
MOFFAT®

G32 CONVECTION OVEN

SERVICE MANUAL



 **turbofan®**

CONTENTS

This manual is designed to take a more in depth look at the G32 convection oven for the purpose of making the unit more understandable to service people.

There are settings explained in this manual that should never require to be adjusted, but for completeness and those special cases where these settings are required to change, this manual gives a full explanation as to how, and what effects will result.

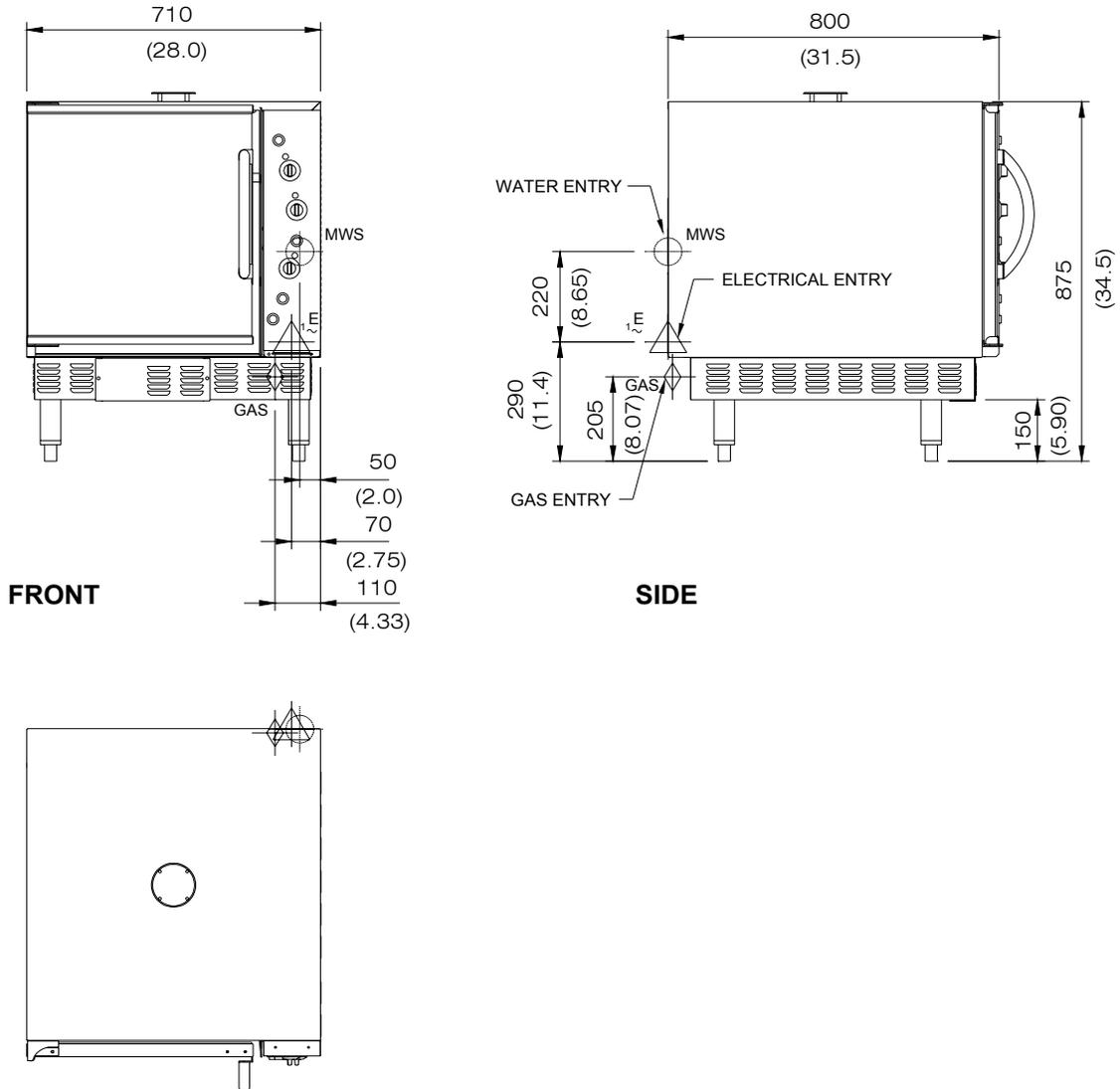
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! **IMPORTANT:** MAKING ALTERATIONS MAY VOID WARRANTIES AND APPROVALS.

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1. SPECIFICATIONS

MODEL: G32



PLAN

LEGEND

-  - Electrical connection entry point
-  - Water entry - $\frac{3}{4}$ " BSP hose connection
-  - Gas connection entry point - $\frac{1}{2}$ " BSP female (not USA / Canada)
- $\frac{1}{2}$ " NPT female (USA / Canada only)

Dimensions shown in millimetres.
Dimensions in inches shown in brackets.

LOCATION

This oven must be installed in an area of adequate air supply. The following minimum clearances for air openings, servicing, operation and installation are to be adhered to:

Rear	75mm / 3"
Left-hand side	75mm / 3"
Right-hand side	75mm / 3"
Top	200mm / 8" (or 600mm from a combustible surface.)
Floor	127mm / 5"

OVEN INTERNAL DIMENSIONS

Width	468 mm / 18.5"
Height	533 mm / 21"
Depth	711 mm / 28"
Oven Volume	0.18 m ³ / 6.3 ft ³

OVEN RACK SIZE

Width	460 mm / 18"
Depth:	660 mm / 26"

GAS SUPPLY SPECIFICATION OPTIONS

	Natural (G20 UK)	LPG/Prop (G31 UK)
Input Rating	35 MJ/hr 33 000 Btu/hr 9.5 kW	35 MJ/Hr 33 000 Btu/hr 9.5 kW
Gas Rate	0.91 m ³ /hr 32.1 ft ³ /hr	0.67 kg/hr 1.48 lb/hr
Supply Pressure (Not USA/Can/UK)	1.13 kPa 4.5"w.c.	2.75 kPa 11.0"w.c.
Operating Pressure (Not USA/Can/UK)	0.90 kPa 3.6"w.c.	2.25 kPa 9.0"w.c.
Operating Pressure (UK only)	10 mbar	35 mbar
Operating Pressure (USA/Can only)	1.13 kPa 4.5"w.c.	2.75 kPa 11.0"w.c.

GAS CONNECTION SPECIFICATIONS

½" BSP female - Not USA / Canada
½" NPT female - USA / Canada only

ELECTRICAL SUPPLY SPECIFICATION OPTIONS

110-120 V AC, 60 Hz, 2.0 A, 1 Phase
220-240 V AC, 50 Hz, 0.7 A, 1 Phase
230-240 V AC, 50 Hz, 0.55A, 1 Phase
220-240 V AC, 60 Hz, 0.7 A, 1 Phase

ELECTRICAL PLUG SPECIFICATION REQUIREMENTS

Australia	AS 2124, 10 Amp, 3 pin
Canada	NEMA 5-15, 15 Amp, 3 pin
New Zealand	AS 2124, 10 Amp, 3 pin
United Kingdom	BS 1363A 13A fused, 3 pin
United States	NEMA 5-15, 15 Amp, 3 pin
Other Countries	Type to meet country standards

BURNER INJECTOR ORIFICE SIZE

LPG/Prop/Butane	1.70 mm / No 51 drill size
Propane (G31)	1.55 mm (UK only)
Natural	2.70 mm / No 36 drill size
Natural (G20)	2.60 mm (UK only)

WATER SUPPLY CONNECTION

Max Pressure 550 kPa / 5.5 bar / 80 psi
Min Pressure 100 kPa / 1.0 bar / 15 psi

AUTOMATIC IGNITION CONTROL

110 Volt Models (24 Volt ignition system)

2 re-ignition attempts after burner ignition failure. 30 second purge time between ignition attempts. Lock-out condition after 3 ignition failures.

2 re-ignition attempts in the event of flame loss during burner operation. 30 second purge time between ignition attempts. Lock-out condition after 2 re-ignition attempt failures.

220-240 Volt Models*

Lock-out condition after burner ignition failure. No re-ignition attempt.

1 re-ignition attempt in the event of flame loss during burner operation. Lock-out condition if re-ignition failure.

* Specifications apply to units from serial number 203927.

NOTE: Refer to Appendix B for further ignition control specifications.

2. INSTALLATION

 **WARNING: THIS APPLIANCE MUST BE GROUNDED.**

 **WARNING: ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.**

This appliance must be installed in accordance with national installation codes and in accordance with relevant national / local codes covering gas, fire, and health.

UNITED KINGDOM -Gas Safety (Installation & Use) Regulations 1984 (Amendment 1990).

AUSTRALIA - AG601 – 1992, Gas Installation Code.

NEW ZEALAND – NZS5261, Installation of Burning Appliances and Equipment.

UNITED STATES – ANSI Z23.1 (Latest edition) National Gas Fuel Code

CANADA – CANI-B149, Installation Codes for Gas Burnings Appliances and Equipment

Installations must be carried out by authorised persons only. Failure to install equipment to relevant codes and manufacturers specifications in this section will void warranty.

The oven and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 3.45 kPa / 34.5 bar / 0.5 psi.

This oven must be electrically grounded in accordance with local codes.

BEFORE CONNECTION TO POWER AND GAS SUPPLY

Unpack and check unit for damage and report any damage to the carrier and dealer. Report any deficiencies to your dealer. Fit the feet which are packed inside the oven. Fit door handle to oven door. Check that the available power supply is correct to that shown on the rating plate located on the right-hand side panel.

110-120 V AC, 60 Hz, 2.0 A, 1 Phase
220-240 V AC, 50 Hz, 0.7 A, 1 Phase
230-240 V AC, 50 Hz, 0.55 A, 1 Phase
220-240 V AC, 60 Hz, 0.7 A, 1 Phase

LOCATION

This oven must be installed in an area of adequate air supply. The following minimum clearances for air openings, servicing, operation and installation are to be adhered to:

Top	200mm / 8"
Rear	75mm / 3"
Left-hand side	75mm / 3"
Right-hand side	75mm / 3"

A minimum of 200mm or 8" clearance above the appliance to any shelves or ceilings. For installation on combustible floors use four x 5" (127mm) high adjustable feet.

Position the oven in its allocated working position. Use a spirit level to ensure the oven is level from side to side and front to back. (If this is not carried out, uneven cooking could occur). The feet/legs used with bench or floor mounting or provided with stands are adjustable and will require adjusting in levelling the unit. It should be positioned so the operating panel and oven shelves are easily reachable for loading and unloading.

 **IMPORTANT: THE OVEN VENT LOCATED ON THE CABINET TOP MUST NEVER BE OBSTRUCTED.**

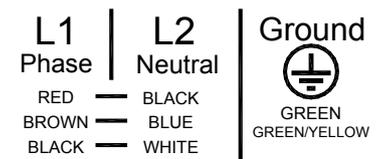
BEFORE USE

Operate the oven for about 1 hour at 200°C (400°F) to remove any fumes or odours which may be present.

ELECTRICAL CONNECTION

G32 convection ovens are supplied with pre-fitted cords. Ensure unit is fitted with the correct cord and plug for the installation (refer specifications section).

Should changing of the cord be necessary, gain access to the electrical connection terminal block and strain relief by removing the rear access panel (four screws).



WARNING: THIS APPLIANCE MUST BE GROUNDED / EARTHED

Figure 2.1

GAS CONNECTION

A 1/2" BSP female elbow is provided for at the bottom of oven rear.

USA/Canada models have a 1/2" NPT female connection.

A restraint chain anchor has been provided above the gas connection point for fitment of a restraint chain when a flexible gas line is fitted.

It is important that adequately sized piping run directly to the connection joint on the oven with as few tees and elbows as possible to give maximum supply volume.

A suitable jointing compound which resists breakdown action of LPG must be used on every gas connection.

Check all connections for leakages.

Check appliance rating plate for correct orifice size and operating pressure for the gas being installed before operation.

The appliance combination gas valve is fitted with an internal regulator for adjusting the operating pressure.

To access, remove appropriately marked side service panel from bottom right side of oven. Unscrew and remove regulator cap from gas valve. Fit pressure gauge to pressure test point (located at bottom right side of oven, behind service panel). Turn on main burner, and adjust regulator to achieve stated pressure **whilst burner is running**. Turning the screw clockwise increases the pressure, whilst turning counter-clockwise decreases the pressure.

! IMPORTANT: ENSURE MANUAL ISOLATING VALVE LOCATED ON RIGHT HAND SIDE OF OVEN BEHIND GAS CONTROL SERVICE PANEL IS OPENED FOR OPERATION.

On initial start-up of unit check burner colour. Burner should be bright orange after 1 minutes operation.

A draft flame plume of approximately 75mm (3 inches) of blue/orange colour is normal.

WATER CONNECTION

A cold water supply should be fitted to the water inlet (3/4" BSP hose connection) which is located on the rear of the right hand side of the unit.

Alternately, a connection elbow and sealing washer is supplied with this unit for direct connection of a 1/2" ID hose, and is recommended for easy installation and service.

Connect water supply - Max inlet pressure 80psi / 550kPa.

Turn on water supply to check for leaks.

! IMPORTANT: MAXIMUM INLET WATER PRESSURE IS 550 kPa / 80 psi.

DOOR HANDLE INSTALLATION

1. Open oven door.
2. Remove two screws (item 2).
3. Remove the two screws (item 3) from the handle (item 1).
4. Install the handle bracket through the slot on the door side.
5. Screw in the two screws (item 2) fully, then fully screw in the previous two screws (item 3). Ensure that they are tight.

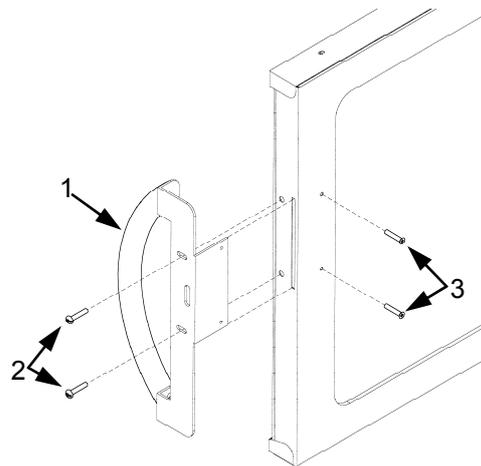


Figure 2.2

OVEN RACKS

The oven is supplied with four general purpose oven racks. These racks incorporate two important safety features:

1. **Self Supporting:** When fitted, the oven racks are self supporting and will not drop or angle down when the racks are withdrawn during operation, when loading and unloading products on racks or when attending to the product being cooked during its cook cycle.
2. **Auto Supporting:** The oven rack supports incorporate a special retaining tab which provides a positive stop to each oven rack and stops its inadvertent removal during normal operation.

To fit the oven racks ensure that the rack back stop is positioned at the rear of the oven and install by following the steps shown in figure 2.3.

To remove oven racks reverse the procedure.

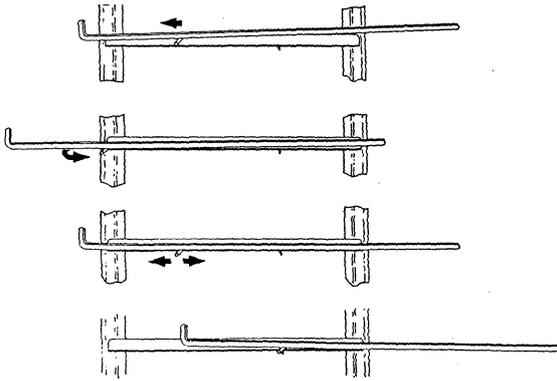


Figure 2.3

DOUBLE STACKING UNITS

When it is desired to mount a G32 Turbofan oven on an E87 prover, a double stacking kit must be used. Available from your dealer or your Turbofan distributor (see Accessories Section).

When mounting one oven on top of another (refer figure 2.4), a double stacking kit is also required.

WARNING: THE ELECTRICAL SUPPLY MUST BE DISCONNECTED BEFORE UNITS ARE STACKED.

Assembly Steps:

Bottom Unit

1. Fully wind out the adjustable legs on the

bottom so there is 6" (150mm) clearance from the floor to the oven's base.

2. Unscrew vent hood plate from bottom oven. Remove and discard hood plate and spacer tubes. Replace vent hood screws and screw in completely to secure wrapper to vent tube.
3. Position shroud back on top of bottom unit so that it is positioned correctly over oven back. Position flue duct on bottom unit so that it is positioned centrally in shroud back flue cut-out and is flush with oven back. Check that the oven vent is covered and mark the six hole positions (3 down each side of the flue duct) on the oven wrapper.
4. Drill six \varnothing 3.5mm holes in the oven wrapper where marked.
5. Screw the flue duct to the wrapper with six $\frac{3}{8}$ " x 8 Phillips screws into these holes.

Top Unit

1. Tip oven onto its back and remove the 1" or 4" feet screwed into the base.
2. Assemble the four sides of the shroud (shroud front, shroud back, shroud sides (x2)) with the $\frac{3}{16}$ " screws as shown. Do not tighten the screws until the ovens are stacked.
3. Screw the shroud assembly to the base of the oven using the $\frac{3}{8}$ " screws and washers so that all faces of the shroud are flush with the sides of the oven base. Be sure to have the large flange of the shroud back at the rear of the oven.

Stacking the Ovens

1. Remove the outside two screws along the top rear of the bottom oven.
2. With two or three persons, lift the top oven onto the bottom oven and position so that the down folds on the shroud sides and back all butt hard up around the back and sides of the oven wrapper.
3. Secure top unit into position by replacing the two outside screws of the four previously removed.
4. Position the chimney on the rear of the units. Mark the four hole positions (two on the top unit/ two on the bottom unit.)
5. Drill the four \varnothing 3.5mm holes.

-
6. Screw the chimney to the rear of the top unit with these so that the bottom of the chimney mates up with the flue duct of the bottom unit. Screw together with four remaining $\frac{3}{8}$ " x 8 Phillips screws supplied.



Figure 2.4

Units manufactured up to July 2002.

The rating plate for the G32 convection oven is located at the bottom right corner of the RH side panel.



Figure 2.6

RATING PLATE LOCATION

Units manufactured from July 2002.

The rating plate for the G32 convection oven is located at the RH side front bottom corner.

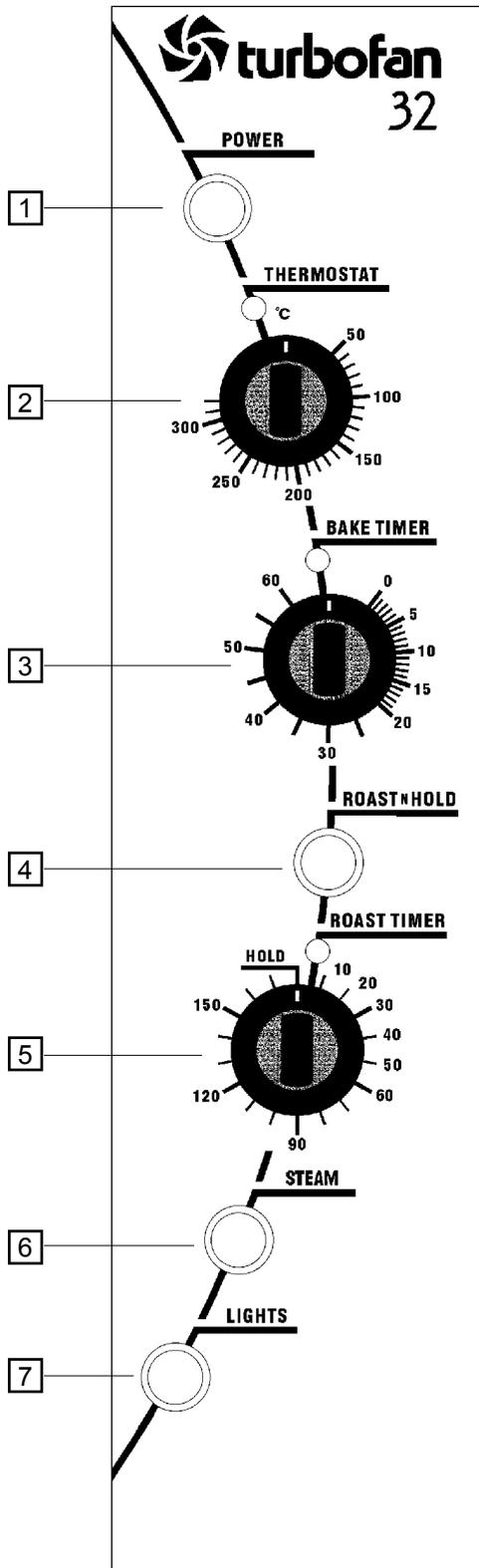


Figure 2.5

3. OPERATION

NOTE: A full user's operation manual is supplied with the product and can be used for further referencing of installation, operation and service.

3.1 DESCRIPTION OF CONTROLS



1. POWER

Depress to switch power on or off (switch illuminates when power is on).

2. THERMOSTAT

Temperature range 50 - 320°C (150 - 600°F). Indicator illuminates when burner is cycling ON to maintain set temperature.

3. BAKE TIMER

1 Hour bake timer. (Indicator illuminates when "time up" (0) reached, and buzzer sounds).

4. ROAST N HOLD

Depress switch to activate 'ROAST N HOLD' function (Switch illuminates when ON).

5. ROAST TIMER

3 Hour roast timer. (Indicator illuminates when "time up" (0) reached, and product held at 75°C (167°F)).

6. STEAM SWITCH

Push switch to activate water injection (Water injects into oven while the button is depressed).

7. LIGHT SWITCH

Push switch to activate lights. (Lights illuminate while button depressed).

3.2 EXPLANATION OF CONTROL SYSTEM

The G32 Turbofan convection oven features multi-function operator controls for which a correct understanding of their operation is required before carrying out any service or fault repair work. The control device functions are explained as follows:

A power switch on the control panel isolates all to the controls of the oven. With the power switch Off all functions of the oven are inoperable.

With the power switch On (illuminated) power is directly supplied to the 60 minute bake timer, steam (water injection) switch, door microswitch, light switch, and the temperature control circuit. The oven circulation fan will operate only when the thermostat is turned on, although will continuously run when the thermostat cycles on/off to maintain oven set temperature. The control panel light switch will turn the oven lights on when the door is closed only when the light switch is held in. The oven lights will come on automatically when the door is open, as this is controlled by the door microswitch.

The 60 minute timer is a mechanical timer and can therefore be operated with the oven's power switch On or Off. However, only with the oven's power switch On will the switch contacts of the 60 minute timer turn on the time-up buzzer and illuminate the time-up indicator on the control panel. The buzzer and time-up indicator provide indication that the time setting has run down to zero and at this point will remain On continuously until the 60 minute timer has been manually set back to the Off (vertical) position. The 60 minute timer does not control any other part of the oven's operating system as this timer is independent of the temperature control and heating system.

The steam (water injection) switch on the control panel can be operated whenever the power switch is On. The switch is momentary like the light switch and when depressed, will operate the electric solenoid valve at the rear of the oven and inject water across the oven fan from the flat spray (vertical) nozzle positioned at the rear of the oven. Releasing the steam button will close the solenoid valve. This feature is used to instantaneously add steam into the oven.

The temperature control of this oven is with a capillary type thermostat which can be set to a required cooking temperature.

The thermostat switch has a separate switch body assembled onto the front from the shaft assembly and when the thermostat is set to a cooking temperature, the switch contacts turn on the oven fan. The switch is closed (fan on) whenever the thermostat is not in the Off (vertical) position. The control panel indicator light above the thermostat knob cycles On and Off with the thermostat to indicate when the gas burners are on and the oven is heating.

The G32 Turbofan oven has a infrared surface combustion burner fitted in a burner box underside the oven. The burner box is directly ducted into the oven chamber through a flue duct connecting to an opening behind the oven circulation fan. The fan draws the burner box heated air and products of combustion directly into the oven chamber (directly fired system) to maximise performance. A flue exit in the top of the oven chamber provides final flueing of the combustion products out of the oven.

The burner being of an infrared type is provided with primary combustion air at the injector orifice intake at the front of the burner, and draws in the primary air through the venturi effect of the burner mixer tube elbow. Additional secondary air is provided in the burner box via an air intake on the underside of the burner box that is intake ducted to the air openings on the right hand side of the G32 base assembly. The addition of the secondary air allows for complete combustion of the gas due to the infrared burner being under the draft conditions of the oven fan extraction on the burner box. Accordingly, the infrared burner will display conventional surface combustion infrared combustion characteristics as well as having a flame plume drafted toward the right hand side of the oven (toward the burner box flue duct) when viewed from the front of the oven, after removal of the front service panel.

The burner is automatically controlled by the main oven thermostat or hold thermostat, via an automatic ignition and valve control device, which operates a gas solenoid valve to provide gas to the burner as required to maintain the set thermostat temperature.

NOTE: On 110 volt models the ignition

control and gas control valve operate on 24 volts AC through a 110 volt - 24 volt transformer. For these models the thermostat powers the transformer, whereas on 220-240 volt models the thermostat powers the ignition control directly.

On the thermostat calling for heat, the thermostat will switch power to the ignition control. The ignition control will then power the gas control valve to open the solenoids and provide gas to the burner. At the same time the ignition control will generate a high voltage ignition spark sequence conveyed to the ignition electrodes mounted at the front of the burner and oven through a high tension ignition cable. The spark and earth ignition electrodes will spark across the end gap between these two to ignite the burner.

