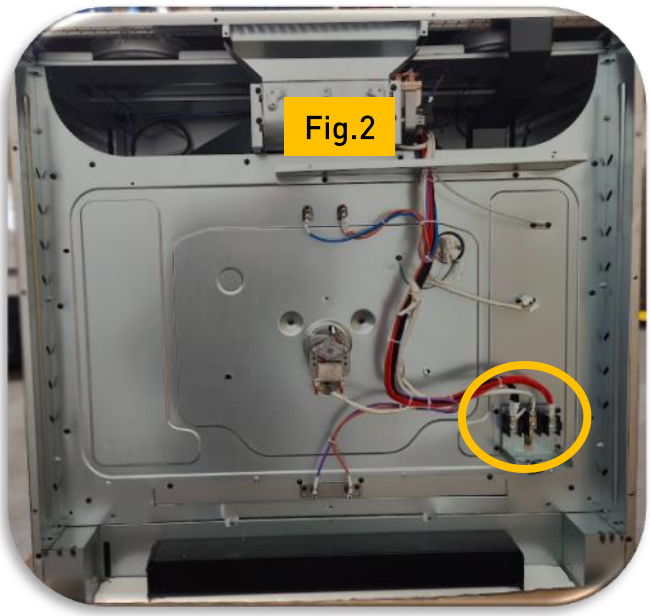
2. Remove rear access panel from range. **Fig.**02 Locate terminal block.

3. Remove wires from terminal block, Remove the two screws securing terminal block to the range. **Fig.03.**

4. Replace terminal block and reassemble in reverse order.







Component Access

Oven safety Thermal cut out

1. Disconnect Electrical supply to the Range. Remove range from its install location. Remove rear access panel.

2. With rear panel removed locate oven safety thermal cut out. **Fig.01**

3. Remove the two mounting screws holding Thermal cut out to oven cavity. **Fig.02**

4. Remove and replace oven thermal cut out. Reassemble in revere order.

Fig.01

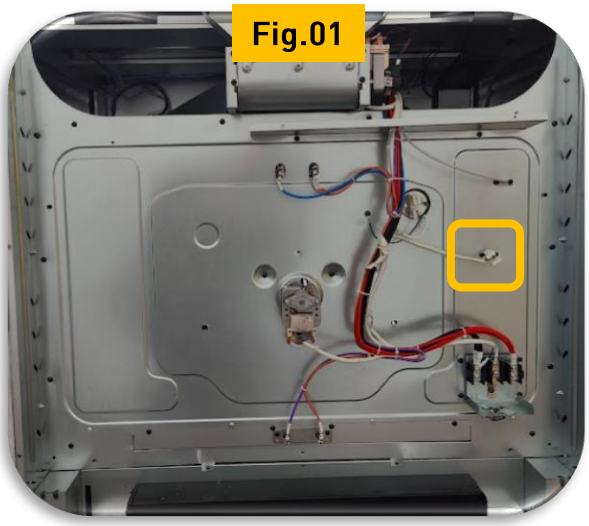
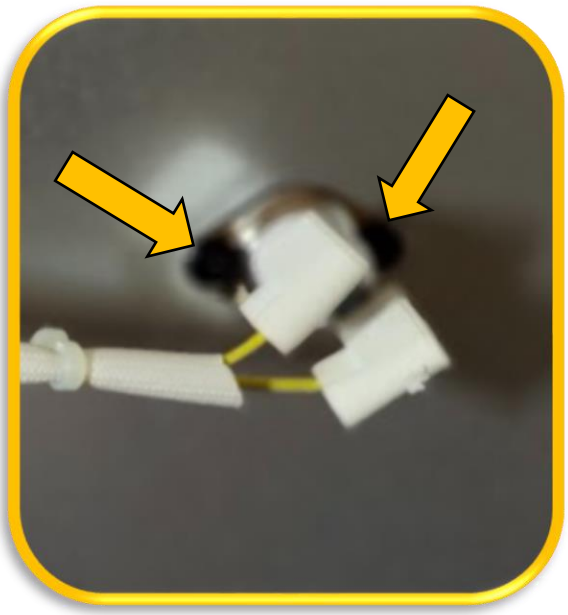


Fig.02



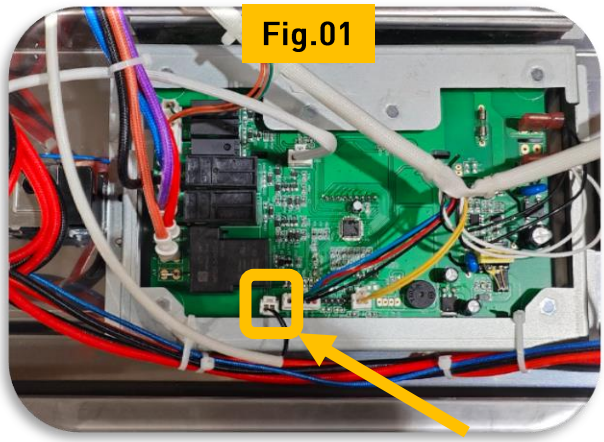
Component Access

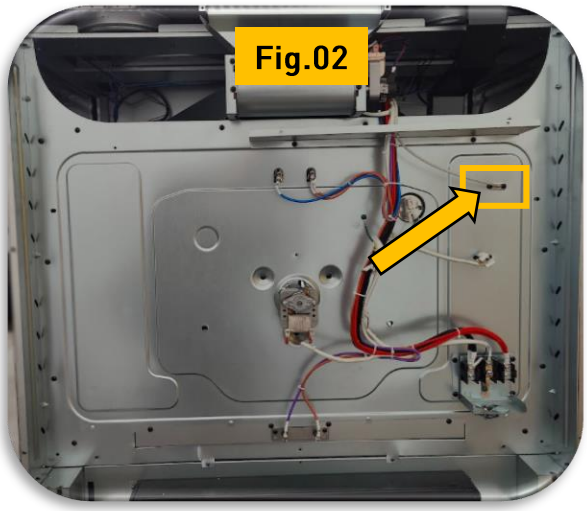
Oven sensor

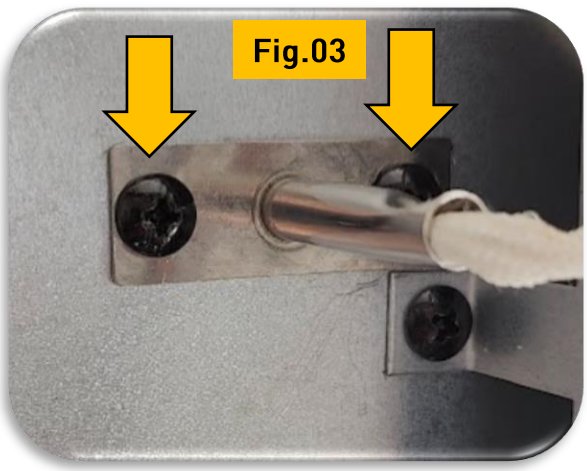
1. Disconnect Electrical supply to the Range. Remove control panel from range. On main PCB locate the NTC thermistor quick disconnect **Fig.01** It will be labeled NTC on the board remove connector from PCB.

2. Remove rear access panel from range. Locate oven sensor. **Fig.02**

3. Remove the two screws securing sensor to back panel. **Fig.03** Remove and replace sensor.







Temp (◦F)	Temp (◦C)	R Min	R normal	R Max
70	21.1	1.163 MΩ	1.493 MΩ	1.915 MΩ
100	37.8	52.280 KΩ	65.470 KΩ	81.920 KΩ
200	93.3	57.870 KΩ	67.700 KΩ	79.130 KΩ
250	121.1	22.760 KΩ	25.870 KΩ	29.380 KΩ
300	148.8	10.240 KΩ	11.350 KΩ	12.570 KΩ
325	162.7	6.994 KΩ	7.664 KΩ	8.391 KΩ
350	176.6	4.881 KΩ	5.290 KΩ	5.728 KΩ
375	190.5	3.479 KΩ	3.731 KΩ	3.998 KΩ
400	204.4	2.522 KΩ	2.678 KΩ	2.841 KΩ
425	218.3	1.854 KΩ	1.950 KΩ	2.050 KΩ
450	232.2	1.384 KΩ	1.443 KΩ	1.502 KΩ
475	246.1	1.048 KΩ	1.083 KΩ	1.118 KΩ
500	260	794 Ω	824 Ω	853 Ω
525	273.8	619 Ω	646 Ω	674 Ω
550	287.8	478 Ω	503 Ω	529 Ω
650	343.3	190 Ω	205 Ω	222 Ω

Component Access

Cooling fan removal

1. Disconnect range from power supply, remove rear access panel , See prior pages.

2. With rear panel remove locate the four screws securing fan duct to blower housing. **Fig.01**

3. Remove the two screws from the back side of duct. And one screw from the left and right sides **Fig.02**

4. Side duct down enough to clear rear vent trin and then rotate top of duct towards back of range and remove duct channel. **Fig.03**

5. Remove the four blower mounting screws **Fig.04** Remove blower from mounting brackets **Fig.05**

6. Replace blower and reassemble in reverse order.

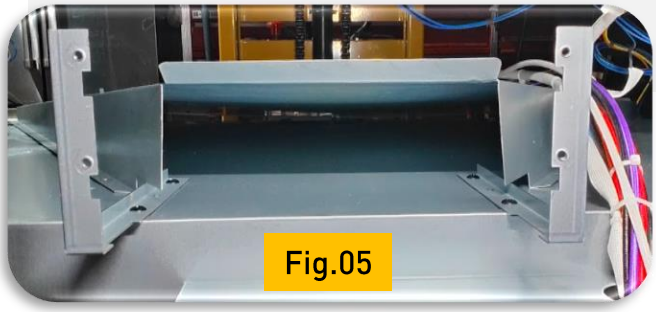


Fig.05

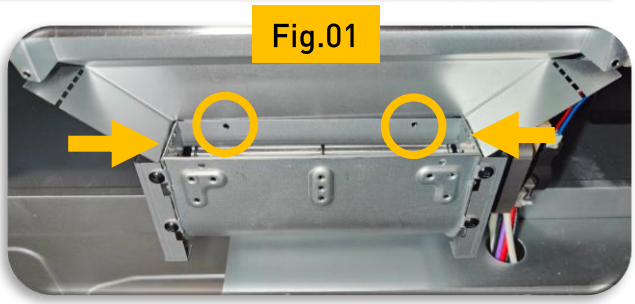


Fig.01


Fig.02

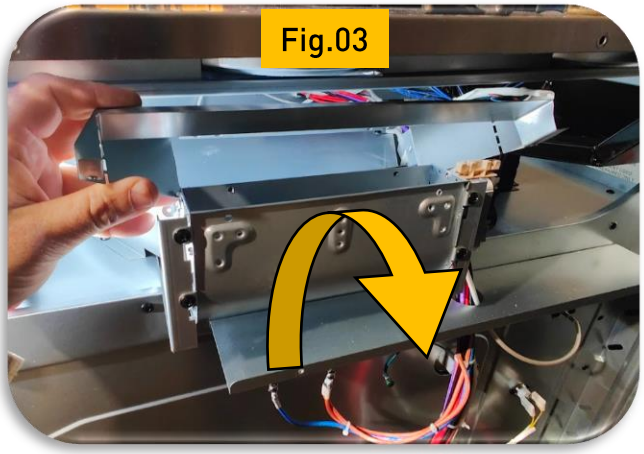


Fig.03

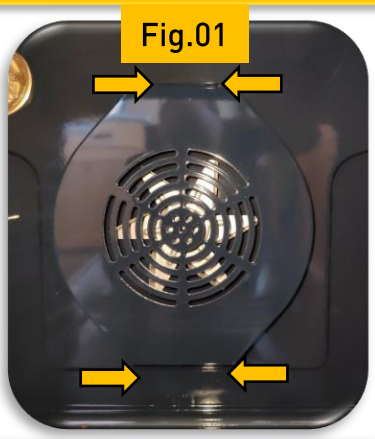

Fig.04

Component Access

Convection fan motor

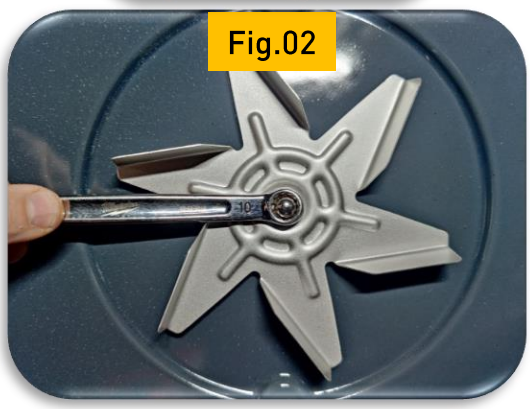
1. Disconnect electrical supply to range, remove oven door for easier access to interior cavity. Remove the 4 screws securing the convection fan cover to rear cavity wall. **Fig.01** Remove cover.

Fig.01



2. Remove convection fan blade retaining nut using a 10mm wrench and turning CW direction. **Fig.02**

Fig.02

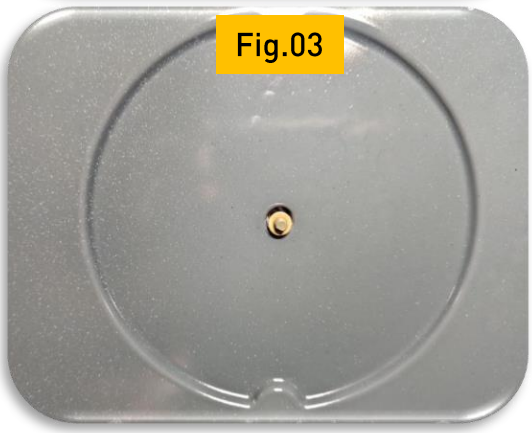


3. Remove convection fan blade from motor shaft. See **Fig.03**

⚠ CAUTION

- **Be careful not to bend the fan blade**
- Failure to do so can result in vibration, noise, and poor performance of convection when operating.

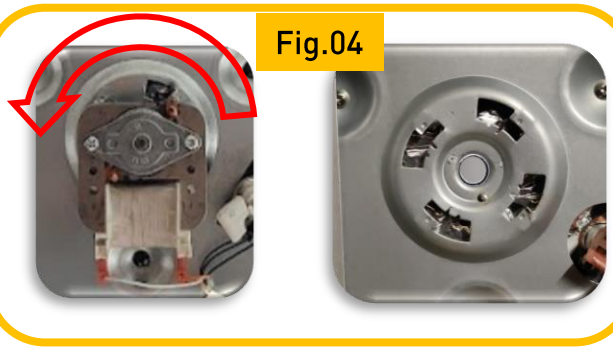
Fig.03



4. Move to the back of oven and remove rear access panel. Locate convection fan motor and remove the two wire terminals to the motor.

5. To remove motor, twist motor CCW direction to release holding tab's pull motor from cavity, Use caution when pulling motor shaft Thru cavity . **Fig.04**

Fig.04



6. Reassemble in reverse order.

Component Access

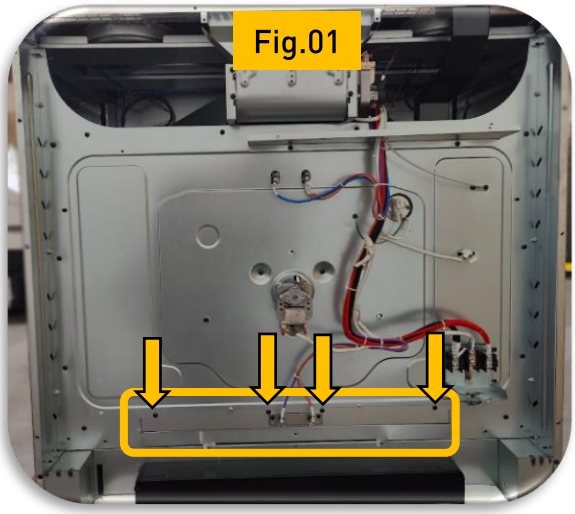
Hidden bake element removal

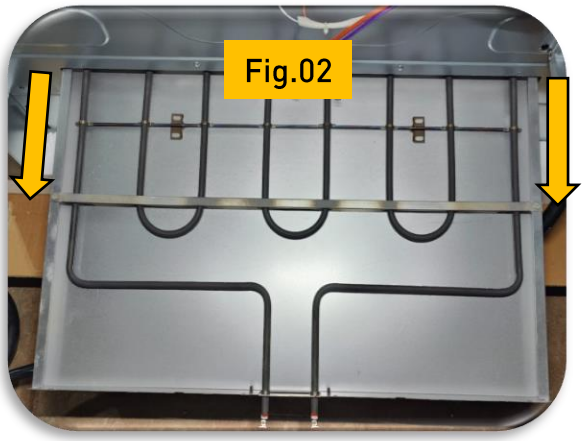
1. Disconnect Range from power supply. Remove rear access panel. Locate Hidden bake element cover. **Fig.01**

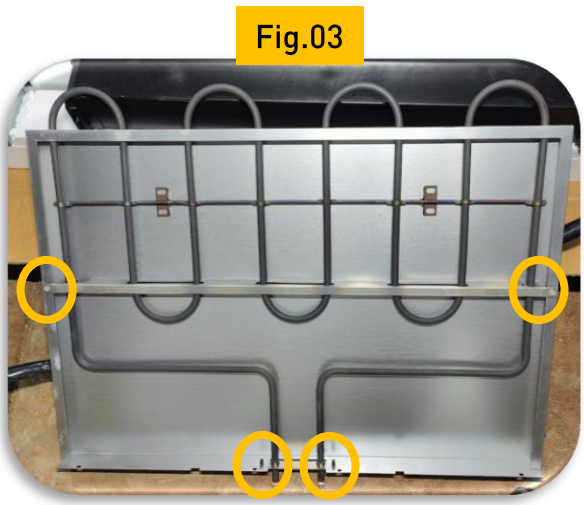
2. Disconnect wires to element and remove the four screws securing the hidden bake element enclosure to the range **Fig.01**

3. Slide the hidden bake element tray from the range. **Fig.02**

4. With element tray removed locate and remove the 4 screws securing the element to the tray. **Fig.**03 Lift back of the element from the tray and slide the element to the rear to remove.







