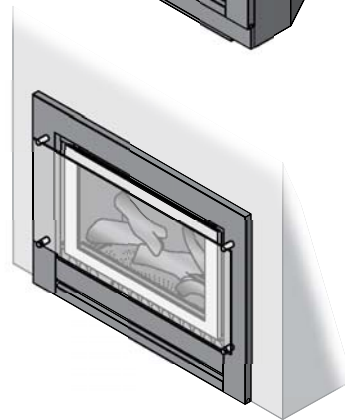
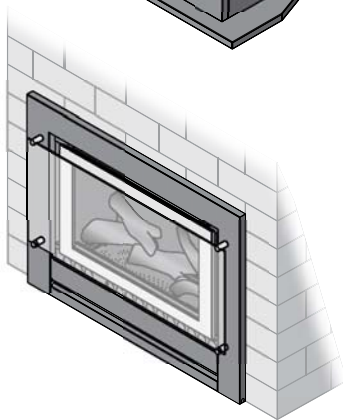
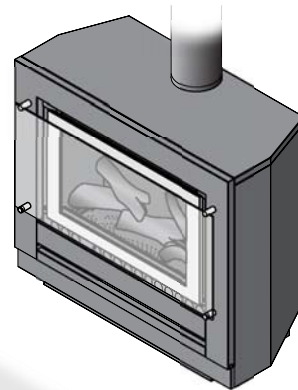
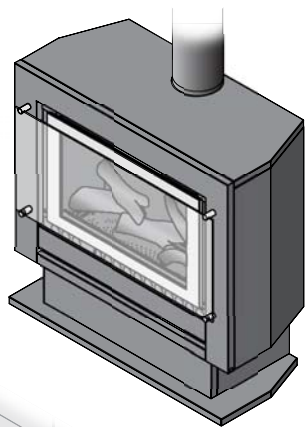


# Rinnai

## SERVICE MANUAL

### Sapphire - RIB2312

#### GAS LOG FLAME FIRE



**Intentionally Blank**



The Australian  
Gas Association

All Rinnai products are certified by the Australian Gas Association as compliant to relevant Australian Standards.



Quality  
Endorsed  
Company

ISO 9001 Reg 415

Rinnai New Zealand has been certified to ISO 9001 Quality Assurance by Telarc.



N10378

All Rinnai products carry the “C Tick” symbol. This signifies compliance with the Electromagnetic Compatibility (EMC) requirements of the Australian Communications Authority (ACA) which aim to minimise electromagnetic interference.

Rinnai Australia Supplier Code N10378.

© Copyright Rinnai Australia Pty Ltd

A.C.N. 005 138 769 A.B.N. 74 005 138 769

All rights reserved

Produced by Technical Services Department

2017 - Issue 1

*No portion or part of this manual may be copied without prior permission from Rinnai Australia.*

*Rinnai Australia takes no responsibility for the accuracy or otherwise of information contained in*

*this manual, and reserves the right to make modifications and change specifications without notice.*

#### Key to Warning Symbols



Failure to comply with the following instructions may result in serious personal injury or damage to the appliance.



Be careful of possible electric shock. Wiring inside this appliance may potentially be at 240 Volts.



Read Fault Diagnosis and Wiring Diagram carefully to avoid incorrect wiring

Please follow instructions carefully to ensure safe and appropriate service. After completing the service and confirming that there no gas leaks or incorrect wiring, test operation of unit according to the Customer Operating Instructions. After confirming normal operation, explain what was serviced to the customer and operation principles if necessary.

This manual has been compiled by Rinnai Australia Engineering & Technical Department. While many individuals have contributed to this publication, it will be successful only if you - the reader and customer - find it useful. We would like to extend an invitation to users of this manual to make contact with us, as your feedback and suggestions are valuable resources for us to include as improvements. Rinnai are constantly working toward supplying improved appliances as well as information, and specifications may be subject to alteration at any time.

# Table of Contents

Introduction .....	1
Specifications .....	3
Dimensions .....	5
Schematic Diagram .....	6
Operation Principles .....	7
Fault Analysis .....	8
Fault Finding .....	10
Commissioning the Appliance .....	11
Dismantling for Servicing .....	14
Wiring Diagram .....	21
Spare Parts List and Exploded Diagrams .....	22

# Introduction

---

## GENERAL DESCRIPTION

Your Sapphire Model RIB2312 is a burning log effect, gas space heating appliances with natural draft combustion system, intended for use with Natural Gas, Propane or ULPG. The Burning log effect is achieved using one single main burner with strategically placed, 'life like', imitation logs and granules. Temperature control is achieved by pressing the up or down marked arrows on the manual control switch or via a cordless wall mounted remote control thermostat / timer.

This heater has an electronic ignition with intermittent pilot. The pilot is only on when the heater is in operation.

Burner, logs and granules are contained in a glass fronted, sealed burner box.

Combustion air is drawn from the room. Combustion product is exhausted via the flue discharge vent when installed in a masonry chimney or when installed in a zero clearance box or as a stand alone unit through a 100mmø x 150mmø twin skinned flue to the outside of the house.

This appliance is modular and primarily consists of an 'Engine' that is utilized in any of the 3 configuration types as listed below.

### 1. **Fireplace / Masonry - Engine:**

The appliance is directly mounted into an existing masonry fire place or a non-combustible/masonry enclosure that has a chimney. When installed correctly the appliance is a flush to wall mount.

### 2. **Zero Clearance:**

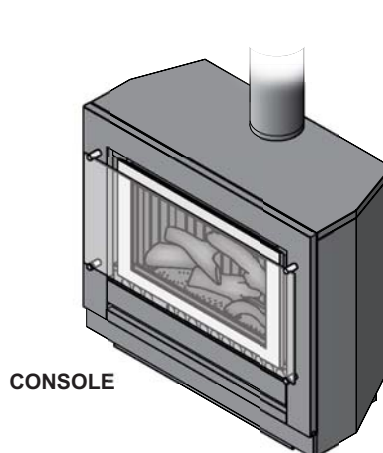
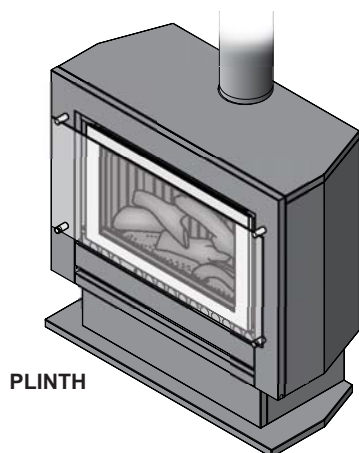
The appliance is fitted within a zero clearance box then inserted into a wall or other suitable structure. Materials need not be non-combustible. When installed correctly the appliance is a flush to wall mount.

### 3. **Freestanding Plinth or Console appliance:**

The appliance is housed in a decorative fabricated sheet metal box that is intended to be freestanding and not inbuilt.



*Note: Standard model fascia shown for illustrative purposes*



# Glossary of Terms and Symbols

---

This glossary of terms and symbols is provided to assist you in understanding some of the language used throughout this manual.

dB(A)	-	sound pressure level in decibels, “A” range
DC	-	direct current
AC	-	alternating current
Hz	-	Hertz
IC	-	integrated circuit
kcal/h	-	kilocalorie per hour
kPa	-	kilopascals
LED	-	light emitting diode
mA	-	milliamps
MJ/h	-	megajoule per hour
mm	-	millimetres
OHS	-	overheat switch
PCB	-	printed circuit board
CPU	-	central processing unit
POT	-	potentiometer
rpm	-	revolutions per minute
SV	-	solenoid valve
∅	-	diameter
Δ °C	-	temperature rise above ambient
POV	-	modulating valve
TH	-	thermistor

# Specifications

General Product Specification	
Model	RIB2312 N (Natural Gas) RIB2312 L (Propane)
Model Name	Sapphire Gas Log Flame Fire
Features	Inbuilt or Freestanding Gas Space Heater Burning log effect Glass front Convection Fan, top warm air outlet Glass dress guard (standard model) Mesh dress guard (classic model)
Installation	Inbuilt Masonry, Inbuilt Zero Clearance and Freestanding options
Combustion Method	Bunsen type burner
Flue - Masonry (if required) Flue - Freestanding & zero clearance	FlexiLiner diameter. 100 mm Twin skinned diameter. 100mm x diameter. 150mm outer
Convection Fan	Double drum. 160mm x 180mm - 2 speed - Centrifugal
Gas connection	G 1/2" flared male
Gas type	NG, Propane Universal LPG
Ignition	Continuous Spark Electronic Ignition
Input / Output	Refer data plate and energy rating label on appliance
Power Consumption	High 50 W, Standby < 3.0 W 1500 mm cord is supplied with a 3 pin plug
Safety Devices	Overheat Switch Electrical Fuse Flame Failure Sensing System (FFD) Power Failure Protection Gas Lock-out (1 minute after attempted restart)
Temperature Control (if fitted)	Thermostatic, temperature control range 7 - 32°C
Glass - Primary Glass - Secondary Glass seal material	Ceramic Glass Tempered Glass Woven fibreglass chord - Hytex® 1000 by mid Mountain USA
Weight (Engine Only)	60 Kg - "uncrated" - no Flue
Operation	Push button control panel or via optional wireless remote/ thermostatic control