On successful ignition of the burner the third electrode, being a flame rectification rod, will be in the burner flame. This provides the ignition control with confirmation that the burner is lit by establishing a micro-amp current from the electrode to earth through the flame due to combustion flames being ionised and therefore able to conduct minute electrical currents. The flame electrode is connected to the ignition control with an insulated wire conductor.

If this ignition sequence occurs correctly the spark sequence will be stopped and the burner will continue to operate until the thermostat switches off and shuts down the ignition control and consequently closes the gas solenoid valve.

Should the ignition control not sense the burner flame within a fixed ignition / spark sequence period, the ignition control will lock-out and turn off the gas solenoid valve on 220-240 volt models. Lock-out condition requires the oven thermostat to be switched off before operation can be restarted. On 110 volt models only, an unsuccessful ignition attempt will be followed by a 30 second purge with the gas control valve shut, then re-attempt ignition automatically. 2 re-ignition retries will be attempted. If unsuccessful the ignition control will then lock-out and shut the gas valve off.

If the ignition control loses the burner flame during an on period, a re-ignition attempt will be started automatically. If this is unsuccessful the ignition will go to lock-out mode.

NOTE: Different voltage and market models

have different ignition sequence and re-ignition specifications. Refer to appendix B for specific model details.

The gas solenoid valve also includes the gas regulator and on installation is adjusted to achieve correct burner gas operating pressure.

The G32 Turbofan convection oven features a Roast-and-Hold system which can be used to automatically set the oven to a fixed holding temperature at the end of a timed cooking period. When the Roast-and-Hold switch is turned On the switch will illuminate and switch on a relay found inside the control panel, at the base of the control housing next to the door microswitch. When the relay is switched ON a normally closed switch pole on the relay is opened and the normal power supply to the oven thermostat is isolated. A second normally open switch pole is closed and this provides power to the 3 hour roast timer.

If the roast timer is in the Hold (vertical) position the timer switch contacts will be in their normally closed position and supply power directly to the Hold thermostat located behind the control panel. The Hold thermostat is factory set to 75°C (167°F) and will supply power to the ignition and gas burner as required to maintain its preset temperature.

The thermostat heating light will also cycle On/Off as the Hold thermostat maintains temperature.

In the Roast-and Hold mode the 3 hour timer can be set to a selected roasting time. During this time period the normally open switch contacts of the timer are closed. The timer has two change over switches and in this position one is used to supply power to its timing motor and the other is used to switch power directly to the main oven thermostat. During the 3 hour timer run-down period the oven temperature will be controlled by the main oven thermostat to the set temperature and operate as previously described.

When the 3 hour timer has run down and reached the Hold position the two switch contacts change over to their normally closed position which isolates power from the timer motor and the oven thermostat. It also switches power back to the oven hold thermostat. At this point the temperature control is now maintained by the hold thermostat as previously described. To

cancel the hold circuit the Roast-and-Hold switch is turned Off. This turns off the relay which removes power from the 3 hour timer and closes the pole on the relay that feeds the main oven thermostat. The Hold indicator light above the 3 Hour timer will illuminate whenever the oven is operating in hold mode (Roast 'n Hold selected, and 3 Hour timer at zero position).

The factory preset hold thermostat can be adjusted as required to change the holding temperature if necessary. Refer Service section for this procedure.

The Troubleshooting Guide (Section 5) should be used to identify any incorrect oven operation. On correct identification of the operating fault the Troubleshooting Guide will make reference to the corrective action required, or refer to the Fault Diagnosis section and/or Service section to assist in correction of the fault.

4. MAINTENANCE



WARNING: ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.

4.1 CLEANING



WARNING: ALWAYS TURN THE POWER SUPPLY OFF BEFORE CLEANING.



IMPORTANT: THIS UNIT IS NOT WATER PROOF. DO NOT USE A WATER JET SPRAY TO CLEAN INTERIOR OR EXTERIOR OF THIS UNIT.

EXTERIOR

Clean with a good quality stainless steel cleaning compound. Harsh abrasive cleaners may damage the surface.

Do not use oven cleaners or caustic solutions to clean the control panel as these cleaners will damage plastic components.

INTERIOR

Ensure that the oven chamber is cool. Do not use wire brushes, steel wool or other abrasive materials. Clean the oven regularly with a good quality oven cleaner. Take care not to damage the fan or the tube at the right side of the oven which controls the thermostat.

OVEN RACKS

To remove, slide out to the stop position, raise the front edge up, and lift out.

SIDE RACKS

To remove, lift front top to disengage and slide rack forward. To replace, slide top rear slot in rack onto rear stud, then engage front keyhole on front stud.

OVEN BASE TRAY

Remove when cleaning oven, and to allow easier cleaning of enamelled base tray. Ensure tray is refitted before use.

LAMP GLASS

To remove glasses, unscrew anti-clockwise. To replace, screw in clockwise.



IMPORTANT: DO NOT OVER TIGHTEN LAMP GLASS.

NEVER OPERATE OVEN WITH LAMP GLASSES REMOVED

OVEN SEALS

To remove, hold at their centre point and pull forward until they unclip. Remove side seals first, then top and bottom. The seals may be washed in the sink, but take care not to cut or damage them. To replace, ensure that the lip is facing the oven opening. Fit the top and bottom seals first, then the side seals.

OVEN DOOR GLASS

Clean with conventional glass cleaners.

4.2 ROUTINE PROCEDURES

	PROCEDURE	INTERVAL
DOOR SEALS	Check for deterioration.	12 months
DOOR PIVOT BUSHES	Check for wear.	12 months
DOOR CATCH	Ensure that catch is adjusted such that the door closes properly.	12 months
WATER NOZZLE	Check for liming in water nozzle.	12 months
HT LEAD / ELECTRODE	Check for deterioration.	12 months

5. TROUBLE SHOOTING

⚠ WARNING: ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.

FAULT	POSSIBLE CAUSE	REMEDY
THE OVEN DOES NOT OPERATE / START	<p>The mains isolating switch on the wall, circuit breaker or fuses are "off" at the power board.</p> <p>The power switch on the oven is off.</p> <p>Incorrect electrical supply. (Refer fault diagnosis 6.1.1)</p> <p>Overtemp tripped (UK only). (Refer fault diagnosis 6.1.1)</p> <p>Power switch on unit faulty. (Refer fault diagnosis 6.1.1)</p>	<p>Turn on.</p> <p>Depress switch. Switch will illuminate.</p> <p>Ensure electrical supply correct.</p> <p>Reset / replace overtemp. (Refer service section 6.3.16)</p> <p>Replace. (Refer service section 6.3.4)</p>
NO HEAT / BURNER NOT WORKING	<p>Gas supply not turned on.</p> <p>Manual isolating valve on unit closed.</p> <p>Incorrect gas pressure setting for burner</p> <p>Blocked injector.</p> <p>Burner ignition spark faulty. (Refer fault diagnosis 6.1.2)</p> <p>Burner flame not being sensed. (Refer fault diagnosis 6.1.2)</p> <p>Ignition transformer faulty - 110V models only (Refer fault diagnosis 6.1.2)</p> <p>Ignition / burner control box faulty. (Refer fault diagnosis 6.1.2)</p> <p>Gas valve faulty. (Refer fault diagnosis 6.1.2)</p> <p>No power to thermostat. (Refer fault diagnosis 6.1.2)</p> <p>Thermostat faulty. (Refer fault diagnosis 6.1.2)</p>	<p>Turn on gas supply</p> <p>Remove r/h service panel and turn on/open isolating valve.</p> <p>Set correct regulator pressure. (Refer section 2: Installation for correct setting procedure)</p> <p>Clean / replace. (Refer service section 6.3.21)</p> <p>(Refer fault diagnosis 6.1.2)</p> <p>(Refer fault diagnosis 6.1.2)</p> <p>Replace. (Refer service section 6.3.17)</p> <p>Replace. (Refer service section 6.3.18)</p> <p>Replace. (Refer service section 6.3.20)</p> <p>Identify fault and correct.</p> <p>Replace. (Refer service section 6.3.9)</p>

FAULT	POSSIBLE CAUSE	REMEDY
<p>BURNER INCORRECT COLOUR (Refer installation section—Gas Connection and Adjustment for correct colour)</p>	<p>Incorrect gas type.</p> <p>Incorrect burner orifice size fitted.</p> <p>Incorrect burner pressure setting.</p> <p>Obstructed burner injector.</p> <p>Burner obstructed.</p> <p>Oven flue obstructed.</p> <p>Oven fan obstructed.</p> <p>Injector out of alignment.</p>	<p>Check appliance gas type. (Refer installation section)</p> <p>Ensure orifice is correct. (Refer specification section)</p> <p>Check gas pressure. (Refer installation section— Gas Connection and Adjustment)</p> <p>Check injector. (Refer service section 6.3.21)</p> <p>Remove burner and inspect for obstructions. (Refer service section 6.3.22)</p> <p>Check for obstructions.</p> <p>Check for obstructions.</p> <p>Check injector alignment. (Refer service section 6.4.9)</p>
<p>BURNER NOISY (BURNER BLOWBACK / BURNER BACKFIRE)</p>	<p>Oven not installed with correct legs / feet fitted. (Not applicable to units on stands)</p> <p>Installation clearances not correct.</p> <p>Gas leak.</p> <p>Flue obstruction.</p> <p>Oven fan not operating. (Refer Fault: Fan doesn't operate)</p> <p>Burner obstruction.</p> <p>Burner faulty. (Refer fault diagnosis 6.1.3)</p>	<p>Fit correct legs/feet (Refer installation section)</p> <p>Ensure correct installation clearances. (Refer installation section)</p> <p>Leak test and repair.</p> <p>Ensure oven flue/vent on top of oven is not obstructed.</p> <p>Ensure oven flue/vent not blocked on inside of oven.</p> <p>Remove burner and inspect for obstruction. (Refer service section 6.3.22)</p> <p>Replace. (Refer service section 6.3.22)</p>

FAULT	POSSIBLE CAUSE	REMEDY
FAN DOESN'T OPERATE	Thermostat not on. <i>(Fan only operates when the thermostat is on).</i> Thermostat fan switch faulty. (Refer fault diagnosis 6.1.4) Fan motor faulty. (Refer fault diagnosis 6.1.4) Wiring.	Turn thermostat on. Replace thermostat. (Refer service section 6.3.9) Replace. (Refer service section 6.3.15) Check and tighten any loose wiring.
OVEN LIGHT NOT ILLUMINATING - DOOR OPEN (AUTOMATICALLY ON) OVEN LIGHT NOT ILLUMINATING - DOOR CLOSED (MANUALLY SWITCHED ON)	Blown bulb. No power to light. (Refer fault diagnosis 6.1.5) Blown bulb. Light switch faulty. (Refer fault diagnosis 6.1.6)	Replace. (Refer service section 6.3.1) Correct fault. Replace. (Refer service section 6.3.1) Replace. (Refer service section 6.3.4)
NO WATER INJECTION / STEAM	Water not turned on. Oven water nozzle blocked. Fault with water valve. (Refer fault diagnosis 6.1.7) Steam switch faulty. (Refer fault diagnosis 6.1.7)	Turn water on at water supply. Remove, clean or replace. (Refer service section 6.3.13) Service or replace as required. (Refer service section 6.3.11, 6.3.12) Replace. (Refer service section 6.3.4)
CONTINUOUS WATER OUT OF OVEN WATER NOZZLE	With oven on only—Electrical fault. (Refer fault diagnosis 6.1.8) With oven on or off—Fault with water valve. (Refer fault diagnosis 6.1.7)	Correct electrical fault. Service or replace as required. (Refer service section 6.3.11, 6.3.12)
60 MINUTE TIMER WILL NOT TIME DOWN 60 MINUTE TIMER INACCURATE BELOW 20 MINUTES 60 MINUTE TIMER NO TIME UP BUZZER	Timer faulty. Timer not set correctly. Zero (time up) position not set correctly. Buzzer faulty. (Refer fault diagnosis 6.1.9)	Replace. (Refer service section 6.3.7) For timer settings below 20 minutes, always rotate past 20 minutes, then back to desired time. (Refer service section 6.4.8) Replace. (Refer service section 6.3.5)

FAULT	POSSIBLE CAUSE	REMEDY
60 MINUTE TIMER NO TIME UP INDICATOR	Timer not switching on buzzer. (Refer fault diagnosis 6.1.9)	Replace. (Refer service section 6.3.7)
	Indicator faulty. (Refer fault diagnosis 6.1.10)	Replace. (Refer service section 6.3.3)
NO TEMPERATURE CONTROL (TEMPERATURE OVERRUN)	Thermostat faulty. (Refer fault diagnosis 6.1.11)	Replace. (Refer service section 6.3.9)
SLOW RECOVERY	Oven in 'Roast 'n Hold' mode.	Switch off 'Roast 'n Hold'.
	Overloading of oven.	Reduce oven loading.
	Fan not working.	Check fan operation.
	Thermostat out of calibration. (Refer fault diagnosis 6.1.12)	Correct calibration. (Refer service section 6.4.2)
	Low gas pressure.	Check and adjust. (Refer section 2: Installation for correct setting procedure)
	Blocked burner orifice.	Clean. (Refer service section 6.3.21)
NO THERMOSTAT HEATING INDICATOR	Incorrect gas type.	Check appliance gas type.
	Indicator faulty. (Refer fault diagnosis 6.1.13)	Replace. (Refer service section 6.3.3)
ROAST TIMER (180 MINUTE) WILL NOT TIME DOWN	Roast 'n' Hold switch not depressed.	Depress switch. Switch will illuminate.
	No power to timer / timer faulty. (Refer fault diagnosis 6.1.14)	Correct electrical fault / replace timer. (Refer service section 6.3.8)
	'Roast 'n Hold' switch faulty. (Refer fault diagnosis 6.1.14)	Replace. (Refer service section 6.3.4)
NO HOLD INDICATOR	Faulty indicator. (Refer fault diagnosis 6.1.15)	Replace. (Refer service section 6.3.3)
	Faulty timer. (Refer fault diagnosis 6.1.15)	Replace. (Refer service section 6.3.8)
HOLDING TEMPERATURE INCORRECT	Hold thermostat set temperature incorrect.	Adjust to correct temperature. (Refer service section 6.4.7)
	Hold thermostat faulty. (Refer fault diagnosis 6.1.16)	Replace. (Refer service section 6.3.10)

FAULT	POSSIBLE CAUSE	REMEDY
DOOR DOES NOT CLOSE	<p>Tray in way of door.</p> <p>Door seal obstruction.</p> <p>Door handle installed incorrectly.</p> <p>Door catch setting incorrect.</p> <p>Door pivot bushes / pins worn.</p>	<p>Correctly position tray in rack.</p> <p>Correctly install door seal. (Refer service section 6.3.25)</p> <p>Fit correctly. (Refer installation section)</p> <p>Adjust. (Refer service section 6.4.5)</p> <p>Replace. (Refer service section 6.3.26)</p>
DOOR SEAL LEAKS	<p>Door seal damaged.</p> <p>Door seal incorrectly fitted.</p> <p>Door catch setting incorrect.</p> <p>Door pivot bushes / pins worn.</p> <p>Door catch striker plate worn.</p>	<p>Replace. (Refer service section 6.3.25)</p> <p>Correctly install door seal. (Refer service section 6.3.25)</p> <p>Adjust. (Refer service section 6.4.5)</p> <p>Replace. (Refer service section 6.3.26)</p> <p>Replace. (Refer installation instructions—Door handle installation)</p>

6. SERVICE PROCEDURES

 **WARNING:** ENSURE POWER SUPPLY IS SWITCHED OFF BEFORE SERVICING.

 **WARNING:** ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.

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6.1 FAULT DIAGNOSIS

6.1.1 OVEN DOES NOT OPERATE / START

Incorrect electrical supply

Check that the voltage across phase and neutral (L1 and L2) terminals of terminal block is the voltage as stated on the unit's electrical rating plate.

If incorrect, check electrical connection of supply wiring and / or check electrical supply.

Overtemp tripped (UK units only)

Open the control panel. Check for power at terminal 1 of power switch. If power at terminal 1 then overtemp is ok, refer "power switch faulty" (below).

 **WARNING: OVERTEMP BUTTON IS LIVE. ISOLATE UNIT FROM POWER SUPPLY BEFORE RESETTING.**

If no power to terminal 1, inspect overtemp reset button (at rear of control cavity). If the overtemp has tripped then the reset button will have popped out, and will click when depressed. If the overtemp resets then a fault exists with the temperature control of the oven (check calibration, refer 6.4.2, or overtemp calibration is faulty, refer 6.4.3).

If the overtemp button cannot be reset, and the oven temperature is below 300°C (- overtemp will not reset above 300°C), then the overtemp is faulty - replace.

Power switch faulty

Check if power switch latches. If the switch does not latch, then switch is faulty—replace.

With switch latched, check voltage across terminal one to terminal three or four. If there is no voltage, check for fault in wiring.

Check voltage across terminal two to terminal three or four. If there is no voltage, then switch is faulty—replace.

NOTE: When power switch is latched, it should illuminate if it is operating correctly.

6.1.2 NO HEAT/BURNER NOT WORKING

Burner ignition spark not working

A faulty spark system is one that does not light the burner at all. If the burner is being lit temporarily, but fails to stay alight, then the

problem is in the flame sensing, not spark ignition. Refer "Burner flame not being sensed" (following).

Firstly determine if spark is being generated. Remove the front service panel and turn the thermostat on to initiate a heating cycle. Look through the round viewing holes next to the electrode assembly, and look for spark generation at the end of the electrodes. If spark is heard but not visible, **turn off/isolate gas supply**, and remove electrode assembly.

With gas supply off, turn thermostat back on again with electrode assembly suspended in air. A correctly functioning ignition system should show sparking visible across spark and earth rod ends. If spark is not seen at electrode ends, or sparking is erratic, this indicates that there is a high voltage short/breakdown between the ignition box and the electrode ends.

Possible causes to investigate are as follows, inspect and correct as necessary:

- Spark gap too large (see the following section).
- Cracked spark rod ceramic, or carbon build-up.
- HT leads to spark electrode and earth broken/deteriorated.
- HT leads between ignition electrodes and ignition control box broken/deteriorated.
- No spark from ignition box, refer ignition box faulty.

Spark gap setting

With spark electrode assembly removed, inspect spark rod and earth electrode settings, and spark gap settings - refer section 11.3 (select appropriate assembly type).

NOTE: Use drill bits to gauge spark gap settings

With spark system correctly checked, re-install into burner box and re-check operation.

If fault persists it is possible that the electrodes are out of position in relation to the burner flame. Adjustment may be necessary to set the electrode gap to the correct position (refer to following diagram).

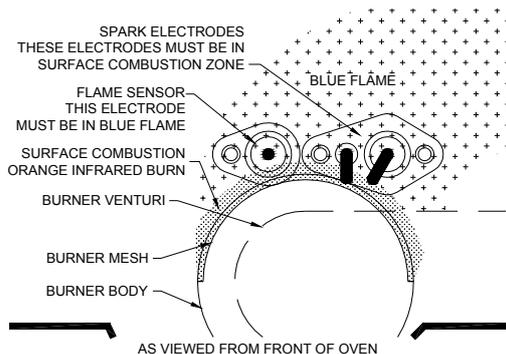


Figure 6.1.1

Burner flame not being sensed

Firstly check phase and neutral at supply for correct polarisation, as shown on terminal block label. If incorrect burner will light but flame sensor will not sense the flame.

The flame sensing electrode requires correct positioning in the burner flame. Incorrect gas pressures, types, injector sizes, etc will affect correct operation of flame sensing system. Ensure that these are checked and correct before carrying out further investigation. Also, an incorrectly earthed/grounded appliance will cause faults with the flame sensing system. Always ensure a correct earth/ground connection on the appliance connection and supply.

If the flame rod is touching the burner mesh then there is a short circuit to earth, and this will cause the ignition control to not sense the flame correctly. As the relationship of the flame rod to the burner mesh cannot normally be seen, this fault would normally be indicated by a burner that fails to stay alight during operation, or during an ignition attempt the sparking continues after the burner is lit. The flame rod can be adjusted to be clear of the burner, as per the previous diagram (figure 6.1.1) and section 11.3.

Always inspect the connection lead from the flame rod to the ignition box for deterioration, bad connections, or insulation breakdown.

Ignition transformer faulty - 110V models only

It is important to verify correct 110Vac - 24Vac transformer operation before checking these 24Vac Ignition Control Boxes.

With control panel open check transformer primary and secondary voltages are correct.

Transformer Primary Winding - 110-120Vac

Lead colours White - L1 (Phase)
 Black - L2 (Neutral)

Check voltage at transformer terminal block

(pre serial number 203927) or at black and white lead connections on control panel. Voltage should be 110-120Vac. If not, check for wiring or power supply fault.

Transformer Secondary Winding - 24Vac

Lead colours - yellow and blue

Check voltage at transformer terminal block (pre serial number 203927) or at yellow and blue lead connections on ignition control box. With thermostat on (calling for heat) voltage should be 24Vac \pm 4Vac across yellow and blue leads. If not, check transformer thermal breaker on rear of transformer for trip. If tripped, reset and recheck operation.

If the transformer cannot be reset, or if transformer has not tripped out, but secondary output voltage is incorrect, then transformer is faulty - replace.

Ignition box faulty - 110V models only

The direct spark ignition control boxes used on 110V models G32's are 24Vac type.

To check correct operation open control panel. With power on, turn thermostat on so heating indicator on control panel illuminates (calling for heat).

Correct ignition box operation should result in ignition box commencing spark at ignition electrodes and opening gas valve to ignite burner, then maintain burner ON after successful ignition.

If no spark is generated or heard, check that ignition box has correct supply voltage. For units pre-serial number 203927 fitted with White Rodgers controls, check voltage across terminals 'COMM' (black wire) and 'TH' (red wire).

For units after serial number 203927 fitted with Fenwal ignition controls check voltage across terminal 'GND' (black/green wire) and 'TH' (blue wire).

On both types 24Vac \pm 4Vac should be measured across these terminals with thermostat on and calling for heat. If not, check transformer (refer previous).

If voltage correct, but no spark generated, check ignition box Fault Diagnostic LED indicator status.

On Fenwal ignition boxes, the Diagnostic LED is at the rear of the ignition box and requires a mirror or reflective surface to be positioned at the rear of the control box to view.

On White Rodgers ignition boxes the Diagnostic LED is at the top of the ignition box inside the casing and is viewed through a

small hole on the front face of the ignition box at the top.

Inspect for Diagnostic Indicator as follows:

Fenwal Ignition Box

- 2 Flashes Indicates that there was a flame already present when ignition attempted.
Possible gas valve fault (burner staying on). Refer to fault diagnosis - Gas Valve Faulty.
- 3 Flashes Indicates LOCK-OUT condition.
Possible flame rectification rod short to earth. Refer to fault diagnosis 6.1.2 - Burner Flame Not Being Sensed.

White Rodgers Ignition Box

- Steady ON Indicates internal or external electrical fault.
Check all wiring.
- Flashing Indicates LOCKOUT condition.
Possible flame rectification rod short to earth. Refer to fault diagnosis 6.1.2 - Burner Flame Not Being Sensed.

If ignition box fault indicator LED does not identify fault, and voltage correct but no spark generated, ignition box is faulty - replace.

NOTE: Ensure all wiring and connections to ignition box are correct before replacing.

Ensure unit has Earth/Ground connection on unit and at supply.

If ignition box generates a spark, but burner doesn't ignite, or if burner ignites but doesn't stay alight, firstly check correct electrode assembly operation. Refer fault diagnosis 6.1.2 - Burner Ignition Spark Not Working.

If all checks are correct, but burner fails to stay alight then burner box is faulty - replace.

NOTE: Correct flame sensing current can be checked by inserting a multi-meter capable of measuring micro-amps in series with flame rectification rod connection to ignition box. With power off, disconnect flame rectification rod connection to ignition box (terminal 'S1' on Fenwal models, terminal 'FP' on White Rodgers models), and connect multimeter between flame rectification rod lead and ignition box terminal. Turn on power and

thermostat. With burner running a current of no less than that specified below should be read.

Fenwal Models 0.7 micro Amps

White Rodgers Models 1.0 micro Amps

If no current reading, or less than specified, re-check electrode settings, gas pressure, gas type etc, and if still not correct, ignition box requires replacement.

Ignition box faulty - 220-240 Volt models only

The direct spark ignition control boxes used on 220-240 volt model G32's are operated from direct voltage supply from the thermostat / hold thermostat circuit.

Correct ignition box operation should result in ignition box commencing spark at ignition electrodes and opening gas valve to ignite burner, then maintain burner on after successful ignition.

IMPORTANT: Certain models have a pre-purge period before the spark and gas valve opening commences. Refer appendix B.2 for pre-purge specifications according to ignition box type.

Where a pre-purge is applicable this will result in a 5 second delay on spark and gas valve opening from when thermostat or hold thermostat calls for heat.

NOTE: On UK market models prior to serial number 203927, the thermostat heating indicator light remains off during pre-purge.

If no spark generated or heard, check that ignition box has correct supply voltage (when thermostat in ON).

For UK market models prior to serial number 203927 using Teknigas ignition box, check correct supply voltage across ignition box terminals 1 (black neutral wire at bottom), and terminal 8 (red phase wire, 3rd from top), on connector block at front of ignition box.

