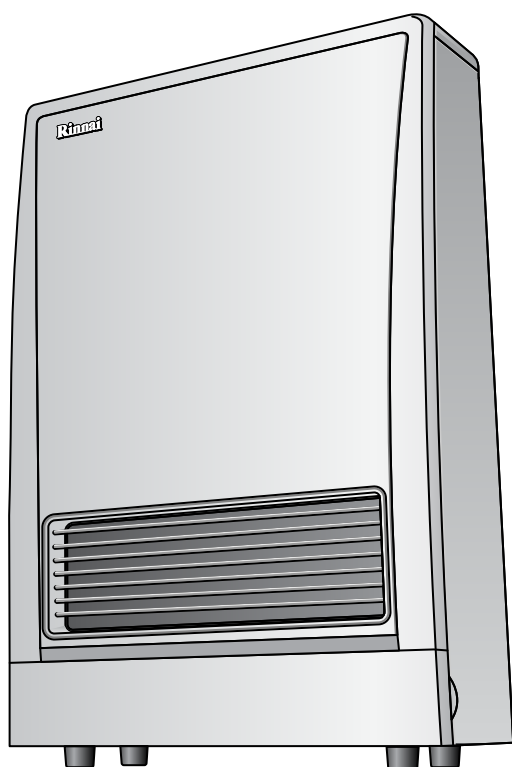


Rinnai

Energysaver

ENERGYSAVER RHFE-309FT

SERVICE MANUAL



High Efficiency Power Flued Gas Space Heater

2013

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WARNING



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

ALL WIRING INSIDE THIS APPLIANCE MAY BE AT 240 VOLTS POTENTIAL

ALL SERVICE WORK MUST BE CARRIED OUT BY AN AUTHORISED PERSON.

DO NOT TEST FOR GAS ESCAPES WITH AN OPEN FLAME

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.



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



Rinnai Australia Head Office is certified as complying with ISO 9001 by SAI Global.



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



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 5109.

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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
L/min	-	Litres per minute
mA	-	milliamps
MJ/h	-	megajoule per hour
mm	-	millimetres
mmH ₂ O	-	millimetres of water (gauge pressure)
NO _x	-	oxides of nitrogen (NO & NO ₂)
OHS	-	overheat switch
PCB	-	printed circuit board
CPU	-	central processing unit
POT	-	potentiometer
rpm	-	revolutions per minute
SV	-	solenoid valve
ø	-	diameter
Δ°C	-	temperature rise above ambient
POV	-	modulating valve
TH	-	thermistor

1. Introduction

Background

The RHFE-309FT incorporates an improved modulating control system to provide comfortable heating. Other features of these appliances are improved safety, operation, installation, and maintenance features.

Characteristics

- Built into the main PCB is the software for connection to a central ON-OFF control.
- Gas flow modulates in 7 steps between High and Low ensuring comfortable and efficient heating.
- Includes a 24 hour digital clock and dual timer, and an economy mode function. This reduces gas consumption without affecting comfort.
- Temperature control is monitored by “fuzzy logic” technology - relevance to each other.
- All operation and temperature control is with user-friendly push buttons.
- Improvements have been made to the rear convex section for clean-cut design.
- If a problem occurs or service is required, an error coded message appears on the digital display to direct the service technician to the cause of the problem.
- Information about any previous faults is stored in the PCB and can be recalled during servicing.

About your heater

The bodywork is formed from 0.6 mm galvanised steel sheet, which forms a box to which the components, heat exchangers and blowers are attached. This is then covered by an outer case which is constructed from 0.6 mm galvanised steel sheet, and plastic mouldings.

The combustion chamber is constructed from 1.0 mm hot dip aluminium coated steel sheet, located in the lower centre of the appliance.

The heat exchanger is composed of two sub-heat exchangers sets. The left hand set, No.1 is constructed of 1.0 mm aluminised steel. The right hand set, No.2 is constructed of 0.8 mm stainless steel. The inlet of sub-heat exchanger No.1 is connected to the outlet of the combustion chamber, the outlet is connected to sub-heat exchanger No.2. Sub-heat exchanger No.1 consists of 3 “sub” sections, constructed from 0.8 mm stainless steel. The outlet of sub-heat exchanger No.2 is constructed from 0.5 mm stainless steel and connected to the flue by a concertina stainless steel tube.

The combustion air fan draws combustion air from the outside atmosphere through the flue manifold pipe. Air is then blown into the combustion chamber via a rubber tube. Combustion products in the combustion chamber are pushed out into sub-heat exchanger No.1, to sub-heat exchanger No.2, and then into the 34 mm flue pipe which is connected through the flue manifold to the outside atmosphere.

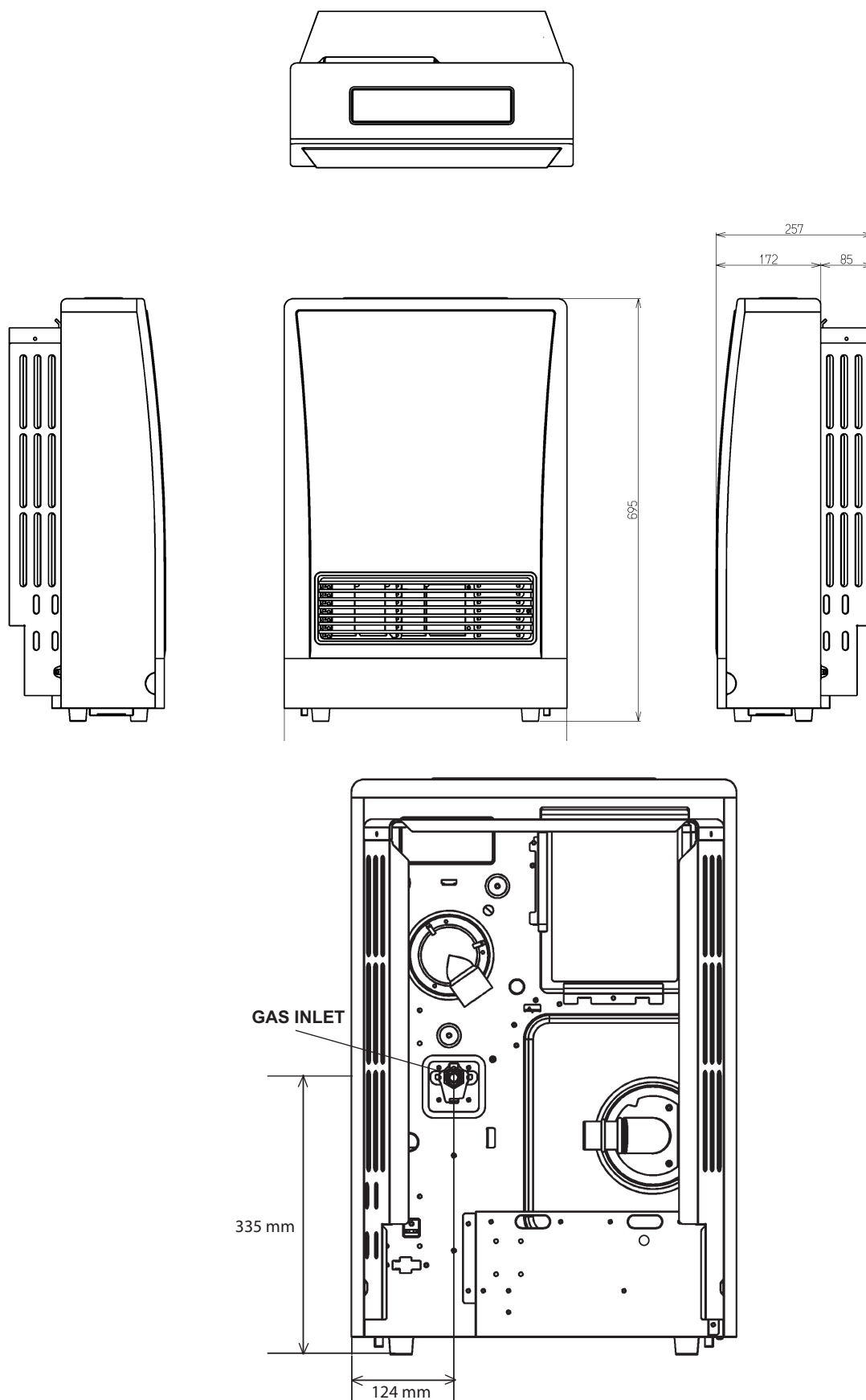
The flue system is connected with stainless steel concentric pipe, The inner pipe (34 mm diameter), is the combustion gas outlet, and is connected to the outlet of sub-heat exchanger No.2. The outer pipe (70 mm diameter) is the combustion air inlet and is connected to the inlet of the combustion fan air pipe. Various flue lengths are available.

Ignition is continuous spark in conjunction with an electrically operated solenoid and control is monitored by the PCB. Gas passes through the R1/2 15 (BSP) inlet fitting, then via a flange connection to the solenoid valves No.1, No.2, a regulator modulating valve, aluminium injector manifold, before entering the burner.

