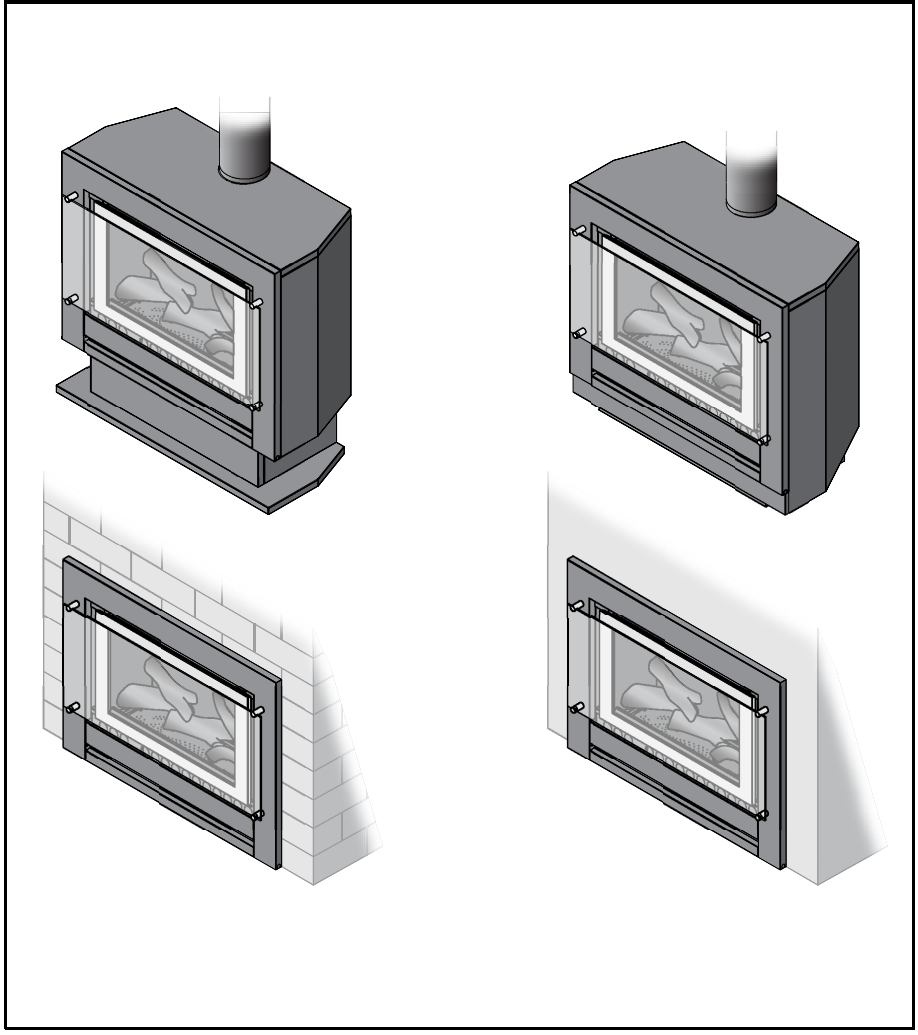
Rinnai

SERVICE MANUAL

Sapphire - RIB2310

GAS LOG FLAME FIRE



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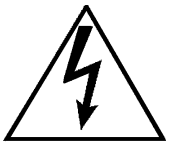
The Australian Gas Association	All Rinnai products are certified by the Australian Gas Association as compliant to relevant Australian Standards.
Certified System ™ Quality ISO 9001 SAI GLOBAL	Rinnai Australia Head Office is certified as complying with ISO 9001 by SAI Global.
TELARC REGISTERED SUPPLIER 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.

Produced by Technical Services Department

2011 - Issue 1

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 Customer Technical Services. 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

1. Introduction

GENERAL DESCRIPTION

Your Sapphire is a burning log effect, gas space heating appliance with natural draft combustion system, intended for use with Natural Gas, Propane and 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.

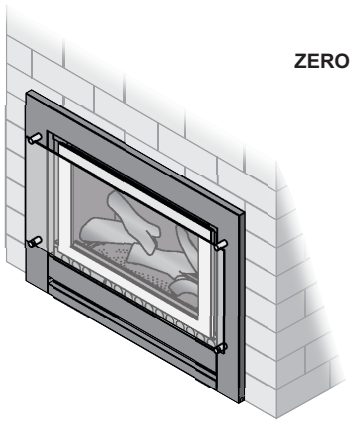
This appliance is modular and primarily consists of an 'Engine' that is utilized in any of the 3 configuration types as listed below.

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.

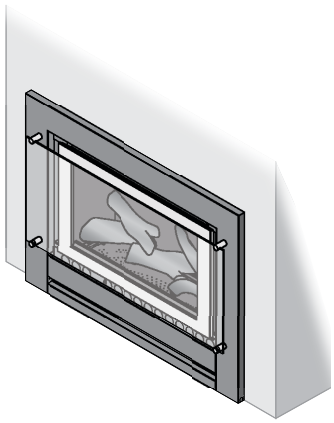
2. ***Zero Clearance:***
   The appliance is fitted within a zero clearance box then inserted into a wall or other suitable structure. Materials need not be non-combustible. When installed correctly the appliance is a flush to wall mount.

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.

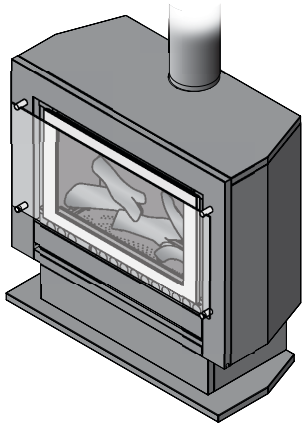
MASONRY INSTALLATION



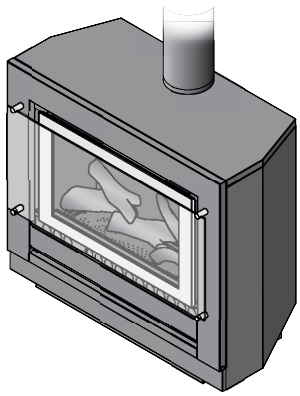
ZERO CLEARANCE INSTALLATION



PLINTH INSTALLATION



CONSOLE INSTALLATION



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
ø	-	diameter
$\Delta^\circ C$	-	temperature rise above ambient
POV	-	modulating valve
TH	-	thermistor