Component Access

Broil Element removal

1. Disconnect Electrical supply to the Range. Make sure elements are room temp before handling. Remove oven door and racks from the cavity.

2. Remove the 2 screws securing the back of the broil element to the cavity back wall. **Fig.01**

3. Grasp heating element and pull element forward until element support bar clears the brackets in the celling **Fig.02**

4. Remove screws securing the wire harness leads to the heating element. **Fig.03**

5. Replace element and reassemble in reverse order.

Fig.01

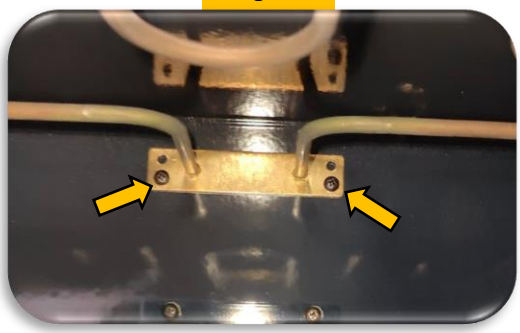
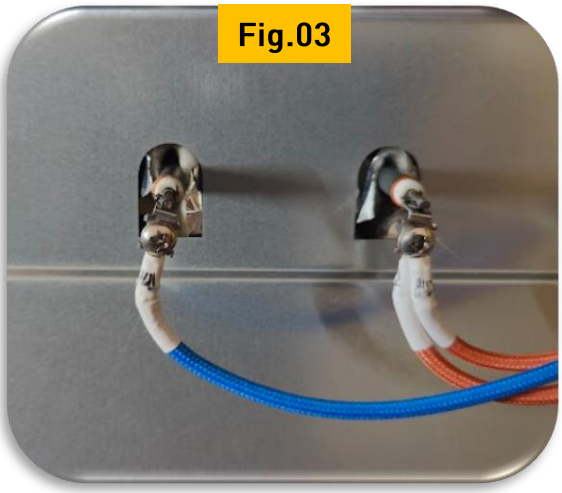


Fig.02

Fig.03



Component Access

Toe kick panel removal

1. Disconnect power to range.

2. To remove Toe kick panel. Remove the 3 screws along the top of the toe kick panel. Slide the toe kick panel to the right to disengage the 3 clips on the bottom

Fig.1

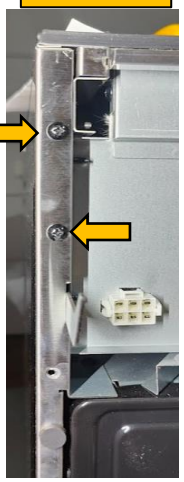
Side panel removal

1. Disconnect power supply to the range. Remove the oven door , control panel, Toe kick panel and rear access panel as out lined in prior steps.

2. With control panel and toe kick removed Locate the four front screws on the side panels, top two are located behind where control panel was **Fig.01**. Bottom two are located where toe kick panel was. Remove the 4 screws per side panel.

3. Move to the back of the range and remove the two remaining screws at the bottom of the side panel. Remove side panel from range. **Fig.02**

Top Left



Top Right

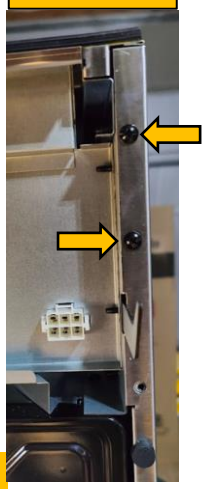


Fig.01

B Left

B Right

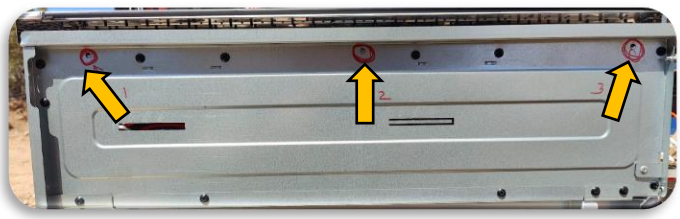
Fig.02

Component Access

Cook top glass removal

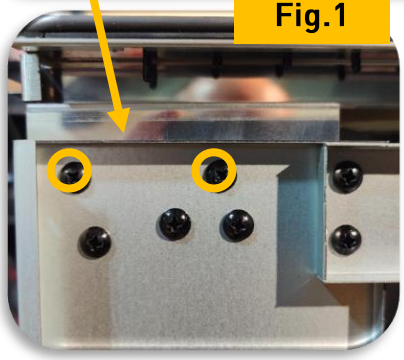
1. Disconnect power to range. Remove side panels both sides (see prior page for side panel removal) .
2. With side panels removed locate the 3 screws per side mounting glass assembly to frame. **Fig.01 ARE36 only Remove** the 3 screws indicated per side. **Fig 1A for ARE30 model**.
3. Lift cook top glass assembly straight up and off the range. **Fig.02**
4. Replace glass and reassemble in reverse order.

ARE30
Fig.01A



Front

ARE36
Fig.1



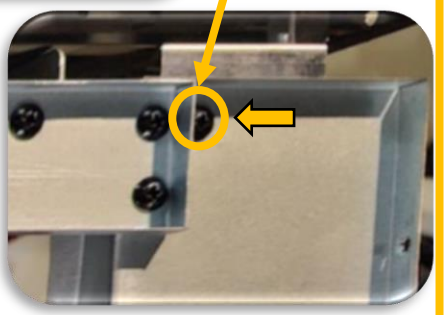


Fig.02

Component Access

Surface element / warming zone removal

1. Disconnect power to range. Remove control panel, both side panel, remove cook top glass (see prior page for removal).

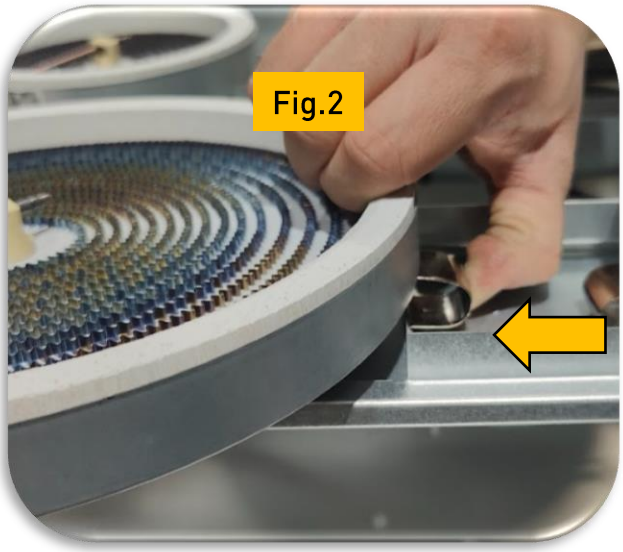
2. With glass assembly removed. **Fig.01** remove wires from heating element assembly being replaced.

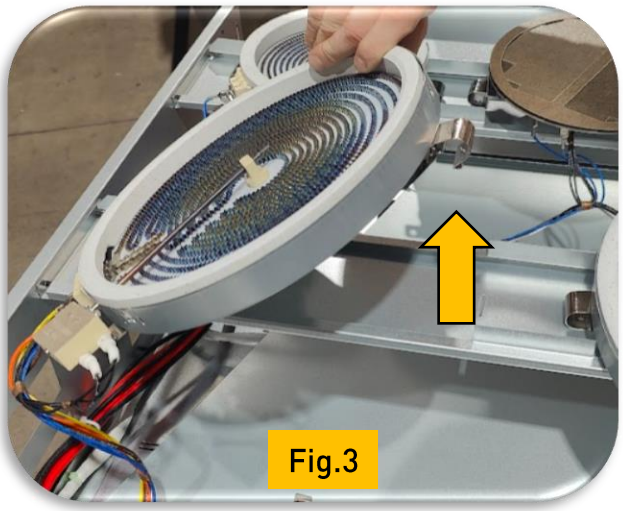
3. To remove heating element assembly from support rail, depress the spring-loaded tab by pushing inward toward center of element. **Fig.02** once tab is unlocked Lift element and spring tab clear of support. **Fig.03** repeat same for other side of the element.

4. When replacing element make sure to transfer spring clips on to new element in the exact same locations as the original.

5. Reassemble in reverse order.

Fig.1





Component Access

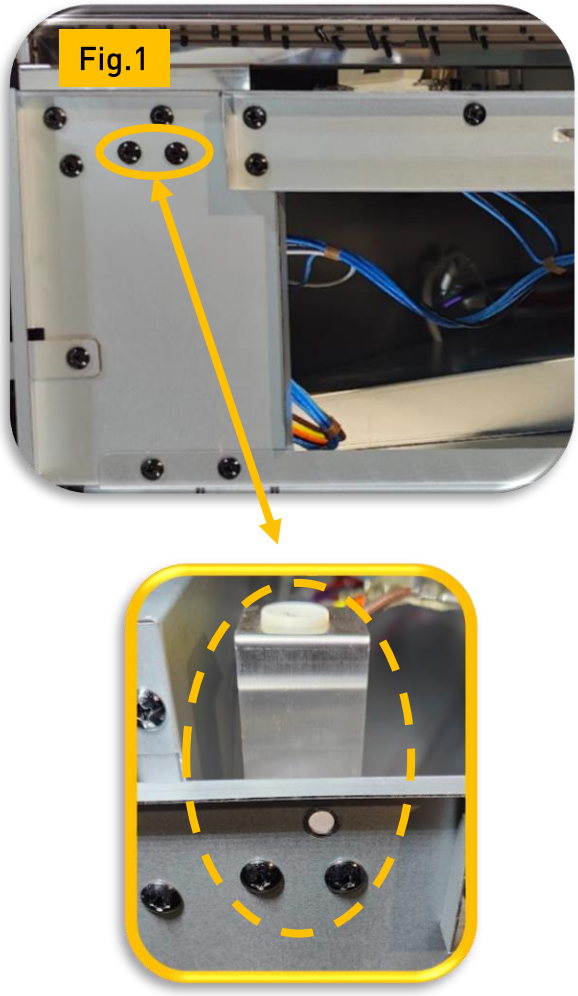
Hot surface indicator light replacement

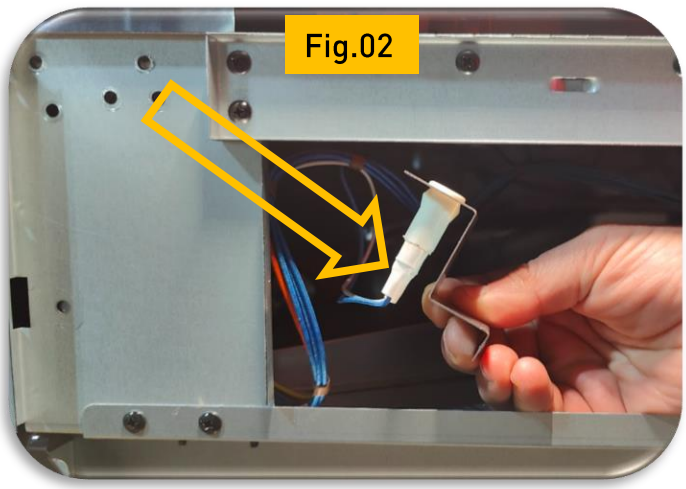
1. Disconnect power to range. Remove control panel, rear access panel and right-side panel as viewed from front of range.

2. Hot surface indicator bracket screws are accessed from right side panel once it is removed. **Fig.01** Remove the two mounting screws.

3. Remove the light assembly thru the opening under the cook top **Fig.02**

4. Remove wire leads from light assembly and replace. Reassemble in the reverse order.





Component Access

Oven Door switch ARE36

1. Disconnect power to range. Remove oven door, Control panel, Toe kick panel and both side panels. Remove cook top glass. See step on prior pages for disassembly of these parts.

2. Remove front sheet metal backing panel by removing 5 screws. **Fig.01.** two screws on the left and right side each and final screw in located in the middle from top.

3. Fold down backing panel that screws were removed in prior steps. Locate blower triangular shaped duct over top of oven. Remove the 6 screws holding duct to top of oven (3 screws per side) **Fig.02**

4. Lift duct cover up in the front to gain access to door switch compartment see **Fig.03**. Depress tabs on backside of switch and pull switch thru front of cavity. **Fig.04**

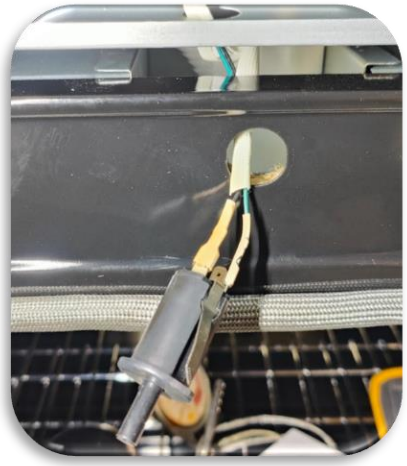
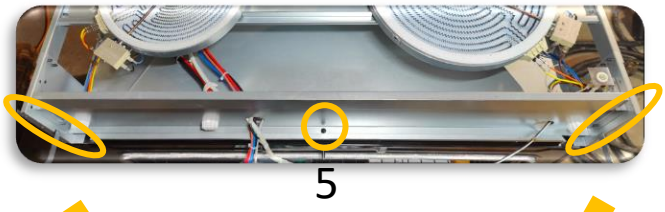


Fig.1



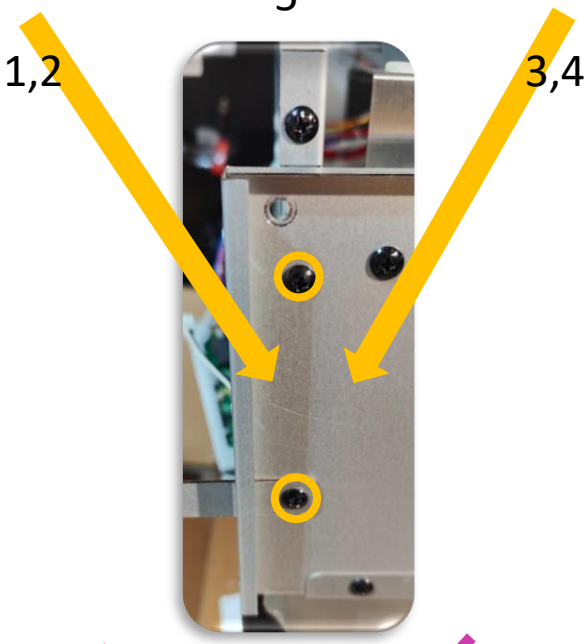
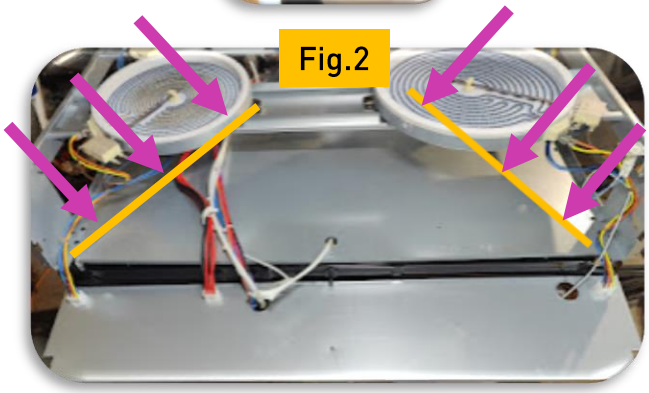


Fig.2



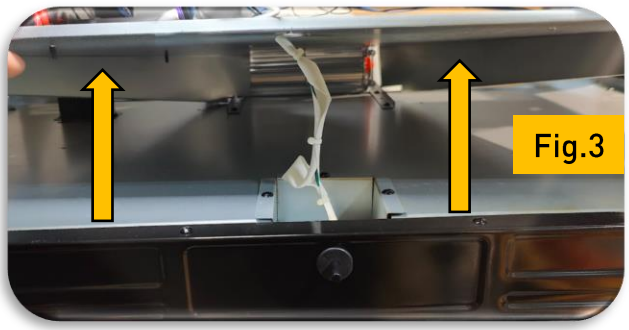


Fig.3

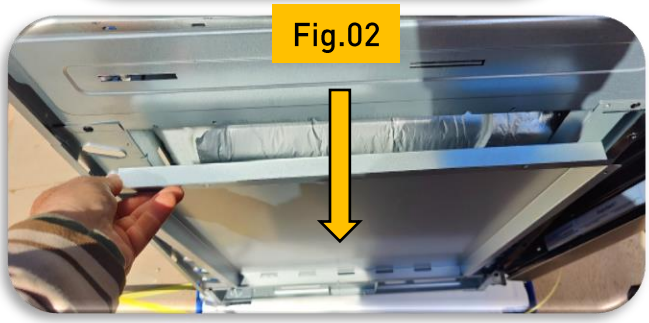
Component Access

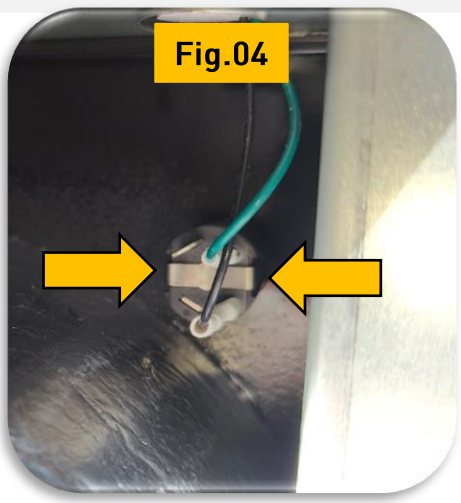
Oven Door switch ARE30

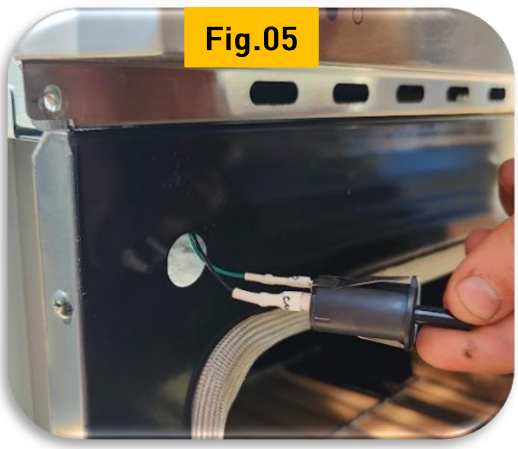
1. Disconnect power to range. Remove oven door, Control panel, Toe kick, rear panel and Left side panel.