**For other appliance specifications refer to appliance data plate.**

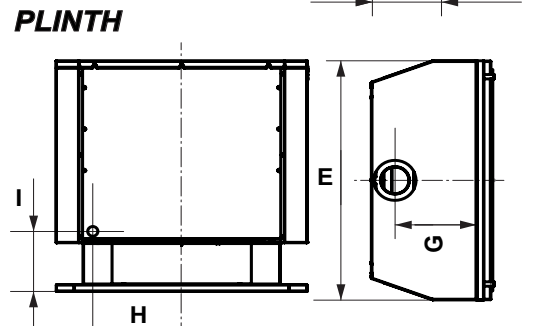
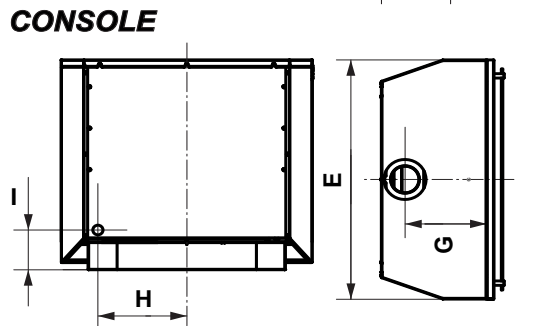
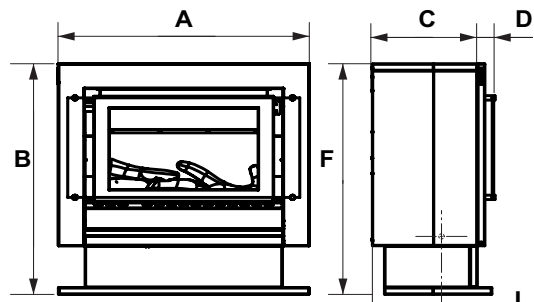
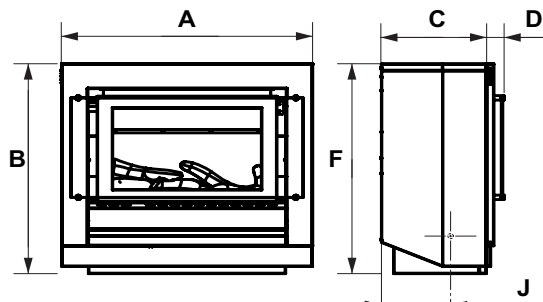
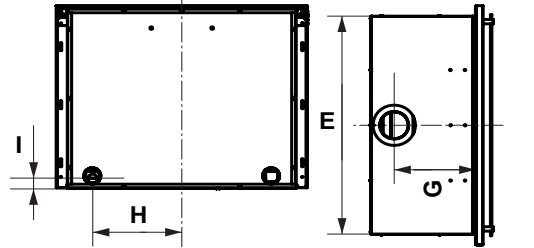
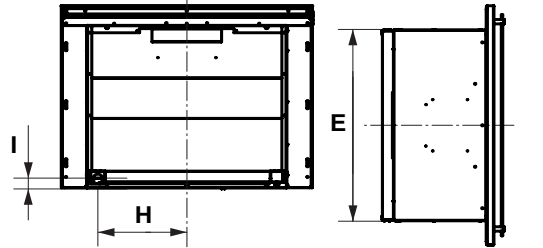
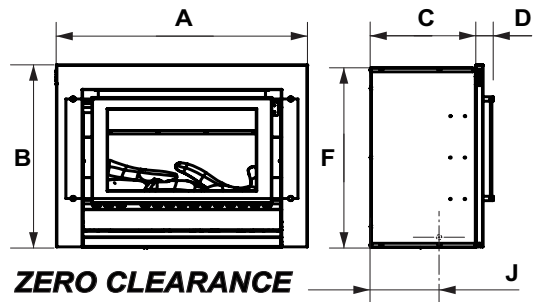
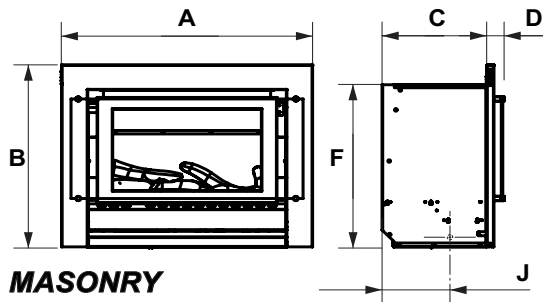


## Technical Specifications

Item	Description		
	Natural Gas	Propane	ULPG
Gas Input	High	30.0 MJ/h	
	Low	16.5 MJ/h	
kW Output	6.97 kW		5.63 kW
Appliance Inlet Pressure	1.13kPa	2.75kPa	2.75 kPa
ATPP Burner pressure	High	0.71kPa	1.70 kPa
	Low	0.15kPa	0.50 kPa
Main Burner Injector Ø	2.80mm (Threaded Hex Brass)	1.55mm (Threaded Hex Brass)	
Pilot injector Ø (SIT pilot number)	# 62	#35	
Gas Control	Rinnai Universal Control		
Ignition module assembly	Rinnai Ignitor E1-0218		
Gas Connection	1/2" BSPT Male brass fitting.		
Pilot assembly	Pilot – SIT 190 series		
Internal gas piping	Pilot - 6mmØ x 1.0mm aluminium Burner - 8mmØ x 1.0mm aluminium		
Remote control	IR remote control		
Weight, (Engine only)	60kgs		
Convection Fan	Double Ø160mm x 180mm - 2 speed - Centrifugal		
Glass – Primary	Ceramic Glass		
Glass – Secondary (Dress Guard)	Tempered Glass		
Glass seal material	Woven fibreglass chord – Hytex <sup>®</sup> 1000 by Mid Mountain USA		
Electrical connection – cord	230-240V 50Hz 7.5Amps 3pin plug + ~1.5m Lead. Cert #18070		
Power Consumption	Less than 50W Normal Operation. Less than 3W on Standby.		
Fuse	3Amp 250V glass fuse		
Temperature range	7°C -32°C		
Decibel level	Hi ~ Lo=45 ~ 37dB(A)		
Flue – Masonry. (If required)	Flexi Liner Ø100mm		
Flue – Freestanding & Zero Clearance	Twin skinned Ø100mm x Ø150mm outer AGA #4198		

