



Piro Ovens Service Manual (Modular) US/CND

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The contents are subject to change without notice.*

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Note: When servicing the oven, health and safety issues must be considered at all times. Specific safety issues are listed below with their appropriate icon. These are illustrated throughout the service information to remind service people of the health and safety issues

1.1.1 **Electrical Safety**



WARNING! TO AVOID ELECTRIC SHOCK!

Do not attempt to service this oven without suitable training and qualifications.

Ensure the main power has been disconnected before servicing any part of the oven. If the power is required to be on for electrical fault finding, then **extreme** care should be taken not to make contact with electrical components other than with testing probes. Ensure the oven is turned off when removing any electrical component or connection.

1.1.2 **Electrostatic Discharge**



An anti-static strap is to be used as electrical static discharge (ESD) protection when servicing electronic components.

1.1.3 **Good Working Practices**



Ensure the work areas are kept tidy and free of hazards while servicing the oven. On completion of the servicing, ensure the oven and work areas are left clean and tidy.

1.1.4 **Insulation Test**



Megger test to check insulation.

1.1.5 **Sheet Metal Edges**



When working around cut sheet metal edges use appropriate gloves or protection to eliminate the chance of receiving a laceration.



2.1.1 Oven Weight










Single 30"

Double 30"

lbs /Kg =181/82

lbs /Kg =326/148

2.1.2 Power rating

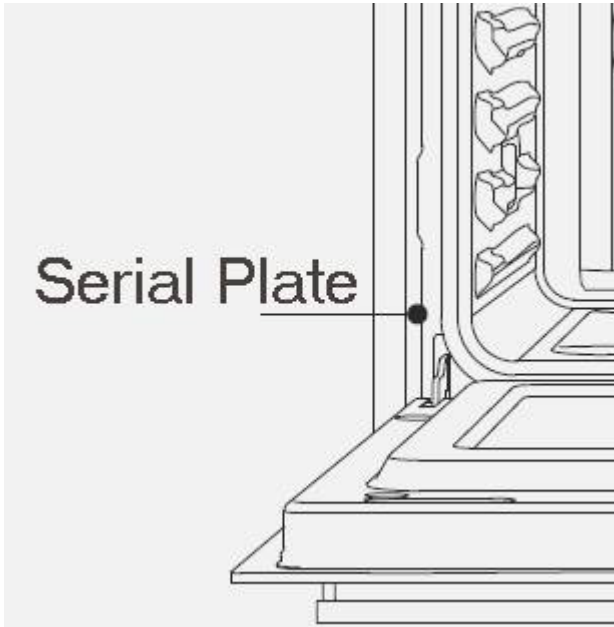
TECHNICAL DATA						
OVENS			Electrical Ratings and Maximum Connected Load			
			@ 240/120 Volts 60Hz		@ 208/120 Volts 60Hz	
SINGLE			Amperes	kW	Amperes	kW
			15,4	3,70	16,8	3,50
						
						
DOUBLE			Amperes	kW	Amperes	kW
	UPPER CAVITY	LOWER CAVITY	32,2	7,50	30,3	6,30
						
						
						

***Digits identifying oven color and version



2.2.1 Location

The product serial number plate is located on the left side profile trim



2.2.2 Model & Serial Number

The numbers printed on the plate contains the following information:

- Model
- Serial Number
- Electrical ratings

**Components Specifications**

2.3.1 Heating Elements	Volts	Freq.	Watts	Note
Broil	240	--	3500	
Bottom	240	--	3000	
Ring	240	--	2500	
Additional	208	--	775	

2.3.2 Motors	Volts	Freq.	Watts	Note
Convection Fan	120	60	45	
Cooling Fan	120	60	45	
Door Lock Motor	100/120	50/60	5	

2.3.3 Electric Components	Volts	A	Watts	Note
Door Lock Motor Switch	250	16	--	
Lamp	120	--	25	
Door Lock Switch	250	16	--	
Safety Thermostat	250	16	--	
Cooling Fan Thermostat	250	16	--	
Probe Temperature	5V	--	--	



- **ELECTRONIC CONTROL.** The control consists of a main power board and a display board. An additional power board is derived from the main one removing the power supply parts. It has all the functions of the main one to drive the lower cavity in a double oven.
- **COOKING MODE & TEMPERATURE SELECTORS.** All ovens are full touch control for the set cooking modes and set temperature
- **TEMPERATURE SENSOR.** There is one Pt1000 sensor per every oven (two in a double, of course), fixed on the rear wall outside the cavity.
- **HEATING ELEMENTS.** Four heaters are available in multifunction ovens while the ring element is missing in the thermal ones. They are combined in different ways, depending on the selected mode, but the maximum power never overtakes 3500W.
 - UPPER ELEMENT 3500W at 240V.
 - LOWER ELEMENT 3000W at 240V.
 - RING ELEMENT 2500W at 240V.
 - UPPER EXTERNAL ADDITIONAL ELEMENT 775W at 208V (meaning 1032W at 240V).
- **CONVECTION FAN.** Convection fan. It works in all convection modes, in Fast Preheat and in Self-Clean. It makes the heat distribution uniform, inside the cavity. In according to the oven model, each cavity can be provided with 0, 1 or 2 fans, reversible or not.
- **COOLING FAN SYSTEM.** A cooling fan keeps the internal parts temperature within acceptable values, and removes smoke from the cavity through the catalyzer. There is a 70°C by-pass thermostat that when the temperature overtakes the threshold, switching the cooling fan into its full speed. This normally occurs during self-clean only.
- **OVEN LIGHTS.** Halogen 120V lamps. They turn on for 180 seconds when a cooking mode starts or when the door is open. It's also possible to switch the lights on manually by pressing the light button.
- **DOOR LATCH SYSTEM.** A motor actuates the latch mechanism to lock or unlock the door. The motor always rotates in the same direction, and it's the mechanism that determines the locking or unlocking phases. It takes about the same time to complete the half cycle. The door micro switch is checked every time the latch starts to verify that the door is actually closed. If the door is open, the latch icon flashes until the door is closed. A changeover micro switch placed right on the motor shaft and actuated by a 180° cam provides the electronics with the latch position information.



Oven Model Configuration

A manual test procedure has been defined to run the end of assembly line test or checking functions after service operation. All the inputs and outputs of the system must be checked. The oven functionality must be complete after the test.

The MANUAL TEST must be completed until the writing TEST END appears otherwise the oven model configuration will be lost.

When the electronic is not configured (new), the Manual test starts automatically at the first power-up.

SW versions are displayed:

- FW MASTER: "MP**" (for power boards - main power)
- FW SLAVE: "MP**" (for power boards - lower power board if present)
- FW DISPLAY: "MD**" (for display board)
- N KEYBOARDS: 1 to 4
- FW KEYBOARDS: "MT**" (for touch key boards)
- FW DISPLAY FLASH: "MF**" (for **customization** display board)

As soon as the test starts the latch automatic cycle must be performed (one run only), the display shows the "SERVICE TEST" message and the buzzer must beep for 5 seconds. Holding UPP Key the display shows the PRODUCT TYPE: ("Eg. OM** , OM** ,). Select the correspondent Oven Model and press start twice to confirm. The control performs an auto reboot and SW versions are showed again.

Oven Model

OM15 (SINGLE OVEN)																	
OM17 (DOUBLE OVEN)																	

(on some models) (on some models)

NOTE: (after 5 minutes from power up this special service menu will no longer available, the procedure must be performed to have enable it again). (THIS PROCEDURE MUST BE PERFORMED BY SERVICE TECHNICIAN ONLY)



2.6.1 How to enter in manual test

IMPORTANT: The MANUAL TEST procedure can be activated only after power on.

NOTE:

- After 5 minutes from power up this special service menu will no longer available, the procedure must be performed to have enable it again.
- If the during the procedure, the OM (oven model) is not selected within 60 sec, the error code F01900 could be showed.

- a) To enter in the MANUAL TEST to configure the Oven Model in case of board replace follow the same procedure as the [Configuration section 2.5](#)
- b) In case the Oven Model is already configured is possible to perform the Manual Test as verification through the following procedure: At power-up when the LOGO MESSAGE appears press simultaneously:
the ◀ and ▲ (unlighted) keys for 5 seconds for model with 1 or 4 Key boards
the ▲ and ▼ (unlighted) keys for 5 seconds for model with 2 Key boards
a beep sounds and the SYSTEM menu is showed automatically> Select Manual Test and press START.

(THIS PROCEDURE MUST BE PERFORMED BY SERVICE TECHNICIAN ONLY)

SW versions are displayed:

- FW MASTER: "MP**" (for power boards - main power)
- FW SLAVE: "MP**" (for power boards - lower power board if present)
- FW DISPLAY: "MD**" (for display board)
- N KEYBOARDS: 1 to 4
- FW KEYBOARDS: "MT**" (for touch key boards)
- FW DISPLAY FLASH: "MF**" (for [customization](#) display board)

2.6.2 How to check oven functions

Note:

Now the control is waiting for an operator input. Always press the INC key to continue with the next step.
Pressing DEC key must allow to go back to former steps.

The display top box indicates the SERVICE TEST:

- All RED key's led switch ON
- All WHITE key's led switch ON
- The display switches ON showing a white background
- Automatic detection of all keys function, for each key board a couple of keys have to be pressed checking the correct description on the display.
- Meat probe. "MEAT PROBE DISCONNECTED" If the option is not provided move to the next step, otherwise insert the probe and the display have to show "MEAT PROBE CONNECTED" in conjunction with the internal temperature value.
- **S00:** DIELECTRIC TEST - The main relay or relays in case of double oven have to be closed and all heating elements relays opened. (I this step the dielectric test have to be performed ONLT BY THE MANUFACTURER).

- In the bottom box is showed the Cavity under test: SGL or UPP/DBL in addition to the OM** configured

- **S01:** OVEN LIGHTS - relay closed
- **S02:** CONVECTION FAN - relay closed
- **S03:** COOLING FAN - relay closed

Every heating element must turn on independently just to allow an external DEVICE to measure the WATTEGE or AMPERAGE.

- **S04:** DOUBLE LINE BREAK RELAY - The first heating element relay (lower HE) must be actuated without the DLB relay. It's a 0W power test to check that the DLB relay is not shorted. (verify the amperage).
- **S05:** BOTTOM ELEMENT - The heating element relay must be actuated together with DLB relay (verify the amperage).
- **S06:** BROIL ELEMENT - The heating element relay must be actuated together with DLB relay (verify the amperage).
- **S07:** RING ELEMENT - The heating element relay must be actuated together with DLB relay + convection fan (verify the amperage).
- **S08:** ADDITIONAL ELEMENT - The heating element relay must be actuated together with DLB relay + convection fan (verify the amperage).
- **S09:** The display have to show the temperature value actually measured by the electronics into the cavity and the temperature of NTC ambient on power board.

Note:

In case of double oven, move to the next step to test the lower cavity from **S11** to **S19** (same steps as S01-S09).

In the bottom box is showed the Cavity under test: LOW/DBL in addition to the OM** configured

- **end test: confirm the finalizing the configuration in case of unfinalized new board.**
- **ATTENTION: at the end of Manual Test the power up must not be performed. In case a factory reset is needed.**

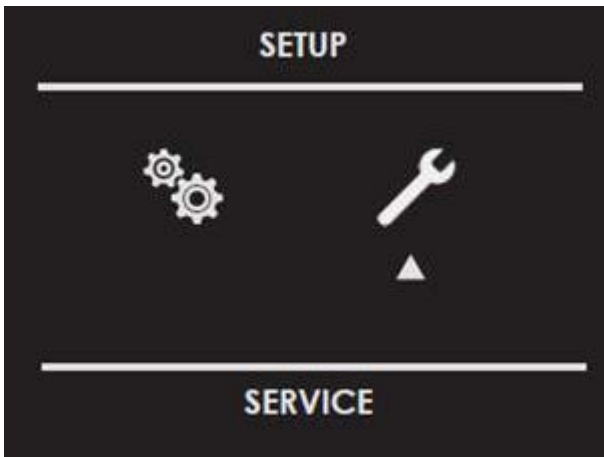
Factory Reset

At power-up press [SET] key than press simultaneously the DOWN and UP (unlighted) keys for 5 sec. A message will be showed, press "START" to confirm.

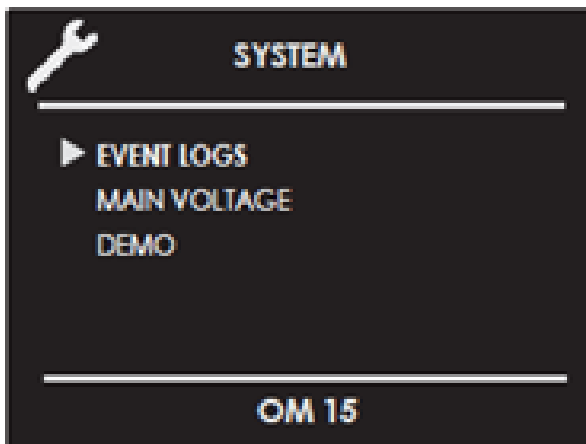
2.6.3 Power supply 208V voltage selection

This option is provided for areas where standard 240 Volt service is not available. This option must be accessed with the oven connected to power source, and using the following sequence:

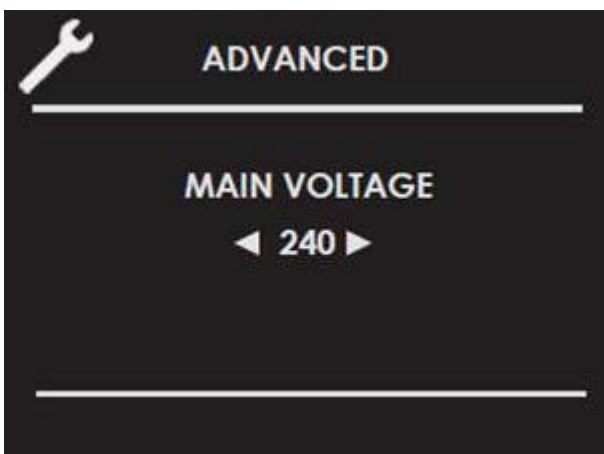
- a) Press the SET key and select the option by means of the arrow and confirm with the START key.



