



**ARG30 / ARG36**

**service manual**



**CAUTION**

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

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# General

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



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.

# General

## IMPORTANT SAFETY INSTRUCTIONS

- 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 storage 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.

# General

## IMPORTANT SAFETY INSTRUCTIONS

- 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 for 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.
- **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 without 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 .

### 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.

# General

## IMPORTANT SAFETY INSTRUCTIONS

### 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.

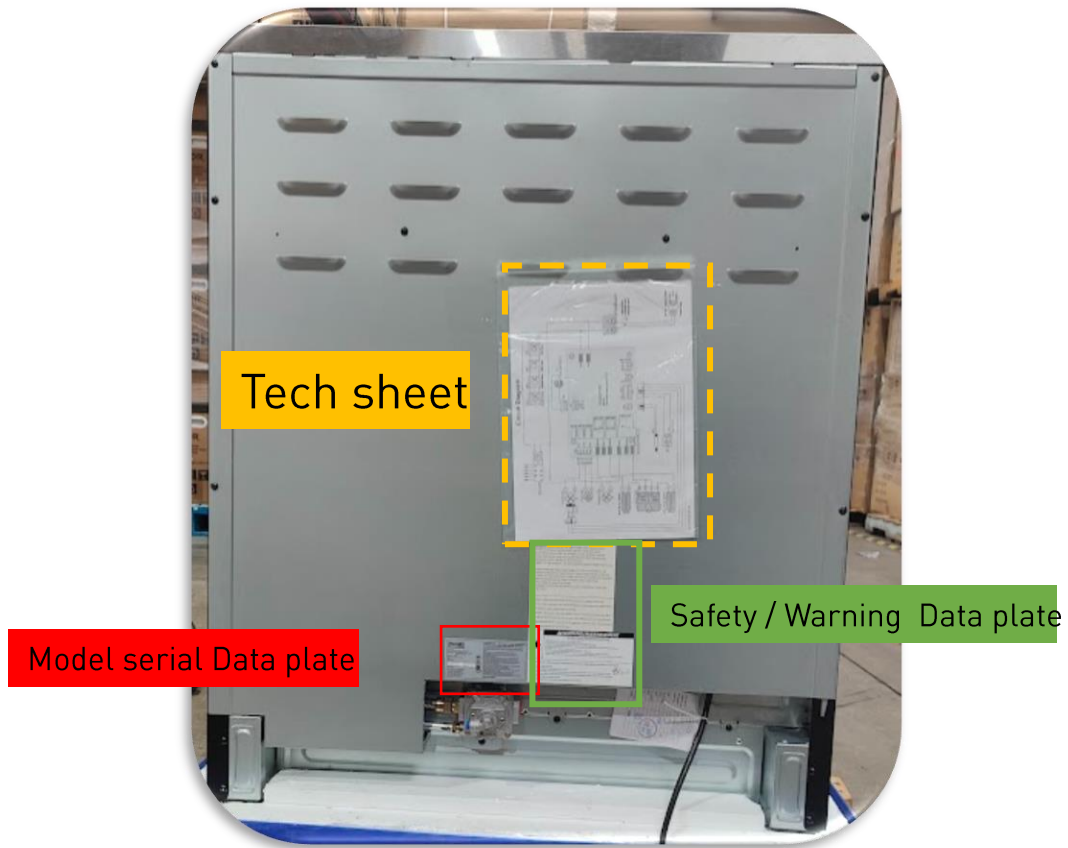


# SPECIFICATIONS

| Specifications |                        |                              |  |
|----------------|------------------------|------------------------------|--|
| Model          |                        | ARG30 / ARG36                |  |
| Overall        | Width                  | 30" / 36"                    |  |
|                | Installation type      | Free standing                |  |
|                | Color                  | SS                           |  |
| Control        | Oven                   | Electronic control           |  |
|                | Cooktop                | Gas                          |  |
|                | 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          |                        |                              |  |
| Timer          |                        |                              |  |
| Cooktop        | Material               | Enamel powder coating        |  |
|                | Burner's               | NG / LP wit conv kit         |  |
| Power          | LF                     | 12K                          |  |
|                | MF                     | ARG36 18K only               |  |
|                | RF                     | ARG30 18K / ARG36 12K        |  |
|                | LR                     | 9K                           |  |
|                | MR                     | ARG36 12K only               |  |
|                | RR                     | ARG30 3.5K / ARG36 9K        |  |
| Oven           | Capacity               | 4.55 Cu. Ft.                 |  |
|                | Broil Burner           | 13,500 BTU                   |  |
|                | Bake Burner            | 18,500 BTU                   |  |
|                | Convection system      | Yes                          |  |
|                | Convection element     | N/A                          |  |
|                | # racks                | 2 standard racks             |  |
|                | Interior light         | 120 Vac 40watt halogen       |  |
|                | Proof                  | NO                           |  |
|                | Keep warm              | Yes                          |  |
|                | Self Clean             | NO                           |  |
|                | Door lock              | NO                           |  |
| Control lock   | NO                     |                              |  |
| Cut out        | Exterior W             | 30' / 36"                    |  |
|                | Exterior H             | 36" to 37"                   |  |
|                | Exterior D             | 24"                          |  |
|                | Net weight             |                              |  |
| Power needed   | Rating                 | 120 Vac 60Hz 15 Amps circuit |  |

# Model serial tag

## Back of Unit



## Oven door Frame Model/serial tag location ( Cavity frame face above left hinge)

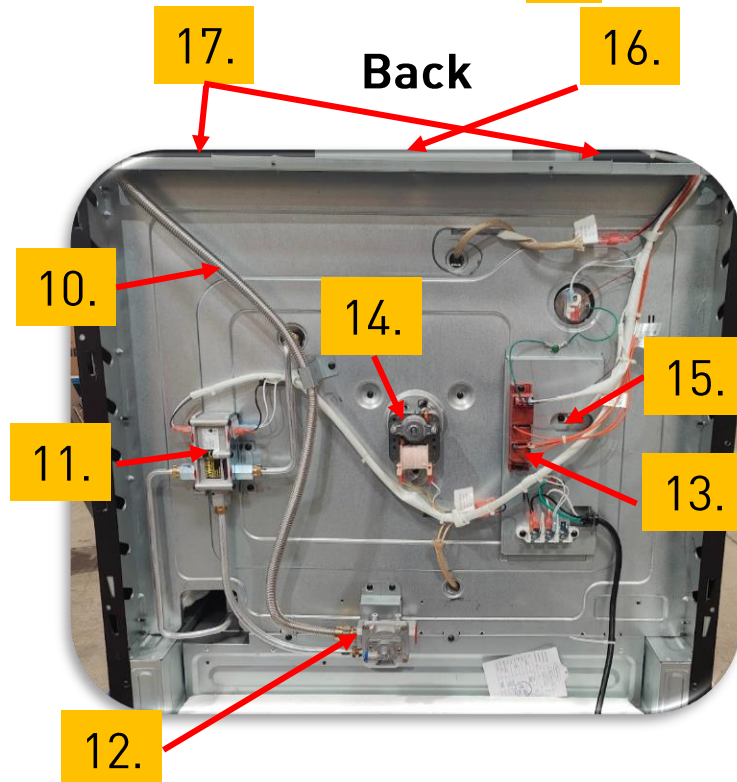
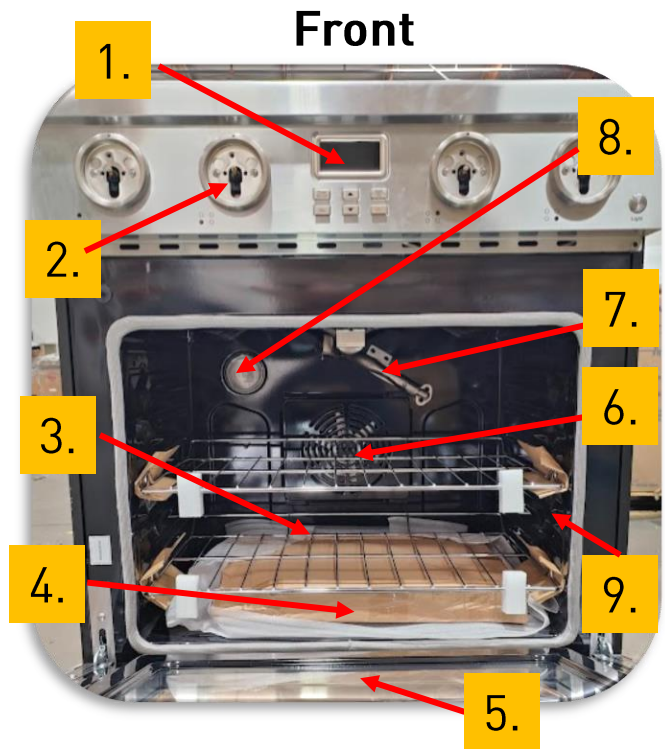
Model and serial together  
Model ARE36  
Serial 221008



Model, Engineering change, serial number  
ARG30 V0 221005

# Parts of the Range

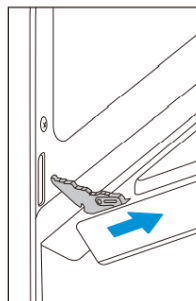
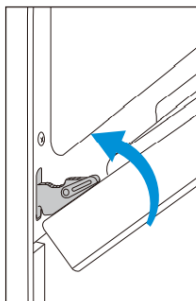
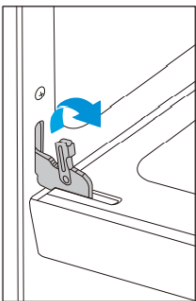
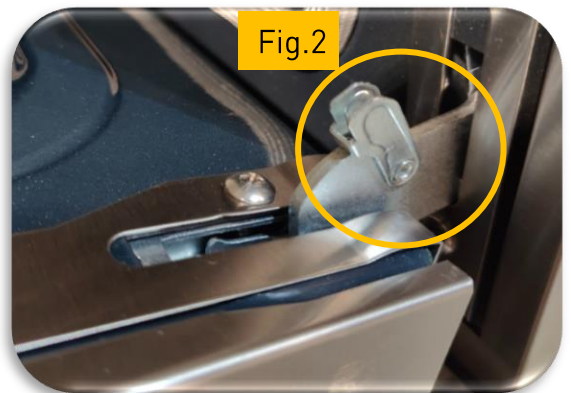
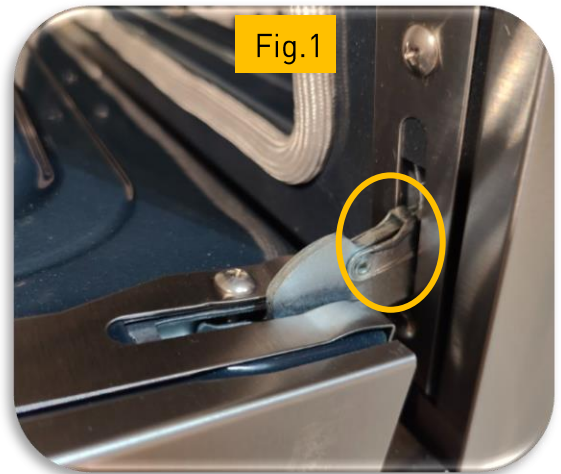
1. Control (PCB)
2. Surface burner valves
3. Bake HSI
4. Bake Burner Tube
5. Toe kick
6. Convection fan
7. Broil Burner tube and HIS
8. Oven light
9. Hinge Receiver
10. Surface manifold gas line
11. Bake/Broil safety valve
12. Pressure regulator
13. Spark module
14. Convection fan Motor
15. Oven temp sensor
16. Cooling fan blower
17. Oven vent



# Component Access

## Removing the oven door

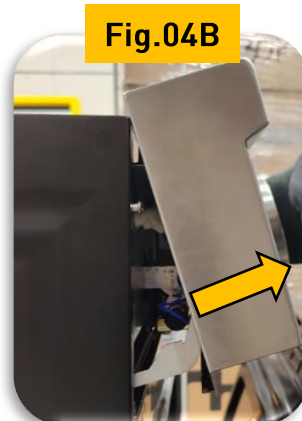
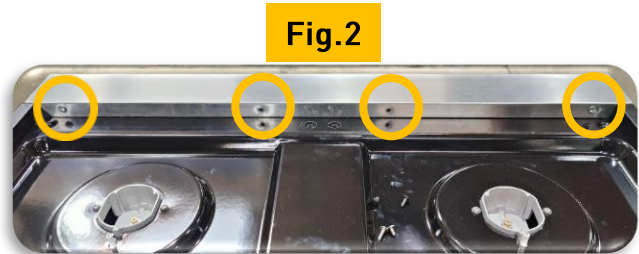
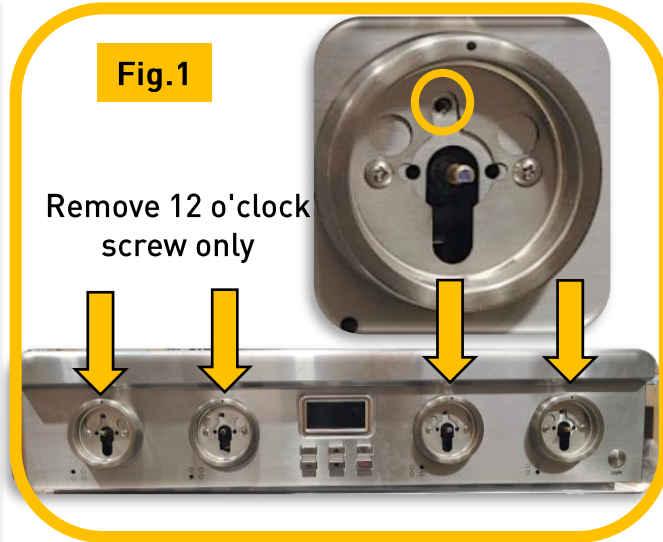
1. Open oven door to fully open position. **Fig.01** Locate hinge lock tab
2. Using a flat head screwdriver, Flip the lock tab up and back. **Fig.02**
3. Close the oven door to the point where the door is resting on the hinge lock tabs. **Fig.03**
4. Grasp oven door with both hands (**NOT by the handle**) 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

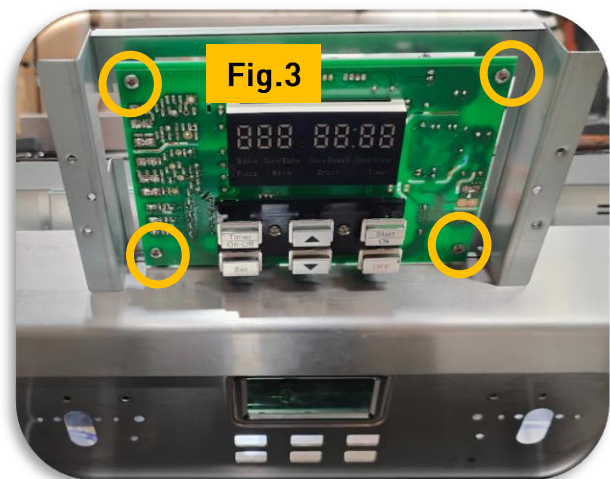
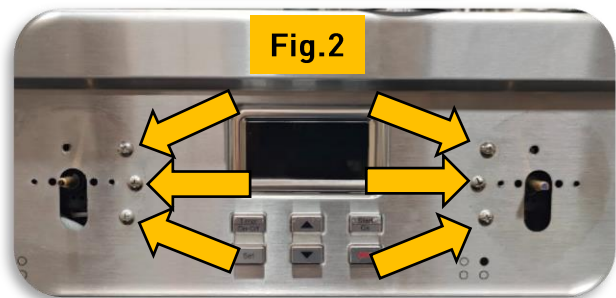
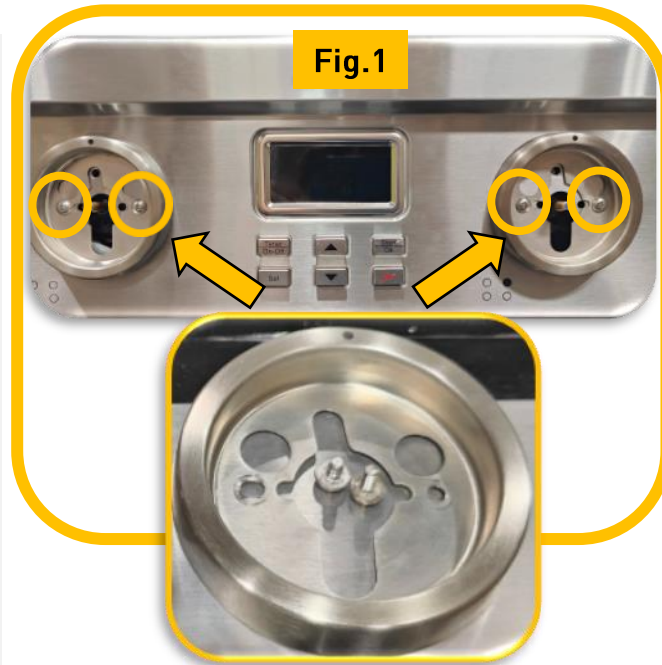
1. Remove all burner knobs.
2. Remove the 12 o' clock position bezel screws only. **Fig.01** Do this for all bezel rings .
3. Remove grates from cooktop, locate and remove the four screws on the back side of the control panel. **Fig.02**
4. Open oven door, locate the lower left and right control panel screws. **Fig.03** remove the two screws
5. Slide control panel straight up **Fig.04A**, pull bottom of panel forward away from oven body **Fig.04B**. Slide panel up over lip of cook top and pull forward clearing cook top. Allow panel to hang on support hooks **Fig.04C**.



# Component Access

## Removing PCB

1. Disconnect power to range.
2. Remove Bezel rings on each side of the digital display. **Fig.01**
3. With the two bezel rings removed it will expose three screws per side **Fig.02** Remove the six screws.
4. Remove PCB from control panel **Fig.03**
5. Remove the 4 screws securing the PCB to the PCB bracket. **Fig.03**



# Component Access

Fig.1

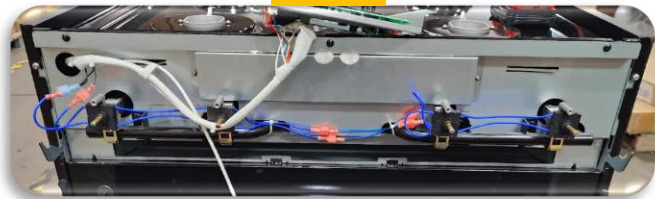
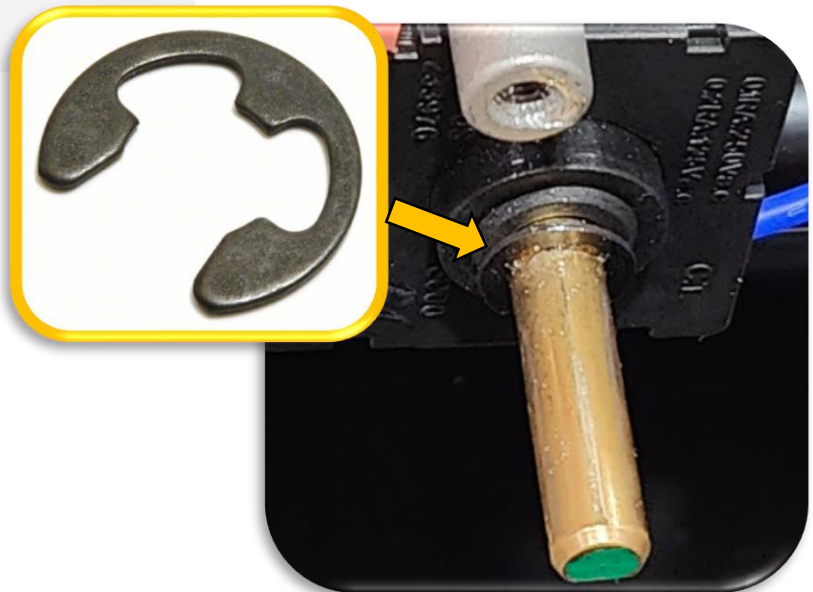


Fig.2



## Ignition switch's

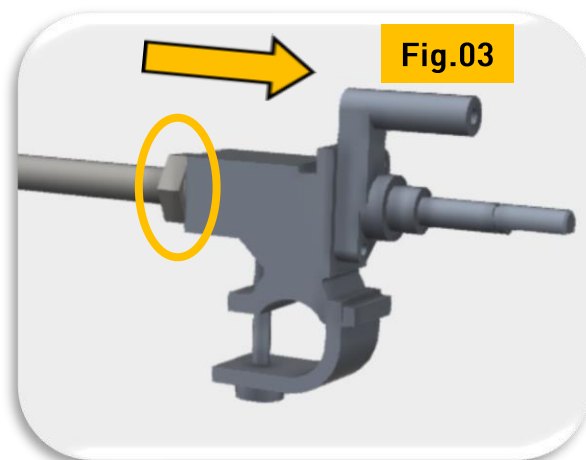
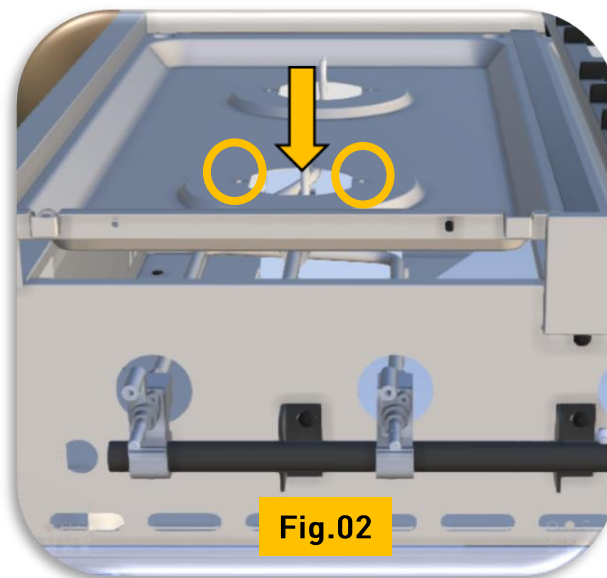
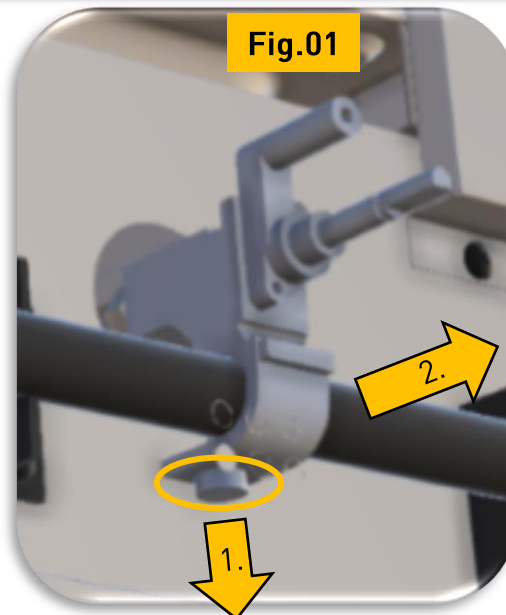
1. Disconnect power supply, Turn off gas supply to range.
2. Remove control panel, see prior pages **Fig.01**
3. Disconnect switch harness terminals **Fig.02**
4. Remove E-clip from shaft of all gas valve shafts **Fig.03**
5. Slide switches from valve shaft.
6. Replaced switch harness assembly.