2. Dimensions

RHFE-309FT

Note: All dimensions are in millimetres

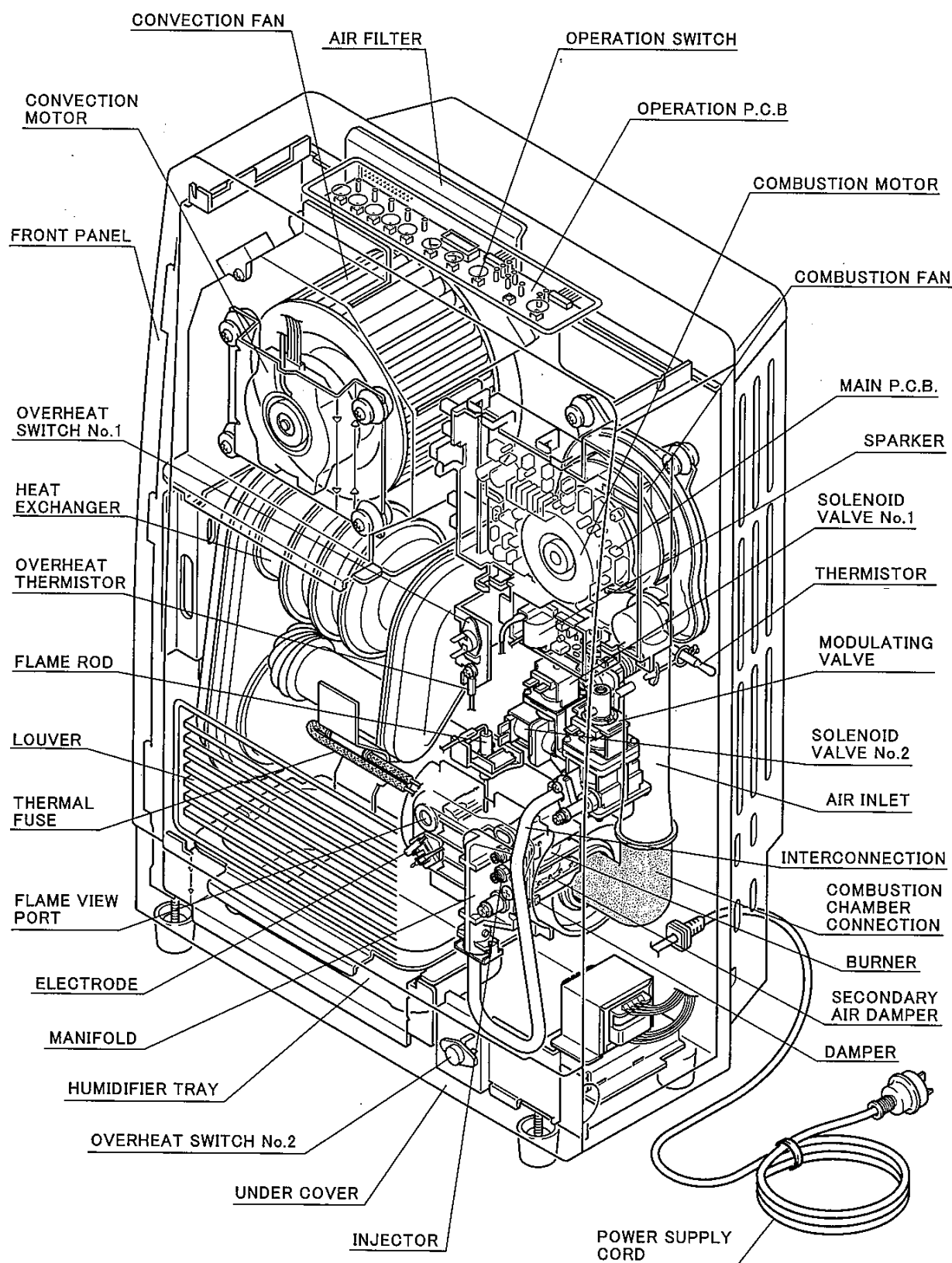


3. Specification

Refer to Operation / Installation Manual for Specification details

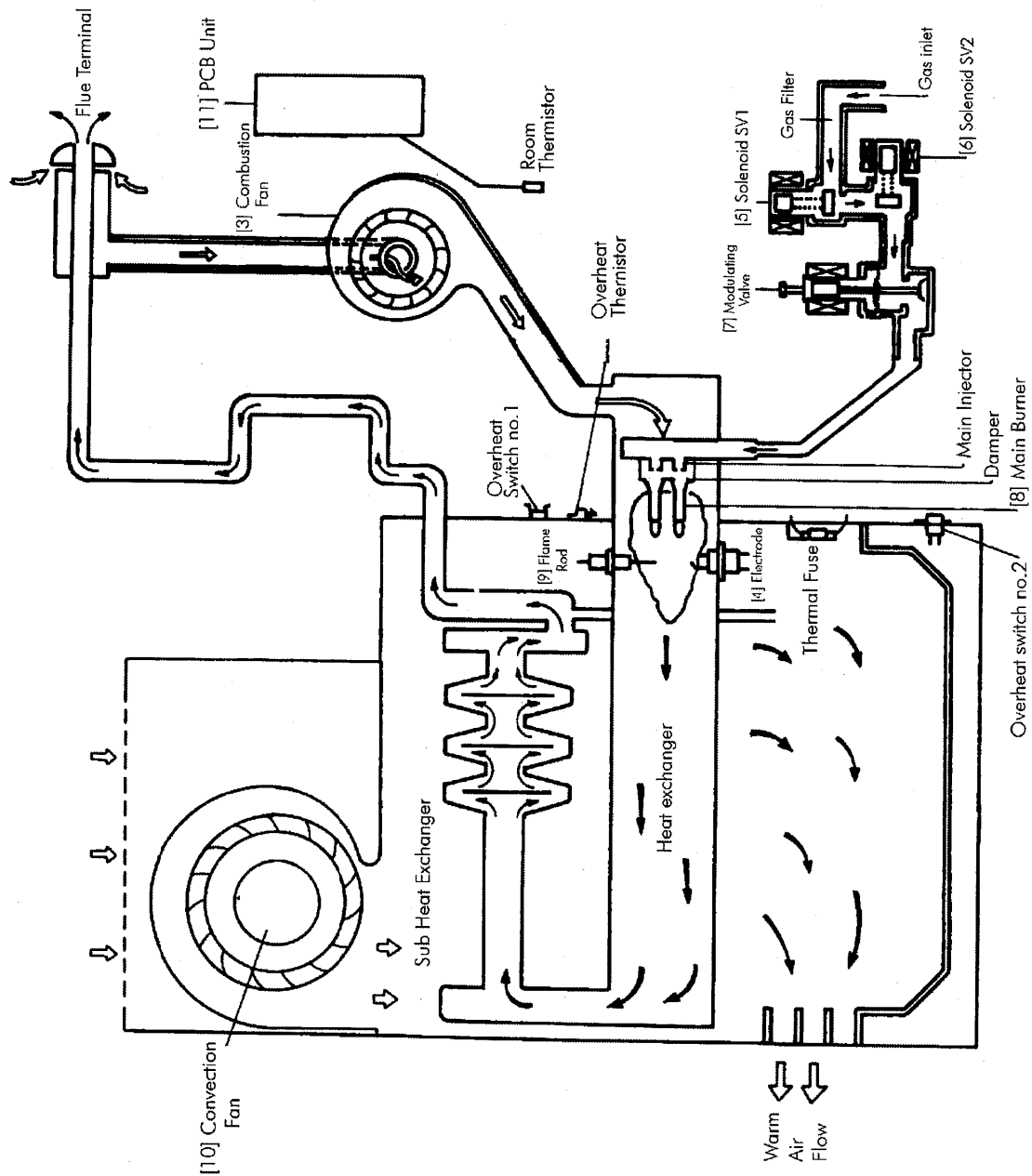
4. Cut-Away Diagram

RHFE-309FT

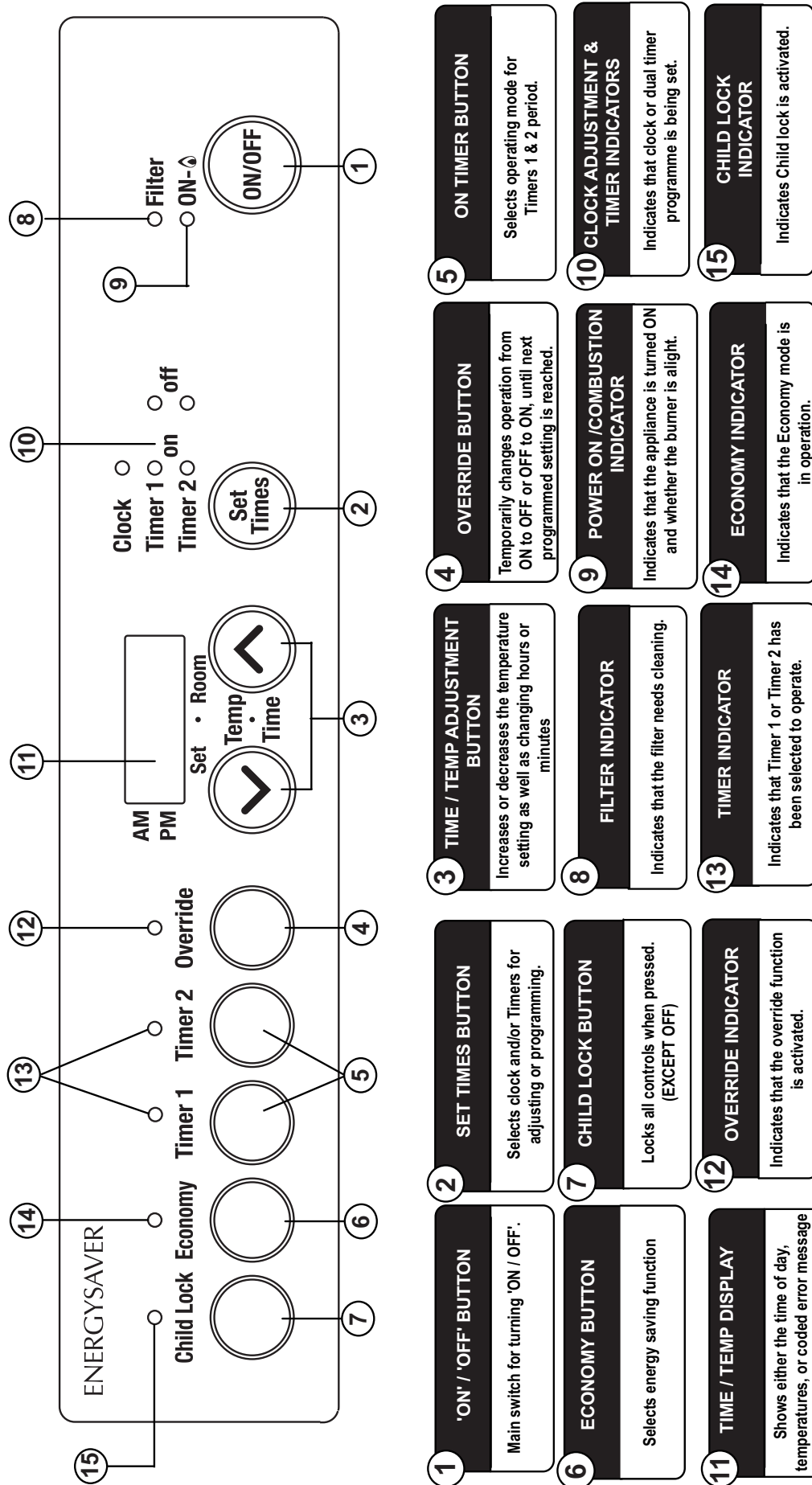


5. Schematic Diagram

RHFE-309FT



6. Control Panel Layout



7. Safety Devices

Overheat Switch:

This device automatically shuts the gas supply off if the heater exceeds a predetermined temperature.

This is normally caused by an obstruction in front of the louvres, or a blocked fan filter.

If the overheat switch operates, turn the unit 'OFF', remove the obstruction (clean filters) and allow the unit cool off for 10-15 minutes before re-operating.

Fusible Links:

The fusible link activates under conditions of severe overheating and shuts off the gas supply. A service call will be required to repair the appliance.

Flame Failure Device:

If the flame goes out during operation this device shuts off gas to the burner. To reset, turn the unit 'OFF', then 'ON' again. If this happens repeatedly a service call is required.