2. Specifications

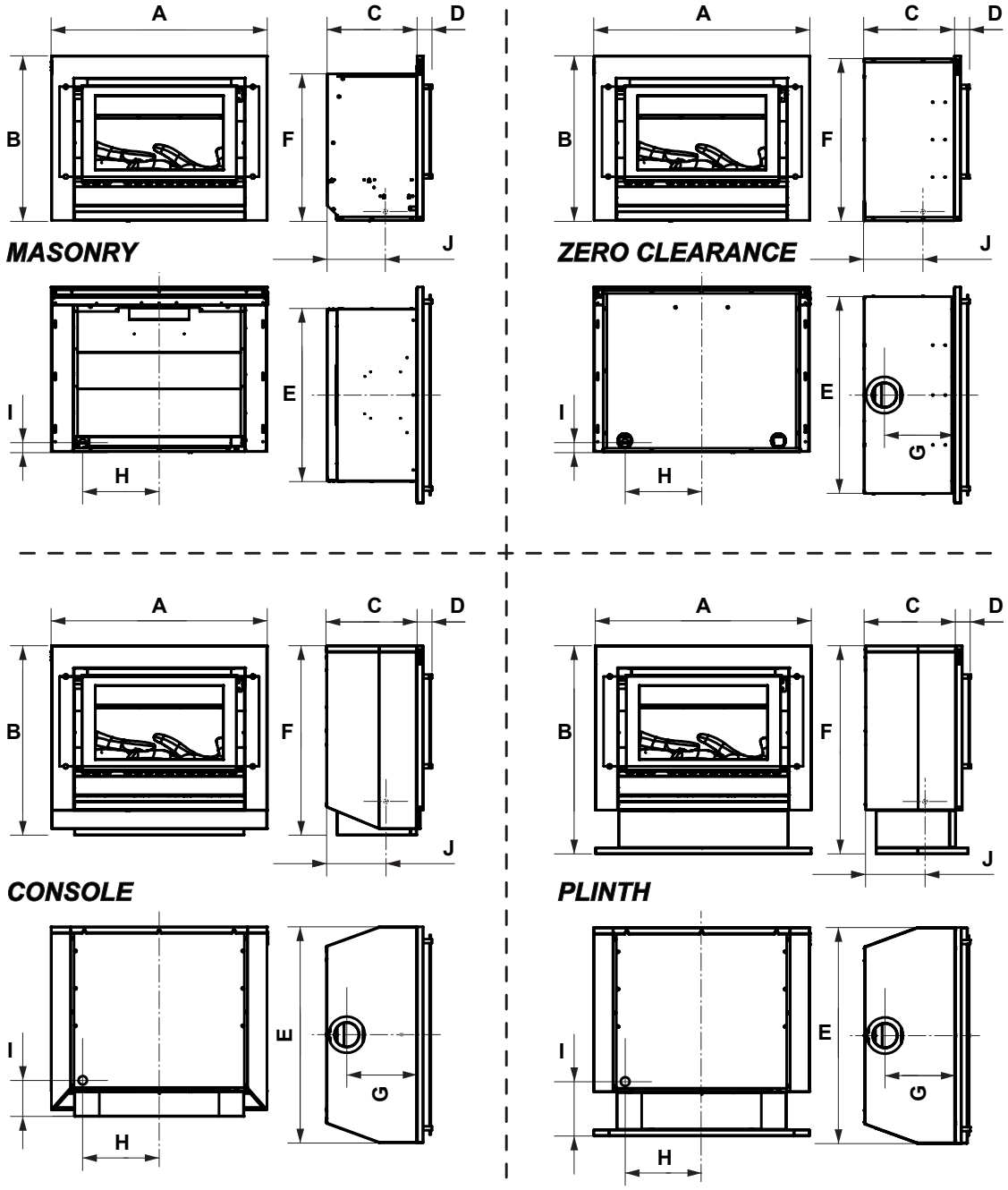
General Product Specification	
Model	RIB2310MN/A
Model Name	Sapphire Gas Log Flame Fire
Features	Inbuilt or Freestanding Gas Space Heater Burning log effect Glass front Convection Fan, top warm air outlet Glass Dress Guard
Model Options	Inbuilt Masonry, Inbuilt Zero Clearance and Freestanding options Optional Wireless Remote Thermostat Controller
Combustion Method	'Bunsen' type burner
Flue - Masonry (if required) Flue - Freestanding & zero clearance	FlexiLiner diameter. 100 mm Twin skinned diameter. 100 mm x diameter. 150mm outer
Convection Fan	Double drum. 160 mm x 180 mm - 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	Thermostatic, temperature control range 7 - 32°C (Remote Controller only)
Glass - Primary Glass - Secondary Glass seal material	Ceramic Glass Tempered Glass Woven fibreglass chord
Weight (Engine Only)	60 Kg - "uncrated" - no Flue
Operation	Push button control panel or via optional wireless remote/ thermostatic control

Technical Specifications

Item		Description		
		Natural Gas	**Propane**	**ULPG**
Gas Input	High	30MJ/h		25MJ/h
	Low	14MJ/h		14MJ/h
kW Output		6.97kW		5.63kW
Appliance Inlet Pressure		1.13kPa	2.75kPa	2.75kPa
ATPP Burner pressure	High	0.71kPa	2.25kPa	1.70kPa
	Low	0.15KPa	0.50kPa	0.50kPa
Main Burner Injector Ø		2.80mm (Threaded Hex Brass)	1.55mm (Threaded Hex Brass)	
Pilot injector Ø (SIT pilot number)		# 62	#35	
Gas Control		SIT® Sigma 845 AGA Cert # 5733		
Ignition module assembly		SIT® Ignition pack 579 DBC AGA Cert # 7358		
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		Millennium Electronics® RF 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® 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		