# Component Access

## Surface burner valve

1. Disconnect power supply and gas to the range.
2. Remove control panel, see prior pages.
3. Remove burner valve saddle clamp screw step 1. With screw removed pull clamp forward step 2. **Fig.01**
4. Remove the two screws holding the burner base to cook top, gently push burner and electrode down below cook top. **Fig.02**
5. Lift burner valve up and clear of black manifold pipe, gently pull burner valve and aluminum tube forward just enough to expose the nut on back of burner valve. Loosen nut to separate aluminum pipe from valve. **Fig.03**
6. Remove and replace valve. **Fig.04**





# Component Access

## Rear vent trim

1. Disconnect power supply to range
2. Remove rear vent cover, 36" 11 screws **Fig.01** and 30" 6 screws **Fig.02** Access screws thru the louvered vent holes **Fig.03**
3. Slide vent cover straight up to disengage the four rear tabs with back panel. **Fig.04**

Fig.01

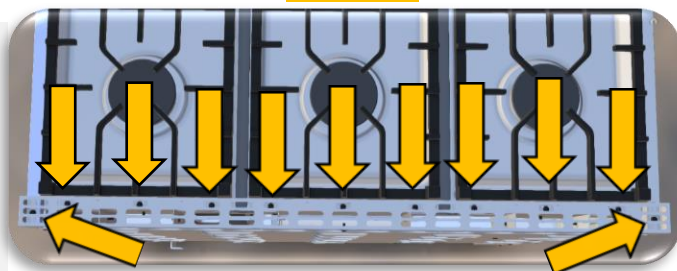


Fig.02



Fig.03

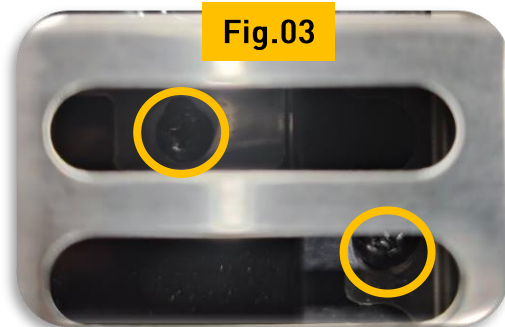
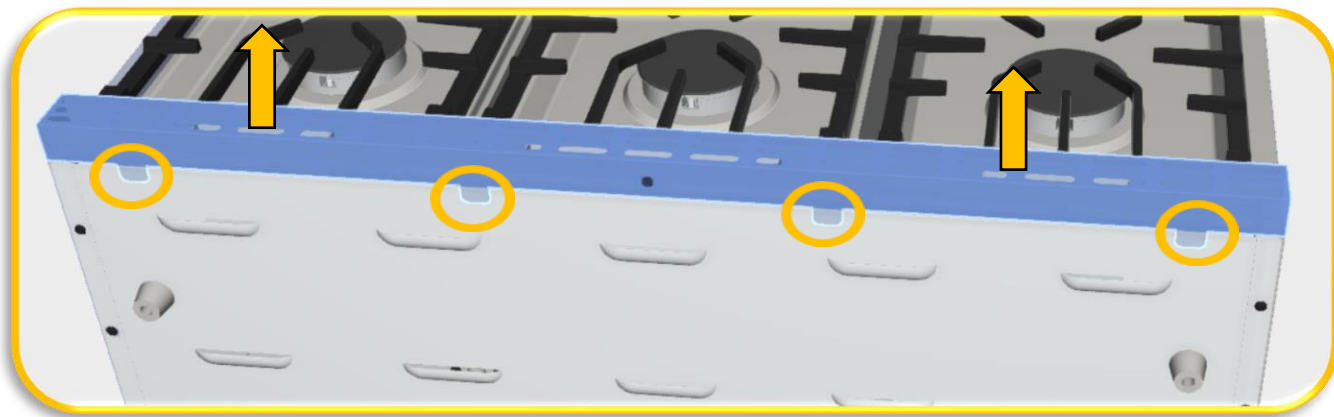


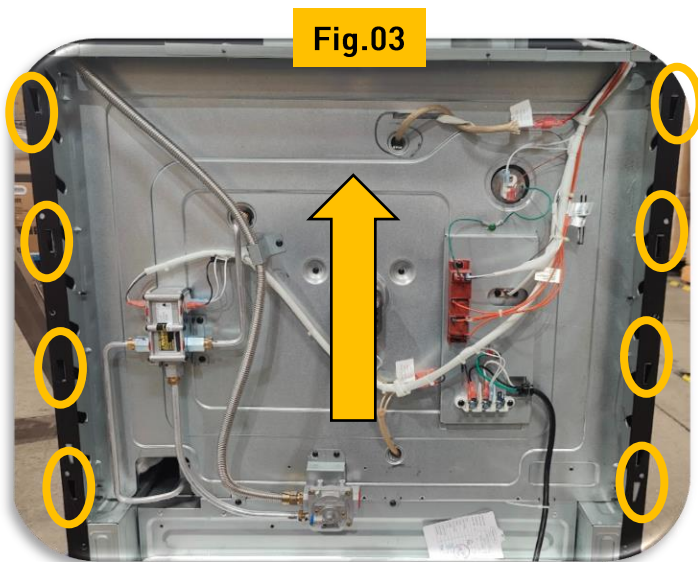
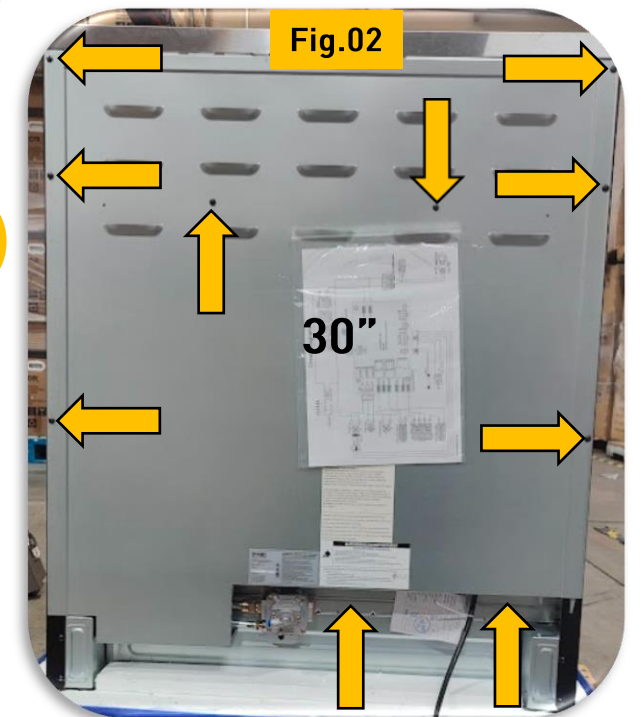
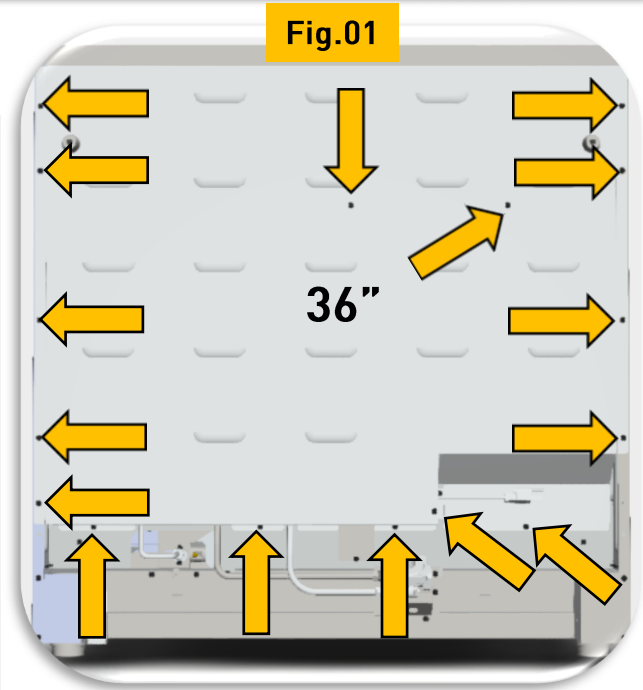
Fig.04



# Component Access

## Rear access panel

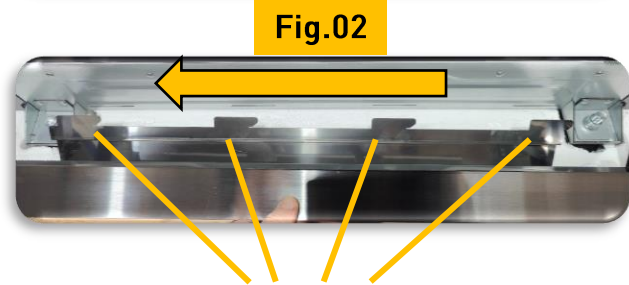
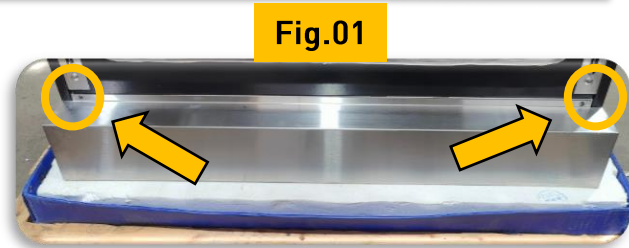
1. Disconnect power supply to range
2. Remove rear vent cover, see prior page. For 36" units remove 16 panel screws **Fig.01** for 30" units remove 10 rear panel screws **Fig.02**
3. Slide rear panel upward to disengage the four tabs per side **Fig.03**



# Component Access

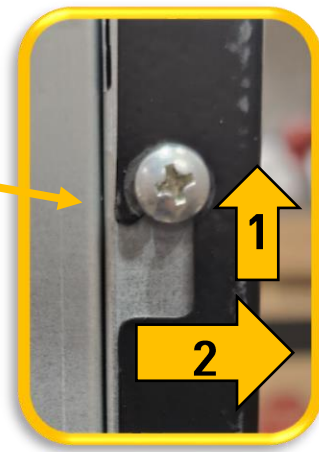
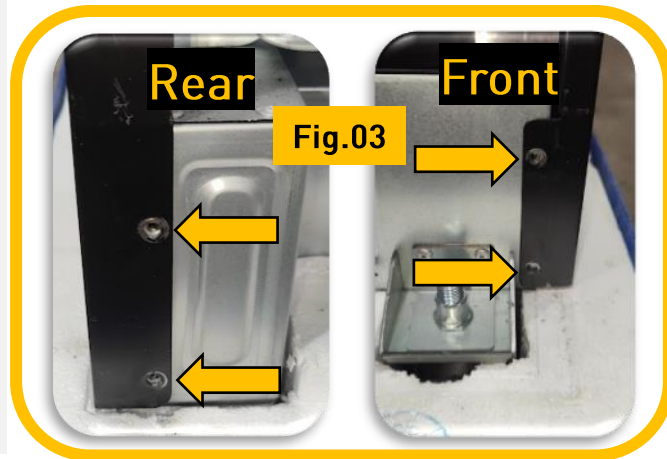
## Toe kick removal

1. Remove oven door, locate the toe kick panel screws on the left and right corners. Remove screws **Fig.01**
2. Slide toe kick panel to the left to disengage bottom tabs. **Fig.02**  
Remove toe kick panel



## Side Panel removal

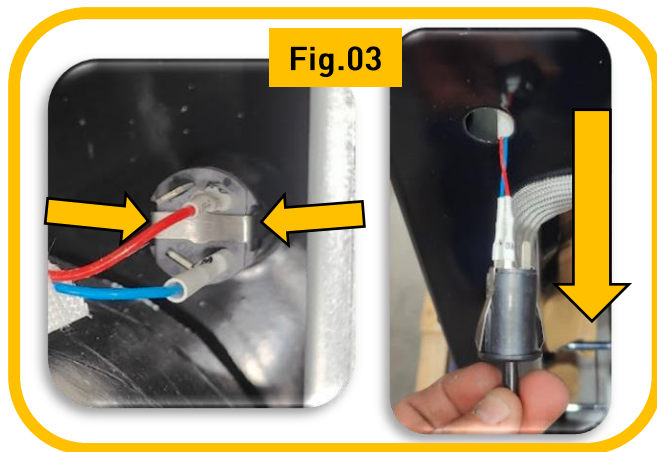
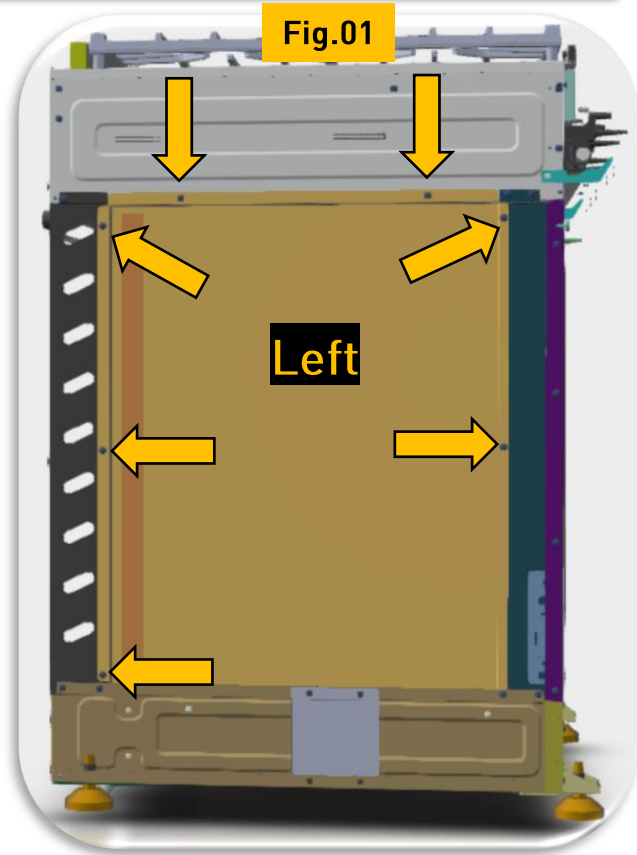
1. Remove oven door, toe kick panel and rear access panel.
2. Locate the two screws at the bottom of the side panel on the front & rear. **Fig 03** remove the two front and two rear screws.
3. Lift side panel up to unlock panel clip from screw then pull side away from range. **Fig.04**



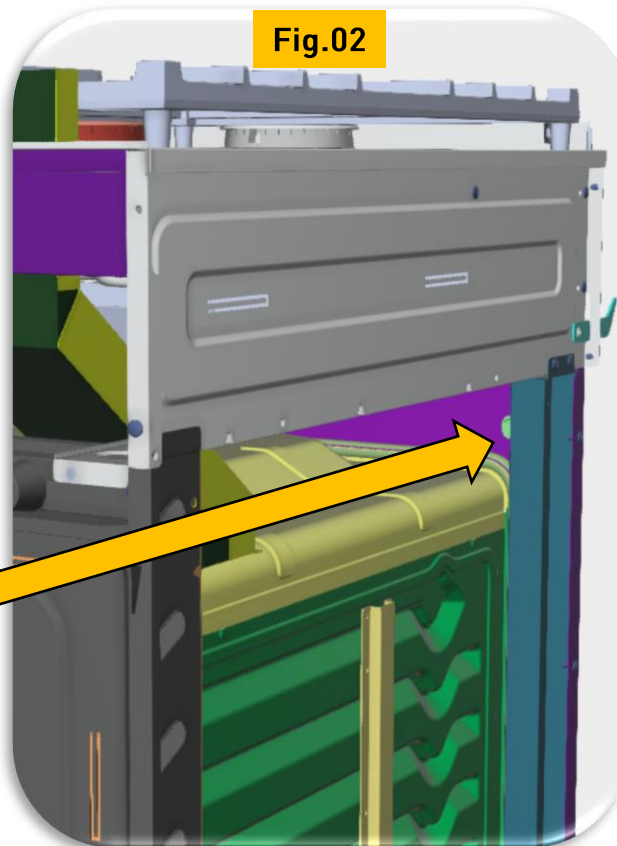
# Component Access

## Door switch **ARG30 ONLY**

1. Remove control panel, Toe kick panel, rear access panel and left outer side panel only.
2. Remove seven screws securing the left inner panel **Fig.01** remove the inner left panel by tilting top away range until the bottom tabs release then lift panel straight up.
3. Light switch can now be accessed **Fig.02**
4. Depress the two metal tabs on the door switch, pull door switch thru front of door frame to remove. **Fig.03**



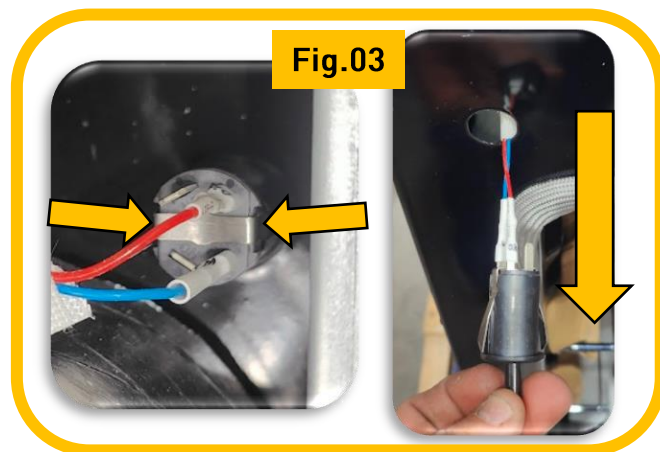
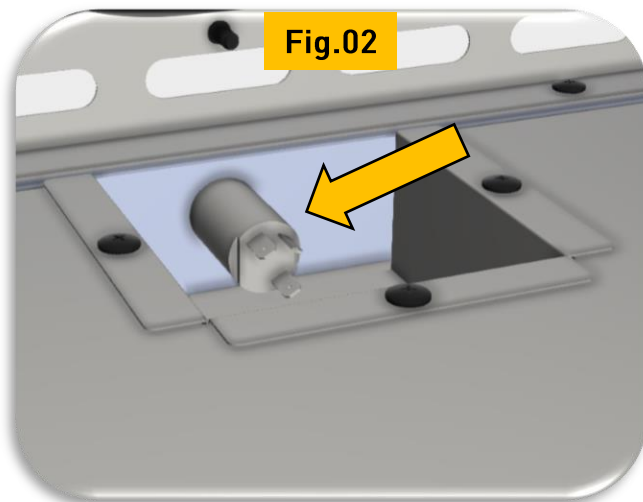
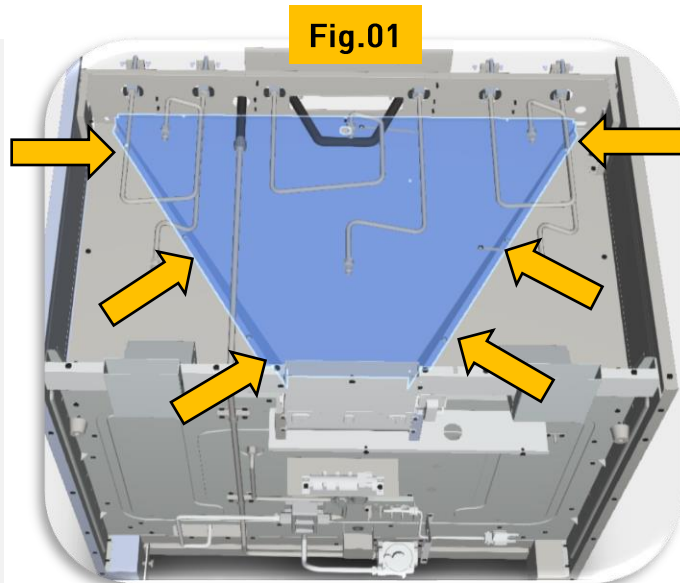
Door switch



# Component Access

## Door switch **ARG36 ONLY**

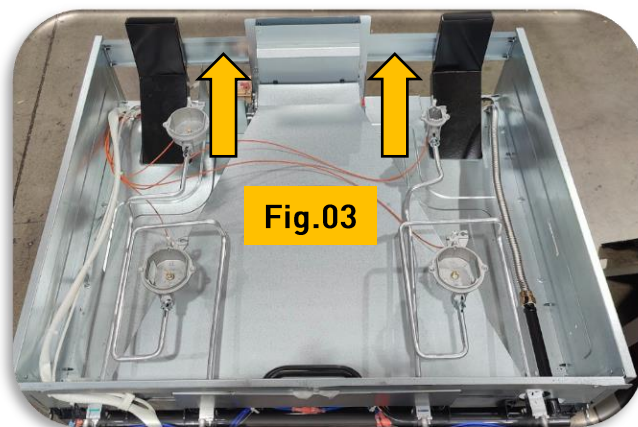
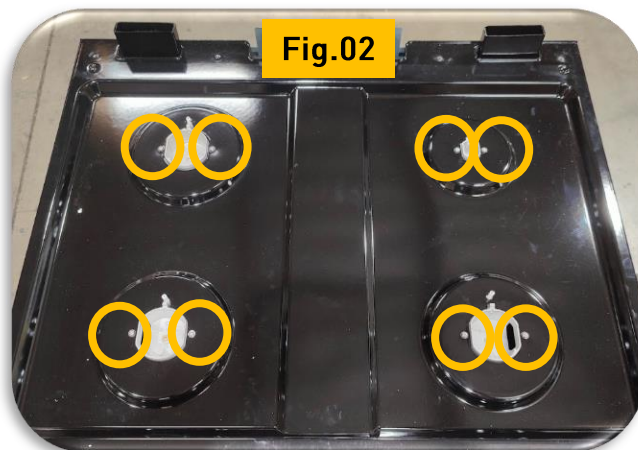
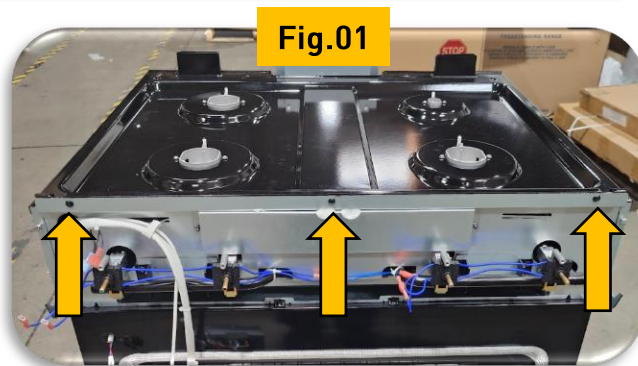
1. Remove control panel, rear vent trim and access panel along with all three drip pans.
2. Remove aluminum surface burner gas lines from burner valves **Fig.01** remove the six screws three per-side of the air duct cover . Remove Air duct cover from the range.
3. Light switch can now be accessed **Fig.02**
4. Depress both metal tabs on back of the door switch, pull door switch thru front of door frame. **Fig.03**



# Component Access

## Cook top removal **ARG30** ONLY

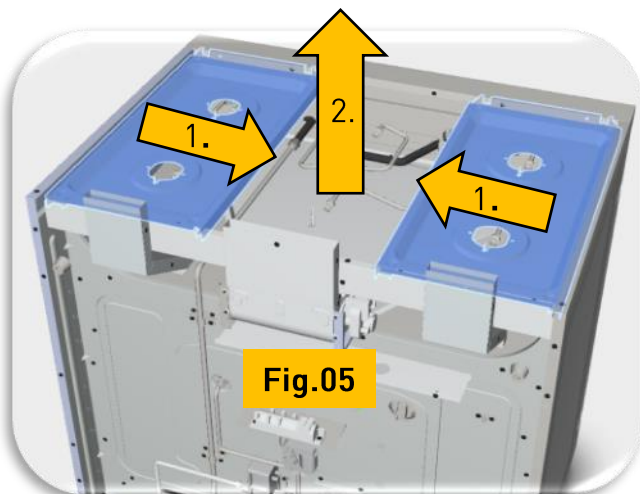
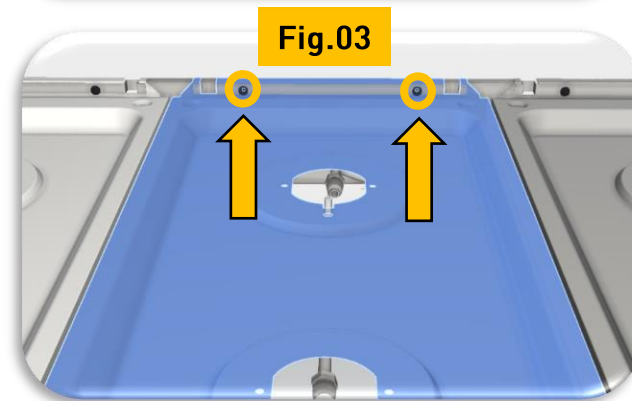
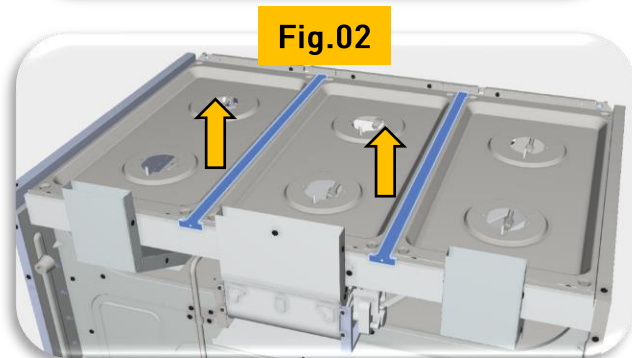
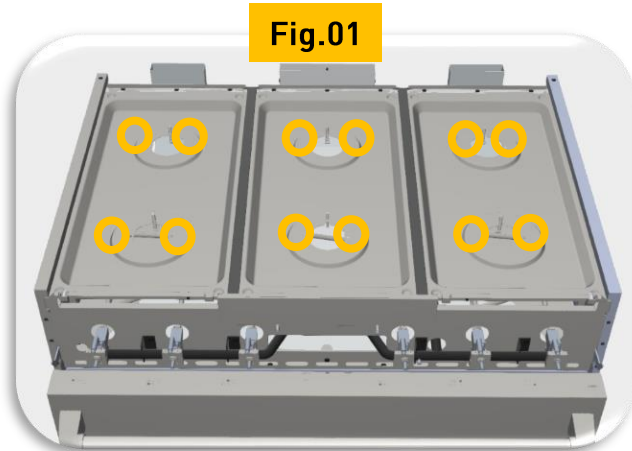
1. Remove control panel, Toe kick panel, Toe kick panel, rear access panel and both side panels. See prior pages for Removal steps.
2. Remove the three screws from the front of the one piece cook top securing it range front bracket. **Fig.01**
3. Remove two burner base screws per burner securing burner bases to cooktop. **Fig.02**
4. Lift cook top up and over the two oven vents and remove cooktop from range body. **Fig.03**



# Component Access

## Cook top removal **ARG36** ONLY

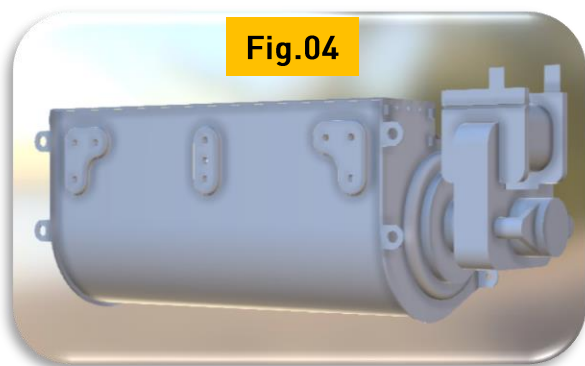
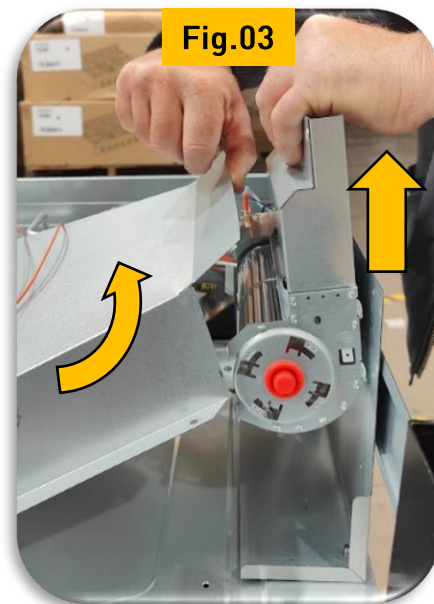
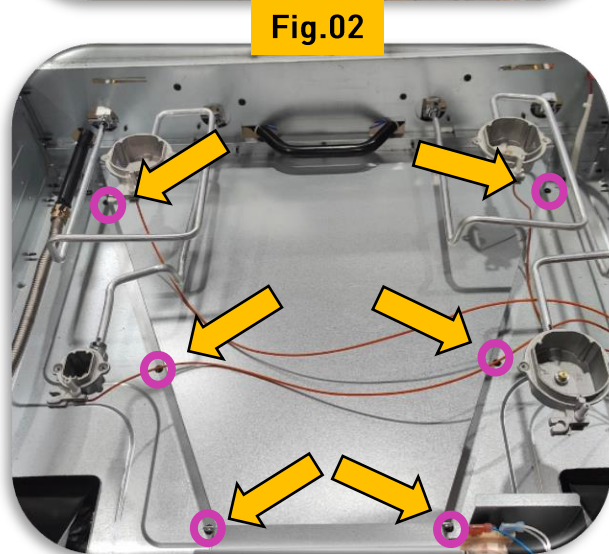
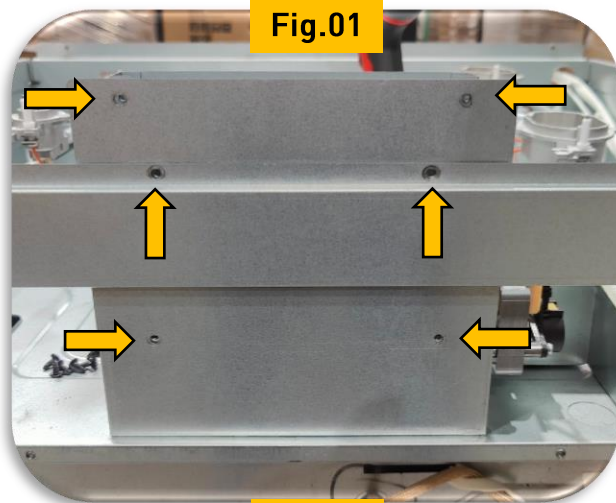
1. Remove Control panel, rear vent trim and rear access panel from range. See prior pages for removal steps.
2. Remove the two screws per burner base for all 6 burners. Total 12 screws **Fig.01**
3. Remove drip pan divider strip by sliding straight up. **Fig.02**
4. Remove the two screws at the front of the drip pan. **Fig.03** Do this for all three drip pans.
5. Lift center drip pan up and free from range. **Fig.04**
6. Slide right and left side drip pans to center until clear of the side panels, Lift drip pan up and free from range. **Fig.05**



# Component Access

## Cooling fan removal **ARG30 ONLY**

1. Remove rear vent trim, rear access panel along with one piece cook top.
2. Remove the six duct screws on back of blower. **Fig.01**
3. Remove the 6 duct channel screws, 3 screws per side. **Fig.02**
4. Lift duct channel upward just enough for blower to clear, Pull blower upward and free from range body **Fig.03**
5. Separate duct from blower body **Fig.04** Replace blower / Hall sensor assembly.