2. Remove left side sub panel 8 screws **Fig.01**. Pivot top of panel aware from range to disengage bottom. **Fig.02**

3. Door switch can be accessed by reaching in above oven cavity. **Fig.03** Depress the two tabs **Fig.04** and pull the switch out the front of cavity face **Fig.05**







Component Access

Hinge receiver

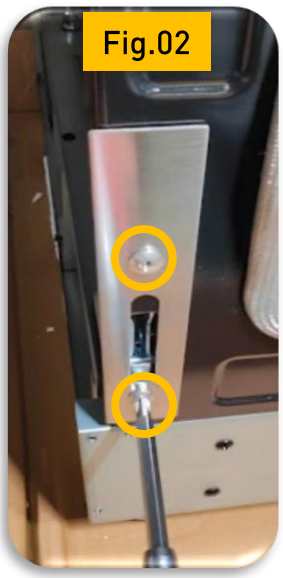
1. Disconnect power to range. Remove oven door, Control panel, Toe kick panel rear panel and both side panels. See prior pages for disassembly .

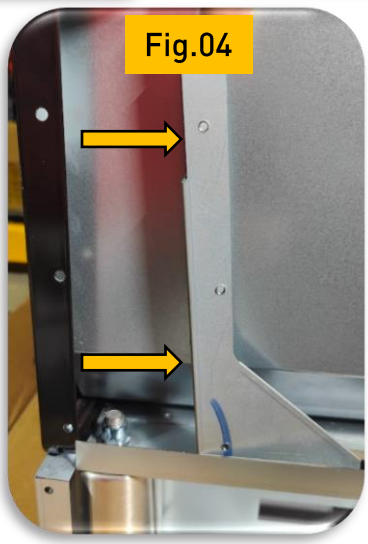
2. With side panel removed locate hinge receiver **Fig.01.** Locate the two screws holding hinge receiver to oven frame. **Fig.02** Remove the two screws and backing plate (*retain these screws and backing plate they will be reused when installing new hinge receiver*).

3. Remove hinge receiver from oven frame **Fig.03** replace receiver and reassemble in reverse order.

Receiver support

1. With hinge receiver removed locate the four mounting screws of the receiver support bracket. **Fig.03** Three pan head screws along the side and one standard Philip in bottom rear. Remove screws and slide receiver support free from oven frame by moving to the rear. **Fig.04**





Component Access

Oven cavity lamp / bulb

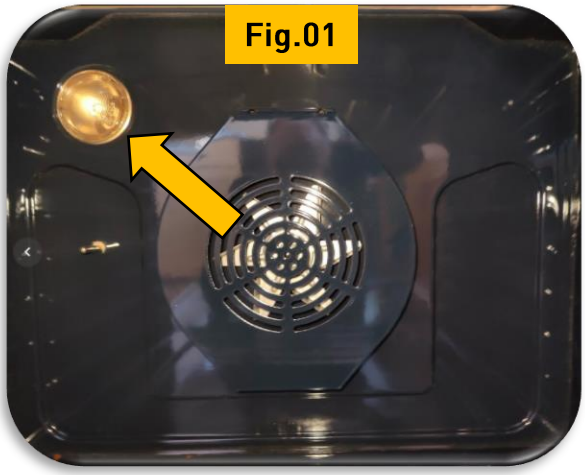
1. Disconnect Electrical supply to the Range. Locate oven lamp cover **Fig.01**

2. Remove oven lamp cover by turning lens CCW direction. **Fig.02**

3. To remove bulb only. Pull bulb straight forward towards front of the range.

4. To remove the light housing locate the 4 locking tabs **Fig.02** using a small screwdriver bend tabs to release the light housing from cavity wall. Pull light socket forward towards front of the oven.

5. With lamp assembly pulled forward from the cavity remove wire harness terminal and replace lamp assembly.



Bulb 120Vac 40watt G9 base Halogen

Component Access

Removing outer door skin

1. Remove door from range.
2. Remove the door handle and handle holders from the door.
3. Remove the two screws going thru the door to the handle holder studs. **Fig.01** Note it may be necessary to hold the door handle stud with pilers or similar when removing the screw.
4. Remove the 3 screws along the bottom of the door **Fig.02**
5. Holding the two-door half together flip the oven door over so the Stainless-steel door is now facing up.
6. Lift the stainless-steel door skin up and free from the inner door. **Fig.03**

Fig.01

Fig.02

Replacing outer door glass

1. Remove the stainless-steel door skin from the door (see steps above)
2. Remove the two nuts securing the THOR logo **FIG.03**
3. Remove support bracket at bottom edge of glass. Glass is held to door with double sided tape, use a heat gun to warm the edges of the glass to make tape removal easier, use a putty knife or similar instrument to aid in separating glass from the door. Secure new glass to door skin with double sided tape and install the support bracket and logo nuts.

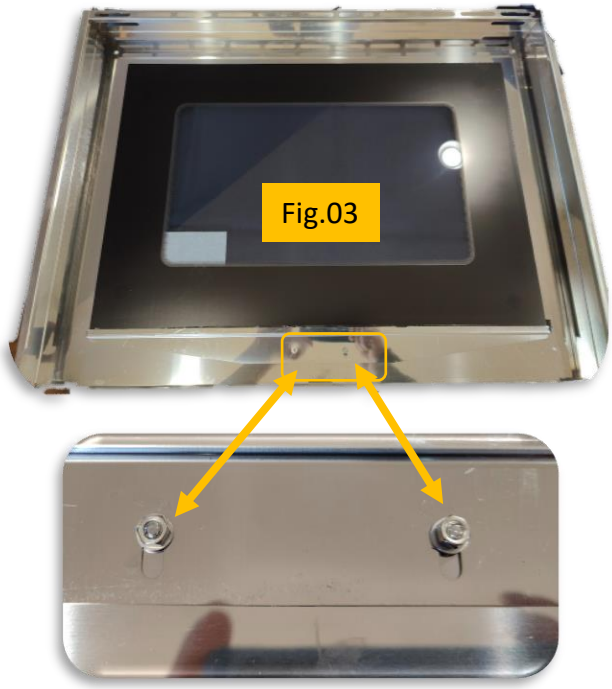


Fig.03

Component Access

Removing door hinges

1. Remove door from the range.
2. Remove the Stainless-steel door skin, see prior page for removal.
3. With door skin removed turn the oven door over so the porcelain enamel side of the door is facing up .
4. Remove the two mounting screws holding the hinge to inner door **Fig.01**
5. Remove hinge and backing plate. Save screws and backing plate and reinstall along with new hinge.

Fig.01

Replacing inner door glass

1. Remove the stainless-steel door skin from the door (see steps on prior page
2. Remove the 6 screws, 3 per side. Remove middle glass and brackets Fig.02
3. Remove the 6 screws holding sheet metal insulation cover , Lift and remove the sheet metal insulation retaining cover. **Fig.03**

Fig.02

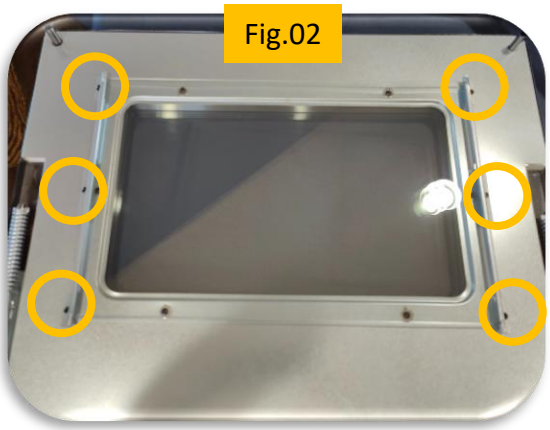
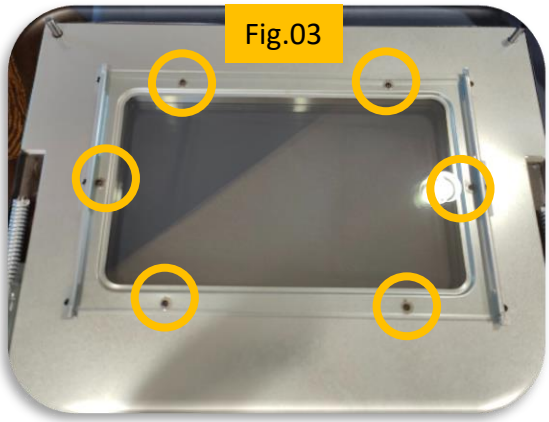


Fig.03



Component Access

Replacing inner door glass - Cont.

4. Carefully remove door insulation pack. **Fig.04**

5. Carefully remove the inner insulation pack. **Fig.05**

6. Remove the two inner heat-treated glass panels. Glass panels are supported by stainless steel inner support. **Fig.06**

Reassembly of door glass

1. Reassemble in reverse order.

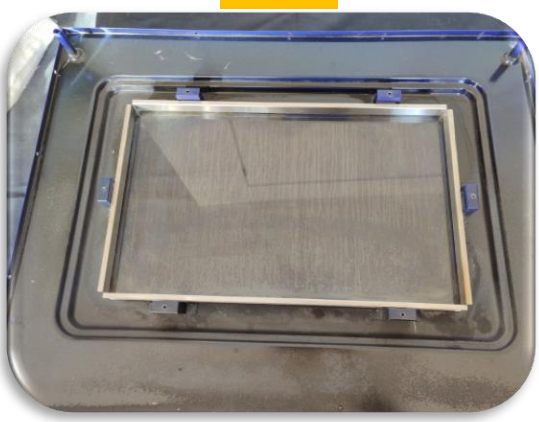
2. Be sure glass is clean on all sides and there is no fingerprints or insulation fibers on the glass panels.

3. See next page for assembly process for the inner most two panels of the oven glass (two closest to oven cavity) **Direction of the glass placement is critical to the insulation value of the door.**

Fig.04

Fig.05

Fig.06



Component Access

VERY IMPORTANT WHEN ASSEMBLING DOOR GLASS

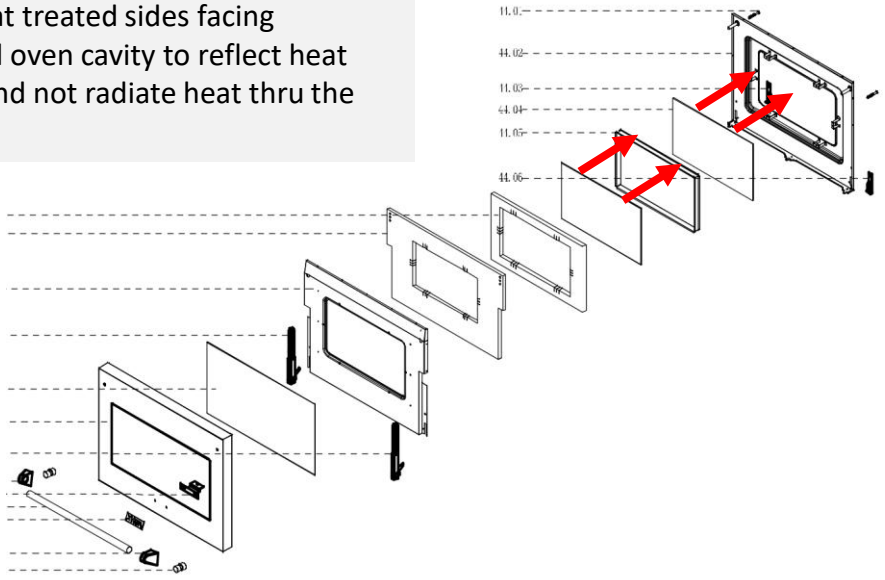
No heat treatment

Non-heat-treated side will read open when preforming a resistance check.

Heat treated

Heat treated side of glass will have a resistances of around 40Ω across the surface of the glass.

Both inner and middle door glass
Must have heat treated sides facing
Inward toward oven cavity to reflect heat back inward and not radiate heat thru the door glass.



Component Access

Removing oven door gasket

⚠ WARNING

- **DISCONNECT power supply cord from the outlet before servicing.**
- **Replace all panels and parts before operating.**
- **RECONNECT all grounding devices.**

- Failure to do so can result in severe personal injury, death or electrical shock.

⚠ CAUTION

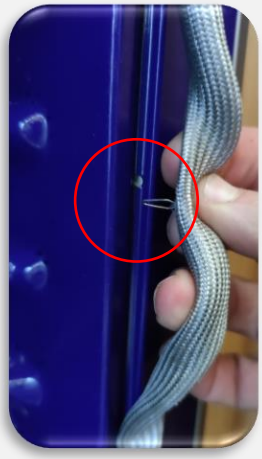
- **Be careful when you work on the electric range handling the sheet metal part.**

- Sharp edge may be present and you can cut yourself.

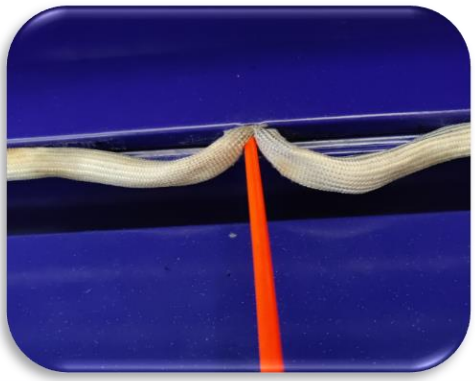
1. Open oven door fully or remove oven door for more access.

2. Pull oven door gasket releasing clips from cavity holes

3. When replacing the gasket make sure all clips are placed in to correct hole locations

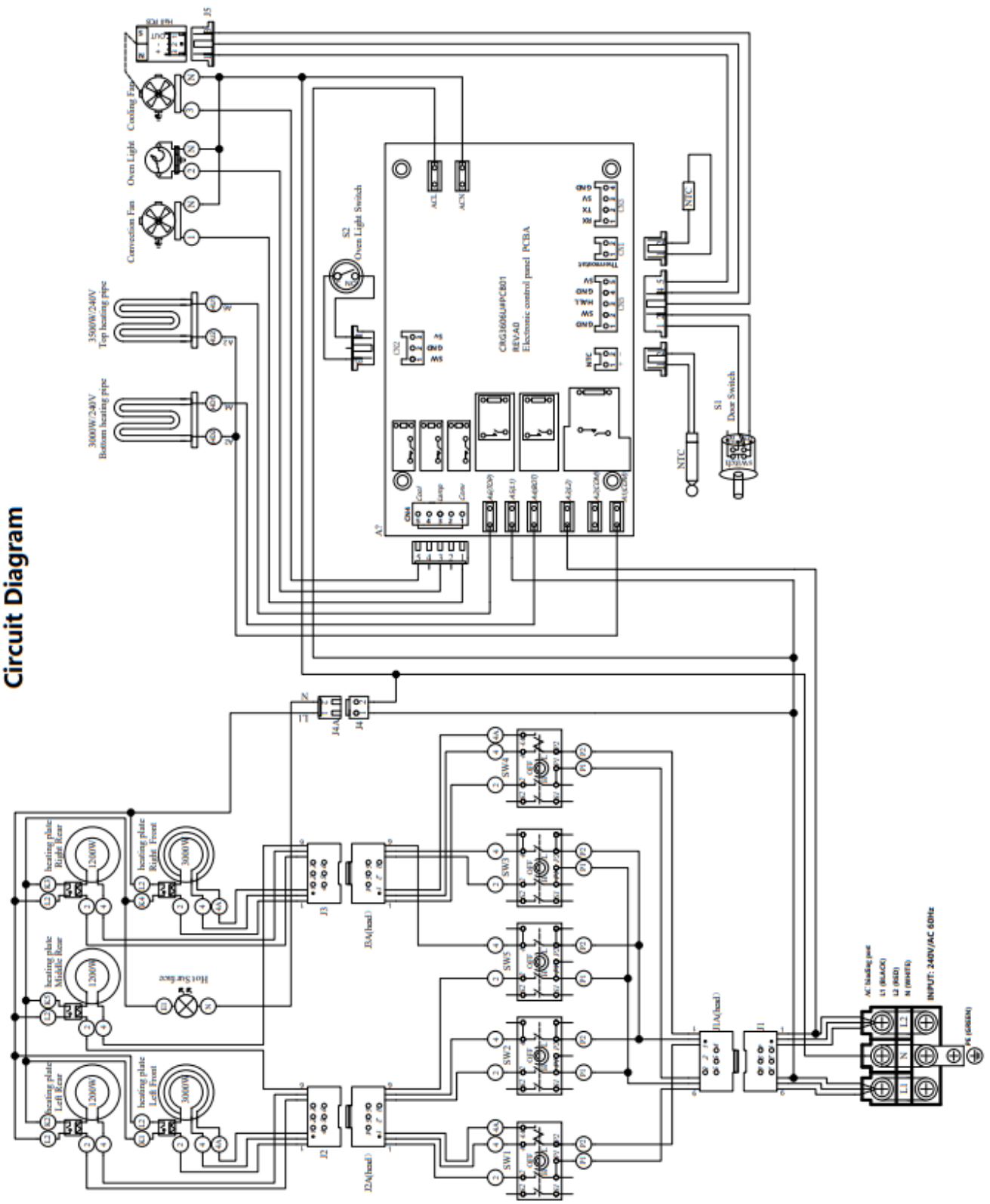


4. Feed both end of gasket into the small hole in the center bottom of oven, Use a small blunt instrument such as a chop stick to push extra gasket into hole