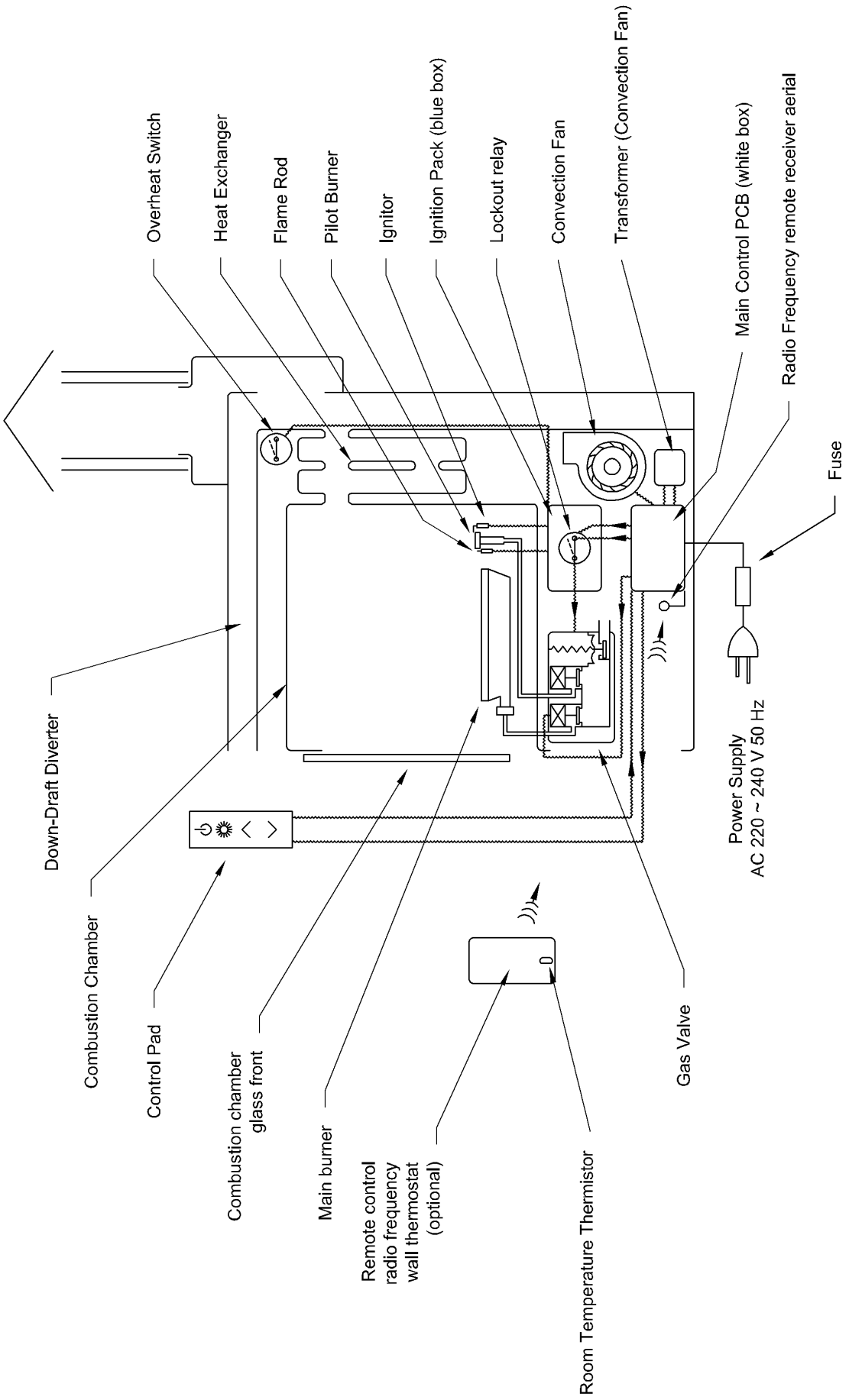
3. Dimensions

Note: All dimensions are in millimetres



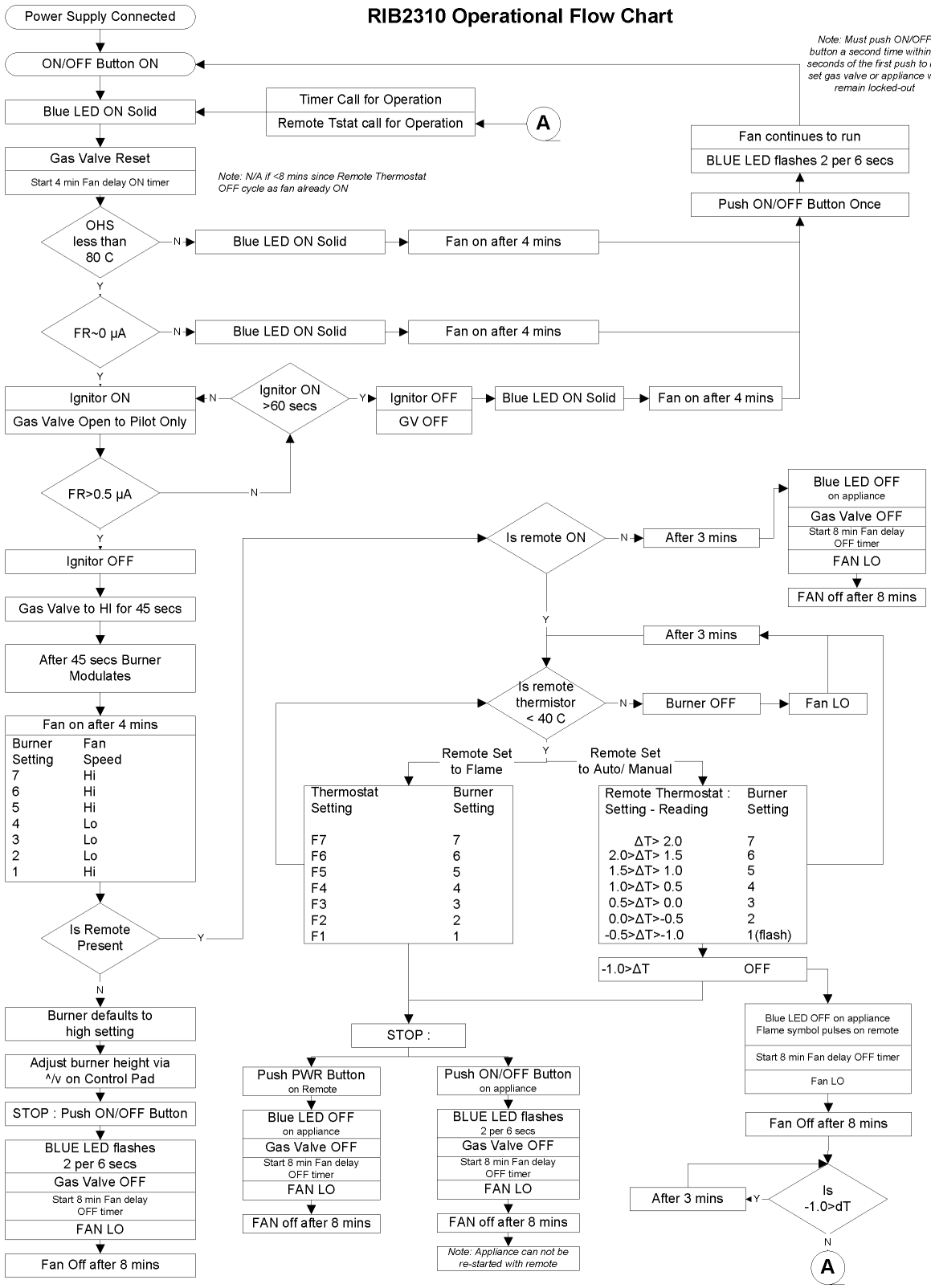
MODEL	*External Dimensions - Flue Centre*							*Gas Connection*		
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**
Masonry	865mm	660mm	359mm	62mm	691mm	589mm	-	305mm	45mm	235mm
Zero Clearance	865mm	660mm	363mm	62mm	795mm	650mm	280mm	305mm	45mm	240mm
Console	865mm	760mm	363mm	62mm	865mm	760mm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

4. Schematic Diagram



5. Operation Principles

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



6. 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 luminates
	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 pull 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	
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 120VAC 170~190 Ω Yellow - White Low fan 120VAC 240~260Ω Red - White Not used 120VAC 260~280Ω

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	**With power supply off** check that OHS continuity is <1Ω OHS switch activation caused by insufficient flue pull 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	>15mV	
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 Lo fan Yellow - White	AC110 ~ 130V AC110 ~ 130V	
	(11) Check resistance at fan motor	Hi fan Blue-White Lo fan Yellow - White	170~190 Ω 240~260Ω	

7. 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 →	Burners fail to ignite	Smell of gas	Fan Not Working	Minor soot deposits	Severe sooting	Glass, Condensating	Glass, Streaky lines	*Remote not working	Fault Condition ← / Simplest Possible Remedy ↓
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	●				●				Call Rinnai
Insufficient gas pressure	●				●				Call Rinnai
Log Misalignment					●				Call Rinnai
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			●						Call Rinnai
Controller display blank	●							●	Replace batteries.
Control Panel Operation **	●							●	Refer to Operation / Installation Manual
Controller Not Synchronised								●	Refer to Operation / IInstallation 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.

8. Gas Pressure Setting Procedure

Refer separate Rinnai document behind front cover of appliance.

9. Gas Conversion Procedure

Refer separate document available from Rinnai.

10. 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

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.

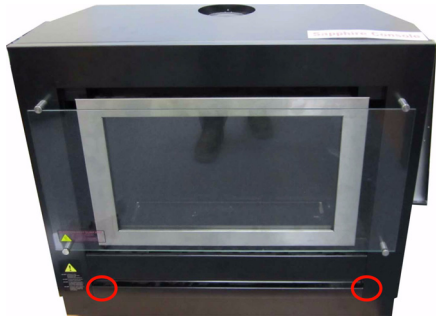


Image 1

c. Disconnect Control Panel Cable from the RJ45 connector located top left. (Refer Image 3).

d. Carefully place down.

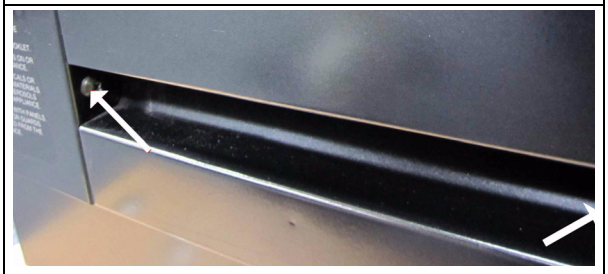


Image 2

2) Removal of push button control panel PCB

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

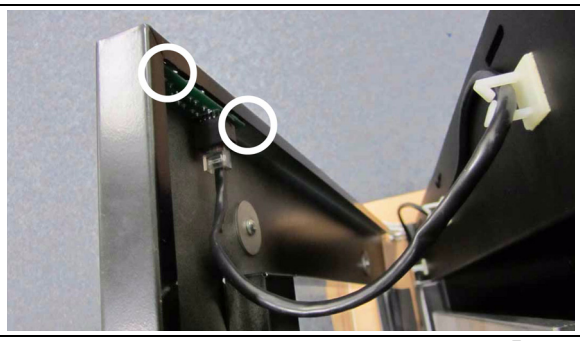


Image 3

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

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All work should be carried out by qualified service technician

4) Removal of Front Panel Glass & 'Standoff's'

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

Image 5

5) Removal of Combustion Chamber Glass

a. Remove glass surround, by lifting bottom section forward and up. (Refer to image 6).

b. Remove 2 x M5 screws from Top Glass Retainer.

c. Loosen 2 x M5 screws from Bottom Glass Retainer.

d. Lift Glass out of Bottom Glass Retainer. (Refer to Image 7).