- b) From the "SYSTEM" menu select the "MAIN VOLTAGE" option and confirm again with the START key.



- c) By means of the arrow, select the "208V" option and confirm with the START.

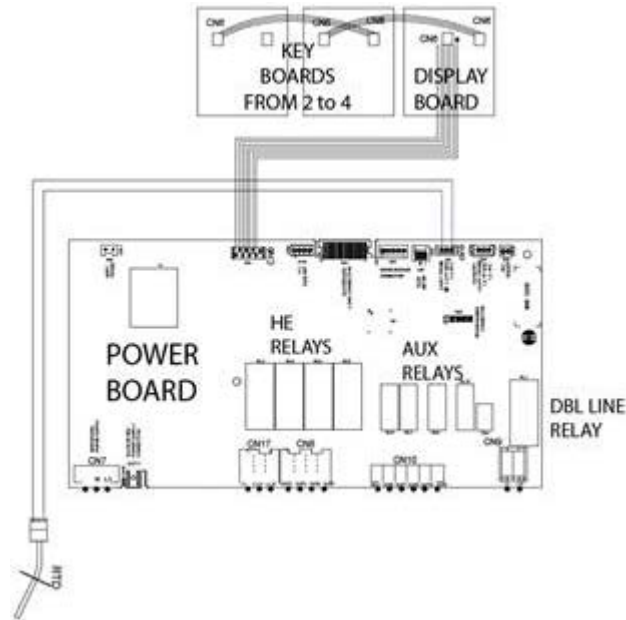


The voltage setting is stored and kept even after a long power-off.

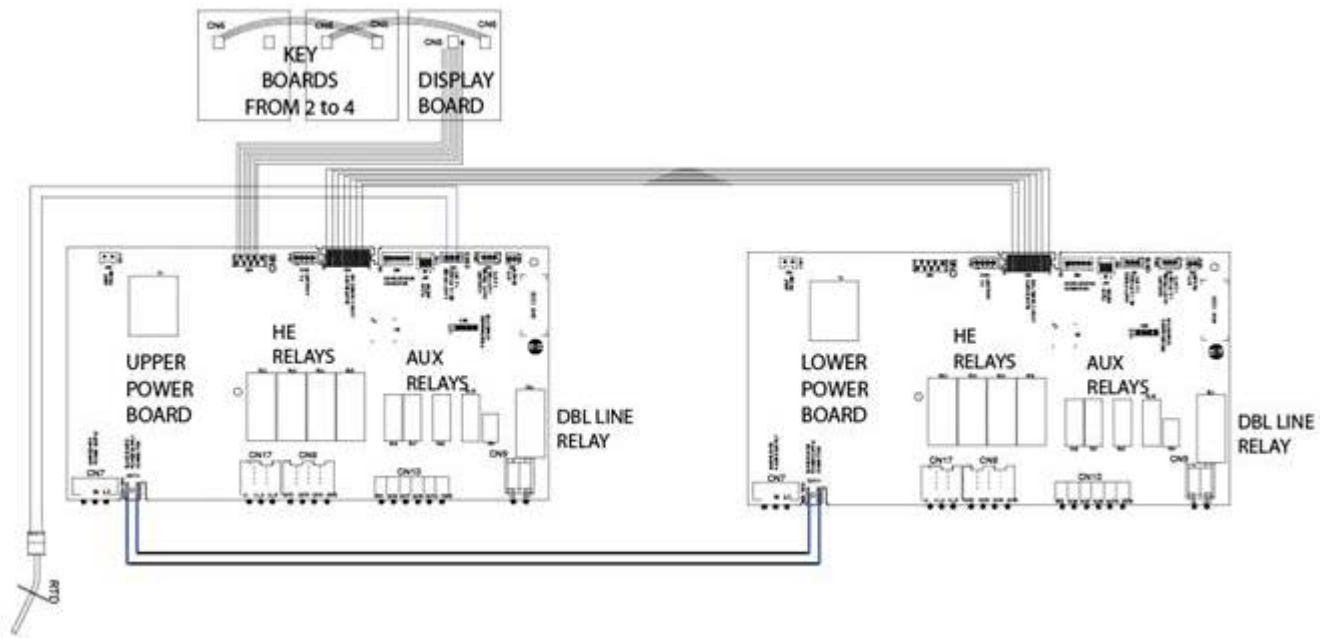


Description of Electronic Control

The drawing explains how the electronic boards work. Each relay function is described and the connector of sensor is also shown.



Single oven



Double oven



2.8.1 Child - Safe locking system

Our ovens are built-in child-safe locking systems. The feature is automatically enabled any time the appliance is connected to the power, any time the switch is turned on and any time the oven is programmed to run a self-cleaning of the cavity. As double safety device, there is also a thermostat mounted in contact with the metal sheet on top of each cavity.

The same feature it can be used on the manual mode in the household where a minor is present to prevent children from getting in touch with hot parts. The function of this feature is explained in details on User manual.

2.8.2 Overheating sensor

These ovens are built with an overheating sensor system:

- we have two bi-metal mechanical thermostats for each cavity and a thermostat to manage the double speed of cooling fan.
- an electronic sensor "**NTC**" or "negative temperature coefficients" mounted on the main power board. The role of the "**NTC**" is to protect the electronic boards of an eventually over-heating. (the "**NTC**" varies with the values of voltage, only DC, values)

An electronic "**PTC**" or "positive temperature coefficients" probe mounted on the inside of the cavity who is responsible of the inside cavity reading of the temperature. (the "**PTC**" varies with the resistance).

2.8.3 Safety Thermostats

Our ovens are built with three bi-metal mechanical thermostats for each cavity. The thermostats are mounted in contact with the metal sheet on top of each cavity.

The function of the safety thermostat is to protect the oven from overheating in the event of a malfunction of the cooling fan.

Description: In the regular cooking mode or Self-Cleaning cycle when the read temperature at the surface of the metal sheet is under the limit value the power is energizing the electronics and the heating elements as well.

If the temperature is rising over the limit, the thermostat will switch mechanically from off position to on position and all of the heating elements will be cut off from the power. All the electronics will be cut off.

The reset is manual for the self-cleaning thermostat and is automatic for the cooking thermostat placed near the door lock motor.

When the cooling fan was replaced or the oven problem was solved and the temperature is in the right functioning parameters the red button on the top of case of thermostat must be pressed to reset it (see the following picture).



Cooking safety thermostat

Self-Cleaning safety thermostat

2.8.4 Double Speed Thermostat

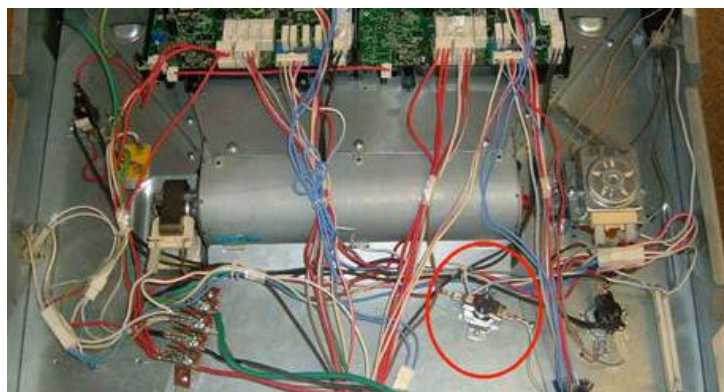
The double speed thermostat is acting in conjunction with the by-pass resistor and is connected in parallel with it.

In the regular cooking mode when the read temperature at the surface of the metal sheet is under 158°F (70°C) the power is flowing through the resistor and it feeding the cooling fan with a voltage lower than nominal.

If the temperature of 158°F (70°C) is rising over the limit, the thermostat is closing the circuit and the resistor is by-passed and now we can read at the poles of the cooling fan motor the full voltage of installed AC 120V and the **RPM** of the cooling fan will almost double.

The reset is automatic when the temperature at the surface of the metal sheet decreases under the 158°F (70°C) and the cooling fan is reducing the **RPM** at the manufacturer factory set-up.

RPM = rotation per minute.



2.8.5 Safety NTC device

The function of the safety thermostat is to protect the of the oven from overheating in the event of a malfunction of the cooling fan.

Description:

The Power Board is provided by a NTC sensor that when reads an ambient temperature under limit the power is energizing the electronics and the heating elements as well.

If the temperature is rising over the limits, the sensor disconnects the main relay and all the heating elements will be cut off from the power but the electronics will be still powered.

The reset is automatic when the cooling fan was replaced or the cooling fan problem was solved and the temperature is in the right functioning parameters.



If the fault involves safety requirements or the correct oven functionality, any activity is stopped until the fault is removed.

Whenever the fault doesn't affect the whole oven functionality, allow the user to work:

- In a double oven, the opposite cavity can be available even if the first one is not working.
- In a single or double oven, should be possible to cook if all the components used in that cooking mode are fully functional even if some other components not used are damaged (eg. If the Upper heating element damaged should be possible, select the Ring Convection Bake)

If the latch doesn't work, ordinary cooking activities may run if the door is fully unlocked.

ERROR CODE POWER: F x yy zz

x = Device ID: 1 per UP master; 2 per UP slave

- 0** for **DISPLAY BOARD**
- 1** for **MASTER POWER UNIT**
- 2** for **SLAVE POWER UNIT**
- 019** for **KEY BOARD ALL**
- 119** for **KEY BOARD 1**
- 219** for **KEY BOARD 2**
- 319** for **KEY BOARD 3**
- 419** for **KEY BOARD 4**

y = **FAMILY CODE**

z = **SUB FAMILY CODE**

**** Ex: NTCMAIN Failure on Slave Board -> F 2 01 05**

If the control can detect the failure an error number must be displayed. If the other available cooking mode is activated a small warning symbol is showed as remember advise.

Under service menu there is a page "LOG EVENT" where will be recorded the last 10 error codes occurred (ERROR CODE + DATE).

Before to reset a fault error list, perform a complete test to check all the functionality. If the cause has not been removed, the fault occurs again.

To reset the error list, follow the following steps below:

At powered when the LOGO or WELCOME MESSAGE is showed press simultaneously:

the ◀ and ▲ (unlighted) keys for 5 seconds for model with 1 or 4 Key boards

the ▲ and ▼ (unlighted) keys for 5 seconds for model with 2 Key boards

until you hear a sound signal, the **SPECIAL SYSTEM** menu is automatically displayed, select **"CLEAR LOG"** and press **START** twice to confirm the delete error list.

(after 5 minutes from power up this special menu will no longer available).

(THIS PROCEDURE MUST BE PERFORMED ONLY BY SERVICE TECHNICIAN)

MASTER POWER UNIT	SLAVE POWER UNIT (IF PRESENT)	ERROR DESCRIPTION	POSSIBLE CAUSE	CORRECTIVE ACTION
F1	F2			
F10000	F20000	RESET CONDITION RESET DETECTED	Probe disconnected PT1000 Hardware Problem	Connect PT1000 Replace Power Board
F10101	F20101	ADCSSENSOR FAILURE PT1000 FAILURE	Probe broken	Replace probe PT1000
F10107	F20107	ADCSSENSOR FAILURE NTCAMB UNCHANGED FAILURE	Probe broken	Replace Power Board
F10111	F20111	ADCSSENSOR FAILURE NTCBOIL FAILURE	Probe broken	Replace Boiler Probe
F10113	F20113	ADCSSENSOR FAILURE MULTIPLEXER FAILURE	Power Board damaged	Replace Power Board
F10115	F20115	ADCSSENSOR FAILURE VREF FAILURE	Power Board damaged	Replace Power Board
F10117	F20117	ADCSSENSOR FAILURE ADCRANGE FAILURE	Probe damaged or disconnected. Ambient Temperature under 37°F (3°C)	Replace Probe or Power Board. Power up the appliance with the appropriate ambient temperature.
F10301	F20301	DOORLOCKMECHANISM FAILURE CONNECTION FAILURE	Micro switch problem (wrong signal). Micro Switch wrong connection or cam problem	Check connection. Check Micro Switches position and their functionality.
F10305	F20305	DOORLOCKMECHANISM FAILURE TIMEOUT FAILURE	Relay problem (open). Wiring harnesses problem. Mechanism problem.	Check connection and relay functionality. Check that there is no interference on the locking mechanism.
F10307	F20307	DOORLOCKMECHANISM FAILURE MOVEMENT ISSUE	Relay problem (short circuit) Wiring harnesses problem.	Check connection and relay functionality.
F10309	F20309	DOORLOCKMECHANISM FAILURE SYNCRONISM FAILURE	Wiring harnesses problem.	Check proper connection.
F10501	F20501	OVEN RUNAWAY FAILURE LOW RUNAWAY THERSHOLD	Cavity overtemperature during cooking 698°F (370°C). Probe broken.	Replace probe or Replace Power Board
F10505	F20505	OVEN RUNAWAY FAILURE HIGH RUNAWAY THERSHOLD	Cavity overtemperature during Self-Cleaning 1022°F (500°C). Probe broken.	Replace probe or Replace Power Board