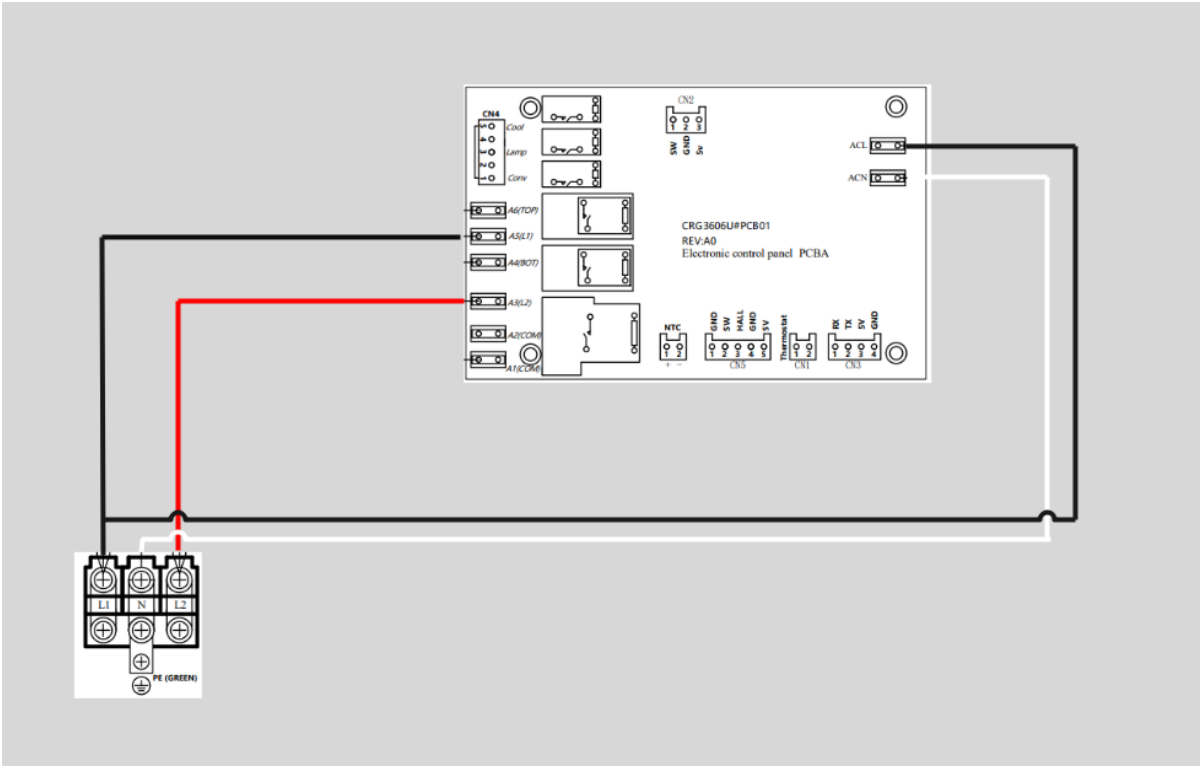


ARE -Wiring Schematic

Circuit Diagram



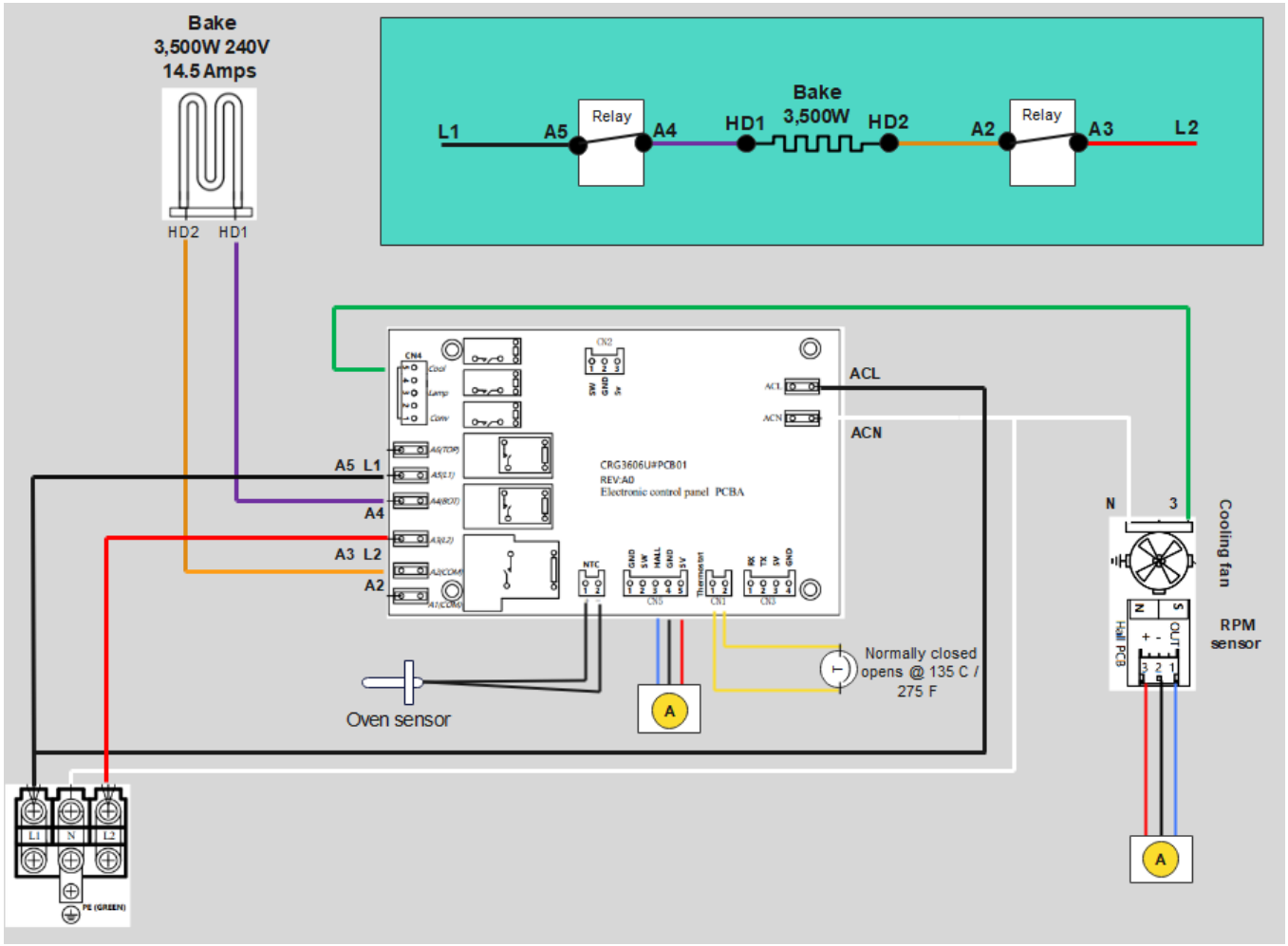
ARE – Power standby strip circuits



- In standby and in operation state, 120Vac is supplied to the Main PCB via the (ACL) L1 black wire and (ACN) Neutral white wire. There is an internal SMPS (switch mode power supply) built into the main board. The internal SMPS will take the supplied 120Vac and convert to the needed the 12 VDC and 5VDC to power the main board , display read out and operate all relays, sensor and switches.
- If there is no display or no operation of Main PCB check across power input terminals ACL and ACN for 120VAC. If 120VAC is present when checking and there is no display or operation of Main PCB replace the Main PCB assembly. IF the 120Vac is not present between ACL and ACN then trace ACL and ACN wires back to terminal block to find source of voltage loss

ARE – Bake Strip circuits

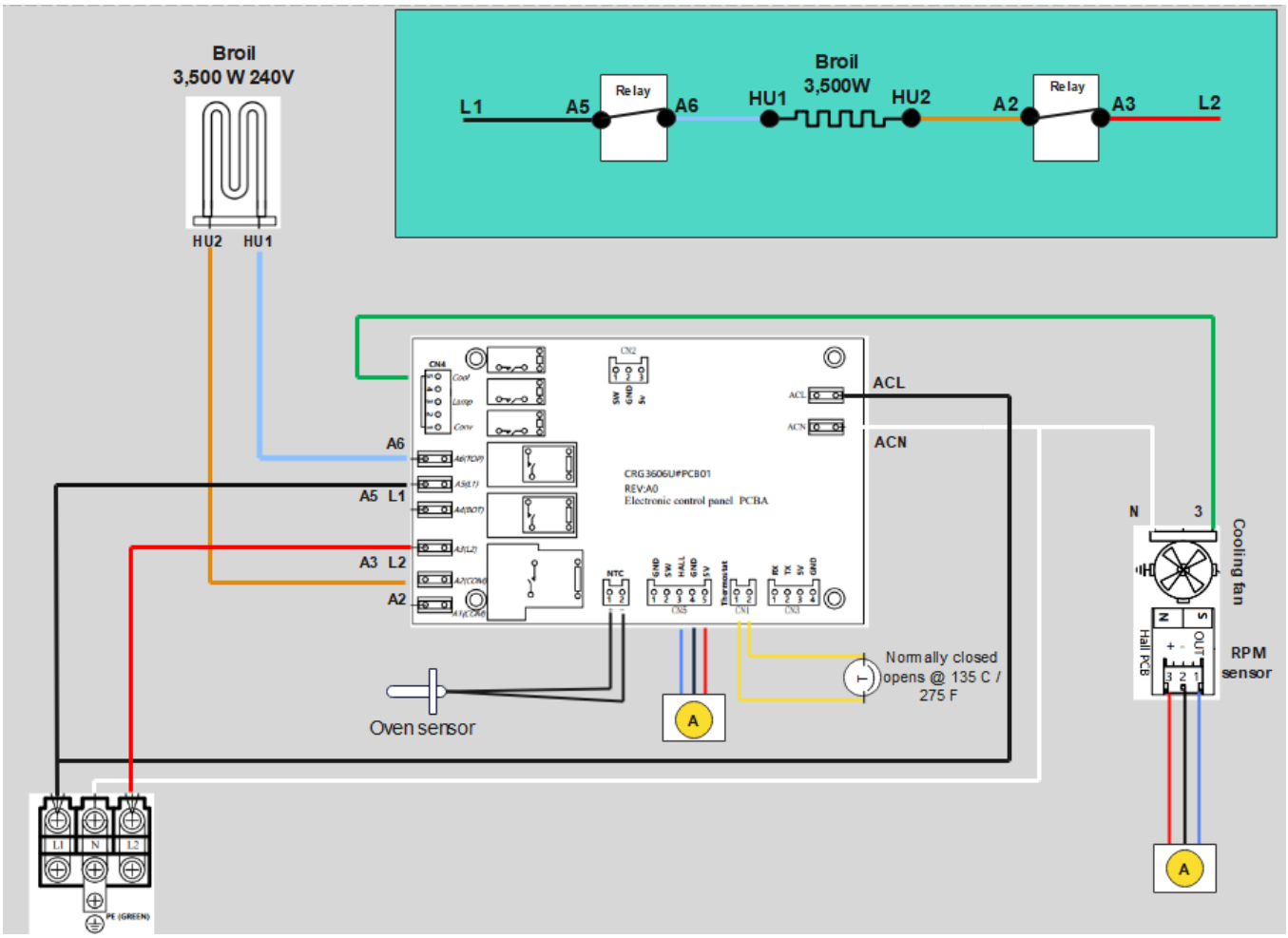
Bake Element Circuit



- A5 L1 Black wire and A3 L2 Red wire supply the 240V input to the control board. When bake cycle is selected the Bake relay will close L1 phase voltage will exit relay PCB on A4 Purple Wire and travel to Bake element terminal HD1
- Double line break relay will close at same time as Bake relay. This will supply L2 phase, it will exit relay PCB on A2 Brown wire and travel to Bake element terminal HD2.
- There will now be 240V present to heating element

ARE – Broil strip circuits

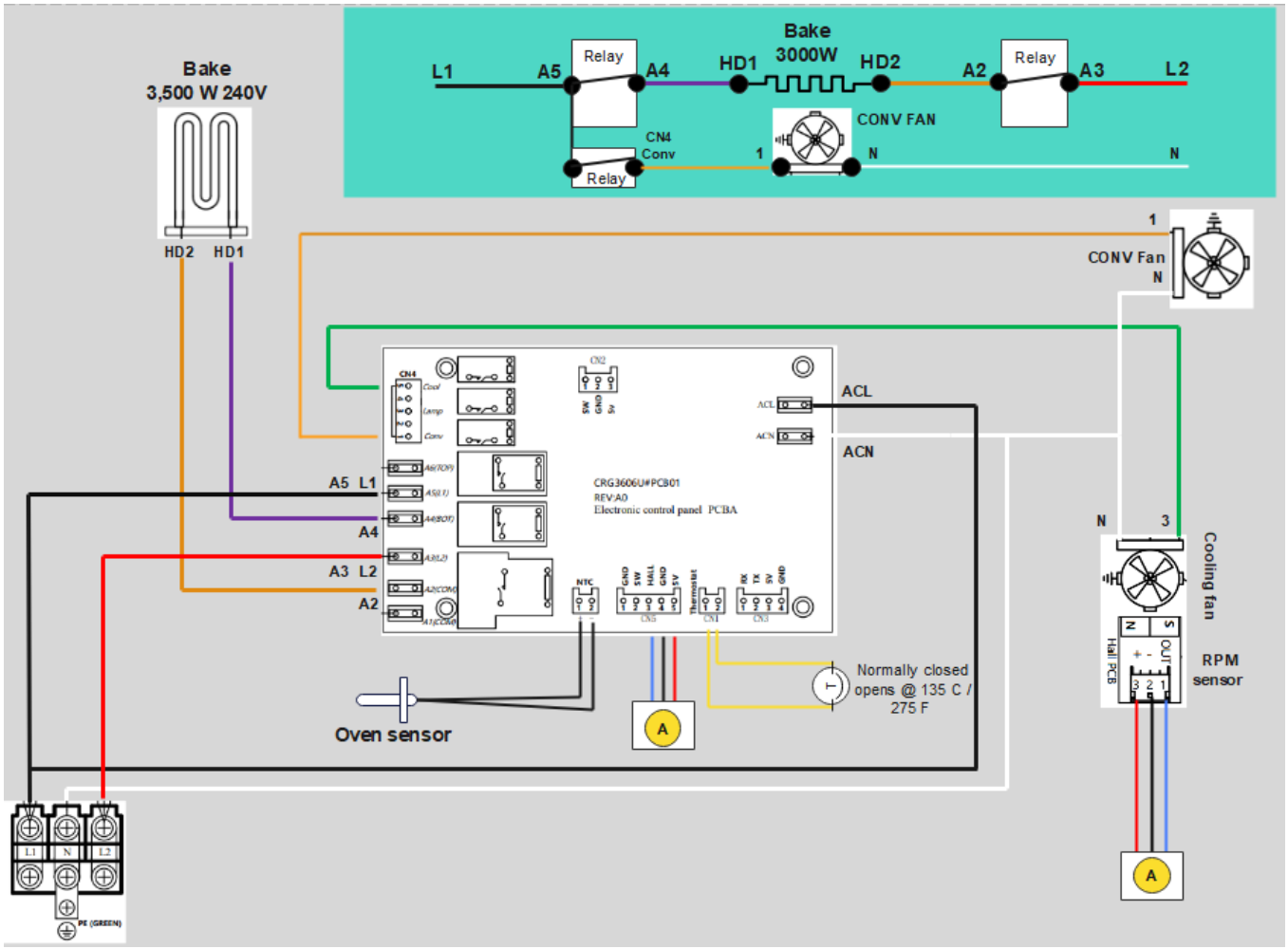
Broil circuit



- A5 L1 Black wire and A3 L2 Red wire supply the 240V input to the control board. When Broil cycle is selected the Broil relay will close L1 phase voltage will exit relay PCB on A6 Blue Wire and travel to Broil element terminal HU1.
- Double line break relay will close at same time as Broil relay. This will supply L2 phase, it will exit relay PCB on A2 Brown wire and travel to Broil element Terminal HU2.
- There will now be 240V present to heating element