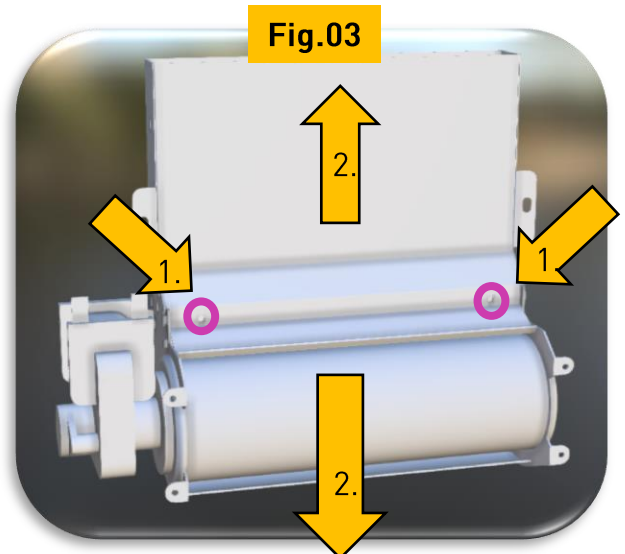
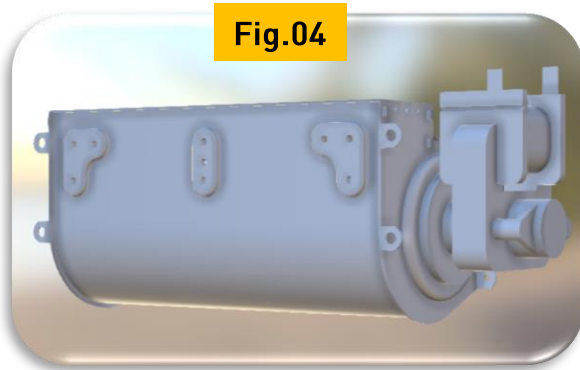
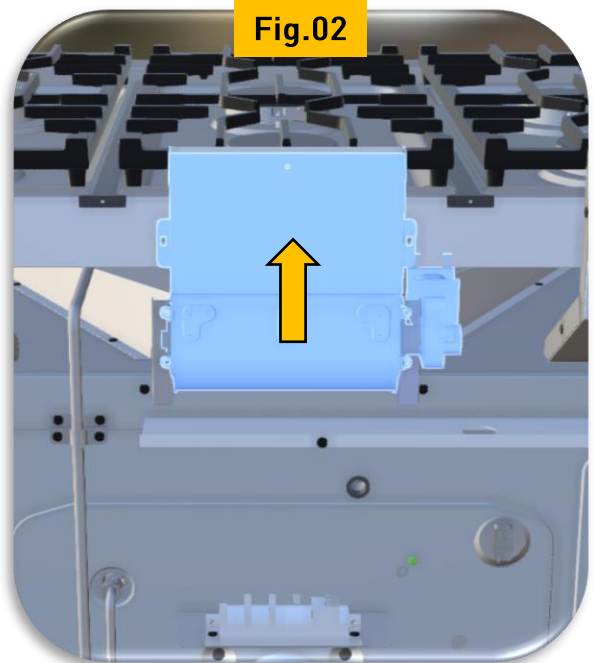
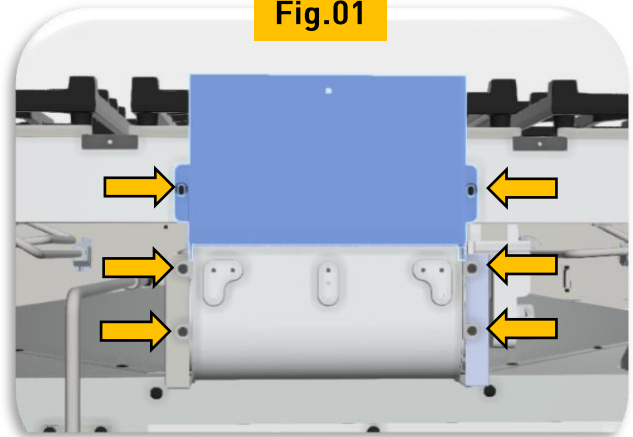




# Component Access

## Cooling fan removal ARG36

1. Remove rear vent trim and rear access panel.
2. Remove the two vent duct screws, and four blower mounting screws **Fig.01**
3. Flex blower mounting brackets outward slightly. Slide blower and duct assembly upward until clear range body **Fig.02**
4. With blower assembly removed from range, On inside of blower remove the two screws securing duct to blower body **Fig.03** Separate duct from blower body.
5. Replace blower / halls sensor as assembly. **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 blade cover to rear cavity wall.

**Fig.01** Remove cover **Fig.02**

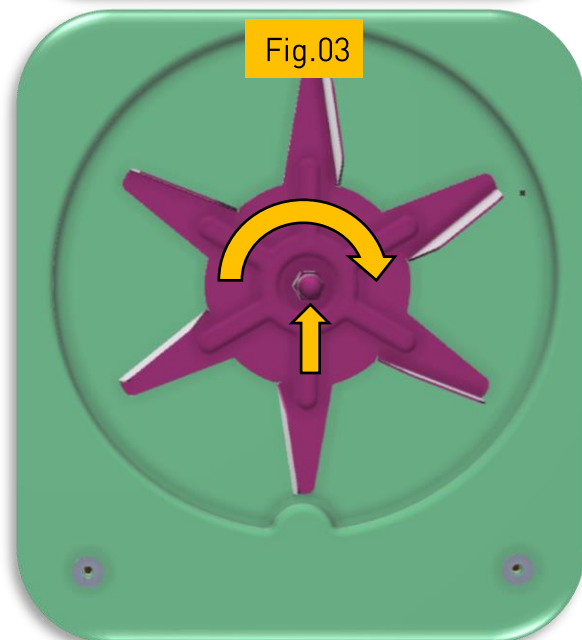
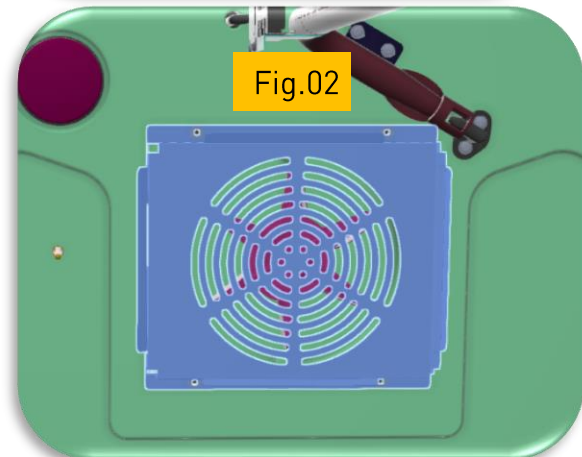
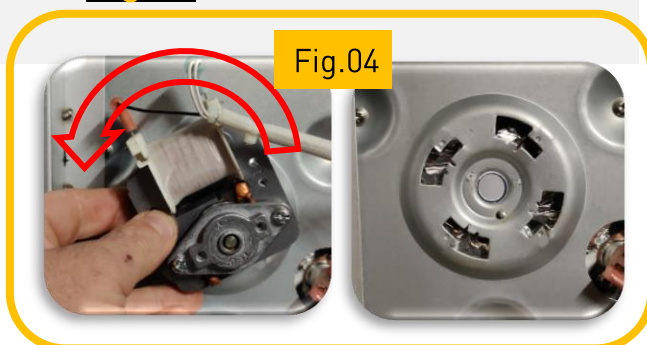
2. Remove convection fan blade retaining nut using a 10mm wrench and turning CW direction. **Fig.03**

### 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.

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



# Component Access

## Spark module ARG30 Only

1. Disconnect power supply for range.
2. Remove rear vent trim and rear access panel. See prior pages.
3. Locate spark module. **Fig.01**
4. Remove wire terminals and the two mounting screws for Spark module. **Fig.02**
5. Replace spark module.

Fig.01

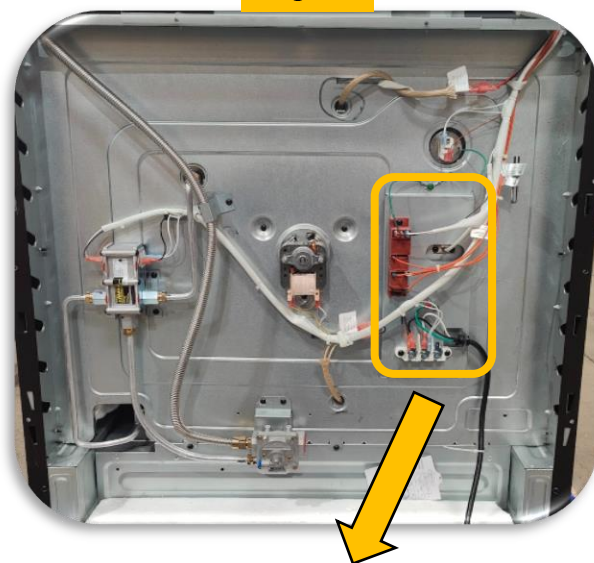
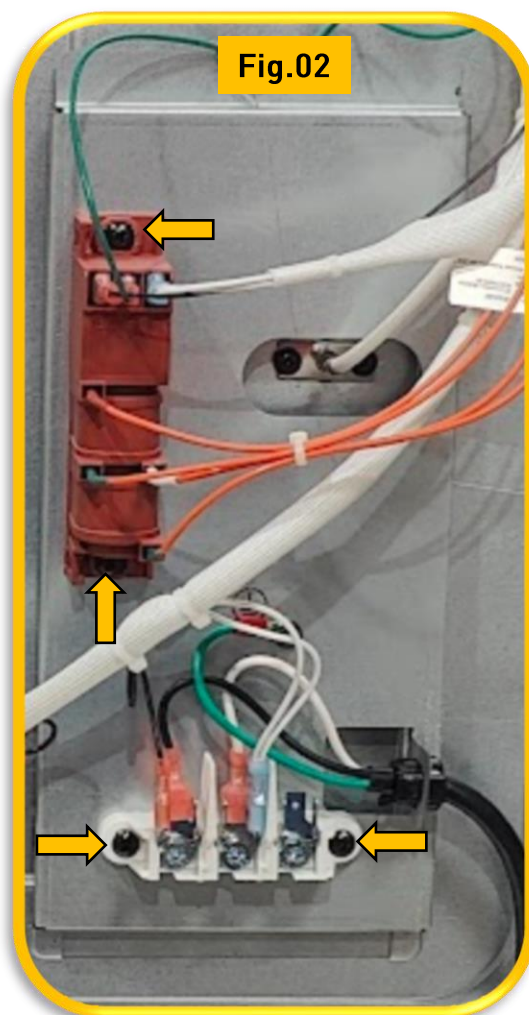


Fig.02



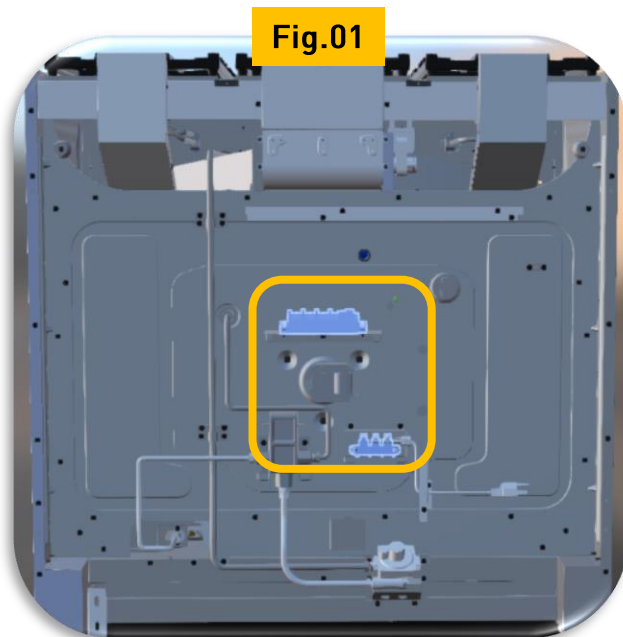
## Terminal block ARG30 Only

1. Disconnect power supply for range.
2. Remove rear vent trim and rear access panel. See prior pages
3. Locate terminal block **Fig.01**
4. Remove wire harness terminal from terminal block. Remove the two mounting screws of the terminal block. **Fig.02**
5. Replace terminal block.

# Component Access

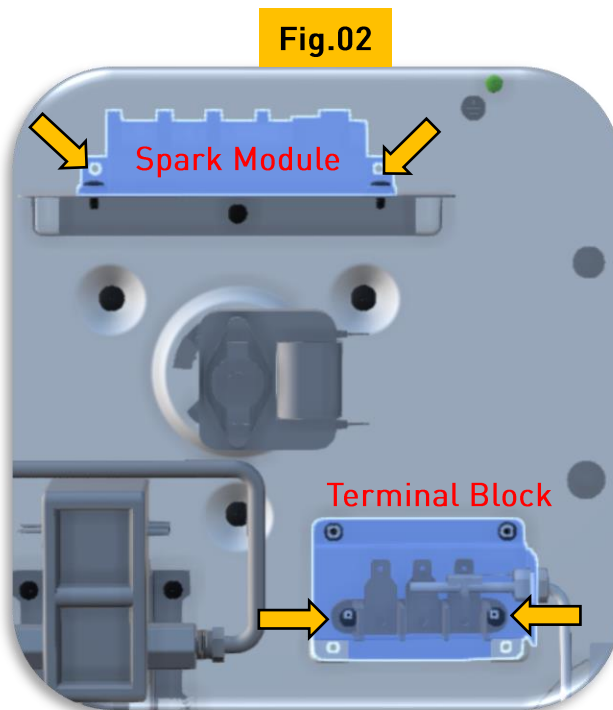
## Spark module ARG30 Only

1. Disconnect power supply for range.
2. Remove rear vent trim and rear access panel. See prior pages.
3. Locate spark module. **Fig.01**
4. Remove wire terminals and the two mounting screws for Spark module. **Fig.02**
5. Replace spark module.



## Terminal block ARG30 Only

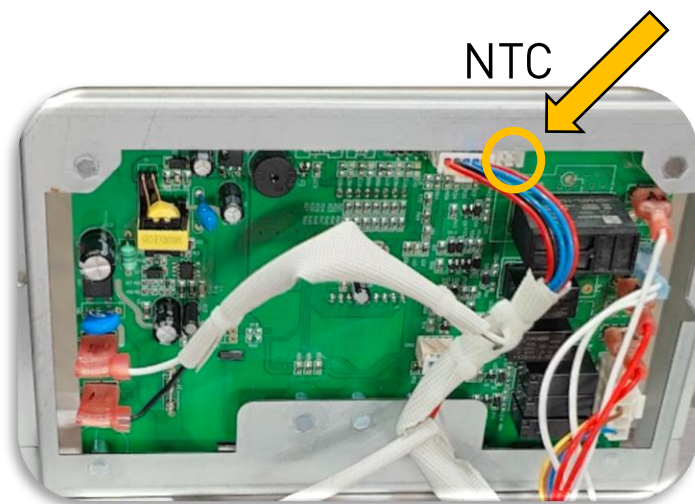
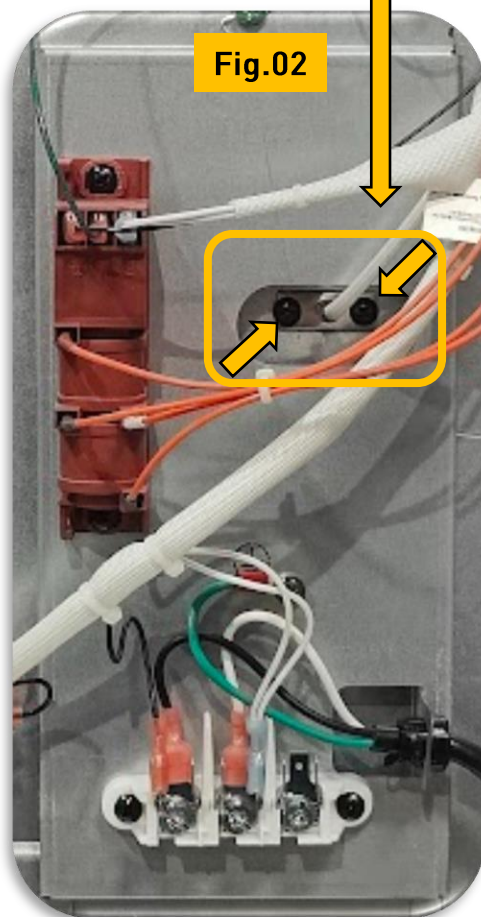
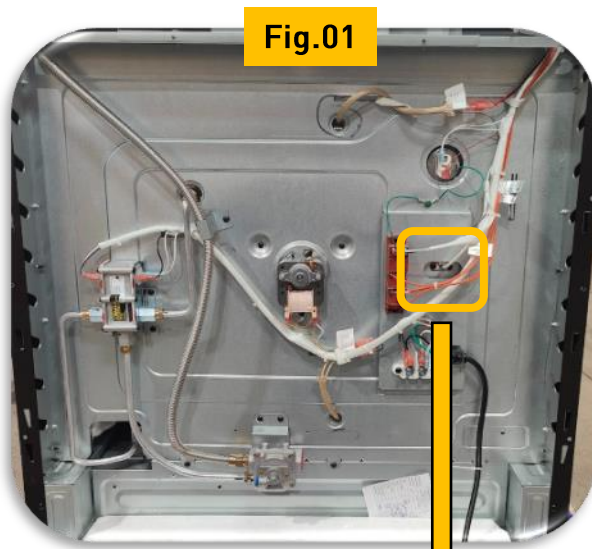
1. Disconnect power supply for range.
2. Remove rear vent trim and rear access panel. See prior pages
3. Locate terminal block **Fig.01**
4. Remove wire harness terminal from terminal block. Remove the two mounting screws of the terminal block. **Fig.02**
5. Replace terminal block.



# Component Access

## Oven sensor ARG30 Only

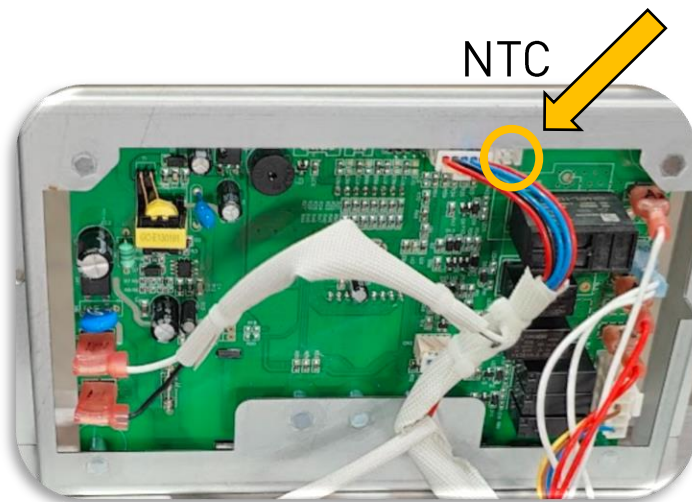
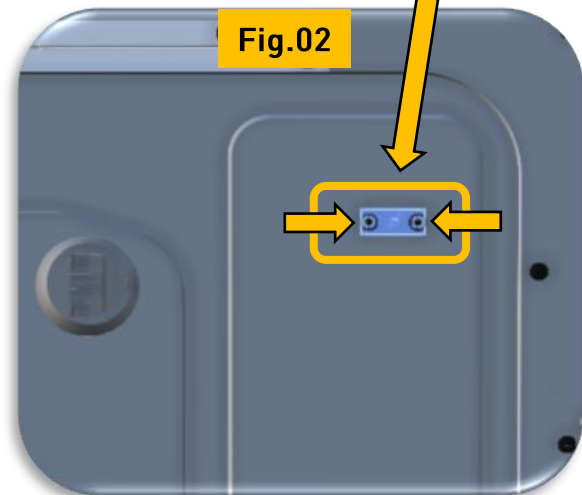
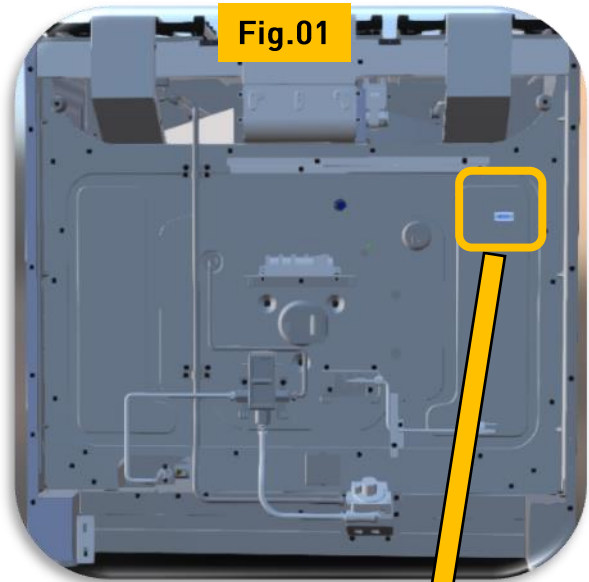
1. Disconnect power supply for range.
2. Remove rear vent trim and rear access panel. See prior pages.
3. Locate oven sensor . **Fig.01**
4. Remove two mounting screws from sensor. Pull sensor from oven body **Fig.02**
5. Remove control panel, Unplug NTC sensor from PCB. **Fig.03**



# Component Access

## Oven sensor ARG36 Only

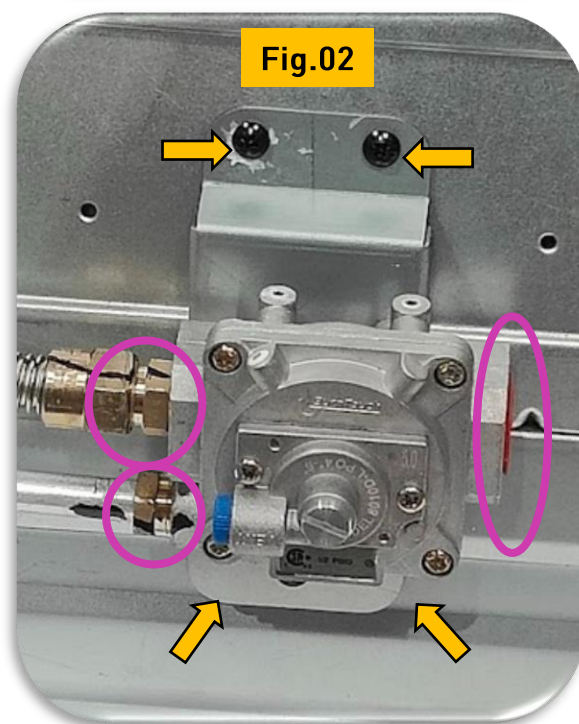
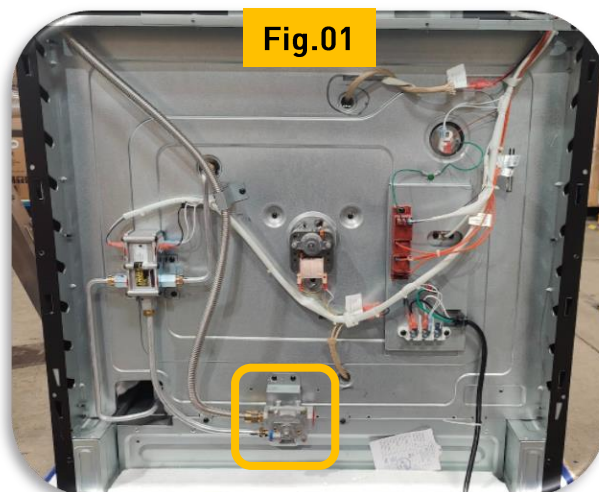
1. Disconnect power supply for range.
2. Remove rear vent trim and rear access panel. See prior pages.
3. Locate oven sensor . **Fig.01**
4. Remove two mounting screws from sensor. Pull sensor from oven body **Fig.02**
5. Remove control panel, Unplug NTC sensor from PCB. **Fig.03**



# Component Access

## Pressure regulator

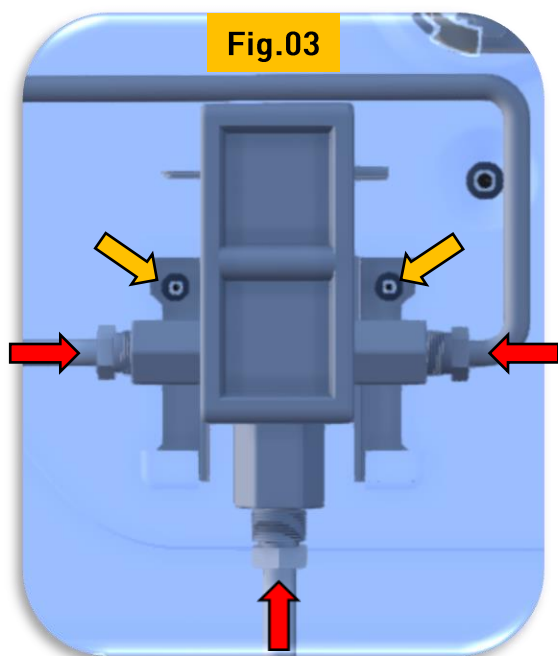
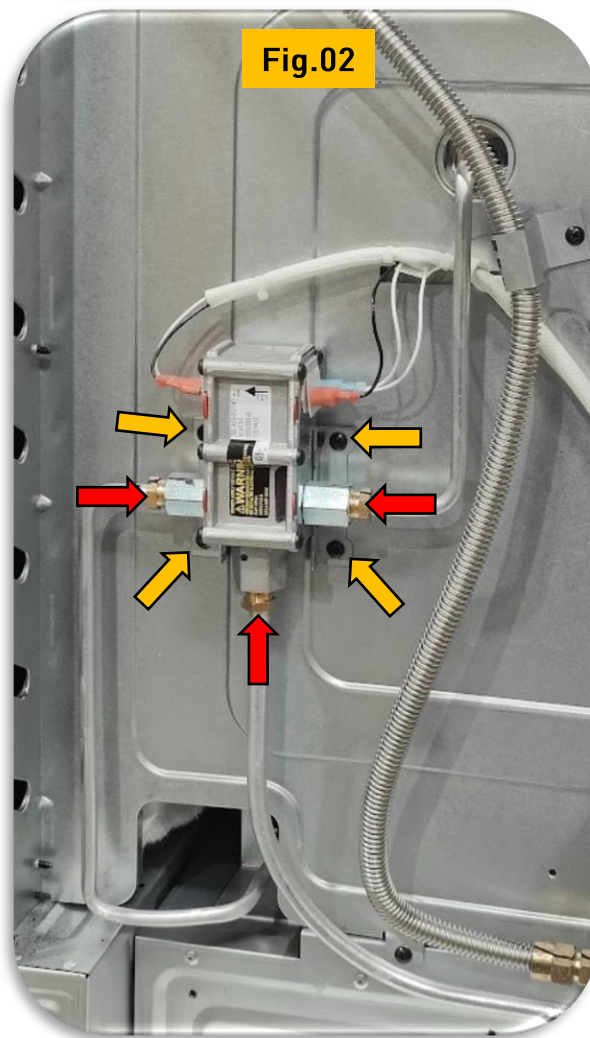
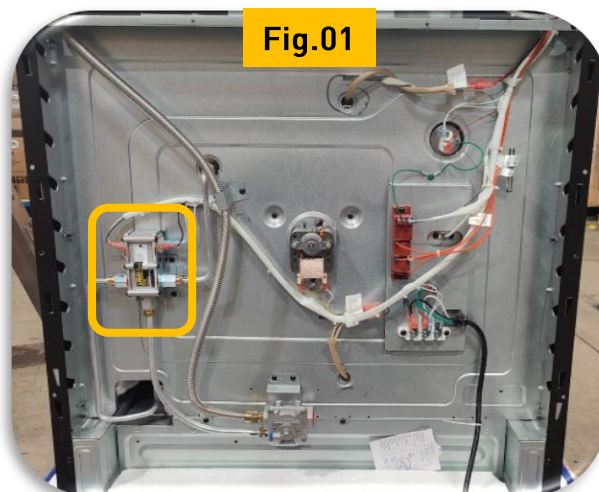
1. Disconnect power and gas supply for range.
2. Remove rear vent trim and rear access panel. See prior pages.
3. Locate pressure regulator. **Fig.01**
4. Remove the gas supply inlet line and adapter from right side of regulator. Remove the two outlet gas lines from regulator left side. Remove regulator mounting bracket screws **Fig.02**
5. Remove regulator and bracket from range, from back side of the regulator remove the screws to separate regulator from bracket. Replace regulator and reassemble in reverse order.