For non-UK market models prior to serial number 203927, using Scarico / Ispracontrols ignition box, check correct supply voltage on ignition box wires connecting to terminal 1 of hold thermostat, and a control panel neutral wire. This confirms that the thermostat circuit is supplying the correct voltage to the ignition box connection wires. To confirm actual voltage to ignition box, the 6-way connector on the ignition box requires removal to check actual voltage in ends of 6 way connector for these two wires.

For all 220-240 volt models after serial

number 203926, using SIT ignition boxes, check correct supply voltage across terminal T10 (red phase wire), and terminal T12 (black neutral wire) on ignition box.

In all cases, the measured voltage should equal the supply voltage, ie 220-240 volts. If not check wiring.

If voltage is ok, but no spark is generated, check that all wiring at ignition box has good connections.

Ensure that the ignition box has earth/ground connection, and that appliance has earth/ground at supply, and supply is earthed.

If all connections are ok, and no ignition sequence operating, then ignition box is faulty - replace.

If ignition box generates spark, but burner doesn't ignite, or if burner ignites but doesn't stay alight, firstly check correct electrode assembly operation. Refer fault diagnosis 6.1.2 - Burner Ignition Spark Not Working.

If all checks are correct, but burner fails to stay alight then ignition box is faulty - replace.

NOTE: Correct flame sensing current can be checked by inserting a multi-meter capable of measuring micro-amps in series with flame rectification rod connection to ignition box. With power off, disconnect flame rectification rod connection to ignition box and connect multimeter between flame rectification rod lead and ignition box terminal. Turn on power and thermostat. With burner running a current of no less than that specified below should be read.

All Models 1.0 micro Amps

If no current reading, or less than specified, re-check electrode settings, gas pressure, gas type etc, and if still not correct, ignition box requires replacement.

Gas valve faulty

The gas valve performs two functions:

- Providing regulation of gas pressure for the burner,
- Opening and closing gas supply to the main burner.

In all cases it must first be established that the gas supply is on, that the manual isolating valve in line with the gas valve on the appliance is open, and that the supply pressure is equal to or greater than the required burner operating pressure (refer specification section).

To determine if valve solenoids are operating correctly, attach a pressure gauge to the burner pressure test point after the gas valve, and turn thermostat on. Check gas pressure. If pressure is not correct for the appliance specifications, remove the regulator cap on the gas valve, and adjust the regulator spring to increase or decrease the pressure. If the pressure is unable to be adjusted, remove regulator spring and check for correct type:

LPG/Propane Blue spring
Natural Gas Green spring

If the regulator spring and supply pressure are correct, but the burner pressure is still incorrect, check the gas valve solenoid operation. With thermostat turned on check voltage at connections to the gas valve.

110 volt models should have 24 volt ac supply on both coils.

220-240 volt models should have 220-240 volts.

If voltage is correct when thermostat is on, and gas valve is not opening then the valve is faulty - replace. If voltage is incorrect, check wiring and connections to ignition box and refer to ignition box fault diagnosis.

No power to thermostat

Check voltage to terminal 2 on oven thermostat. If there is no voltage then check voltage through terminal 5 and one on hold relay (behind control panel). If there is no voltage to terminal 5 then check wiring. If there is no voltage to terminal 1 then check that the hold relay (fig 6.1.2) has no power at relay coil terminal 7. If relay coil is not energised (ie no power at 7) and no power out of terminal 1, then the relay is faulty—replace.

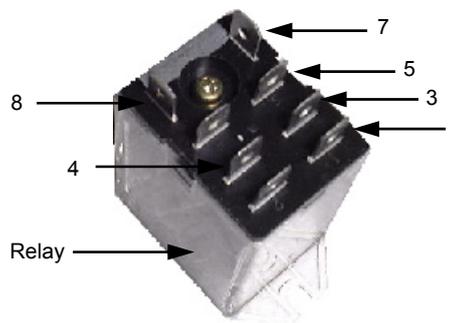


Figure 6.1.2

If relay is energised (ie power at 7) then 'Roast n Hold' switch is on and unit is in hold mode. Turn off 'Roast n Hold' and recheck operation.

NOTE: There should be no voltage across

these terminals when 'Roast 'n Hold' is not selected.

Thermostat faulty

Set thermostat to 200°C or 400°F. Check the voltage out of terminal 1 on the thermostat. If there is no voltage then the thermostat is faulty—replace.

If the voltage is correct and the heating light is on then check all wiring to heating contactor.

6.1.3 BURNER NOISY

Burner faulty

With burner removed (refer 6.3.22), inspect burner for leak holes in construction and deterioration in mesh surfaces. Tears or corrosion holes in mesh will be evidence of faulty burner condition. Replace burner if faulty.

NOTE: Minor mesh surface buckling is normal, and will not necessitate burner replacement.

6.1.4 FAN DOESN'T OPERATE

Fan motor faulty

Check the supply voltage across motor terminals. If there is no voltage then check the electrical connections of wiring.

If voltage is correct then check the oven fan for free rotation. Remove any obstruction.

If fan is free to spin and the voltage at motor terminals is correct, then the motor is faulty—replace.

Fan switch faulty

Check that the thermostat has power to terminal 5 on switch body on the front of the thermostat when power switch is ON. If no voltage check wiring, check that terminal P5 has power switched to it when the thermostat is turned on. If no power to P5 then switch is faulty and thermostat complete with switch needs to be replaced.

6.1.5 OVEN LIGHTS NOT ILLUMINATING—DOOR OPEN (AUTOMATICALLY ON)

No power to lights

Check the supply voltage across lamp housing terminals at RH side rear of oven. If the voltage is correct, replace the bulb (if faulty). If the bulb is OK, check lamp housing. Replace if faulty.

If there is no voltage, open oven door and manually depress door microswitch actuator at bottom right of oven. If this activates the lights, then the microswitch actuator arm behind the control panel requires adjustment.

Check voltage across micro-switch terminals to neutral.

With the door open there should be power to the com terminal and the n.c. terminal.

If not, microswitch is faulty—replace.

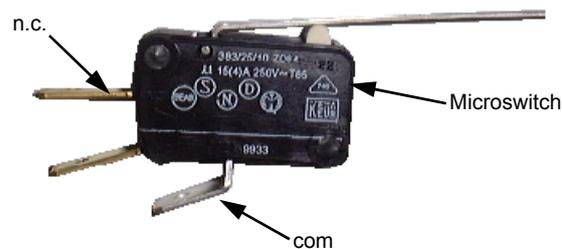


Figure 6.1.3

6.1.6 OVEN LIGHTS NOT ILLUMINATING—DOOR CLOSED (MANUALLY SWITCHED ON)

Light switch faulty

Check voltage to the bottom terminal of the switch. If there is no voltage, then check wiring.

With switch depressed, check voltage at top terminal. If there is no voltage, then replace the switch.

If voltage is correct, then check wiring to light.

NOTE: Alternately, perform a continuity test across the terminals with the light switch depressed.

6.1.7 NO WATER INJECTION / STEAM

Steam switch faulty

Check voltage to the bottom terminal of the switch. If there is no voltage, then check wiring.

With switch depressed, check voltage at top terminal. If there is no voltage, then replace the switch.

If voltage is correct, then check wiring to the solenoid.

NOTE: Alternately, perform a continuity test across the terminals with the steam switch depressed.

Fault with water valve

Check voltage supply across the water valve

solenoid coil with the steam switch depressed. If there is no power supply then check the control panel steam switch.

Check voltage to the bottom terminal of the switch. If there is no voltage, then check wiring.

With switch depressed, check for voltage at top terminal. If there is no voltage then replace switch. If voltage correct, check wiring to solenoid coil.

If power supply to the coil is correct, disconnect wiring to coil and check the resistance of the coil windings.

Correct coil resistance:

208 - 240V	3650 ohms
110V	1085 ohms

NOTE: If open circuit / high resistance, then the coil is faulty—replace.

If coil resistance is correct, rewire and listen for an audible solenoid click when the steam switch is depressed.

If solenoid can be heard functioning, and oven water nozzle is not blocked, then remove water solenoid and fittings and check for blockages.

6.1.8 CONTINUOUS WATER OUT OF OVEN WATER NOZZLE

Water solenoid electrical fault

With control panel steam switch not depressed, check for power supply across solenoid coil. If there is power to the coil, then check wiring and steam switch (refer 6.1.7).

6.1.9 60 MINUTE TIMER NO TIME UP BUZZER

Buzzer faulty

With timer in 'zero' position, check the buzzer at side of control panel (inside) for voltage across terminals. If voltage is correct then buzzer is faulty—replace.

If there is no voltage, then check wiring.

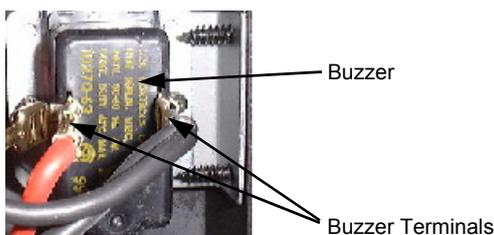


Figure 6.1.4

Timer not switching on buzzer

With timer in zero position, check voltage to top connection (terminal one) and bottom connection (terminal two) of timer. If there is no voltage at terminal one then check wiring.

If no voltage at terminal two then timer is faulty—replace.

NOTE: Timer will continue to run approximately three minutes below zero. Buzzer and time up indicator will continue until the timer is manually switched off (to vertical position).

6.1.10 60 MINUTE TIMER NO TIME UP INDICATOR

Indicator faulty

With the timer in the zero position, check for voltage across the indicator light. If correct, then the indicator light is faulty—replace.

If there is no voltage then check wiring.

6.1.11 NO TEMPERATURE CONTROL (TEMPERATURE OVERRUN)

Thermostat faulty

With thermostat in off (vertical) position, the heating indicator should be off. If not then the thermostat is faulty—replace.

6.1.12 SLOW RECOVERY

Thermostat out of calibration

Place an accurate digital thermometer probe in centre of oven. Set thermostat to 180°C or 355°F. Close the oven door and allow oven thermostat to cycle on and off twice. Record oven centre temperature for the next thermostat on and off cycle. The thermostat should cycle on and off between 165°C and 195°C or 330°F and 385°F when set to the above temperature. If oven temperature is outside these ranges, then the thermostat requires recalibration.

NOTE: Thermostat cycling span should be $\pm 15^{\circ}\text{C}$ or 27°F

6.1.13 NO THERMOSTAT HEATING INDICATOR

Indicator faulty

Check the voltage across the indicator terminals. If the voltage is correct then the indicator is faulty—replace.

If there is no voltage then check wiring.

6.1.14 ROAST TIMER (180 MINUTE) WILL NOT TIME DOWN

No power to timer

Check the voltage at terminal 5 on underside of the 180 minute timer.

Check that one lead of timer motor is connected to terminal five of timer and the other lead is connected to neutral of 'Roast 'n Hold' switch.

If voltage at terminal 5 is correct and wiring is correct then the timer motor is faulty—replace timer.

If there is no power at terminal 5, check for power supply at terminal 4 of timer. If there is voltage at terminal 4 and not at terminal 6 with timer set, then timer switch is faulty—replace timer.

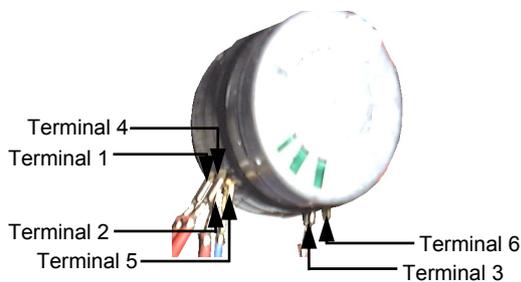


Figure 6.1.5

If terminal 4 voltage is correct, check relay at the base of the control housing behind control panel is latched ON. If relay is ON then check wiring.

If relay is not latched ON when 'Roast 'n Hold' switch illuminated then check the voltage across terminals 7 and 8 of relay coil (fig 6.1.3). If the voltage is correct but the relay is in the off position then the relay is faulty—replace.

If there is no voltage across 7 and 8 then check wiring.

'Roast 'n Hold' switch faulty

Check if the switch latches. If the switch does not latch then the switch is faulty—replace.

With the switch latched, check voltage across terminal 1 to terminal 3 or 4. If there is no voltage then check for fault in wiring.

Check voltage across terminal 2 to terminal 3 or 4. If there is no voltage then switch is faulty—replace.

NOTE: When the switch is latched, it should illuminate if operating correctly.

6.1.15 NO HOLD INDICATOR

Indicator faulty

Check the voltage across the indicator terminals. If the voltage is correct then the indicator is faulty—replace.

If there is no voltage then check wiring.

Timer faulty

NOTE: Timer in 'HOLD' position (vertical) and 'Roast n Hold' switch on (illuminated).

Check the voltage at terminal three of timer, with timer in hold position. If the voltage is correct then check wiring.

If there is no voltage then check voltage at terminal one of timer. If there is voltage at terminal one, but no voltage at terminal three with timer in hold position then timer switch is faulty—replace.

6.1.16 HOLDING TEMPERATURE INCORRECT

Hold thermostat faulty

With the power switch on and illuminated, 'Roast 'n Hold' switch on and illuminated, and the roast (180 minute) timer set to hold, check that the hold indicator is illuminated.

With hold thermostat adjusted above oven temperature, check for output voltage at terminal 2 of hold thermostat. If there is no voltage and the hold thermostat will not switch on then the thermostat is faulty—replace.

If the voltage is correct but the burner is not working then check wiring and ignition box.

6.2 ACCESS

6.2.1 CONTROL PANEL

- 1) Undo the two screws on top of control panel.



Figure 6.2.1

- 2) Panel is now free to hinge at bottom. When closing the panel ensure wires and capillary tube are clear of metal or other terminals.

6.2.2 SERVICE (SIDE) PANEL

- 1) Undo the two screws holding the panel.



Figure 6.2.2

- 2) Remove panel.

6.2.3 SERVICE (REAR) PANELS

- 1) Undo the six screws holding the panels.
- 2) Remove panels.

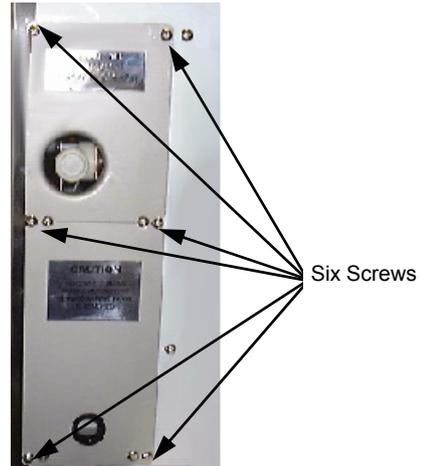
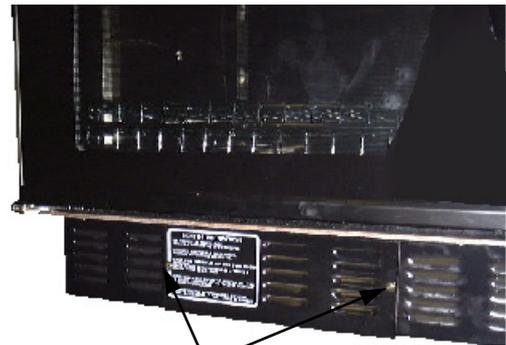


Figure 6.2.3

6.2.4 BURNER ACCESS PANEL

- 1) Undo two screws holding the panel.
- 2) Remove panel.



Two Screws

Figure 6.2.4

6.2.5 MANUAL ISOLATING VALVE / GAS CONTROL VALVE ACCESS PANEL

- 1) Undo two screws holding the panel.
- 2) Remove panel.



Two Screws

Figure 6.2.5

6.2.6 CONTROL PANEL—REAR

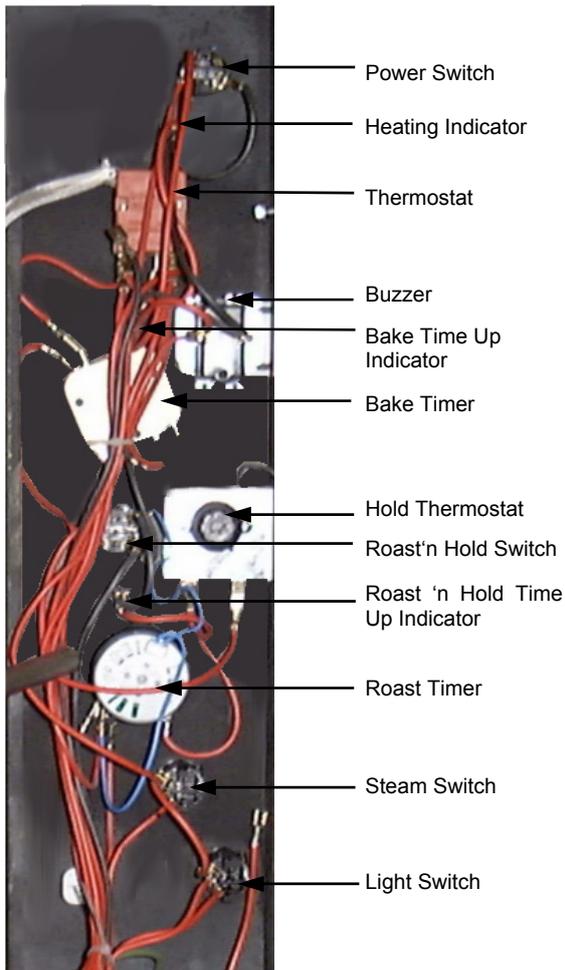


Figure 6.2.6

6.3 REPLACEMENT

6.3.1 LAMP BULB / GLASS

- 1) Unscrew lamp cover(s).



Figure 6.3.1

- 2) Unscrew bulb out of fitting.
- 3) Screw in replacement bulb.
- 4) Ensure seal fitted. Screw lamp cover into holder with baffle fitted (do not over tighten).

6.3.2 DOOR MICROSWITCH

- 1) Hinge down control panel (refer 6.2.1)
- 2) Remove two screws holding microswitch to bracket.

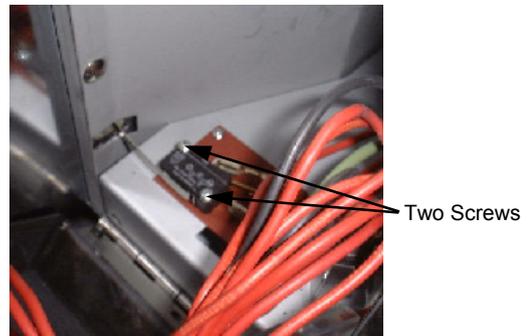


Figure 6.3.2

- 3) Transfer wires to new switch and re-assemble.
- 4) Adjust micro-switch (refer 6.4.2).

6.3.3 INDICATOR NEON LIGHT

- 1) With control panel open (refer 6.2.1) remove the wires from the back of the neon.

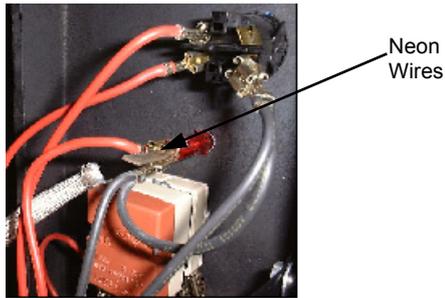


Figure 6.3.3

- 2) From back push neon through front of panel rotating clockwise.
- 3) Push new neon in from front of panel, and reconnect wires.

6.3.4 POWER / ROAST / LIGHTS / STEAM SWITCHES

- 1) With control panel open (refer 6.2.1) remove the wires from the back of the switch, noting their positions.

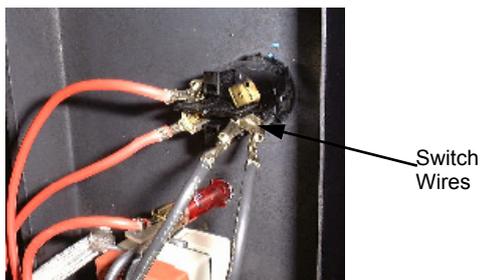


Figure 6.3.4

- 2) From back push switch through front of panel.
- 3) Push new switch in from front of panel, and reconnect wires.

6.3.5 BUZZER

- 1) Remove control panel (refer 6.2.1).
- 2) Remove two screws holding buzzer bracket to panel.

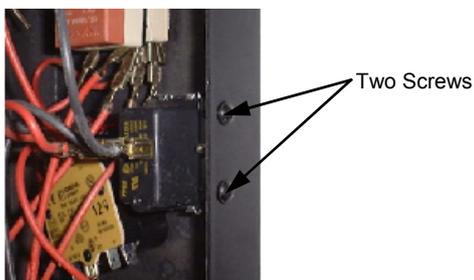


Figure 6.3.5

- 3) Withdraw and remove two screws holding buzzer to bracket.

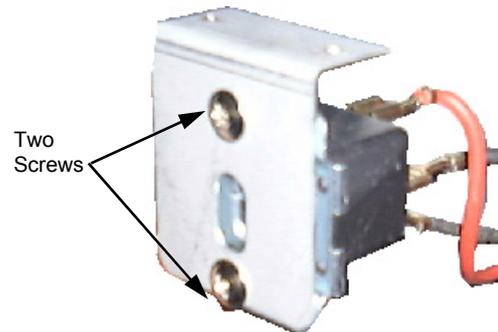


Figure 6.3.6

- 4) Transfer wires to new buzzer.
- 5) Reassemble in reverse order.

6.3.6 HOLD RELAY

- 1) Open control panel (refer 6.2.1).
- 2) Remove two screws securing relay to control panel.

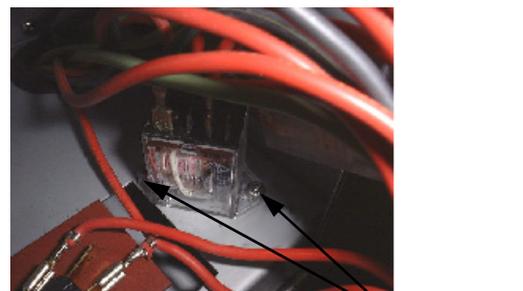


Figure 6.3.7

- 3) Withdraw and transfer wires to new relay.
- 4) Reassemble in reverse order.

6.3.7 BAKE TIMER

- 1) Remove bake timer knob by pulling it firmly away from control panel.
- 2) Open control panel (refer 6.2.1) and undo two screws securing timer.

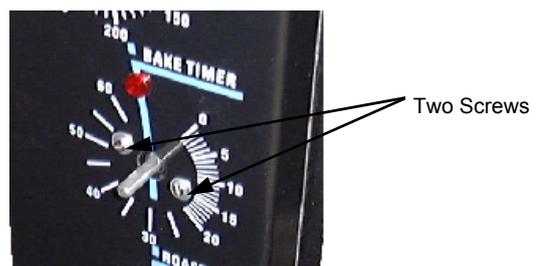


Figure 6.3.8

- 3) Transfer wires to new timer.
- 4) Withdraw old timer and insert new timer, securing with screws.
- 5) Replace knob.

6.3.8 ROAST TIMER

- 1) Remove roast timer knob by pulling it firmly away from control panel.
- 2) Open control panel (refer 6.2.1) and undo two screws securing timer.

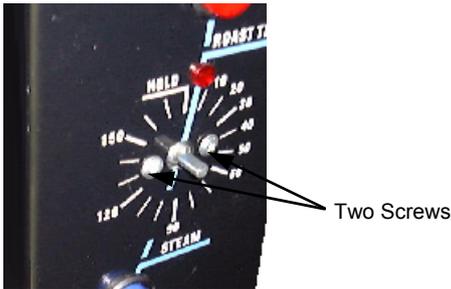


Figure 6.3.9

- 3) Transfer wires to new timer.
- 4) Withdraw old timer and insert new timer, securing with screws.
- 5) Replace knob.

6.3.9 THERMOSTAT

- 1) Pull knob off front of thermostat
- 2) Open control panel (refer 6.2.1) and undo two screws securing thermostat.

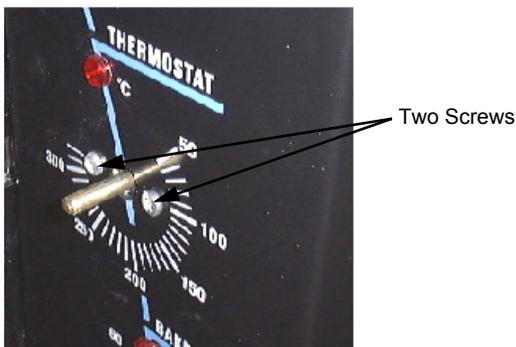


Figure 6.3.10

- 3) Transfer wires to new thermostat.
- 4) Open oven door, remove racks and fan baffle rack. Loosen two screws securing thermostat phial bracket.

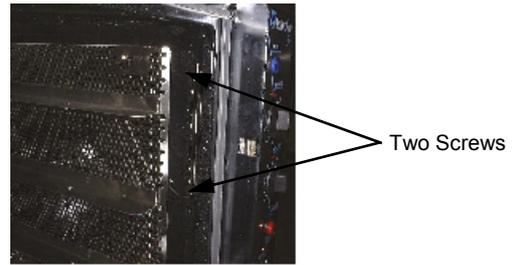


Figure 6.3.11

- 5) Withdraw old thermostat phial through side of oven. Note position in phial bracket.
- 6) Remove fibreglass sleeving from old thermostat and fit to replacement thermostat.