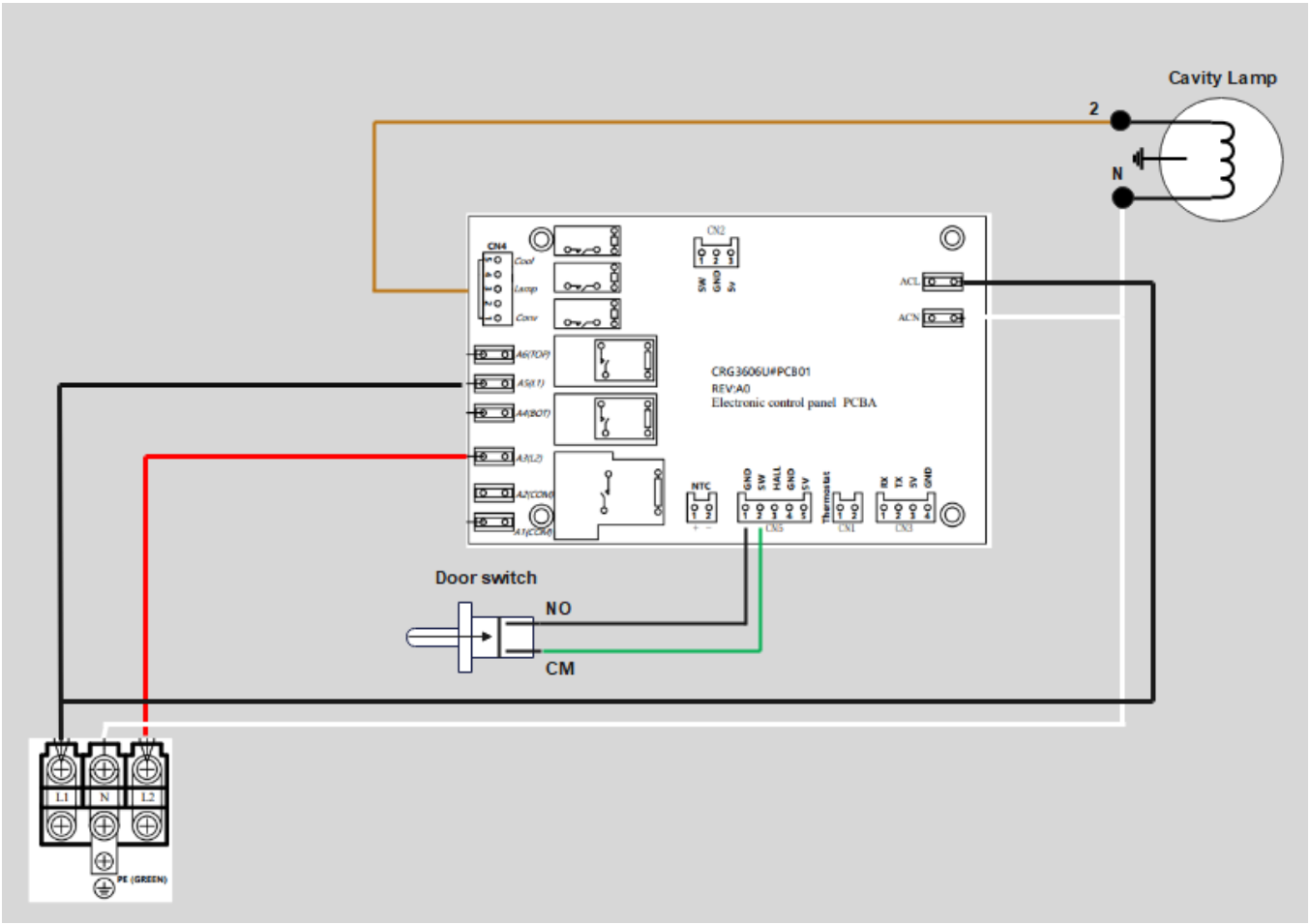
ARE – Convection strip circuits

Convection Heating



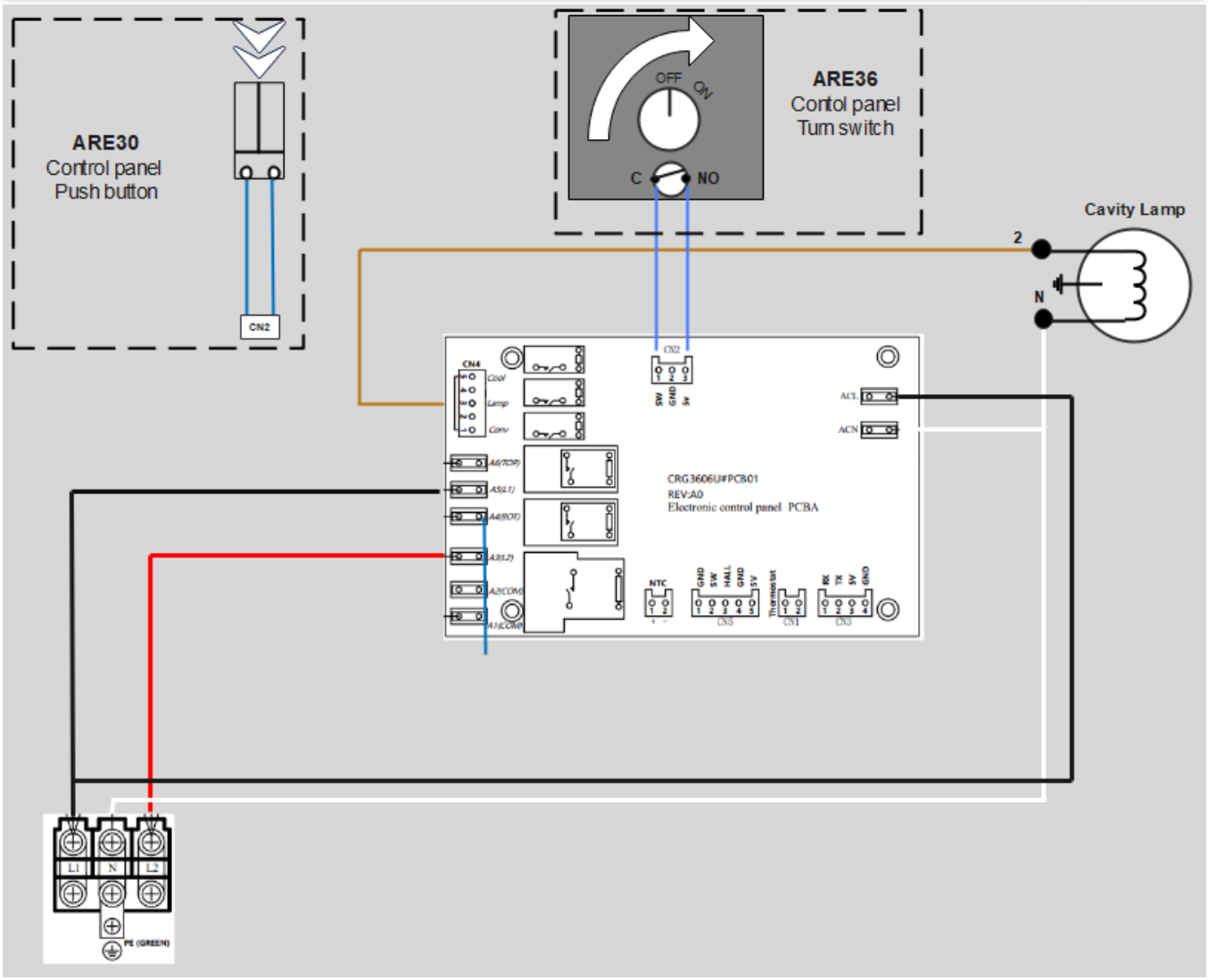
- A5 L1 Black wire and A3 L2 Red wire supply the 240V input to the control board. When bake cycle is selected the Bake relay will close L1 phase voltage will exit relay PCB on A4 Purple Wire and travel to Bake element terminal HD1
- Double line break relay will close at same time as Bake relay. This will supply L2 phase, it will exit relay PCB on A2 Brown wire and travel to Bake element terminal HD2.
- There will now be 240V present to heating element.
- Convection fan relay will close supplying L1 (120V) at CN4 Pin1 Orange wire to convection fan, Voltage will pass thru conv fan motor to terminal (N) White wire supplying neutral path.

ARE – Door switch Strip circuits



- CN5 pin2 Green wire will supply +5Vdc to the CM terminal of the door switch. When door is closed 5vdc will pass thru door switch terminal CM to NO and exit the Black wire returning to CN5 pin 1 on PCB. As long and 5Vdc is sensed by PCB at CN5 pin1 control will know the door is closed and no power will be sent to oven cavity light.
- When the oven door is opened, and door switch plunger extends. Switch contact CM to NO will be opened stopping the 5Vdc going to CN5 pin 1. When ERC senses the voltage loss control will close light relay sending voltage of 120V out CN4 pin3 Brown wire to cavity light socket terminal (2). Voltage will pass thru Cavity lamp socket and exit Terminal (N) to white Neutral wire traveling back to terminal block completing the circuit.

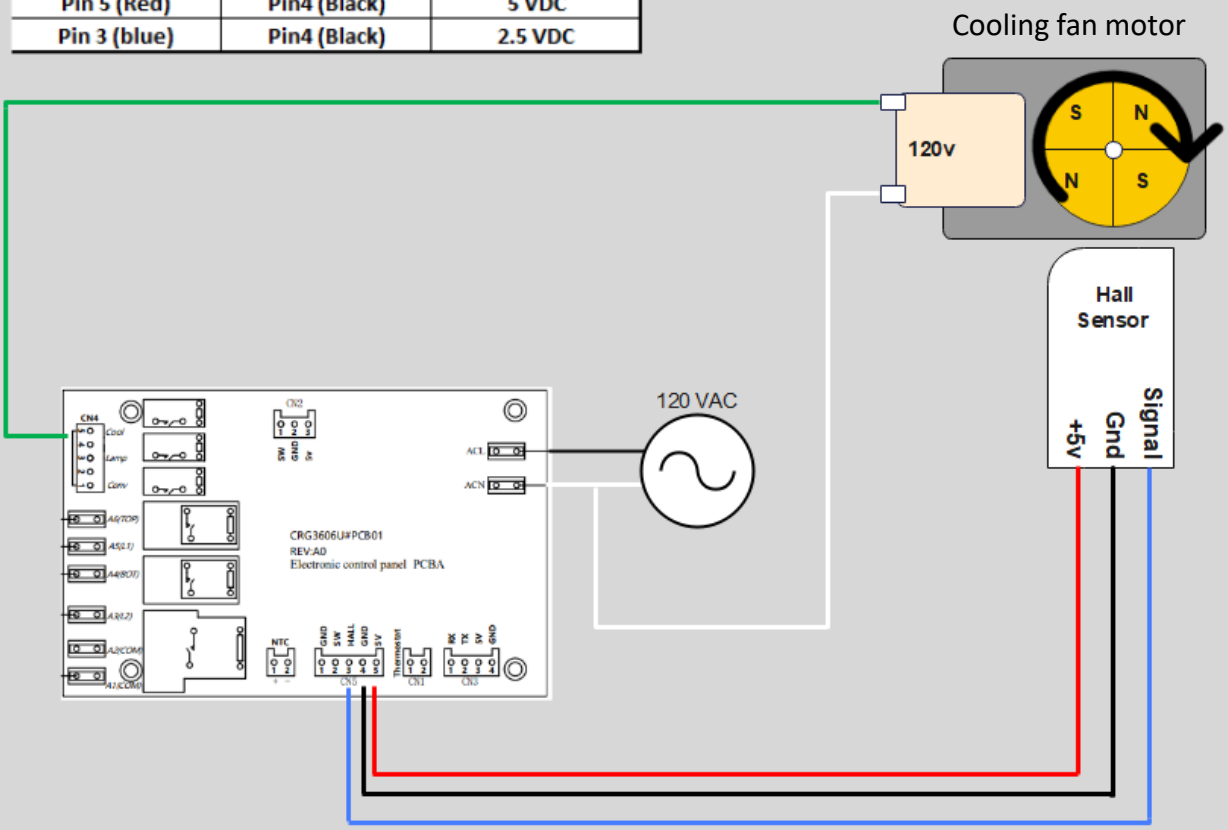
ARE – Manual light switch



- CN2 pin3 Blue wire will supply +5Vdc to the NO terminal of the control panel light switch. When control panel switch is Turned to **ON position(ARE36) or pushed (ARE30)** 5vdc will pass thru switch terminal NO to CM and exit the Blue wire returning to CN2 pin 1 on PCB. When ERC senses the voltage input of 5vdc in CN2 pin1 control will close light relay sending voltage of 120V out CN4 pin3 Brown wire to cavity light socket terminal (2). Voltage will pass thru Cavity lamp socket and exit Terminal (N) to white Neutral wire traveling back to terminal block completing the circuit.
- When control panel switch is in **OFF position** contacts CM to NO will be open stopping the 5Vdc going to CN2 pin 1. When ERC senses there is no voltage input on CN2 pin 1 cavity light relay is turned off.

ARE – Cooling Fan / Hall sensor

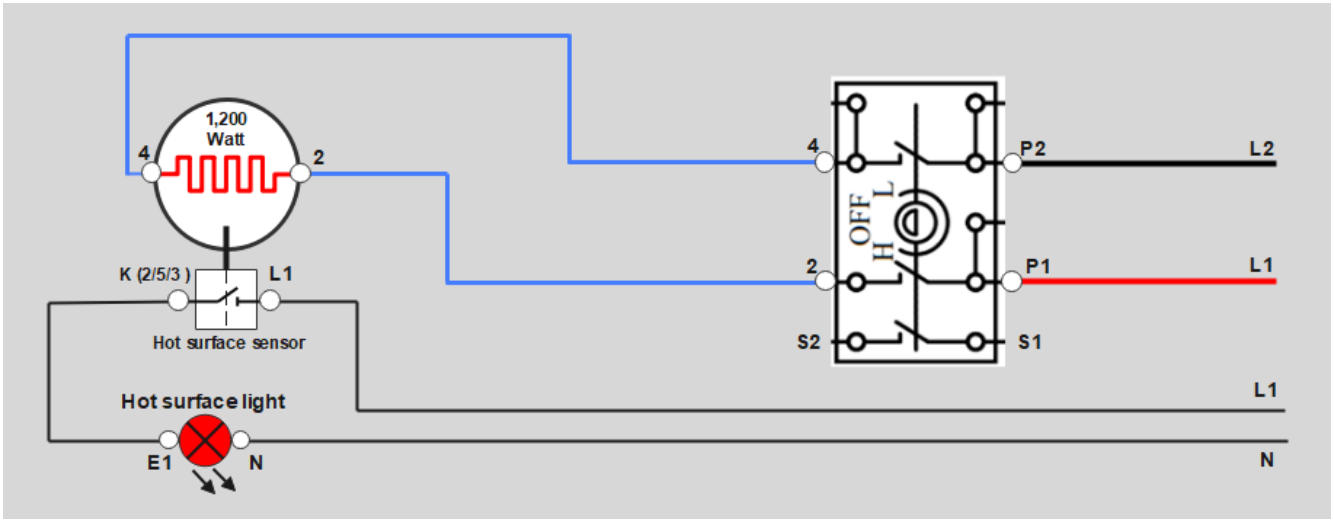
Hall sensor check with fan rotating		
CN5 connector		Result
Pin 5 (Red)	Pin4 (Black)	5 VDC
Pin 3 (blue)	Pin4 (Black)	2.5 VDC



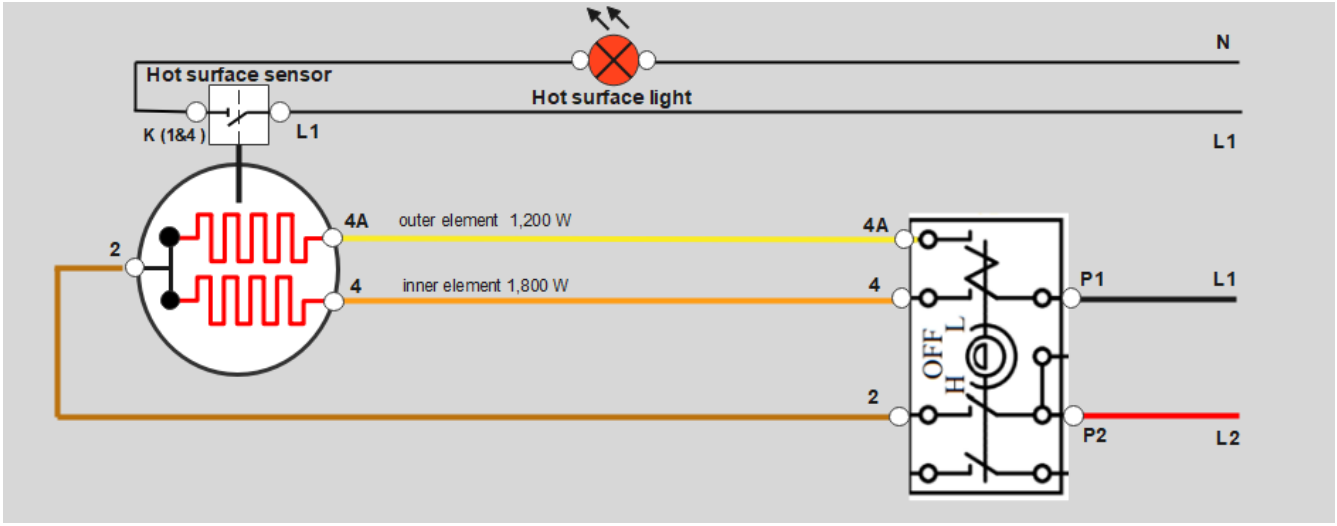
- Power is supplied to hall sensor Via CN5 pin5 (red wire) and pin4 (black wire). As long as the range is plugged in to power even in stand by mode the control is always supply +5vdc between red and black wires to the halls sensor.
- When cooling fan motor is powered on 120V is supplied via the ERC CN4 pin5 green wire.
- Once fan motor is rotating hall sensor will send a feed back signal to ERC to let the ERC know the fan motor is rotating. To check feed back signal with fan motor spinning measure between CN5 pin3 Blue wire and CN5 pin4 black wire. A correct signal will be 2.5Vdc

ARE – Surface Elements

LR, MR (36”only) and RR single 1,200watt surface element strip circuit



LF and RF Dual 3,000-watt surface element strip circuit



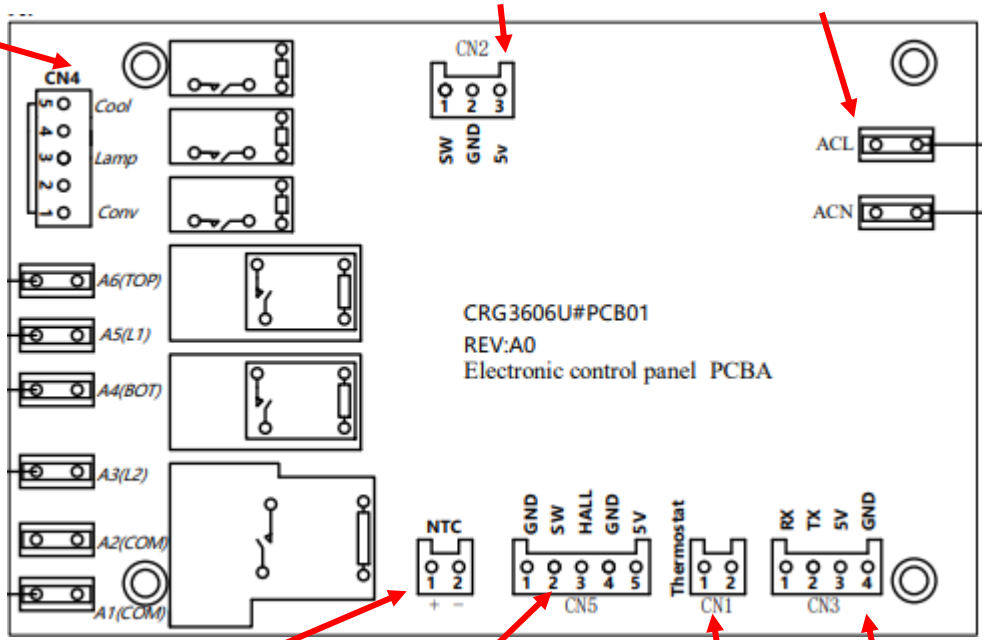
ARE – PCB terminal locations

Relay PCB ARE30 /ARE36
Part number

Terminal number	Function
CN2 Pin 1	Light SW
CN2 Pin 3	+5V

Terminal number	Function
ACL	L1 power in
ACN	Neutral

Terminal number	Function
CN4 Pin 5	Cooling Fan
CN4 Pin 3	Cavity light
CN4 Pin1	Conv Fan MTR