F10901	F20901	BOARD SYSTEM FAILURE CLOCK SYSTEM FAILURE	Power Board damaged	Replace Power Board
F10902	F20902	BOARD SYSTEM FAILURE CPU SYSTEM ISSUE		
F10903	F20903	BOARD SYSTEM FAILURE STACK OVERFLOW FAILURE		
F10905	F20905	BOARD SYSTEM FAILURE INTERRUPT HANDLER FAILURE		
F10907	F20907	BOARD SYSTEM FAILURE SYSTEM CLOCK FAILURE		
F10909	F20909	BOARD SYSTEM FAILURE SYS FLAG CONSISTENCY FAILURE		
F10911	F20911	BOARD SYSTEM FAILURE BOARD SELECTION FAILURE		
F10913	F20913	BOARD SYSTEM FAILURE ZEROCROSS FAILURE		
			Power Board damaged	Replace Power Board
F11103	F21103	INTERNAL MEMORY FAILURE CRC RAMPARAM FAILURE		
F11105	F21105	INTERNAL MEMORY FAILURE CRC EXTFLASHFAILURE		
F11107	F21107	INTERNAL MEMORY FAILURE CRC FLOW ERROR		
F11109	F21109	INTERNAL MEMORY FAILURE RAM CONSISTENCY FAILURE		
F11111	F21111	INTERNAL MEMORY FAILURE RAM TEST FAILURE		
F11114	F21114	INTERNAL MEMORY FAILURE TASK FLOW ERROR		
F11115	F21115	INTERNAL MEMORY FAILURE SYSTICK CONSISTENCY FAILURE		
F11205	F21205	BOARD OVERHEATING HIGH OVERHEATING THRESHOLD	Power board overtemperature 221°F (>105°C).	Problem on cooling fan system.
F11401	F21401	COMMUNICATION FAILURE BOARD UC COMM ISSUE	Power Board or Display damaged	Replace Power Board or Display
F11405	F21405	COMMUNICATION FAILURE MASTERSLAVE COMM ISSUE	Communication problem between power boards Power Board damaged.	Check connection. Replace Power Boards
F11409	F21409	COMMUNICATION FAILURE KEYBOARD COMM ISSUE	Communication problem between boards. Power Board, Keys Boards or Display Board damaged.	Check connection. Replace Power or Keys Board or Display Board.
F12001	F22001	RL4 ELEMENT ISSUE SHORT CONDITION DET (GRILL HATING ELEMENT)	Wiring harnesses connection problem.	Check connection. Replace Power Boards.

			Relay short circuit.	
F12005	F22005	RL4 ELEMENT ISSUE OPEN CONDITION DET (GRILL HATING ELEMENT)	Wiring harnesses connection problem. Relays opened. Heating element damaged.	Check connection. Replace Power Boards. Replace the Heating Element
F12101	F22101	RL2 ELEMENT ISSUE SHORT CONDITION DET (UPPER HATING ELEMENT)	Wiring harnesses connection problem. Relay short circuit.	Check connection. Replace Power Boards.
F12105	F22105	RL2 ELEMENT ISSUE OPEN CONDITION DET (UPPER HATING ELEMENT)	Wiring harnesses connection problem. Relays opened. Heating element damaged.	Check connection. Replace Power Boards. Replace the Heating Element
F12201	F22201	RL3 ELEMENT ISSUE SHORT CONDITION DET (RING HATING ELEMENT)	Wiring harnesses connection problem. Relay short circuit.	Check connection. Replace Power Boards.
F12205	F22205	RL3 ELEMENT ISSUE OPEN CONDITION DET (RING HATING ELEMENT)	Wiring harnesses connection problem. Relays opened. Heating element damaged.	Check connection. Replace Power Boards. Replace the Heating Element
F12301	F22301	RL5 ELEMENT_ISSUE SHORT CONDITION DET (LOWER HATING ELEMENT)	Wiring harnesses connection problem. Relay short circuit.	Check connection. Replace Power Boards.
F12305	F22305	RL5 ELEMENT ISSUE OPEN CONDITION DET (LOWER HATING ELEMENT)	Wiring harnesses connection problem. Relays opened. Heating element damaged.	Check connection. Replace Power Boards. Replace the Heating Element
F12501	F22501	MAIN SWITCH ISSUE SHORT CONDITION DET	Wiring harnesses connection problem. Relay short circuit.	Check connection. Replace Power Boards.
F12505	F22505	MAIN SWITCH ISSUE OPEN CONDITION DET	Wiring harnesses connection problem. Relays opened. Heating element damaged.	Check connection. Replace Power Boards. Replace the Heating Element

ERROR DESCRIPTION	CORRECTIVE ACTION	KEYBOARD 1	KEYBOARD 2	KEYBOARD 3	KEYBOARD 4	ALL
		1	2	3	4	0
CPU FAULT	Check connection or replace the Key Board	11907	21907	31907	41907	
CLOCK FAULT		11906	21906	31906	41906	
MEMORY FAULT		11905	21905	31905	41905	
UART FAULT		11904	21904	31904	41904	
CAPSENS FAULT		11903	21903	31903	41903	
GUARD SENSOR		11902	21902	31902	41902	
CAPS NO CHANGE		11901	21901	31901	41901	
KEYBOARD DISCONNECTED	Check connection.	11900	21900	31900	41900	01900

KEYBOARDS IDENTIFICATION



ERROR DESCRIPTION	CORRECTIVE ACTION	Display
COMUNICATION ERROR	Replace Display Boards.	F01401
FLASH WRITING ERROR		F00914
FLASH READUNG ERROR		F00915



Anomaly	Possible Cause	Corrective Action	section
Oven does not run No power supply	Main breaker or main fuses	Replace the fuses	
	Short circuit	Find the short circuit and remove it	
Oven does not run Power supply ok.	Connections to Display or the Power board	Replace power board	<u>7.17</u>

**Cooling Fan Problems**

Anomaly	Possible Cause	Corrective Action	section
Fan does not run No power supply	Power board relay not switching	Check the connectors and the harness. Replace the Power Board	7.17
	78Ω resistor broken	Replace 78Ω resistor	7.18
Fan does not run Power supply ok.	Blocked rotor	Replace fan	7.2 7.3
	Burned coil	Replace fan	7.2 7.3
Noisy fan	Lose attachment screws on cooling assembly	Check attachment screws on cooling assembly or replace fan	7.2 7.3
The cooling fan is always on	The control is measuring a high temperature inside the cavity	Check all the connections between the sensor and the power board	--
		Check the temperature sensor	7.14
		Check the power board	--

**Convection Fan Problems**

Anomaly	Possible Cause	Corrective Action	section
Fan does not run No power supply	Power board relay not switching	Replace Power board	7.17
Fan does Not run Power supply ok.	Blocked rotor	Replace fan	7.4
	Burned coil	Replace fan	7.4
Noisy fan	Lose attachment screws on cooling assembly	Check attachment screws Check nut on working fan for tightness or replace it	--



Anomaly	Possible Cause	Corrective Action	section
Door lock control does not run No power supply.	Power board relay not switching.	Replace Power board.	7.17
	Door micro switch or door latch micro switch not switching.	Replace micro switch.	7.10
Door lock control does not run Power supply ok.	Locked rotor.	Replace motor.	7.8
	Burned coil.	Replace motor.	7.8
Noisy.	Defective mounting of door lever mechanics.	Check lever mechanism of door lock. Lubricate all working parts with silicon grease	--
The control doesn't unlock the door after self-cleaning and the lock symbol on the display is steadily on.	The Oven temperature is still beyond the safety unlock value.	Wait for the temperature to drop below the threshold.	--
		Check all the connections between the sensor and the power board.	--
		Check the temperature sensor. If is damaged, replace it.	7.14
		Check the power board. If is damaged, replace it.	7.17
	The Oven had been locked by means of the child lock procedure. (if present)	Use the same procedure to unlock the door.	--
The control doesn't unlock the door after self-cleaning and the lock symbol on the display is always flashing. (with oven completely cold)	The door micro switch is broken and the control thinks that the door is open.	Check and replace the new micro switch	7.10
	Door lever mechanism locked	Check lever mechanism of door latch. Lubricate all working parts with silicon grease	--
	The door Lock thermostat is damaged.	Replace the thermostat.	7.13

**Oven Light Problems**

Anomaly	Possible Cause	Corrective Action	section
The Oven lights are always OFF. No power supply.	Check door micro switch.	Replace door micro switch.	7.10
	Bad connection between lights and Power Board.	Check the connectors and the harness. Replace the Power Board	7.17
The Oven lights are always OFF. Power supply is ok.	Lamps are burned out.	Replace lamps.	See User manual
The Oven lights are always ON.	Check the door micro switch.	Replace door micro switch or connection between the door switch and the power board.	7.10
	Power board relay has a shorted circuit.	Replace Power board.	7.17

**Meat probe problem**

Anomaly	Possible Cause	Corrective Action	section
Meat Probe seems to be not present or doesn't work	Bad connections or short circuit	Check the harness near the probe connection	7.24
	Meat probe internal wires are broken	Replace the meat probe	--

**Display and Key Boards Problems**

Anomaly	Possible Cause	Corrective Action	section
The display is always dark, the latch at power up doesn't work	Bad connection between display and power board	Check connection and eventually replace the display board.	7.19
		Check and eventually replace the main power board.	7.17
The keys don't work properly or are not lighted.	Bad connection between display and keys board.	Check connection and placement, eventually replace the keys board.	7.19

**Door Hinge Problems**

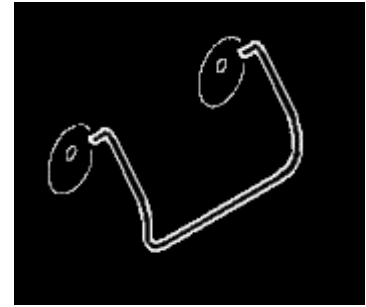
Anomaly	Possible Cause	Corrective Action	section
The door does not close or there is not sealing between door and gasket	Hinges system is broken or damaged	Replace the units	7.15
	The hinges support in the box is broken or damaged	Replace the units	7.16
	The door hinges are not properly placed in their supports.	Check and place them correctly in the supports.	--
	The gasket is out of its position or damaged.	Replace the gasket	7.9

**Bad Cooking Performance**

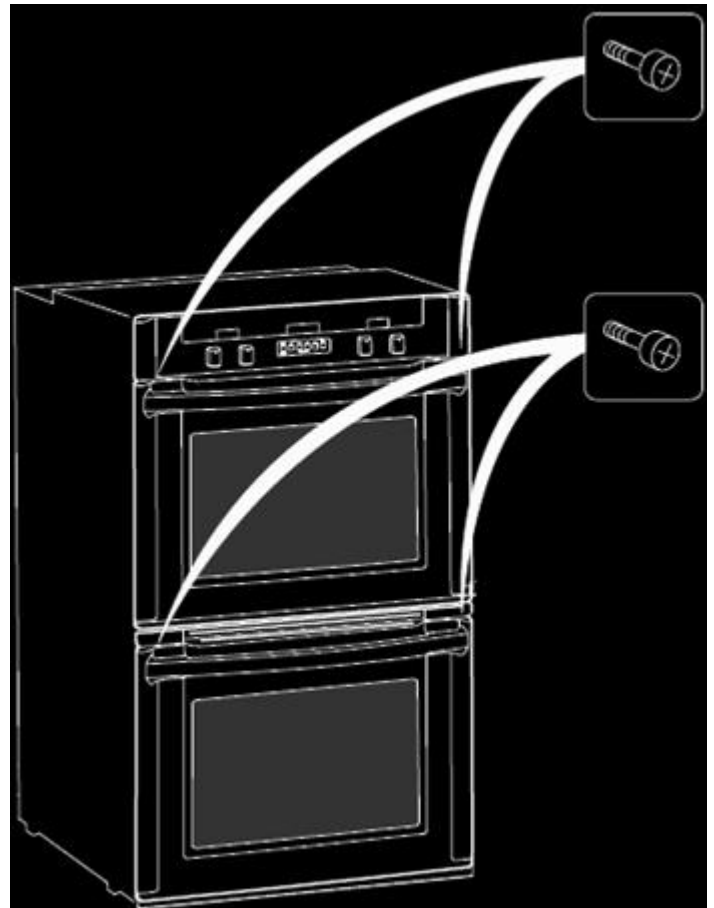
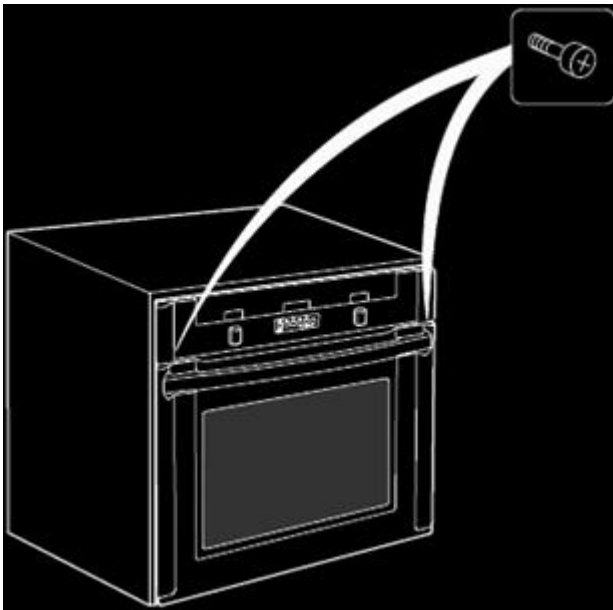
Anomaly	Possible Cause	Corrective Action	section
Bad performance	Heating elements not working	Check the connection of the heating elements	--
		If there is not power on the heating elements check relays on the power boards. If the power board relay not switching replace the units.	7.17
		Check the power on the heating elements and replace the elements if needed	7.5 7.6 7.7
	Convection fan not working properly	See the convection fan problem	4.4
	There is not sealing between door and gasket	The hinges system or the hinges support in the box are damaged. Replace the units	7.15 7.16
	The gasket is out of its position or damaged.	Replace the gasket	7.9



1. Disconnect the power supply cord
2. Remove the screws shown in the pictures.
3. Pull out the oven.
4. Remove the oven by using the lateral handles.