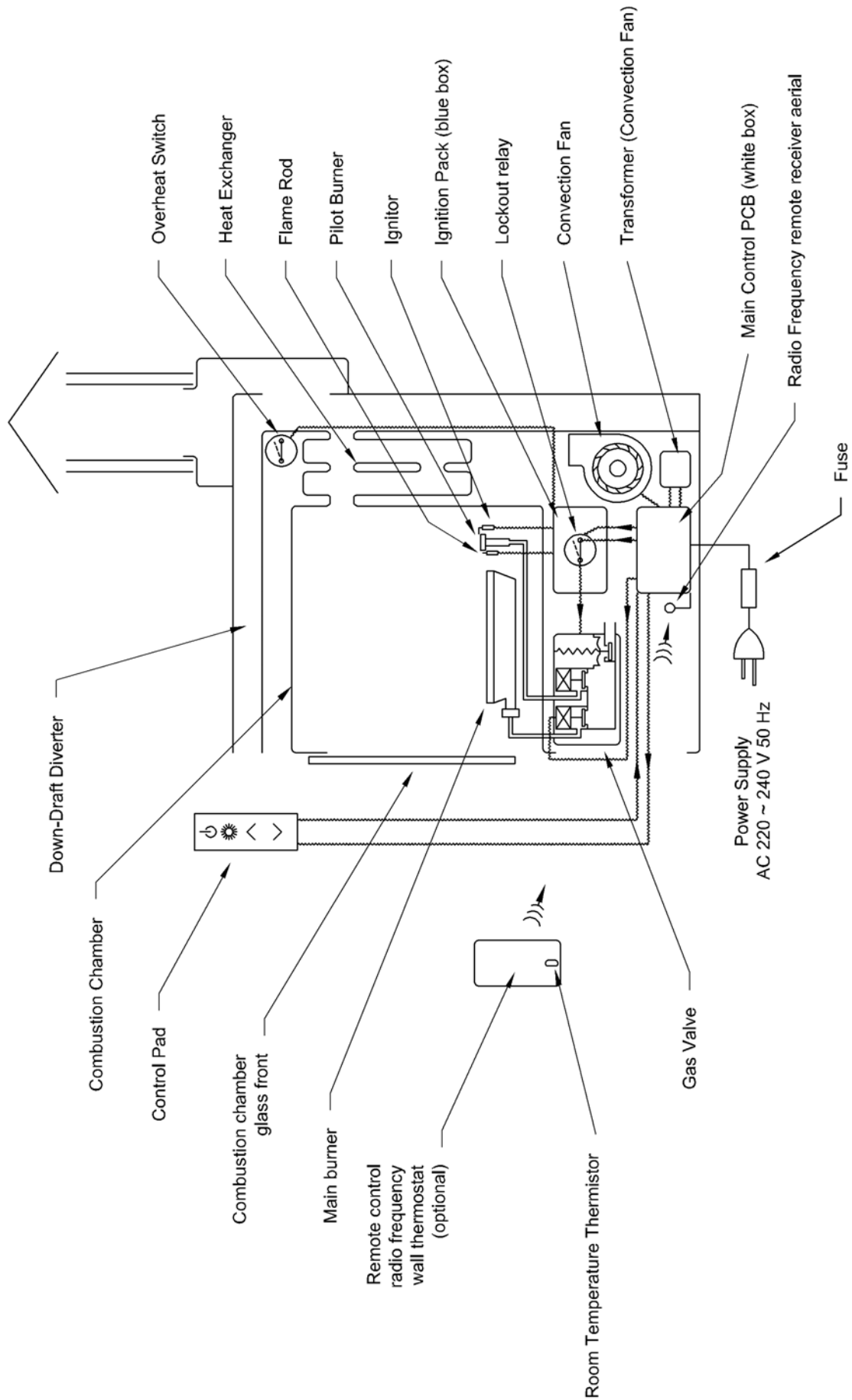
# Dimensions

Note: All dimensions are in millimetres



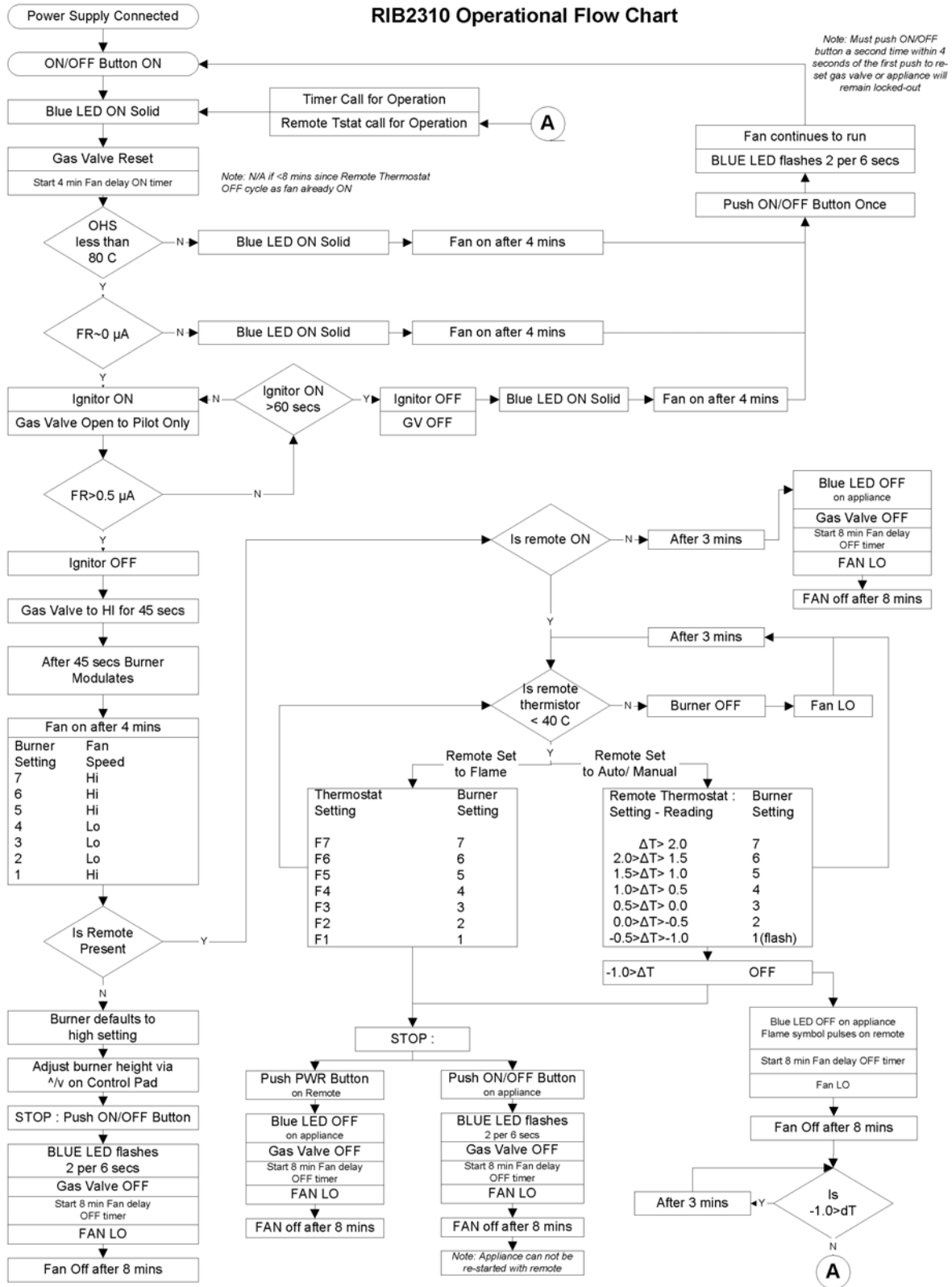
MODEL		External Dimensions - Flue Centre						Gas Connection			
		A	B	C	D	E	F	G	H	I	J
Masonry	Standard	865mm	660mm	359mm	62mm	691mm	589mm	-	305mm	45mm	235mm
	Classic	865mm	701mm	359mm	76mm	691mm	589mm	-	305mm	45mm	235mm
Zero Clearance	Standard	865mm	660mm	363mm	62mm	795mm	650mm	280mm	305mm	45mm	240mm
	Classic	865mm	701mm	363mm	76mm	795mm	650mm	280mm	305mm	45mm	240mm
Console		865mm	760mm	363mm	62mm	865mm	760mm	280mm	305mm	144mm	235mm
Plinth		865mm	837mm	363mm	62mm	865mm	837mm	280mm	305mm	219mm	235mm

# Schematic Diagram



# Operation Principles

(refer to separate Customer Operation/Installation manual - section 'About your Heater - page 7)



# Fault Analysis

## Fault Analysis

Symptom	Cause	Check
Burner will not light	No power present	Ensure power cord is plugged into Power Supply AC216 ~ 264V and turned on  Check that 3A fuse in harness is OK (<1Ω)  Check that power is supplied to control panel  Ensure manual control panel is turned ON and LED luminesces
	Over Heat Switch open circuit, faulty or OHS connector disconnected (unit sparks for 2 seconds then stops)	With power supply off check that OHS continuity is <1Ω OHS switch activation caused by insufficient flue draw  Check if OHS lead is not disconnected from Ignition pack
	No gas present or air in gas supply	Ensure gas supply is turned on  Purge air from gas pipe (installer)  Repeat lighting procedure
	Gas valve not opening	Check power supply to POV Yellow – Yellow DC12V POV resistance 75 ~ 85Ω
	Ignition failure (no spark present)	Listen if spark is present  Check by visual observation that spark is between electrode and Pilot head (gap 3.5mm ± 0.5)  Check power supply to ignition box from control unit Blue – Black AC216 ~ 264V  Check condition of ignition probe and check High Tension lead connection
Pilot lights, then goes out	Flame rod not sensing	Check : - Flame Rod - Connection to Flame Rod - Pilot Flame - Blue Box (check earthing connection)
Smell of gas	Leaking gas	Turn off gas at meter or LPG/Propane cylinder  Is the gas connection secure, retighten and recheck connection for leakage
Fan not working	Fan is off	Delay time for fan to come ON is 4 minutes  Check voltage and resistance at fan motor Blue - White High fan 120 VAC 170~190 Ω Yellow - White Low fan 120 VAC 240~260 Ω Red - White Not used 120 VAC 260~280 Ω

## Fault Analysis

### Electrical Component Analysis

**Note:** Before starting inspection, check wiring and double check all connectors are tight

**Before carrying out checks marked\*, remove power cord from socket**

Nature of fault	Examination point	Diagnostic point	Values	Actions
A. Burner will not light	(1) Is the voltage correct	Check power point and voltage	AC216 ~ 264V	Ensure power cord is plugged in and turned on  Check that power is supplied to control panel  Ensure manual control panel is turned ON
	(2) Is the 3A fuse in the power supply OK	* measure the resistance of the fuse	<1Ω	Replace if blown
	(3) Over Heat Switch open circuit, faulty or OHS connector disconnected (unit sparks for 2 seconds then stops)	*Measure the resistance of the switch	<1Ω	<b>With power supply off</b> check that OHS continuity is <1Ω  OHS switch activation caused by insufficient flue draw  Check if OHS lead is correctly connected to Ignition pack
	(4) Is there voltage to the ignition pack	With the appliance switched on check for voltage at the ignition pack	AC216 ~ 264V	
B. No spark at Ignition probe	(5) Loose high tension lead or cracked/ damaged ignition probe	Check by visual observation that spark is between electrode and Pilot head (gap 3.5mm ± 0.5)		
C. Ignition occurs but fire pilot does not light	(6) Check gas pressure at test point	Check gas pressure with digital manometer	See data plate	
	(7) Check Voltage at POV	Yellow – Yellow POV terminals	DC12V 75 ~ 85Ω	
D. Pilot lights but goes out after 1 minute	(8) Check flame rod current	Check on flame rod testing connection plug	>15mA	
E. Fire lights but flame does not modulate	(9) Check voltage to POV	Yellow – Yellow POV terminals	DC12V 75 ~ 85Ω	
F. Fan does not come on	(10) Check voltage at fan motor	HI Fan Blue-White	AC110 ~ 130V	
		LO Fan Yellow - White	AC110 ~ 130V	
	(11) Check resistance at fan motor	HI Fan Blue-White Lo fan Yellow - White	170~190 Ω  240~260 Ω	

# Fault Finding

## TROUBLE SHOOTING CHECKLIST

Use the following chart to help determine whether a service call is required, however if you are unsure about the way your heater is operating, contact Rinnai or your local agent.