Image 6

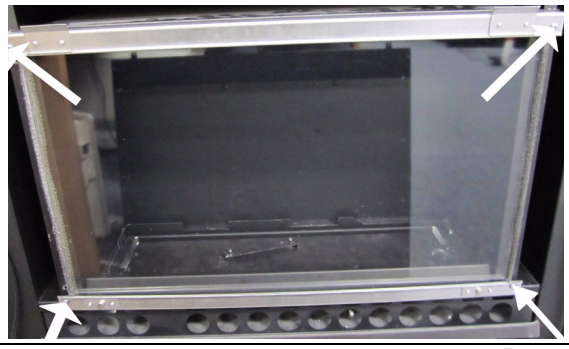


Image 7

6) Removal of the Burner

a. Remove log set.
b. Remove 1 x screw from right hand end of burner.
c. Slide Burner to the right to slide it off from Injector. (Refer to Image 8).

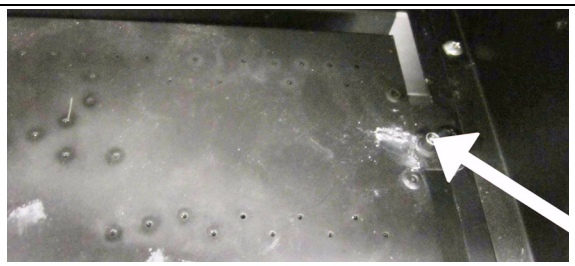


Image 8

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).

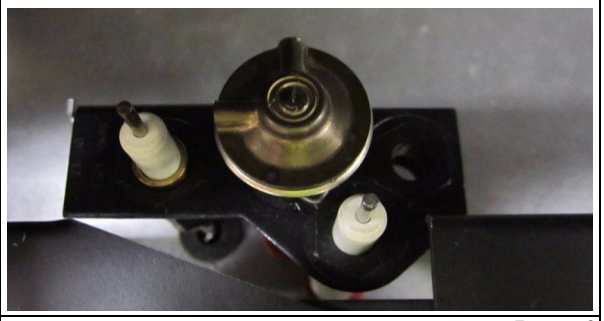


Image 9

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).

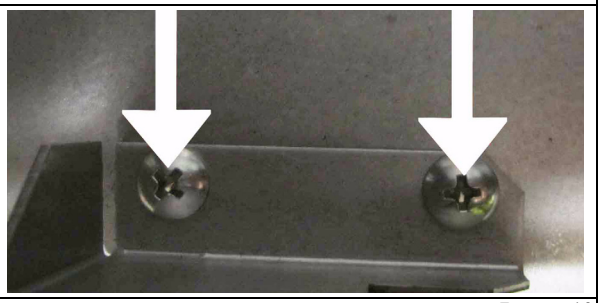


Image 10

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).

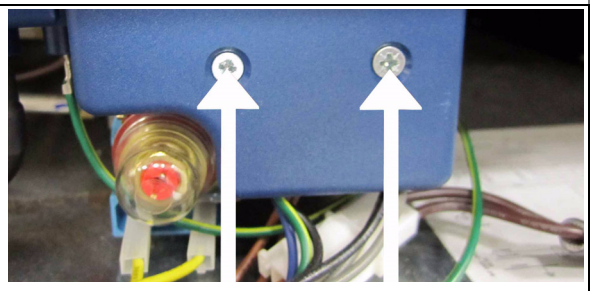


Image 12

b. Disconnect gas supply, pilot tube, burner and gas supply tube. (Refer to Image 13).

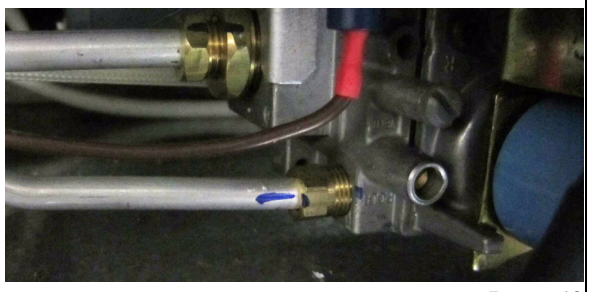


Image 13

c. Remove 3 x screws in Burner Support to remove Gas Control Mounting Brackets, as shown in (Refer to Image 14).

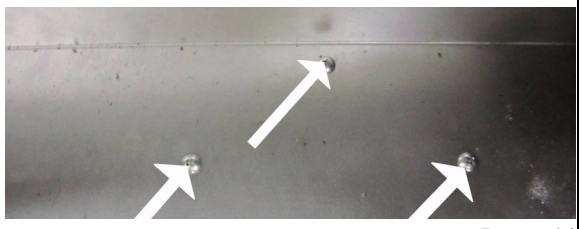


Image 14

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.

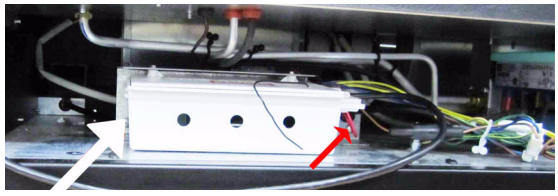


Image 15

10) Removal of Transformer

a. * The Transformer is attached to the rear of the PCB Bracket by 2 x screws. (Refer to Image 16).

b. Remove the 2 x screws and lift the transformer out.

* Ensure wiring is disconnected before removing.

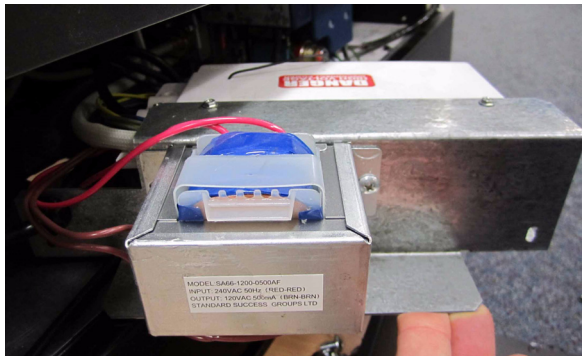


Image 16

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 to Image 19).

e. Remove overheat switch from rear right hand side of Combustion Chamber. (Refer to Image 20).

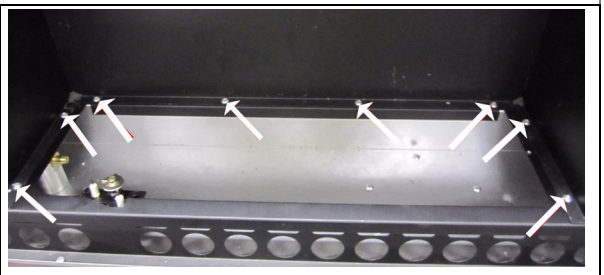


Image 17

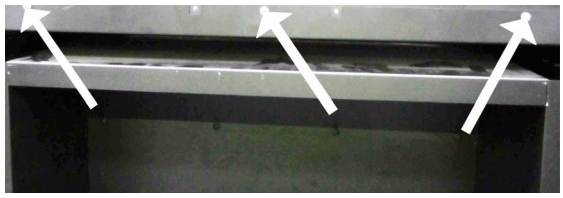


Image 18

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

12) Fan Replacement

a. Remove PCB to disconnect Fan Wiring. Refer page 13.
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.