Lateral Handles

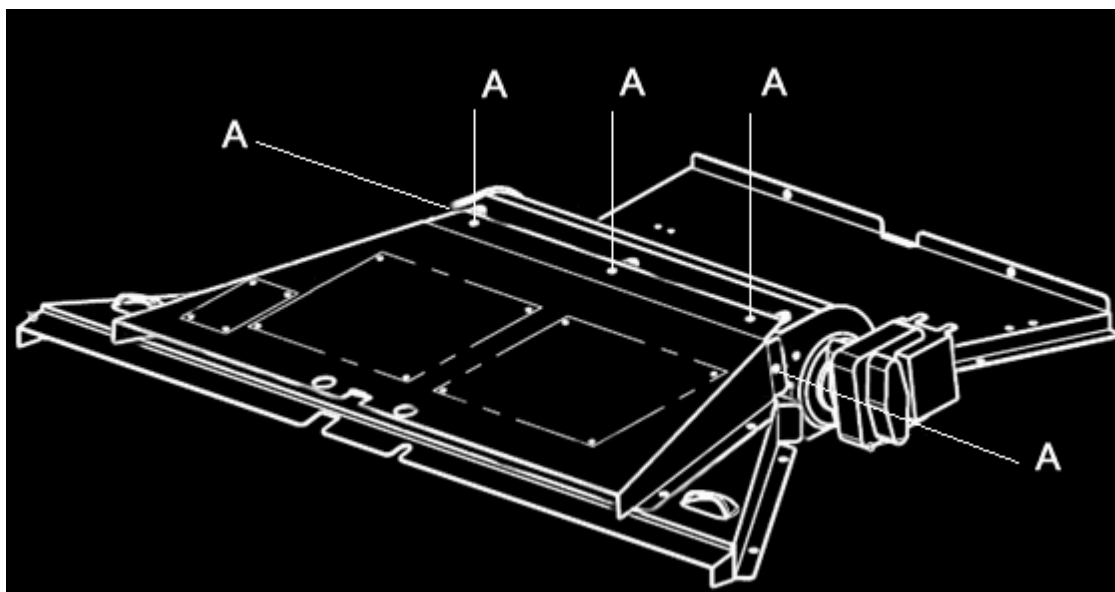
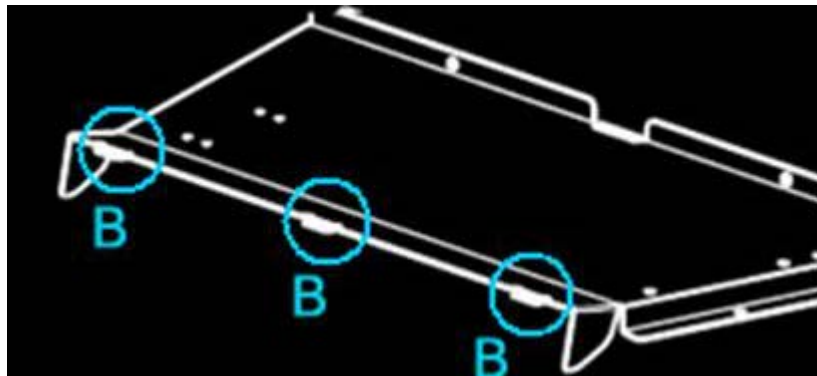




Upper and Single cooling fan motor substitution









1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the two upper covers.
3. Remove the five screws **A** (two lateral & three on the top).
4. Disconnect the terminals on the fan and remove the fan damaged.
5. Replace the cooling fan motor, paying attention to the brackets **B** on the back support.
6. Connect the terminals and fix the motor by its screws.
7. The connections must not be loose.
8. Reinstall the Oven into the cabinet.
9. Reconnect the power supply cord after the Oven is installed.
10. Run the Oven and check all functions.

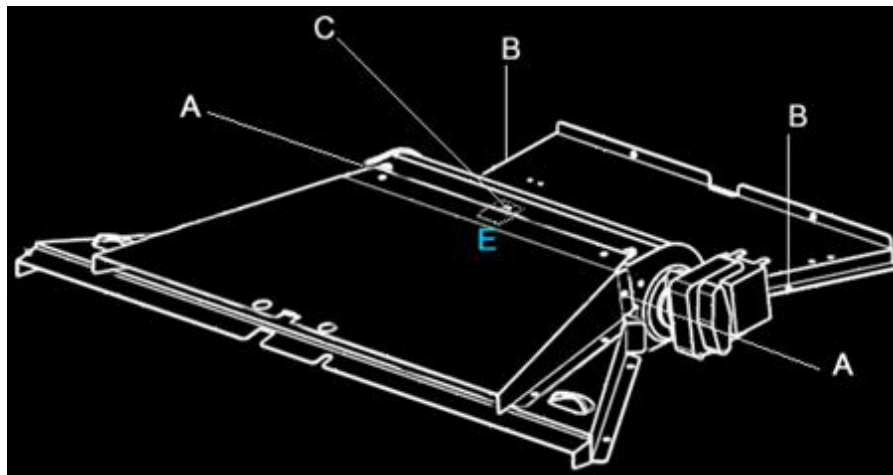
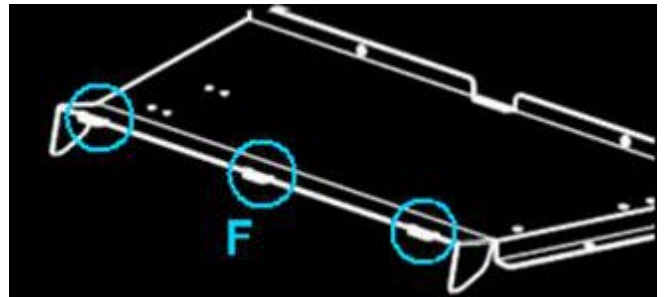
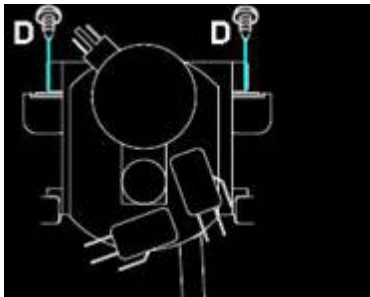




Lower cooling fan motor substitution



1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the rear panels and remove also the middle panel to reach it.
3. Remove the lock door motor by its 2 screws  and lift back the motor to remove it, **without disconnect the cable, this is not necessary.**
4. Dismount the back air duct unscrewing the two screws  then unscrew the two screws  to remove the fan motor damaged.
5. After this you have to prepare the new one fixing the central support  by its screw . Using a screw, now you have to thread the holes  before installing the motor.
6. Placing the motor paying attention at the correct interconnection between frontal duct and motor's support **E**.
7. Fix it by reversing the previous steps.
8. Connect the terminals.
9. The connections must not be loose.
10. Reinstall the rear cover then the Oven into the cabinet.
11. Reconnect the power supply cord after the Oven is installed.
12. Run the Oven and check all functions.

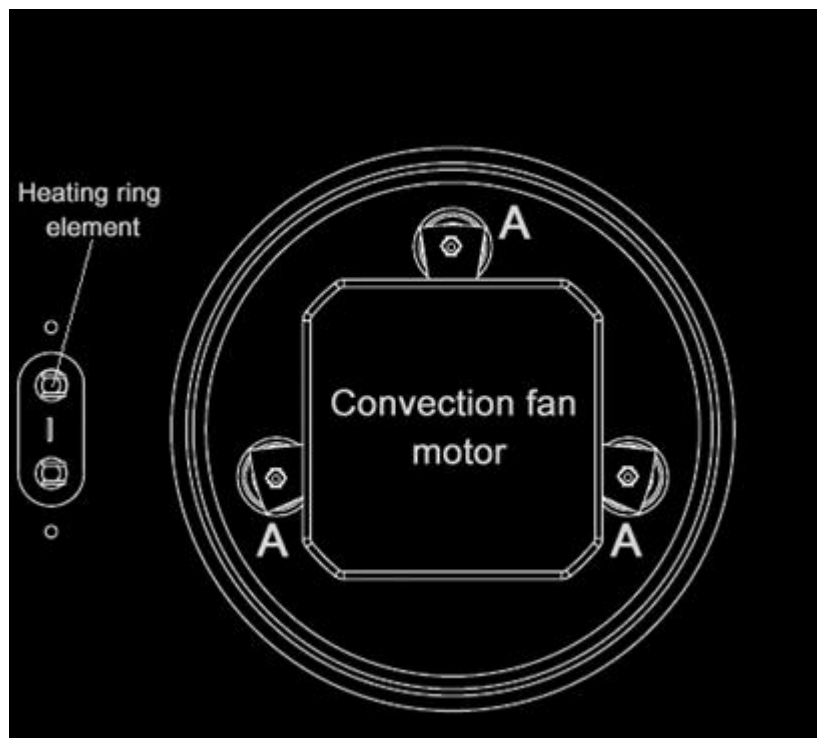




Convection fan motor substitution

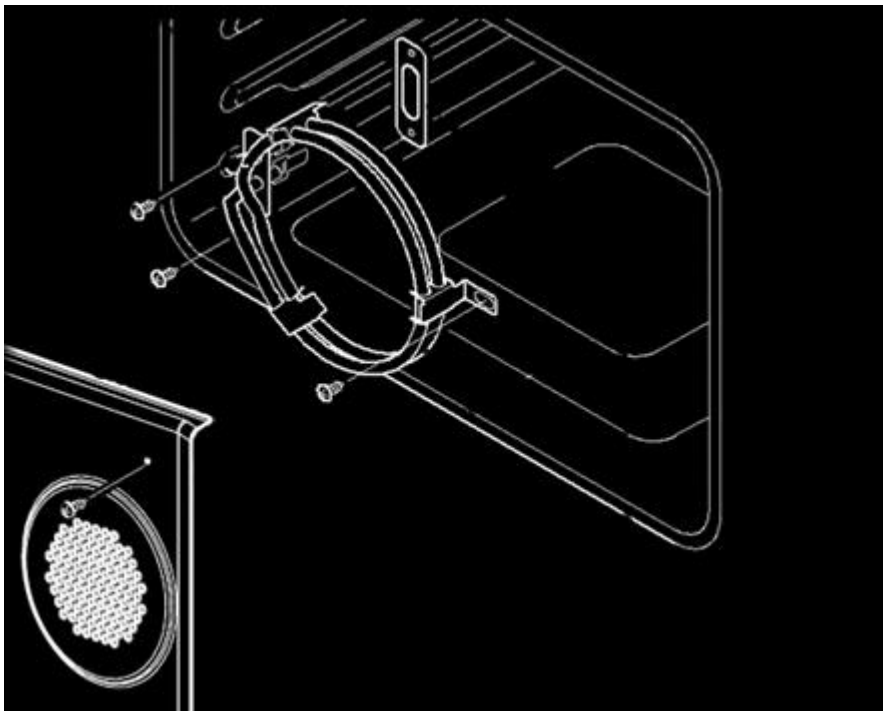


1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the rear upper covers or rear lower cover, depends which fan is damaged.
3. Disassemble the baffle by removing the four screws in the cavity for double fans for single fan.
4. Remove the fan blade by using a 10mm socket.
5. Disconnect the terminals on the fan in the rear side.
6. Remove the three nuts **A** on the motor holder by using a 7mm socket and remove it.
7. Mount the new fan motor on the holder and attach it with the nuts.
8. Attach the fan blade.
9. Replace the baffle.
10. Connect the terminals.
11. The connections must not be loose.
12. Reinstall the Oven into the cabinet.
13. Reconnect the power supply cord after the Oven is installed.
14. Run the Oven and check all functions.





1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the rear upper covers or rear lower cover, depends which heating element is damaged.
3. Disassemble the baffle by removing the four screws in the cavity for double fans for single fan.
4. Disconnect the terminals of heating element and remove the ring element by removing the three screws.
5. Mount the new ring element with the new fiber gasket between the base of the element and the back side of the Oven.
6. Replace the baffle.
7. Connect the terminals.
8. The connections must not be loose.
9. Reinstall the Oven into the cabinet.
10. Reconnect the power supply cord after the Oven is installed.
11. Run the Oven and check all functions.