Probable Cause	Fault Condition							Simplest Possible Remedy
	Burners fail to ignite	Smell of gas	Fan Not Working	Minor soot deposits	Severe sooting	Glass, Condensating	Glass, Streaky lines	
Not plugged in or turned off	●		●					Plug in power cord and turn power 'ON'
Mains power failure	●		●					Re-ignition, when power restored
(Initial Install) Air in gas pipe	●							Installer to purge air from gas supply
Air in hose	●							Repeat Ignition procedure
Ignition failure	●							Repeat Ignition procedure
Flat battery for remote control *	●						●	Replace remote control battery
Gas supply turned off	●							Turn gas supply on at the meter or cylinder
Gas escape		●						Isolate gas supply, call Rinnai
Inadequate flue system	●				●			Check Flue System
Insufficient gas pressure	●				●			Check Gas Pressure
Log Misalignment					●			Re-align Log Media
Normal operation				●			●	No action is required
Normal operation			●					Fan not working - fan automatically comes on after 4 minutes not heat switch activated
Normal operation						●		Allow heater to warm up
Heat switch not activated			●					Allow heater to run on high for 4 minutes
Possible fan fault			●					Check Fan
Controller display blank	●						●	Replace batteries.
Control Panel Operation **	●						●	Refer to Operation / Installation Manual
Controller Not Synchronised							●	Refer to Operation / Installation Manual

\* Only applicable when optional remote controller is used. \*\* Only applicable if the remote controller is programmed.

Rinnai recommends that this appliance be serviced every 2 years, including inspection of the flue system.

If the power supply cord, gas supply hose or any other component of the heater is damaged, they must be replaced by Rinnai or a suitably qualified person.

Any service or repair work should only be carried out by an authorized person.

Do not remove any panels or attempt to carry out any service work other than that mentioned in the trouble shooting chart.

The user shall be advised that appliances incorporating a solid fuel effect, and designed to operate with luminous flames, may exhibit slight carbon deposits.

If you are unsure about the way your heater is operating, contact Rinnai Australia, or your local agent.

# Commissioning the Appliance



**240 VOLTS, RISK OF ELECTRICAL SHOCK!** Exercise caution as there is potential for electric shock from the exposed wiring and circuitry when panels are removed.

**DO NOT** leave the appliance unattended when the power is connected and the panels are removed.

The gas type codes and gas pressures for this appliance **MUST BE** checked and set in accordance with these instructions when the appliance is installed, **OR** after the replacement of any component or reassembly after service.

Burner gas pressures and gas types are factory set.

The location of the gas control is below the combustion chamber on the right hand side of the appliance.

The location of the data plate is in the air gap at the right hand side of the appliance.



**Gas supply pressure is to be checked with all other gas appliances in the household running on high. Failure to check this may result in lower than recommended required gas pressures, resulting in poor performance and reduced flame effect.**

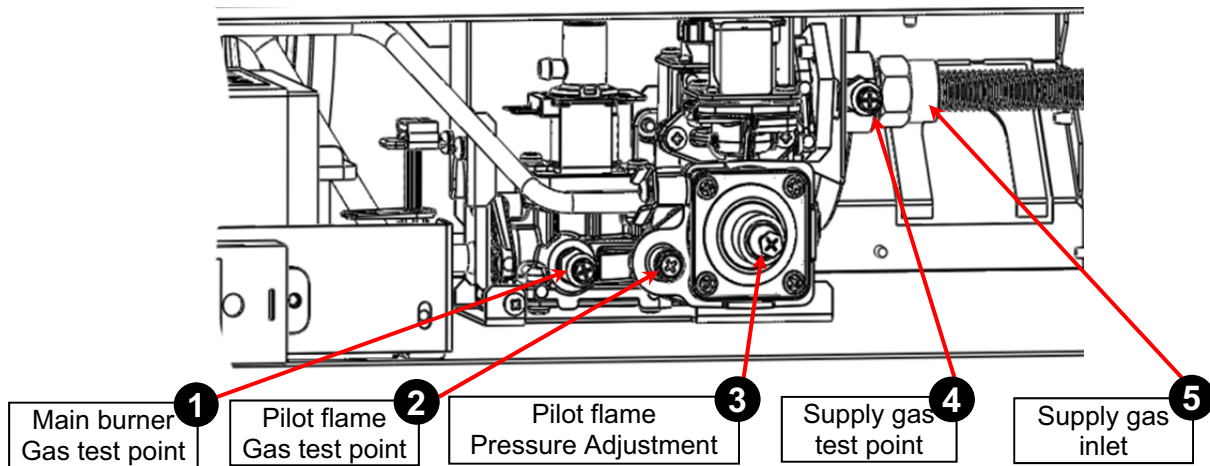
## Step 1. Checking Supply Pressure (Ensure gas is connected)

1. Remove the gas inlet test point screw (4) and connect the positive pressure manometer hose. Refer to Gas Control Valve drawing below.
2. Press the heater ON/OFF button (15), on the PCB control panel to start the ignition sequence. The appliance will ignite normally. Refer to PCB Control panel image on the next page.
3. Check the pressures as per the chart below for the correct gas type. Ensure all other gas appliances in the household are running on 'HIGH'.

	Natural Gas	Propane Gas
Minimum Supply pressure	1.13 kPa	2.50 kPa
Maximum Supply pressure	3.50 kPa	3.00 kPa

4. Press the ON/OFF to stop the appliance operation.
5. Disconnect the manometer hose and replace the inlet test point screw. Check for leaks using soapy water solution.

## Gas Control Valve



## Step 2 . Setting burner gas pressure

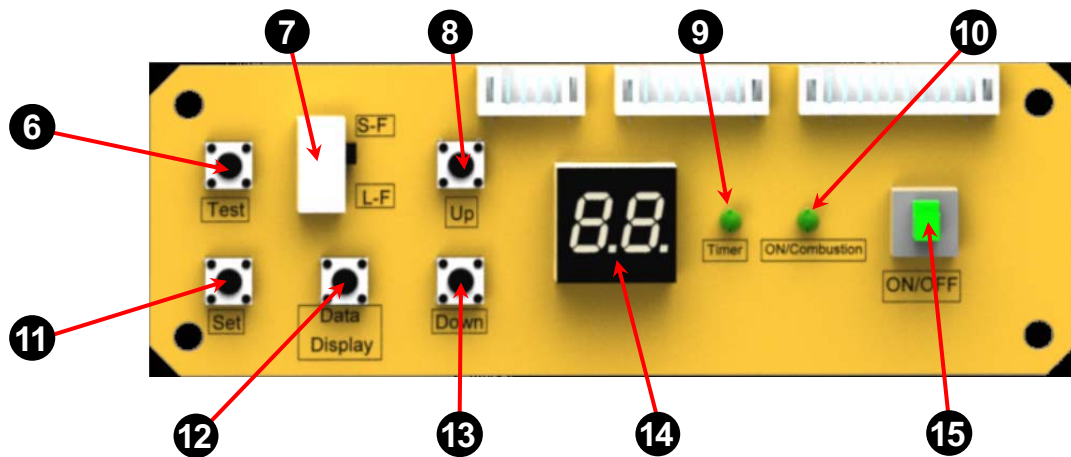
1. Remove the main burner test point screw (1), and connect the positive pressure manometer hose.
2. Press the heater ON/OFF button (15), on the PCB control panel to start the ignition sequence. The appliance will ignite normally. Refer to PCB Control panel image on the next page.
3. Press the 'TEST' button (6), twice on the PCB control panel, the igniter will spark and the appliance will light to its lowest setting, (Main burner - stage 1), and the display (14), will show 'PL'. Refer to table on the next page for correct gas settings, (data plate values override values printed in this instruction).
4. Press the 'UP' button (8) or "DOWN" button (13) to adjust to the required value if values are different.