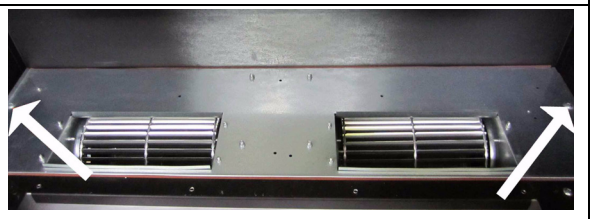


Image 21

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.

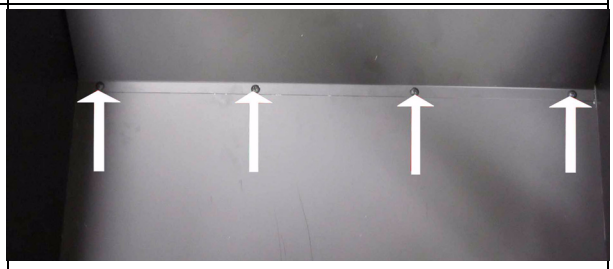


Image 22

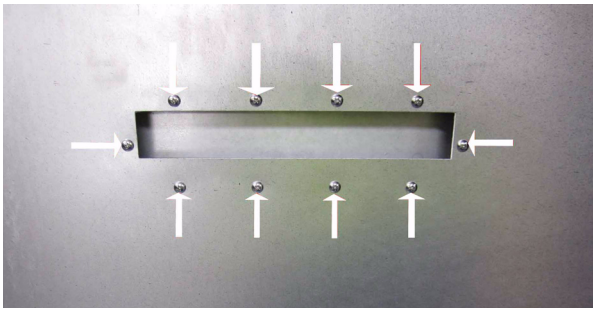
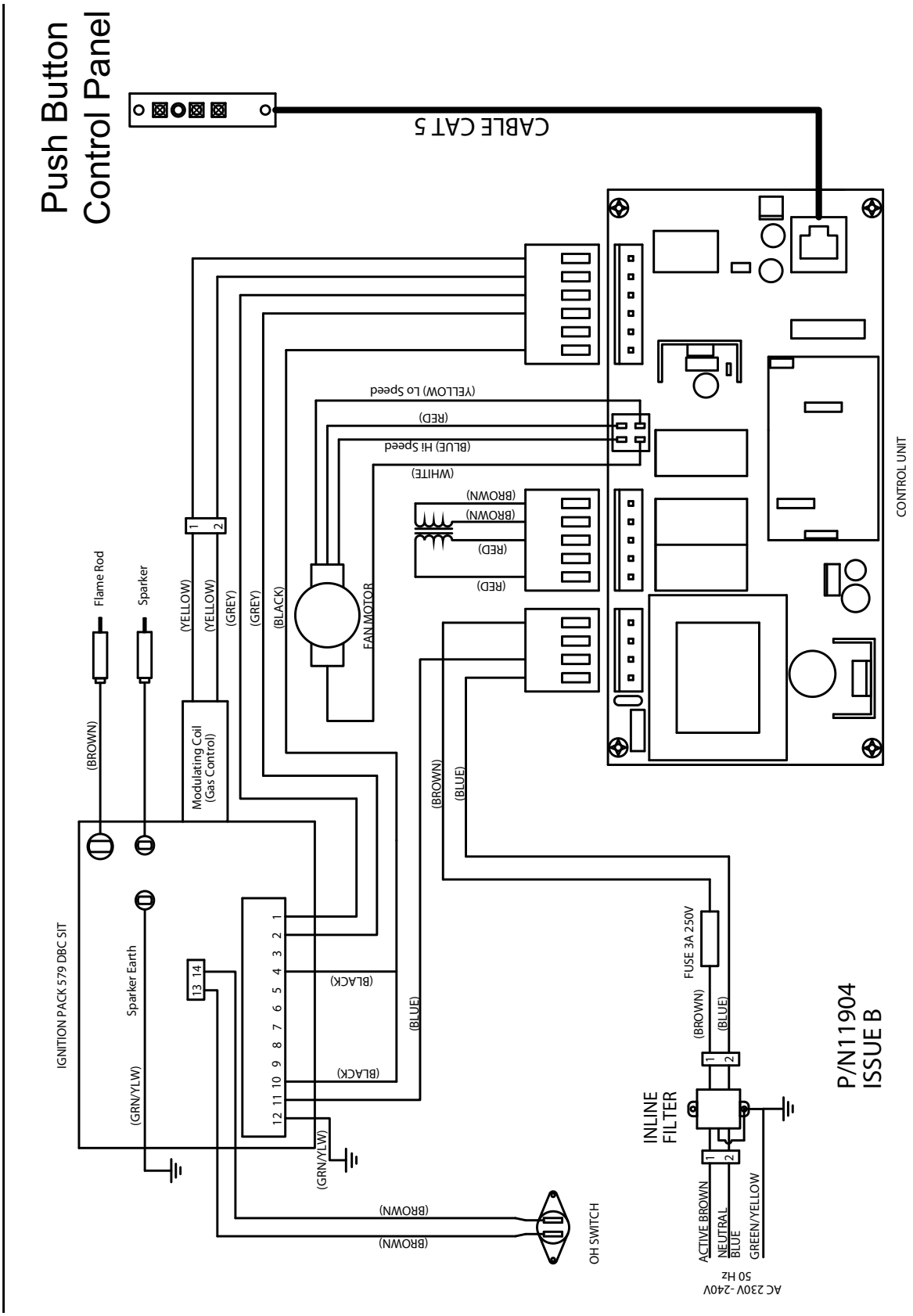