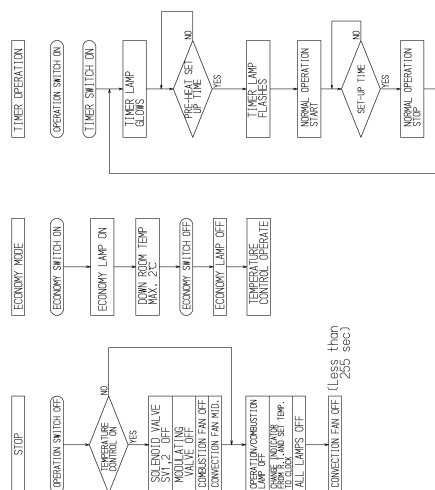
Electrical Fuse:

The electrical circuits are protected by an electric fuse. When the fuse blows, the heater will not operate. The fuse must be replaced by an authorised person.

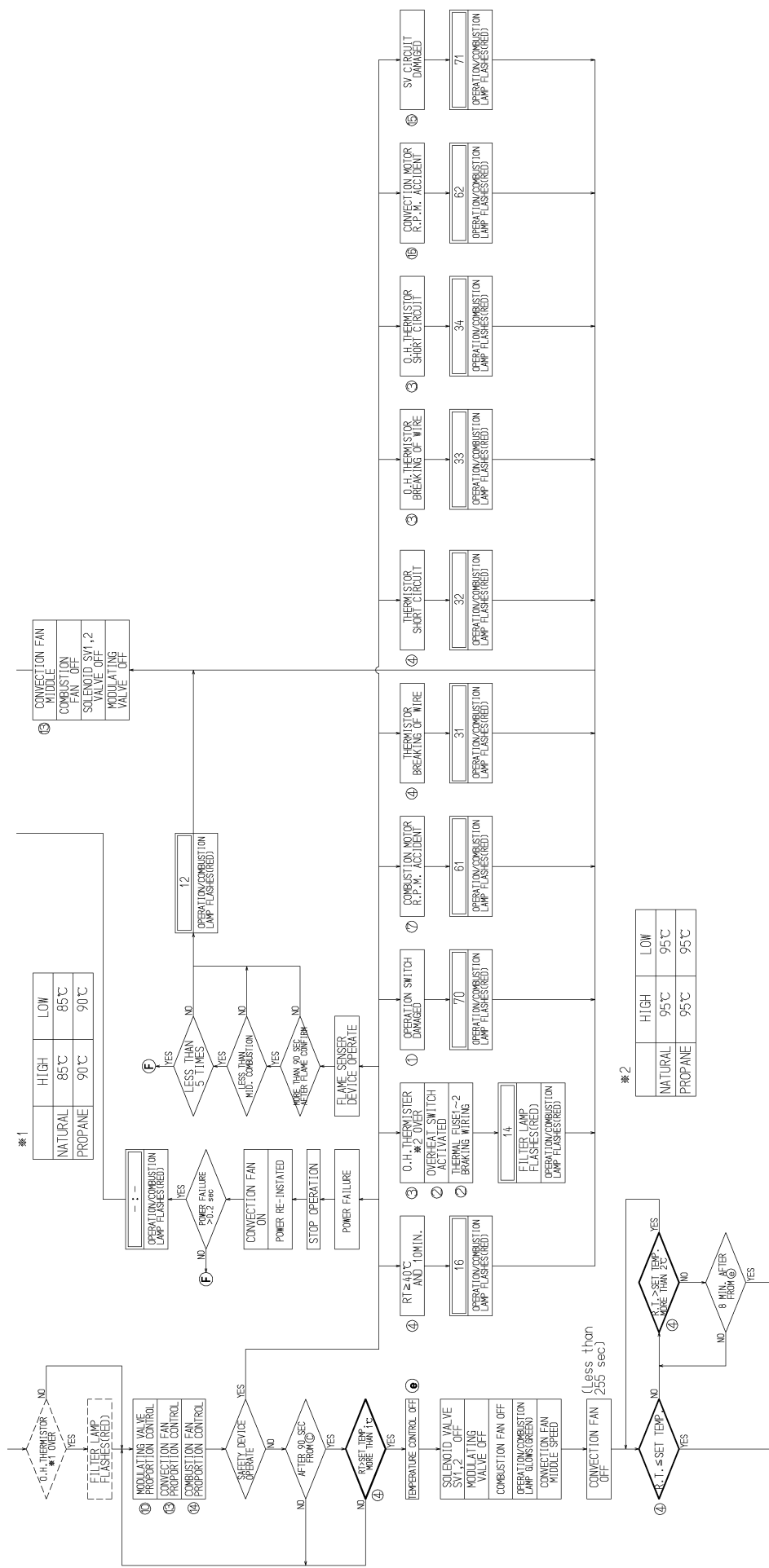
Power Failure:

In the event of a power failure or power cut, the gas valves will automatically close. After the power is re-instated the appliance will automatically re-start. The time of day will need to be reset to the correct current time.

RHFE-309FT - (page one of two)



Energysaver RHFE-309FT



9. Diagnostic Points

Page One of Two

Part	Wire		309FT	Measurement
Control Panel	Red - Blue		DC0-5V (Pulsed voltage) The resistance is infinity but the curent flow when the switch is pushed.	0.1 ~ 0.2V (This is pulse voltage)
	Blue - Blue			
Hi-Limit SW etc.	White - White		Below DC 1V, Below 2Ω	0.2Ω
	White - White (OHS1)			
	White - White (TF)			
	White - White (OHS2)			
Hi-Limit TH	White - White		0.87-482kΩ (<0.87kΩ:Short, >482kΩ:Open)	-
	Temperature		0 °C:214kΩ, 20°C:78kΩ, 50°C:21kΩ 80°C:7.3kΩ, 100°C:3.6kΩ, 135°C:1.5kΩ	-
	White - White (Filter sign)	High	NG: Flashes below 6.19kΩ LP: Flashes below 5.29kΩ	-
		Low	NG: Flashes below 6.19kΩ LP: Flashes below 5.29kΩ	-
	White - White (The TH operate)	High	NG: Operates below 4.53kΩ LP: Operates below 4.53kΩ	-
		Low	NG: Operates below 4.53kΩ LP: Operates below 4.53kΩ	-
RT TH	Yellow - Yellow		1.82-707kΩ (<1.82kΩ:Short, >707kΩ:Open)	-
	Temperature		0 °C:113kΩ, 20°C:39kΩ, 30°C:24kΩ, 40°C:15kΩ	-
FR	Yellow - Yellow		Below 0.1μA (During Stop)	-
Combustion Fan (In case of short vent.)	White - Black		Below ignition revolution +2Hz	-
	Ignition revolution	Initial	LP: 56Hz, NG: 60Hz	-
		Re-attempt	LP: 56Hz, NG: 60Hz	-
	Normal revolution	High	LP: 105Hz, NG: 91Hz	-
Low		LP: 55Hz, NG: 52Hz	-	
Combustion Fan (In case of long vent.)	White - Black		Below ignition revolution +2Hz	-
	Ignition revolution	Initial	LP: 56Hz, NG: 60Hz	-
		Re-attempt	LP: 56Hz, NG: 60Hz	-
	Normal revolution	High	LP: 115Hz, NG: 103Hz	-
Low		LP: 60Hz, NG: 60Hz	-	

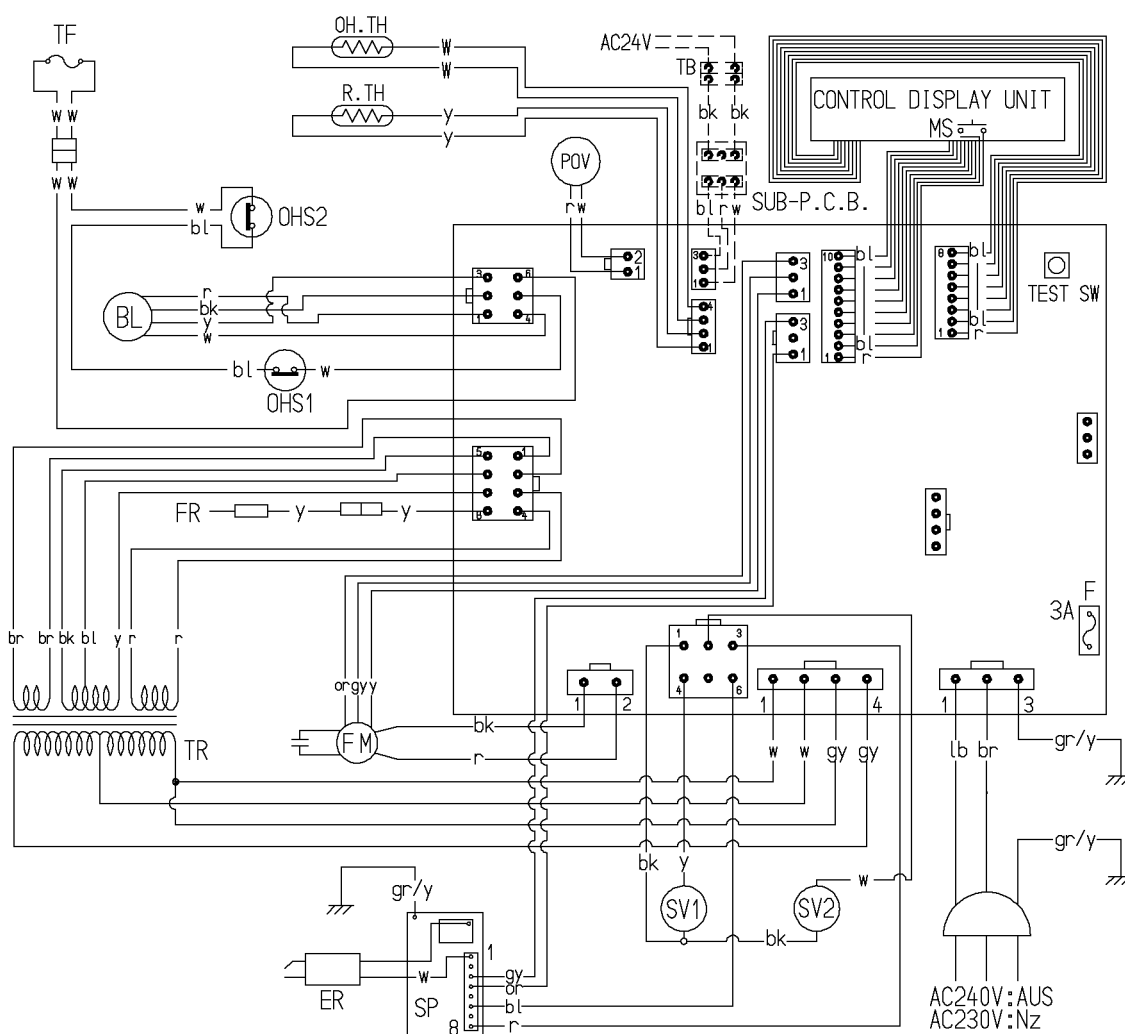
Diagnostic Points - Page Two of Two

Part	Wire	309FT	Measurement
Convection Fan	Red - Black	50-110V 90-180Ω	68.4 ~ 85.3V (Without front panel) 135.8Ω (20°C)
SV	Black-White	80-100V	92.6V, 1.9kΩ
	Black-Yellow	1.5-2.5kΩ	92.6V, 2.0kΩ
POV	Red-White	DC2-15V (Low-High) 60-90Ω	DC5.4-11.9V, 74.3Ω