Terminal number	Function
A6 Top	Broil Element
A5 L1	AC L1 in
A4 Bottom	Bake element
A3 L2	AC L2 in
A2	L2 Bake / Broil
A1	Not used

Terminal number	Function
NTC	Temp sensor

Terminal number	Function
CN5 Pin 1	Gnd
CN5 Pin 2	Door switch
CN5 Pin 3	Hall sensor
CN5 Pin 4	Gnd
CN5 Pin 5	+5V

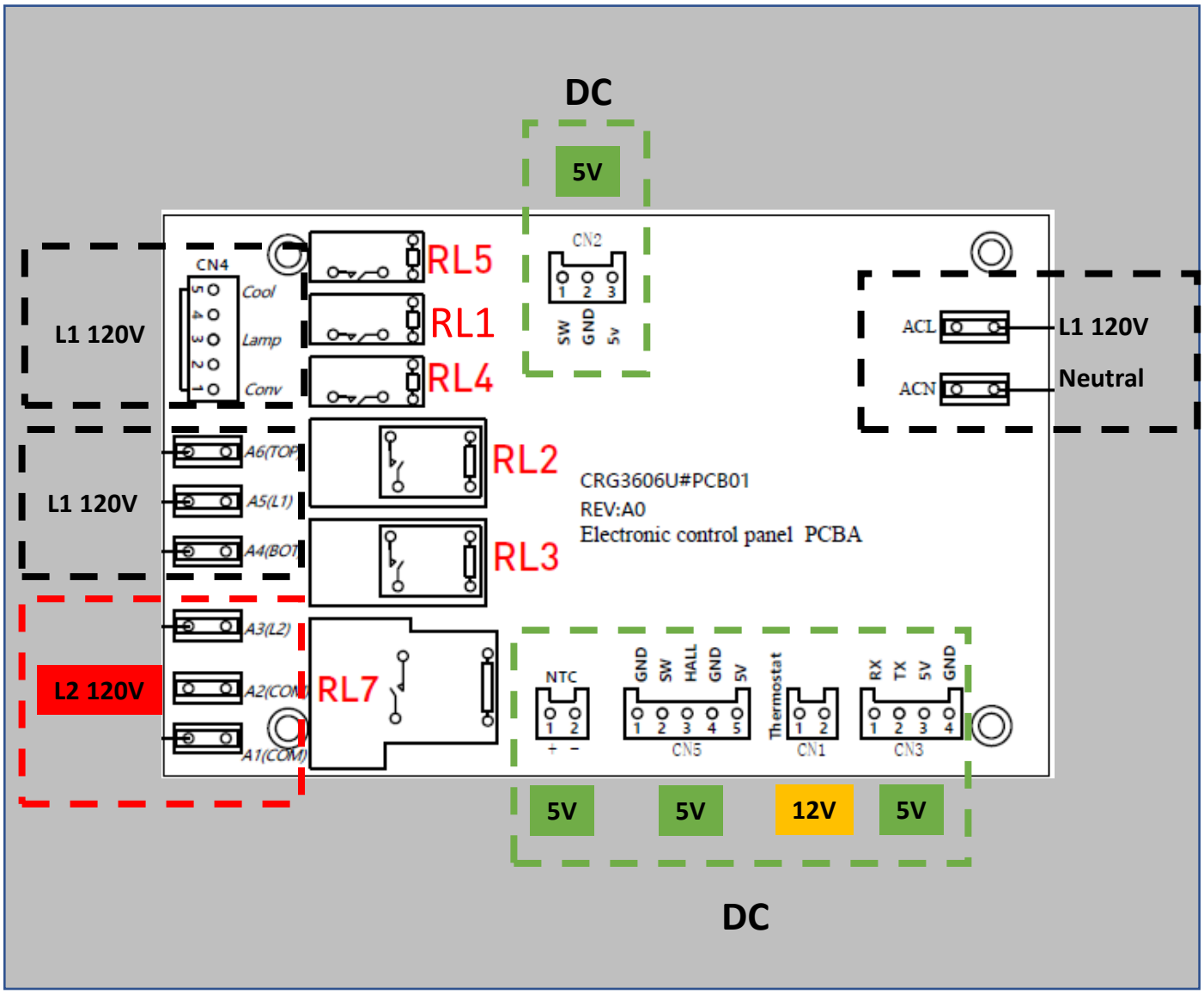
Terminal number	Function
CN1	Hi limit T-stat

Terminal number	Function
CN1	PRGM Port

ARE – PCB terminal locations

Relay PCB ARE30 /ARE36

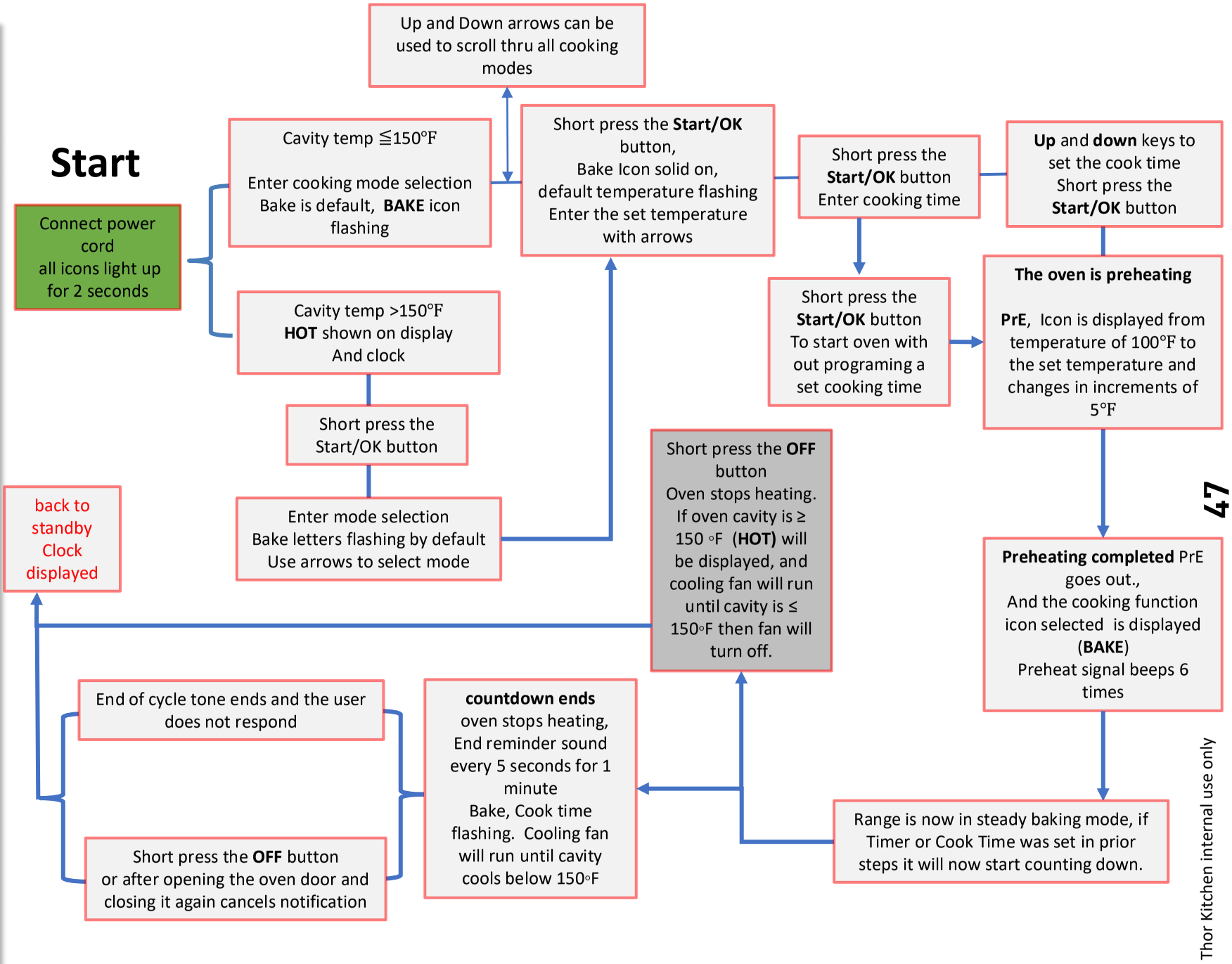
Control voltages



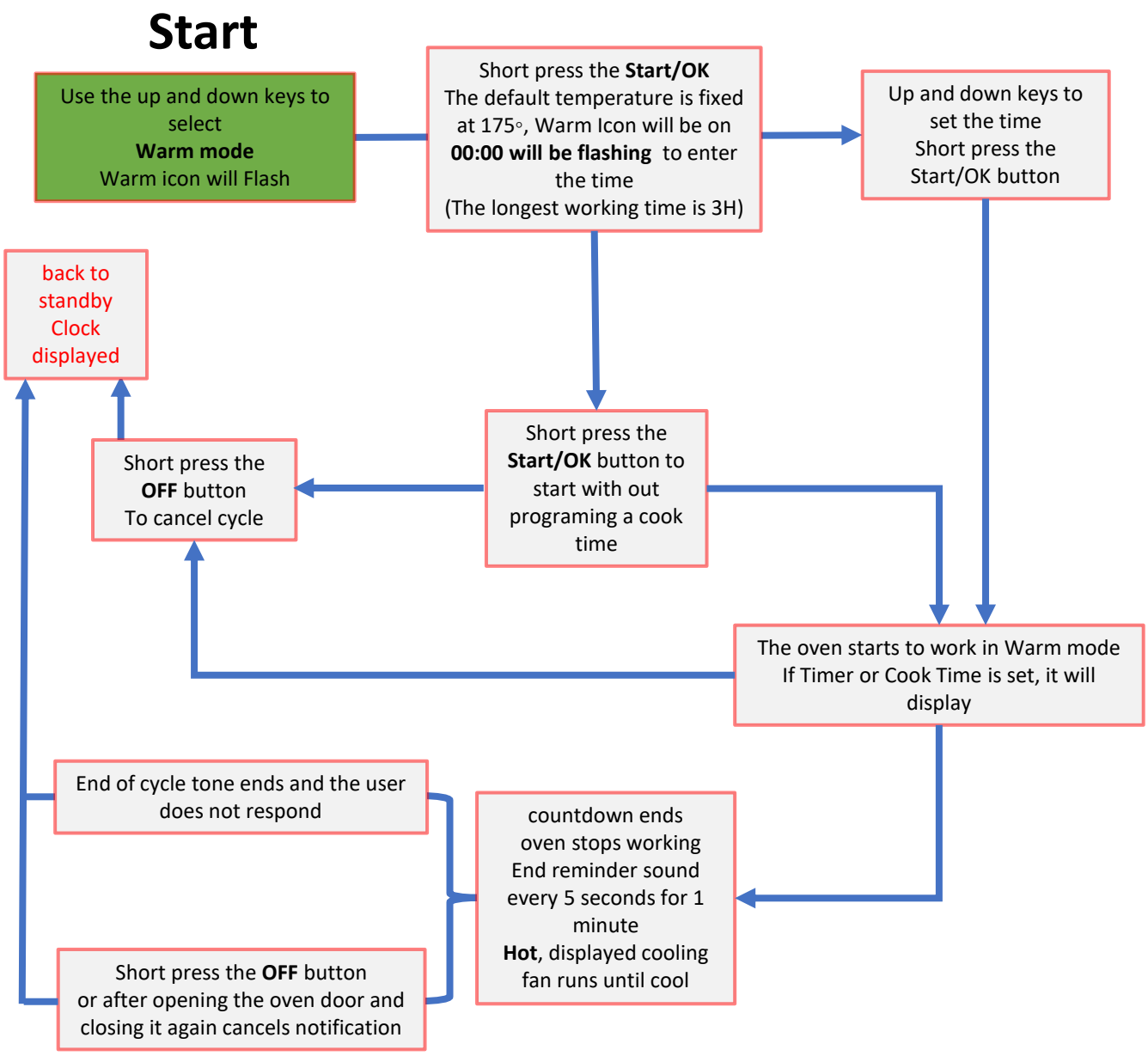
ARE – Relay operation Chart's

Cooking mode	time	default temp	temp range	Preheat signial	Preheat				Cooking			Cooling Fan
	(min)	(℉)	(℉)	Preheat	Top element	Bottom element	cooling fan-low speed	convection fan	top element	bottom element	convection fan	speed
BAKE	0:01-10:00	350	150-550	YES	40s	20s	ON	60s	0s	30s ON 30s OFF	25s ON 35s OFF	ON LOW
					RL2,RL7	RL3,RL7	RL5	RL4	RL2,RL7	RL3,RL7	RL4	RL5
					alternating heat, broil 40S then bake 20s		Low speed	On for preheat	Bake element only		OFF	Always on
Conv BAKE	0:01-10:00	325	150-550	YES	40s	20s	ON	60s	0s	40s ON	60s ON	ON LOW
					RL2,RL7	RL3,RL7	RL5	RL4	RL2,RL7	RL3,RL7	RL4	RL5
					alternating heat, broil 40S then bake 20s		Low speed	Always on	Bake element work only 40s ON 20s OFF		Always on	Always on
Conv Roast	0:01-10:00	325	150-550	YES	40s	20s	ON	60s	30s ON	30s ON	60s ON	ON LOW
					RL2,RL7	RL3,RL7	RL16	RL4	RL2,RL7	RL3,RL7	RL4	RL5
					alternating heat, broil 40S then bake 20s		Low speed	Always on	alternate heat, broil 30S then bake 30s		work always	Always on
Broil	4:00	550 Hi	400,550	NO	60s	0	ON	0	60s ON	0	0s ON	ON LOW
					RL2,RL7	RL3,RL7	RL5	RL4	RL2,RL7	RL3,RL7	RL4	RL5
					Broil element work only		Low speed	OFF	Broil element work only		OFF	Always on
Keep Warm	4:00	175	175	NO	0s	30s	ON	0s ON	/	30s ON 35s OFF	25s ON 45s OFF	ON LOW
					RL2,RL7	RL3,RL7	RL5	RL4	RL2,RL7	RL3,RL7	RL4	RL5
					Bake element work only		Low speed	OFF	Bake element only		OFF	Always on
Pizza	0:01-10:00	425	175-550	NO	40s	20s	ON	60s	/	30s ON 30s OFF	60s ON	ON LOW
					RL2,RL7	RL3,RL7	RL5	RL4	RL2,RL7	RL3,RL7	RL4	RL5
					alternating heat, broil 40S then bake 20s		Low speed	Always on	Bake element only		Always on	Always on

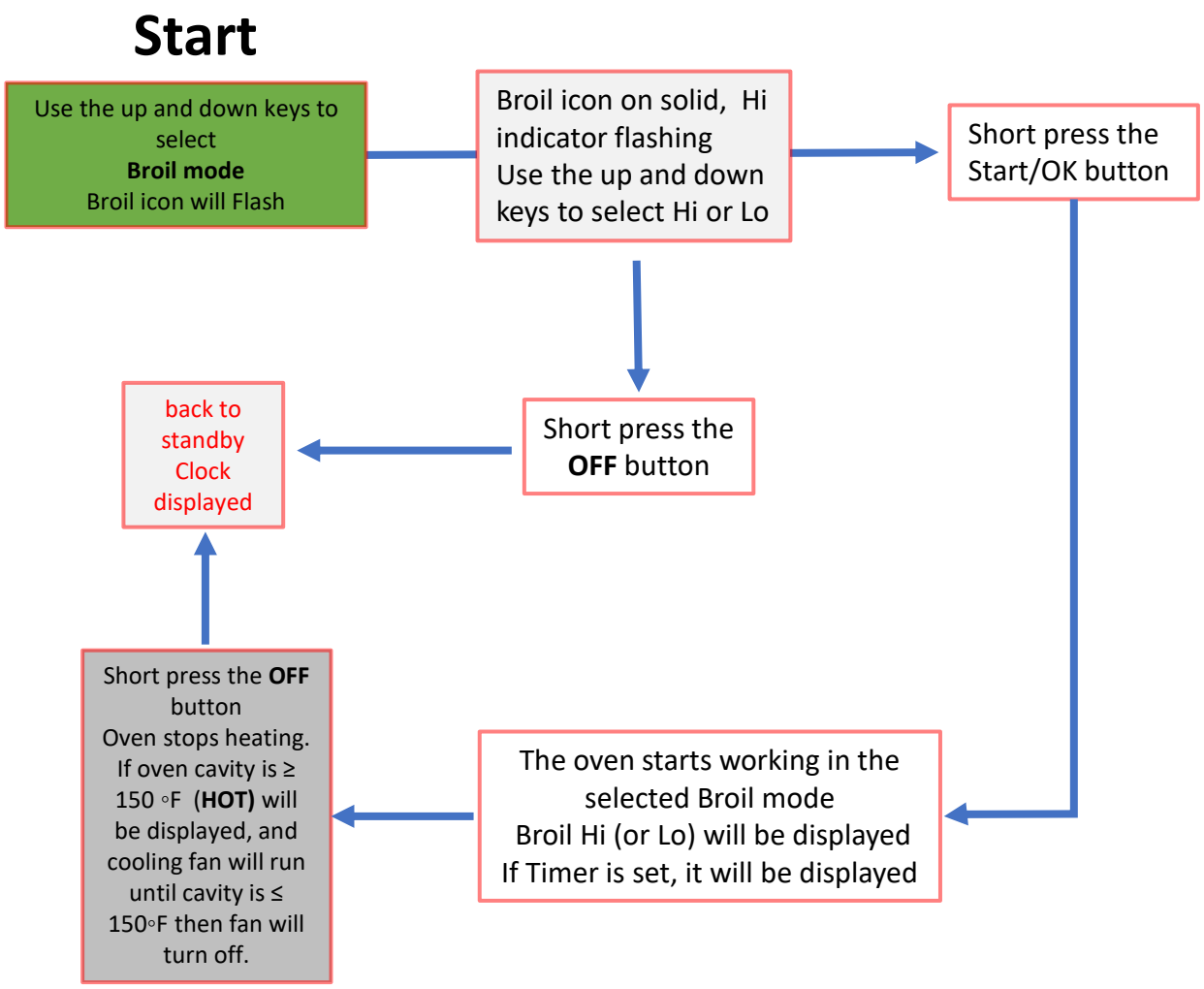
ARE – Cooking Operation Logic



ARE – WARM operation logic



ARE – Broil operation logic



Component check

Before testing or condemning a component preform the following checks:

Note:

1. **The most common cause for control failure is corrosion on connectors (high resistances). Disconnecting and reconnecting wire connectors will be necessary through the testing process.**
2. **Any issues arising in the first few days of use should be checked for mis-wiring or loose terminal connections prior to condemning a control board .**

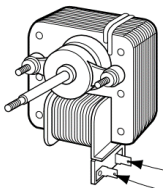
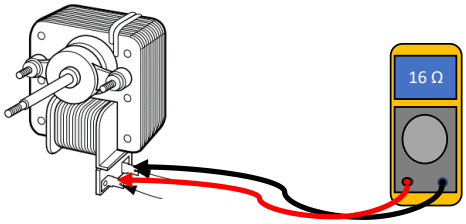
1. All test and checks should be made with Digital voltmeter having a sensitivity of 20,000 ohms per-volt DC or greater.
2. Check all terminal connections and crimps, Looking for loose or broken wires, failed terminals or wires not full inserted or crimped prior to condemning any component on this range.
3. Resistances checks must be made with power cord unplugged from the power sources, and wiring harness or connector disconnected from the component prior to testing.