Image 23

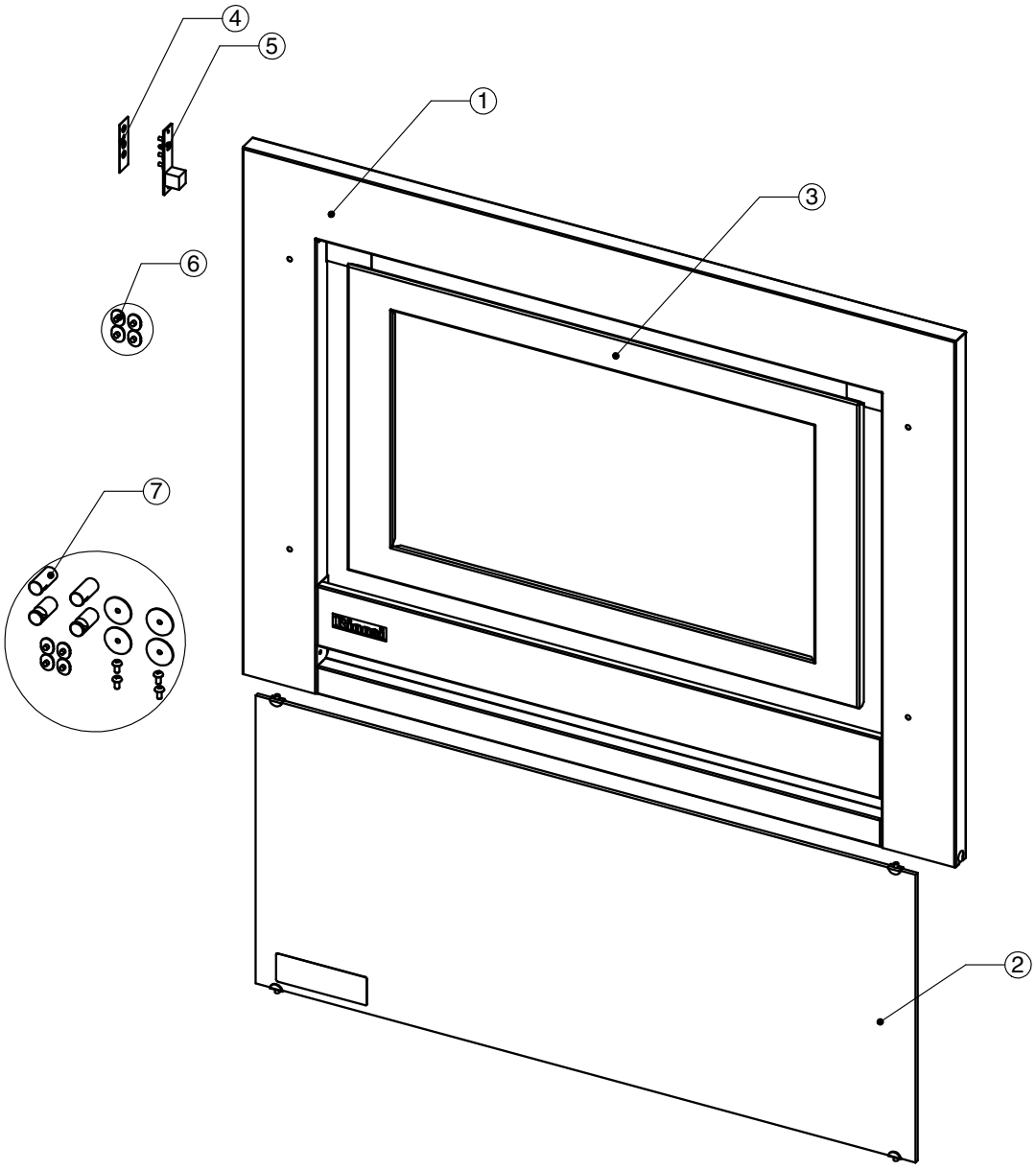
11. Wiring Diagram



WARNING **If the supply cord is damaged or requires replacing, it must be replaced by the manufacturer or the manufacturer's agent or similarly qualified person in order to avoid a hazard. The supply cord must only be replaced with a genuine Rinnai spare part.**

12. Exploded Diagrams & Spare Parts List

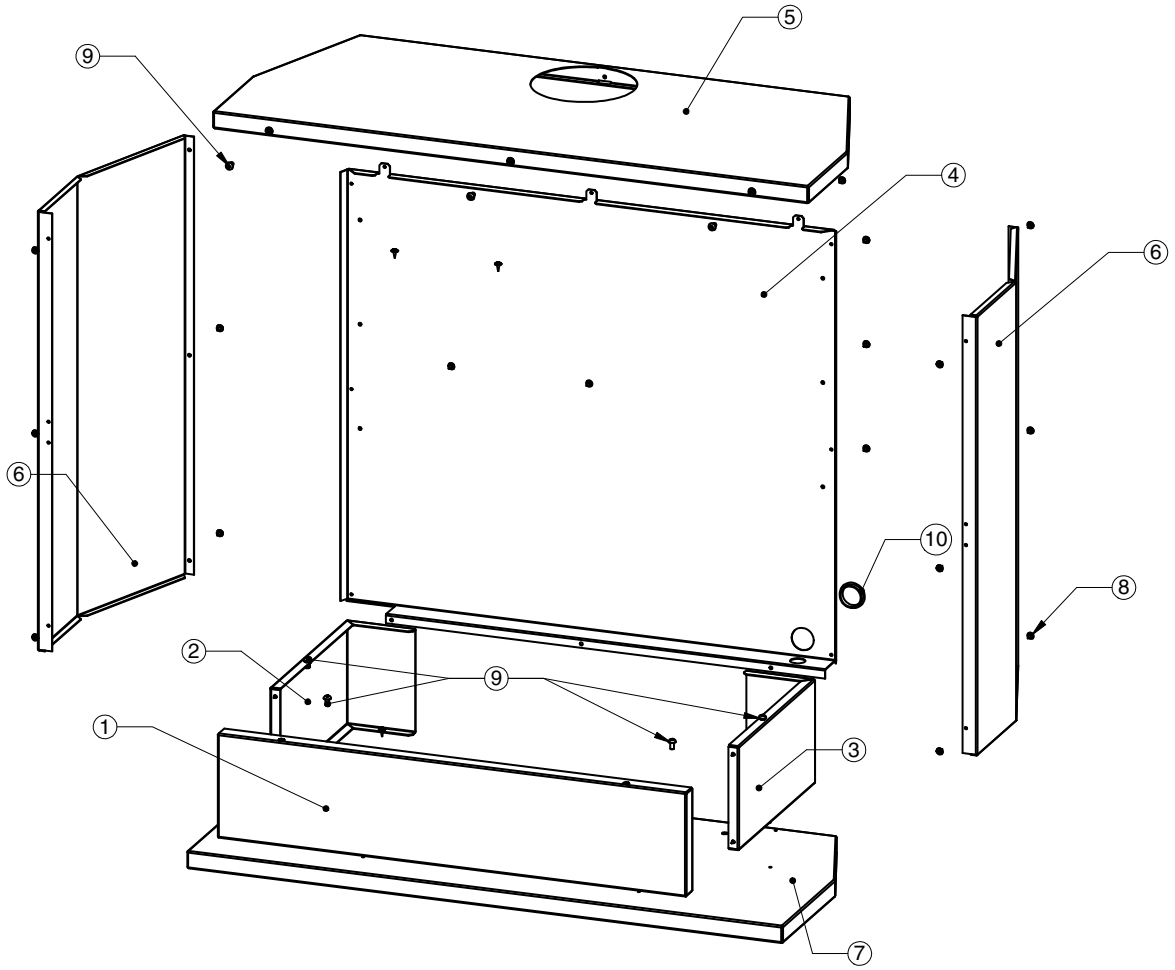
FRONT



Effective: 07/04/11(V2)
Supercedes: 01/02/11(V1)