Transformer*	Australia (240V)
Gray - Gray	AC216-264V, 20-60Ω
Red - Red	AC20-40V, 0.5-2.0Ω
Brown - Brown	AC10-30V, 1-5Ω
Black - Yellow	AC200-240V, 150-350Ω

*Both models are same

10. Wiring Diagram

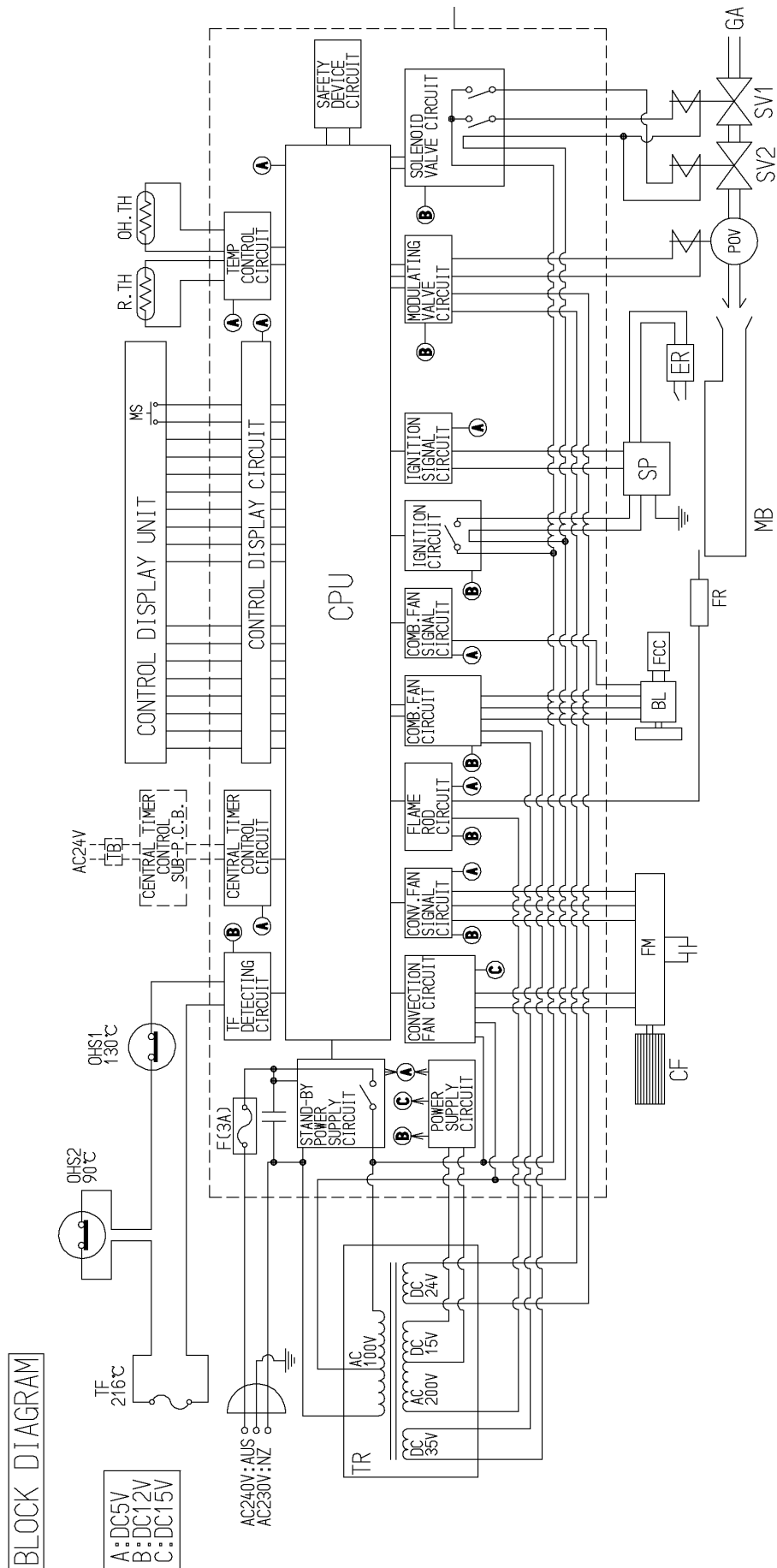


CODE	COLOUR	CODE	COLOUR
bk	black	w	white
bl	blue	y	yellow
lb	light blue	gy	gray
gr/y	green/yellow	or	orange
r	red	br	brown

MARK	PARTS NAME
MS	MAIN SWITCH
R.TH	THERMISTOR
TF	THERMAL FUSE
F	FUSE
ER	ELECTRODE
POV	MODULATING SOLENOID VALVE
TR	TRANSFORMER
FR	FLAME ROD
CF	CONVECTION FAN
FM	CONVECTION FAN MOTOR
SP	SPARKER
OH.TH	OVER HEAT THERMISTOR
SV1~2	SOLENOID VALVE 1~2
BL	COMBUSTION FAN MOTOR
FCC	FAN CONTROL CIRCUIT
CPU	CENTRAL PROCESSING UNIT
MB	MAIN BURNER
OHS.1~2	OVERHEAT SWITCH 1~2
TB	TERMINAL BLOCK

* NOTE: THIS CONNECTOR APPLICABLE TO RHFE-559FT ONLY.