# Component Access

## Safety valve

1. Disconnect power and gas supply for range.
2. Remove rear vent trim and rear access panel. See prior pages.
3. Locate Safety valve **Fig.01**
4. Remove the gas supply inlet and outlet lines (Red Arrows). Remove the four mounting bracket screws ARG30 model **Fig.02** Two screws mounting on the ARG36 **Fig.03** Slide safety up to disengage bottom tabs.
5. Replace safety valve

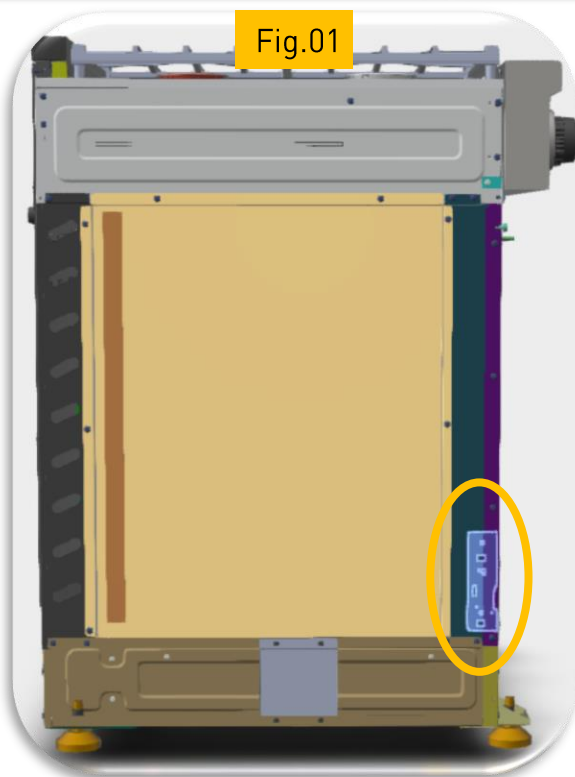




# Component Access

## Hinge receiver

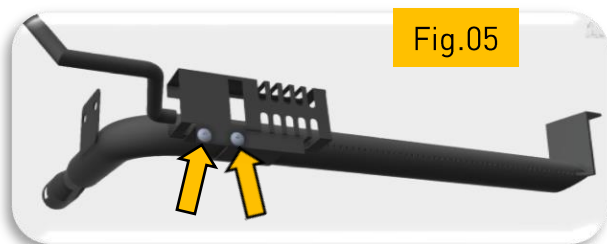
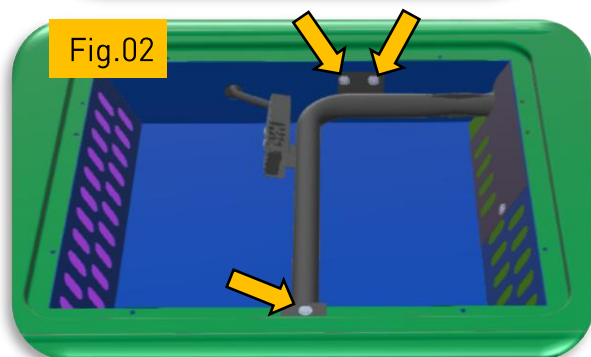
1. Remove oven door, Toe Kick panel and control panel from the front of the range . From the rear remove the rear access panel. Remove side panels. See prior pages for steps.
2. Locate hinge receiver **Fig.01**
3. Remove the two Phillip head screws and bracket from front of the receiver see **Fig.02** and **Fig.03**
4. Slide hinge receiver towards rear of range to remove.



# Component Access

## Hot Surface Ignitor / Bake burner tube

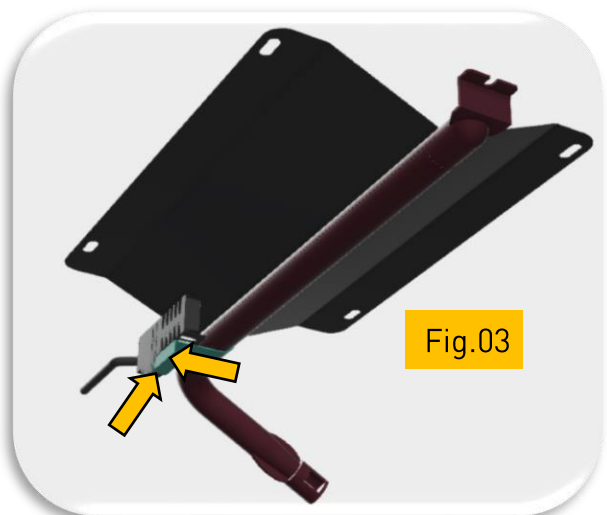
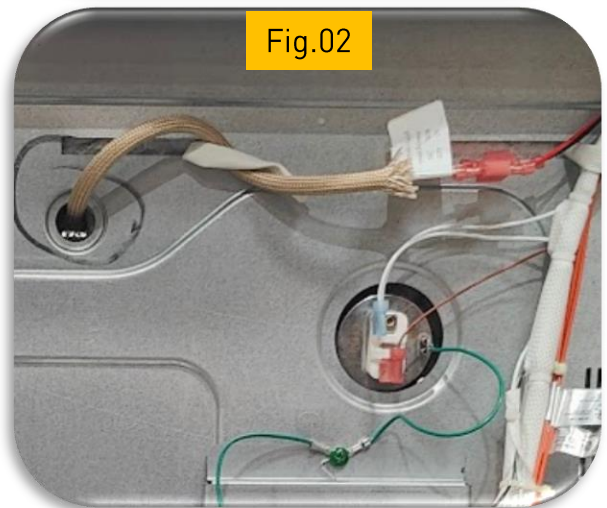
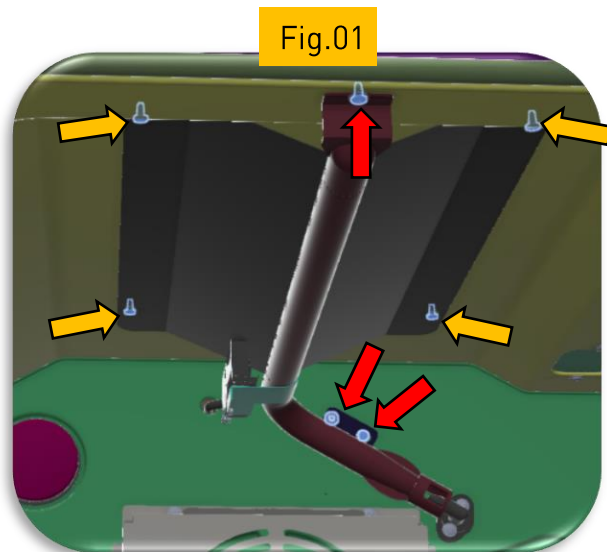
1. Disconnect electrical and Gas supply to range, Remove oven door, racks and floor cover. Exposing the bake burner tube. **Fig.01**
2. Remove the 3 screws securing burner tube to the range. Fig.02
3. Move to the back of the range and disconnect the two terminals for the HSI **Fig.03**
4. Remove burner tube with HSI from range. **Fig.04**
5. Remove two Phillipe head screws holding HSI to burner tube bracket. Replace Hot surface igniter. **Fig.05**



# Component Access

## Broil Burner tube / Broil Ignitor

1. Disconnect electrical and Gas supply to range, Remove oven door, racks.
2. Remove the 4 Phillips head screws and washers holding the flame spreader to oven ceiling (Yellow Arrows). **Fig.01**
3. Remove the 3 mounting screws for the Broiler burner tube. **Fig.01** Two are located at the back of the burner tube on rear wall and one at the front oven ceiling. (Red arrows).
4. Slide burner tube/ flame spreader to the left to separate burner tube from the Broil orifice.
5. Move to rear of the range, remove rear access panel. Locate wire terminal quick disconnects.
6. Remove Broil burner / flame spreader from oven cavity. Remove the two Phillips screws holding the Hot surface igniter to the burner tube. **Fig.03**



# 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-screw going thru the door to the handle holder studs.  
**Fig.01** Note it may be necessary to hold the door handle stud with pliers 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**



## Replacing outer door glass

1. Remove the stainless-steel door skin
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.



# Component Access

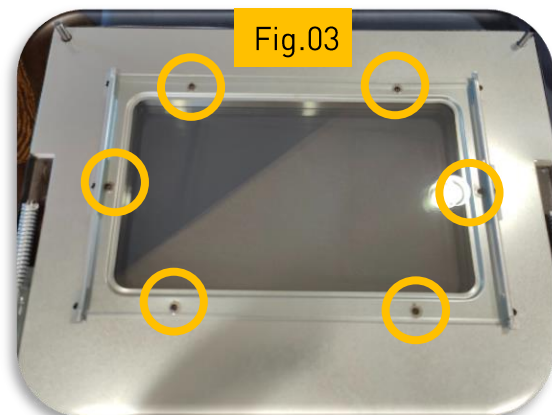
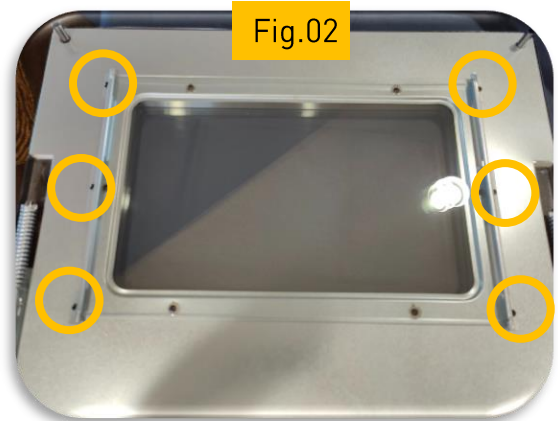
## Removing door hinges

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.



## 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 retainer cover , Lift and remove the sheet metal insulation retaining cover. **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

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

**Fig.01**

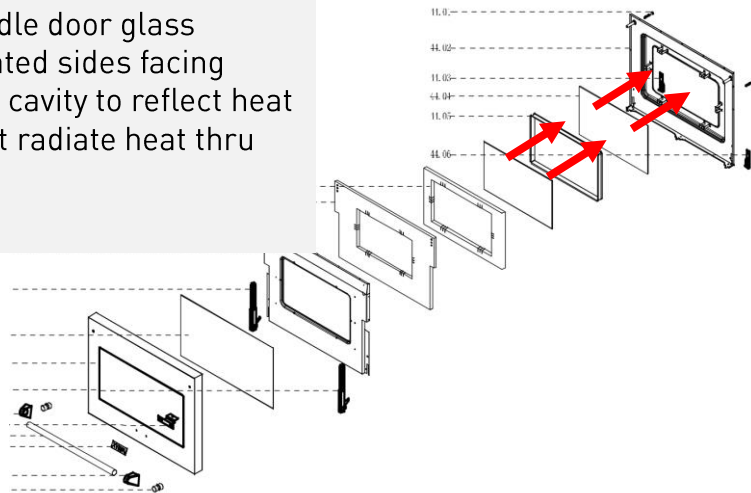


Heat treated side of glass will have a resistances of around  $40\Omega$  across the surface of the glass.

**Fig.02**



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

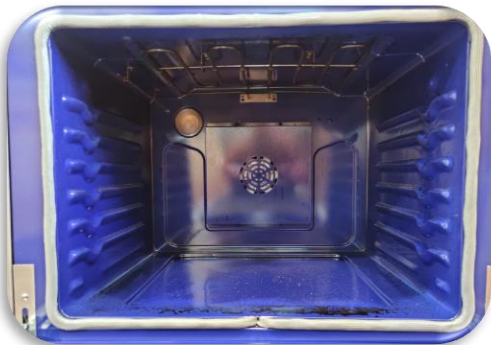
### **⚠ WARNING**

- **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.

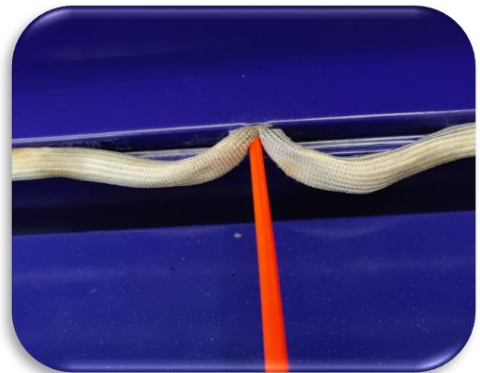
1. Open oven door fully or remove oven door for more access.
2. Pull oven door gasket releasing clips from cavity holes



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



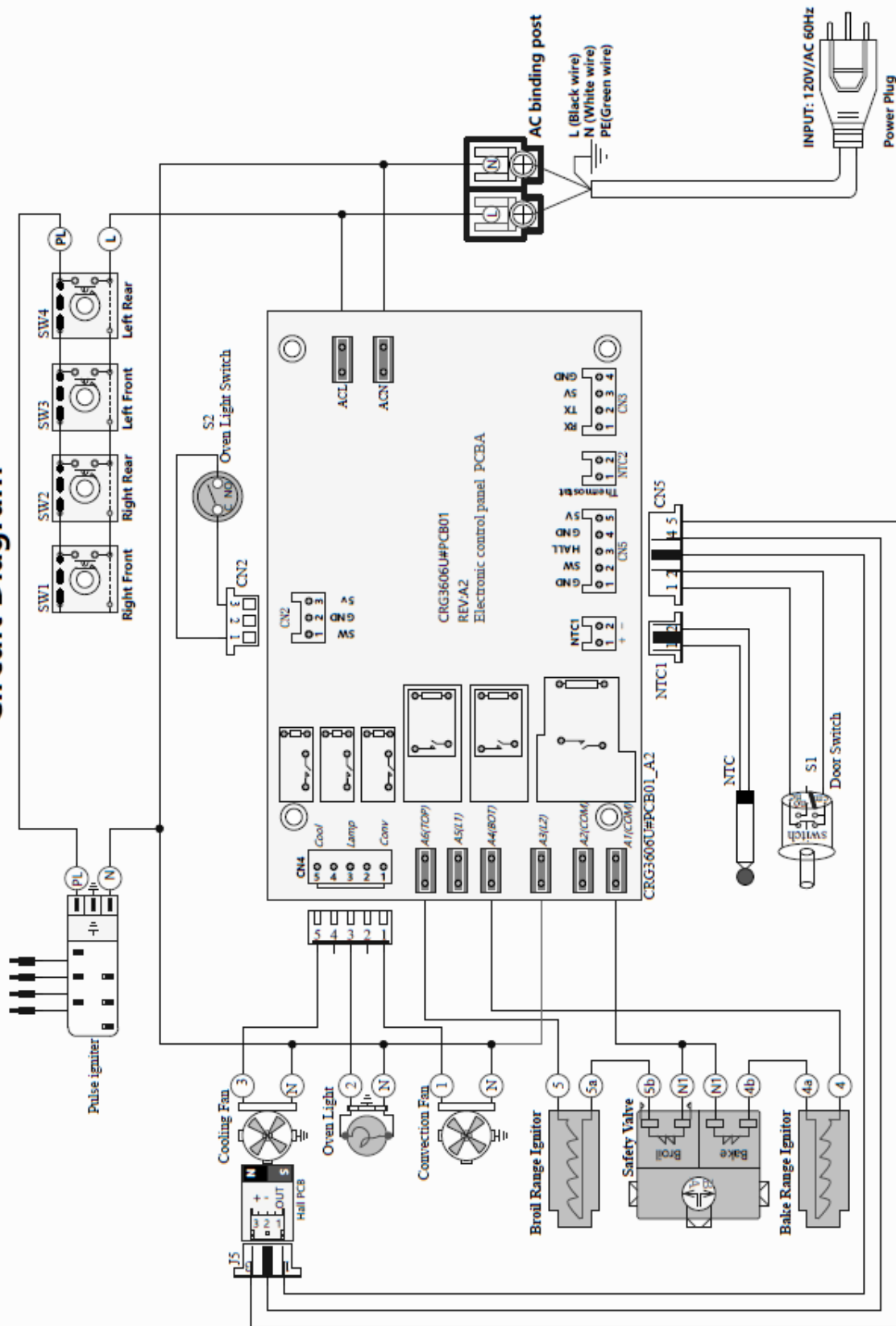
4. Feed both end of gasket into the small hole in the center bottom of oven, Use a small blunt instrument such as a chop stick to push extra gasket into hole





# Wiring Schematic ARG30

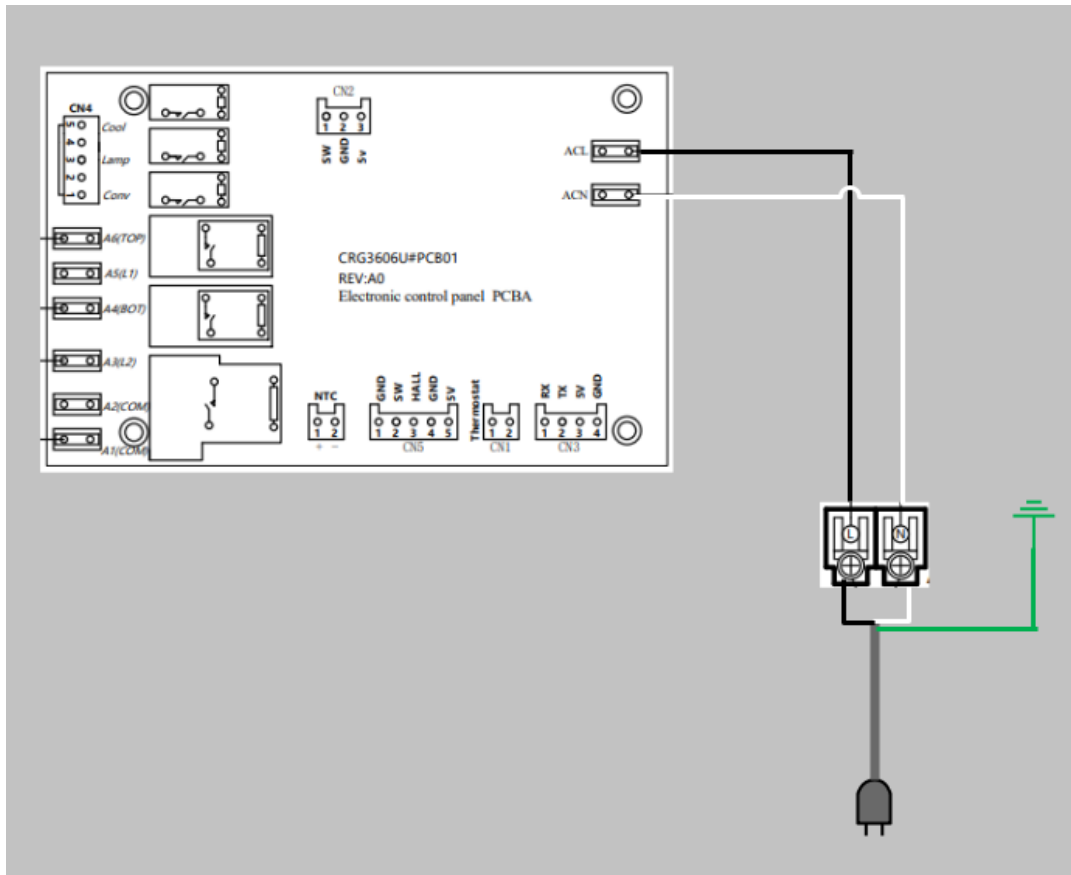
## Circuit Diagram



19.04.005466-000-A1

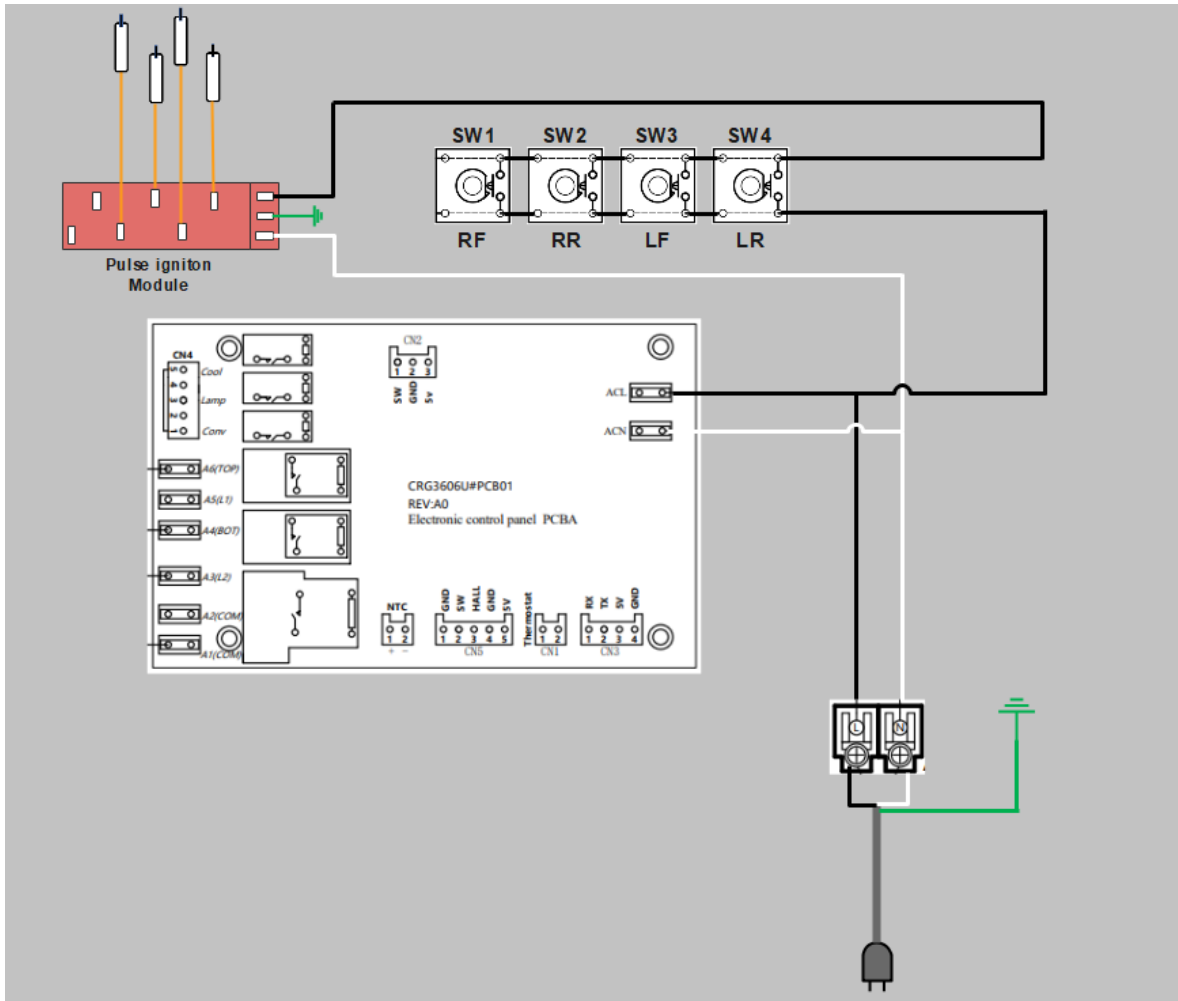


# ARG- Power / standby strip circuit



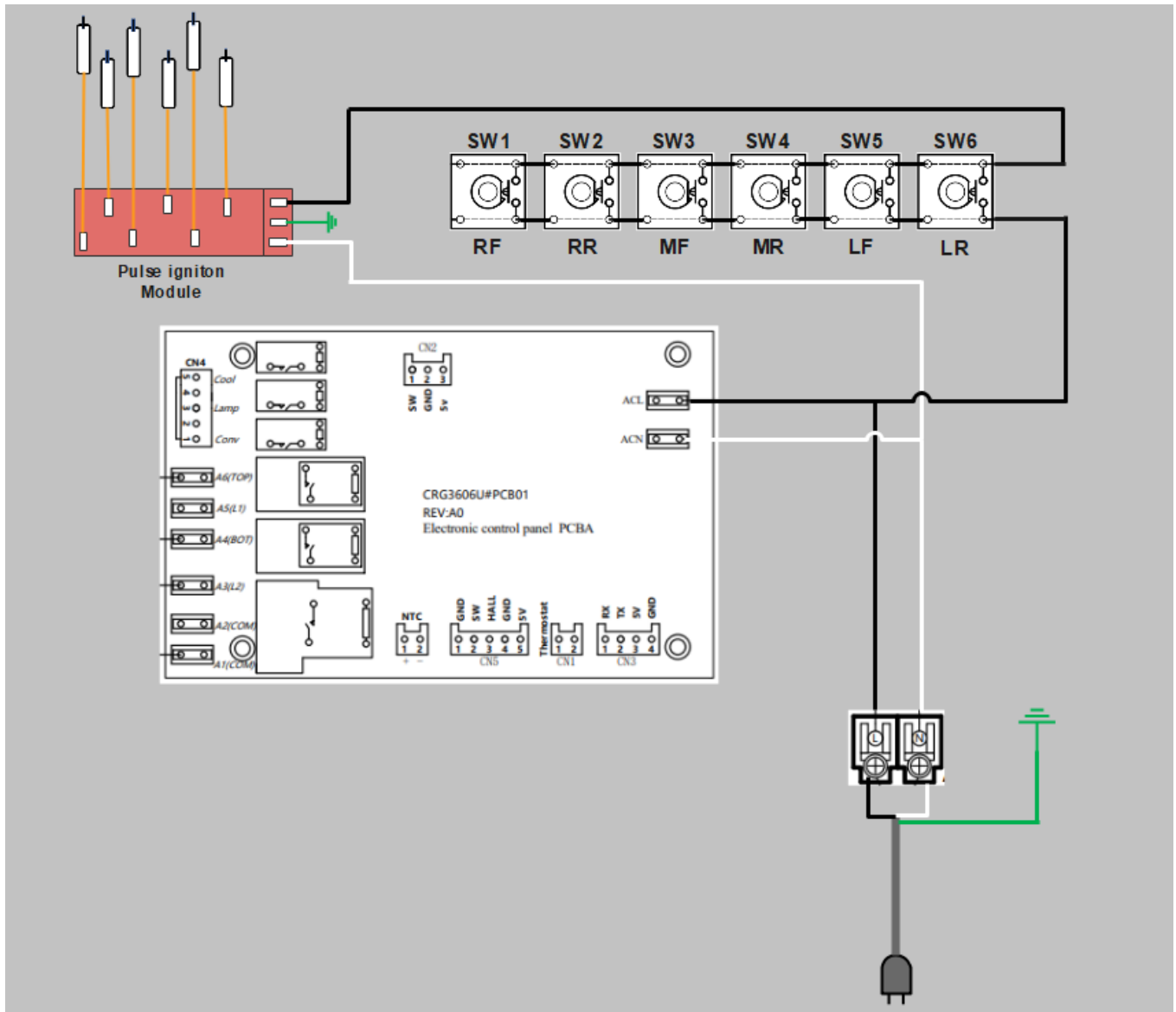
- In standby and in operation state, 120Vac is supplied to the Main PCB via the (ACL) L1 black wire and (ACN) Neutral white wire. There is an internal SMPS (switch mode power supply) built into the main board. The internal SMPS will take the supplied 120Vac and convert to the needed the 12 VDC and 5VDC 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