5. Press the 'Set Button' (11) , once to save the setting. The display (14) , should now be displaying 'PH', (Main burner stage 7). Refer to chart below for correct gas settings, (data plate values override values printed in this instruction).
6. Press the 'UP' button, (8) or "DOWN' button (13) to adjust to the required value.
7. Press the 'Set Button', (11) , once to save the setting.
8. The display (14) will now show '7'. If the display does not change to '7' there was an error in pressure setting and the pressure setting procedure should be repeated from step 1 onward after turning the appliance 'OFF'
9. With display (14) , showing '7' Press the 'ON/OFF' button (15) .
10. Setting main burner pressure is now complete. Remove the manometer hose and replace the inlet test point screw. Check for leaks using soapy water solution.

	Natural Gas	Propane Gas
P L (stage 1)	0.15	0.50
P L (stage 7)	0.71	1.80

### PCB Control Panel



### Step 3 . Checking and setting Pilot burner pressure

1. Remove the pilot flame gas test point screw (2) and connect a positive pressure manometer hose.
2. Press the 'ON/OFF' button (15) on the PCB control panel to start the ignition sequence, the appliance will ignite normally. Refer to the PCB control image on the previous page.
3. Press the 'TEST' button (6) , twice on the PCB control panel, the igniter will spark and the appliance will light to its lowest setting, (Main burner - stage 1), and the display (14) , will show 'PL'.
4. Adjust the pilot flame gas pressure to the value for the gas type as listed in the table below via the 'Pilot Flame Pressure Adjustment' screw (3).

Pilot Flame Pressure	Natural Gas	Propane Gas
	1.00 kPa	2.00 kPa

5. Press the 'ON / OFF' button (15) once to stop the appliance operation. Refer to the PCB control panel image above.
6. Disconnect the manometer hose and replace the pilot flame gas test point screw.
7. Check for gas leaks using soapy water, setting or checking pilot burner pressure is now complete.



**Always check gas pressure values to those recorded on this appliances data plate, values on the data plate override values printed in this instruction.**

## Commissioning the Appliance for different gas type



**240 VOLTS, RISK OF ELECTRICAL SHOCK! Exercise caution as there is potential for electric shock from the exposed wiring and circuitry when panels are removed..**

**DO NOT leave the appliance unattended when the power is connected and the panels are removed.**

This appliance is factory set for the correct gas type as per its gas type labelling, re-commissioning for gas type will only be required if the PCB is being replaced or if it has undergone a gas type conversion, i.e.; from NG to Propane or vice versa. Commissioning of the gas is carried out via the PCB.



**Commissioning of the PCB must be carried out BEFORE the gas pressures are checked.**

1. Turn on the gas and power supply to the appliance.
2. With the appliance OFF, press the 'TEST' button (6) the gas type code will be shown on the display (14) .
3. Press the 'UP' button (8) or 'DOWN' button (13) to obtain the correct gas type code for the appliance. Refer to the table below for correct gas type code.

Natural Gas	Propane Gas
A1	L1

4. Press the 'Set' button (11) to lock in the code.
5. Gas pressure settings should now be checked as per steps 1 and 3 above.

# Dismantling for Servicing

---



*NOTE: Before proceeding with dismantling, be sure to follow the CAUTION instructions before each explanation.*

## **CAUTION**

*240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply.*

**All work should be carried out by qualified service technician**

1/	Remove of Front Panel.....	15
2/	Removal of push button control panel PCB.....	15
3/	Removal of push button control panel label.....	15
4/	Removal of Front Panel Glass & 'Standoff's'.....	16
5/	Removal of Combustion Chamber Glass.....	16
6/	Removal of the Burner.....	16
7/	Removal of Pilot Assembly.....	17
8/	Removal of Gas Control / Ignition Pack.....	18
9/	Removal of PCB.....	18
10/	Removal of Transformer.....	18
11/	Combustion Chamber Removal.....	19
12/	Fan Replacement.....	20
13/	Heat Exchanger Replacement.....	20

*Unless otherwise stated, re-assembly is the reverse of dismantling.*



**CAUTION**

**240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply. All work should be carried out by qualified service technician**

**1) Remove of Front Panel**

- a. Remove 2 screws from bottom LH & RH. (Refer Image 2).
- b. Lift Front Panel assembly UP and forward.
- c. Disconnect Control Panel Cable from the RJ45 connector located top left. (Refer Image 3).
- d. Carefully place down.



Image 1



Image 2

**2) Removal of push button control panel PCB**

- a. Remove the 2 retaining screws as marked in Image 3.



Image 3

**3) Removal of push button control panel label**

- a. Carefully remove old label taking care not to damage duco.
- b. Clean old adhesive residue from duco.
- c. Remove wax paper from new label.
- d. Line up opaque window with led and press to panel.



Image 4



**CAUTION**

**240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply. All work should be carried out by qualified service technician**

- 4) Removal of Front Panel Glass & 'Standoff's'**
- Lay front panel assembly face down on soft cloth surface.
  - Remove 'Standoff's' x 4 screws, (Refer to Image 5).
  - Remove front panel, glass with 'Standoff's' attached will remain on the bench.
  - Remove 'Standoff's' with rubber pads.
  - For replacement of rubber pads and glass follow steps a. - d. in reverse order.



Image 5

- 5) Removal of Combustion Chamber Glass**
- Remove glass surround, by lifting bottom section forward and up. (Refer to image 6).
  - Remove 2 x M5 screws from Top Glass Retainer.
  - Loosen 2 x M5 screws from Bottom Glass Retainer.
  - Lift Glass out of Bottom Glass Retainer. (Refer to Image 7).



Image 6



Image 7

- 6) Removal of the Burner**
- Remove log set.
  - Remove 1 x screw from right hand end of burner.
  - Slide Burner to the right to slide it off from Injector. (Refer to Image 8).



Image 8



**CAUTION**

**240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply. All work should be carried out by qualified service technician**

**7) Removal of Pilot Assembly**

- a. Remove Pilot Head and clean or replace Pilot Injector. Slide clip to left and left head. (Refer to Image 9).



Image 9

- b. Remove Pilot Bracket 2 x screws. (Refer to Image 10).
- c. Remove pilot front shield 2 x screws one each end. This allows access to Electrode and Flame Rod. (Refer to Image 11).

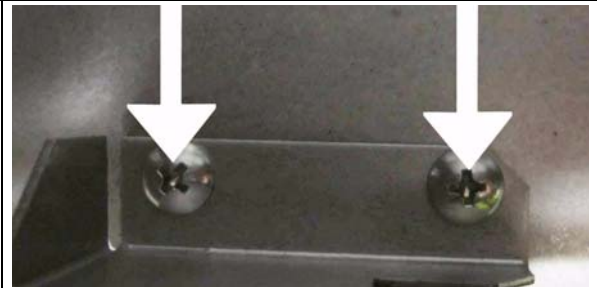


Image 10



Image 11



**CAUTION**

**240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply. All work should be carried out by qualified service technician**

**8) Removal of Gas Control / Ignition Pack**

- a. Remove 2 x screws in Ignition Pack to access wiring. (Refer to Image 12).
- b. Disconnect gas supply, pilot tube, burner and gas supply tube. (Refer to Image 13).
- c. Remove 3 x screws in Burner Support to remove Gas Control Mounting Brackets, as shown in (Refer to Image 14).

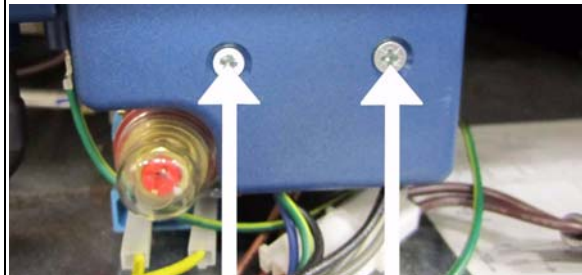


Image 12



Image 13

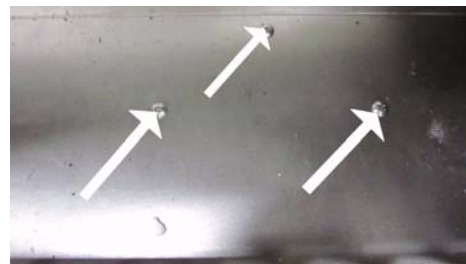


Image 14

**9) Removal of PCB**

- a. Remove 2 x screws from either side of the PCB Bracket. (Refer to Image 15).
- b. Carefully lift assembly out, do not strain wiring loom.

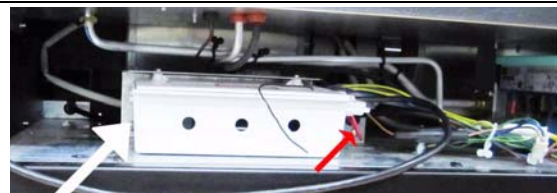


Image 15

**10) Removal of Transformer**

- a. \* The Transformer is attached to the rear of the PCB Bracket by 2 x screws. (Refer Image 16).
- b. Remove the 2 x screws and lift the transformer out.