⚠ WARNING

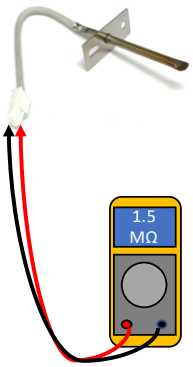
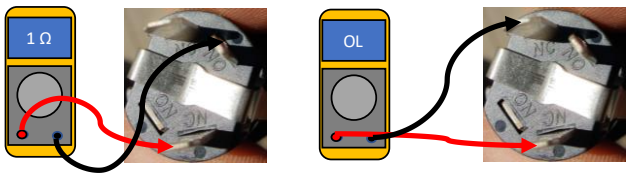
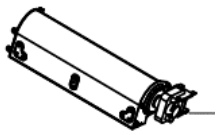
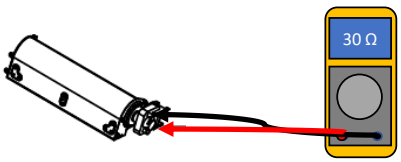
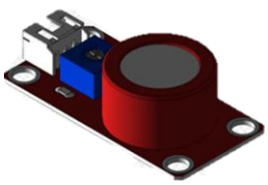
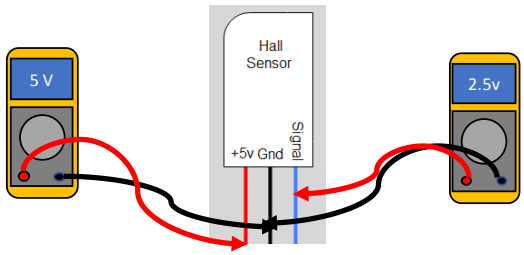
- **Turn off the electrical supply and gas supply going to the range.**
- **Replace all panels and parts before operating**
- **Reconnect all grounding devices after servicing**

- Failure to do so can result in death or electrical shock

Note: All test values stated below are at room temperature of (77°F / 25°C)

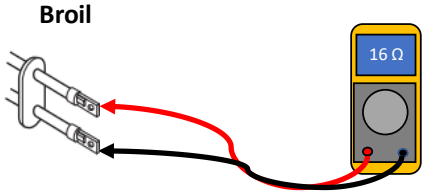
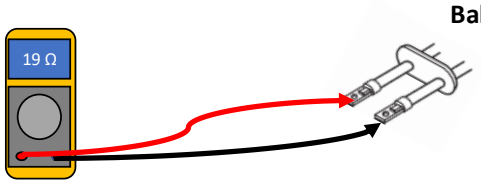
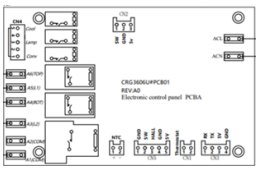
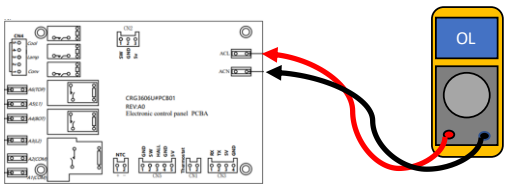
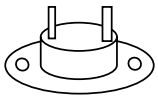
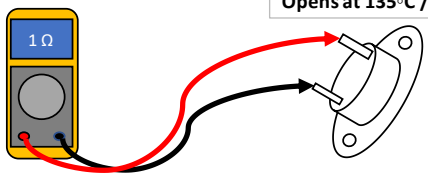
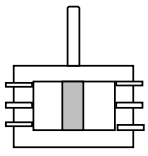
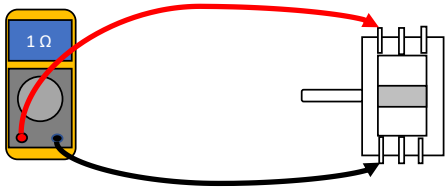
Component	Test	Results
Convection fan motor 		**Normal : 16 Ω +/- 5 Ω** **Abnormal : ∞ or OL**

Component check

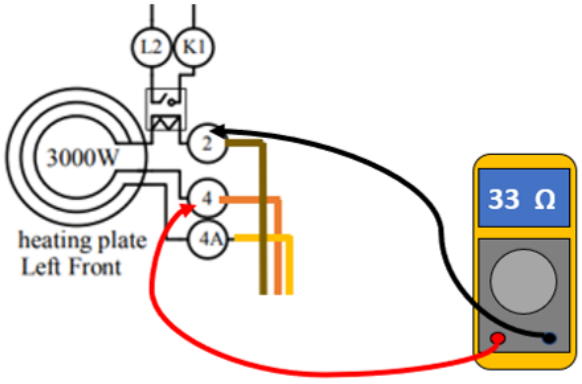
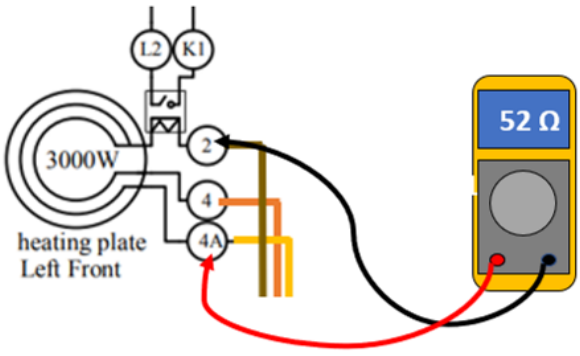
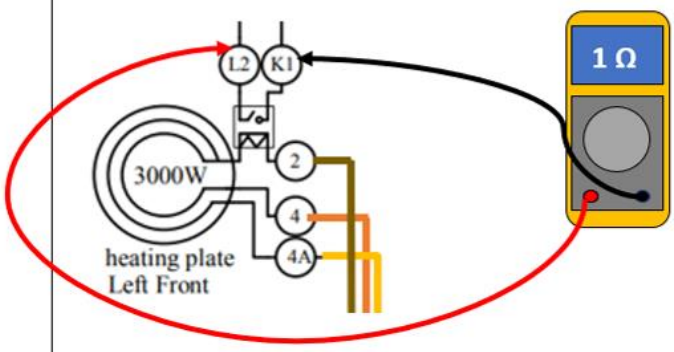
Component	Test	Results
Oven sensor 		**Normal : 1.5 MΩ @ room temp 70°F - 75◦F** **Min 1.1 MΩ** **Max 1.9 MΩ** See chart to left for resistances based on temp
Door switch 		**Normal : Door switch closed** **Com to NO = closed ≤ 1 Ω** **Com to NC = Open** **Door switch open** **Com to NO = Open**
Cooling Fan 		**Normal : 35Ω ± 5Ω** **operating voltage 120Vac ± 5V**
Halls sensor 		**Check at CN5 connector** **Red wire (Pin5) to Black wire (Pin4)** **Normal : +5V** **Fan rotating** **Blue wire (Pin3) to Black wire (Pin4)** **Normal : 2.5 Vdc**

Temp (◦F)	Temp (◦C)	R Min	R normal	R Max
70	21.1	1.163 MΩ	1.493 MΩ	1.915 MΩ
100	37.8	52.280 KΩ	65.470 KΩ	81.920 KΩ
200	93.3	57.870 KΩ	67.700 KΩ	79.130 KΩ
250	121.1	22.760 KΩ	25.870 KΩ	29.380 KΩ
300	148.8	10.240 KΩ	11.350 KΩ	12.570 KΩ
325	162.7	6.994 KΩ	7.664 KΩ	8.391 KΩ
350	176.6	4.881 KΩ	5.290 KΩ	5.728 KΩ
375	190.5	3.479 KΩ	3.731 KΩ	3.998 KΩ
400	204.4	2.522 KΩ	2.678 KΩ	2.841 KΩ
425	218.3	1.854 KΩ	1.950 KΩ	2.050 KΩ
450	232.2	1.384 KΩ	1.443 KΩ	1.502 KΩ
475	246.1	1.048 KΩ	1.083 KΩ	1.118 KΩ
500	260	794 Ω	824 Ω	853 Ω
525	273.8	619 Ω	646 Ω	674 Ω
550	287.8	478 Ω	503 Ω	529 Ω
650	343.3	190 Ω	205 Ω	222 Ω

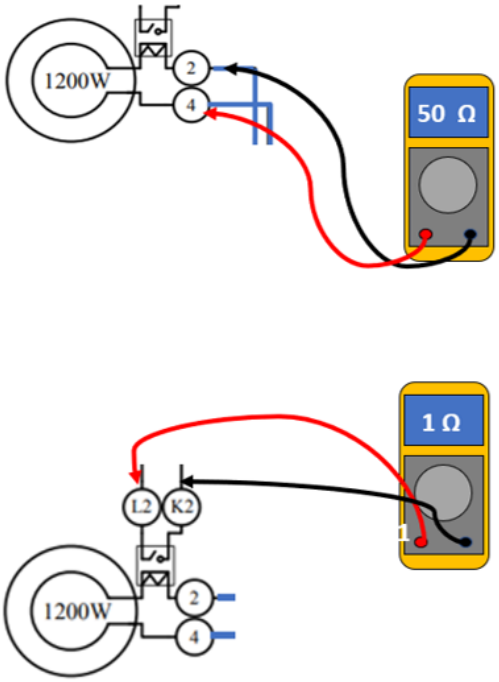
Component check

Component	Test	Results
Broil Element **3.500 watts 240V** 	**Broil** 	**Normal : 17.5 Ω ±5 Ω** **Abnormal : OL / open** **Note: element amp draw 14.5 Amps**
Bake Element **3.500 watts 240V** 	**Bake** 	**Normal : 17.5 Ω ±5Ω** **Abnormal : OL / open** **Note: element amp draw 14.5 Amps**
Main PCB 		**Check across ACL to ACN for voltage** **Normal: 120Vac ± 5v**
Hi limit safety thermostat 	**Opens at 135°C / 275°F** 	**Check between the two terminals of the thermostat** **Normal : 1 -3 Ω** **Abnormal: OL / Open**
Control panel light switch 		**Check across front two terminals of control panel light switch** **Normal:** **Switch on : 1 to 3Ω** **Switch off : OL / Open**

Component check

Component	Test	Result
3,000 watt dual zone element LF & RF locations	  	**Check inner element:** Checking at element directly: Measure resistances between terminals 2 & 4 Normal: 33 Ω ± 5 Ω Checking from the infinite switch: Remove Brown and Orange wire from Infinite switch, Measure resistances between Orange & Brown wires. Normal : 33Ω ± 5Ω **Check Outer Element:** Checking at element directly: Measure resistances between terminals 2 & 4A Normal: 52Ω ± 5Ω Checking from the infinite switch: Remove Brown and Yellow wire from Infinite switch, Measure resistances between Yellow & Brown wires. Normal: 52Ω ± 5 Ω **Checking HOT surface sensor** Remove two black wires from sensor. Measure resistances between L2 to K (x) Terminal Normal: Under 165◦F = OL / OPEN Above 165◦F = 1Ω or CL

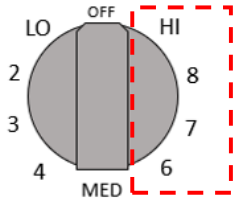
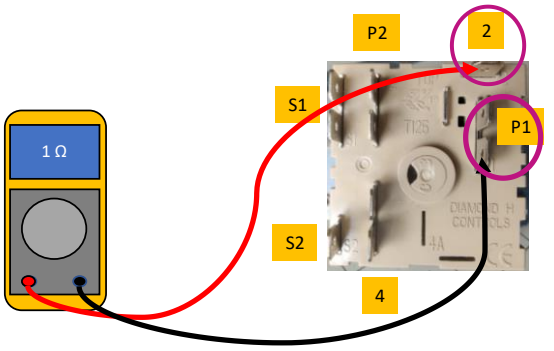
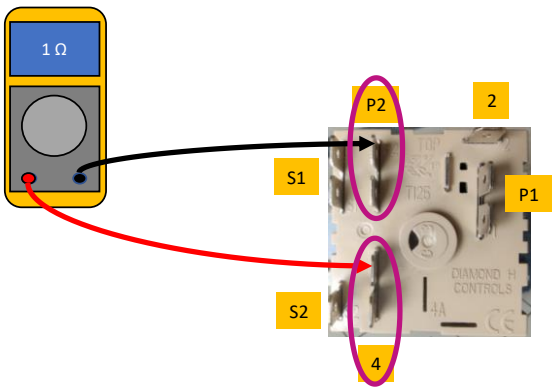
Component check

Component	Test	Result
1,200 watt single zone element LR, MR, RR locations		**Check element:** Checking at element directly: Measure resistances between terminals 2 & 4 Normal : 50Ω ± 5Ω Checking from the infinite switch: Remove the two blue wires at the infinite switch. Measure resistance between the two blue wire. Normal: 50Ω ± 5 Ω Checking HOT surface sensor Remove two black wires from sensor. Measure resistances between L2 to K (x) Terminal Normal: Under 165◦F = OL / OPEN Above 165◦F = 1Ω or CL

Component check

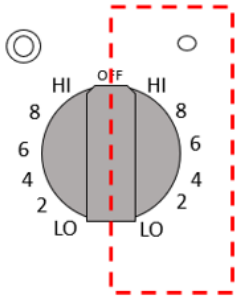
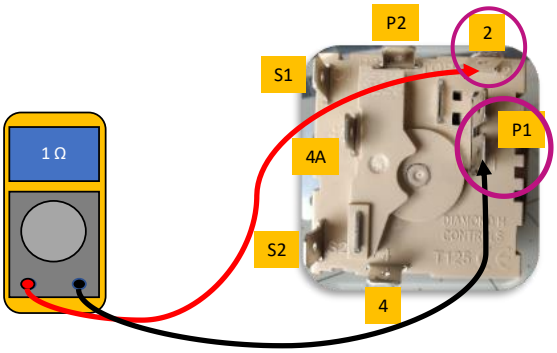
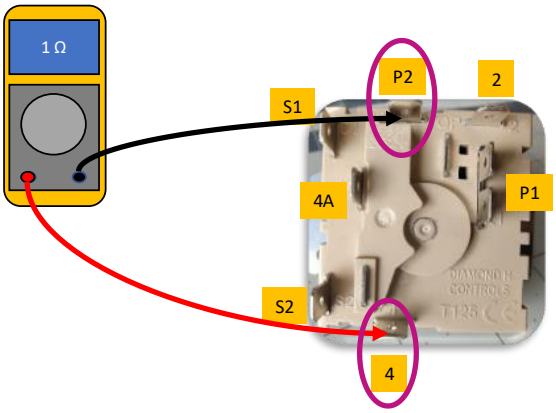
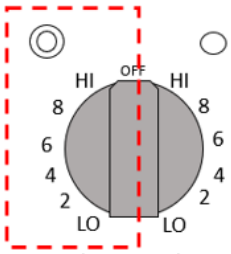
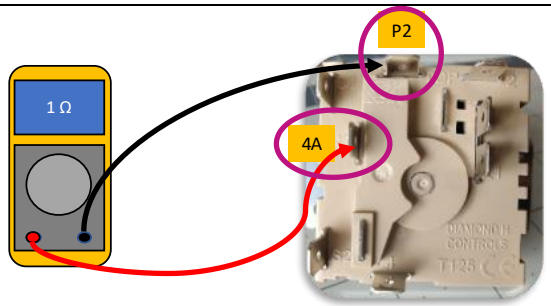
⚠ WARNING

- **Disconnect power supply cord from the outlet before servicing**
- **Replace all panels and parts before operating**
- **Reconnect all grounding devices after servicing**
- Failure to do so can result in death or electrical shock

Component	Test	Result
Infinite switch (Single zone element) LR and RR locations 	 	**Check Infinite switch : Check 1** **With infinite switch in the HI position measure the resistances between Terminals 2 & P1** **Normal : 1Ω or CLOSED** **Abnormal : OL / OPEN** **Check Infinite switch : Check 2** **With infante switch in the HI position measure the resistances between terminal 4 and P2** **Normal : 1 Ω or CLOSED** **Abnormal : OL / OPEN**

	Infinite SW LOC	Knob position	Check point	
Single Zone	LR RR MR	OFF	P1 to 2	Open
			P2 to 4	Open
		ON	P1 to 2	Closed
			P2 to 4	Closed

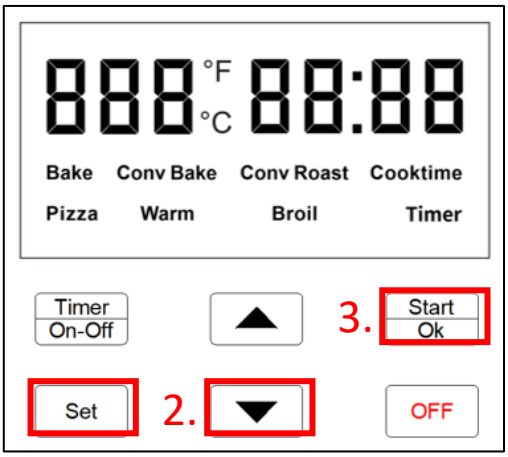
Component check

Component	Test	Result
Infinite switch (Dual zone element) LR and RR locations Inner element 	 	**Check Infinite switch : Check 1** **With infinite switch in the HI position for inner element measure the resistances between Terminals 2 & P1** **Normal : 1Ω or CLOSED** **Abnormal : OL / OPEN** **Check Infinite switch : Check 2** **With infante switch in the HI position measure the resistances between terminal 4 & P2** **Normal : 1 Ω or CLOSED** **Abnormal : OL / OPEN**
Outer element 		**Infinite switch : Check 3** **Set infinite switch to HI position for the outer element. Measure resistances between P2 & 4A** **Normal: 1Ω or CLOSED** **Abnormal: OL / OPEN**

	Infinite SW LOC	Knob position	Check point	
Dual Zone	LF RF	OFF	P1 to 2	Open
			P2 to 4	Open
			P2 to 4A	Open
		Inner element	P1 to 2	Closed
			P2 to 4	Closed
			P2 to 4A	Open
		Outer element	P1 to 2	Closed
			P2 to 4	Closed
			P2 to 4A	Closed

Hidden function

Scroll thru hidden functions by selecting **SET** key and then **down arrow** to scroll thru options below, Press the **Start/Ok** key to enter the desired function. Then use the **up / down** arrows to toggle function ON / OFF, press the **Start/ OK** key to save the setting .