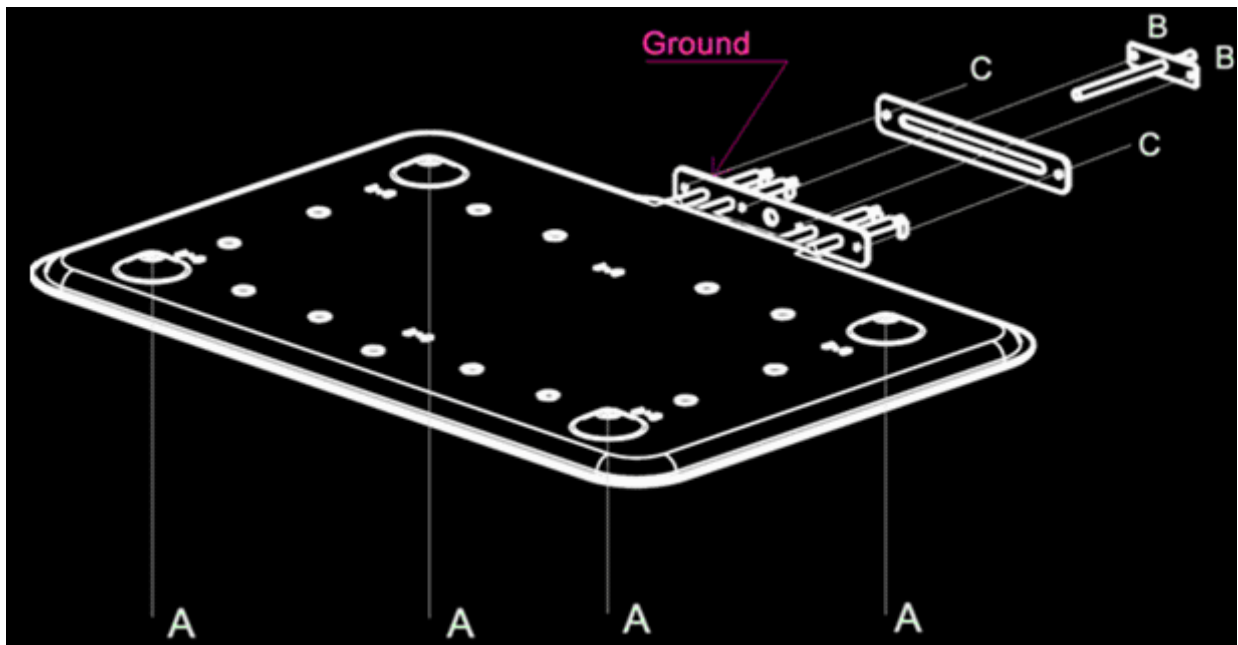




Upper element substitution



1. Disconnect the power supply cord and remove the Oven from the cabinet.
 2. Remove the rear upper covers or rear lower cover depends which heating element is damaged.
 3. Disconnect the terminals of heating element.
 4. Remove the probe unscrewing its two screws **B**.
 5. Remove the two screws **C** near the external terminals, **one of which is used for ground**.
 6. Remove the upper element by removing four screws **A** on the brackets on top in the cavity.
 7. Mount the new upper element with a new fiber gasket between the base of the element and the back side of the Oven.
 8. Connect the terminals. Pay attention to the sequence of wiring on the element
 9. The connections must not be loose.
 10. Reinstall the Oven into the cabinet.
 11. Reconnect the power supply cord after the Oven is installed.
- Run the Oven and check all functions.

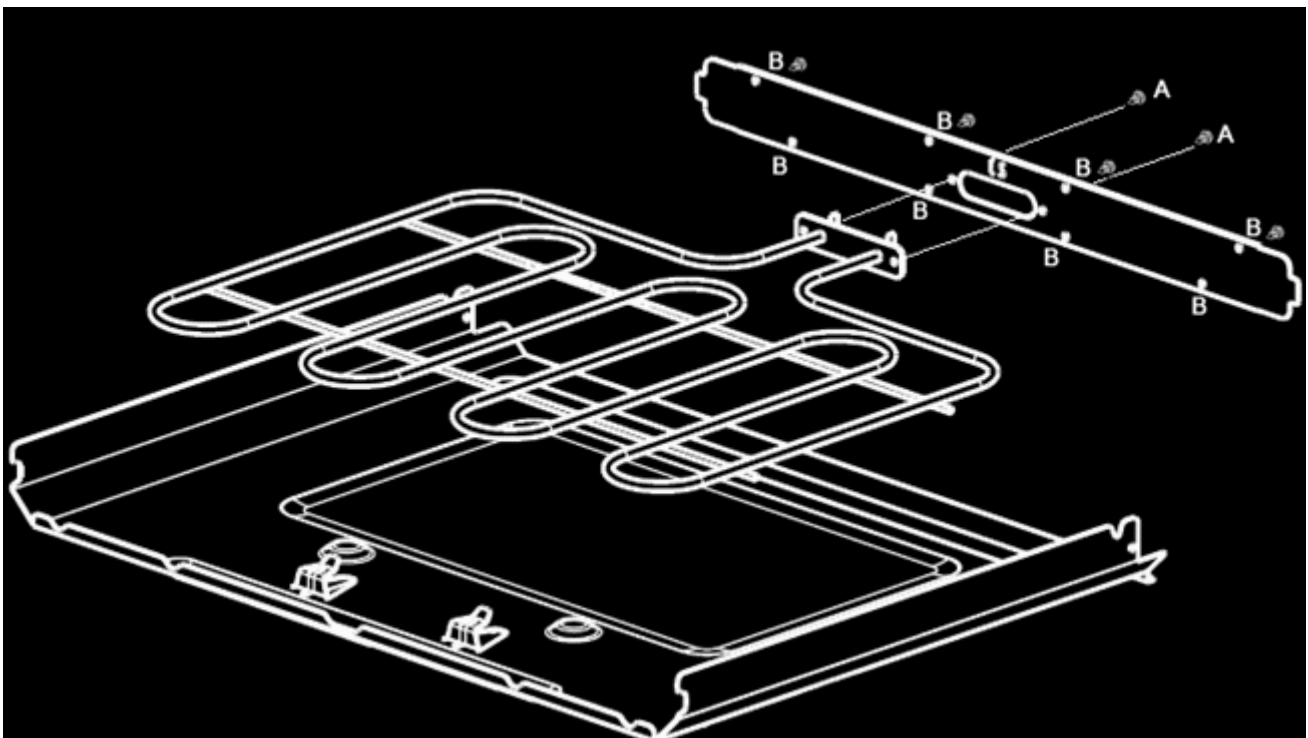




Lower element substitution



1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the rear upper covers or rear lower cover depends which heating element is damaged.
3. Disconnect the terminals of heating element.
4. Remove the eight screws **B** on the brackets and the other two screws **A** near the external terminals.
5. Remove the brackets.
6. Pull out the lower element.
7. Replace the new element by reversing the previous steps.
8. Pay attention to the positioning of the element.
9. Connect the terminals.
10. The connections must not be loose.
11. Reinstall the Oven into the cabinet.
12. Reconnect the power supply cord after the Oven is installed.
13. Run the Oven and check all functions.

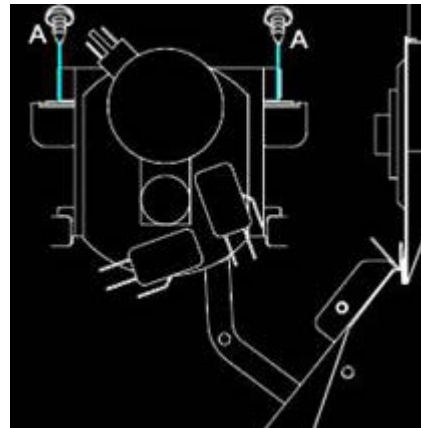
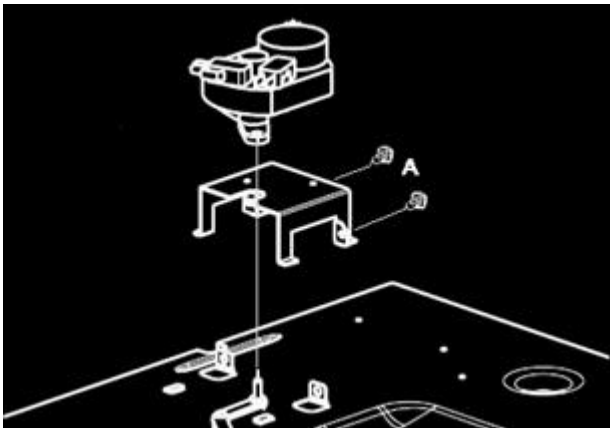




Lock door motor substitution

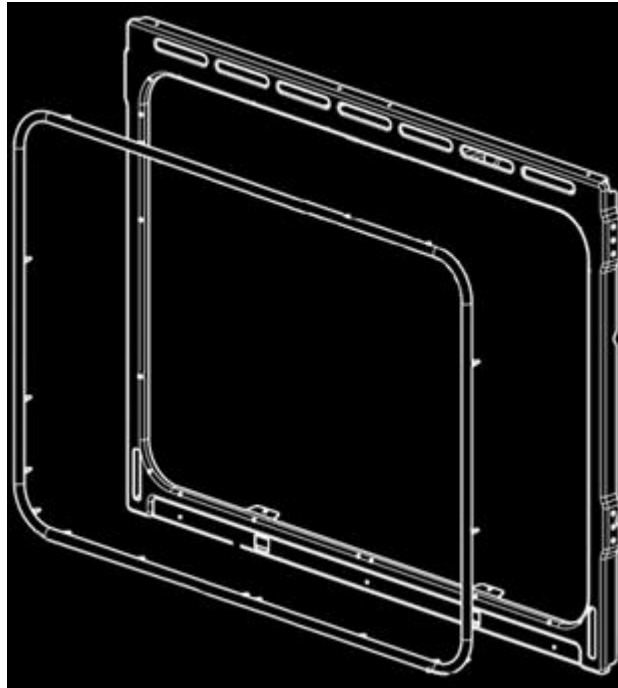


1. Disconnect the power supply cord and remove the Oven from the cabinet.
 2. On Single oven and on Double Upper cavity remove the two upper covers.
 3. Disconnect the cables. Pay attention to the sequence of wiring of the motor (micro switch).
 4. Remove the screws **A** and lift back the motor to remove it.
 5. On Lower cavity in a double oven remove the rear lower panel and also the middle panel to reach it.
 6. Remove the screws **A** and lift back the motor to remove it.
 7. Disconnect the cables. Pay attention to the sequence of wiring of the motor (micro switch).
 8. Disassemble the motor by removing the three screws under its support and remove it.
 9. Replace the new motor assembly by reversing the previous steps.
 10. Pay attention to the positioning when inserting the door lever mechanism into the eccentric of the motor.
 11. Connect the terminals.
 12. The connections must not be loose.
 13. Reinstall the Oven into the cabinet.
 14. Reconnect the power supply cord after the Oven is installed.
- Run the Oven and check all functions.