# ARG30 – Surface ignition circuit



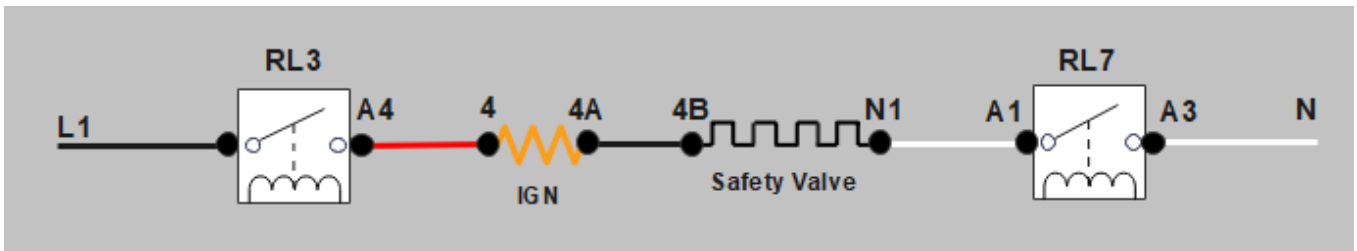
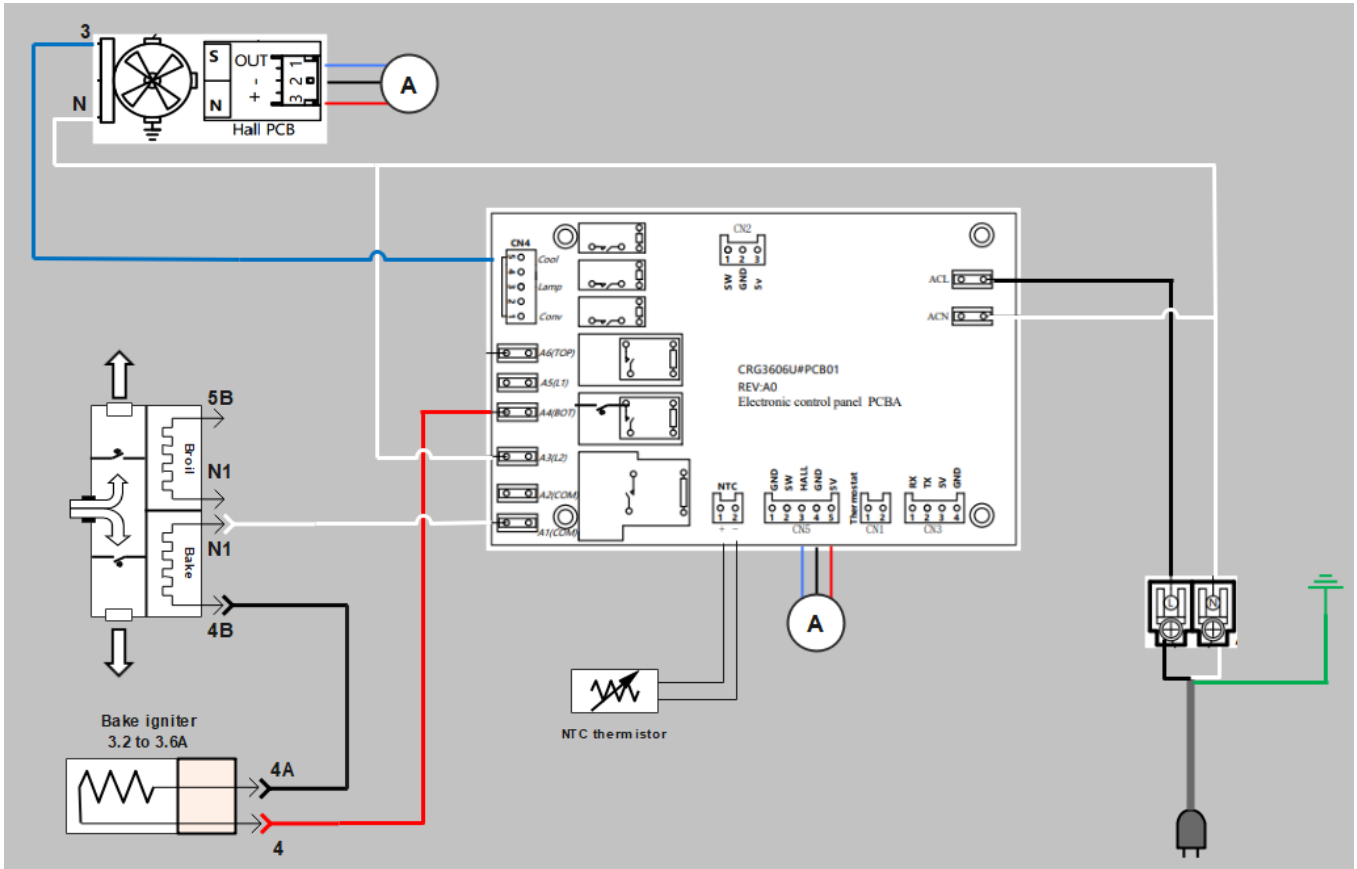
- 120Vac is supplied directly from the terminal block to the switch harness. All four-surface burner switch are wired in parallel. When any switch is push in and held via the knob, 120Vac will pass thru the switch supplying the needed 120Vac to the spark module. All four electrodes will spark simultaneously.
- Once ignition of the flame has occurred the knob is released, Knob will return to normal operation position full extended. This is achieved via the spring-loaded gas valve shaft. When knob and valve shaft return to normal operation position the ignition switch is released and switch contacts will open stopping the flow of electricity to the spark module.

# ARG36- Surface ignition circuit



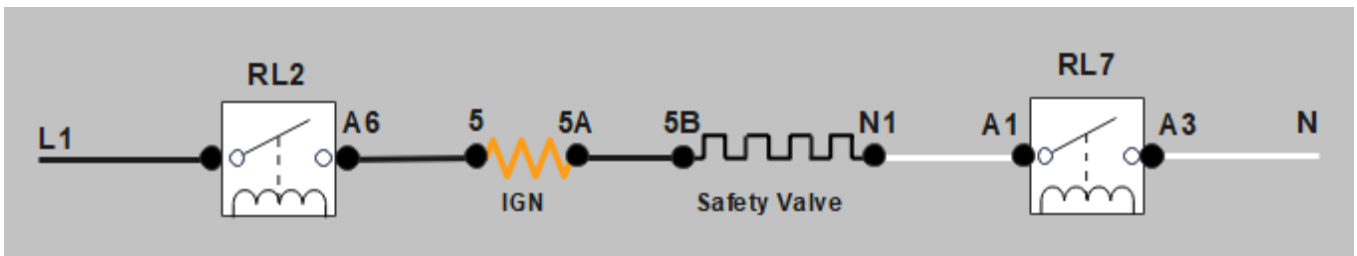
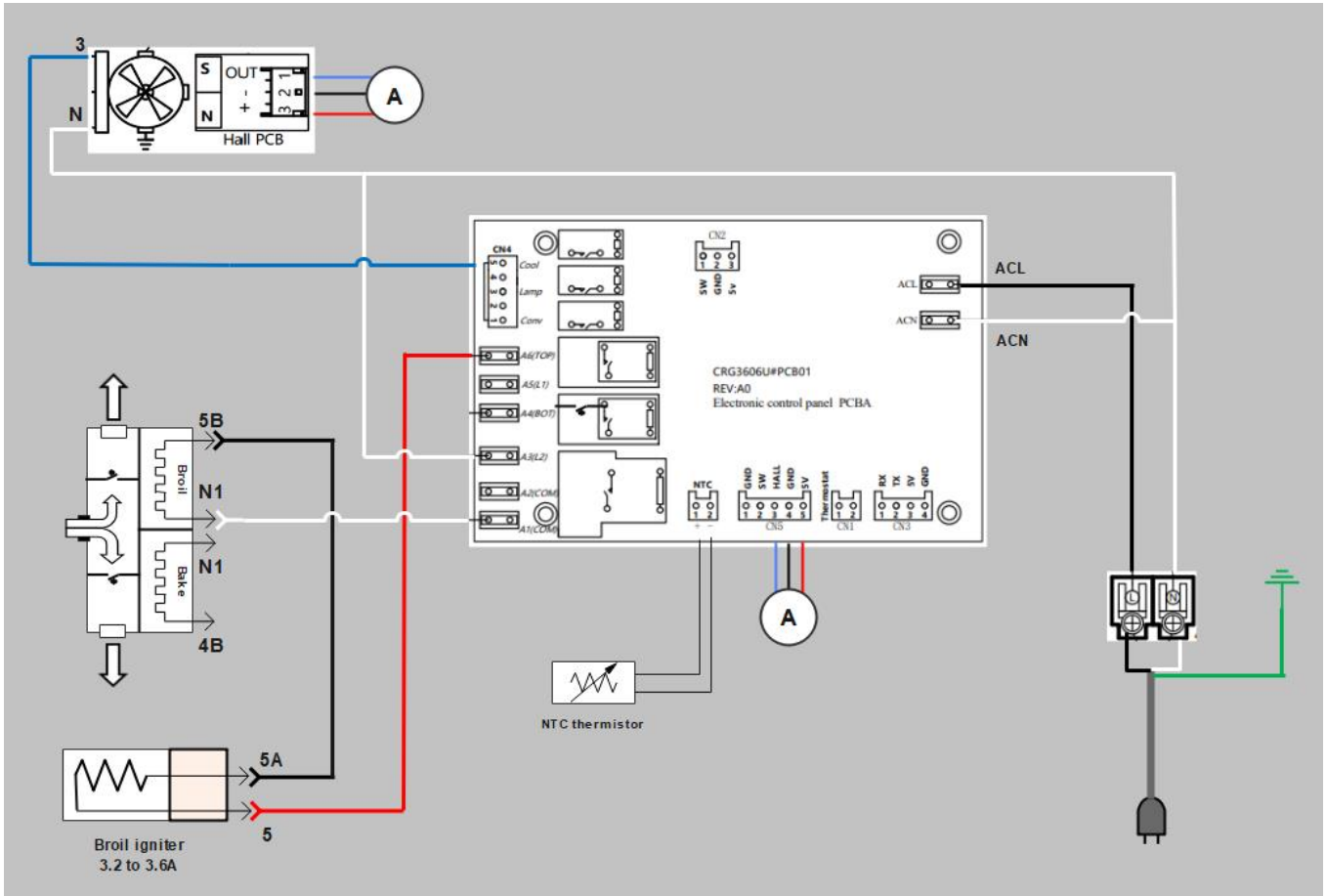
- 120Vac is supplied directly from the terminal block to the switch harness. All Six-surface burner switch are wired in parallel. When any switch is push in and held via the knob, 120Vac will pass thru the switch supplying the needed 120Vac to the spark module. All Six electrodes will spark simultaneously.
- Once ignition of the flame has occurred the knob is released, Knob will return to normal operation position full extended. This is achieved via the spring-loaded gas valve shaft. When knob and valve shaft return to normal operation position the ignition switch is released and switch contacts will open stopping the flow of electricity to the spark module.

# ARG- Bake circuit



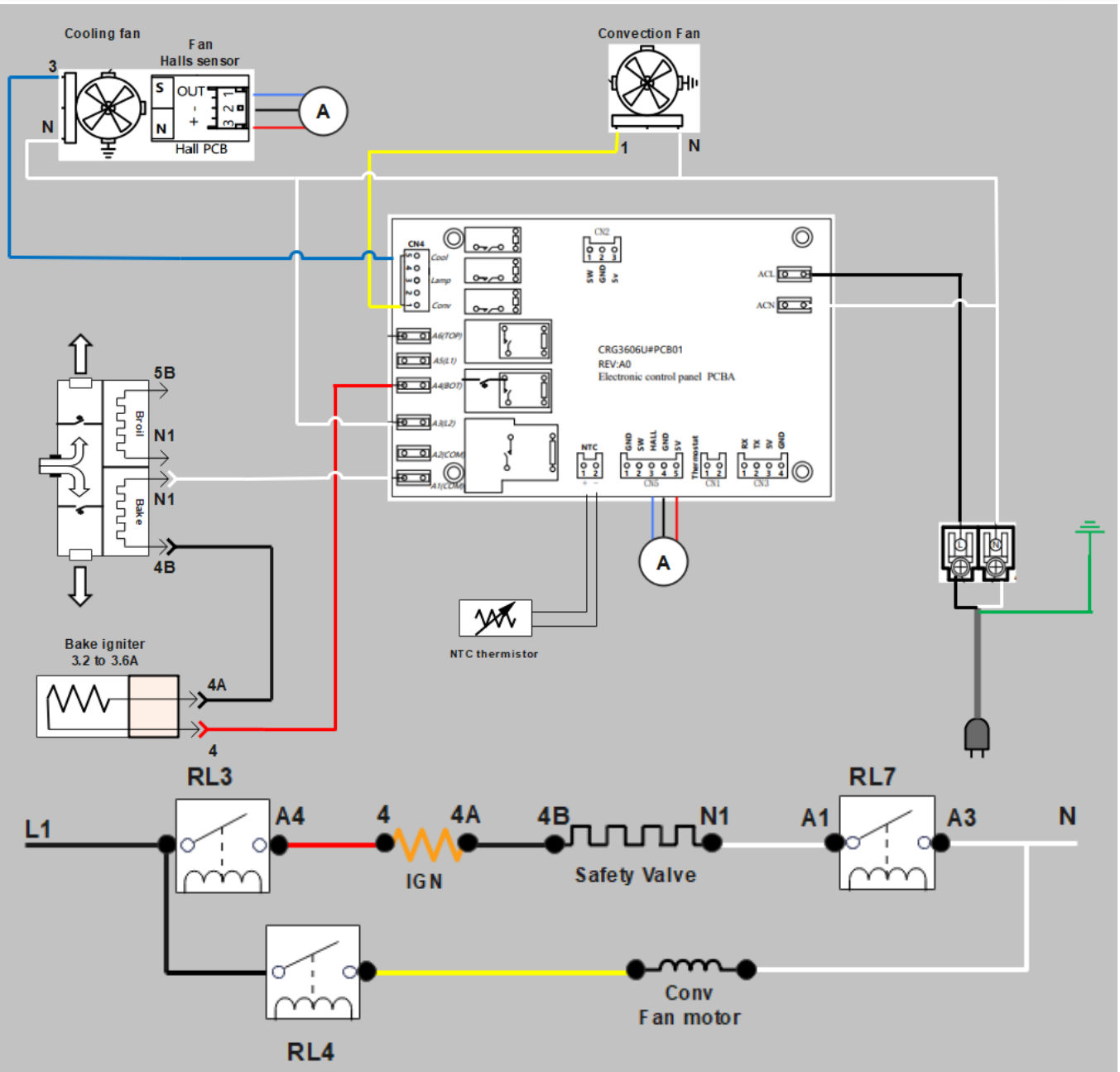
- Power is supplied to the ERC (Electronic range control) via ACL and ACN terminals. When bake cycle is selected Bake relay RL3 will close supplying 120V out A4 (BOT) terminal of main PCB. Voltage will travel down the red wire to the bake hot surface igniter. Voltage will pass thru the HSI and Safety valve. Voltage will exit the safety valve on N1 terminal white wire and return to the main PCB terminal A1 (Com). RL7 relay will be closed to connect to neutral side of power completing the Bake circuit.

# ARG– Broil circuit



- Power is supplied to the ERC (Electronic range control) via ACL and ACN terminals. When Broil cycle is selected Broil relay RL2 will close supplying 120V out A6 (TOP) terminal of main PCB. Voltage will travel down the red wire to the Broil hot surface igniter. Voltage will pass thru the HSI and Safety valve. Voltage will exit the safety valve on N1 terminal white wire and return to the main PCB terminal A1 (Com). RL7 relay will be closed to connect to neutral side of power completing the Broil circuit.

# ARG- Convection bake



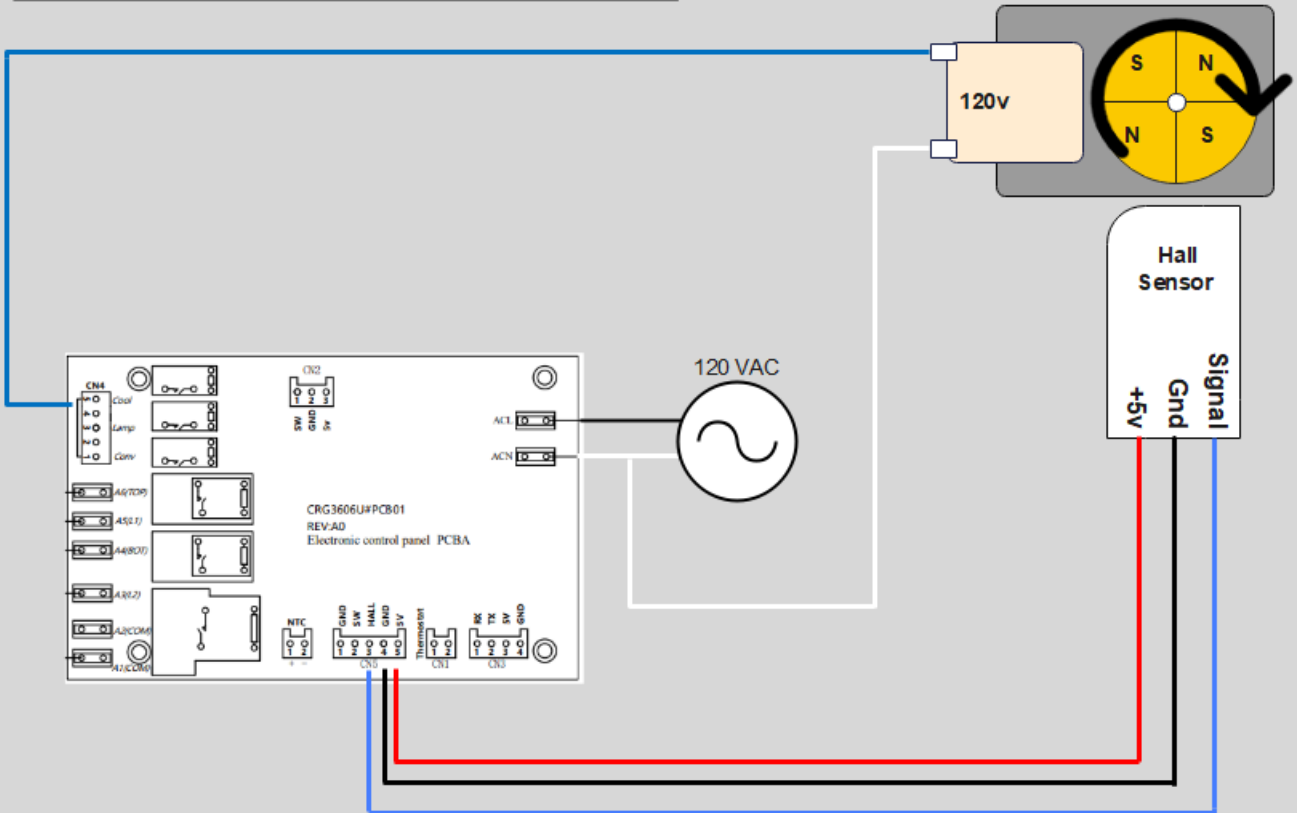
- Power is supplied to the ERC (Electronic range control) via ACL and ACN terminals. When bake cycle is selected Bake relay RL3 will close supplying 120V out A4 (BOT) terminal of main PCB. Voltage will travel down the red wire to the bake hot surface igniter. Voltage will pass thru the HSI and Safety valve. Voltage will exit the safety valve on N1 terminal white wire and return to the main PCB terminal A1 (Com). RL7 relay will be closed to connect to neutral side of power completing the Bake circuit.
- RL4 relay will close on main PCB sending 120V out on CN4 Pin one Yellow wire to convection fan motor.