**\* Ensure wiring is disconnected before removing.**

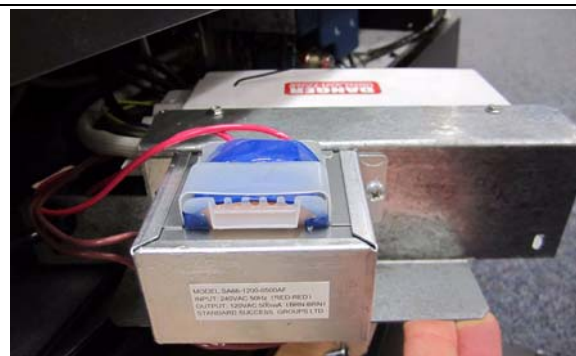


Image 16



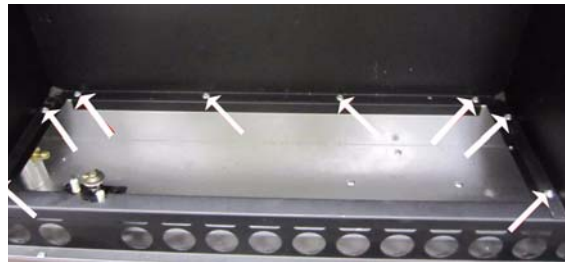
### **CAUTION**

**240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply. All work should be carried out by qualified service technician**

#### **OPERATIONS THAT REQUIRE REMOVAL OF COMBUSTION CHAMBER**

##### **11) Combustion Chamber Removal**

- a. Remove 8 x screws from the bottom of the Combustion Chamber. (Refer to Image 17).
- b. Disconnect overheat loom, right hand side of the combustion chamber.
- c. Remove 3 x screws from the top of the Combustion Chamber. (Refer to Image 18).
- d. Lift Combustion Chamber out. (Refer Image 19).
- e. Remove overheat switch from rear right hand side of Combustion Chamber. (Refer Image 20).



**Image 17**



**Image 18**



**Image 19**



**Image 20**





**CAUTION**

**240 Volt exposure. Isolate the electrical supply to the appliance and reconfirm with the neon screwdriver or multimeter. Disconnect gas supply. All work should be carried out by qualified service technician**



**Models produced after August 2014 will have the Panel at the top added to the Fan for reinforcement.**

**12) Fan Replacement**

- a. Remove PCB to disconnect Fan Wiring. Refer page 15.
- b. Remove 2 x screws from Fan Mount Brackets. (Refer to Image 21).
- c. Remove Fan by pulling UP or levering UP from underneath.
- d. Remove and replace complete Fan.

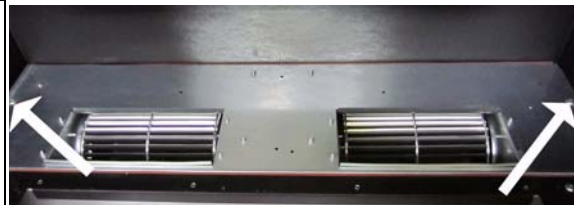


Image 21

**13) Heat Exchanger Replacement**

- a. Remove combustion chamber. Refer page 14.
- b. Remove deflector shield 4 x screws. (Refer to Image 22).
- c. Remove 10 x screws from front of Heat Exchanger.
- d. Remove 10 x screws from rear of Heat Exchanger. (Refer to Image 23).
- e. The complete Heat Exchanger Assembly can then be replaced.
- f. Silicone rubber seal on bottom of Air Guide.
- g. Ensure the Combustion Chamber and Air Guide are on a flat surface when reattaching Heat Exchanger screws.

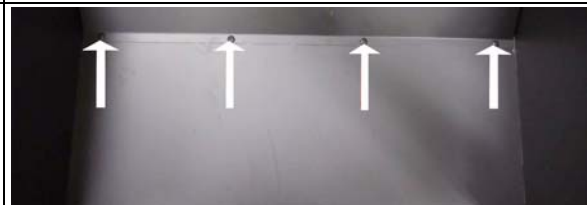


Image 22

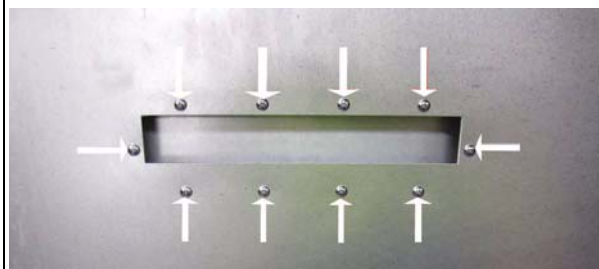
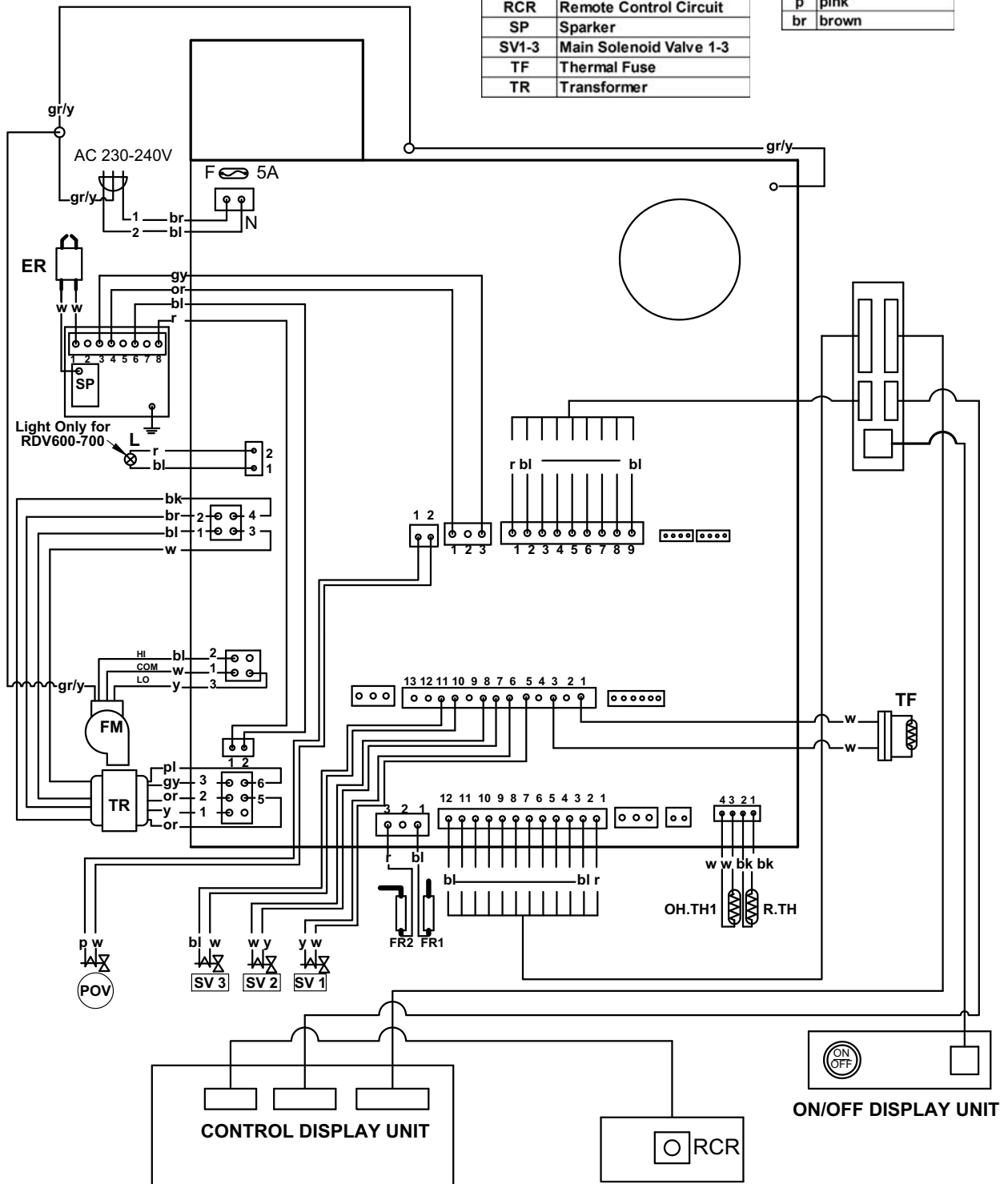


Image 23

# Wiring Diagram

Mark	Part
B	Burner
ER	Electrode
F	Fuse Electrical
FM	Convection Fan Motor
FR1-2	Flame Rod 1-2
L	Light
OH.TH1	Over Heat Thermistor
PB	Pilot Burner
POV	Modulated Solenoid Valve
R.TH	Room Thermistor
RCR	Remote Control Circuit
SP	Sparker
SV1-3	Main Solenoid Valve 1-3
TF	Thermal Fuse
TR	Transformer

Mark	Colour
bk	black
bl	blue
gr/y	yellow-Green stripe
gy	grey
or	orange
pl	purple
r	red
w	white
y	yellow
p	pink
br	brown