1. Open door and pull out the gasket by hands.
2. Replace with a new one by reversing the previous steps.

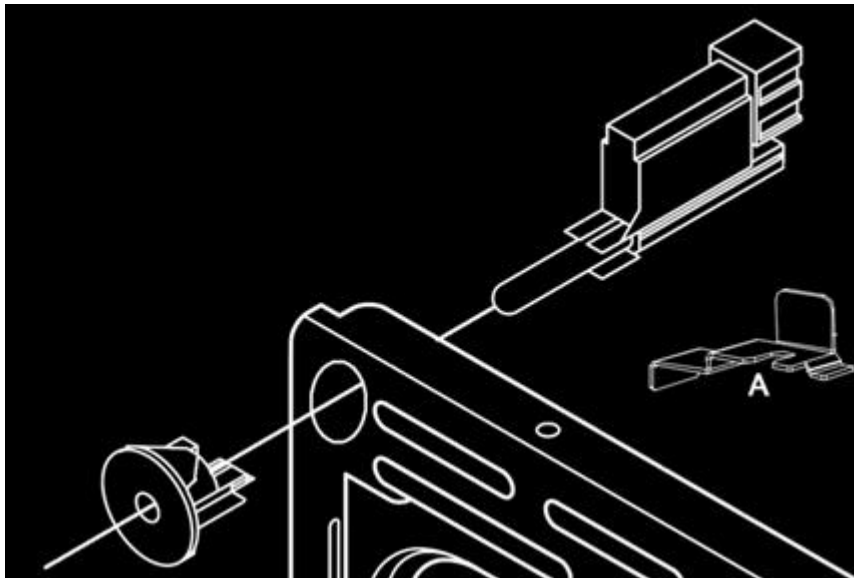




Door Lock Switch substitution

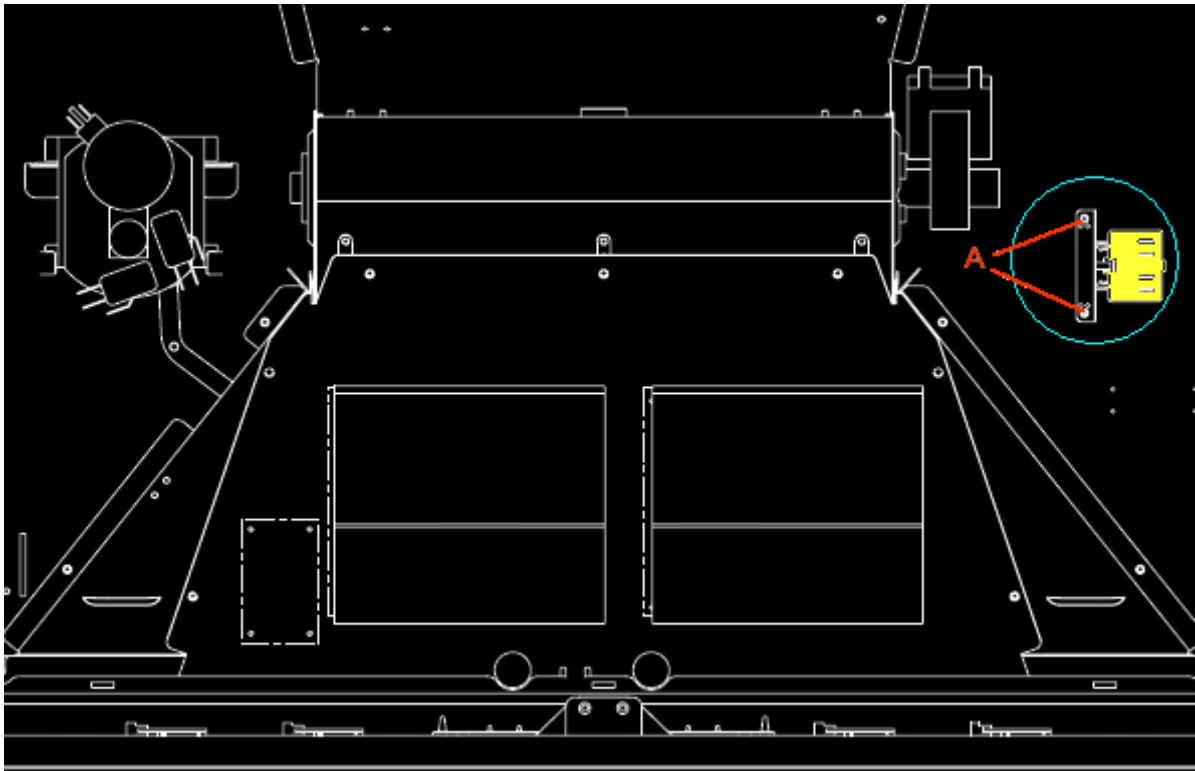


1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the upper cover, if you have to change the lower door switch, remove the upper door than the middle profiles to reach it.
3. Disconnect the terminals from the switch.
4. Unscrew the bracket A.
5. Pull out the switch from the holder.
6. Replace with a new switch by reversing the previous steps.
7. **PAY ATTENTION TO THE WIRING SEQUENCE N°1 – N°4**
8. The connections must not be loose.
9. Replace the profile.
10. Reinstall the Oven into the cabinet.
11. Reconnect the power supply cord after the Oven is installed.
12. Run the Oven and check all functions.



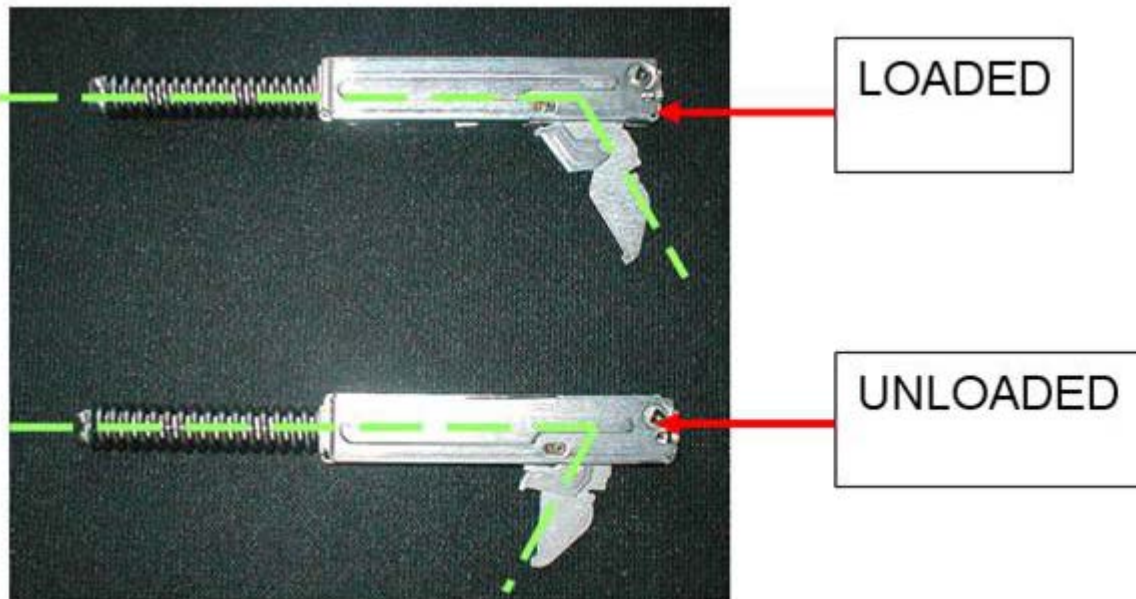


1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. On Single oven and on Double Upper cavity remove the two upper covers.
3. Disconnect the terminals from filter.
4. Remove the filter damaged by unscrew two screws **A** and dismount it from its bracket.
5. Replace a new one
6. Pay attention to the wiring sequence
7. The connections must not be loose.
8. Reinstall the Oven into the cabinet.
9. Reconnect the power supply cord after the Oven is installed.
10. Run the Oven and check all functions.



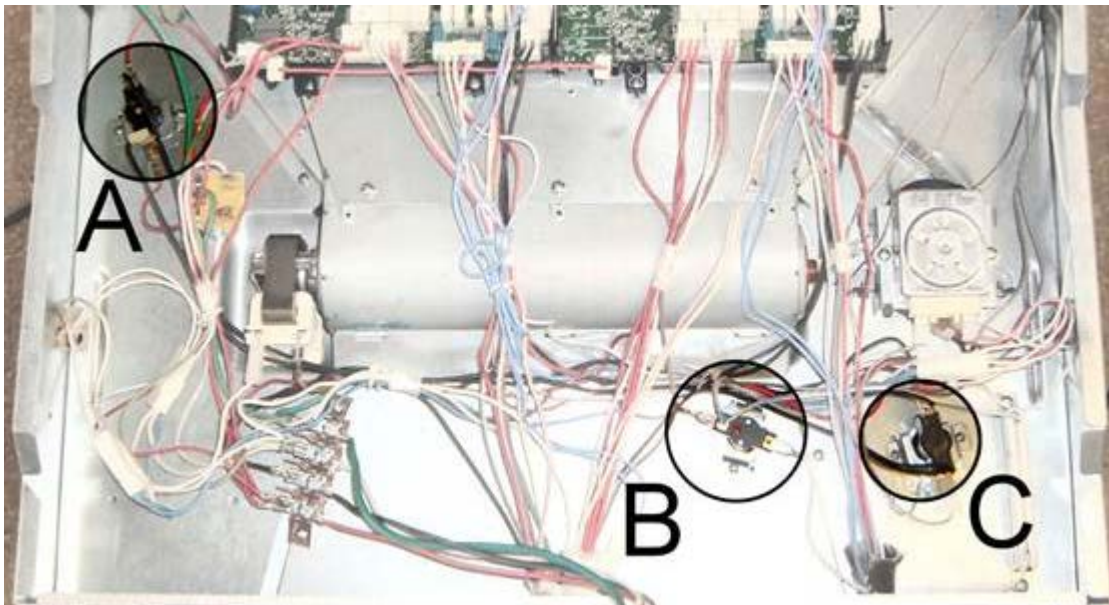


1. Before mounting the hinges ensure that the code is correct and then proceed with the loading of the hinge spring. There are two possible positions – LOADED and UNLOADED – as indicated above. The hinge must be assembled LOADED.





1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. On Single oven and on Double Upper cavity remove the two upper covers.
3. Unscrew the thermostat's holder:
 - A. Safety self clean thermostat.
 - B. Safety cooling fan thermostat.
 - C. Safety cooking thermostat and lock door thermostat.
4. **If double oven, for lower cavity the number and the position of the thermostats are the same as above.** If faulty thermostat is B or C remove rear cover and the middle panel.
If the faulty thermostat is A, remove the upper door plus middle profiles in front of the oven in order to reach the thermostat.
5. Unscrew the thermostat's holder,
6. Replace the faulty thermostat with the new one by reversing the previous steps.
7. The connections must not be loose.
8. Reinstall the middle profile.
9. Reinstall the Oven into the cabinet.
10. Reconnect the power supply cord after the Oven is installed.
11. Run the Oven and check all functions.

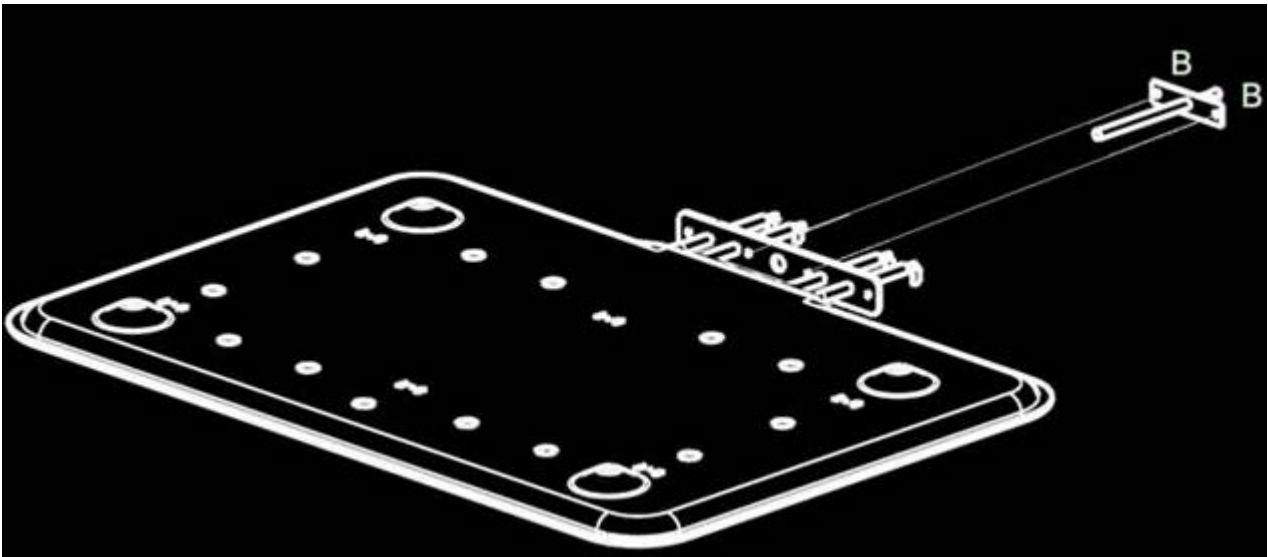




Probe Temperature substitution



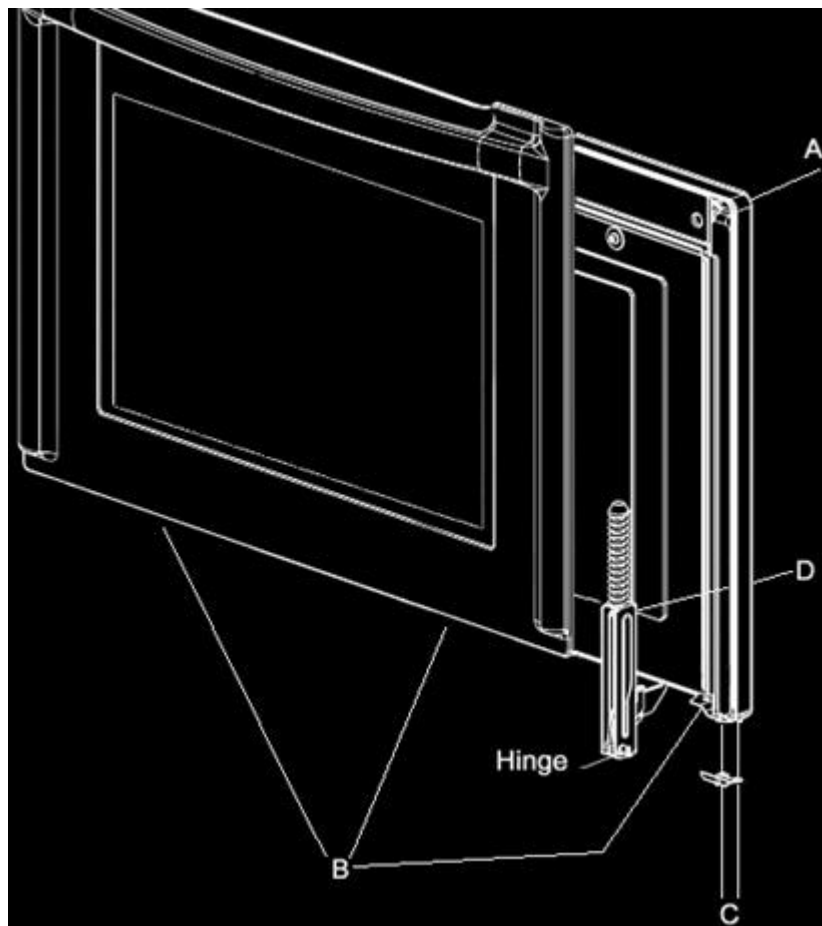
1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the rear upper covers or rear lower cover, depends which probe is damaged.
3. To replace the probe, disconnect it and remove the attachment screws **B**.
4. Reinstall the Oven into the cabinet.
5. Reconnect the power supply cord after the Oven is installed.
6. Run the Oven and check all functions.