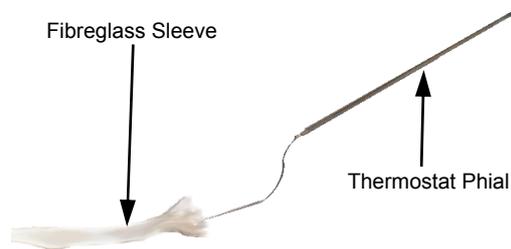


Figure 6.3.12

- 7) Insert new thermostat.
- 8) Re-assemble in reverse order.

NOTE: Ensure that the thermostat phials are located in their correct positions. The main thermostat probe must be on the side closest to the door. The hold thermostat must be on the side closest to the fan.

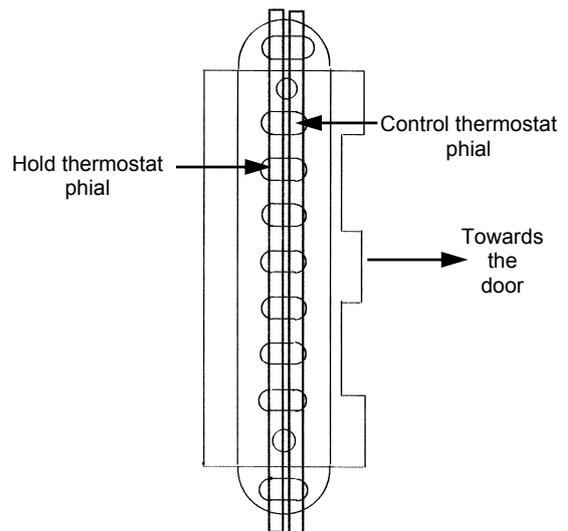


Figure 6.3.13

6.3.10 HOLD THERMOSTAT

- 1) Open control panel (refer 6.2.1) and undo two screws securing hold thermostat bracket.

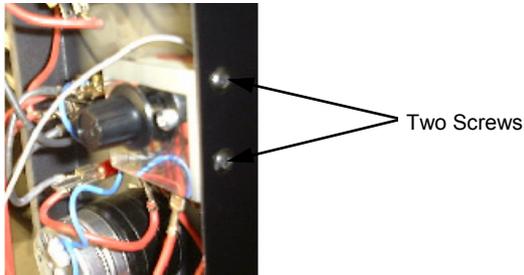


Figure 6.3.14

- 2) Transfer wires to new thermostat.
- 3) Open oven door, remove racks and fan baffle rack. Loosen thermostat phial bracket

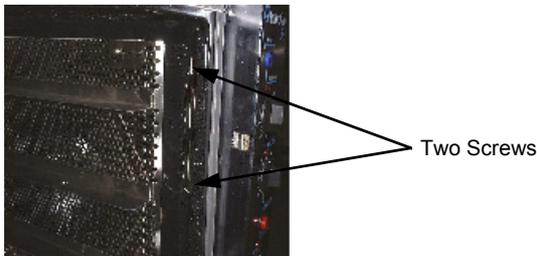


Figure 6.3.15

- 4) Withdraw old thermostat phial through side of oven. Note position in phial bracket
- 5) Insert new thermostat.
- 6) Re-assemble in reverse order.

NOTE: Ensure that the thermostat phials are located in their correct positions. The main thermostat probe must be on the side closest to the door. The hold thermostat must be on the side closest to the fan (refer figure 6.3.13).

6.3.11 WATER SOLENOID

- 1) Ensure water supply is turned off.
- 2) To access the solenoid, remove the rear access panel (refer 6.2.3)
- 3) To remove or replace solenoid, disconnect water solenoid from oven water tube behind water solenoid with a 1/2" (13mm) spanner.

- 4) Remove water solenoid from oven by removing two screws securing the water solenoid bracket to electrical supply junction box.

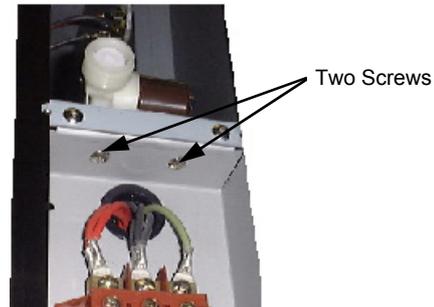


Figure 6.3.16

- 5) Carefully withdraw solenoid (including wires and bracket).
- 6) Replace or service solenoid as required.
- 7) To reinstall, reverse procedure.
- 8) Check water connections do not leak.
- 9) Check for correct water injection operation.

6.3.12 WATER SOLENOID CLEANING

- 1) Disconnect water supply from the water solenoid.
- 2) Remove the sieve from the valve assembly by pulling firmly away from the assembly with a pair of pliers.



Figure 6.3.17

- 4) Clean the sieve, removing all dirt and grime.
- 5) Replace the sieve and reconnect the water supply.

6.3.13 SPRAY NOZZLE

- 1) Inside the oven remove the RH side fan baffle, then unscrew the spray nozzle.

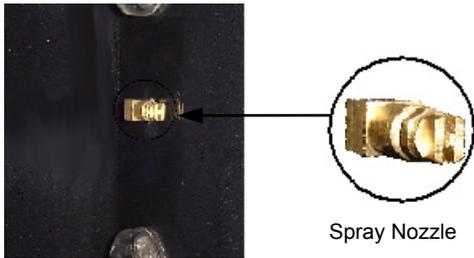


Figure 6.3.18

- 2) Clean or replace as required, ensuring debris free on re-assembly.
- 3) Ensure that the spray nozzle is installed in the vertical position.

6.3.14 FAN

- 1) With baffle removed undo the centre nut.
NOTE: LH thread - Turn clockwise to loosen.

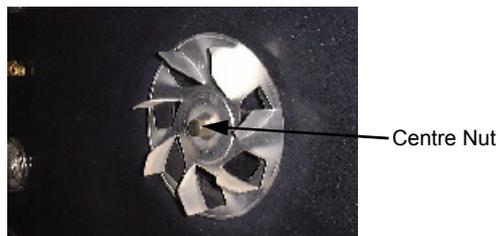


Figure 6.3.19

- 2) Replace and re-assemble in reverse order.

6.3.15 MOTOR

- 1) Remove side service panel (refer 6.1.2)
- 2) Remove fan (refer 6.2.16) and then remove the wires that go to the motor.
- 3) Undo the three screws holding the motor in place (from the outside) and remove motor.

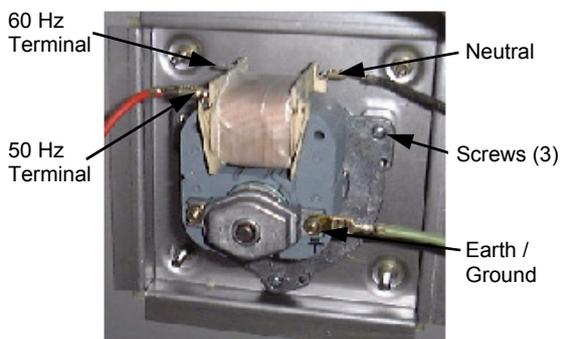


Figure 6.3.20

- 4) Replace and re-assemble in reverse order.

- 5) Ensure wire connections are correct to the voltage supply—60 Hz / 50 Hz (fig 6.3.20)

6.3.16 OVERTEMP THERMOSTAT (UK UNITS ONLY)

- 1) Open control panel (refer 6.2.1)
- 2) To reset, firmly press reset button.

⚠ WARNING: OVERTEMP BUTTON IS LIVE. ISOLATE UNIT FROM POWER SUPPLY BEFORE RESETTING.

- 3) To replace, remove two screws securing overtemp thermostat to overtemp bracket.

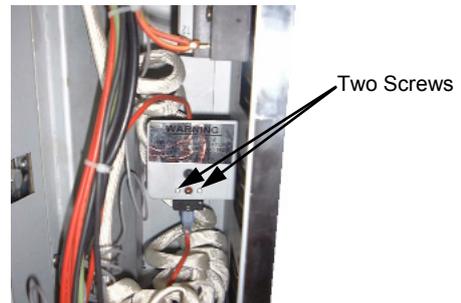


Figure 6.3.21

- 4) Remove wires from overtemp.
- 5) Open oven door, remove racks and fan baffle rack. Loosen two screws securing thermostat phial bracket.

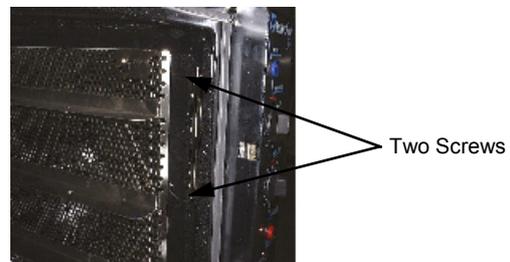


Figure 6.3.22

- 6) Withdraw old thermostat phial through side of oven.
- 7) Remove fibreglass sleeving from old thermostat and fit to the replacement thermostat.
- 8) Replace overtemp and re-assemble in reverse order.

6.3.17 24 VOLT TRANSFORMER (USA / CANADA UNITS ONLY)

- 1) Open control panel (refer 6.2.1).
- 2) Remove transformer wires from the control panel and ignition box, noting their positions.

- 3) Remove the two screws securing the transformer to the oven.

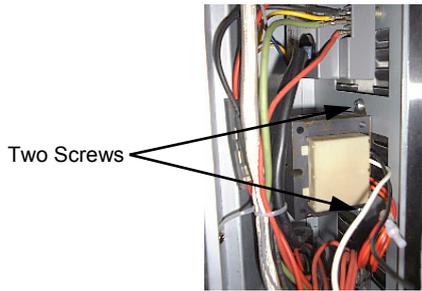


Figure 6.3.23

- 4) Replace transformer and re-assemble in reverse order.

6.3.18 IGNITION BOX

- 1) Open control panel (refer 6.2.1).
- 2) Remove two screws securing ignition box bracket to the oven body.

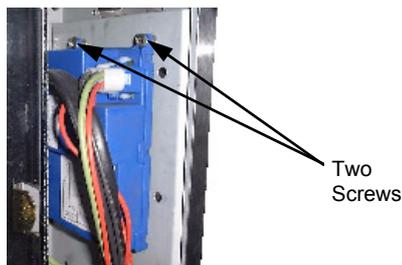


Figure 6.3.24

NOTE: Ignition box may differ from that pictured here. Replacement procedure is however identical.

- 3) Transfer wires from old ignition box to the new one.
- 4) Secure new ignition box to the oven with two screws.

6.3.19 IGNITION ELECTRODES

- 1) Remove burner access panel (refer 6.2.4).
- 2) Remove the electrode assembly by unscrewing two screws securing electrode bracket to the burner box, and pulling out electrode assembly.

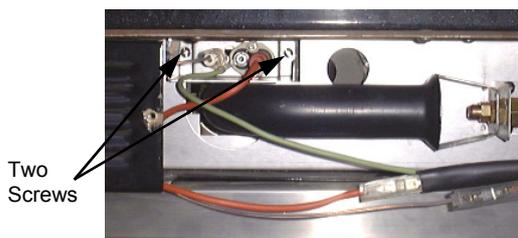


Figure 6.3.25

- 3) Disconnect wires (earth at sensor, flame sensor and spark electrode at lead connections) from electrodes requiring replacement.
- 4) Unscrew screws/nuts securing electrodes and remove from bracket.

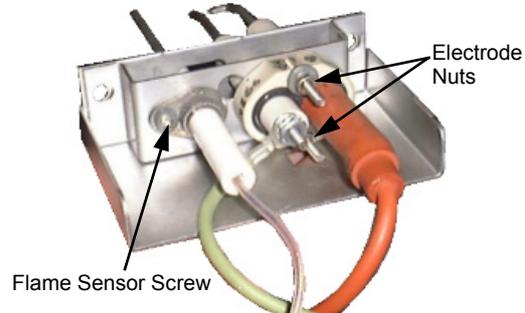


Figure 6.3.26

NOTE: Ignition electrodes may differ from those pictured. Refer section 11.3 for specific electrode types.

- 5) Replace and reassemble in reverse order.

! IMPORTANT: ENSURE ELECTRODE LEAD CONNECTIONS ARE FULLY INSULATED TO AVOID SHORTS IN THE HIGH TENSION CIRCUIT.

6.3.20 GAS CONTROL VALVE

- 1) Remove the manual gas control valve access panel and burner access panel (refer 6.2.4 and 6.2.5).
- 2) Close the manual gas valve.
- 3) Disconnect the mack union in the gas line next to the manual gas valve.



Figure 6.3.27

- 4) Unscrew and remove the burner injector from the burner mouth at the oven front.

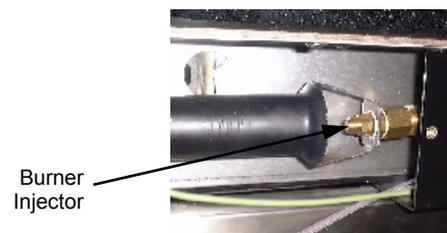


Figure 6.3.28

- Remove the two screws securing the gas valve mounting bracket to the burner box panels.

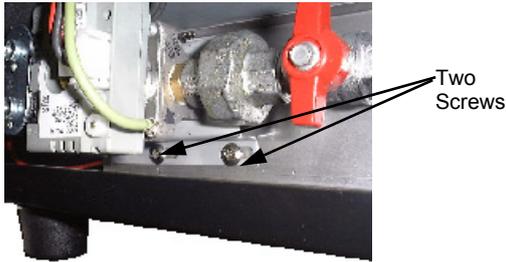


Figure 6.3.29

- Disconnect the three leads from the gas control valve.



Figure 6.3.30

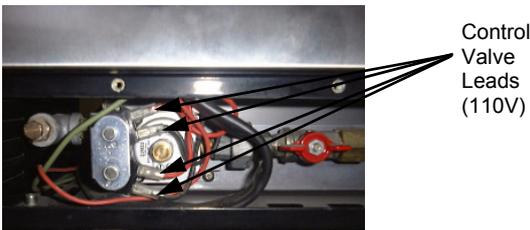


Figure 6.3.31

- Remove the gas valve and connected piping by drawing out through the side service panel.
- Replace and reassemble in reverse order.

6.3.21 BURNER INJECTOR

- Remove burner access panel (refer 6.2.4).
- Remove injector from burner throat (13mm / 1/2" spanner).

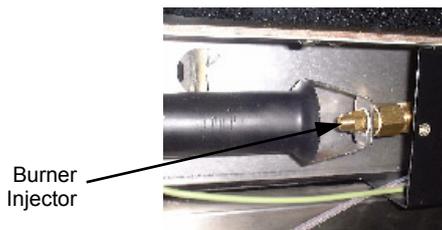


Figure 6.3.32

- Clean or replace injector as required.
Re-assemble in reverse order.

6.3.22 BURNER

- Remove burner access panel (refer 6.2.4).
- Remove ignition electrode assembly (refer 6.3.17)
- Remove injector (refer 6.3.21).
- Burner can now be withdrawn from the oven. Inspect / replace and re-assemble in reverse order.

6.3.23 OUTER GLASS

- Open door
- Loosen the two screws securing the top pivot whilst supporting the door. The pivot can now be lifted, and the door removed from the oven.

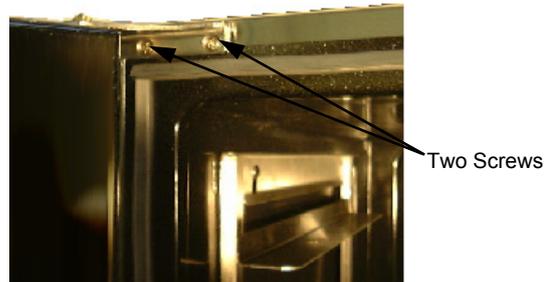


Figure 6.3.33

- Remove screws securing door handle, and remove handle from the door assembly.



Figure 6.3.34

- Remove four screws in top trim and four screws in bottom trim of door, and remove trim panels.

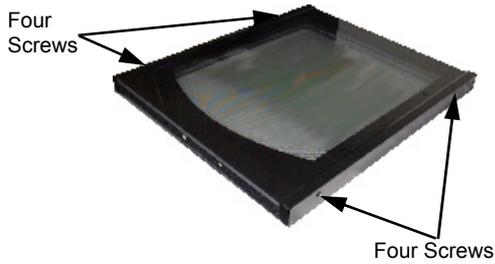


Figure 6.3.35

- 5) Lift outer glass away from door.
- 6) To replace, ensure that the two silicone rubber seals are in place on the left hand and right hand side of the door frame. Clean the inside of the glass and refit it, ensuring that the silicone rubber seals cover the outer edges of the glass. Refit the trim panels.

6.3.24 INNER GLASS

- 1) Remove the outer glass (refer 6.3.23). Uncrimp the retaining lugs of the window spacer and remove the spacer and glass.



Figure 6.3.36

- 2) To replace, ensure the silicone rubber seal has not been displaced. Clean the glass and refit it. Place the window spacer in position and crimp the retaining lugs over to hold the glass in place. Refit outer glass as above.

6.3.25 DOOR SEALS

- 1) Open oven door.
- 2) To remove, hold at their centre point and pull forward until they unclip
- 3) Refit new seals.

NOTE: Fit top and bottom seals first, with open side of the seal facing downwards. Fit side seals with open side facing outwards.

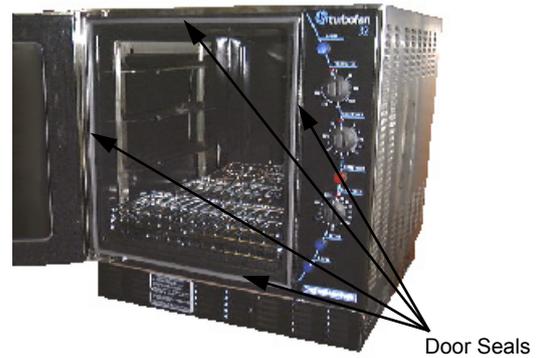


Figure 6.3.37

6.3.26 DOOR PIVOT BUSHES

- 1) Remove door as per steps one and two of section 6.3.23.
- 2) Remove the top and bottom pivot brackets (two screws).

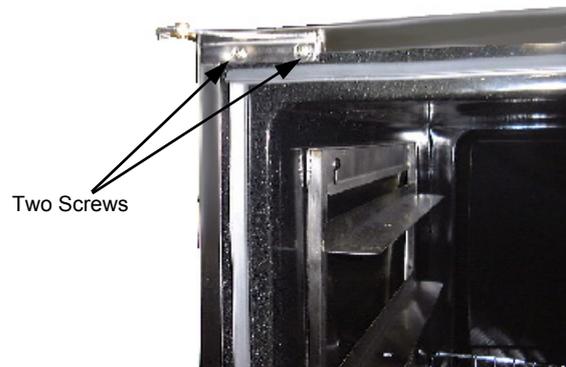


Figure 6.3.38

- 3) Door bushes can now be removed and replaced.



Figure 6.3.39

- 4) Reinstall door by reversing steps one to two of section 6.3.23.

6.3.27 STAINLESS STEEL DOOR - OUTER GLASS

- 1) Remove the door and door handle as per steps one, two and three of section 6.3.23.
- 2) Remove the pivot (two screws), and the two securing screws from the top and bottom of the door.



Figure 6.3.40

- 3) Remove the four window screws. The stainless steel door outer can now be removed.

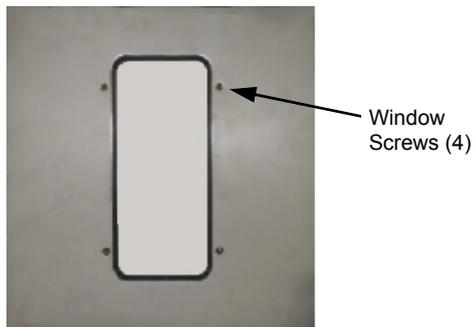


Figure 6.3.41

- 4) To replace the outer glass, simply remove and replace, taking care that the outer seals are positioned correctly around the glass edge. Reassemble in reverse order.

6.3.28 STAINLESS STEEL DOOR - INNER GLASS

- 1) Remove the outer glass (refer 6.3.23).
- 2) Uncrimp the retaining angles and remove inner glass.

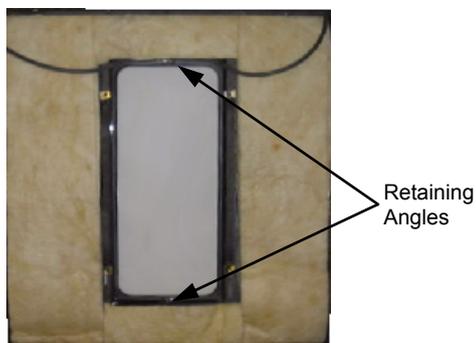


Figure 6.3.42

- 3) Replace with new glass and re-assemble door.
- 4) Refit door to the oven.

6.4 ADJUSTMENT / CALIBRATION

6.4.1 REGULATOR ADJUSTMENT

The appliance regulator is incorporated in the gas valve on these units. The regulator should be adjusted to set the burner gas pressure with the main burner running. To adjust:

- 1) Fit pressure gauge to pressure test point.
- 2) Remove screw cap on regulator of valve.
- 3) Turn on main burner and with main burner running, adjust regulator clockwise to increase pressure, and counter-clockwise to decrease pressure until correct setting is achieved.

Nat Gas (Not USA) 1.0 kPa/4.0" w.g/10mbar

Nat Gas (USA only) 1.13 kPa/4.5" w.g

LPG/Prop/Butane 2.75 kPa/11.0" w.g/35mbar



Figure 6.4.1

To change the gas type regulator spring:

- 1) Fully unscrew and remove spring adjustment cap.
- 2) Withdraw spring and replace as required.
- 3) Refit adjustment cap and reset pressure.

NOTE:

LPG/Propane	Blue spring
Natural Gas	Green spring

6.4.2 THERMOSTAT CALIBRATION

! **IMPORTANT:** IF THE OVEN TEMPERATURE NEEDS TO BE INCREASED, ENSURE THAT THE THERMOSTAT IS IN THE 'OFF' POSITION BEFORE CARRYING OUT ADJUSTMENT. IF OVEN TEMPERATURE NEEDS TO BE DECREASED, ENSURE THERMOSTAT IS IN THE 'MAX' TEMPERATURE POSITION BEFORE CARRYING OUT ANY ADJUSTMENT.

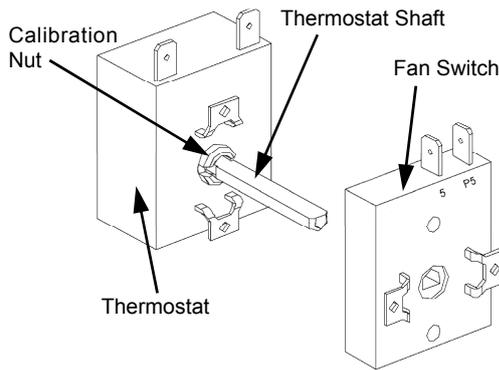


Figure 6.4.2

- 1) Turn off power.
- 2) Remove thermostat knob by pulling it firmly away from control panel.
- 3) Open control panel (refer 6.2.1). Remove two screws on control panel holding thermostat.

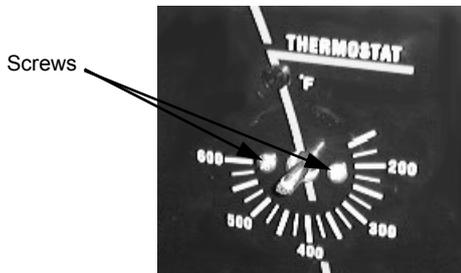


Figure 6.4.3

- 4) The thermostat can now be removed.

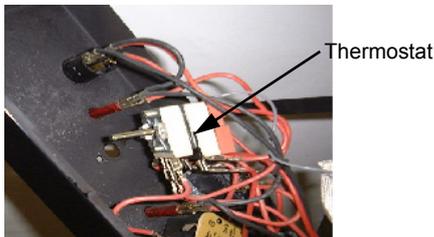


Figure 6.4.4

- 5) Carefully remove two screws holding fan switch to thermostat.

HINT: Tape fan switch assembly together before removal to prevent it from springing apart.

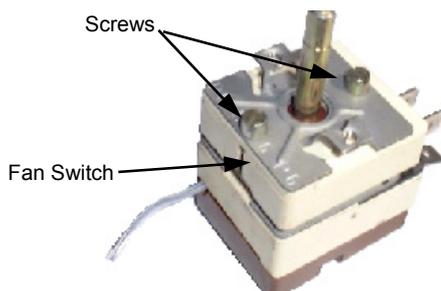


Figure 6.4.5

- 6) Adjust the calibration nut located at the base of the thermostat shaft.
To increase oven temperature, turn calibration nut anticlockwise.
To decrease oven temperature, turn calibration nut clockwise.
Adjustment of the calibration nut by 1° angular will alter oven temperature by approximately 2°C (3.6°F).

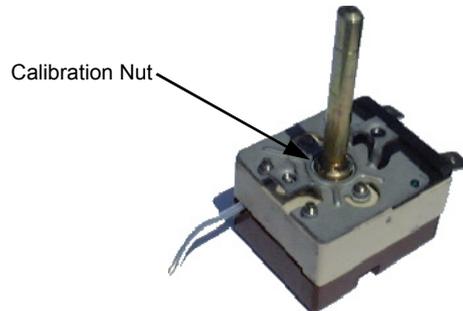


Figure 6.4.6

- 7) Reassemble fan switch onto thermostat and fit assembly back onto control panel.
- 8) Turn on power and then recheck oven thermostat calibration.
- 9) Repeat procedure if necessary.