WIRING DIAGRAM UNI CONTROL MODEL 3  
1 Burner  
Issue B

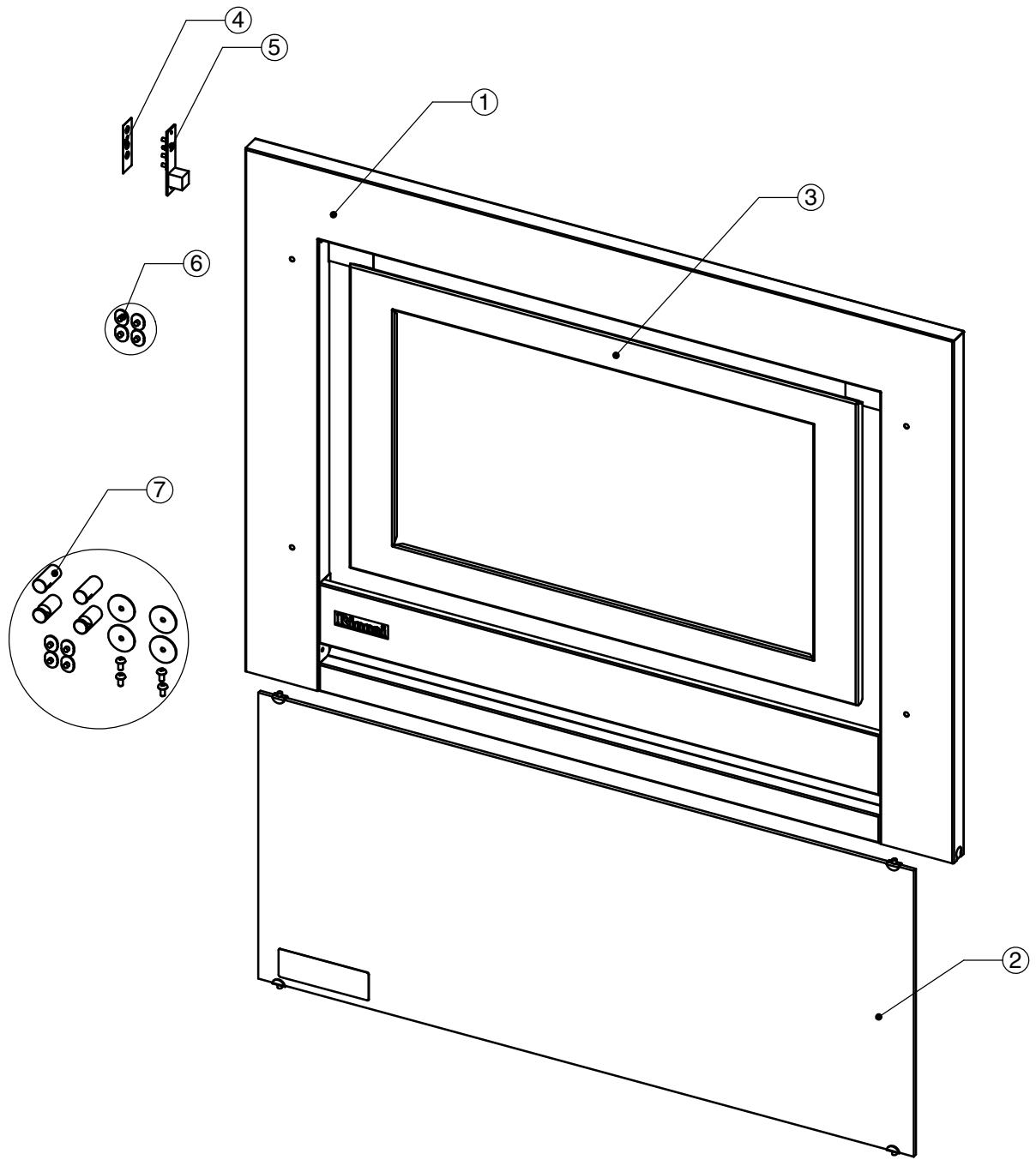
# Spare Parts List and Exploded Diagrams

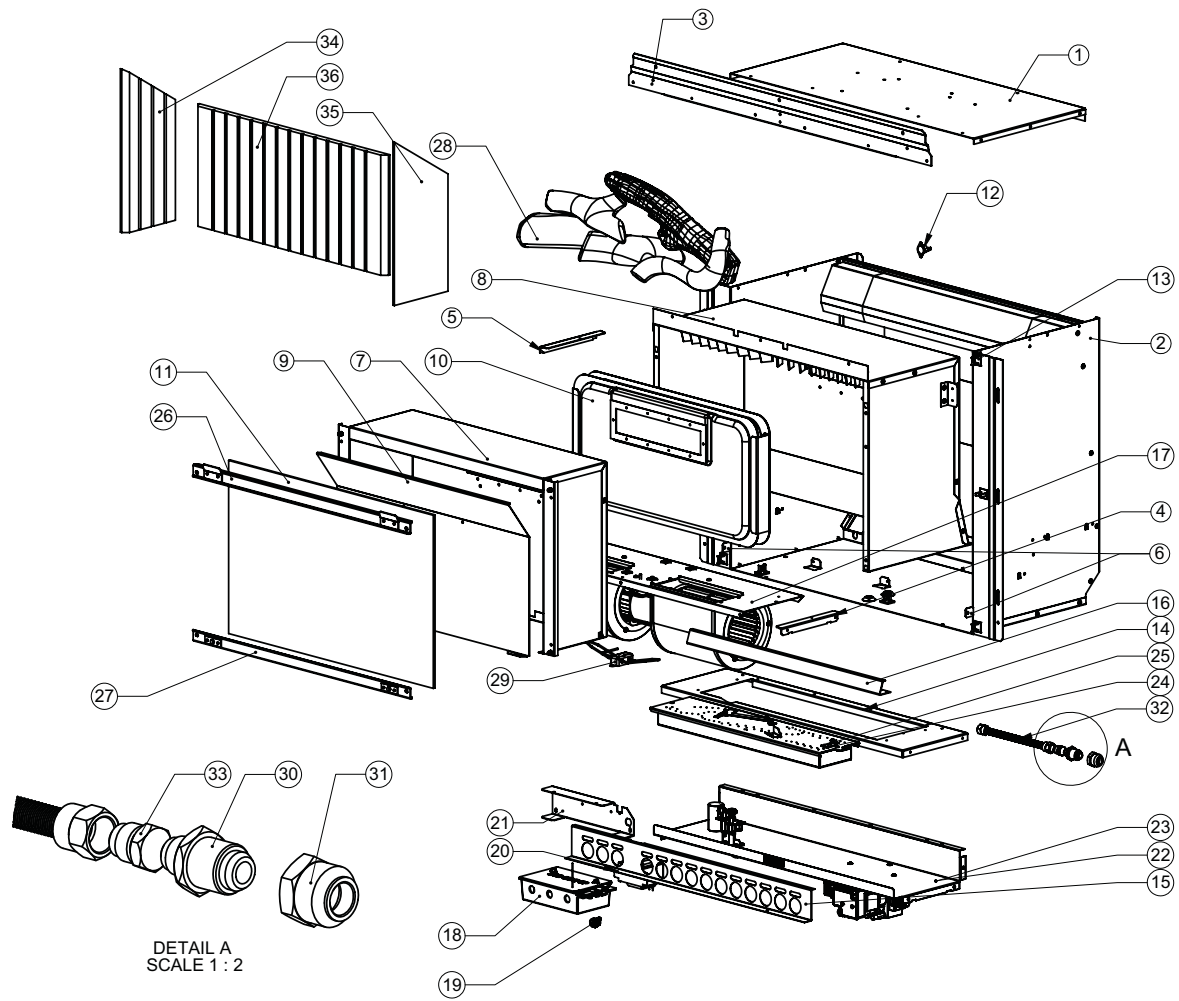
Effective: 08/06/16 (V4)  
 Supercedes: July 2015 (V3)