1. Remove the door following the (see User instructions).
2. Put the door on a flat surface with a soft cloth to prevent scratching of the aesthetics.
3. Remove the door external glass by the screws **A** and **B**.
4. Remove the hinges unscrewing the screws **C** and **D**.
5. To replace the hinges, reverse the previous steps.
6. To replace the aesthetic glass be sure that the door is in the right position keeping the glass centered.
7. Reassemble the Oven door following (see User instructions).

The new hinges must be preload before assemble ([see section 7.12](#))

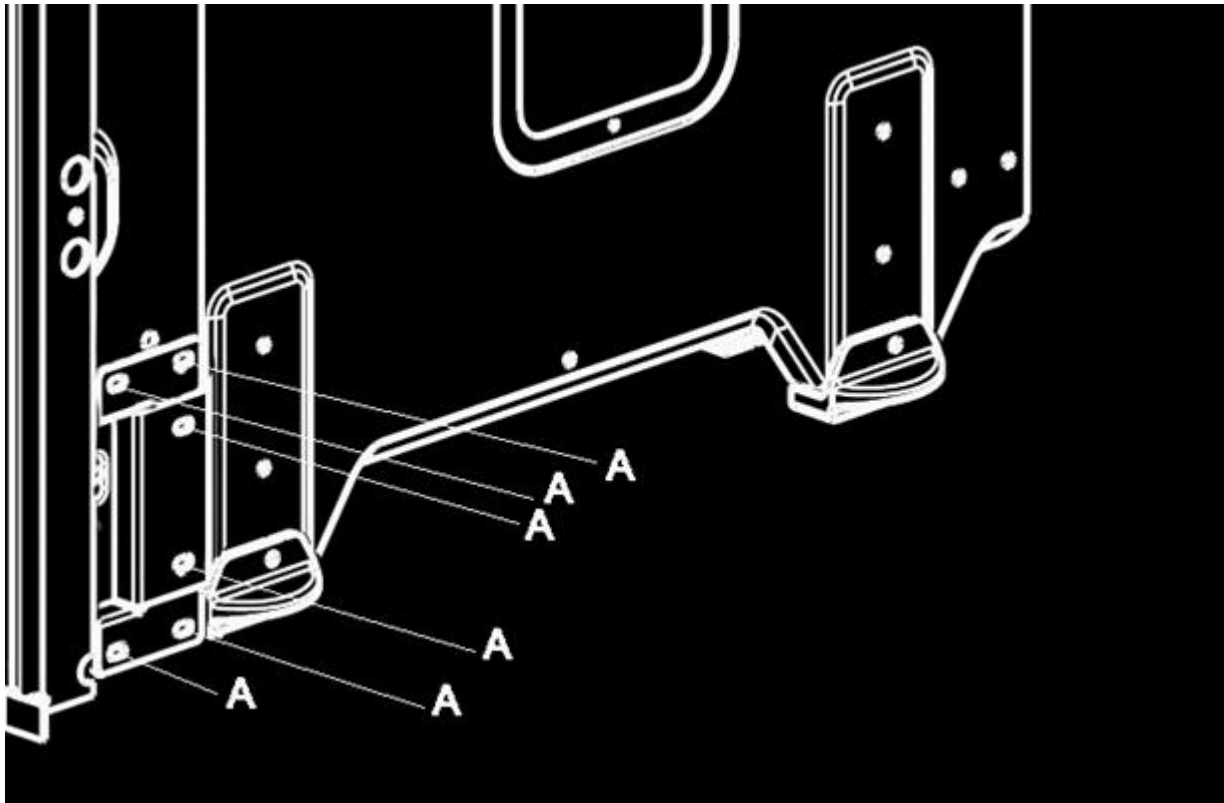




Door hinges box substitution

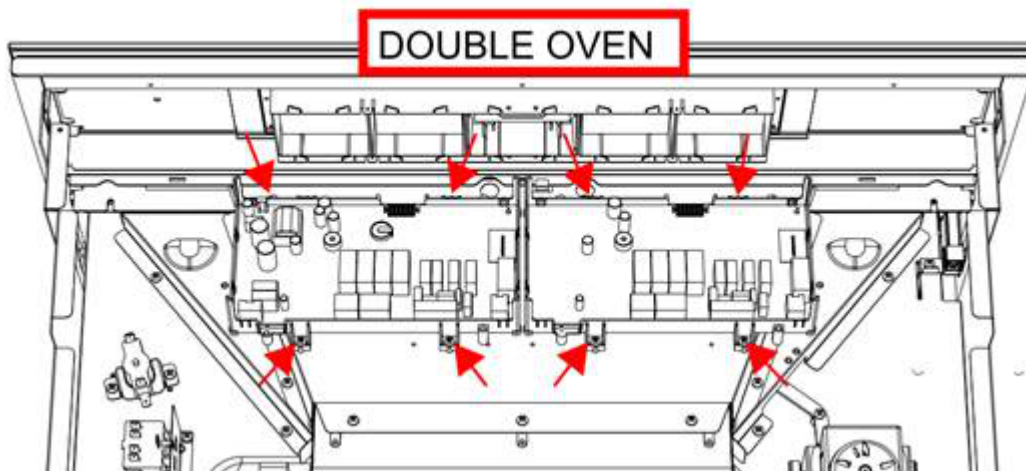
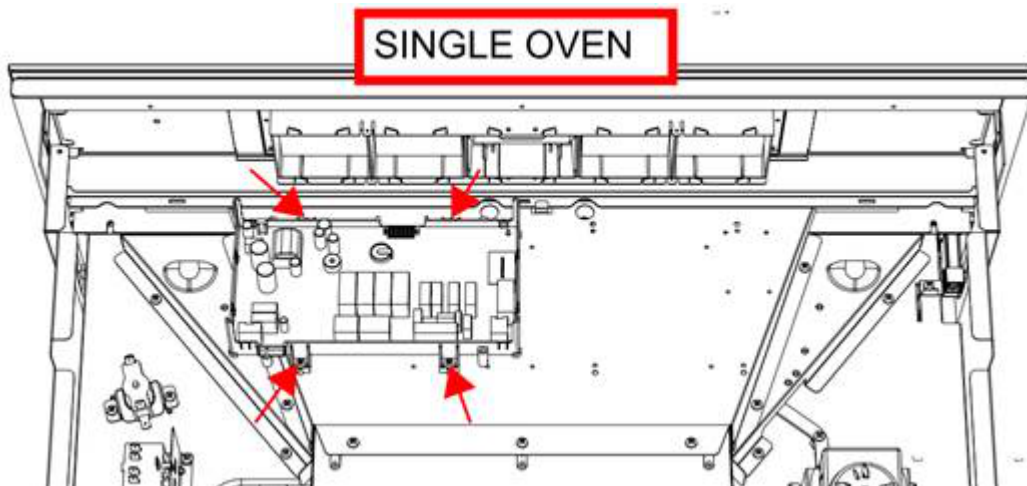


1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the door following the (see User instructions).
3. Unscrew the screws **A** to change support.
4. Disassembling the hinges box from lateral panel.
5. To replace the new hinge box, reverse the previous steps.
6. Reassemble the Oven door following the (see User instructions).
7. Reinstall the Oven into the cabinet.
8. Reconnect the power supply cord after the Oven is installed.
9. Run the Oven and check all functions.





1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the upper cover.
3. Remove the screws connecting the power board before disconnecting the cables (see pictures).
4. Replace the new power board using the spacers.
5. Connect the cable following the electric diagram.
6. **IT IS VERY IMPORTANT TO CONNECT THE CABLES IN THE RIGHT POSITION.**
7. The connections must not be loose.
8. Reconnect the power supply cord before installing the Oven and check all functions.
9. **Check the Oven by MANUAL TEST following the procedure shown on [section 2.6](#).**
10. Disconnect the power supply cord and reinstall the Oven into the cabinet.
11. Reconnect the power supply cord after installing.
12. Run the Oven and check all functions.

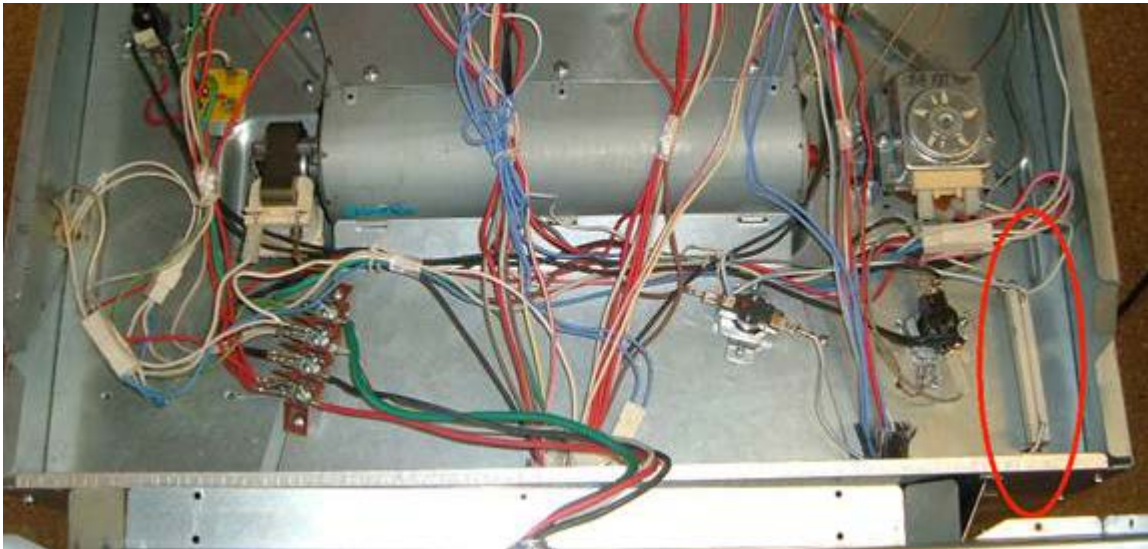




Resistor 78Ω substitution (if present)



1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the upper cover.
3. Remove the resistor screws.
4. Replace with a new resistor by reversing the previous steps.
5. The connections must not be loose.
6. Reinstall the Oven into the cabinet.
7. Reconnect the power supply cord after the Oven is installed.
8. Run the Oven and check all functions.

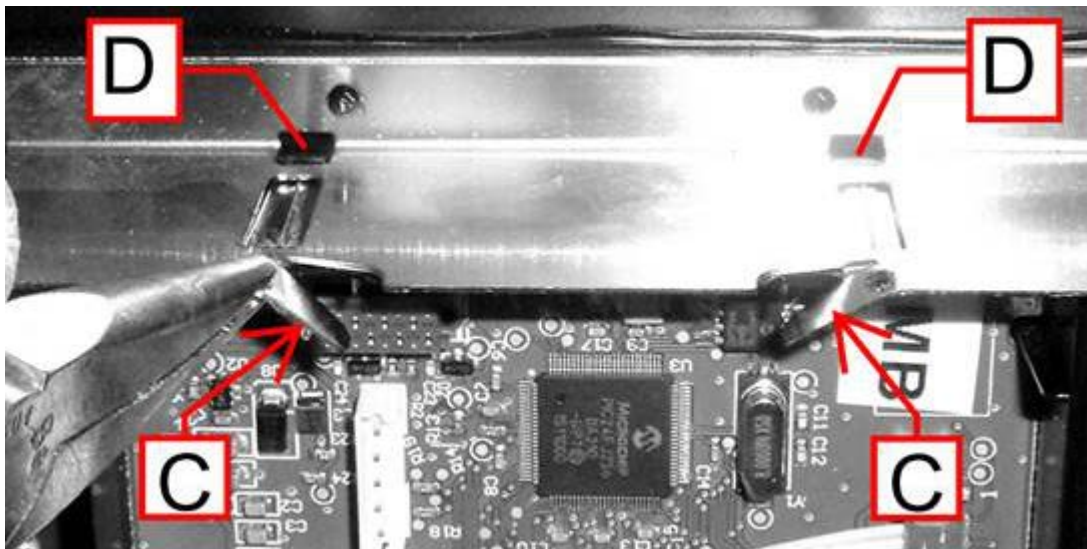
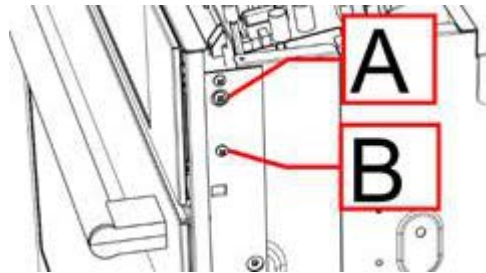