NOTE: Thermostat cycling span should be $\pm 15^{\circ}\text{C}$ or 27°F .

6.4.3 CONFIRMING OVERTEMP CALIBRATION - UK UNITS ONLY

- 1) Place a digital thermometer inside the oven.
- 2) Set the thermostat to maximum setting.
- 3) When thermostat cycles off check oven temperature against dial setting. If overtemp has tripped (as indicated by power loss to unit) before oven has reached set temperature then the overtemp is out of calibration - replace, refer section 6.3.16.
- 4) If overtemp trips but oven temperature has exceeded 330°C , then the thermostat is out of calibration - re-calibrate - refer section 6.4.2.

6.4.4 DOOR MICROSWITCH ADJUSTMENT

- 1) Open oven door.
- 2) Open control panel (refer 6.2.1).
- 3) With fingers, bend actuator arm of microswitch so that switch operates when door is in closed position.

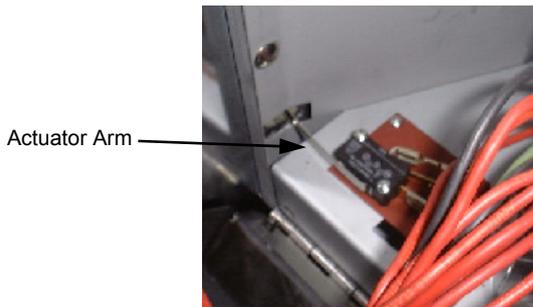


Figure 6.4.7

6.4.5 DOOR CATCH ADJUSTMENT

- 1) Open the control panel (refer 6.2.1).
- 2) Loosen the four screws securing the chrome plated bar which carries the door catches.

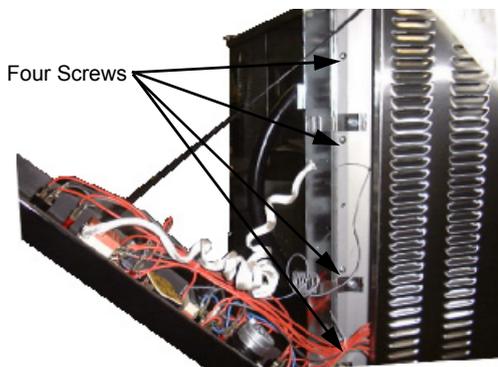


Figure 6.4.8

- 3) The door catches can now be adjusted in or out to ensure that the door seals correctly.
- 4) Tighten the screws and close the control panel.

6.4.6 DOOR ALIGNMENT

- 1) Loosen the three screws securing the bottom hinge to the oven front.

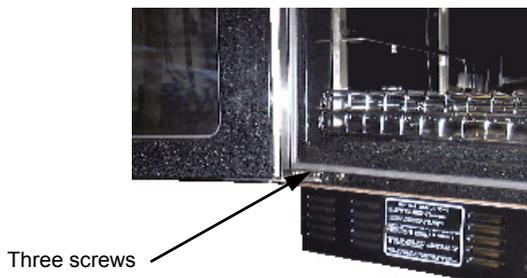


Figure 6.4.9

- 2) Adjust hinge position to align door latch with catch plate on side of door.

6.4.7 HOLD TEMPERATURE ADJUSTMENT

- 1) Open control panel (refer 6.2.1)
- 2) The hold temperature of the oven can be adjusted by turning the hold thermostat dial to the desired hold temperature.

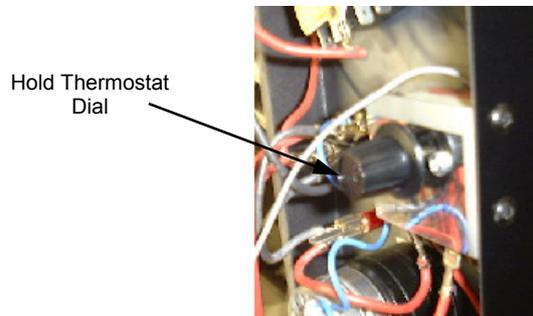


Figure 6.4.10

6.4.8 60 MINUTE TIMER ZERO POSITION ADJUSTMENT

- 1) Remove 60 minute timer knob by pulling it firmly away from control panel.
- 2) Open control panel (refer 6.2.1). Loosen two screws on control panel holding 60 minute timer.

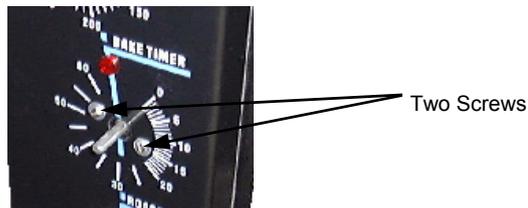


Figure 6.4.11

- 3) The timer can now be rotated as required to ensure that the buzzer sounds at the zero position.

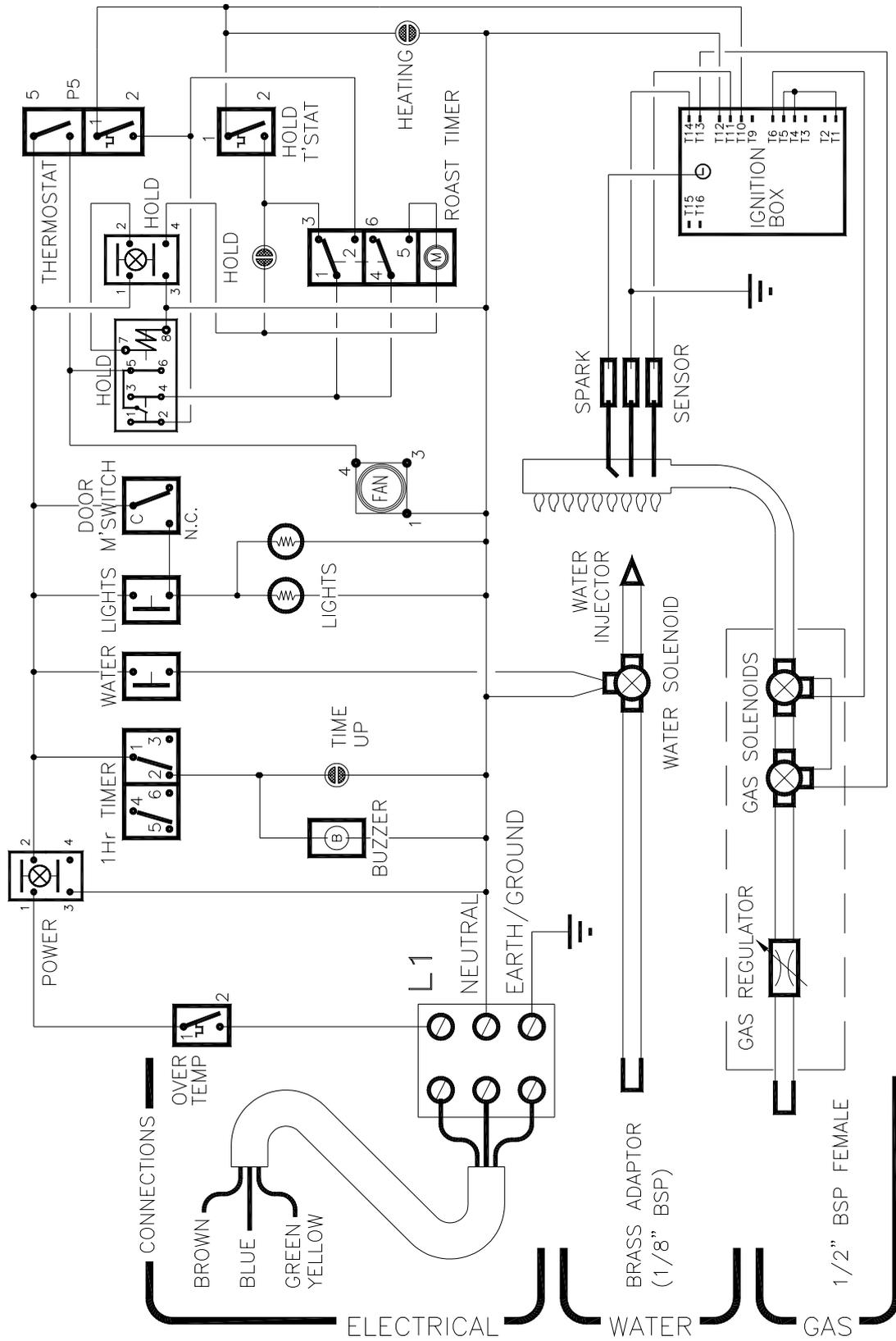
6.4.9 BURNER INJECTOR ALIGNMENT

- 1) Remove burner access panel (refer 6.2.4).
- 2) To improve burner colour, an adjustment of the gas/air mixture can be made by adjusting the 'set' of the burner mixer tube injector holder bracket. Using suitable hand tools, raise or lower the injector alignment slightly and determine best position by viewing running burner colour change.
- 3) In most cases this adjustment would only be necessary after converting gas type or when burner has a significant lack of colour.

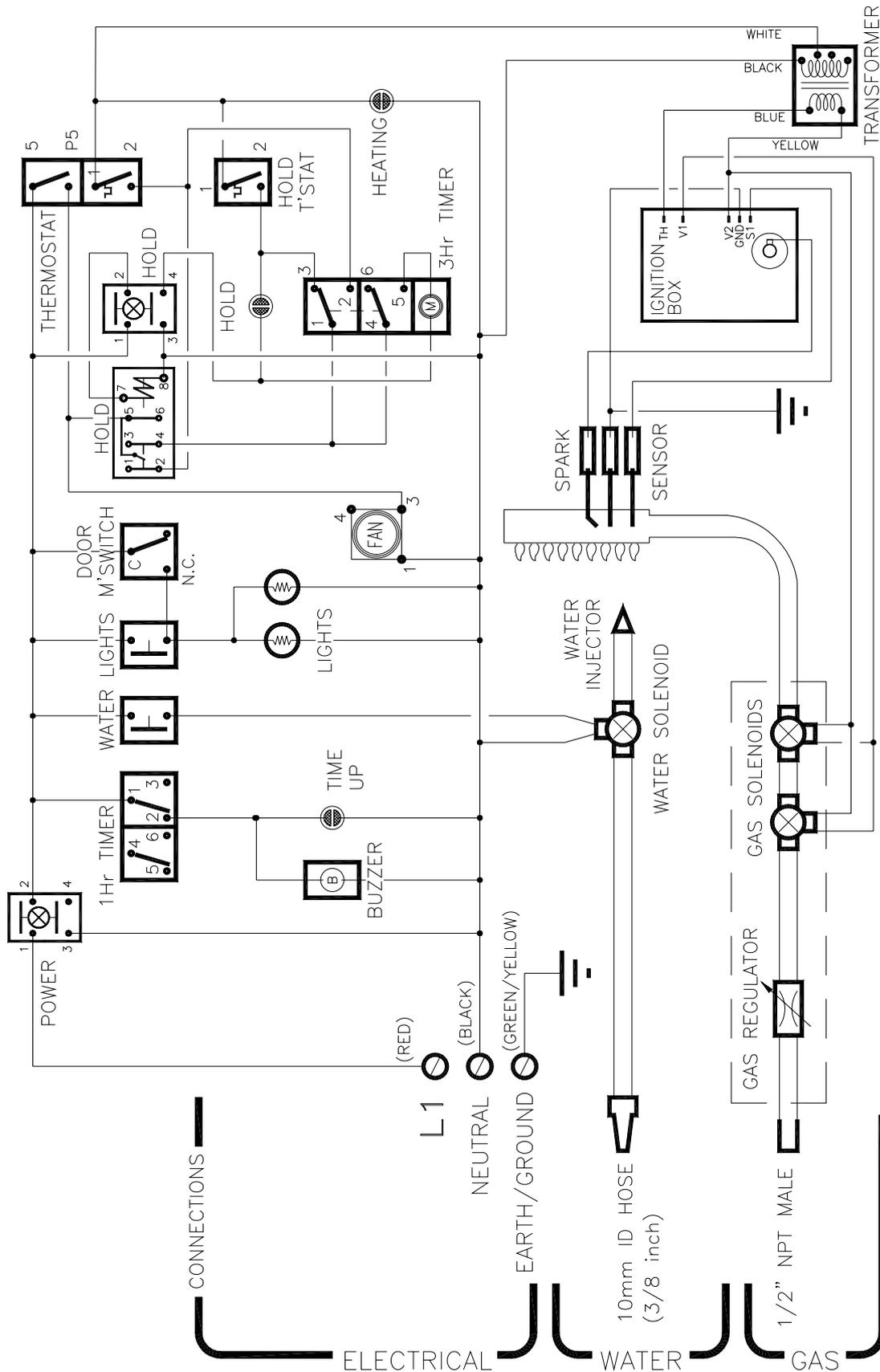
7. CIRCUIT SCHEMATICS

7.1.1 220-240V 50Hz (UK ONLY) - FROM SERIAL NO 203927

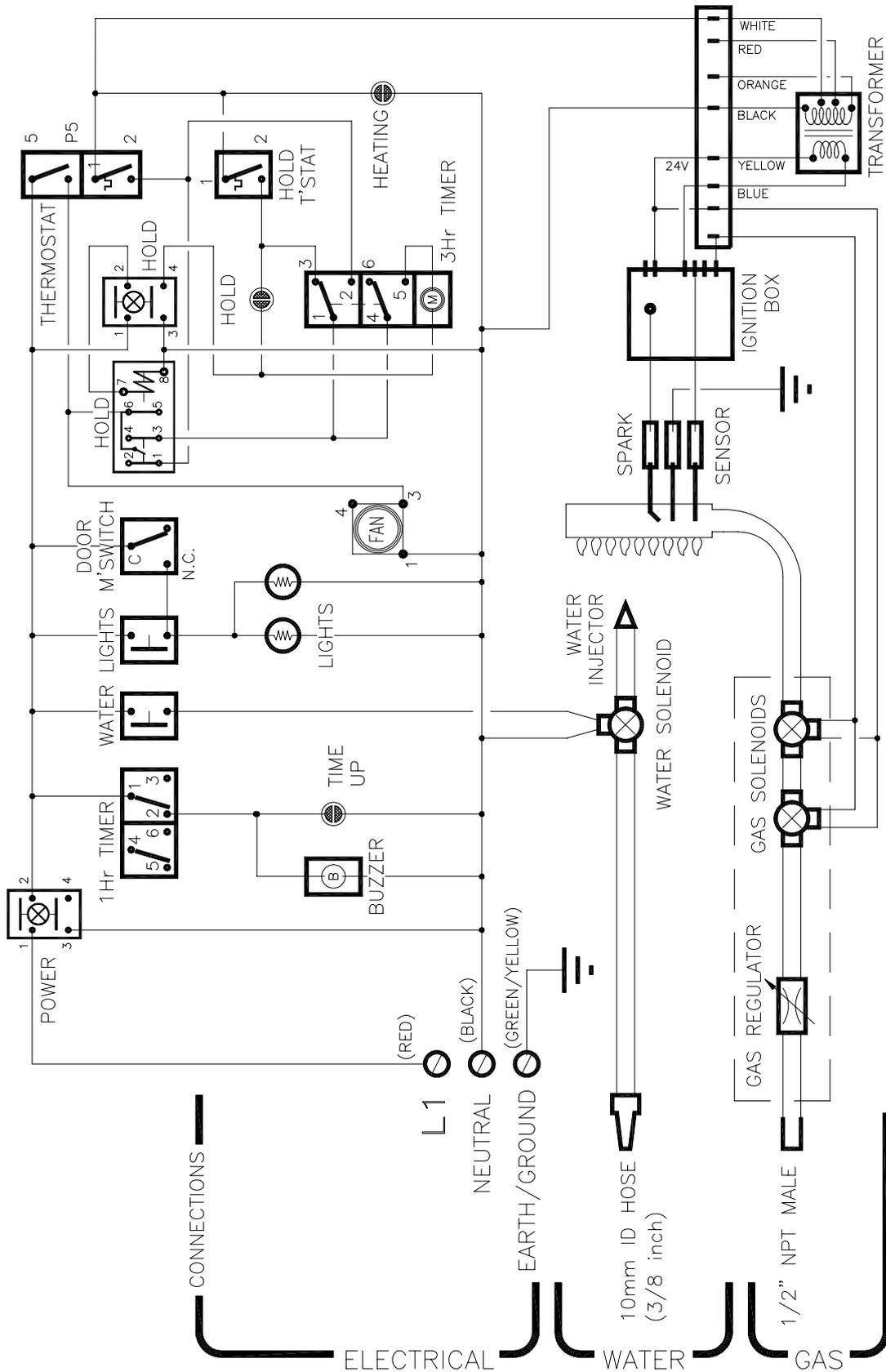
For units pre serial number 203926 refer section 7.1.2



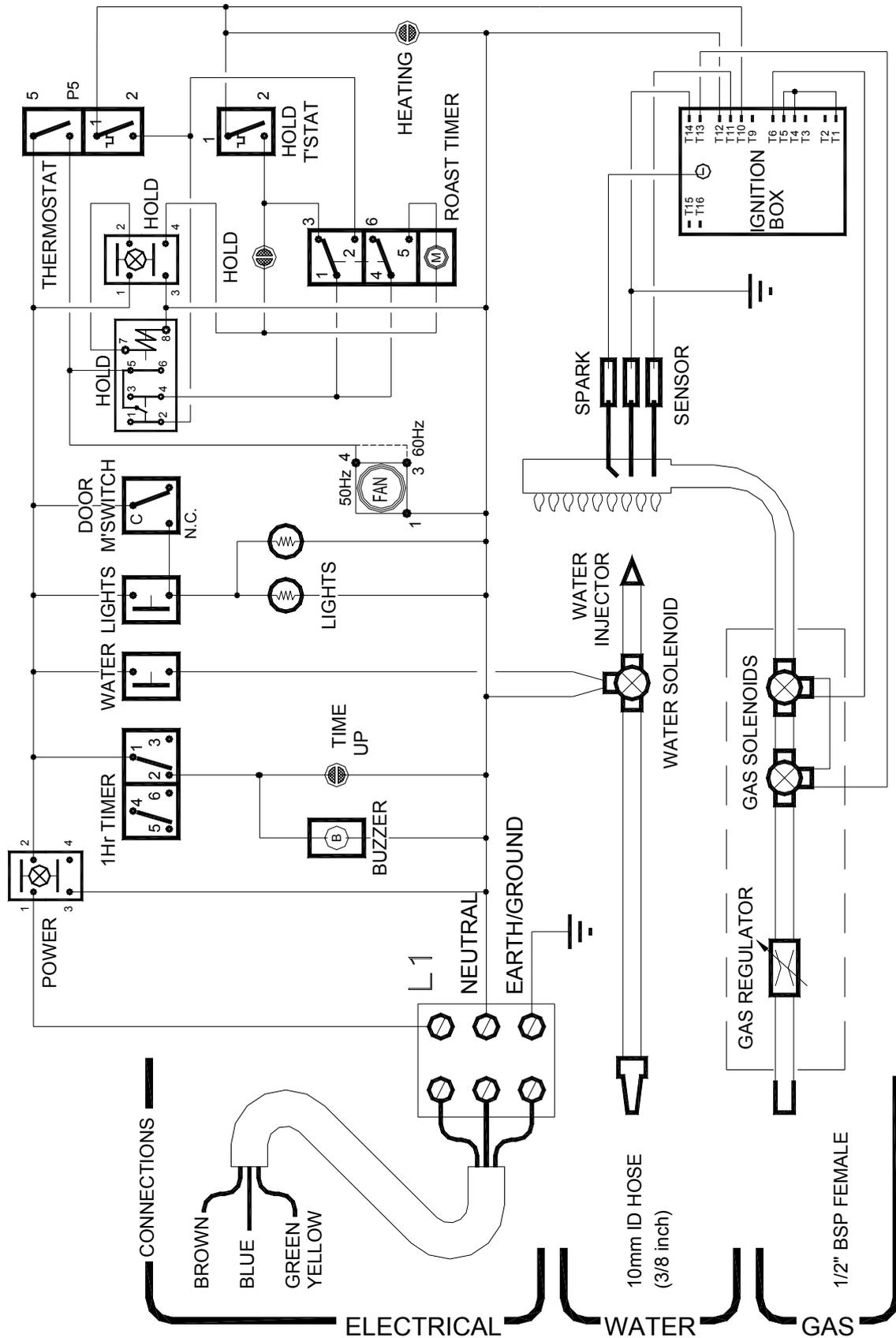
7.2.1 100-120V 60Hz (USA, CANADA) - FROM SERIAL NO 203927
 For units pre serial number 203926 refer section 7.2.2.



7.2.2 100-120V 60Hz (USA, CANADA) - TO SERIAL NO 203926
 For units after serial number 203927 refer section 7.2.1



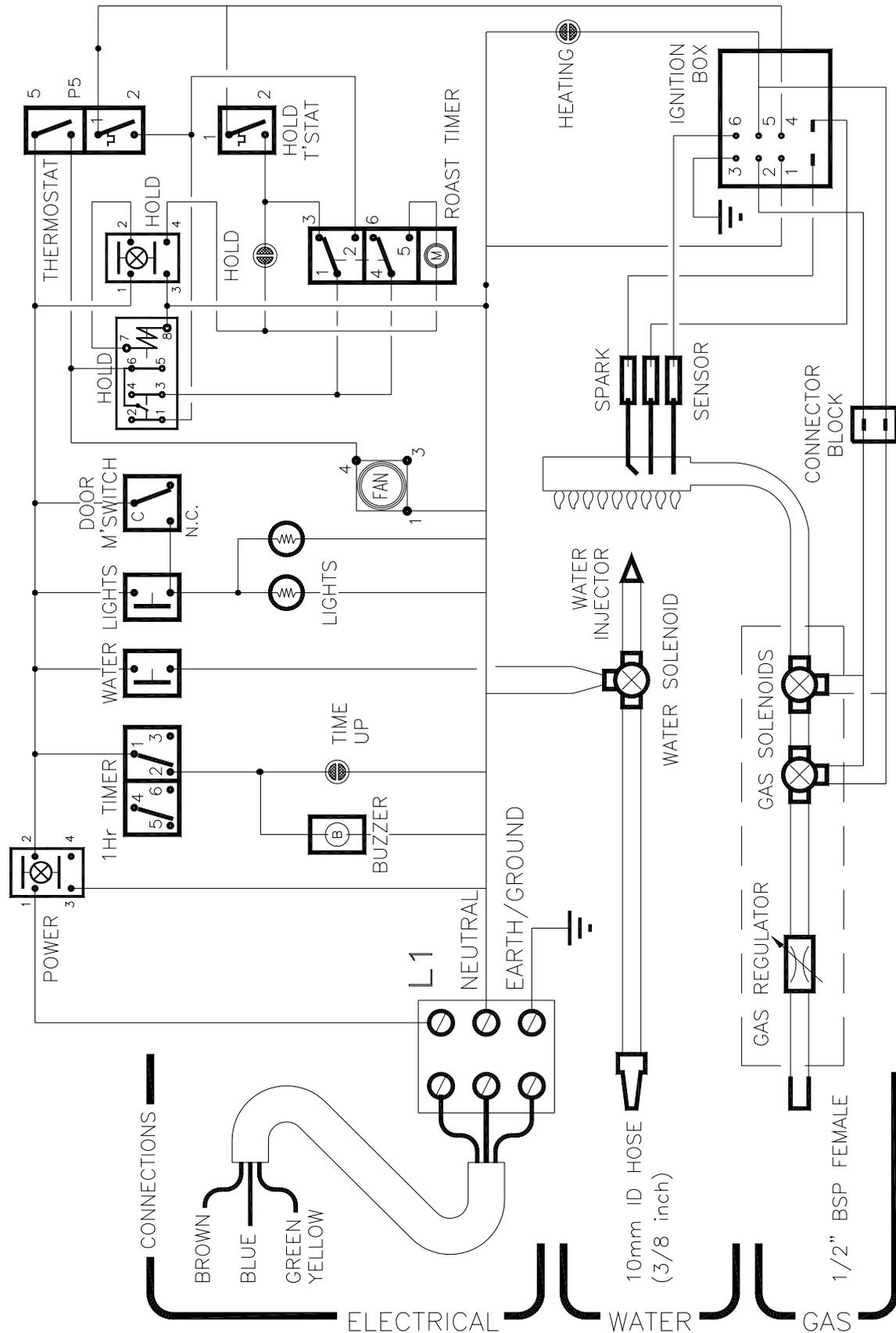
7.3.1 220-240V 50Hz (NOT UK) - FROM SERIAL NO 203927
 For units pre serial number 203926 refer section 7.3.2