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

PLINTH FREE STANDING



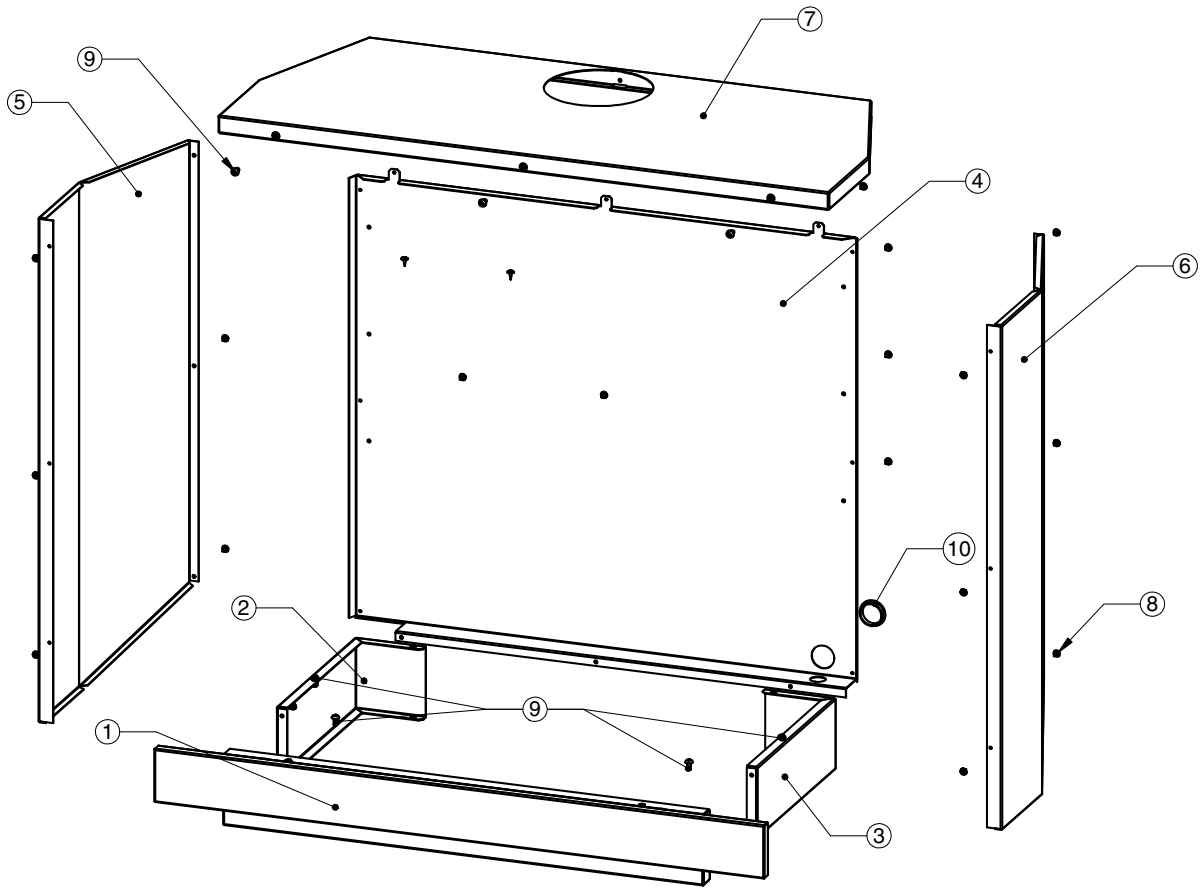
Effective: 07/04/11(V2)
Supercedes: 01/02/11(V1)

SAPPHIRE FLAME FIRE

PLINTH FREE STANDING

Exploded Diagram No.	RA PART	DESCRIPTION	RNZ PART
1		FS PILLAR FRONT PLINTH GLXY	11940GL
2		FS PILLAR SIDE LH PLINTH GLXY	11941GL
3		FS PILLAR SIDE RH PLINTH GLXY	11947GL
4		FS REAR PANEL C2 PAINTED	11931GL
5		FS TOP PANEL C2 PAINTED	11930GL
6		FS SIDE PANEL PLINTH RH PAINT	11938GL
7		FS BOTTOM PANEL PLINTH PAINT	11942GL
8		SCREW 8X10 THPSB BLACK	9020B
9		SCREW M5 X 10	9101
10		GROMMET 22-PPG32	11937

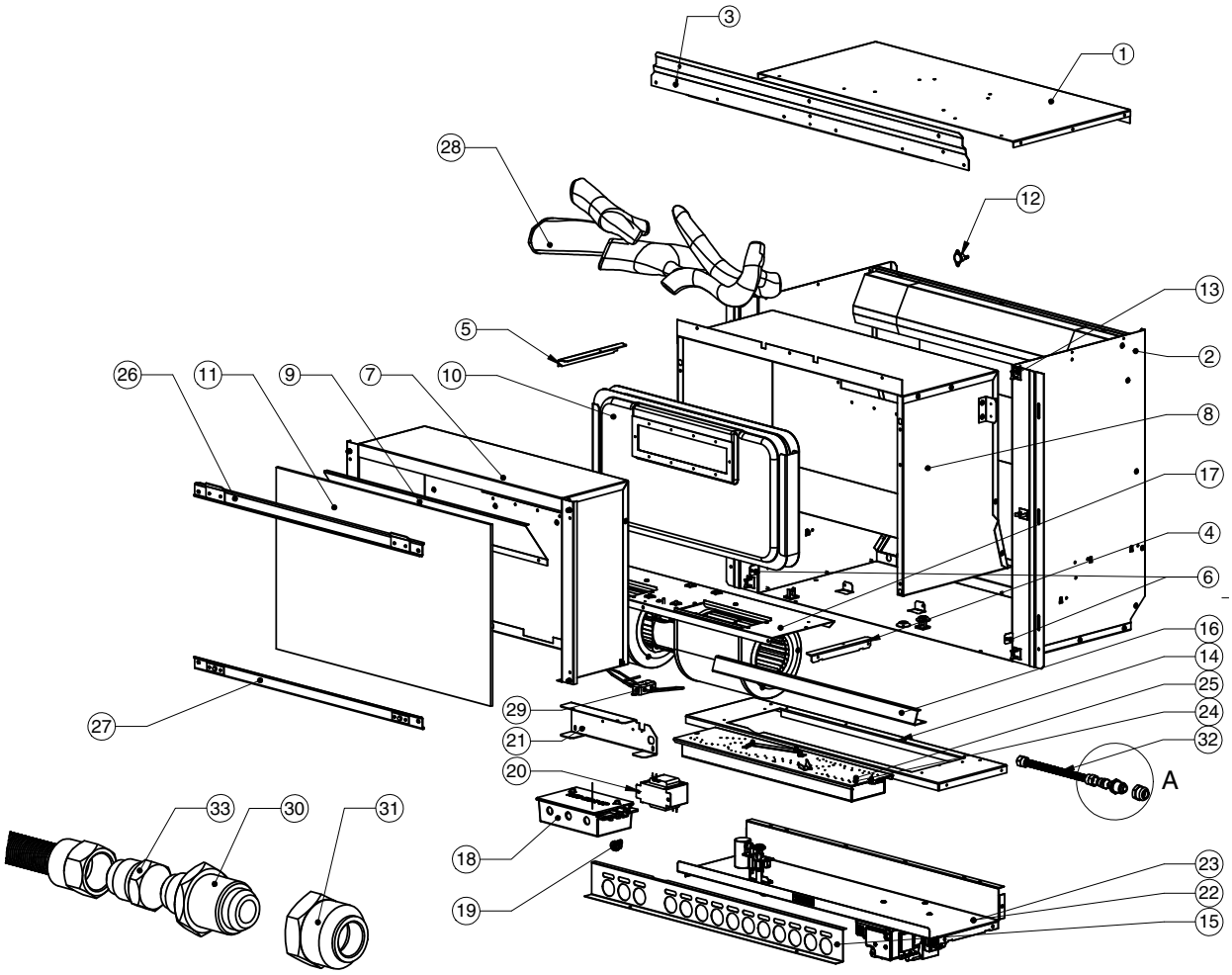
CONSOLE FREE STANDING



Effective: 07/04/11(V2)
Supercedes: 01/02/11(V1)

SAPPHIRE FLAME FIRE			
CONSOLE FREE STANDING			
Exploded Diagram No.	**RA PART**	**DESCRIPTION**	**RNZ PART**
1		FS PILLAR FRONT CONSOLE GLXY	11932GL
2		FS PILLAR SIDE LH CONSOLE GLXY	11933GL
3		FS PILLAR SIDE RH CONSOLE GLXY	11936GL
4		FS REAR PANEL C2 PAINTED	11931GL
5		FS SIDE PANEL CONSOLE LH PAINTED	11934GL
6		FS SIDE PANEL CONSOLE RH PAINTED	11935GL
7		FS TOP PANEL C2 PAINTED	11930GL
8		SCREW 8X10 THPSB BLACK	9020B
9		SCREW M5 X 10	9101
10		GROMMET 22-PPG32	11937

MAIN BODY



Effective: 07/04/11(V2)
Supercedes: 01/02/11(V1)