1. **SET** = CLO Clock

2. ▼ = F – C F◦ to C◦ temp change

▼ = Son Sound on/off

▼ = Err Error code, use arrow to see Last 5 stored error codes

▼ = CAL Calibration Temp adjustment

▼ = UEr Software version

▼ = SAF 12Hrs safety auto turn off oven

▼ = dIS Demo mode

▼ = rES Factory Reset

Hidden function flowchart

1. Standby or mode selection state
Short press the **Set** button. **CLO 00:00** will be displayed for clock set. If setting clock press Start/ OK.
If proceeding to another function use down arrow to move thru list.

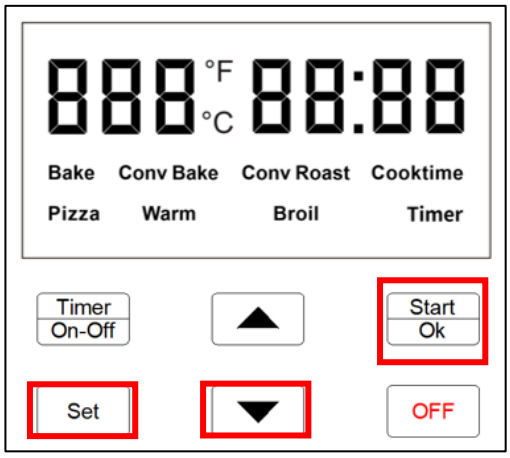
SET

2.

Short press the Down arrow key 1X **F - C change** 1x ▼	Short press the **Start/OK** button	**F – C flashing** Press the up and down keys to set °F or °C	Press the Start/OK button setup complete
Short press the Down arrow key 2X **Sound On/Off** 2x ▼	Short press the **Start/OK** button	**Son- on Flashing** Press the up and down keys to set On or Off	Press the Start/OK button setup complete
Short press the Down arrow key 3X **Error code history** 3x ▼	Short press the **Start/OK** button	**Err is Flashing** Press the up and down keys to query the last 5 error codes	Press the Start/OK button setup complete
Short press the Down arrow key 4X **Calibration** 4x ▼	Short press the **Start/OK** button	**CAL 00 is flashing** Press the up and down keys to set Compensation value (range +/-30°F)	Press the Start/OK button setup complete
Short press the Down arrow key 5X **Software version** 5x ▼	Short press the **Start/OK** button	**UEr P 38** software Version	Press the Start/OK button setup complete
Short press the Down arrow key 6X **Auto OFF** 6x ▼	Short press the **Start/OK** button	**SAF On flashing** Press the up and down keys to set On or Off	Press the Start/OK button setup complete
Short press the Down arrow key 7X **Demo mode** 7x ▼	Short press the **Start/OK** button	**dIS On flashing** Press the up and down keys to set On or Off	Press the Start/OK button setup complete
Short press the Down arrow key 8X **Factory Reset** 8x ▼	Short press the **Start/OK** button	rES On flashing	Press the Start/OK button setup complete

Hidden function

Temperature calibration



1. Press the **SET** Key and **CLO** will be displayed.
2. Press the ▼ arrow until the word **00 CAL** is displayed
3. Press the START/OK Key and **00** will be displayed for factory default temp
4. Use the ▼ ▲ Key to adjust the off set.

   adjust between **35 to -35** from factory set point.
5. Press the START/OK Key to save the change.

Error codes

Error code	Possible cause	Resolutions
Oven NTC sensor is faulty **E0**	NTC temp sensor is not plugged in, OPEN or is shorted	1. Locate connector NTC on the main PCB and check connector to make sure it is fully plugged in and no damage to terminal. Unplug and re-plug connector back in. Retest if error returns move to step 2. 2. Check resistances of the sensor and compare against chart in component check section. At room temp sensor should be 1.5MΩ . If sensor resistance is not correct replace sensor.
PCB ambient temperature detection circuit fault **E2**	PCB On board NTC temp sensor is damaged	Disconnect power and wait 5 min. Reapply power if error code returns replace main PCB.
Oven not heating **E3**	After oven has been started there is not a temperature change detected by sensor with in 7 min after start.	1.Turn on Bake or Broil function verify either Gas burner or Electric heating element turns on depending on model. 2. Oven NTC sensor must see a temperature rise with in 7m or else E3 error code will be activated. If oven is heating correctly verify NTC sensor resistances is correct .
Over temperature **E5**	Temperature in the oven exceeded 343◦C / 649◦F	The oven has overshot normal cooking temperature ranges and has exceeded 649 F. Check oven sensor resistances, Check high limit thermostat and Main PCB for stuck or welded closed relays.
CPU clock frequency deviation **E09**	CPU clock and check clock differ by 10% Crystal oscillator or Frequency not matching	Power off and restart, if error returns replace main PCB
CPU chip internal system fault **E10**	RAM , ROM , SFR , PC detection error .	Power off for 5min, restart. If error returns replace main PCB.
PCB over temperature **E15**	Main PCB on board NTC sensor has detected the control board is ≥ 85◦C / 185◦F	1. Verify cooling fan operation. 2. Make sure oven fan exhaust vents along rear are not blocked due to installation. 3. Check oven door and gasket for correct sealing. 4. if all else checks okay replace oven main PCB.
Cooling fan Hall sensor error **E17**	There is no Hall sensor RPM signal to the main PCB showing cooling fan is rotating .	1. Verify cooling fan is running, If not go to trouble shooting section on cooling fan. 2. If cooling fan is running but E 17 is displayed check at main PCB verify that CN5 connector is plugged in, unplug and re-plug in CN5. retry if error returns replace cooling fan assembly.

Troubleshooting No power / Display

No power / No display

Check house outlet : L1 to L2 240 Vac ?

NO → Refer to electrician

YES ↓

Check house outlet : L1 to N 120Vac ?

NO → Refer to electrician

YES ↓

Check house outlet : L2 to N 120Vac ?

NO → Refer to electrician

YES ↓

Move to terminal block on range, check both sides of terminal block

↓

Repeat same checks L1 to L2, L1 to N and L2 to N on input and output side of terminal block.

Are voltages correct

NO → Repair terminal / wire connections or replace power cord or harness as needed

YES ↓

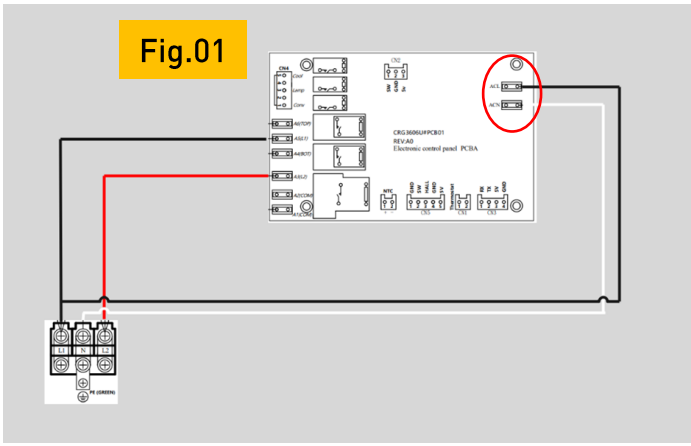
Check input voltage to main PCB across terminals ACL and ACN **Fig.01** 120 Vac ?

NO → Repair broken wire or terminal connection between terminal block and Main PCB / replace harness.

YES ↓

If voltage is present across ACL to ACN and there is no display replace the Main PCB

Fig.01



END

Troubleshooting Bake

Bake element not heating

Check house outlet : L1 to L2 240 Vac ?

NO → Refer to electrician

YES ↓

Remove control panel, on main PCB locate CN1 connector and remove connector from PCB. Using a volt / ohm meter check resistances across two Yellow wires of CN1.
Is it 3 Ω resistances or less ?

NO → Check hi limit thermostat on back of the range. Reset and retry

YES ↓

At main PCB locate A5 black wire(L1) and A3 red wire (L2) measure across the two terminals and verify voltage.
Is 240V present ?

NO → Back track voltage loss on either L1 or L2 between terminal block and PCB.

YES ↓

Set control to Bake and start oven, Locate A4 purple wire and A2 Brown wire. Measure across two terminals and verify voltage
Is 240Vac present ?

NO → Next Colum

YES ↓

Next Colum

YES ↓

Remove power cord from wall. Remove A4 purple and A2 Brown wire from PCB. Measure resistances between the two wires. Is the resistances around 17 to 18 Ω

NO → If there is not 240V out put from between A4 to A2 replace main PCB

YES → Check for loose terminal connection and retest

NO ↓

Remove wire lead from bake element, measure resistances across bake element.
Is element 17 to 18 Ω ?

NO → Replace element

YES ↓

Check for open wires between element and PCB, A4 to HD1 and A2 to HD2. Repair or replaces as needed.

Troubleshooting Broil

Broil element not heating

Check house outlet : L1 to L2 240 Vac ?

NO → Refer to electrician

YES ↓

Remove control panel, on main PCB locate CN1 connector and remove connector from PCB. Using a volt / ohm meter check resistances across two Yellow wires of CN1.
Is it 3 Ω resistances or less ?

NO → Check hi limit thermostat on back of the range. Reset and retry

YES ↓

At main PCB locate A5 black wire(L1) and A3 red wire (L2) measure across the two terminals and verify voltage.
Is 240V present ?

NO → Back track voltage loss on either L1 or L2 between terminal block and PCB.

YES ↓

Set control to Broil and start oven, Locate A6 Blue wire and A2 Brown wire. Measure across two terminals and verify voltage
Is 240Vac present ?

NO → Next Colum

YES ↓

Next Colum

YES ↓

Remove power cord from wall. Remove A6 Blue and A2 Brown wire from PCB. Measure resistances between the two wires. Is the resistances around 17 to 18 Ω

YES → Check for loose terminal connection and retest

NO ↓

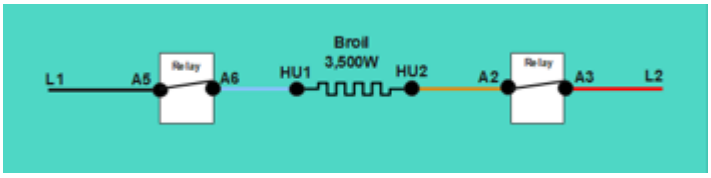
Remove wire lead from bake element, measure resistances across Broil element.
Is element 17 to 18 Ω ?

NO → Replace element

YES ↓

Check for open wires between element and PCB, A6 to HU1 and A2 to HU2. Repair or replaces as needed.

NO → If there is not 240V out put from between A4 to A2 replace main PCB



Troubleshooting Conv Fan

Convection Fan not running

Check house outlet : L1 to L2 240 Vac ?

NO → Refer to electrician

YES ↓

Set control to Conv bake, and start oven

Remove control panel, on main PCB locate CN4 connector. Measure between CN4 pin 1 (orange wire) and ACN (white wire)

Is 120Vac present ?

NO → Replace relay PCB

YES ↓

Remove power cord from wall. Remove CN4 connector from the relay PCB. Place meter lead in terminal 1 orange wire of the CN4 connector, place second lead in the White ACN wire. Measure resistances of the circuit.

Is resistances around 15 to 20Ω

YES → Check for mechanically seized fan motor.

NO ↓

Next Colum

NO ↓

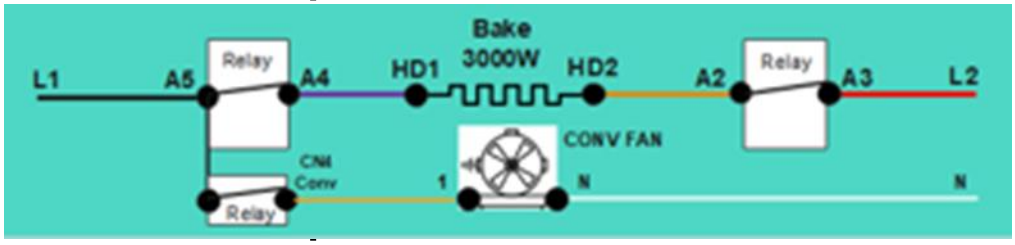
Go directly to Conv fan motor and remove two wires from fan motor. Measure the resistances between the two terminals of the fan motor.

Is the resistances around 15 to 20Ω

NO → Replace Conv fan motor

YES ↓

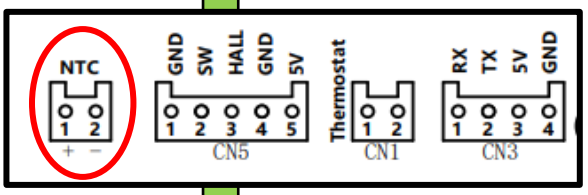
Check orange wire between CN4 pin 1 and conv fan terminal 1 for open wire or broken terminal, Also check Neutral wire between conv fan and terminal block for open or broken terminals. Repair or replace harness as needed

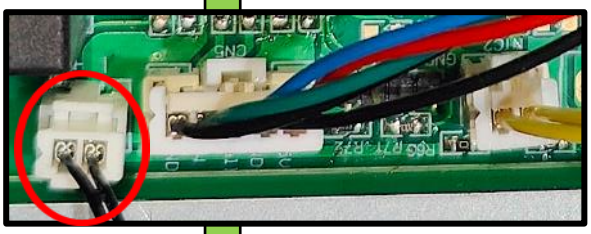


Troubleshooting E00

E00 error code

E00
Control reading sensor as open or shorted





Remove control panel and locate the NTC Plug connector. Verify connector is plugged in. Removed NTC connector and check resistances between the two wire. At room temp is sensor around **1.5MΩ**

NO

If Sensor reads open or shorted **Replace sensor**

YES

Check both PCB and harness terminals for corrosion, Clean terminals check for a tight fit between connectors. Unplug and reseat connector. Retest did error code return

YES

Replace PCB

Troubleshooting E17

E17 Error code

E17
Hall sensor signal not detected

Verify cooling fan is running
Is fan rotating ?

NO

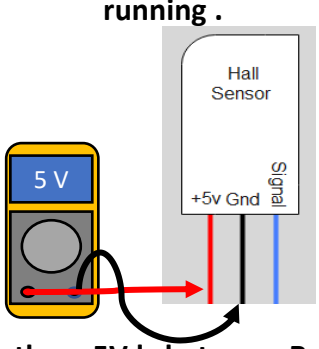
Check for voltage across terminal (3) Green wire & Terminal (N) White wire at cooling fan.
Is 120Vac present?

YES → **Replace Cooling fan**

NO → **Replace PCB**

YES

Check hall sensor supply voltage. Measure between Red and Black wire at hall sensor with oven on and running .



Is there 5Vdc between Red and Black at Hall sensor ?

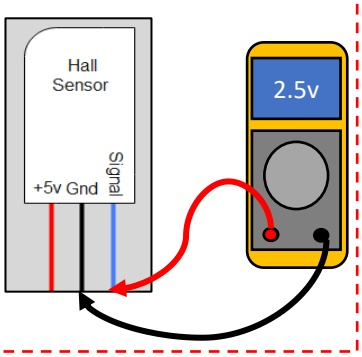
NO

With oven on and running and cooling fan turning if there is not 5Vdc present between Red and Black at hall sensor. Make the same check at CN5 Pin 4 & 5 if there still is not 5Vdc : Replace main PCB.

YES

With oven on and running, cooling fan rotating. Check for Hall sensor signal by measuring between Blue and Black wire.

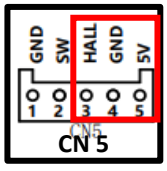
Is there 2.5 Vdc ?



Replay Hall sensor / Cooling fan assembly

YES

Repeat the same 5V and 2.5V checks directly at the At the main PCB CN5 connector. If either voltage is Missing or incorrect replace harness. If both voltages Are correct and error code is still displayed : Replace PCB



Technical support

877-288-8099 option 9

techsupport@thorgroup.us

Make sure to have model and serial number ready and be Infront of the product when calling in or emailing

Part's dept

877-288-8099 option5

parts@thorgroup.us

Make sure to have model and serial prior to calling

Customer Service

877-288-8099 option 3

service@thorgroup.us

Product info

Thorkitchen.com