ITEM NO.	RA PART	DESCRIPTION
1	<b>90199791</b>	PANEL TOP SAPPHIRE
2		BODY OUTER ASSEMBLY PAINTED
3	<b>90199793</b>	TRIM PANEL TOP SAPPHIRE
4		FAN MOUNT BRACKET RH
5		FAN MOUNT BRACKET LH
6		SURROUND RETAINING BRACKET
7	<b>90197538</b>	COMBUSTION CHAMBER ASSY SAPP
8		OUTR AIRGUIDE SPARE BLK RIB23
9	<b>90197539</b>	INNER SHIELD COMB SAPP
10		HEAT EXCHANGE ASSY RIB23
11	<b>90199758</b>	PANEL GLASS SAPPHIRE
12	<b>90176488</b>	OHS (80C OFF) 506 516 318 SAPPHIRE
13		CABLE CLIP
14		BURNER SURROUND PAINTED
15		BURNER AIR INTAKE PAINTED
16		PILOT SHIELD C2 BLK
17	<b>90199760</b>	FAN CONV SAPPHIRE
18	<b>90199721</b>	PCB ASSY SYMBN SAPPHIRE
19		POWER CORD HOLDER 21-MP6N4B
20	<b>90199723</b>	TRANS SYMBN SAPPHIRE
21		ELECTRONICS MOUNTING BRACKET
22	<b>For entire component detail Refer to Drawing on page 31</b>	GAS CONTROL & PILOT ASSY NG/LPG
23		
24	<b>90199762</b>	BURNER ASSY NG SAPPHIRE
25	<b>90199764</b>	BURNER ASSY LPG SAPPHIRE
26	<b>90199794</b>	RETAINER TOP ASSY GLASS SAPP
27	<b>90199796</b>	RETAINER BTM ASSY GLASS SAPP
28	<b>90198921</b>	LOG SET SAPPHIRE RIB2311
29		FILTER ASSY EMI RDV3600
30	<b>90199770</b>	ADAPTOR 1/2 BSP 3/8 SAE FLARE
31	<b>90199772</b>	NUT 1/2 COMPRESSION SAPPHIRE
32	<b>90199647</b>	FLEXITUBE 1000 SAPPHIRE
33	<b>90199774</b>	PLUG BRASS 3/8" SAE FLARE
34	<b>90198923</b>	PANEL CERAMIC L/H SAPPHIRE
35	<b>90198927</b>	PANEL CERAMIC R/H SAPPHIRE
36	<b>90198929</b>	PANEL CERAMIC REAR SAPPHIRE
37		BURNER SUPPORT
38		GAS CONTROL MOUNTING BRACKET C2
39	<b>90199761</b>	GAS CONTROL LP/NG 1000 SYMBN
40	<b>90199597</b>	SPARKER 1000 SYMBN SAP
41		PILOT TUBE REPL ASSY RIB23
42		GAS SUPPLY TUBE C2
43		INJECTOR BLOCK
44	<b>90198984</b>	INJ MAIN 2.8 NG 752

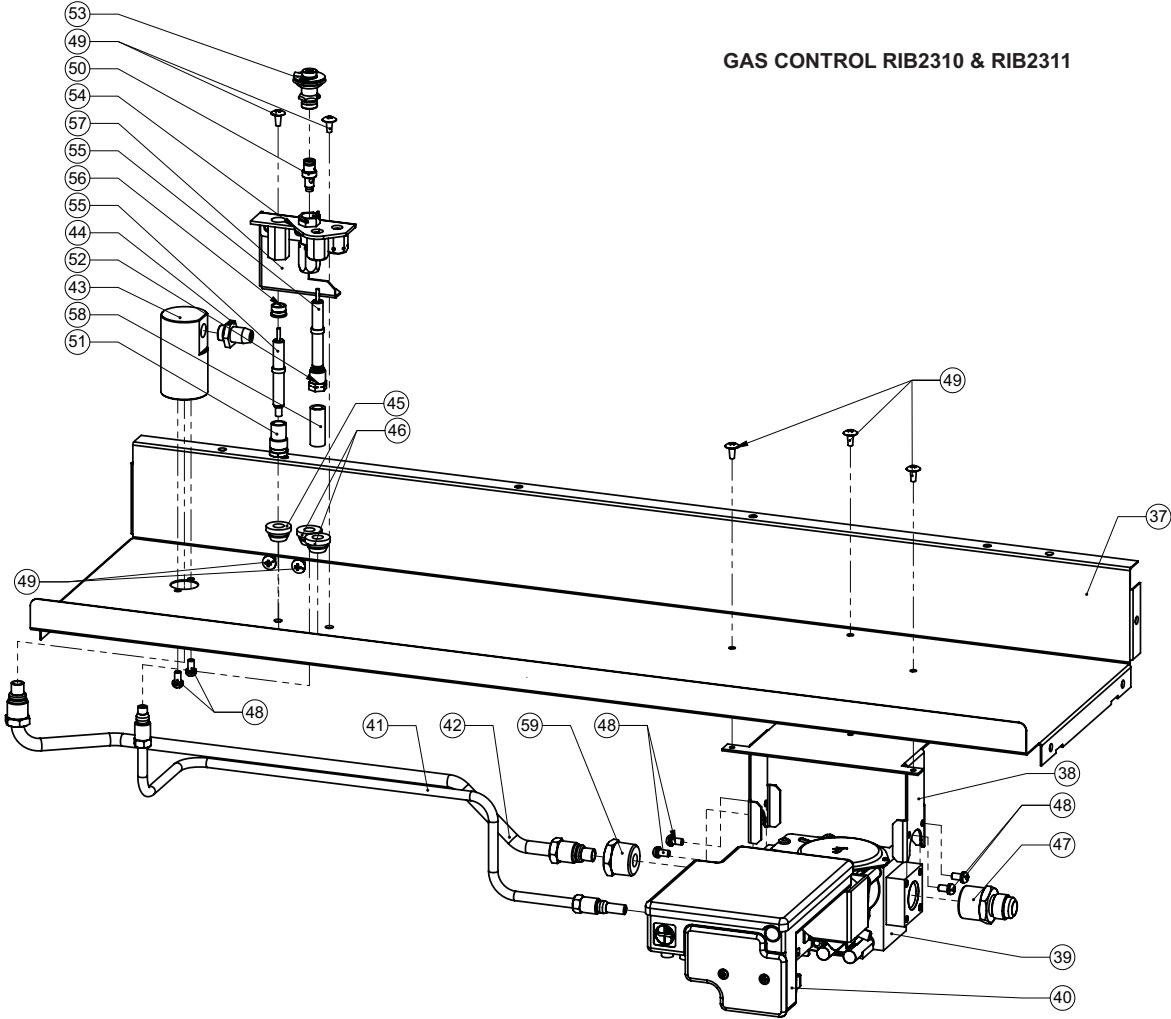
44		INJECTOR 1.55
45		GROMMET SILICON 2Ø1.8 HOLE 750
46		GROMMET SILICONE Ø4 HOLE R750
47	<b>90199780</b>	REDUCING FLARE 3/8 X 1/2 BF
48		SCREW M4 X 8 PHPMZ SPRINGWASH
49		SCREW 2 TRUSS 4 X 8 TAP ZINC
50	<b>90199955</b>	INJ PILOT NG 750 SYMBN SAPPHIRE
50	<b>90199956</b>	INJ PILOT LP 750 1000 SYM ETR
51		ELECTRODE NUT ETR
52		ELECTRODE NUT (S.I.T)
53	<b>90199803</b>	PILOT HEAD 1000 SYMBN SAPPHIRE
54	<b>90199843</b>	PILOT BODY LUM SAP
55	<b>90199746</b>	ELECTRODE 1000 SYMBN SAPPHIRE
56		SPACER ELECTRODE PILOT
57		PILOT BRACKET
58		SILICONE TUBE 25x9.5x6.4
59	<b>90199701</b>	ADAPTOR 1/2" BSPT SYMBN
NOT DRAWN	<b>90199776</b>	HARNESS WIRING SAPPHIRE
NOT DRAWN	<b>90199778</b>	HARNESS OHS SAPPHIRE
NOT DRAWN	<b>90199688</b>	ELEC CORD 1000 SYMBN SAPPHIRE
NOT DRAWN	<b>90199767</b>	HARNESS OHS SYMBN SAPPHIRE
NOT DRAWN	<b>90188036</b>	HARNESS PCB TO CTRL 1.4M CAT5
NOT DRAWN	<b>90199782</b>	HARNESS SENSOR SAPPHIRE
NOT DRAWN	<b>90199784</b>	HT LEAD SAPPHIRE
NOT DRAWN	<b>90150301</b>	INSTALLATION FOAM SEAL

<b>SAPPHIRE FLAME FIRE</b>			
<b>FRONT</b>			
<b>Exploded Diagram No.</b>	<b>RA PART</b>	<b>DESCRIPTION</b>	<b>RNZ PART</b>
1		FRAME REPL RIB23 GLX BLACK	11970
1		FRAME REPL RIB23 STAINLESS	11971
1		FRAME REPL RIB23 BLACK SS TRIM	11972
2	90199804	GLASS GUARD REPL RIB23	11973
3	90199797	INNER FRAME REPL SS RIB23	11974
3	90199798	INNER FRAME REPL BLACK RIB23	11975
4	90199766	DECAL PUSH BUTTON CONTROL	11913
5	90199802	PUSH BUTTON CONTROL SWITCH	11912
6	90199808	GROMMET SET 4 GLASS STANDOFF	11977
7	90199806	STANDOFF REPL SET RIB23	11976





GAS CONTROL RIB2310 & RIB2311



# Rinnai

**Rinnai Australia Pty. Ltd.** ABN 74 005 138 769

**Head Office**

100 Atlantic Drive  
Keysborough, Victoria 3173  
P.O. Box 460  
Braeside, Victoria 3195

Tel: (03) 9271 6625  
Fax: (03) 9271 6622

Rinnai has a Service and Spare Parts network with personnel who are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance requires service, please call our National Help Line. Rinnai recommends that this appliance be serviced every 2 years.

Internet: [www.rinnai.com.au](http://www.rinnai.com.au) E-mail: [enquiry@rinnai.com.au](mailto:enquiry@rinnai.com.au)

**National Help Line**

Tel: 1300 555 545\* Fax: 1300 555 655\*

*\*Cost of a local call Higher from mobile or public phones.*