11. Block Diagram

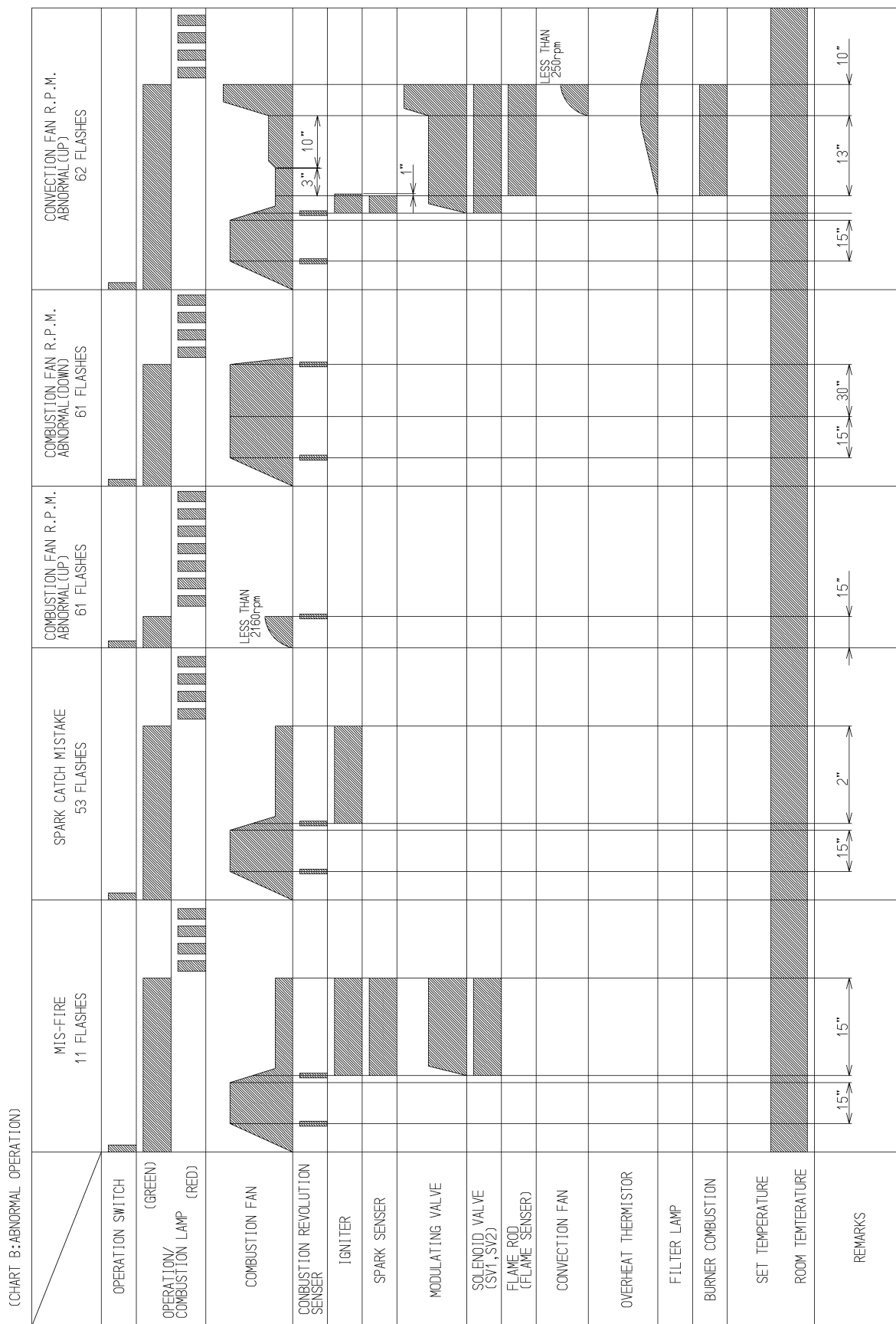


12. Time Charts

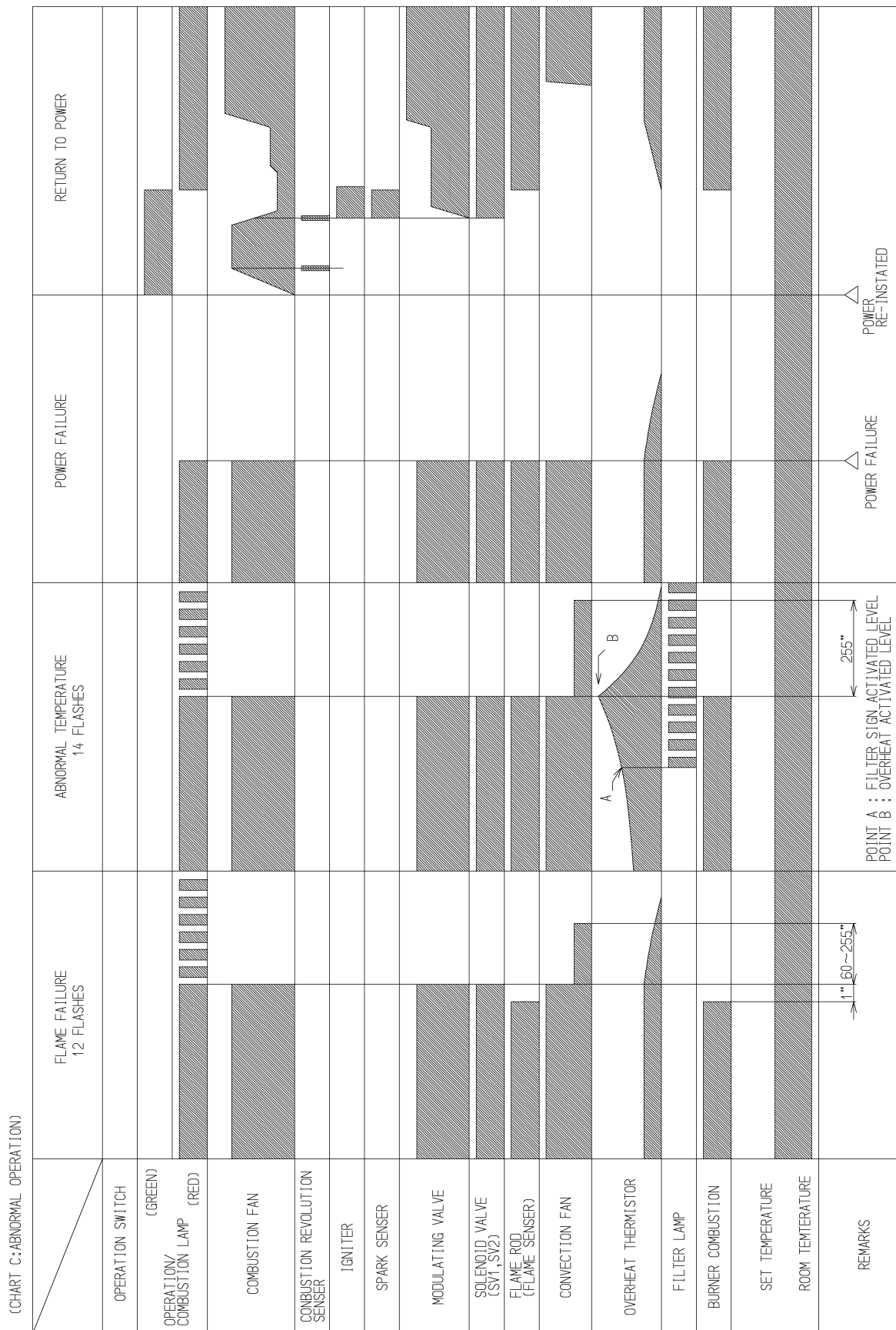
RHFE-309FT - (page one of three)



RHFE-309FT - Time Charts (page two of three)



RHFE-309FT - Time Charts (page three of three)



13. Fault Finding

Trouble Shooting Check List

Please check this list before asking for Service

Cause \ Fault							Remedy
	No Power ON/Combustion Indicator	Burner doesn't ignite	Unusual Combustion	Combustion stops during operation	Smell of Gas	Noisy Ignition	
Not plugged in	●	●					Plug in power cord and press the control panel 'ON' / 'OFF' button.
Power Cut	●	●		●			Re-ignite manually after power is restored.
(Initial Installation) Air in gas pipe		●					Purge air (Installer).
Gas Filter Blocked		●	●				Service Call (Contact Rinnai).
Mis-Ignition	●	●					Check customer instructions.
Flue Terminal obstructed			●	●		●	Clear obstruction.
Flue manifold not connected					●	●	Service Call (Contact Rinnai).
Louvre obstructed				●			Clear obstruction.
Air Filter Blocked				●			Clean filter (weekly).
Gas Escape					●		Service Call (Contact Rinnai).
'ON' Timer is set		●					Cancel 'ON' Timer or press the override button.
Gas turned 'OFF' at meter		●					Turn Gas 'ON'.
Function / Child Lock Set		●					Cancel Function / Child Lock.

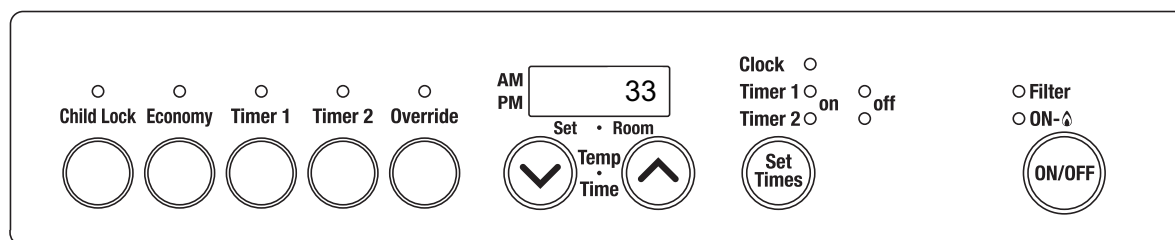
If you are unsure about the way the unit is operating, contact Rinnai or your Agent.

Before asking for a service call please check the following.

These symptoms are part of the normal operation of the unit and do not indicate a fault.

Symptom		Explanation
At Ignition:		
Warm air does not start when the burner lights.	→	The fan is started automatically after a short delay. This is to allow the heat exchanger to warm up, helping to avoid cold draughts.
Smoke or strange smells are produced on the first trial light up after installation.	→	This is caused by grease or oil from the manufacturing process on the heat exchanger and dust, and will stop after a short time.
Sharp clicking noises at ignition, or when the unit cuts down on the thermostat, or goes out.	→	This is simply expansion noise from the metal heat exchanger.
During combustion:		
Clunking noise when the thermostat operates.	→	This is the sound of the solenoid gas valves opening and closing.
When the unit is turned 'OFF':		
Convection fan continues to run after turning 'OFF'	→	This is to remove the residual heat from the heat exchanger. The fan will stop when the unit cools down.
Other points:		
Steam is discharged from the flue terminal.	→	High efficiency appliances tend to discharge water vapour on cold days. This is normal.
Heater does not start even when 'ON' button is pushed and thermostat is on HIGH.	→	Check timer. Timer must be in the "OFF" position for manual operation. Room temperature is hotter than 'High' setting.
Timers:		
Timers do not operate at set time.	→	Timers may either be inactivated or incorrectly programmed. Repeat programming. Refer to "OPERATING THE TIMERS" on page 11.
Timer operates for 30 seconds then cuts out.	→	Room temperature may be higher than set temperature. Adjust temperature upwards if desired.

14. Error Messages



The Energysaver® Range of heaters has the ability to monitor its own operation continuously. If a fault occurs, an Error Message will flash on the Digital Display ⑪ on the control panel. This assists with diagnosing the fault, and may enable you to overcome a problem without a service call.

Please quote the code displayed when inquiring about service.

Code Displayed	Fault	Remedy
11	Ignition failure	Check gas supply is turned 'ON' Turn Heater 'OFF' then 'ON' again Service call if repeated
12	Flame failure	Check gas is turned 'ON'
14	Overheat	Clean filter Service call if repeated
16	Room Overheat	Lower room temperature to less than 40°C
31 32	Room temperature sensor faulty	Service call
33 34	Overheat temperature sensor faulty	Service call
53	Sparker failure	Service call
61	Combustion fan failure	Service call
62	Convection fan failure	Service call
70	Faulty 'ON'/'OFF' Switch	Service call
71	Faulty solenoids	Service call
72	Faulty Flame Rod	Service call
73	Communication error	Service call

In all cases, you may be able to clear the Error Message simply by turning the heater 'OFF', then 'ON' again. If the Error Message still remains or returns on the next operation, contact Rinnai or your nearest service agent and arrange for a service call.



NOTE

Service calls for general cleaning, maintenance and wear and tear are not necessarily covered under the warranty. Service calls of this nature may be chargeable. Faults caused by insufficient gas supply, gas quality, installation errors or operation errors are not covered by the Rinnai warranty. Refer to the Warranty Card for details.

15. Gas Pressure Setting Procedure



Refer separate Rinnai document behind front cover of appliance.

16. Gas Conversion Procedure



Refer separate document available from Rinnai.

17. Dismantling for service



NOTE: Before proceeding with dismantling, be sure to follow the
CAUTION
240 volt potential inside appliance
Disconnect electrical supply
ONLY AUTHORISED PERSON TO CARRY OUT REPAIRS TO THIS APPLIANCE

DISMANTLING FOR RHFE-309FT

<i>Item</i>	<i>Page</i>
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2. Removal of Top Panel, Control Panel, and Control Panel PCB	23
3. Removal of Convection Fan Motor	24
4. Removal of Heat Exchanger	24
5. Removal of Burner	25
6. Removal of Flame Rod	25
7. Removal of Main PCB	26
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12. Removal of Thermal Fuse	27

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



When servicing this unit, please make sure that flue integrity is checked, i.e. check for any corrosion of transition box and clear any deposit. Also check for any burn marks around the burner cover plate.

CAUTION

240 volt potential inside appliance

Disconnect electrical supply

Note: Please ensure that proper screws are used at proper location in re-assembly

To secure metallic panel	Front/Side panel, louvre	Gas connecting tube	Earthing lead
8g Pan Head - self taper	8g Pan Head - self taper with captive star washer	Pan Head M4 with captive spring washer	Pan Head M4 with captive star washer
			
To secure plastics, exhaust pipe	To secure air intake tube		
Flat Head 8g - self taper	Flat Head M4		
			

CAUTION

240 volt potential inside appliance

Disconnect electrical supply

1) Removal of Front Panel

- a. Grip sides of skirt and pull forward to remove.



- c. Grip bottom left and right hand corners of front panel, pull forward to release.
- d. Remove (7) seven screws to release louvre & front panel.

2) Removal of Top Panel, Control Panel, and Control Panel PCB

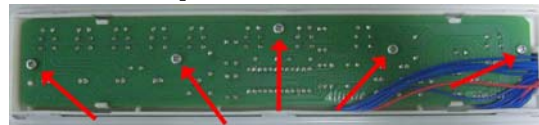
- a. Remove front panel assembly, see section 1. Remove (2) two screws, one on each side of control panel.



- b. Release (3) three multi-pin connectors from main PCB, releasing the control panel PCB harness from wire clip on main PCB casing.
- c. Pull forward of control panel and lift both sides to remove.



- d. Unscrew seven (7) screws to remove control PCB from control panel.



CAUTION

240 volt potential inside appliance

Disconnect electrical supply

3) Removal of Convection Fan Motor

- Remove front panel assembly, see section.1
- Loosen allen screw securing the fan blade to the fan motor shaft using a 3 mm allen key (from back of unit).



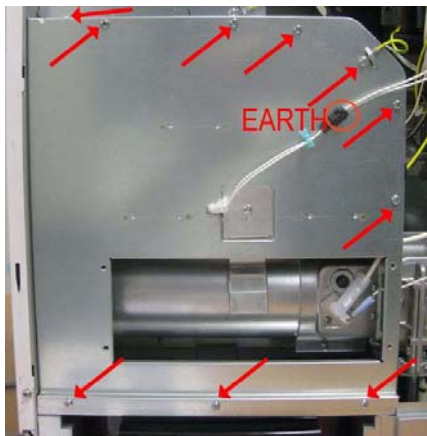
- Remove four (4) screws securing the motor to the casing and remove fan motor cover.