7.3.2

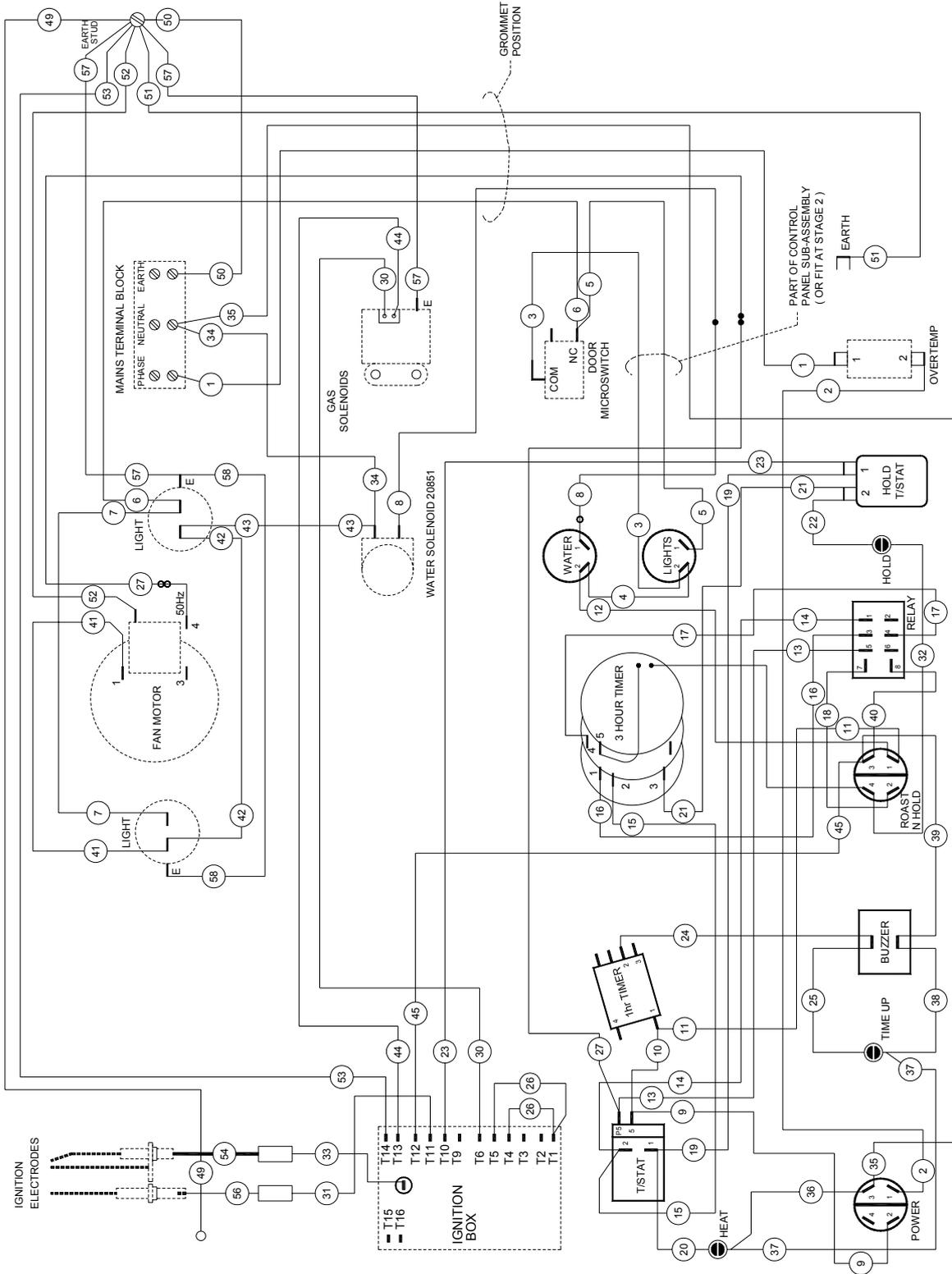
220-240V 50Hz (NOT UK) - TO SERIAL NO 203926

For units after serial number 203927 refer section 7.3.1

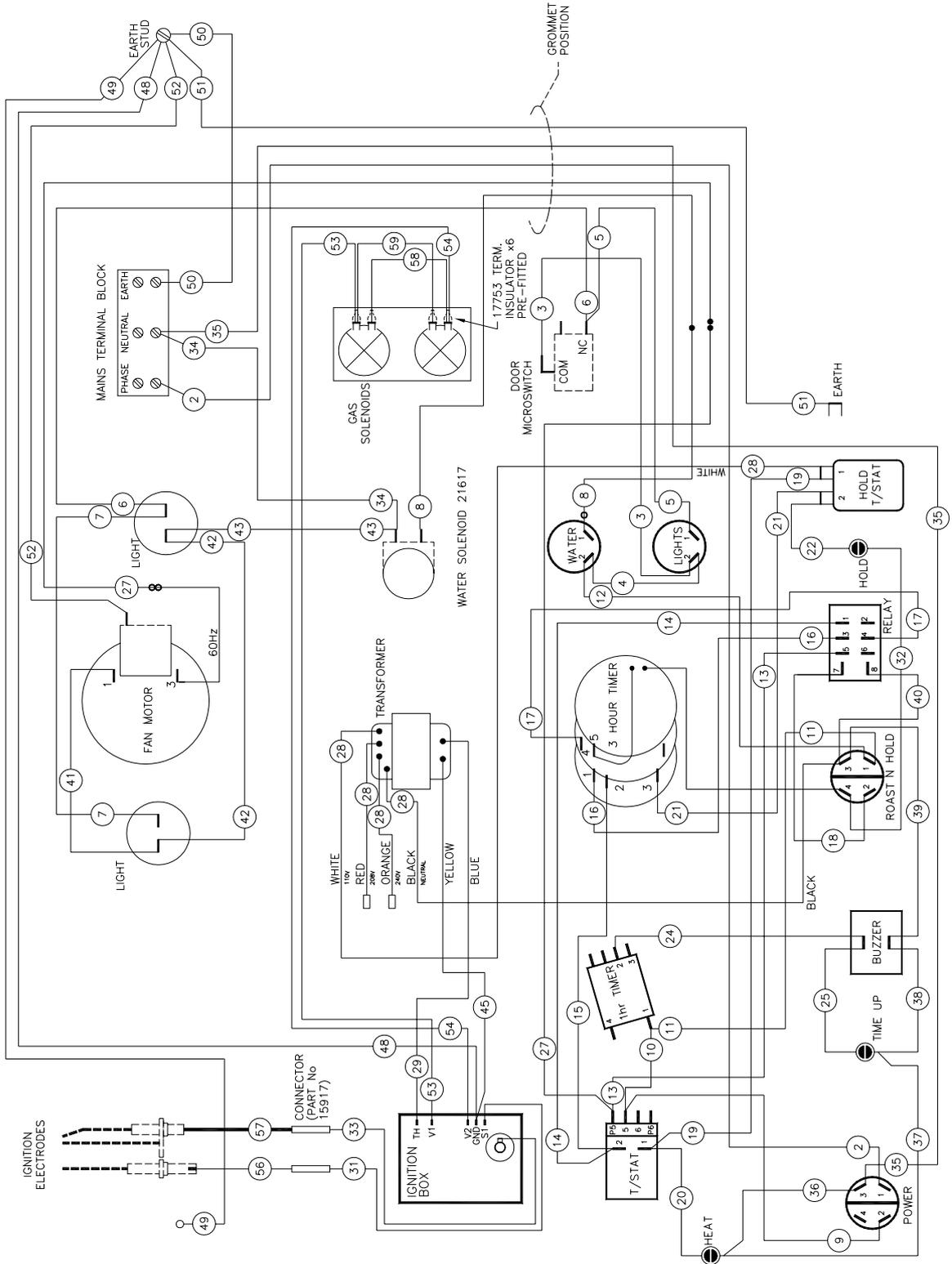


8. ELECTRICAL WIRING DIAGRAMS

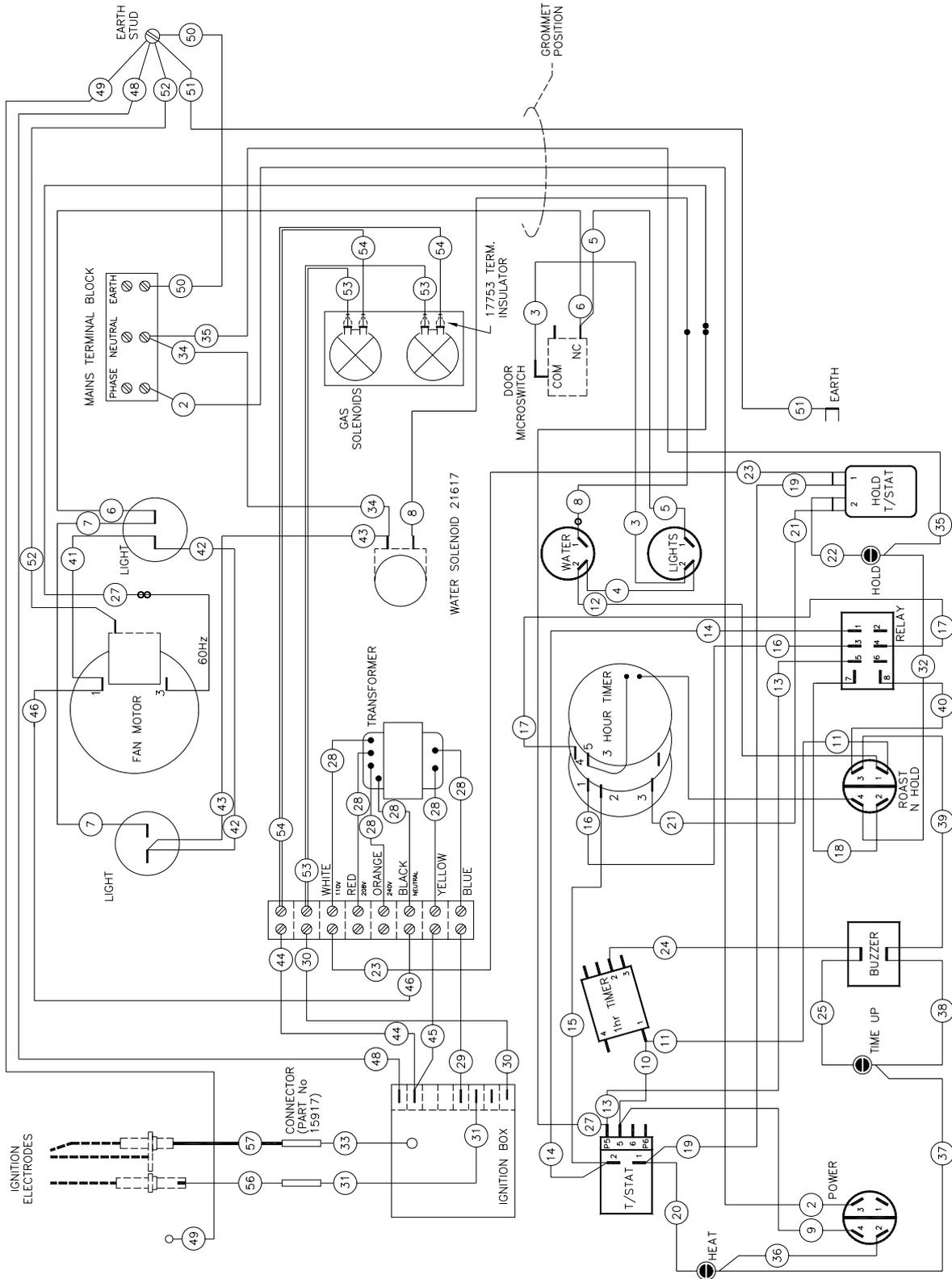
8.1.1 220-240V 50Hz (UK ONLY) - FROM SERIAL NO 203927 For units pre serial number 203926 refer section 8.1.2



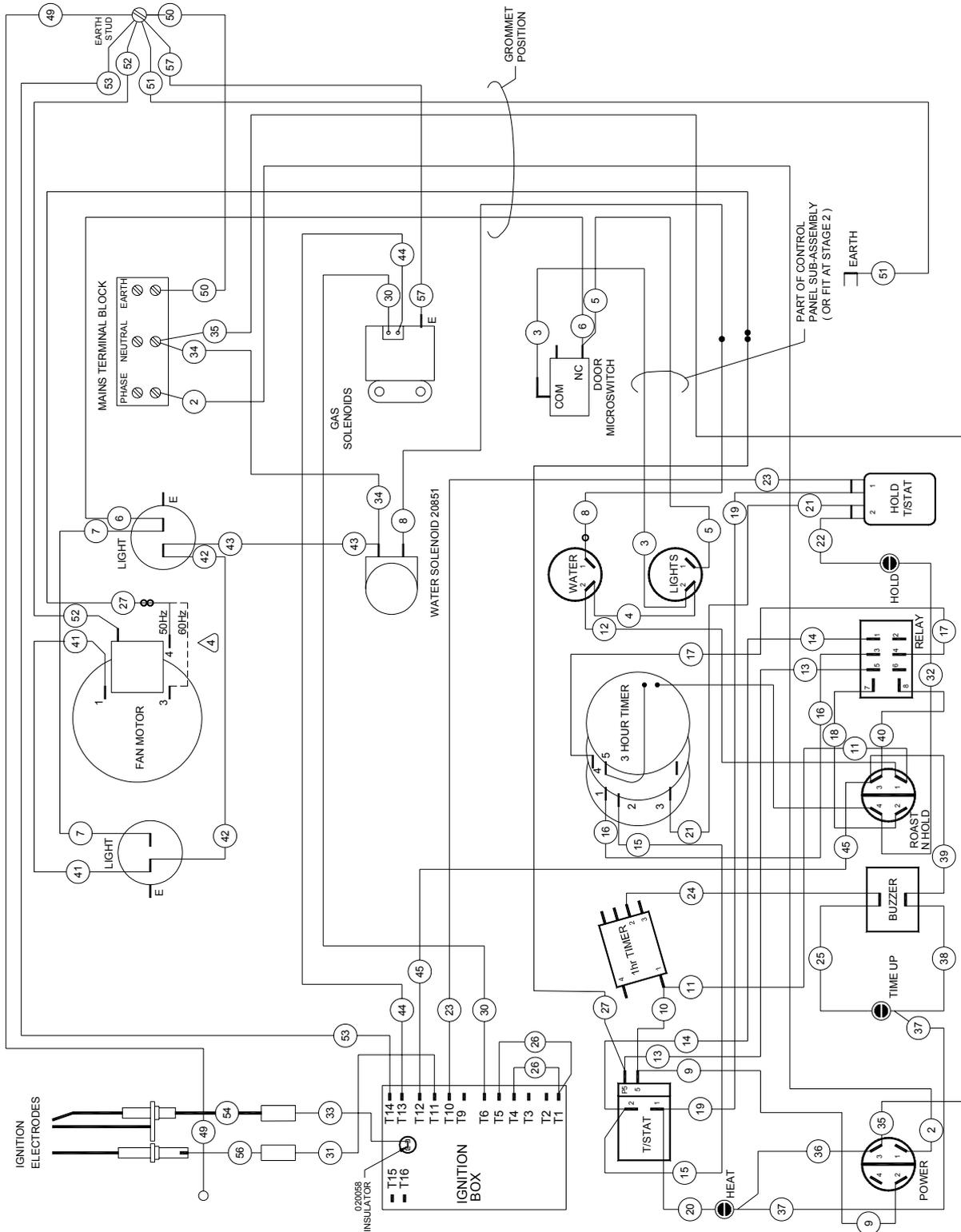
8.2.1 100-120V 60Hz (USA, CANADA) - FROM SERIAL NO 203927
 For units pre serial number 203926 refer section 8.2.2



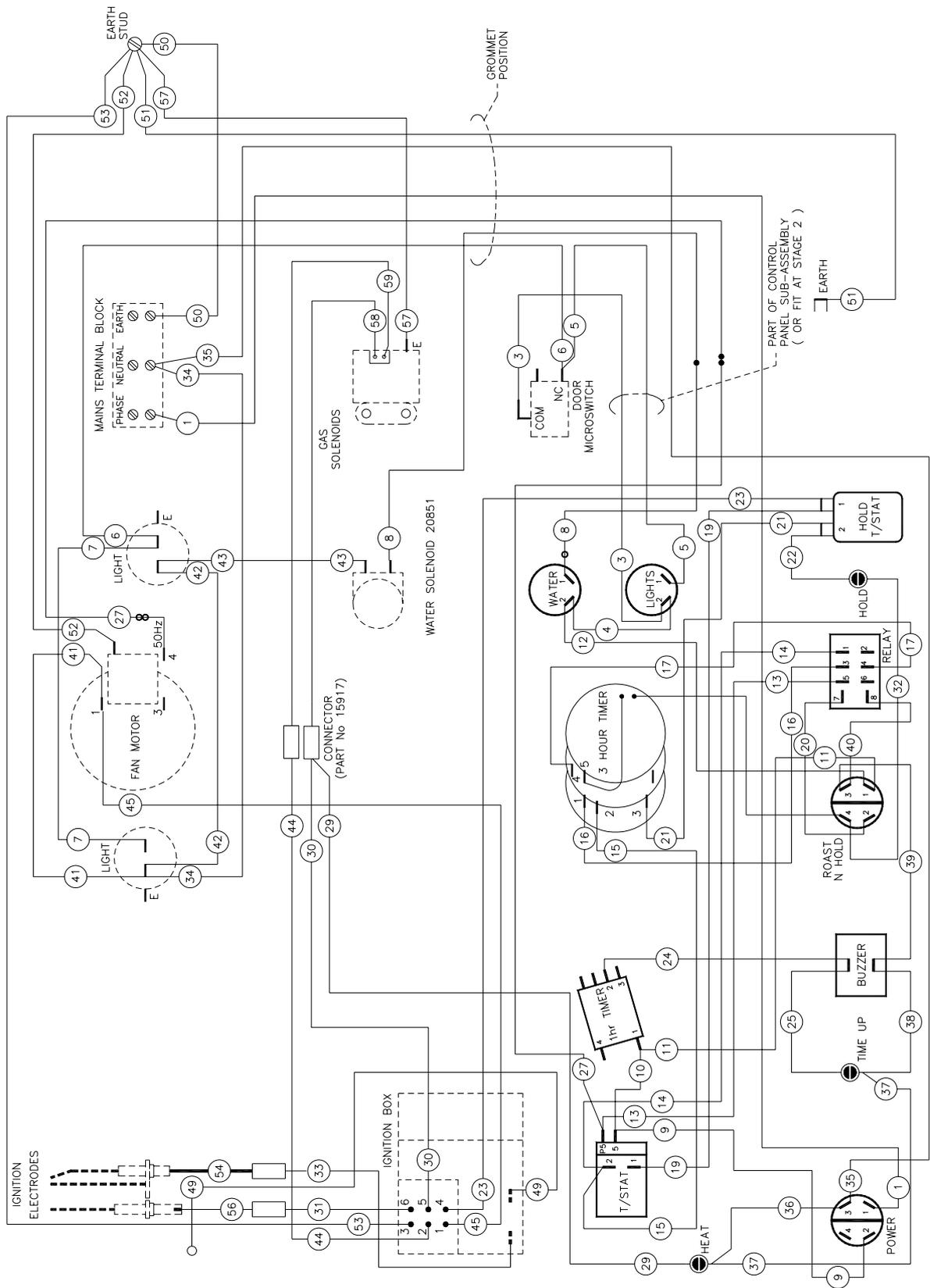
8.2.2 100-120V 60Hz (USA, CANADA) - TO SERIAL NO 203926
 For units after serial number 203927 refer section 8.2.1



8.3.1 220-240V 50Hz (NOT UK) - FROM SERIAL NO 203927
 For units pre serial number 203926 refer section 8.3.2



8.3.2 220-240V 50Hz (NOT UK) - TO SERIAL NO 203926
 For units after serial number 203927 refer section 8.3.1



9. SPARE PARTS

PART NO DESCRIPTION

CONTROLS

021473	Switch - Power (220-240V)
021514	Switch - Power (110V)
011987	Thermostat
020823	Knob - Thermostat / Bake Timer
020849	Neon Indicator (220-240V)
023857	Neon Indicator (110V)
011760	Bake Timer
011794	Buzzer (220-240V)
015822	Buzzer (110V)
021476	Switch - Roast 'n Hold (220-240V)
021515	Switch - Roast 'n Hold (110V)
011419	Roast 'n Hold Timer (220-240V, 50Hz)
011983	Roast 'n Hold Timer (220-240V, 60Hz)
015823	Roast 'n Hold Timer (110V)
021472	Roast 'n Hold Timer Knob
021474	Switch - Steam Light
021534	Relay - Roast 'n Hold (220-240V)
021535	Relay - Roast 'n Hold (110V)
018223	Hold Thermostat
003004	Microswitch
003002	Oven Lamp Glass
003434	Silk Gasket
013520	Oven Lamp Assembly - 40W Miniature Edison Screw (220-240V)
019482	Oven Lamp Assembly - 40W Miniature Edison Screw (110V)
013521	Oven Light Bulb (220-240V)
015825	Oven Light Bulb (110V)
019369K	Over-temp Thermostat Kit (UK Only)

MOTOR & ELEMENTS

014672	Fan Motor (220-240V)
015821	Fan Motor (110V)
015598	Oven Fan

STEAM SYSTEM

020851	Water Solenoid (240V)
021617	Water Solenoid (110V)
021057	Spray Nozzle Assembly
021526	Water Inlet Elbow (c/w Washer)

IGNITION SYSTEM

023025	Ignition Box (220-240V - SIT) - From Serial Number 203927
014983	Ignition Box (220-240V, Not UK - Scarico) - Up To Serial Number 203926
018730	Obsolete Ignition Box - (220-240V UK Only - Teknigas) - Up To S/N 203926 Use replacement kit 023962
023024	Ignition Box (110V, USA/Canada - Fenwall) - From Serial Number 203927
014982	Ignition Box (110V, USA/Canada - White Rodgers) - Up To Serial Number 203926 Also refer replacement kit 023965 if 014982 unavailable
019370	Gas Control Valve (220-240V)
015626	Gas Control Valve (25V)
022909	Ignition Electrode Kit Complete Assembly
022902	Flame Sensor Electrode - All Models
024127	Spark / Earth Electrodes - From S/N 218596 Also used to replace 015316 spark/earth electrodes
022901	Spark/Earth Electrodes - From S/N 47875 to S/N 218595
SA1021	Obsolete Complete Electrode Assembly - From S/N 47875 to S/N 218595 Upgrade with 022909
015316	Obsolete Spark / Earth Electrodes - Up to S/N 47874 Replace with 024127

DOOR

021520	Oven Door Seal Strip Side
021517	Oven Door Seal Strip Top/Bottom
021468	Handle
021466	Handle Bracket
021443	Door Outer Glass (Full Glass Door)
002340	Door Inner Glass (Full Glass Door)
002137	Door Glass (Stainless Steel Door)
017905	Door Bush

RACKS

015575	Oven Side Rack - LH
015656	Fan Baffle
015168	Oven Rack

CONVERSION KITS

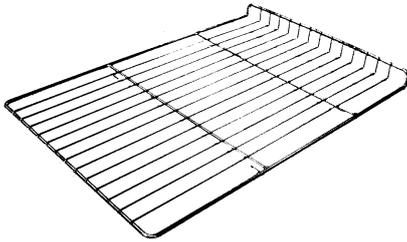
015910	Natural Gas to LPG Conversion Kit
016403	LPG to Natural Gas Conversion Kit
019379	Natural Gas to Propane Gas Conversion Kit (UK Only)
019378	Propane Gas to Natural Gas Conversion Kit (UK Only)

STACKING KIT

021545	Double Stacking Kit
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10. ACCESSORIES

OVEN RACKS (PART NO 015168)