# ARG – Cooling fan / hall's sensor

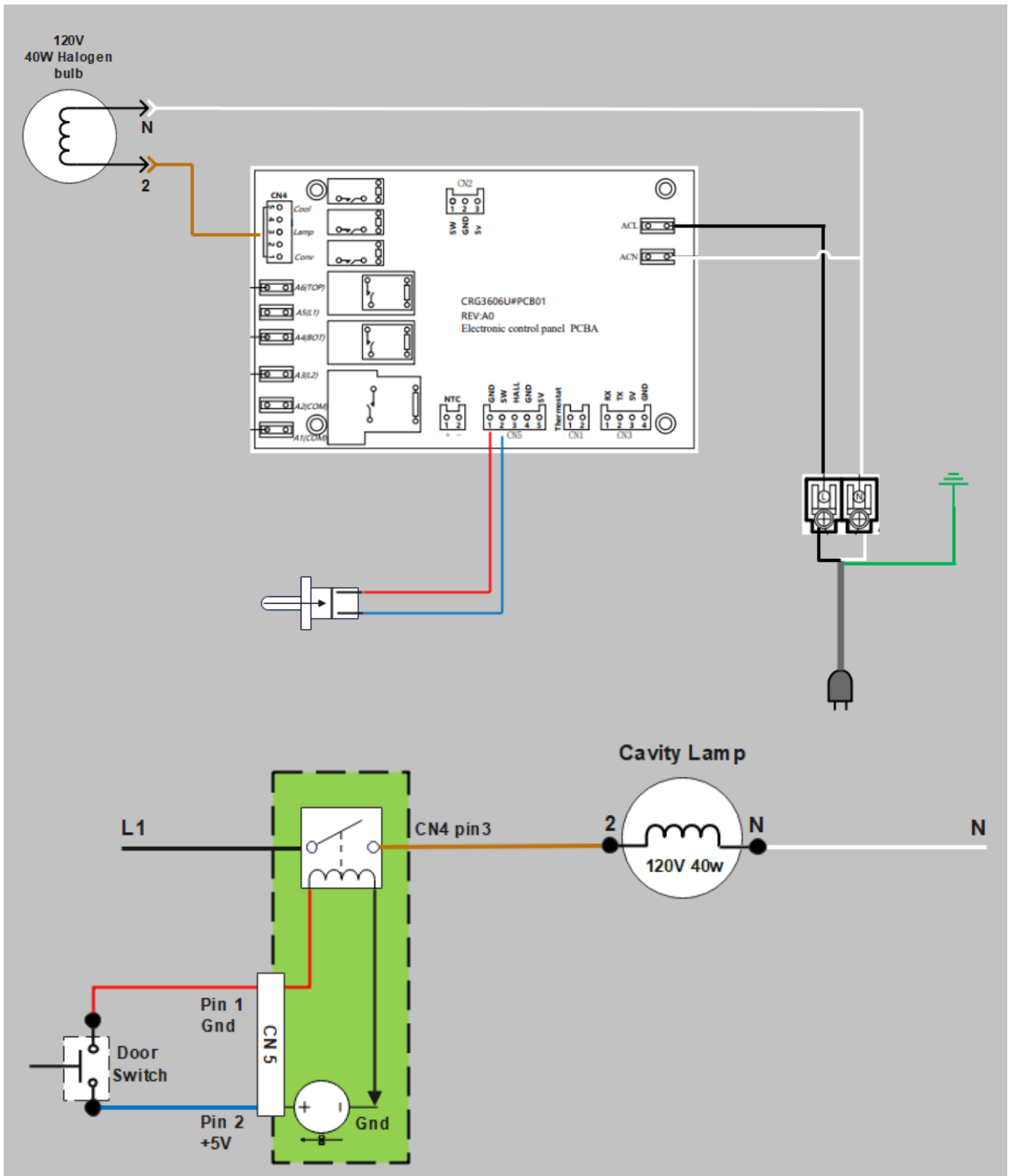
## Hall sensor check with fan rotating

| CN5 connector |              | Result  |
|---------------|--------------|---------|
| Pin 5 (Red)   | Pin4 (Black) | 5 VDC   |
| Pin 3 (blue)  | Pin4 (Black) | 2.5 VDC |

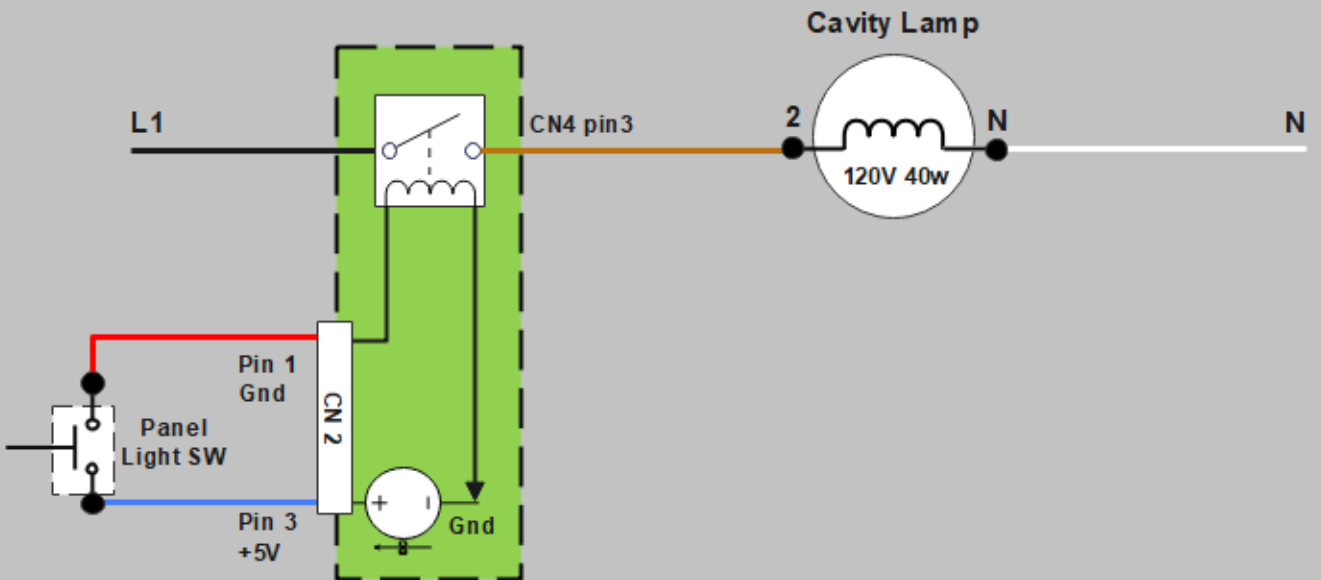
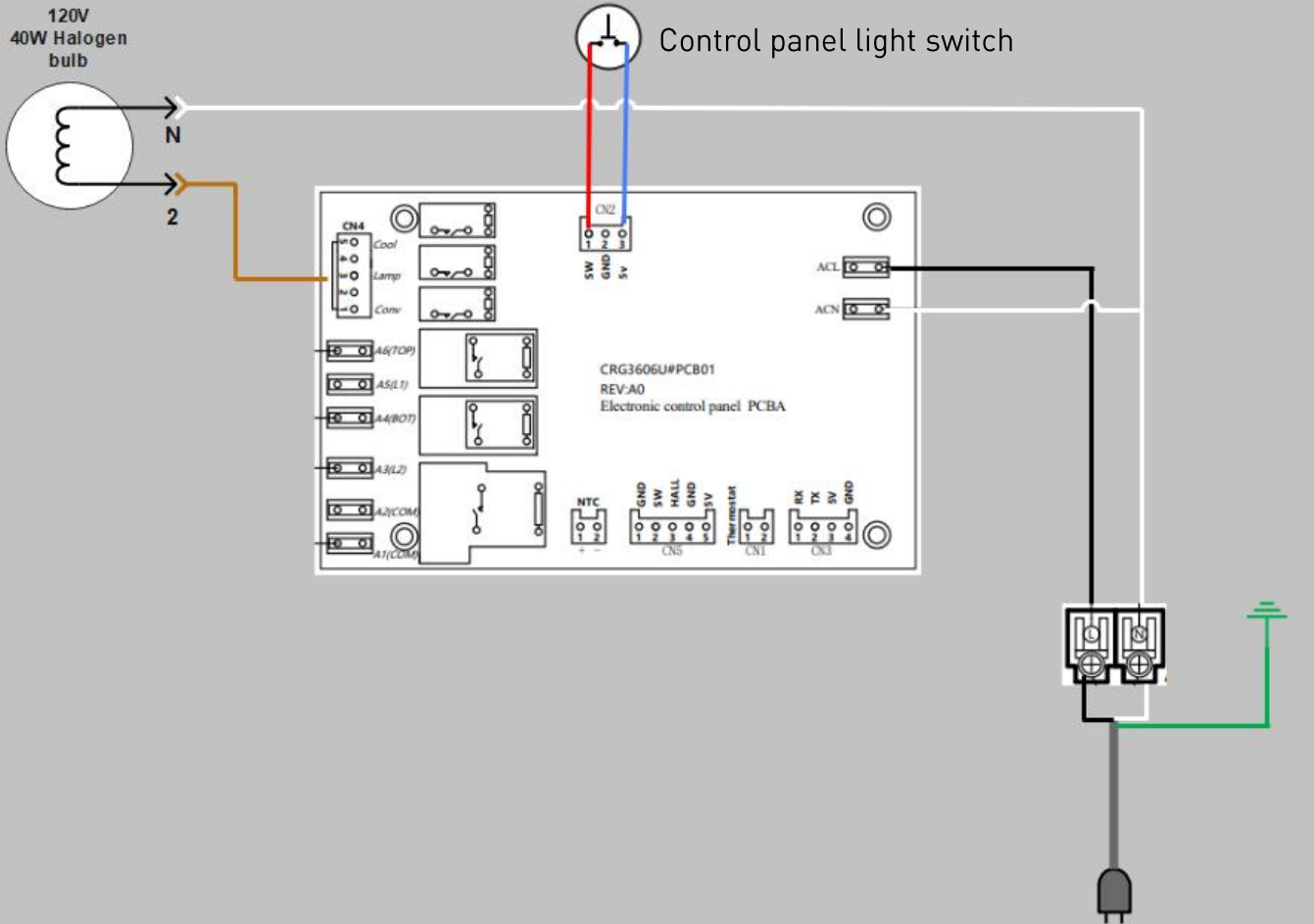


- Power is supplied to hall sensor Via CN5 pin5 (red wire) and pin4 (black wire). As long as the range is plugged in to power even in stand by mode the control is always supply +5vdc between red and black wires to the hall's sensor.
- When cooling fan motor is powered on 120V is supplied via the ERC CN4 pin5 Blue 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

# ARG – Door switch circuit



# ARG – Control panel light switch



# ARG – PCB terminal locations

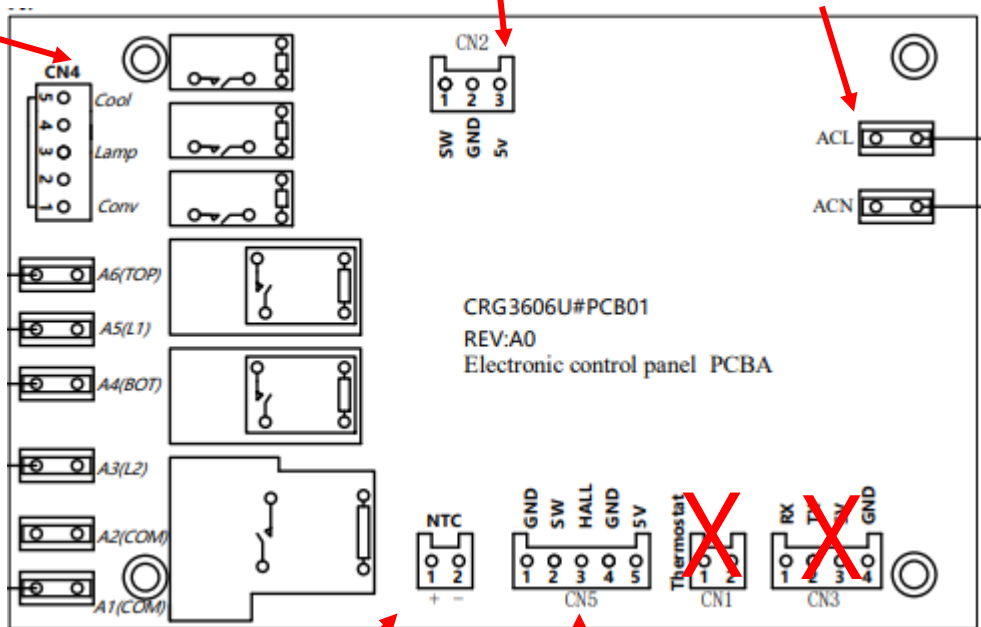
## Relay PCB ARG30 /ARG36

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

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

| Terminal number | Function    |
|-----------------|-------------|
| ACL             | L1 power in |
| ACN             | Neutral     |

| Terminal number | Function |
|-----------------|----------|
| A6 Top          | Broil    |
| A5 L1           | Not used |
| A4 Bottom       | Bake     |
| A3 L2           | Neutral  |
| A2              | Not used |
| A1              | Neutral  |



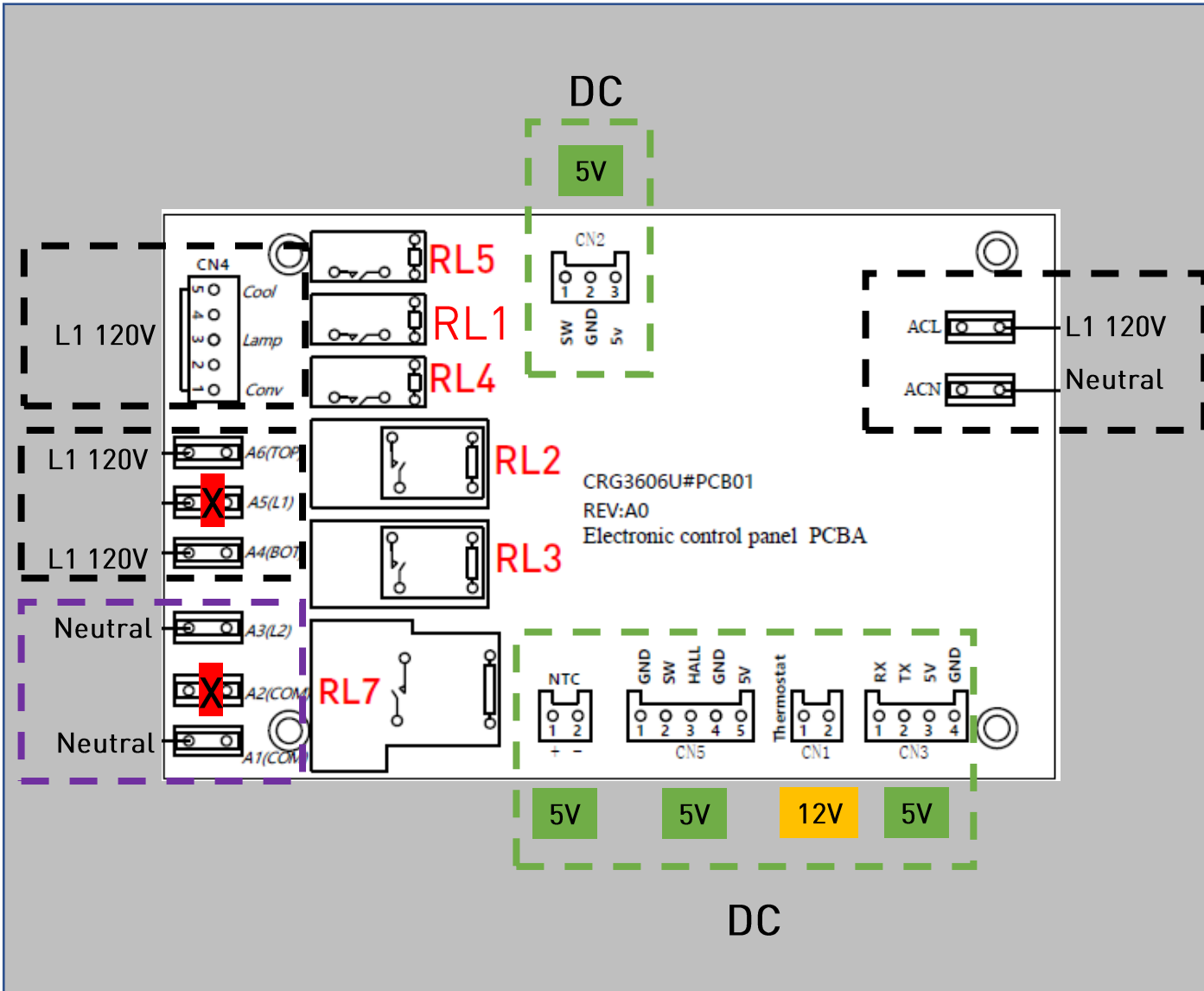
| Terminal number | Function    |
|-----------------|-------------|
| NTC             | Temp sensor |

| 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         |

# ARG – PCB terminal voltages

## Relay PCB ARG30 /ARG36

### Control voltages

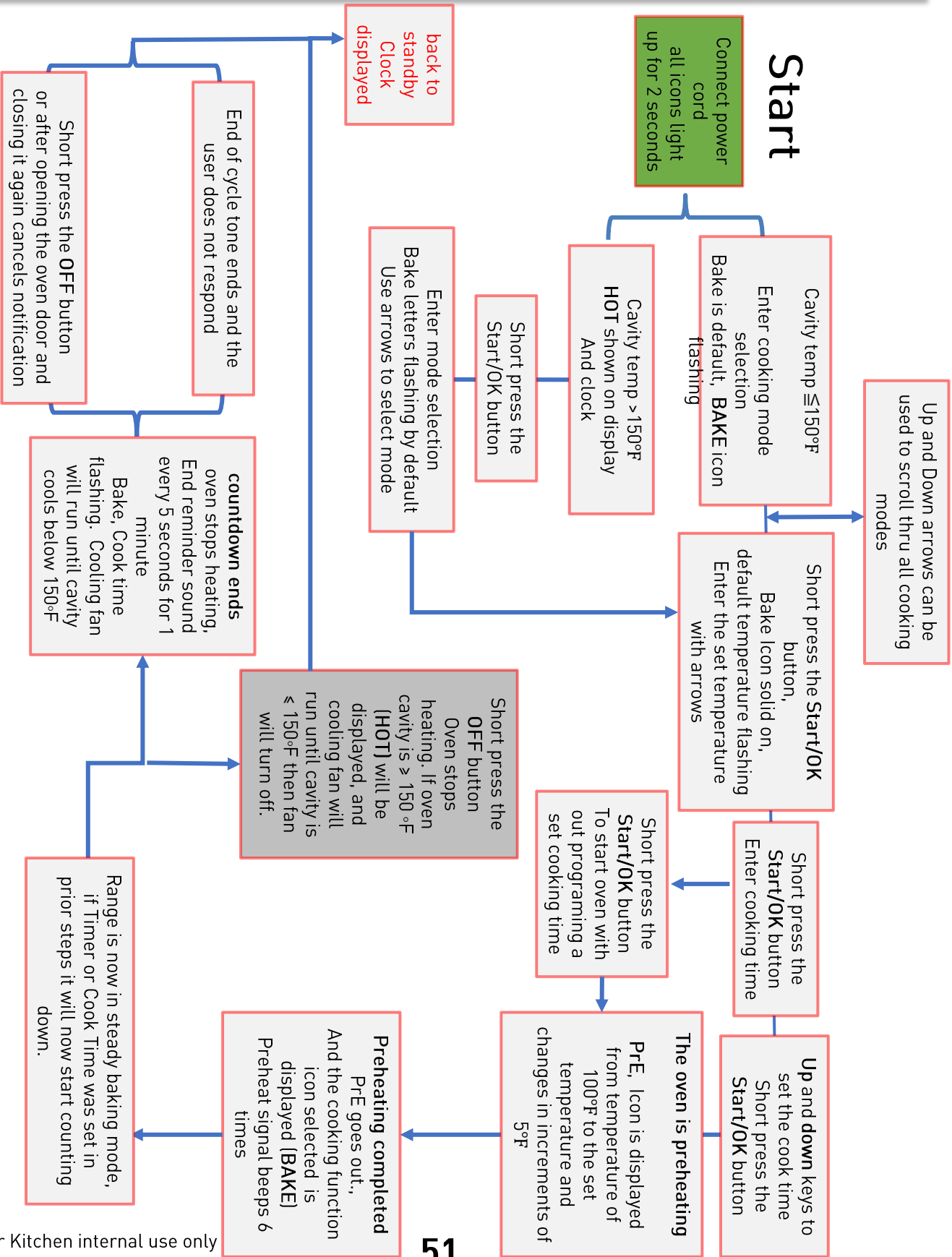


# ARG-Relay operation chart

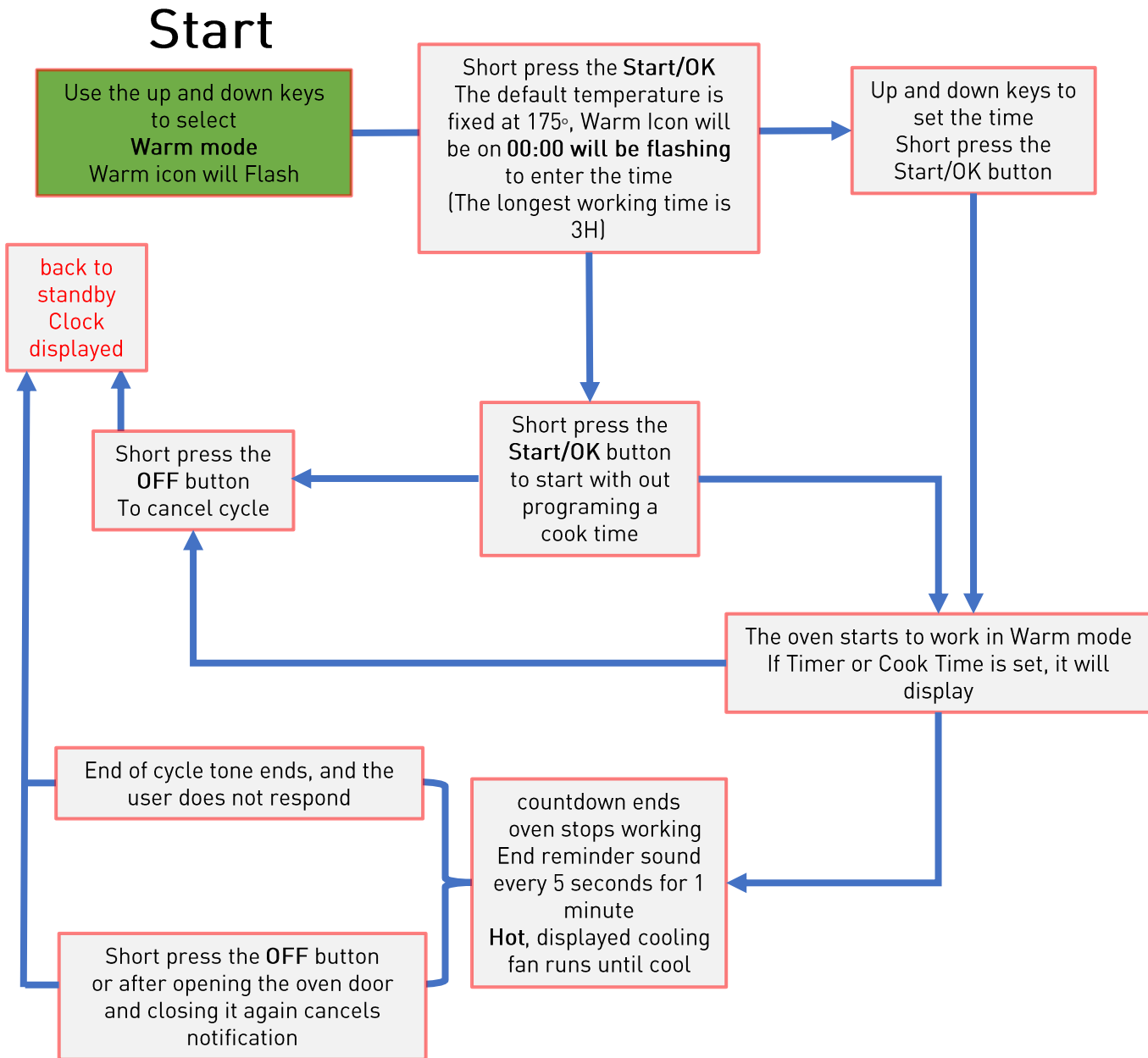
| Cooking mode | Time (min) | Default temp (°F) | Temp range (°F) | Preheat Signal | Preheat                        |             |                       |                                | Cooking      |             |                | Cooling Fan |    |
|--------------|------------|-------------------|-----------------|----------------|--------------------------------|-------------|-----------------------|--------------------------------|--------------|-------------|----------------|-------------|----|
|              |            |                   |                 |                | Broil burner                   | Bake burner | cooling fan-low speed | convection fan                 | Broil Burner | Bake Burner | convection fan | speed       |    |
| BAKE         | 0:01-10:00 | 350               | 150-550         | YES            | RL2,RL7                        | RL3,RL7     | RL5                   | RL4                            | RL2,RL7      | RL3,RL7     | RL4            | RL5         | ON |
|              |            |                   |                 |                | Bake Burner only               | ON          | OFF                   | Bake burner only               | OFF          | ON          |                |             |    |
| Conv BAKE    | 0:01-10:00 | 325               | 150-550         | YES            | RL2,RL7                        | RL3,RL7     | RL5                   | RL4                            | RL2,RL7      | RL3,RL7     | RL4            | RL5         | ON |
|              |            |                   |                 |                | Bake Burner only               | ON          | ON                    | Bake burner only               | ON           | ON          |                |             |    |
| Conv Roast   | 0:01-10:00 | 325               | 150-550         | YES            | RL2,RL7                        | RL3,RL7     | RL16                  | RL4                            | RL2,RL7      | RL3,RL7     | RL4            | RL5         | ON |
|              |            |                   |                 |                | 120 sec each burners alternate | ON          | ON                    | 120 sec each burners alternate | ON           | ON          |                |             |    |
| Broil        | 4:00       | 550 Hi            | 400,550         | NO             | RL2,RL7                        | RL3,RL7     | RL5                   | RL4                            | RL2,RL7      | RL3,RL7     | RL4            | RL5         | ON |
|              |            |                   |                 |                | Broil Burner only              | ON          | OFF                   | Broil Burner only              | OFF          | ON          |                |             |    |
| Keep Warm    | 4:00       | 175               | 175             | NO             | RL2,RL7                        | RL3,RL7     | RL5                   | RL4                            | RL2,RL7      | RL3,RL7     | RL4            | RL5         | ON |
|              |            |                   |                 |                | Bake Burner only               | ON          | ON                    | Bake burner only               | ON           | ON          |                |             |    |
| Pizza        | 0:01-10:00 | 425               | 175-550         | NO             | RL2,RL7                        | RL3,RL7     | RL5                   | RL4                            | RL2,RL7      | RL3,RL7     | RL4            | RL5         | ON |
|              |            |                   |                 |                | 120 sec each burners           | ON          | ON                    | 120 sec each burners           | ON           | ON          |                |             |    |

- Cooling fan turns on as soon as any cycle is started.
- When cycle is canceled If oven cavity is  $\geq 175^{\circ}\text{F}$  cooling fan will continue to run. Once oven cavity sensor is below  $\leq 175^{\circ}$  cooling fan will turn off.