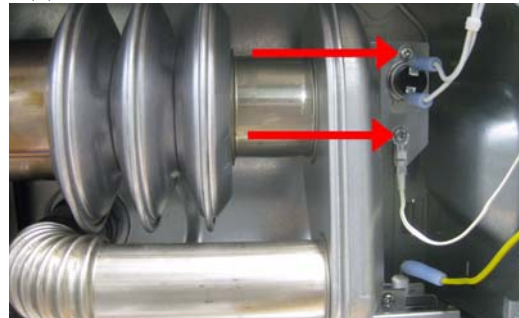
4) Removal of Heat Exchanger

Attention: Combustion tube gasket must be replaced (refer to part number 90199821) whenever burner tube cover plate has been removed. Need to clean off old gasket before fitting replacement gasket.

- Remove front panel assembly, see section 1.
- Remove one (1) earth connection on front heat shield.
- Release fusible link.
- Release nine (9) screws securing heat shield.



- Disconnect overheath switch and thermistor, two (2) screws



- Disconnect flame sensing lead (pull hard). Remove spark sensing lead, and high tension lead (pull off gently).



- Disconnect the lead of flame rod.



- Remove top panel two (2) screws, and right hand side panel two (2) screws.
- Remove blanking panel, two (2) screws.
- Remove one (1) gas supply tube securing screw (gas control side) and one (1) air intake tube securing tube.

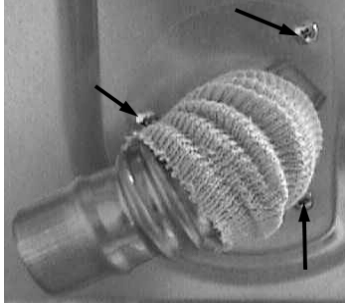


CAUTION
240 volt potential inside appliance
Disconnect electrical supply

- k. Remove two (2) burner securing screws, to remove gas supply tube.
- l. Disengage gas supply tube and manifold.



- m. Remove flue spigot, three (3) screws.



- n. Remove five (5) heat exchanger securing screws. Grip heat exchanger and pull forward to remove.



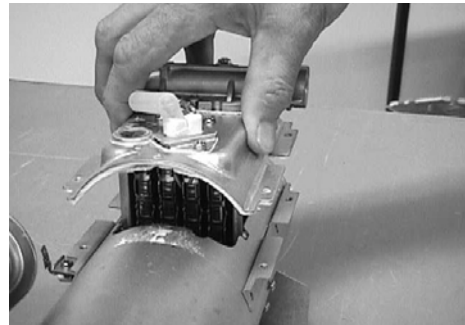
Note: Refer section 5 f)~g) to disconnect burner from heat exchanger complete assembly.

5) Removal of Burner

- a. Remove front panel assembly, see section 1
- b. Remove front heat shield, see section 4 b) ~
- c. Remove blanking panel, one (1) screw.
- d. Remove spark sensing lead, and high tension lead (pull off gently).
- e. Remove two (2) gas supply tube securing screws.
- f. Disengage gas supply tube.
- g. Remove four (4) burner cover screws.



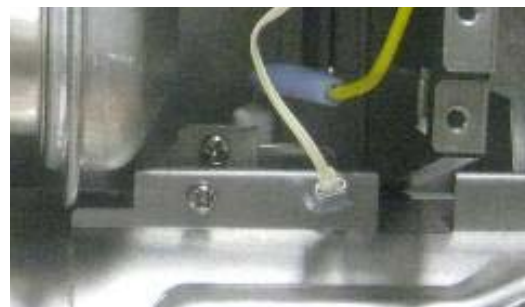
- h. Gently manoeuvre burner and cover forward and out of burner chamber by pulling on manifold. Take care not to damage gasket.



Note: to reassemble the burner, please replace gland to secure airtight of burner chamber.

6) Removal of Flame Rod

- a. Remove front panel assembly, see section 1.
- b. Remove front heat shield, see section 4b)~d).
- c. Remove one (1) screw (using a stubby phillips screwdriver).



CAUTION

240 volt potential inside appliance

Disconnect electrical supply

7) Removal of Main PCB

- Remove front panel assembly, see section 1.
- Disconnect all multi-pin connectors, and wire harness from clips of PCB casing.
- Remove one (1) earth connection on front heat shield and one (1) earth connection on convection fan housing.
- Release PCB by removing three (3) screws on left hand side.
- Lift PCB on right hand side and gently manoeuvre it out.



8) Removal of Combustion Fan

- 240 volt potential inside appliance.
- Disconnect electrical supply.
- Remove front panel assembly, see section 1.
- Remove main PCB, see section 7 b)~e).
- Remove seven (7) combustion fan securing screws.



- Remove two (2) air intake tube securing screws.
- Grip fan motor plate and pull forward to remove fan from casing.
- Remove connector from fan motor.

Note: Arrow should be aligned when fan assembly is replaced.

9) Removal of Main Transformer

- 240 volt potential inside appliance
- Disconnect electrical supply.
- Remove front panel assy, see section 1.
- Remove gas supply tube, see section 5 e)~f)
- Remove two (2) securing screws from transformer mounting bracket.



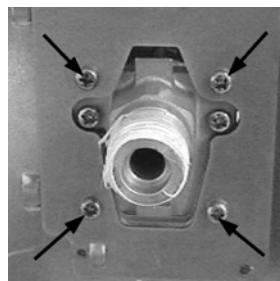
- Pull forward.

10) Removal of Gas Control

- Turn off gas supply at the meter and disconnect appliance from installation.
- Remove front panel assy, see section 1.
- Release solenoid connectors and gas supply tube securing screw (1), release gas supply tube. Take care with O-ring.



- Remove four (4) screws surrounding the gas inlet flange at back of heater.
- Pull gas control assembly forward to remove from appliance.



Note: Ensure test point screw is fitted to gas controls, if fitting new control.

CAUTION
240 volt potential inside appliance
Disconnect electrical supply

11) Removal of Room Thermistor

Note: Room temperature thermistor and heat exchanger overheat thermistor are connected together as one harness.

- a. Remove front panel assembly; see section 1. Remove top and right hand side rear spacer panels.
- b. Reach in behind appliance and unclip thermistor from purse locks.
- c. Remove nine (9) screws securing heat shield and lift heat shield off; see section 4- c)~d).
- d. Remove overheat thermistor, see section 4-e).

12) Removal of Thermal Fuse

- a. Turn off gas at meter and disconnect appliance from installation.
- b. Remove front panel assembly; see section 1.
- c. Release nine (9) screws securing heat shield.
- d. Disconnect wire connector along harness to release completely from appliance.



- e. Remove two (2) screws securing thermal fuse



- f. Release thermal fuse from appliance.

18. Parts List

Effective: 29/11/12
Supersedes: 28/04/12
Version 2

No. RA-2010-04			
Title: Spare parts for Energysaver RHFE-309FT			
NO	Part Name	RA Item	11 Digit Code
1	Rear Panel Assembly		004-937-000
2	Frame Center		047-0009000
3	Bottom Plate Support		005-282-000
4	Bottom Plate Upper Partition Plate		515-355-000
5	Humidifier Tray Fixing Plate		538-0676000
6	Convection Fan Bracket		537-0934000
7	BRKT FILTER SIDE	90102161	538-059-000
8	BRKT FILTER BOTTOM	90102179	538-064-000
9	Heat Shield Panel		030-790-000
10	Floor Fixing Bracket		537-677-000
11	PANEL FRONT	90196494	019-4387000
12	LOUVER ASSY	90196496	095-252-000
13	PANEL KICK	90196498	098-3028000
14	Lock A		066-875-000
15	PANEL SIDE L	90196500	003-974-000
16	PANEL SIDE R	90196502	003-975-000
17	FOOT FRONT	90165663	015-140-000
18	FOOT REAR	90165655	015-141-000
19	AIR FILTER	90196504	017-980-000
20	Cover		098-3029000
21	SUPPORT TOP PANEL	90196506	044-196-000
22	PANEL TOP	90196508	001-0721000
23	PANEL CONTROL	90196510	063-904-000
24	BACK SPACER TOP	90196512	034-0055000
25	BACK SPACER R	90196514	034-0056000
26	BACK SPACER L	90196516	034-0057000
27	CLIP WALL SPACER	90147471	504-018-000
28	ELEC CORD BKT	90177114	538-180-000
29	Cable Clip		504-024-000
30	Cable Clip		504-054-000
31	Transformer Bracket		537-0935000
32	OHS No2 Bracket		537-0936000
33	TRAY HUMIDIFIER	90113390	078-017-000
34	DECAL RINNAI	90196518	602-0817000
100	Heat Exchanger Assy		108-162-000
101	OHS Fixer		537-422-000
102	Flame Rod Bracket		537-849-000
103	Flame Rod Packing		580-458-000
104	FLAME ROD	90196520	230-048-000
105	Flame Rod Retainer		538-277-000
106	Combustion Chamber Fixer		537-673-000
107	Fixing Plate		537-0937000
108	Seal Plate Packing		580-0615000
109	Seal Plate B		538-653-000
110	Flange Board		190-199-000
111	BURNER BOX ASSY	90196522	527-390-000
112	BURNER ASSY	90170630	157-063-LPG
113	Burner Box Supporter Assy		538-258-000
114	GASKET BURNER BOX	90175662	580-641-000