**COOKIE KIT—SIX TRAY OPTION
(PART NOS 017156 & 017157)**



**DOUBLE STACKING KIT
(PART NO 021545)**



A25 STAINLESS STEEL STAND

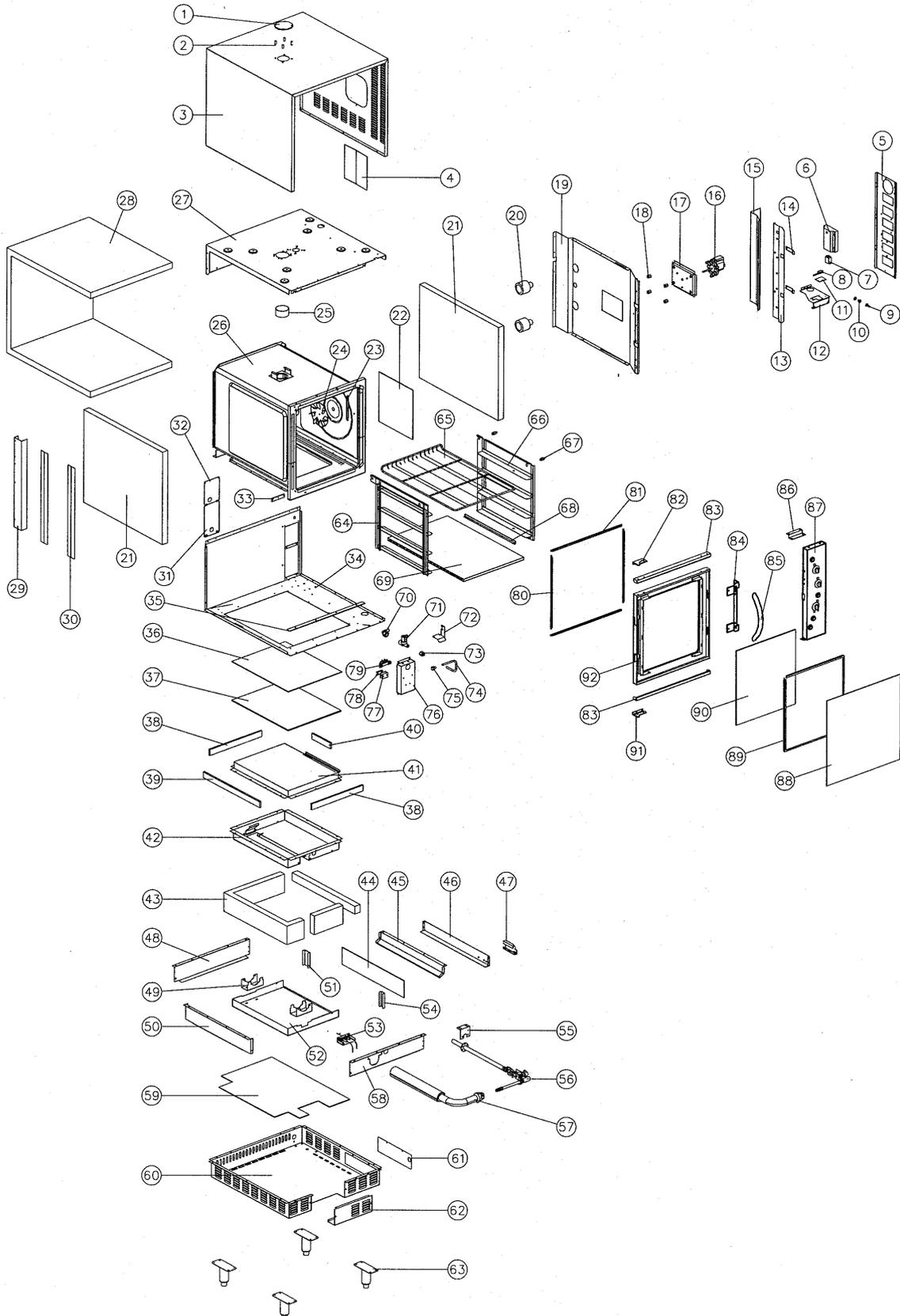


**STAINLESS STEEL DOOR OPTION
(PART NO SA1060)**



11. PARTS DIAGRAMS

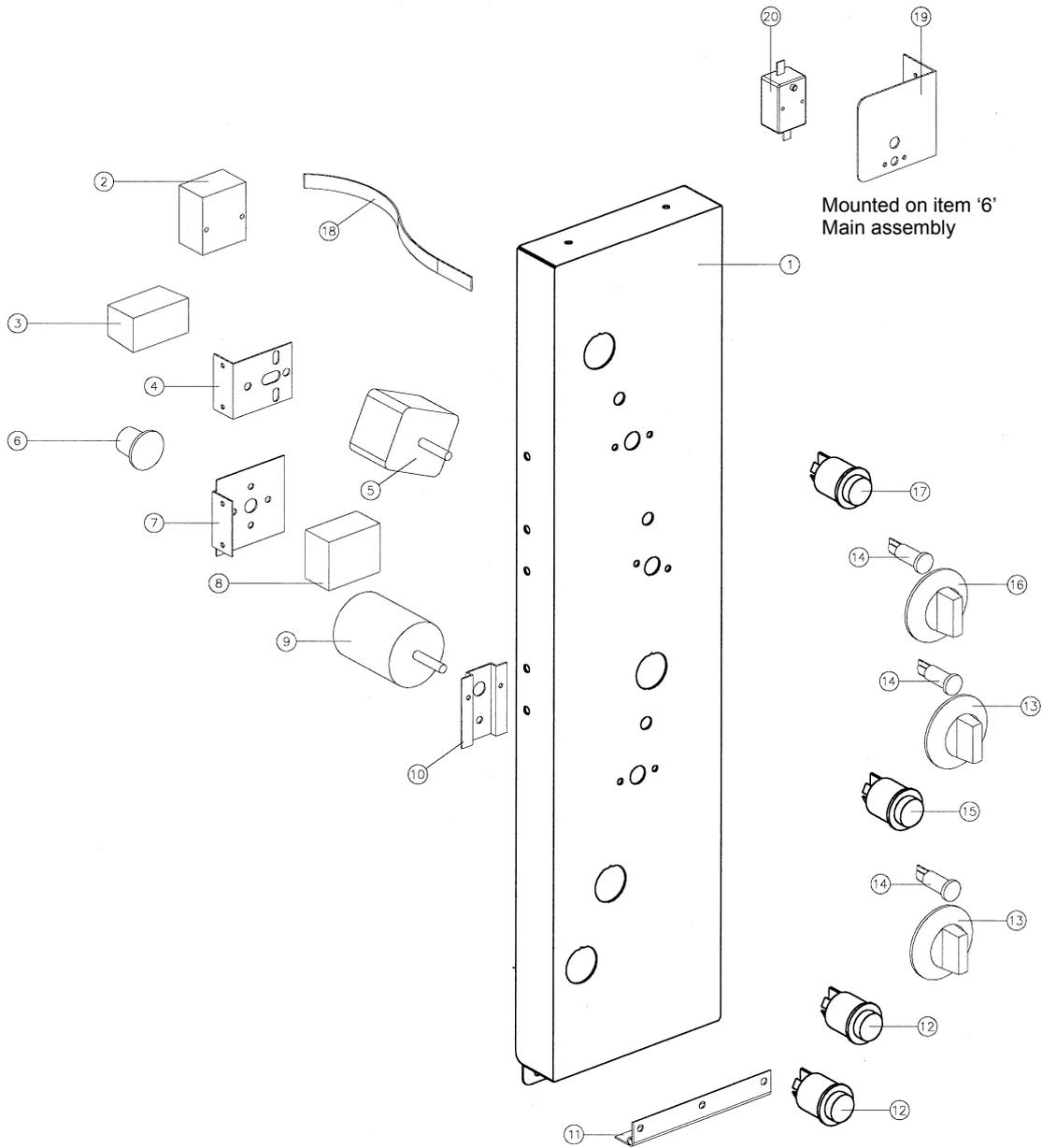
11.1 MAIN ASSEMBLY



Pos	Part No.	Description
1	016241	VENT HOOD PLATE
2	016245	HOOD SPACER
3	021449	WRAPPER
4	017872	INSPECTION PANEL
5	021173	FRONT VERTICAL
6	014983	IGNITION BOX - SCARICO (ALL MARKETS EXCEPT USA / CANADA / UK) (TO S/N 203926)
	018730	IGNITION BOX - TEKNIGAS (UK ONLY) (TO S/N 203926)
	023025	IGNITION BOX - SIT (ALL MARKETS EXCEPT USA/CANADA) (FROM S/N 203927)
	014982	IGN BOX - WHITE RODGERS (USA/CANADA) (TO S/N 203926)
	023024	IGN BOX - FENWAL (USA/CANADA) (FROM S/N 203927)
	023373	TRANSFORMER (USA/CANADA)
7	021534	RELAY -240V
	021535	RELAY -110V (USA/CANADA)
8	003004	MICROSWITCH
9	021637	MICROSWITCH BUTTON
10	013610	DOOR BUSH
11	013977	INSULATOR
12	021636	MICROSWITCH BRACKET
13	021467	CATCH PLATE - PLATED
14	013893	DOOR SPRING CATCH
15	023011	HEAT BLOCK PLATE
16	015821	MOTOR - 110V (USA/CANADA)
	014672	MOTOR - 240V
17	014694	MOTOR MOUNTING BOX
18	015947	MOTOR SPACER STUD
19	014727	SIDE INSULATION PANEL
20	013520	OVEN LIGHT ASSY - 240V
	019482	OVEN LIGHT ASSY - 110V (USA/CANADA)
	013521	LAMP 40W - 240V
	015825	LAMP 40W - 110V (USA/CANADA)
	003002	LIGHT GLASS
	003434	SILK GASKET
21	090424	FIBREGLASS 38mm
22	014941	INSULATION SNORKEL
23	013974	PHIAL GUARD
24	015598	FAN
25	016243	VENT TUBE
26	004728	OVEN ENAMELLED
27	021549	TOP INSULATION PANEL
28	090424	38mm FIBREGLASS
29	013986	REAR VERTICAL
30	013978	L.H INSULATION PLATE
31	015589	REAR SERVICE PANEL- BOTTOM
32	021619	REAR SERVICE PANEL - TOP
33	013951	HINGE PLATE BOTTOM
34	014950	BASE PANEL
35	013987	INSULATOR
36	014940	INSULATION - BURNER BOX
37	014700	INSULATION - BURNER BOX
38	014701	INSULATION - BURNER BOX FRONT/REAR
39	014702	INSULATION - BURNER BOX LONG
40	014703	INSULATION - BURNER BOX SHORT
41	015114	BURNER BOX REFLECTOR
42	004280	BURNER BOX BOTTOM
43	090424	FIBREGLASS 38mm
	076300	ALUMINIUM FOIL (NOT ILLUSTRATED)
44	014944	INSULATION - HEAT BOX INNER
45	014891	HEAT BOX R.H SIDE
46	014892	HEAT BOX R.H OUTER

47	015324	GAS VALVE BRACKET
48	014889	HEAT BOX REAR
49	015327	BURNER SUPPORT BRACKET
50	014890	HEAT BOX L.H SIDE
51	015537	INSULATION KEEP CHANNEL REAR
52	014728	BURNER BOX DEFLECTOR
53	022909	IGNITION ELECTRODE KIT COMPLETE ASSEMBLY
	015115	IGNITION ELECTRODE ASSEMBLY (TO S/N B47875) (SEE SECTION 11.3.3) - OBSOLETE: UPGRADE WITH SA1530
	018760	IGNITION ELECTRODE ASSEMBLY (UK ONLY TO S/N B47875) (SEE SECTION 11.3.4) - OBSOLETE: UPGRADE WITH SA1530
	SA1021	IGNITION ELECTRODE ASSEMBLY (ALL FROM S/N B47875 TO S/N 218595) (SEE SECTION 11.3.2) OBSOLETE: UPGRADE WITH SA1530
54	014977	INSULATION KEEP CHANNEL FRONT
55	004352	PIPE MOUNTING BRACKET
56	015090	GAS PIPING ASSEMBLY (SEE SECTION 11.4)
57	004312	BURNER
58	014888	HEAT BOX FRONT
59	014943	INSULATION - HEAT BOX
60	004713	BOTTOM PANEL
61	004733	SIDE SERVICE PANEL
62	004714	INJECTOR ACCESS PANEL
63	015274	LEG ASSEMBLY 6"
	015275	LEG TUBE WA - PLATED
	010990	ADJUSTABLE FOOT
64	015575	SIDE RACK L.H
65	015168	OVEN RACK
66	015656	FAN BAFFLE
67	014031	OVEN BAFFLE STUD
	019367	OVEN BAFFLE STUD (UK ONLY)
68	015930	BAFFLE LOCATING BRACKET
69	004397	RADIATION BAFFLE ENAMELLED
70	021526	WATER INLET ELBOW
	021527	WATER INLET WASHER
71	020851	WATER SOLENOID - 240V
	021617	WATER SOLENOID - 110V (USA/CANADA)
72	021618	WATER SOLENOID BRACKET
73	020869	CONNECTOR - 3/8"F x 1/4" COMPRESSION
74	021058	WATER TUBE
75	021057	SPRAY NOZZLE ASSEMBLY
76	015591	JUNCTION BOX
77	002441	INSULATOR
78	002138	CABLE CLAMP
79	014185	MAINS TERMINAL BLOCK
80	021520	OVEN SEAL ASSEMBLY - VERTICAL
	021522	SIDE SEAL - 0.55M
81	021517	OVEN SEAL ASSEMBLY - HORIZONTAL
	021519	TOP SEAL - 0.52M
82	020082	TOP HINGE ASSEMBLY
	017905	BUSH
83	021532	DOOR TRIM
84	021466	DOOR HANDLE BRACKET PLATED
85	021468	HANDLE
86	021441	CONTROL PANEL MOUNTING BRACKET
87	-----	CONTROL ASSEMBLY (SEE SECTION 11.2)
88	021443	DOOR OUTER GLASS
	090225	SILICONE EXTRUSION - 1.2M
89	004451	GLASS CLAMP ANGLE PAINTED
90	002340	DOOR INNER GLASS
	090201	SILICONE EXTRUSION - 1.74M
91	020083	BOTTOM HINGE ASSEMBLY
	017905	BUSH
92	004725	DOOR INNER

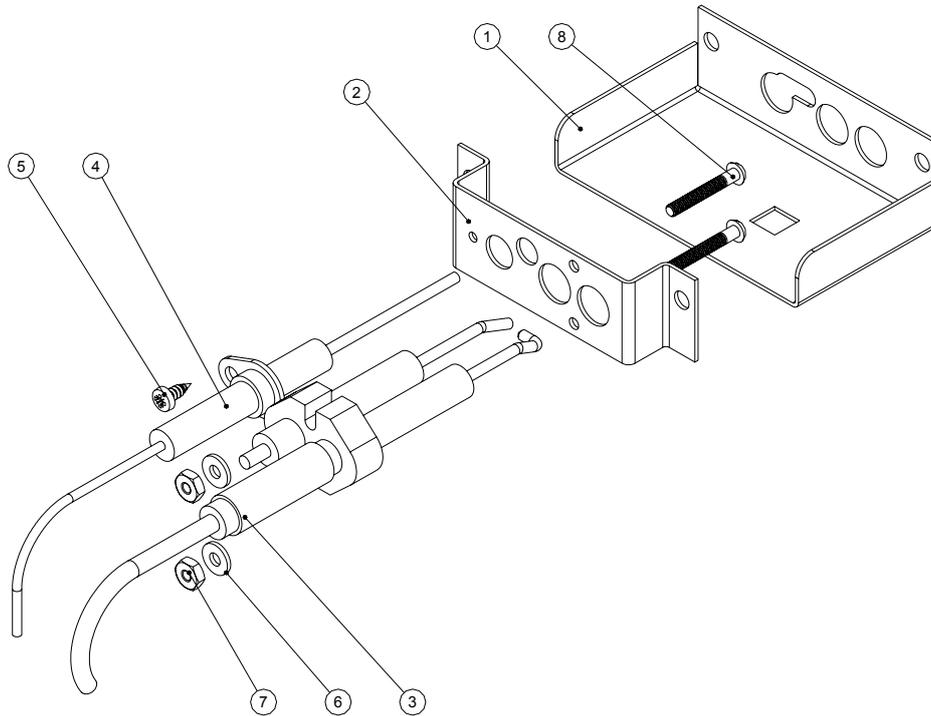
11.2 CONTROL PANEL ASSEMBLY



Pos	Part No.	Description
1	004723	CONTROL PANEL °C (except UK)
	004730	CONTROL PANEL °F
	004804	CONTROL PANEL °C (UK only)
2	011987	THERMOSTAT 50-320 °C
3	011794	BUZZER (240V)
	015822	BUZZER (110V USA/CANADA ONLY)
4	021537	BUZZER MOUNTING BRACKET
5	011760	TIMER - 1 Hr
6	018224	HOLD THERMOSTAT KNOB
7	021538	HOLD THERMOSTAT BRACKET (AFFIX 018209 LABEL)
8	018223	HOLD THERMOSTAT
9	011419	TIMER - 3 Hr (240V 50 Hz)
	011983	TIMER - 3 Hr (240V 60 Hz)
	015823	TIMER - 3 Hr (110V USA/CANADA ONLY)
10	021442	TIMER MOUNTING PANEL
11	016579	HINGE
12	021474	LIGHT/STEAM SWITCH
13	020823	TIMER KNOBS
14	020849	INDICATOR LIGHT (240V)
	023857	INDICATOR LIGHT (110V)
15	021476	SWITCH - ROAST 'N' HOLD (240V)
	021515	SWITCH - ROAST 'N' HOLD (110V)
16	021472	THERMOSTAT KNOB
17	021473	POWER SWITCH (240V)
	021514	POWER SWITCH (110V)
18	016602	RETAINING STRAP
19	019380	OVER-TEMP BRACKET (UK ONLY)
20	019369K	OVER-TEMPERATURE THERMOSTAT KIT (UK ONLY)

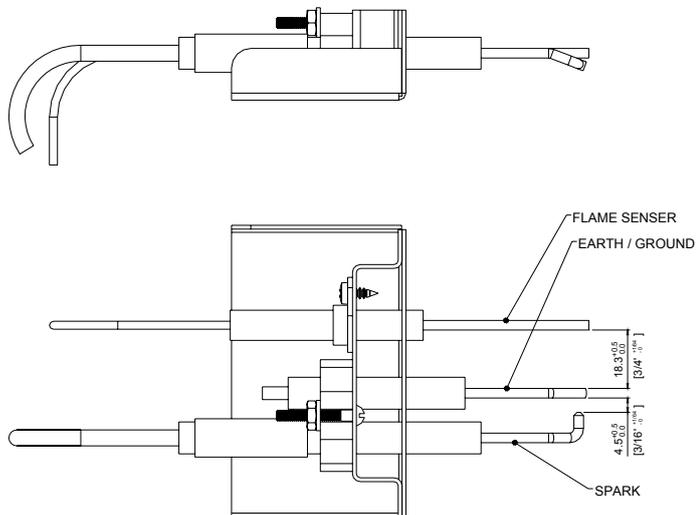
11.3.1 IGNITION ELECTRODE ASSEMBLY - FROM SERIAL NO 218596

For units pre serial no 218596 refer section 11.3.2.



Pos	Part No.	Description
1	024105	IGNITION ELECTRODE BRACKET
2	024106	ELECTRODE MOUNTING BRACKET
3	024127	SPARK ELECTRODE
4	022902	FLAME ELECTRODE
5	041022	SCREW
6	045011	WASHER FLAT
7	044001	NUT
8	041218	SCREW
	022909	IGNITION ELECTRODE KIT COMPLETE ASSEMBLY (UPGRADE KIT)

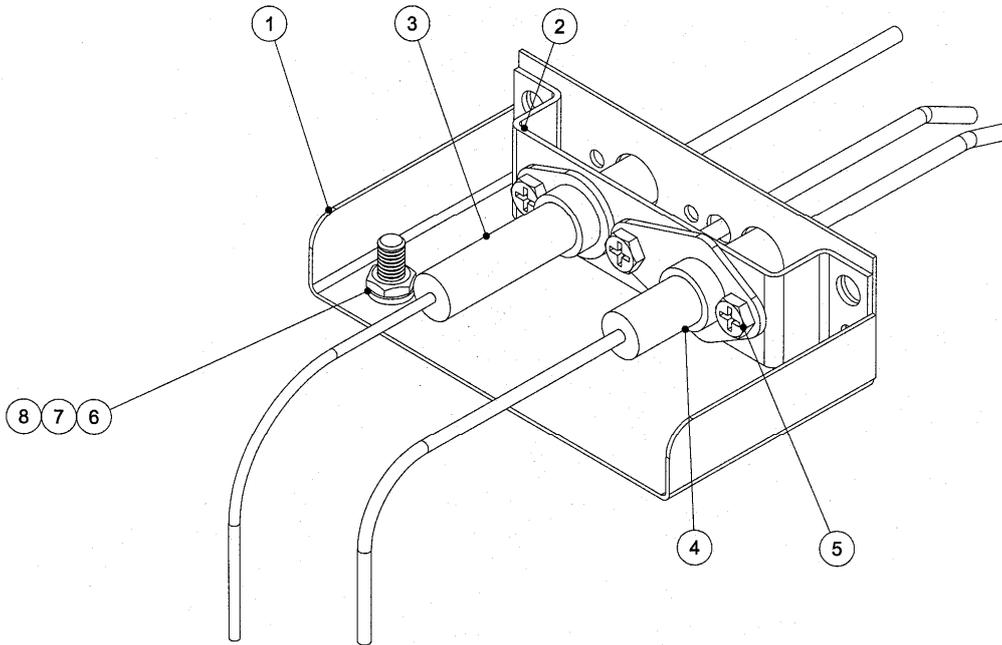
ELECTRODE SETTINGS



11.3.2 IGNITION ELECTRODE ASSEMBLY - FROM S/N 47875 TO 218595

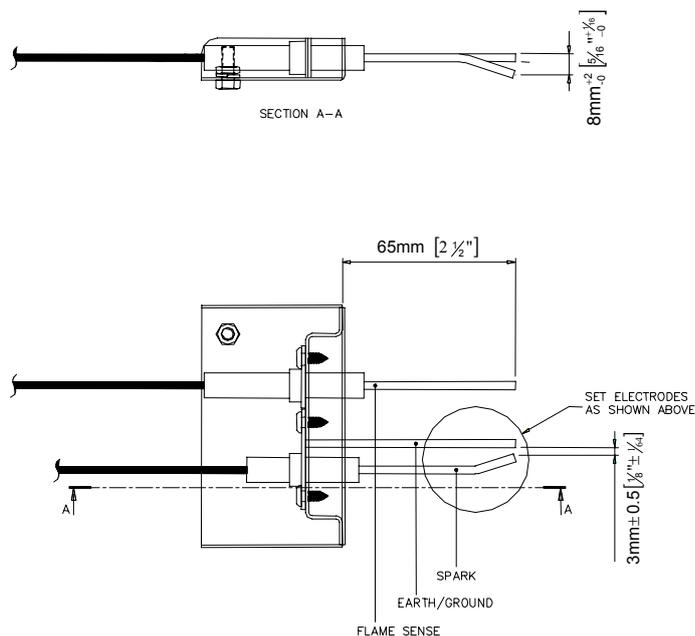
For units pre serial no 47875 refer section 11.3.3 / 11.3.4.

For units after serial number 218595 refer section 11.3.1



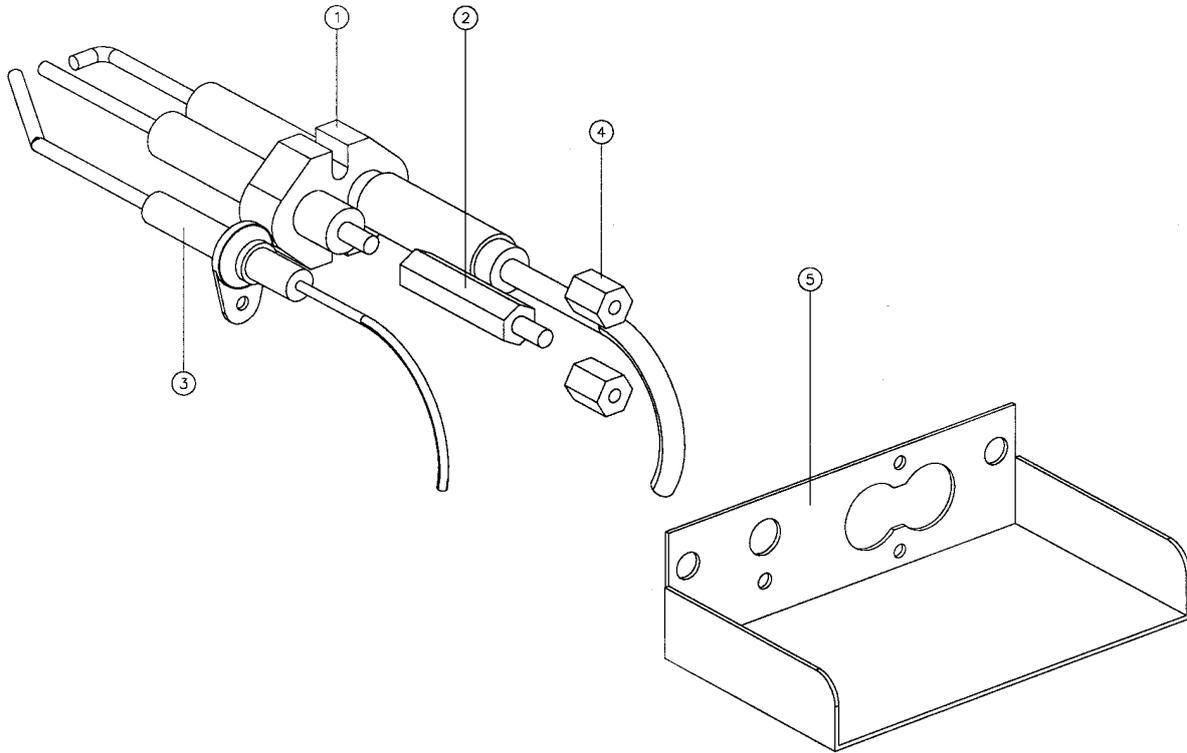
Pos	Part No.	Description
	SA 1021	IGNITION ELECTRODE ASSEMBLY (COMPLETE) - OBSELETE - REPLACE WITH 022909 ELECTRODE ASSEMBLY UPGRADE KIT
1	022903	IGNITION ELECTRODE BRACKET
2	023221	ELECTRODE MOUNTING BRACKET
3	022902	FLAME ELECTRODE
4	022901	SPARK ELECTRODE
5	041044	SCREW
6	041600	SCREW
7	045410	WASHER
8	044010	NUT