# ARG - Cooking Operation Logic



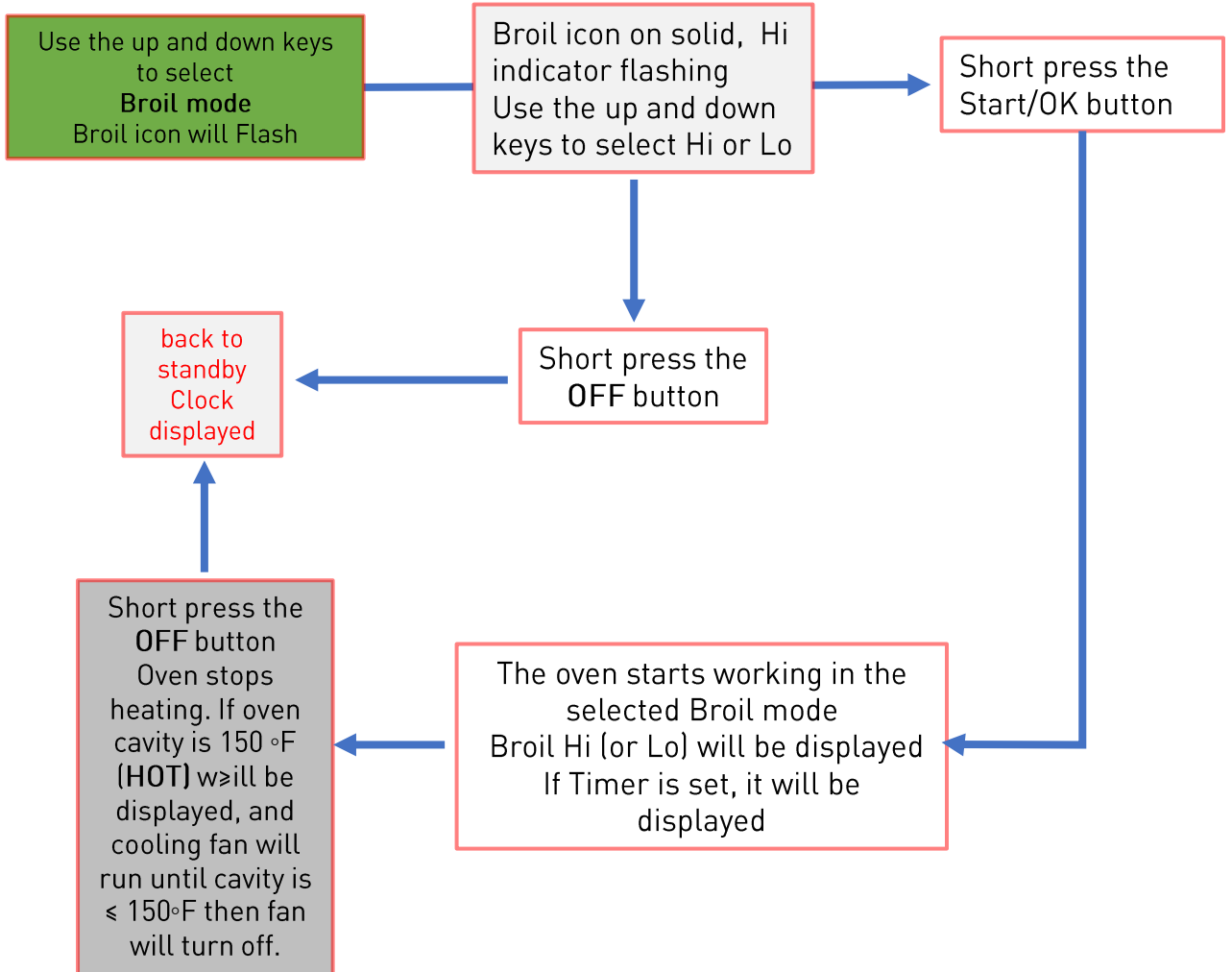
# ARG – WARM operation logic





# ARG – Broil operation logic

## Start



# Component check

Before testing or condemning a component preform the following checks:

## Note:

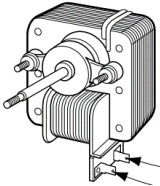
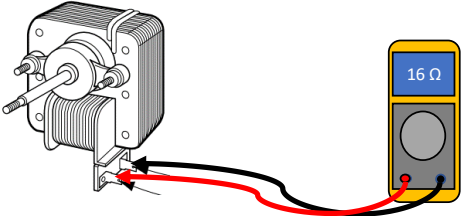
1. The most common cause for control failure is corrosion on connectors ( high resistances). Disconnecting and reconnecting wire connectors will be necessary through the testing process.
2. Any issues arising in the first few days of use should be checked for mis-wiring or loose terminal connections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

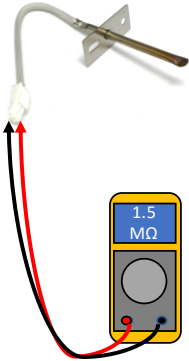

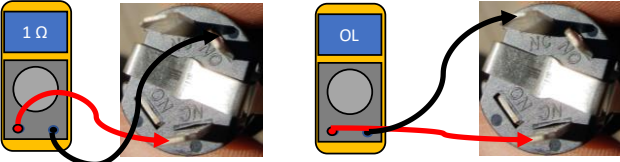
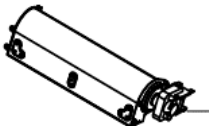
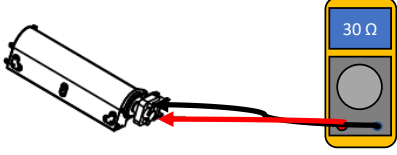
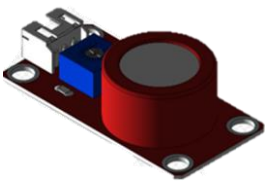
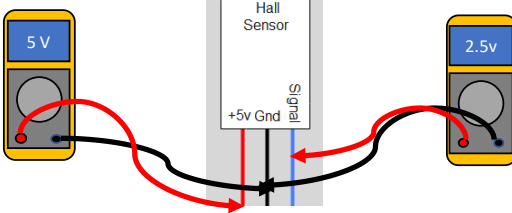
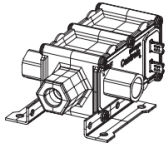
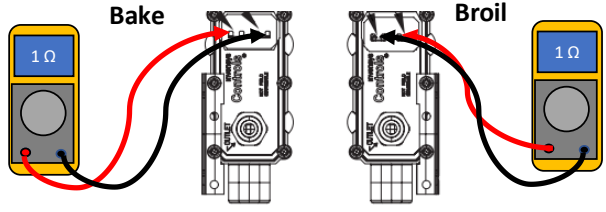
## WARNING

- 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

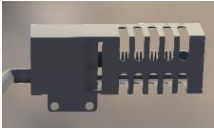
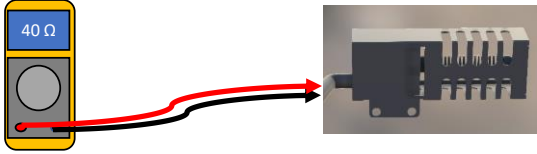
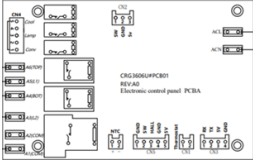
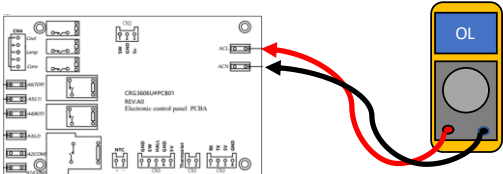
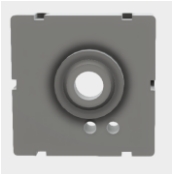
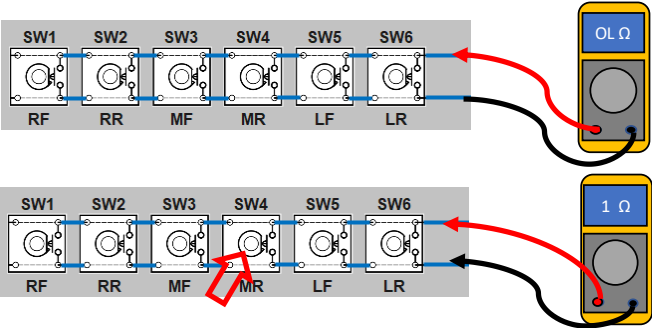
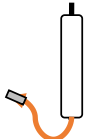
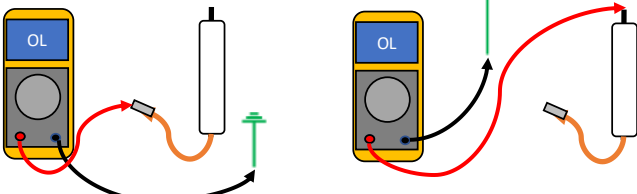

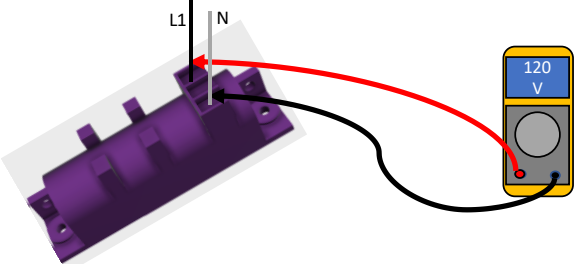
Note: All test valves stated below are at room temperature of (77°F / 25°C)

| Component   | Test  | Results  |
|---|---|--|
| <p>Convection fan motor</p>  |  | <p>Normal : 16 Ω +/- 5 Ω</p> <p>Abnormal : ∞ or OL</p> |

# Component check

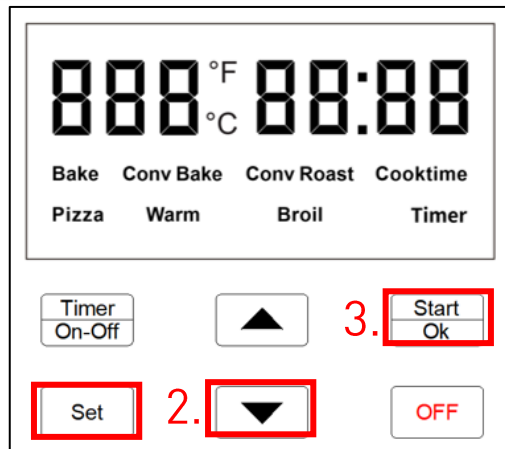
| <p>Oven sensor</p>     | <table border="1"> <thead> <tr> <th>Temp ( °F)</th> <th>Temp ( °C)</th> <th>R Min</th> <th>R normal</th> <th>R Max</th> </tr> </thead> <tbody> <tr><td>70</td><td>21.1</td><td>1.163 MΩ</td><td>1.493 MΩ</td><td>1.915 MΩ</td></tr> <tr><td>100</td><td>37.8</td><td>52.280 KΩ</td><td>65.470 KΩ</td><td>81.920 KΩ</td></tr> <tr><td>200</td><td>93.3</td><td>57.870 KΩ</td><td>67.700 KΩ</td><td>79.130 KΩ</td></tr> <tr><td>250</td><td>121.1</td><td>22.760 KΩ</td><td>25.870 KΩ</td><td>29.380 KΩ</td></tr> <tr><td>300</td><td>148.8</td><td>10.240 KΩ</td><td>11.350 KΩ</td><td>12.570 KΩ</td></tr> <tr><td>325</td><td>162.7</td><td>6.994 KΩ</td><td>7.664 KΩ</td><td>8.391 KΩ</td></tr> <tr><td>350</td><td>176.6</td><td>4.881 KΩ</td><td>5.290 KΩ</td><td>5.728 KΩ</td></tr> <tr><td>375</td><td>190.5</td><td>3.479 KΩ</td><td>3.731 KΩ</td><td>3.998 KΩ</td></tr> <tr><td>400</td><td>204.4</td><td>2.522 KΩ</td><td>2.678 KΩ</td><td>2.841 KΩ</td></tr> <tr><td>425</td><td>218.3</td><td>1.854 KΩ</td><td>1.950 KΩ</td><td>2.050 KΩ</td></tr> <tr><td>450</td><td>232.2</td><td>1.384 KΩ</td><td>1.443 KΩ</td><td>1.502 KΩ</td></tr> <tr><td>475</td><td>246.1</td><td>1.048 KΩ</td><td>1.083 KΩ</td><td>1.118 KΩ</td></tr> <tr><td>500</td><td>260</td><td>794 Ω</td><td>824 Ω</td><td>853 Ω</td></tr> <tr><td>525</td><td>273.8</td><td>619 Ω</td><td>646 Ω</td><td>674 Ω</td></tr> <tr><td>550</td><td>287.8</td><td>478 Ω</td><td>503 Ω</td><td>529 Ω</td></tr> <tr><td>650</td><td>343.3</td><td>190 Ω</td><td>205 Ω</td><td>222 Ω</td></tr> </tbody> </table> | 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 | <p><b>Normal : 1.5 MΩ @ room temp 70°F - 75°F</b></p> <p><b>Min 1.1 MΩ</b><br/><b>Max 1.9 MΩ</b></p> <p>See chart to left for resistances based on temp</p> |
|---|--|---|------------|-----------|----------|-------|----|------|----------|----------|----------|-----|------|-----------|-----------|-----------|-----|------|-----------|-----------|-----------|-----|-------|-----------|-----------|-----------|-----|-------|-----------|-----------|-----------|-----|-------|----------|----------|----------|-----|-------|----------|----------|----------|-----|-------|----------|----------|----------|-----|-------|----------|----------|----------|-----|-------|----------|----------|----------|-----|-------|----------|----------|----------|-----|-------|----------|----------|----------|-----|-----|-------|-------|-------|-----|-------|-------|-------|-------|-----|-------|-------|-------|-------|-----|-------|-------|-------|-------|---|
| 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     |          |       |    |      |          |          |          |     |      |           |           |           |     |      |           |           |           |     |       |           |           |           |     |       |           |           |           |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |     |       |       |       |     |       |       |       |       |     |       |       |       |       |     |       |       |       |       |   |
| <p>Door switch</p>     |    | <p><b>Normal : Door switch closed</b><br/>Com to NO = closed <math>\leq 1 \Omega</math><br/>Com to NC = Open</p> <p><b>Door switch open</b><br/>Com to NO = Open</p>          |            |           |          |       |    |      |          |          |          |     |      |           |           |           |     |      |           |           |           |     |       |           |           |           |     |       |           |           |           |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |     |       |       |       |     |       |       |       |       |     |       |       |       |       |     |       |       |       |       |   |
| <p>Cooling Fan</p>   |   | <p><b>Normal : 35Ω ± 5Ω</b></p> <p>operating voltage 120Vac ± 5V</p>  |            |           |          |       |    |      |          |          |          |     |      |           |           |           |     |      |           |           |           |     |       |           |           |           |     |       |           |           |           |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |     |       |       |       |     |       |       |       |       |     |       |       |       |       |     |       |       |       |       |   |
| <p>Halls sensor</p>   |   | <p>Check at CN5 connector</p> <p>Red wire (Pin5) to Black wire (Pin4)<br/>Normal : +5V</p> <p>Fan rotating<br/>Blue wire (Pin3) to Black wire (Pin4)<br/>Normal : 2.5 Vdc</p> |            |           |          |       |    |      |          |          |          |     |      |           |           |           |     |      |           |           |           |     |       |           |           |           |     |       |           |           |           |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |     |       |       |       |     |       |       |       |       |     |       |       |       |       |     |       |       |       |       |   |
| <p>Safety valve</p>  |    | <p><b>Normal : 1 Ω</b></p> <p><b>Abnormal : OL / open</b></p>   |            |           |          |       |    |      |          |          |          |     |      |           |           |           |     |      |           |           |           |     |       |           |           |           |     |       |           |           |           |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |       |          |          |          |     |     |       |       |       |     |       |       |       |       |     |       |       |       |       |     |       |       |       |       |   |


# Component check

| Component   | Test   | Results  |
|---|--|--|
| <p><b>Hot surface igniter</b></p>      |    | <p>Normal : 40 to 400 Ω @ RM temp</p> <p>Abnormal : OL / open</p> <p>Note: HSI amp draw 3.2 to 3.6 Amps</p>  |
| <p><b>Main PCB</b></p>                  |     | <p>Check across ACL to ACN for voltage</p> <p>Normal : 120Vac ± 5v</p>   |
| <p><b>Igniter switch harness</b></p>  |   | <p>At rest all switch should read open</p> <p>Switch depressed<br/>Normal : 1 - 3 Ω</p> <p>Abnormal: OL / Open</p>                                       |
| <p><b>Electrode</b></p>              |  | <p>Check across front two terminals of control panel light switch</p> <p>Normal:<br/>Switch on : 1 to 3Ω</p> <p>Switch off : OL / Open</p>               |
| <p><b>Spark module</b></p>            |  | <p>Check across Black wire L1 to White wire Neutral for voltage when a surface burner switch is held in closed position.</p> <p>Normal : 120Vac ± 5v</p> |


# 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 .




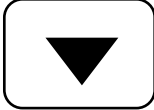
1.  = CLO Clock

1.  2.  3. 

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

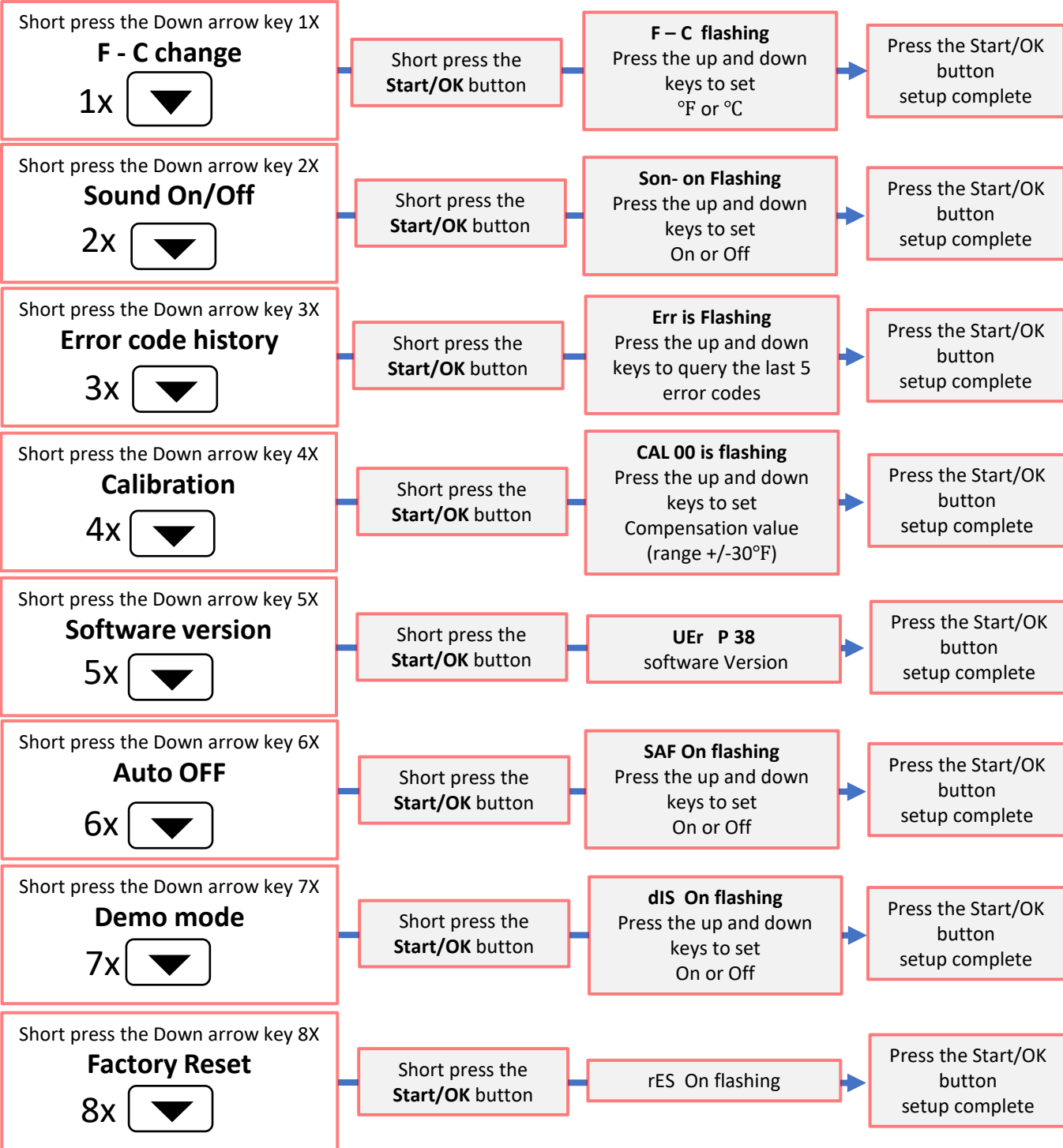
# Hidden function flowchart

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.

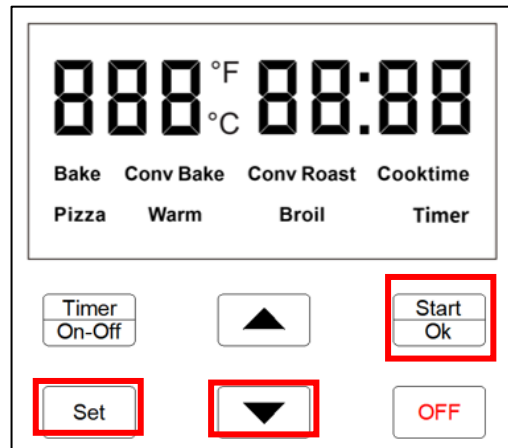



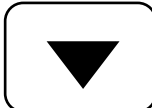

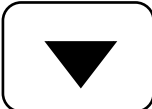


2.



# Temp Calibration

## Temperature calibration



1. Press the  Key and **CLO** will be displayed.
2. Press the  arrow until the word **00 CAL** is displayed
3. Press the  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  Key to save the change.

# Error codes ARG

| Error code   | Possible cause   | Resolutions  |
|--|--|--|
| Oven NTC sensor is faulty<br><b>E0</b>                       | NTC temp sensor is not plugged in, OPEN or is shorted  | <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> </ol> |
| PCB ambient temperature detection circuit fault<br><b>E2</b> | 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<br><b>E3</b>                                | After oven has been started there is not a temperature change detected by sensor with in 7 min after start.      | <ol style="list-style-type: none"> <li>1. Turn on Bake or Broil function verify either Gas burner or Electric heating element turns on depending on model.</li> <li>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 .</li> </ol>  |
| Over temperature<br><b>E5</b>                                | Temperature in the oven exceeded 343°C / 649°F   | The oven has overshoot 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<br><b>E09</b>                  | 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<br><b>E10</b>                 | RAM , ROM , SFR , PC detection error .   | Power off for 5min, restart. If error returns replace main PCB.  |
| PCB over temperature<br><b>E15</b>                           | Main PCB on board NTC sensor has detected the control board is $\geq 85^{\circ}\text{C}$ / $185^{\circ}\text{F}$ | <ol style="list-style-type: none"> <li>1. Verify cooling fan operation.</li> <li>2. Make sure oven fan exhaust vents along rear are not blocked due to installation.</li> <li>3. Check oven door and gasket for correct sealing.</li> <li>4. if all else checks okay replace oven main PCB.</li> </ol>   |
| Cooling fan Hall sensor error<br><b>E17</b>                  | There is no Hall sensor RPM signal to the main PCB showing cooling fan is rotating .                             | <ol style="list-style-type: none"> <li>1. Verify cooling fan is running, If not go to trouble shooting section on cooling fan.</li> <li>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.</li> </ol>   |



# Troubleshooting No power / Display

No power / No display

Check house outlet : L1 to N  
120 Vac ?

NO

Refer to electrician

YES

Move to terminal block on range,  
check terminal block

Repeat same checks L1 to N  
Is Voltage correct ?

NO

Repair terminal / wire connections or replace power cord as needed

YES

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

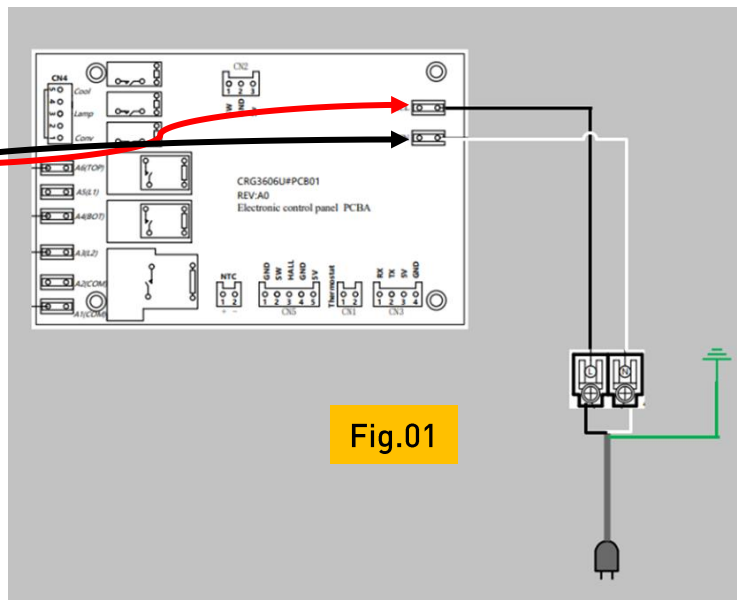
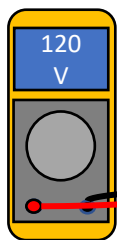
NO