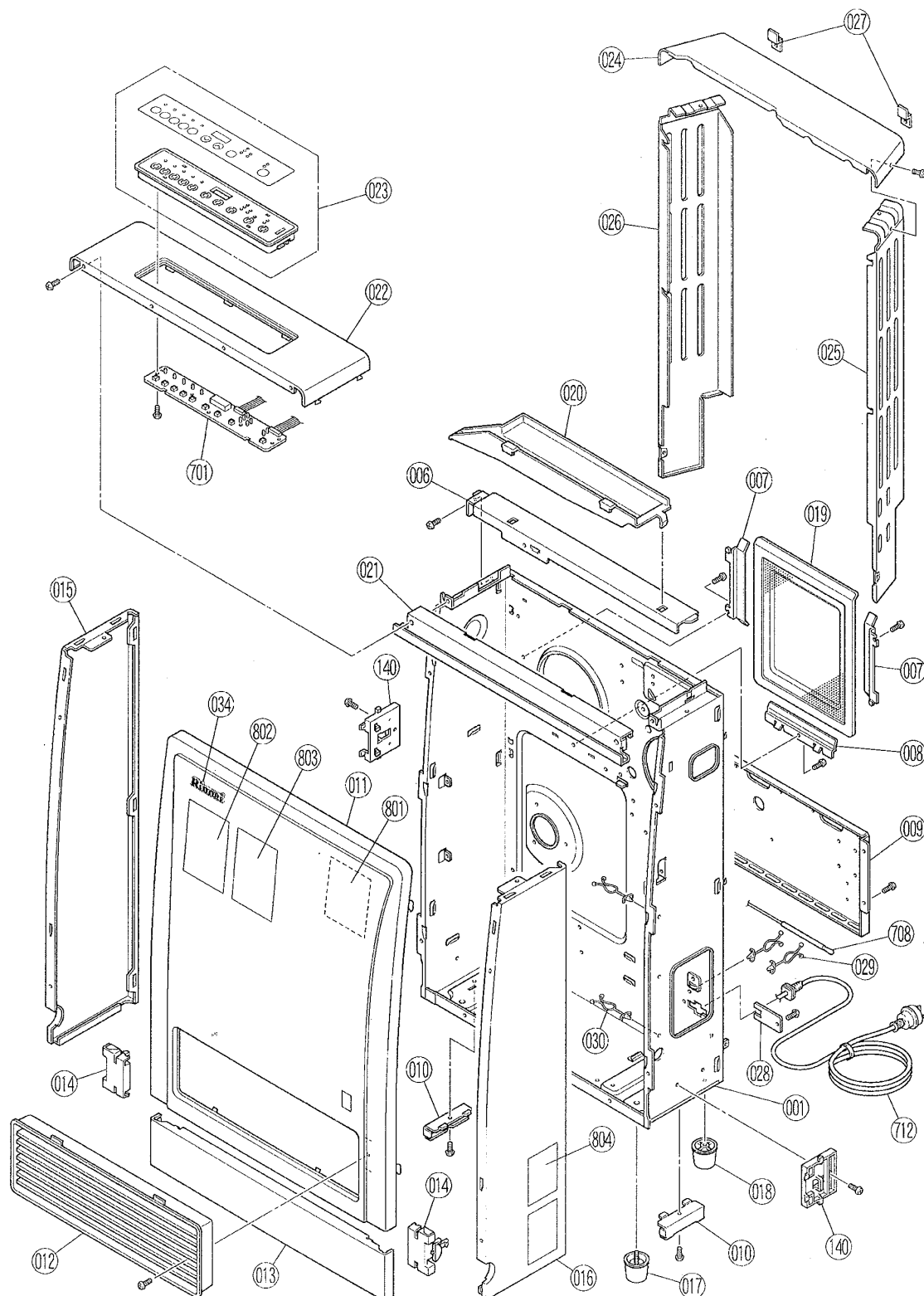
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Title: Spare parts for Energysaver RHFE-309FT			
NO	Part Name	RA Item	11 Digit Code
115	DAMPER PRIMARY LP	90179144	140-618-000
116	DAMPER SECONDARY LP	90179474	140-558-A00
116	DAMPER SECONDARY NG	90179482	140-558-B00
117	Electrode Mounting Plate		202-251-000
118	ELECTRODE		202-251-000
119	GASKET ELECTRODE		202-251-000
120	INJ LP 0.85	90165168	130-329-085
120	INJECTOR NG	90196584	130-329-125
121	INJ MANIFOLD	90121757	101-369-000
122	Manifold Packing		580-392-000
123	Burner Box Fitting Plate Assy		202-251-000
124	Fitting Plate Packing		580-0616000
125	Warm Air Seal Panel		512-420-000
126	HEAT EXCH GASKET	90175563	580-640-000
127	GAS CONTROL	90196588	120-0083000
128	Pressure Point		501-193-000
129	Inter Connection Assy		109-851-000
130	O Ring		520-027-010
131	Pressure Point Screw		501-275-005
132	O RING (S4) TEST POINT	90195165	520-300-010
133	Connecting Tube Retainer		538-0674000
134	FAN COMB ASSY	90196524	040-388-000
135	Combustion Fan Motor Bracket		537-0938000
136	CUSHION	90183195	540-051-000
137	Screw For Motor		501-303-000
138	Front Panel Fixer		538-0677000
139	Front Panel Packing		580-0682000
140	Lock Bracket		517-514-000
141	Air Inlet A		109-852-000
142	Air Inlet Packing		580-0683000
143	Comustion Chamber Connection		109-853-000
144	Connecting Tube Fixer		538-0606000
145	Tube E		513-0057000
146	Hose Band J		553-071-000
147	INLET AIR	90196590	094-026-000
148	SEAL INLET HOUSING	90123050	510-506-000
149	HOSE AIR INLET	90122961	513-126-000
150	ELBOW AIR INLET RUBBER	90122953	191-051-000
151	ELBOW EXHAUST ASSY	90196526	191-330-000
152	ORING EXHAUST	90196528	520-160-000
153	Cover		098-159-000
154	CLIP INSTALLATION	90165374	552-075-000
155	FLUE LOCK CLAMP	90165358	512-327-000
156	CLIP HOSE USE 90170341	90178146	538-065-000
157	FLANGE GAS INLET	90165515	106-301-000
158	FILTER GAS	90196530	017-0108000
159	GASKET	90176637	510-519-000
400	Convection Fan Casing Assy		098-3030000
401	BLADE FAN CONV	90116872	040-266-000

Effective: 29/11/12
 Supercedes: 28/04/12
 Version 2

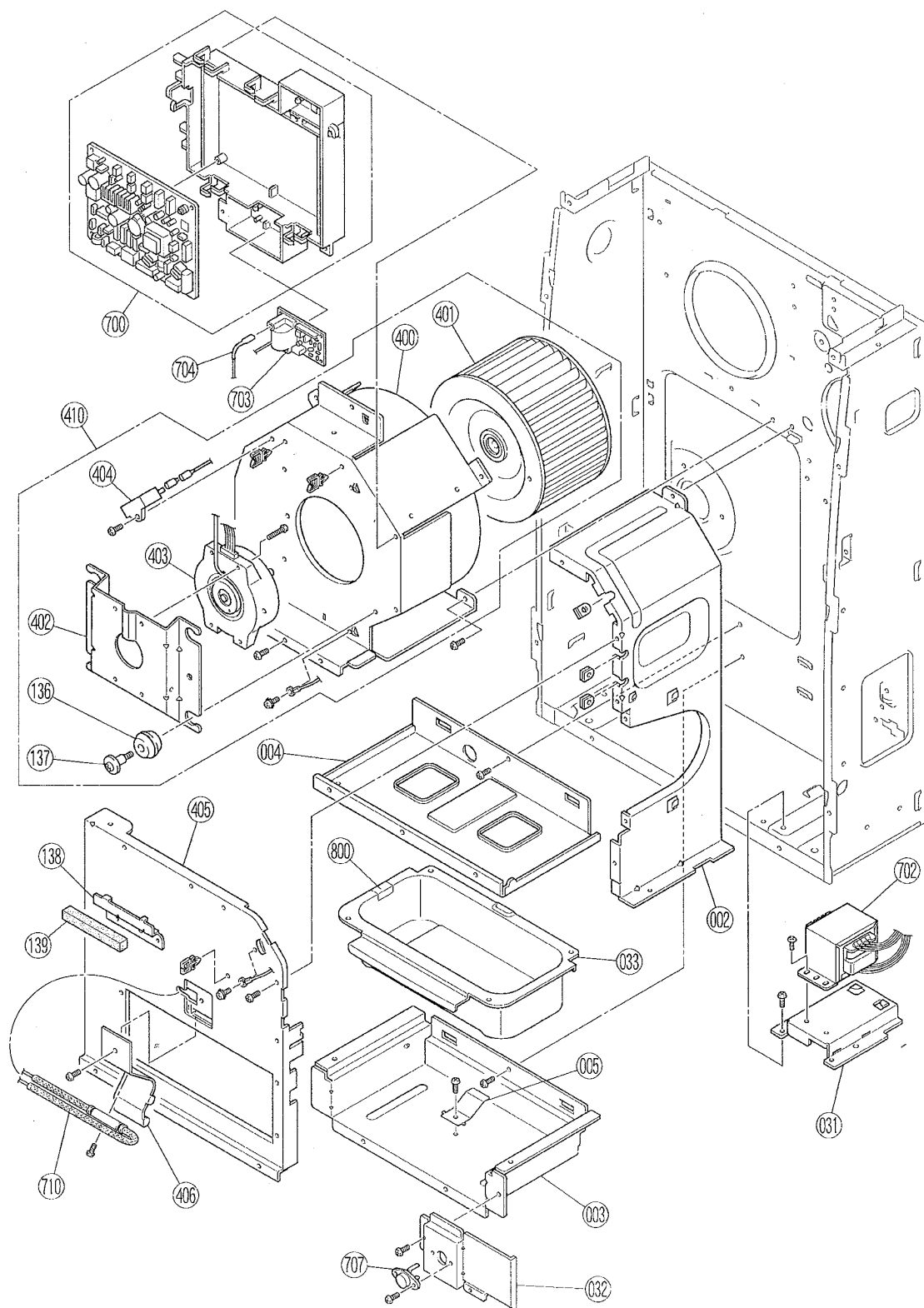
No. RA-2010-04			
Title: Spare parts for Energysaver RHFE-309FT			
NO	Part Name	RA Item	11 Digit Code
402	Motor Base		112-098-000
403	MOTOR CONV ASSY	90196532	222-672-000
404	CAPACITOR CONV FAN 3UF	90179490	225-111-000
405	Heat Shield Board Assy		030-0282000
406	TF Fixing Plate		537-847-000
410	FAN CONV TOTAL ASSY	90196534	040-389-000
700	PCB MAIN	90196536	200-1827000
701	PCB CONTROL	90196538	200-1824000
702	TRANSFORMER	90196540	224-373-000
703	IGNITER	90196542	211-228-000
704	LEAD HT	90196616	203-881-000
705	Sleeve		513-109-000
706	OHS	90196546	234-416-000
707	OHS 90C	90178575	234-506-000
708	THERMISTOR	90196548	233-297-000
709	HARNESS MOTOR	90196550	290-1991000
710	HARNESS THERMAL FUSE	90196552	290-1990000
711	HARNESS SOLENOID	90196554	290-1992000
712	CORD POWER	90196556	206-299-000
713	LEAD FLAME ROD	90196558	209-326-000
999	ELECTRODE ASSY 309 559	90196591	202-251-000