Display and Keyboard substitution

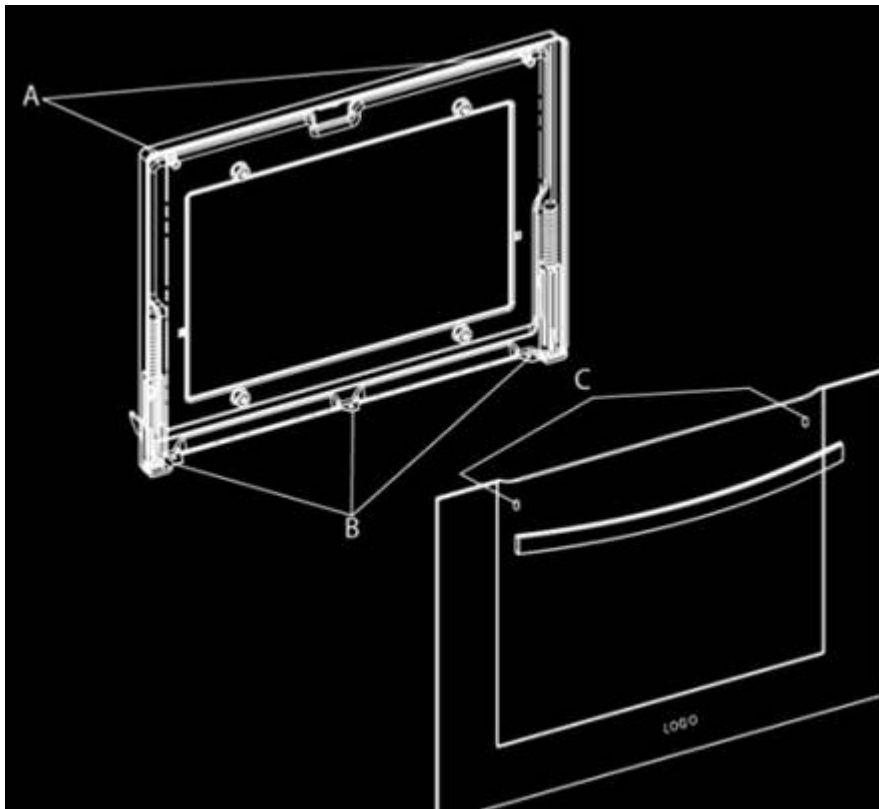


1. Disconnect the power supply cord and remove the Oven from the cabinet.
 2. Remove the upper front cover.
 3. Disconnect the wiring.
 4. Remove the glass by its screws on the sides, see "A" & "B" in the picture
 5. Unbend the four metal tabs "C" and then release the four plastic latches "D" by a screw driver. Extract and replace the bad board. Bend the four metal tabs to lock the board.
 6. Set the glass on the oven and secure it with the four screws
 7. Connect the all the cables of the boards, pay attention of the ground wire.
 8. Fix the upper front cover.
 9. **Check the Oven by MANUAL TEST following the procedure shown on [section 2.6](#).**
 10. Disconnect the power supply cord and reinstall the Oven into the cabinet.
 11. Reconnect the power supply cord after installing.
- Run the Oven and check all functions.



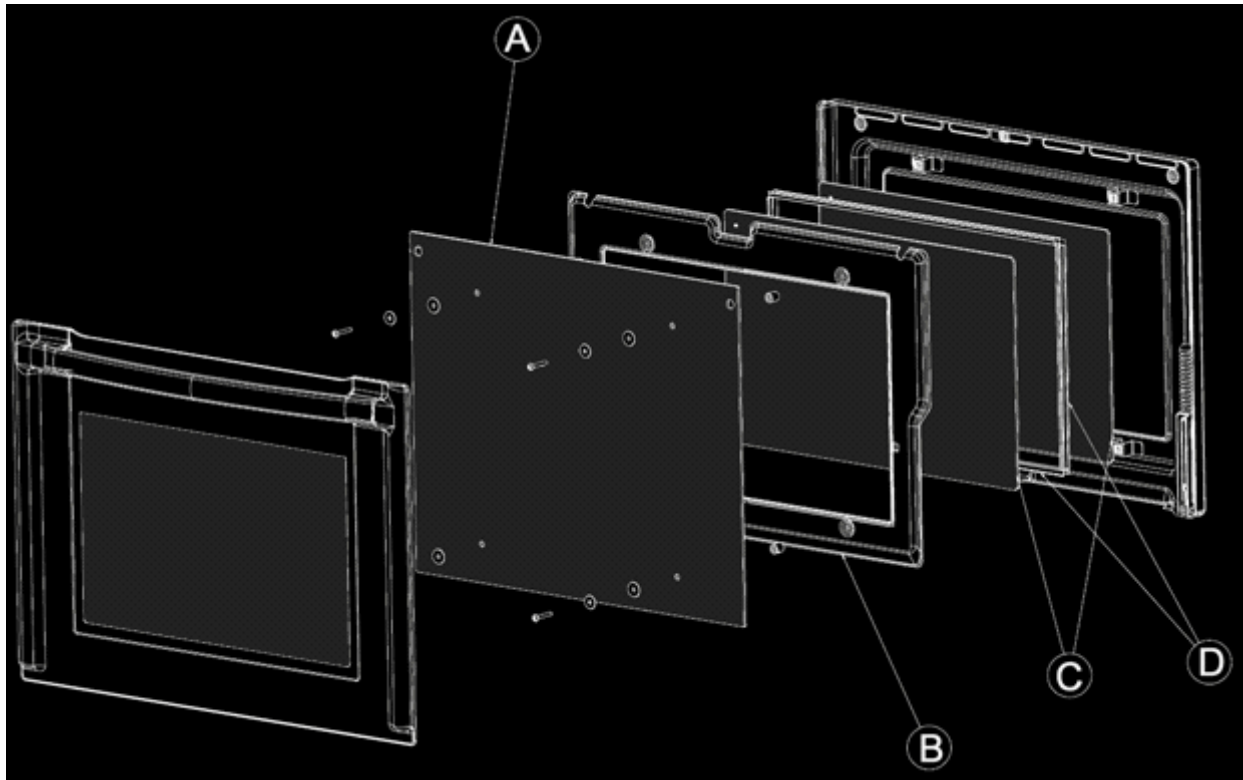


1. Remove the door from the oven (see user manual).
2. Put the door on a flat surface with a soft cloth to prevent scratching of the aesthetics.
3. Remove the external glass from the door unscrewing two screws on the corner **A** and three screws on the bottom **B**.
4. Remove also the handle by its two screws **C**.
5. Replace the handle on the new aesthetic glass with its support and spacers. Then fixing the spring clip on metal supports glass.
6. Assemble the glass and door keeping door in the middle of the glass. Pay attention to the correct position of rubber bumpers.
7. Reassemble the Oven door (see user manual).





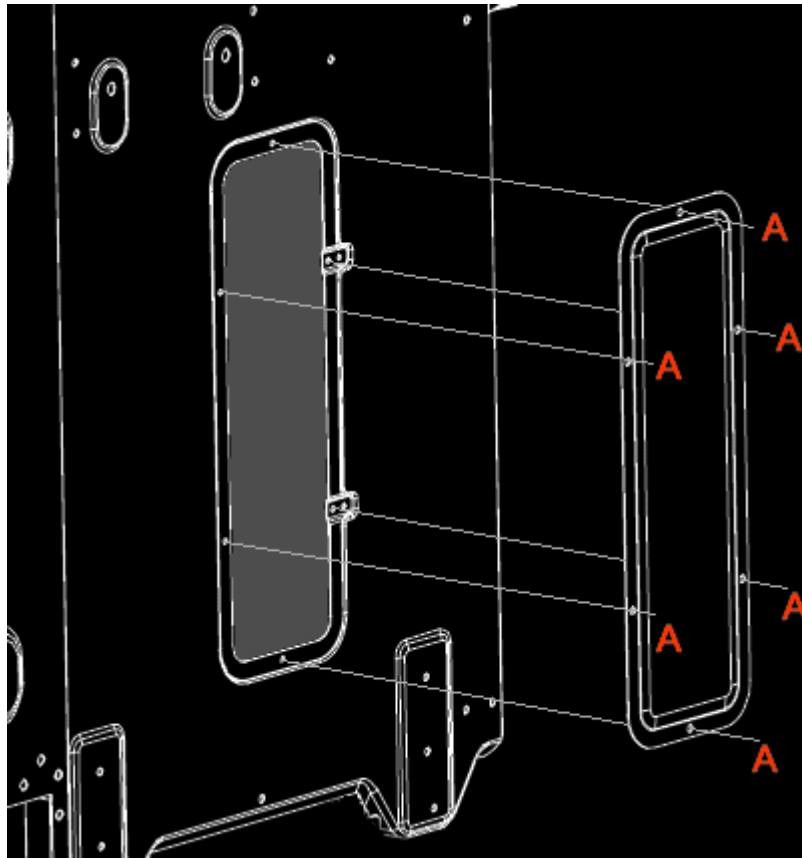
1. Remove the door from the oven (see USER MANUAL).
2. Put the door on a flat surface with a soft cloth to prevent scratching of the aesthetics.
3. Remove the external glass from the door unscrewing two screws on the corner and three screws on the bottom ([see section 7.20](#)).
4. Remove the four screws with its spacers which fix the main screen glass **A**.
5. Remove the metal frame **B** to reach the two internal glasses **C** separated by a square metal spacer **D**.
6. Now depends which glasses is broken, replace with the new one.
7. **When an internal glass is replaced must be sure that the face whit CA (CAVITY) printed it is towards the cavity.**
8. Assemble the glass and door keeping door in the middle of the glass.
Replace the Oven door (see USER MANUAL).





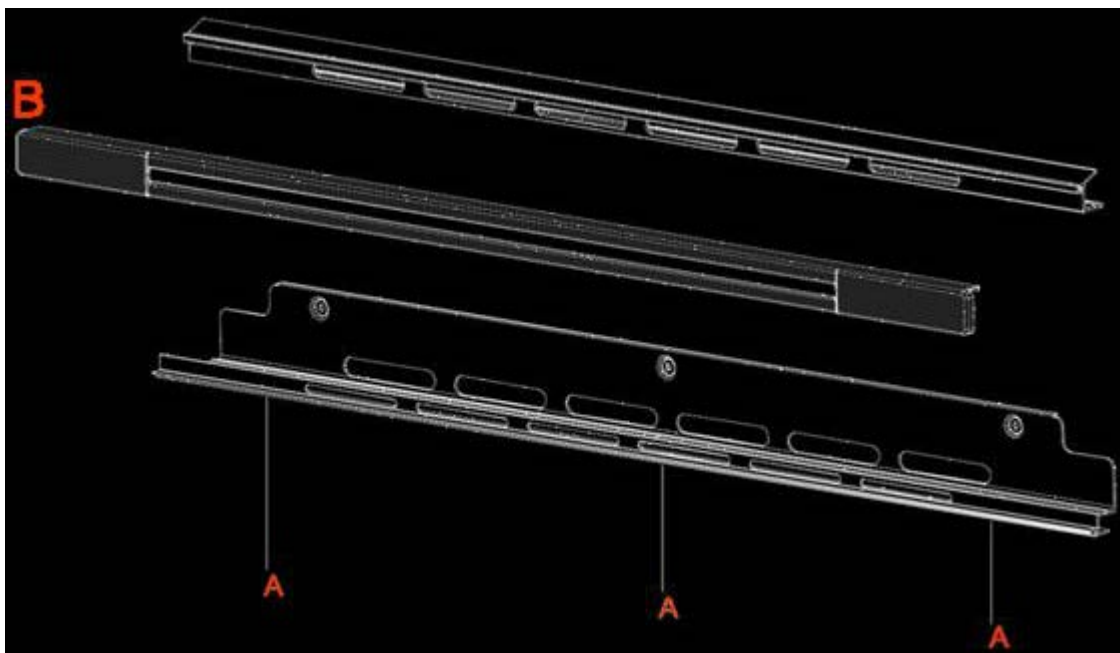
1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the lampholder cover panels situated on the side of the oven and unscrew the relative ground wire **A**.
3. Remove the lampholder removing its screw and extract the defective lampholder from the oven cavity. Cut the defective lampholder wires just above the lampholder body. Mount the new lampholder in the oven cavity and fix with the relative fixing screw.
4. Twist together the new lampholder wires to the old defective lamp holder wires then 'run' them through the relative protective sleeve. Once the new lampholder wires come through the other end of the protective sleeve untwist the wires and dispose of the old wiring as follows.
5. Using a sharp tipped screwdriver carefully unlock the old wiring 'faston' type connector spade terminal. Once the old wires are released you can through them away. Retain the old lampholder connector for the new lampholder as this will be recovered for further use (see next point).

Take the new lampholder and insert the wires into the recovered connector. This is done by pushing each 'faston' wiring spade terminal into the connector until it 'clicks' in place. Ensure that both new lampholder wires are firmly in place before reassembling the lamp connector. Ensure that the male and female parts of the connector are firmly locked together.





1. Disconnect the power supply cord.
2. Remove the upper door and the middle profile.
3. Disassemble the aesthetic profile **B** unscrewing the three screws **A** placed on the lower side.
4. Replace the profile **B** by reversing the previous steps.
5. Mount the profile by its three screws.
6. Reconnect the power supply cord after the Oven is installed.
7. Run the Oven and check all functions.





1. Disconnect the power supply cord and remove the Oven from the cabinet.
2. Remove the MEAT PROBE cover by its three screws (fig1).
3. Check the connection cable.
4. **IT IS VERY IMPORTANT THAT ALL THE WIRES OR TERMINALS MUST NOT BE IN CONTACT WITH THE ALUMINUM INSULATION FOIL. (Fig2)**
5. **THE PROBE JACK INSERTED MUST BE IN CONTACT WITH BOTH METAL BLADES OF FEMALE PLUG. (Fig3)**
6. The connections must not be loose.
7. Reconnect the power supply cord before installing the Oven and check all functions.
8. Disconnect the power supply cord and reinstall the Oven into the cabinet.
9. Reconnect the power supply cord after installing.
10. Run the Oven and check all functions.



fig. 1



fig 2



fig 3