ELECTRODE SETTINGS



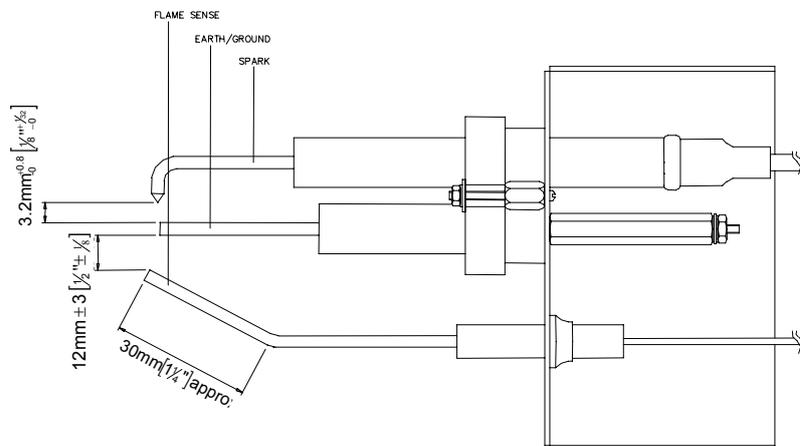
11.3.3 IGNITION ELECTRODE ASSEMBLY (NOT UK) - TO SERIAL NO 47875

For units after serial number 47875 refer section 11.3.2



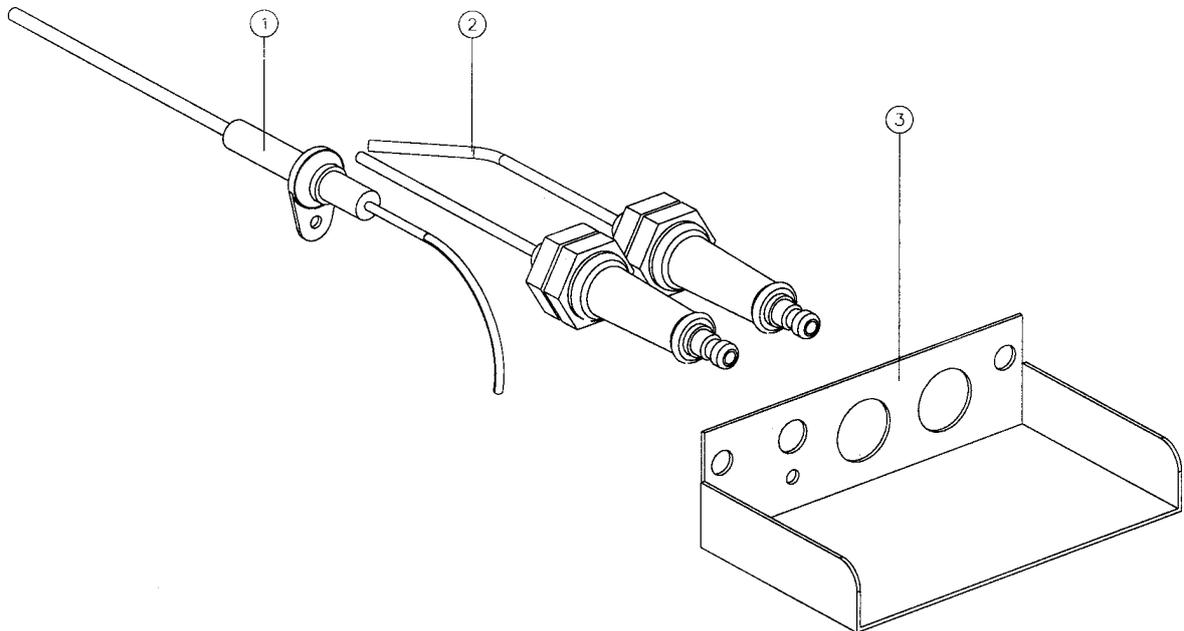
Pos	Part No.	Description
	015115	IGNITION ELECTRODE ASSEMBLY (COMPLETE) - OBSOLETE - REPLACE WITH 022909 ELECTRODE ASSEMBLY UPGRADE KIT
1	015316	IGNITION SPARK ROD
2	016051	ELECTRODE EXTENSION
3	015315	FLAME SENSOR - USE 022902 FLAME SENSOR
4	016050	ELECTRODE SPACER
5	015329	IGNITION ELECTRODE BRACKET
6	090127	VIDAFLEX SLEEVING

ELECTRODE SETTINGS



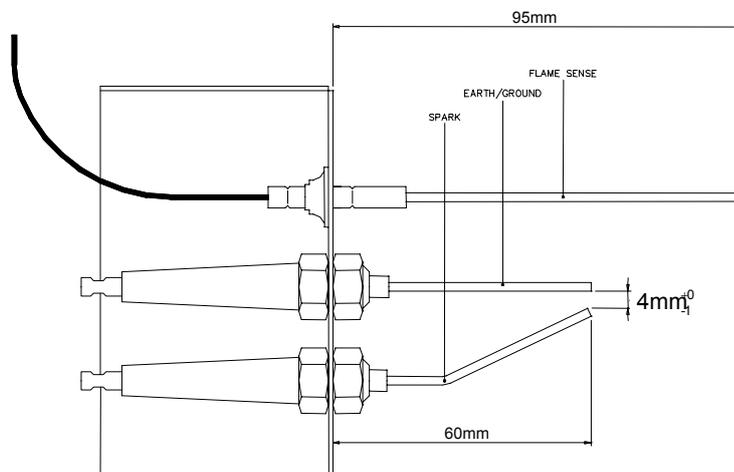
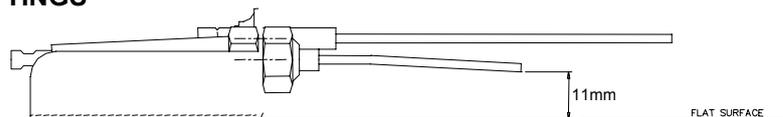
11.3.4 IGNITION ELECTRODE ASSEMBLY (UK ONLY) - TO SERIAL NO 47875

For units after serial number 47875 refer section 11.3.2

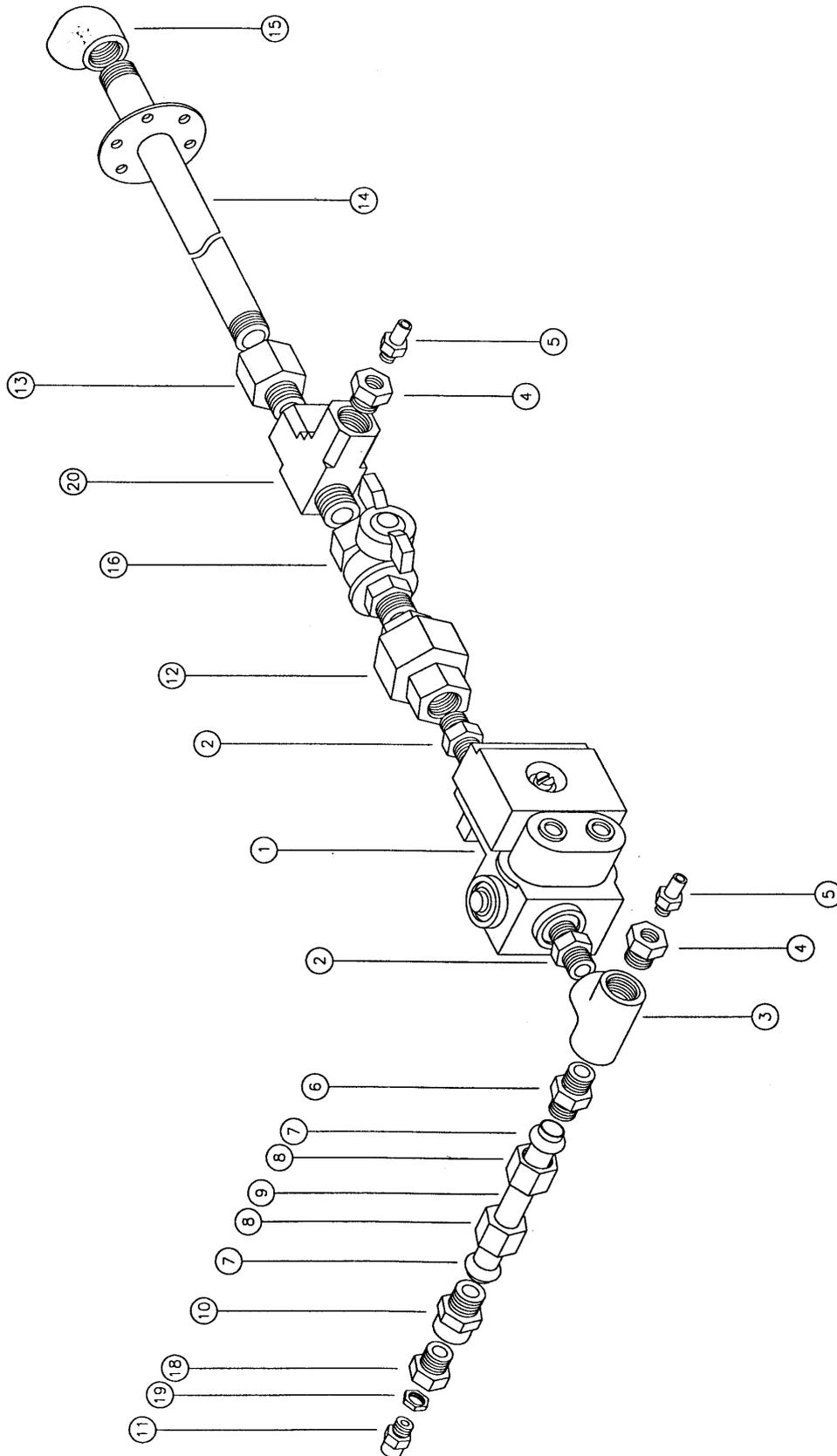


Pos	Part No.	Description
	018760	IGNITION ELECTRODE ASSEMBLY (COMPLETE) - OBSOLETE - REPLACE WITH 022909 ELECTRODE ASSEMBLY UPGRADE KIT
1	015315	FLAME SENSOR - USE 022902 FLAME SENSOR
2	018732	IGNITION ELECTRODE
3	018759	IGNITION ELECTRODE BRACKET

ELECTRODE SETTINGS



11.4 GAS PIPING ASSEMBLY



Pos	Part No.	Description
1	019370	GAS CONTROL VALVE (240V ONLY)
	015626	GAS CONTROL VALVE (110V USA/CANADA ONLY)
	015541	GAS CONTROL VALVE KIT (240V - REPLACES VALVE TYPE 25M02 WITH 19370 - GAS VALVE TYPE 25M42)
	019338	ELECTRICAL CONNECTOR (NOT ILLUSTRATED)
2	015542	CONNECTOR 3/8" BSP x 3/8" BSP
3	014989	TEE 3/8" BSP
4	011601	JET HOLDER 3/8" BSP x 1/8" BSP
5	019371	PRESSURE TEST POINT
6	013837	CONNECTOR MALE 1/2" TUBE x 3/8" BSP
7	013857	OLIVE 1/2"
8	013858	COMPRESSION NUT 1/2"
9	015308	INJECTOR TUBE
10	014961	CONNECTOR 1/2" TUBE x 3/8" BSP FEMALE
11	032170	INJECTOR Ø1.70 mm - LPG/PROPANE GAS
	032155	INJECTOR Ø1.55 mm -G31 PROPANE GAS (UK ONLY)
	032270	INJECTOR Ø2.70 mm - NATURAL GAS
	032260	INJECTOR Ø2.60 mm - G20 NATURAL GAS (UK ONLY)
12	015313	MACK UNION 3/8" BSP
13	015309	ADAPTOR 3/8" BSP MALE x 1/2" BSP FEMALE
14	004383	SUPPLY PIPE
15	015176	ELBOW 1/2" BSP FEMALE
16	025076	BALL VALVE 3/8" MALE x 1/2" BSP FEMALE
	015310	BALL VALVE 3/8" BSP (USA / CANADA ONLY)
17	015314	ADAPTOR 1/2" BSP x 1/2" NPT FEMALE
18	011601	JET HOLDER 3/8" BSP x 1/8" BSP
19	011740	BACK NUT 1/8" BSP
20	018108	TEE 3/8" BSP MALE/FEMALE (UK ONLY)
	015910	CONVERSION KIT - NATURAL GAS TO LPG
	019379	CONVERSION KIT - NATURAL GAS TO PROPANE (UK ONLY)
	016403	CONVERSION KIT - LPG TO NATURAL GAS
	019378	CONVERSION KIT - PROPANE TO NATURAL GAS (UK ONLY)

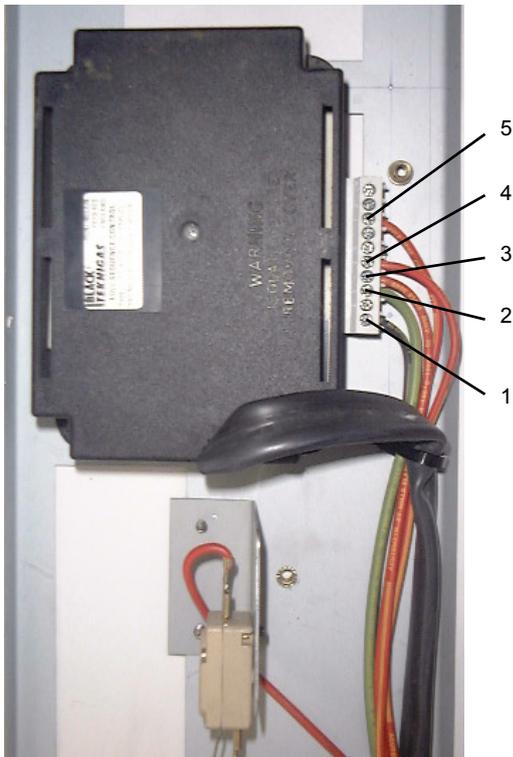
APPENDIX A. IGNITION BOX REPLACEMENT KITS

A.1 TEKNIGAS TO SIT IGNITION BOX REPLACEMENT KIT

For G32 gas convection ovens G32H (UK)
From serial number 23020 to serial number 203926

- a) Turn off power and disconnect from electrical supply. Open control panel.
- b) Remove ignition box mounting panel assembly (2 screws).
- c) Remove overtemp bracket (c/w overtemp).
- d) Cut all cable ties.
- e) Remove wiring block from ignition box and remove HT lead.
- f) Transfer wires to terminal block of replacement ignition box assembly as shown. (1 to 1, 2 to 2 etc).

Teknigas Assembly



SIT Assembly (New Assembly)



Refer new wiring diagram on next page for further information.

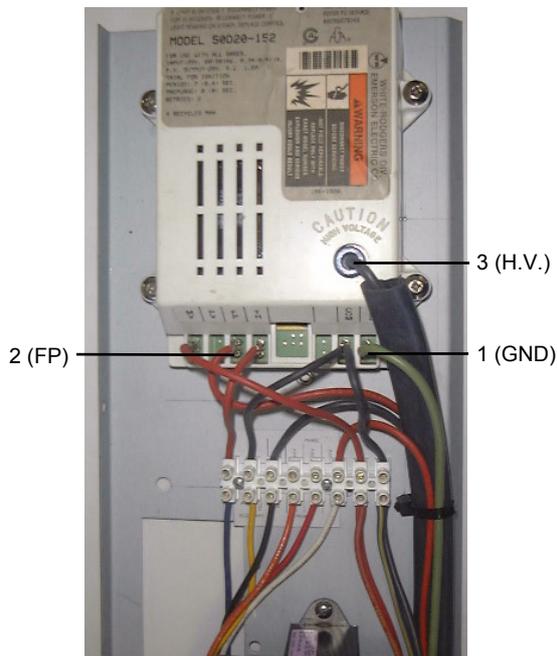
- g) Secure overtemp bracket to replacement panel.
- h) Fit replacement ignition box mounting panel assembly.
- i) Close control panel ensuring no trapped wires and thermostat capillary clear of HT terminal.
- j) Test unit operation.

A.2 WHITE RODGERS TO FENWAL IGNITION BOX REPLACEMENT KIT

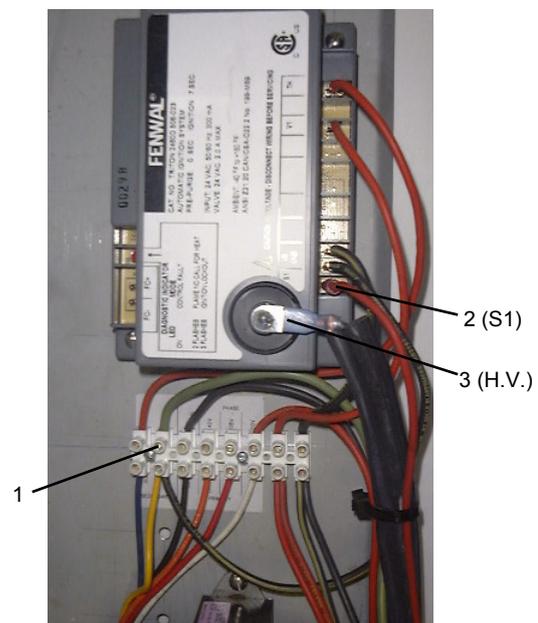
For G32 gas convection oven models G32W (USA/Canada)
For serial number up to 203926

- a) Turn power off and disconnect from supply. Open control panel.
- b) Remove ignition box mounting panel assembly (2 screws).
- c) Unscrew transformer from panel (for re-use on new assembly).
Cut all cable ties securing wires to panel.
- d) Secure transformer to replacement mounting panel. (Note: transformer overload switch to the rear).
- e) Rewire ignition box as described below.
 - 1) Remove green wire (1) from old ignition box.
Remove terminal, strip wire and connect to terminal block.
 - 2) Remove red wire (2) from ignition box.
Re-terminate with $\frac{3}{16}$ " terminal (supplied) and fit to ignition box S1.
 - 3) Remove HT lead (3) from ignition box.
Terminate with $\frac{1}{4}$ " terminal (supplied) and fit to ignition box.
 - 4) Transfer all transformer wires from old terminal block to new terminal block.
 - 5) Transfer gas valve solenoid wires (2 pairs) from old terminal block to new terminal block.

White Rodgers Assembly



Fenwal Assembly (new Assembly)



- f) Attach replacement ignition box panel assembly to unit (2 screws).
- g) Close control panel ensuring no trapped wires and thermostat capillary is clear of HT terminal.
- h) Test unit operation.

WIRING SCHEMATIC FOR WIRE RE-CONNECTION TO REPLACEMENT
IGNITION BOX ASSEMBLY

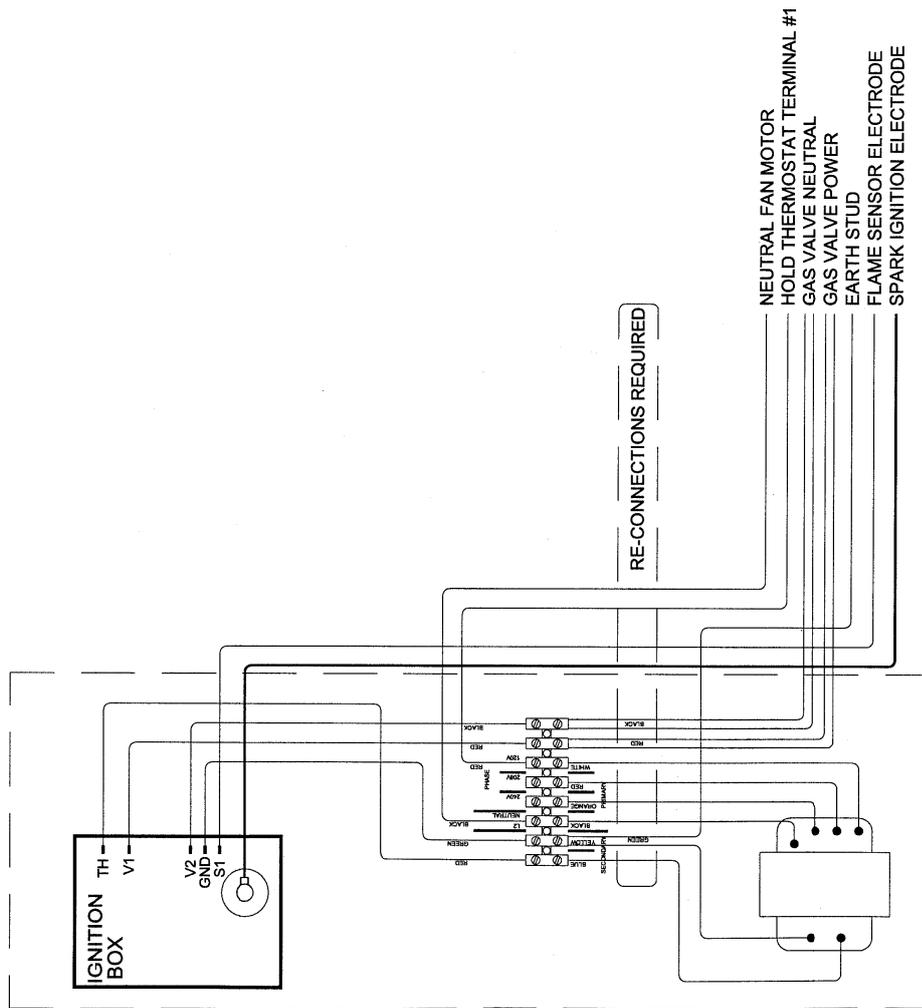
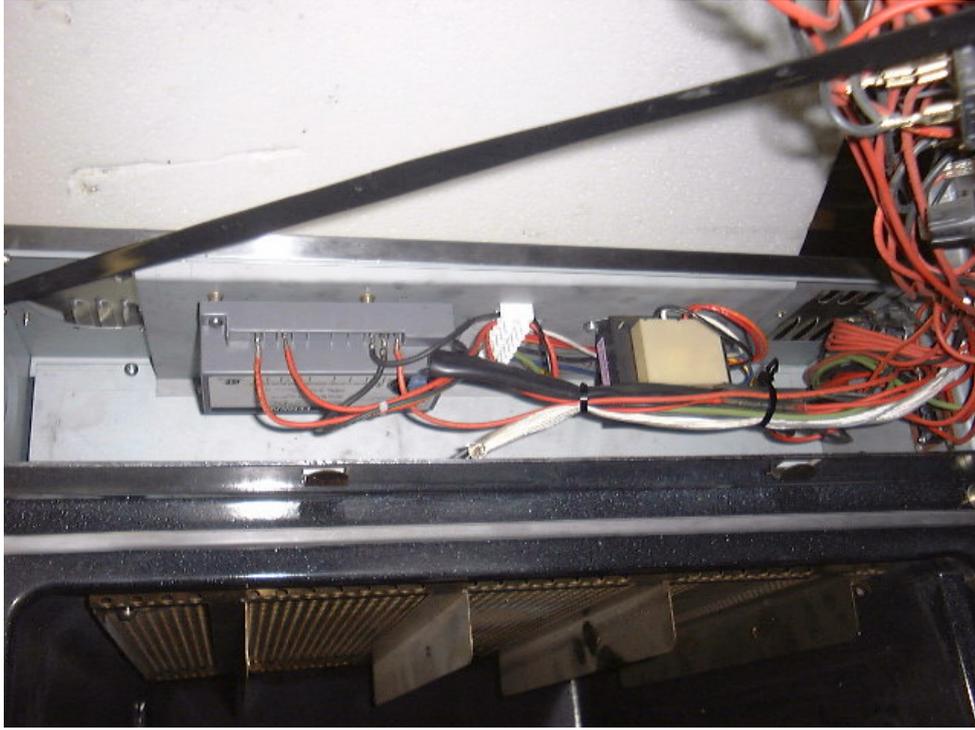


ILLUSTRATION OF FITTED REPLACEMENT IGNITION
BOX



APPENDIX B. IGNITION BOX SPECIFICATIONS

B.1 110 VOLT G32 MODELS, USA / CANADA

Up to serial number 203926

Make	White Rodgers
Type	50D20-150 or 50D20-152
Case Colour	White
Voltage	24Vac (18-30Vac), 50Hz
Ignition Trial Period	7 Seconds
Pre-purge	0 seconds
Ignition Retries	2 (60 second purge)
Re-ignition Attempts	4
Spark Rate	60 Hz
Spark Voltage	25 kV
Lockout Indicator	At top of casing (internal) Flashing light confirms lockout condition. If light is on steady, electrical fault exists.
Minimum Flame Current	1 μ A

From serial number 203927

Make	Fenwal
Type	2460D-506-023
Case Colour	Grey
Voltage	24Vac (18-28Vac)
Ignition Trial Period	7 Seconds
Pre-purge	0 seconds (3.5 second delay on initial start)
Ignition Retries	2 (30 second purge)
Re-ignition Attempts	2
Spark Rate	60 Hz
Spark Voltage	25 kV
Lockout Indicator	At rear of casing 2 flashes indicates flame error. 3 flashes confirms lockout condition.
Minimum Flame Current	0.7 μ A

B.2 220-240 VOLT G32 MODELS

Up to serial number 203926

UK Models Only

Make	Black Teknigas
Type	703-05-10
Case Colour	Black
Voltage	230-240 Vac
Ignition Trial Period	10 Seconds
Pre-purge	5 seconds
Ignition Retries	None
Re-ignition Attempts	1
Spark Rate	-
Spark Voltage	-
Lockout Indicator	None
Minimum Flame Current	1.0 μ A

Other Markets

Make	Scarico / Ispracontrols
Type	33100211 / 33000211
Case Colour	Blue
Voltage	220-240 Vac
Ignition Trial Period	7 Seconds
Pre-purge	0 seconds
Ignition Retries	None
Re-ignition Attempts	None (33100211) / 1 (33000211)
Spark Rate	4 Hz
Spark Voltage	10 kV
Lockout Indicator	None
Minimum Flame Current	1.0 μ A

From serial number 203927

All Models

Make	SIT
Type	501 EFD
Case Colour	Black
Voltage	230 Vac (220-240)
Ignition Trial Period	10 Seconds
Pre-purge	5 seconds
Ignition Retries	None
Re-ignition Attempts	1
Spark Rate	15 Hz
Spark Voltage	15 kV
Lockout Indicator	None
Minimum Flame Current	0.5 μ A