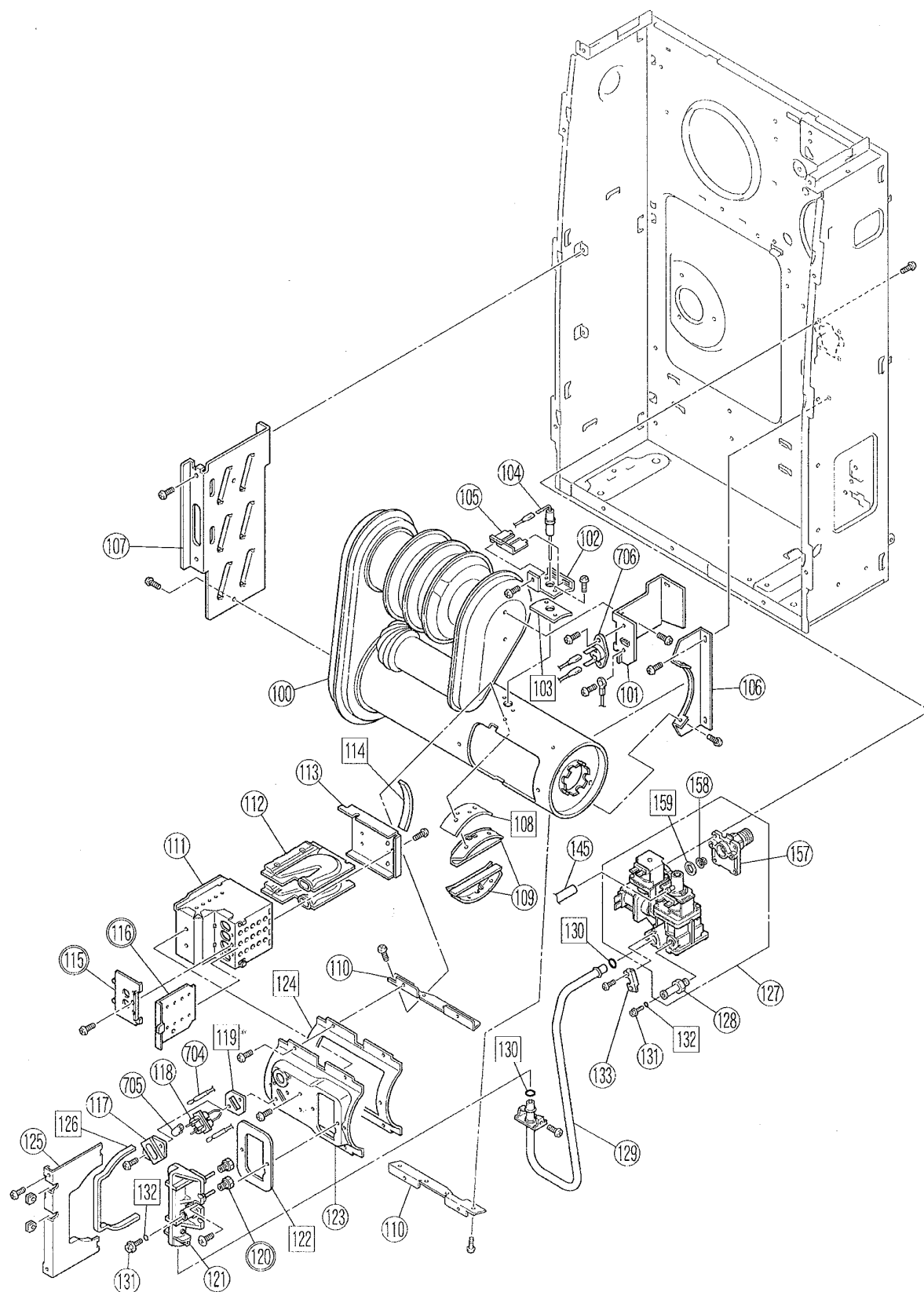
19. Exploded Diagram

RHFE-309F T

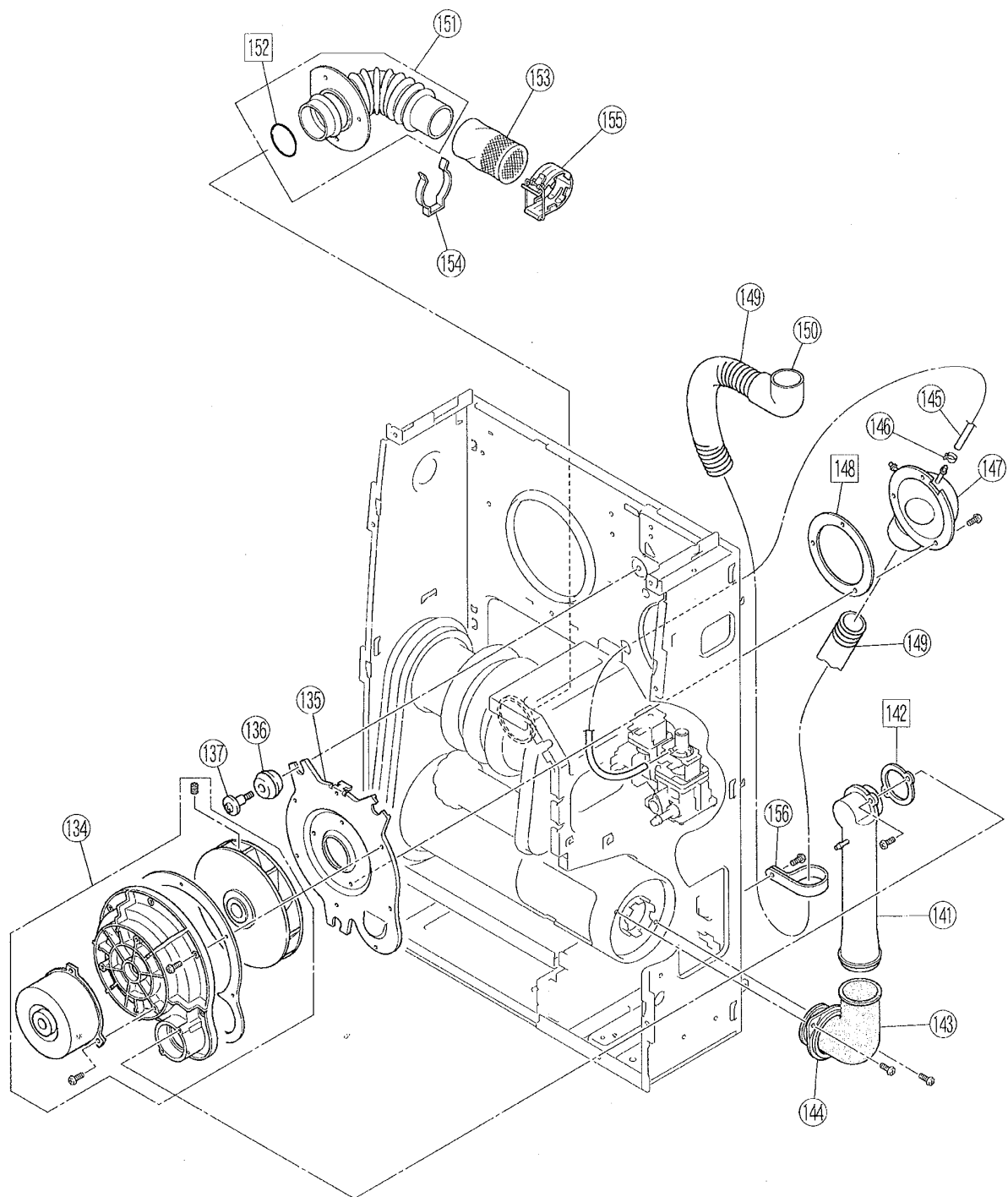


RHFE-309F T

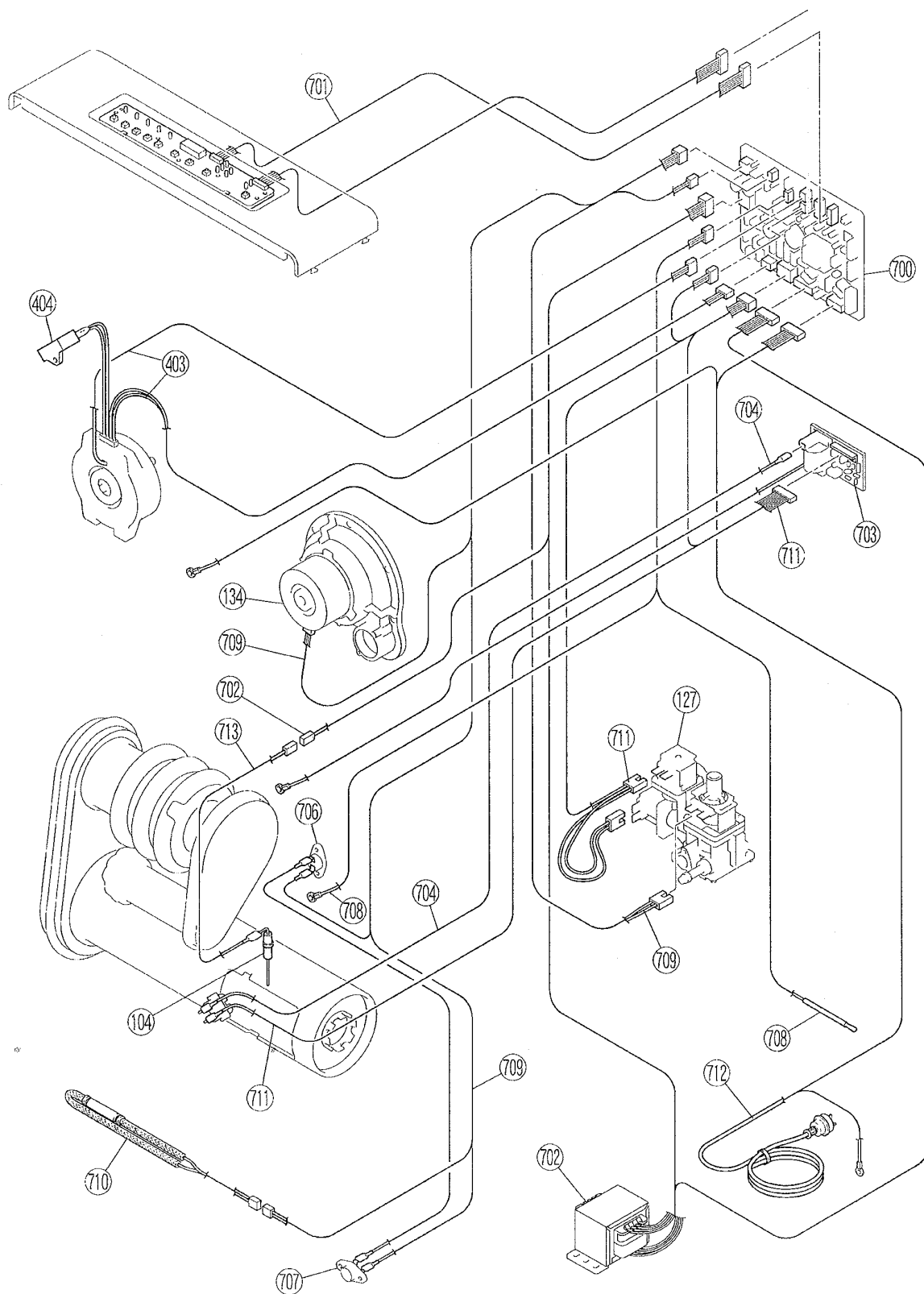




RHFE-309F T



RHFE-309F T



1. Contact Points

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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 Helpline. Rinnai recommends that this appliance be serviced every 3 years.

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

National Help Line

Tel: 1300 555 545* Fax: 1300 555 665*

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