SAPPHIRE FLAME FIRE

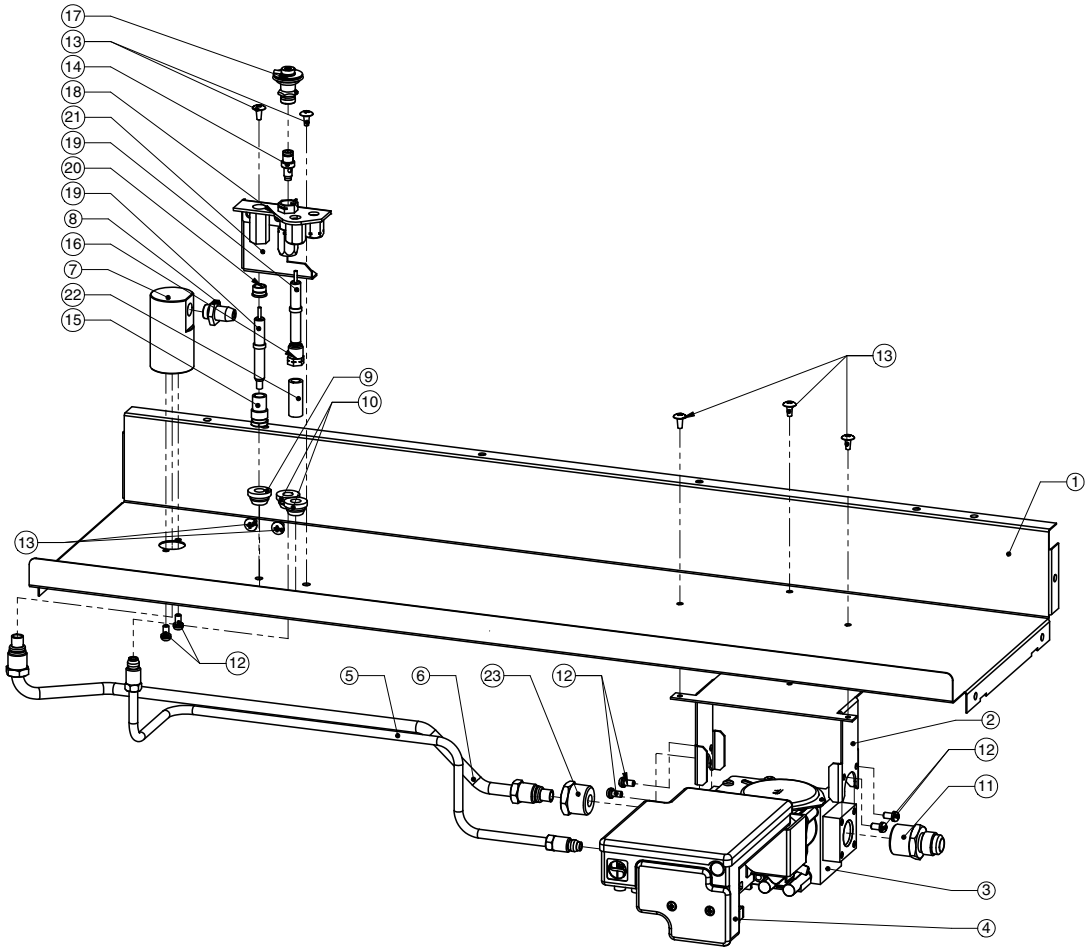
MAIN BODY

Exploded Diagram No.	RA PART	DESCRIPTION	RNZ PART
1		PANEL TOP	11854
2		BODY OUTER ASSEMBLY PAINTED	11884B
3		TOP PANEL TRIM PAINTED	11855B
4		FAN MOUNT BRACKET RH	11860
5		FAN MOUNT BRACKET LH	11859
6		SURROUND RETAINING BRACKET	11865
7		COMB ASSEMBLY C2	11870F
8		AIR GUIDE REPL ASSY RIB23	11967
9		COMB CHAMB INNER SHIELD PAINTED	11871F
10		HEAT EXCHANGE ASSY RIB23	11964
11	90199758	PANEL GLASS	11966
12		OHS 80C OFF ES-01105	11788
13		CABLE CLIP	10309
14		BURNER SURROUND PAINTED	11857F
15		BURNER AIR INTAKE PAINTED	11858B
16		PILOT SHIELD C2 BLK	11873F
17	90199760	FAN CONV	11965
18	90199721	PCB ASSY SYMBN	11671
19		POWER CORD HOLDER 21-MP6N4B	7845
20	90199723	TRANS SYMBN	11538
21		ELECTRONICS MOUNTING BRACKET	11864
22		GAS CONTROL ASSY C2 LPG	11867
23		GAS CONTROL ASSY C2 NG	11866
24	90199762	BURNER ASSY NG	11886F
25	90199764	BURNER ASSY LPG	11945F

MAIN BODY

Exploded Diagram No.	RA PART	DESCRIPTION	RNZ PART
26		GLASS RETAINER TOP ASSY RIB23	11962
27		GLASS RETAINER BOTM ASSY RIB23	11963
28	90199768	LOGSET	11900
29		FILTER ASSY EMI RDV3600	11713
30	90199770	ADAPTOR 1/2 BSP 3/8 SAE FLARE	11944
31	90199772	NUT 1/2 COMPRESSION	5064
32	90199647	FLEXITUBE 1000	7835
33	90199774	PLUG BRASS 3/8" SAE FLARE	11948
NOT DRAWN	90199776	HARNESS WIRING	11909
NOT DRAWN	90199778	HARNESS OHS	11924
NOT DRAWN	90199688	ELEC CORD 1000 SYMBN	6765B
NOT DRAWN	90199767	HARNESS OHS SYMBN	11594

GAS TRAIN



Effective: 07/04/11(V2)
Supercedes: 01/02/11(V1)

SAPPHIRE FLAME FIRE

GAS TRAIN

Exploded Diagram No.	RA PART	DESCRIPTION	RNZ PART
1		BURNER SUPPORT	11856
2		GAS CONTROL MOUNTING BRACKET C2	11863
3	90199761	GAS CONTROL LP/NG 1000 SYMBN	10600
4	90199597	SPARKER 1000 SYMBN	10601
5		PILOT TUBE REPL ASSY RIB23	11968
6		GAS SUPPLY TUBE C2	11891
7		INJECTOR BLOCK	11530
8		INJECTOR 1.5	11868
8		INJECTOR 2.8 NG	11892
9		GROMMET SILICON 2Ø1.8 HOLE 750	10294
10		GROMMET SILICONE Ø4 HOLE R750	10293
11	90199780	REDUCING FLARE 3/8X1/2BF480608	5074
12		SCREW M4 X 8 PHPMZ SPRINGWASH	9064
13		SCREW 2 TRUSS 4 X 8 TAP ZINC	9151
14	90199956	INJ PILOT LP 750 1000 SYMBN	7873
14	90199955	INJ PILOT NG 750 SYMBN	7795
15		ELECTRODE NUT ETR	7900
16		ELECTRODE NUT (S.I.T)	7876
17	90199803	PILOT HEAD 1000 SYMBN	7871
18	90199843	PILOT BODY LUM	7870
19	90199746	ELECTRODE 1000 SYMBN	7875
20		SPACER ELECTRODE PILOT	7902
21		PILOT BRACKET	11862
22		SILICONE TUBE 25x9.5x6.4	11641
23	90199701	ADAPTOR 1/2" BSPT SYMBN	11589
NOT DRAWN	90199782	HARNESS SENSOR	11910
NOT DRAWN	90199784	HT LEAD	11911

Notes

Notes

Rinnai

Rinnai Australia Pty. Ltd. ABN 74 005 138 769

Head Office

10-11 Walker Street,
Braeside, Victoria 3195
P.O. Box 460
Tel: (03) 9271 6625
Fax: (03) 9271 6622

Internet: www.rinnai.com.au E-mail: enquiry@rinnai.com.au

National Help Lines

Sales & Service
Tel: 1300 555 545* Fax: 1300 555 655*

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

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 Help Line. Rinnai recommends that this appliance be serviced every 2 years.