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

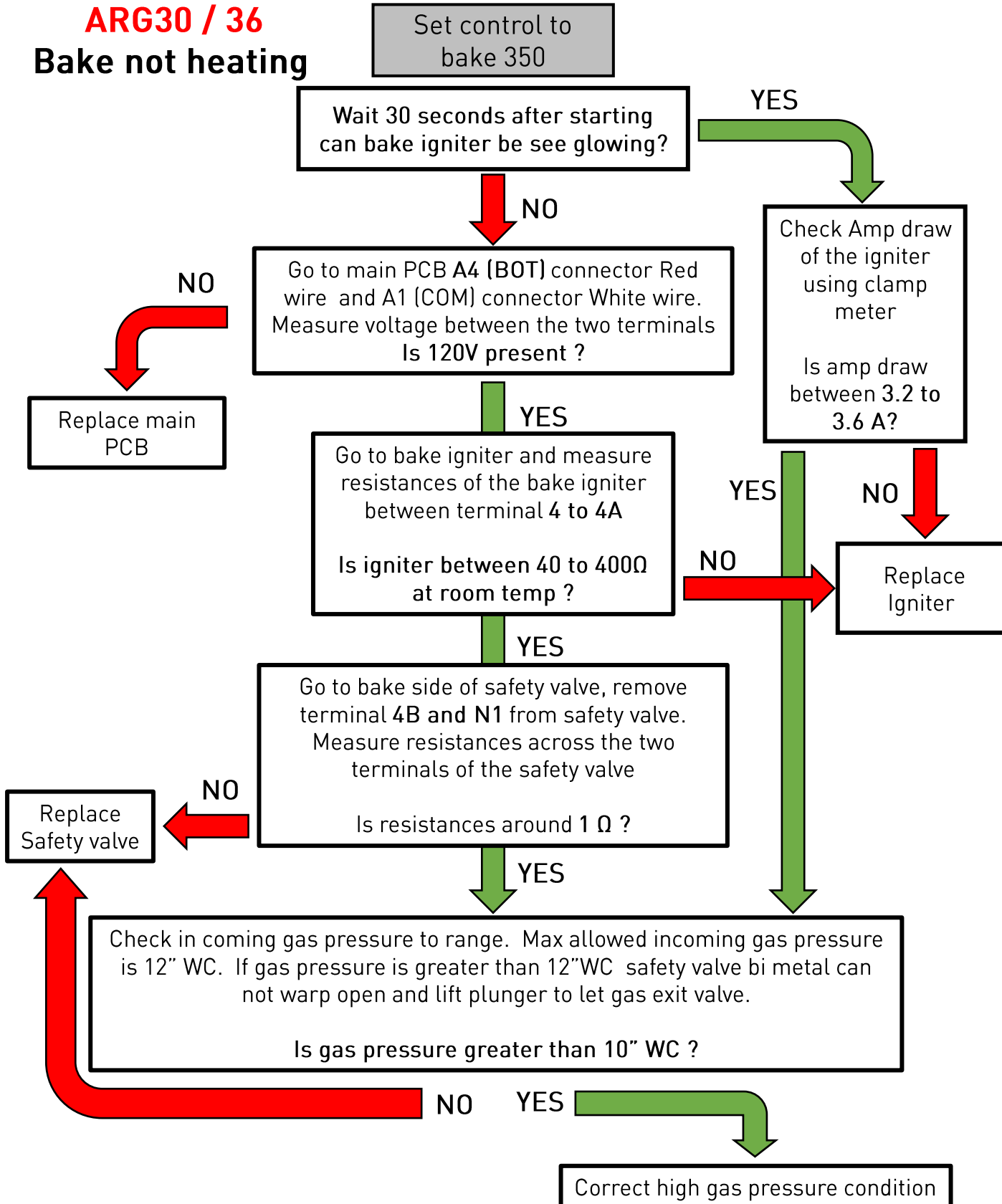
END



# Troubleshooting Bake

**ARG30 / 36**

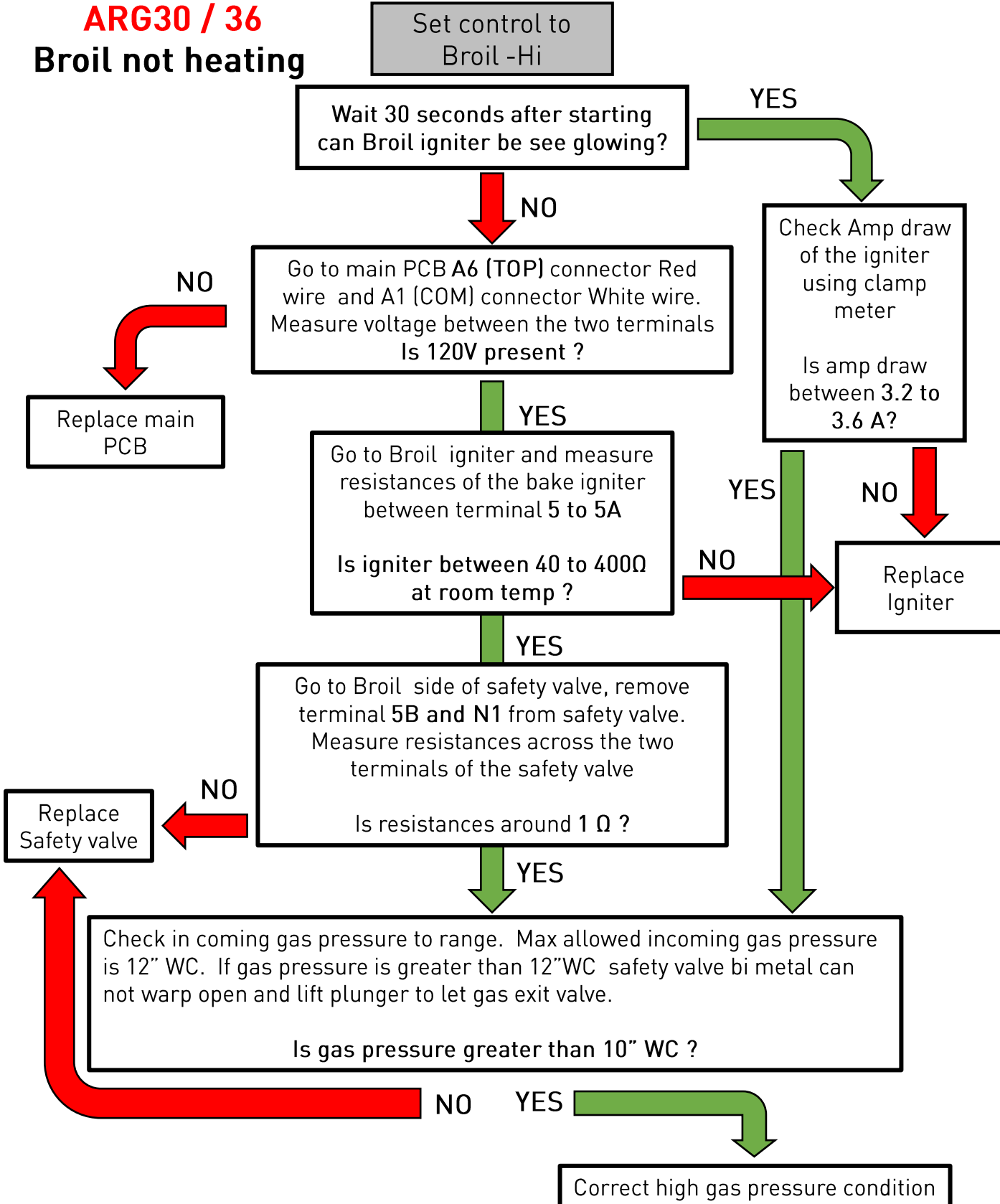
**Bake not heating**



# Troubleshooting Broil

**ARG30 / 36**

**Broil not heating**



# Troubleshooting Conv Fan

## Convection Fan not running

Set control to Conv  
bake, and start  
oven

Remove control panel, on main PCB locate  
CN4 connector. Measure between CN4 pin  
1 (Yellow wire) and A3 (white wire)

Is 120Vac present ?

NO

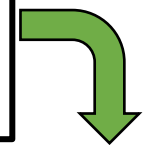
Replace  
relay PCB

YES

Remove power cord from wall. Remove CN4 connector from the  
relay PCB. Place meter lead in terminal 1 YELLOW wire of the  
CN4 connector, place second lead in the A3 white wire.  
Measure resistances of the circuit.

Is resistances around 15 to 20Ω

YES



Check for  
mechanically  
seized fan  
motor.

YES



Replace  
Conv fan  
motor

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

YES

NO

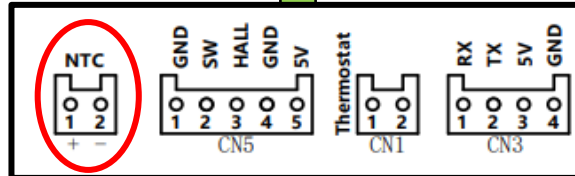


Check YELLOW wire between CN4 pin 1 and conv fan  
terminal 1 for open wire or broken terminal, Also check  
Neutral wire between conv fan and A3 or ACN terminals  
for open or broken terminals. Repair or replace  
harness as needed.

# 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. Remove NTC connector and check resistances between the two wire. At room temp is sensor around  $1.5M\Omega$

**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 blue wire and terminal N white wire at cooling fan.  
Is 120VAC present?

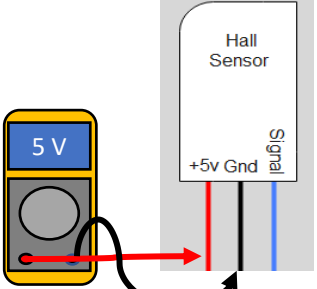
**YES**

**NO**

Replace Cooling fan

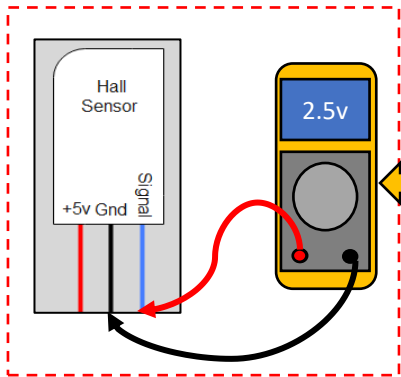
Check Blue wire between CN4 and fan for breaks. If harness is okay replace Main PCB

**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.



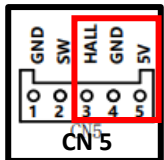
**YES**  
With oven on and running, cooling fan rotating. Check for Hall sensor signal by measuring between Blue and Black wire.  
Is there 2.5 Vdc ?

**NO**

Replace 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



# Conversion to LP GAS **ARG30**

*This Range leaves the factory set for use with Natural gas. When converting to LP gas, save the orifices removed from the appliance incase it needs to be converted back to natural gas in the future.*

## **⚠ WARNING**

**This conversion must be done by a qualified technician or gas supplier in accordance with the manufacturer's instructions and all codes and requirements of the authority having jurisdiction. Failure to follow instructions could result in serious injury or property damage. The qualified agency doing this work assumes responsibility for the conversion.**

## Tools needed

- 10mm open / box wrench
- 7mm nut driver
- #2 Phillips head screwdriver
- Flat head screwdriver 3/32 or 2mm across blade width

## LP (Propane ) Gas orifice specifications

| ARG 30 | BTU RATE         | ORIFICE SIZE |
|--------|------------------|--------------|
|        | KIT # LPKARG3001 |              |
| LF     | 12,000           | 1.1mm        |
| LR     | 9,000            | 0.9mm        |
| RR     | 3,500            | 0.58mm       |
| RF     | 18,000           | 1.28mm       |
| Broil  | 13,500           | 1.01mm       |
| Bake   | 18,500           | 1.18mm       |

## NG (Natural ) Gas orifice specifications

| ARG 30 | BTU RATE | ORIFICE SIZE |
|--------|----------|--------------|
|        | KIT #    |              |
| LF     | 12,000   | 1.54mm       |
| LR     | 9,000    | 1.35mm       |
| RR     | 3,500    | 0.88         |
| RF     | 18,000   | 1.95mm       |
| Broil  | 13,500   | 1.54mm       |
| Bake   | 18,500   | 1.9mm        |

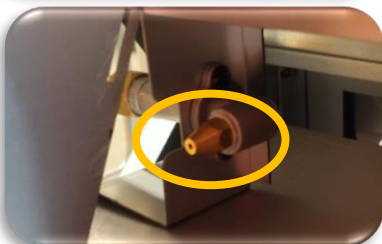
## CONVERSION POINTS

1. Regulator
2. Bake Orifices
3. Broil Orifices
4. Surface burners

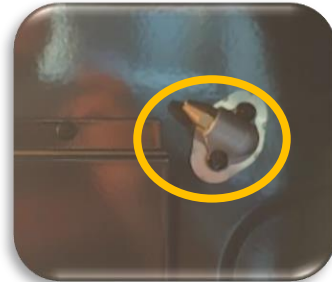
①



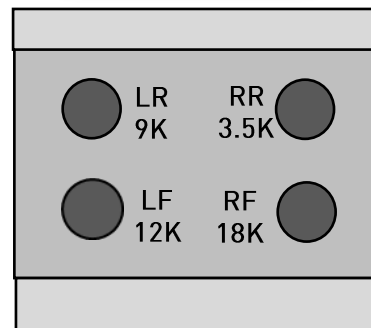
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④



# Conversion to LP GAS **ARG36**

*This Range leaves the factory set for use with Natural gas. When converting to LP gas, save the orifices removed from the appliance incase it needs to be converted back to natural gas in the future.*

## **⚠ WARNING**

**This conversion must be done by a qualified technician or gas supplier in accordance with the manufacturer's instructions and all codes and requirements of the authority having jurisdiction. Failure to follow instructions could result in serious injury or property damage. The qualified agency doing this work assumes responsibility for the conversion.**

## Tools needed

- 10mm open / box wrench
- 7mm nut driver
- #2 Phillips head screwdriver
- Flat head screwdriver 3/32 or 2mm across blade width

## LP (Propane ) Gas orifice specifications

| ARG 36 | BTU RATE         | ORIFICE SIZE |
|--------|------------------|--------------|
|        | KIT # LPKARG3601 |              |
| LF     | 12,000           | 1.1mm        |
| LR     | 9,000            | 0.9mm        |
| RR     | 9,000            | 0.9mm        |
| RF     | 12,000           | 1.1mm        |
| MF     | 18,000           | 1.28mm       |
| MR     | 12,000           | 1.1mm        |
| Broil  | 13,500           | 1.01mm       |
| Bake   | 18,500           | 1.18mm       |

## NG (Natural ) Gas orifice specifications

| ARG 36 | BTU RATE | ORIFICE SIZE |
|--------|----------|--------------|
|        | KIT #    |              |
| LF     | 12,000   | 1.54mm       |
| LR     | 9,000    | 1.35mm       |
| RR     | 9,000    | 1.35mm       |
| RF     | 12,000   | 1.54mm       |
| MF     | 18,000   | 1.95mm       |
| MR     | 12,000   | 1.54mm       |
| Broil  | 13,500   | 1.54mm       |
| Bake   | 18,500   | 1.9mm        |

## CONVERSION POINTS

1. Regulator
2. Bake Orifices
3. Broil Orifices
4. Surface burners

①



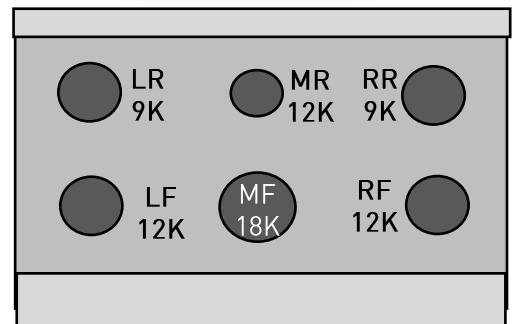
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# Conversion to LP GAS

## Converting the Regulator

1. Turn off the gas supply to the range
2. Turn off the electrical power supply to the range or unplug power cord.

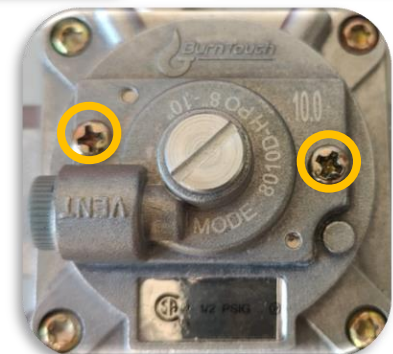
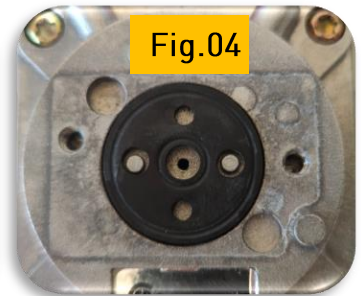
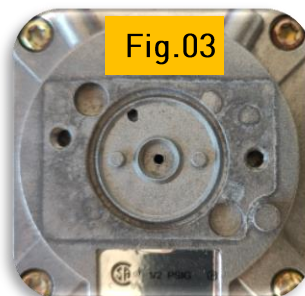
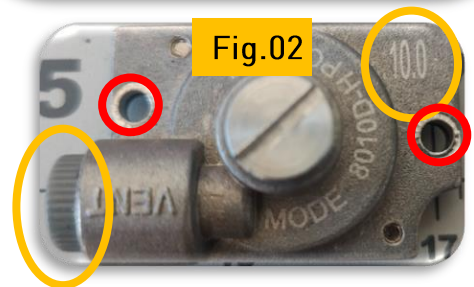
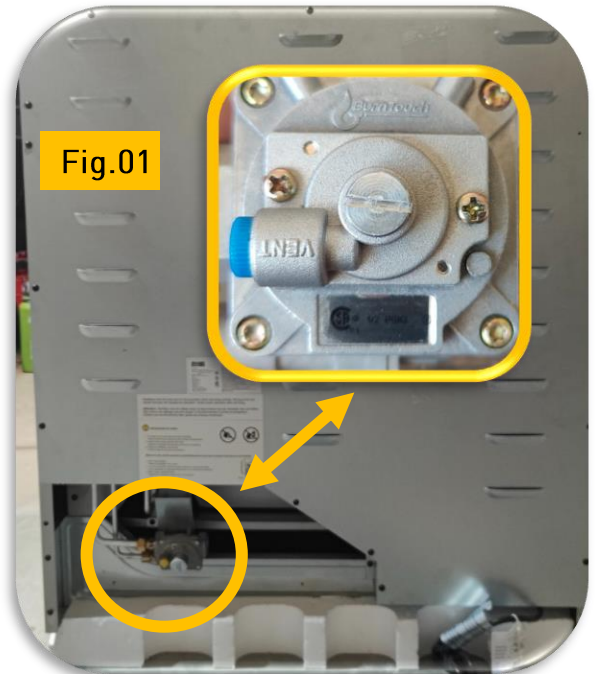
### ⚠ CAUTION

If the gas supply to the range is disconnected for any reason see the installation instructions for proper connection and safety precautions.

### ⚠ WARNING

Do not remove the pressure regulator from the range.

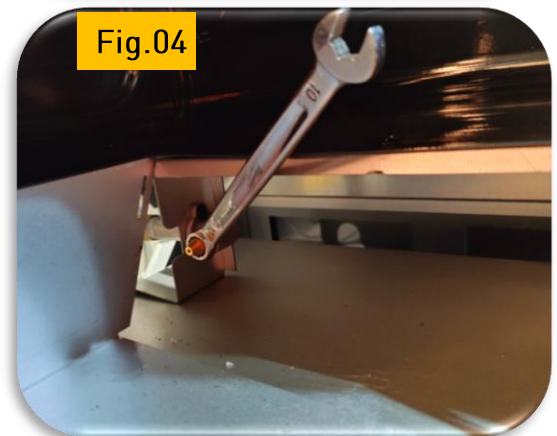
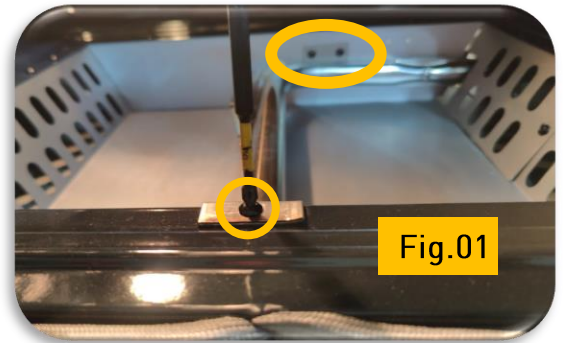
3. Locate the pressure regulator at the back left bottom rear corner on the range. **Fig.01**
4. Locate the LP cap for the regulator, it will be in the packing with the use and care manual. **Fig.02**. LP regulator cap can be identified by the **Grey plastic vent cap** also it is labeled for **10"WC pressure**.
5. Remove the two screws holding the NG cap assembly on the regulator. See **Fig.02** Red Circles. Remove the NG cap. **Fig.03**
6. Check for the black rubber seal, It may stick to the the NG cap when pulled off. Transfer rubber seal on to regulator as shown in **Fig.04**  
Install the LP regulator with the GREY vent cap labeled 10.0"WC on to the regulator body. Reinstall the two screws tighten with even pressure.



# Conversion to LP GAS

## Converting the Bake burner

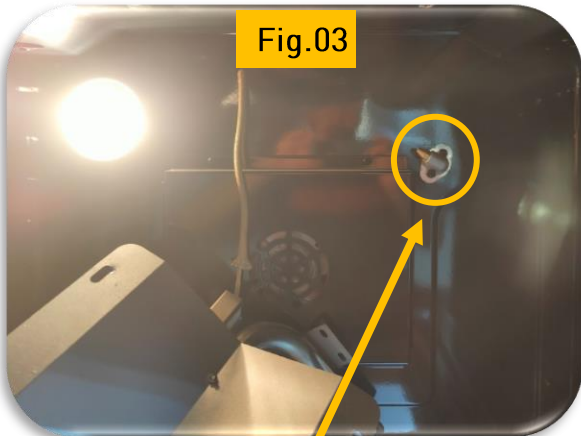
1. Remove oven racks and floor cover
2. Locate and remove the Bake burner mounting screws total 3 screws. **Fig.01**
3. Slide burner tube to the left, use caution to not break the hot surface ignitor it is fragile. **Fig.02**
4. Remove bake orifice holder access panel on the right-hand side of oven floor. See **Fig.03** Remove screw and panel.
5. Using a 10mm wrench remove the NG bake orifice from the orifice holder. **Fig.04**
6. Replace with LP orifice size **1.18mm**



# Conversion to LP GAS

## Converting the Broil burner

1. Remove the 4 flame spreader screws from oven ceiling. 2 screws per side. **Fig.01**
2. Locate and remove the Broil burner mounting screws total 3 screws. **Fig.02**. Two screws on the back wall one on the front of the burner tube
3. Slide the broil burner tube up off the orifice holder and lower the burner tube to rest on the oven floor. **Fig.03** Use caution not to break the Hot surface igniter mounted to the burner tube.
4. Using a 10mm wrench remove the Broiler NG gas orifice from the orifice holder. **Fig.04**
5. Replace orifice with 1.18mm LP orifice.



# Conversion to LP GAS

## Bake / Broil air shutter adjustment

1. When adjusting air shutter for LP fuel, Loosen the Phillips head screw on the air shutter and rotate the air shutter to **FULLY OPEN** . Fig.01
2. Turn oven on and wait for the burner to Ignite, Allow the burner to run for 30 seconds and then check the flame stability. IF the flame is lifting off the burner tube ports, then gradually close the air shutter until the flame stabilized and no longer lifting from the burner tube. Flame size will be approximately 1" . Tighten air shutter set screws.

**Note:** Some LP fuels are a blended fuels, it can be normal for some small amount yellow tipping that can not be adjusted out. This is normal.

Fig.01

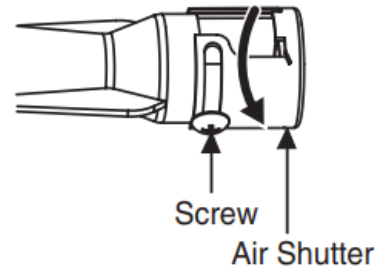
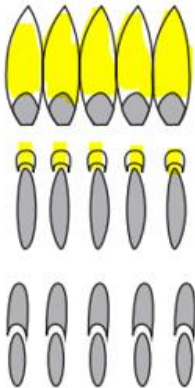
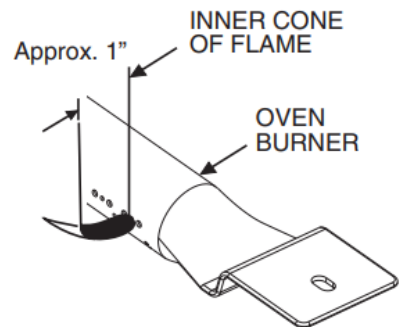


Fig.02



A. Yellow tips, Flame needs further adjustment: increase air shutter opening.

B. Small Yellow tip on outer cones: Normal for LP Gas.

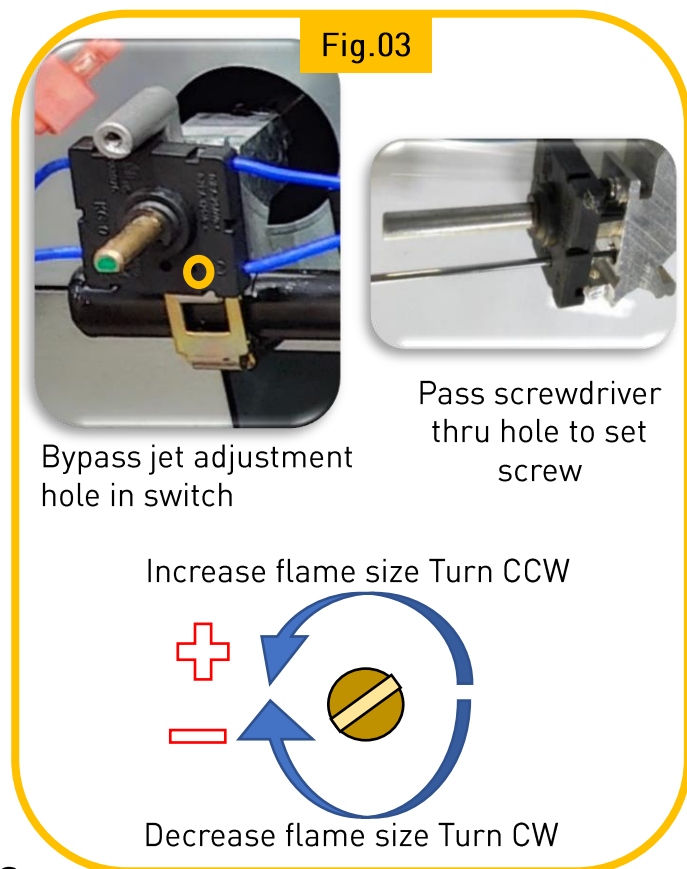
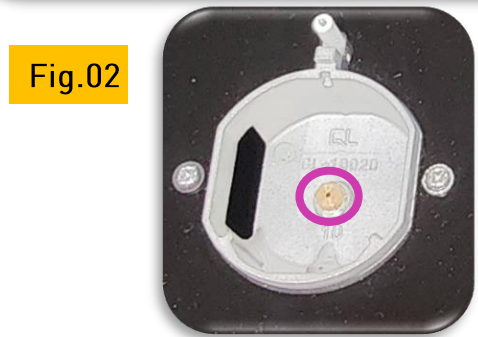
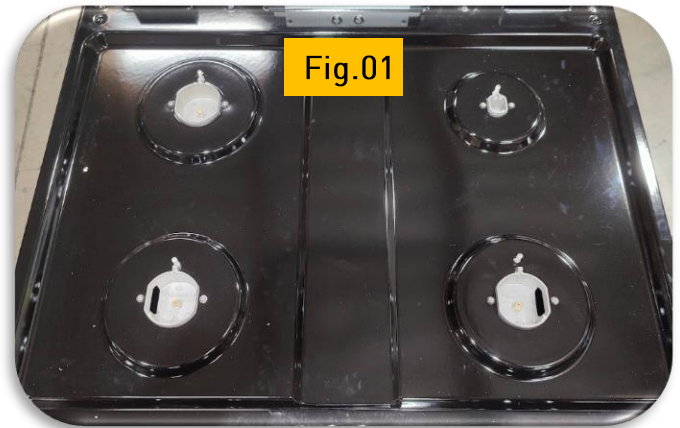
C. Soft Blue flames : Normal for NG gas

**NOTE:** If flame looks like A. Further adjustment of air shutter is needed. If flame looks like B. or C., it is normal depending on the fuel type. With LP fuel a small yellow cone is normal.

# Conversion to LP GAS

## Converting the surface burner

1. Remove grates, burner caps and burner heads. **Fig.01**
2. Using a 7mm driver remove the NG gas orifices spuds. Turn CCW to remove. **Fig.02**
3. Install the LP orifices in the correct location see chart on 1<sup>st</sup> page of LP conversion section.
4. Reassemble the burners and light them one at a time, **TEST 1** Turn the burner from High to low quickly, if the flame goes out the flame size needs to be increased. See **Fig.03**. **Low flame adjustment.** **Test 2,** With flame on the lowest setting open and close the oven door at a normal rate of speed, if the flame is extinguished by the air currents created by the door movement, increase the flame height and test again.
5. Repeat steps 5 and 6 for all surface burner.





## Technical support

877-288-8099 option 9

[techsupport@thorgroup.us](mailto: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 option 5

[parts@thorgroup.us](mailto:parts@thorgroup.us)

Make sure to have model and serial prior to calling

## Customer Service

877-288-8099 option 3

[service@thorgroup.us](mailto:service@thorgroup.us)

## Product info

[Thorkitchen.com](http://Thorkitchen.com)