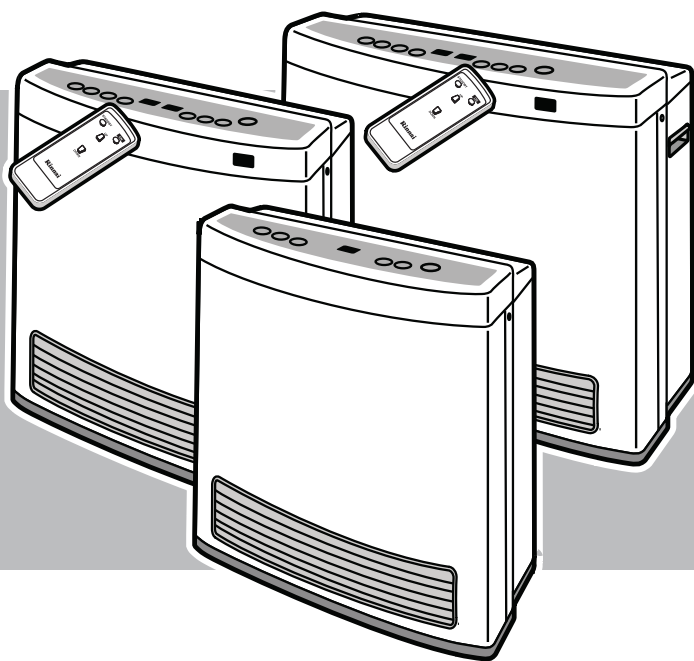


Rinnai

Portable Unflued Gas Convection Heater Operation Manual



To Suit Models

Avenger 25 - RCE-671TR

Dynamo 15 - RCE-471TR

Enduro 13 - RCE-371H*

This appliance shall be installed in accordance with:

- Manufacturer's Installation Instructions
- Current AS/NZS 3000 & AS/NZS 5601
- Local Regulations and Municipal Building Codes

This appliance must be installed, serviced and repaired by an Authorised Person.

* *Enduro Model is for Australia only. Remote Control not available in this Model.*



The Australian
Gas Association
All Rinnai gas products
are A.G.A. certified.



N10378



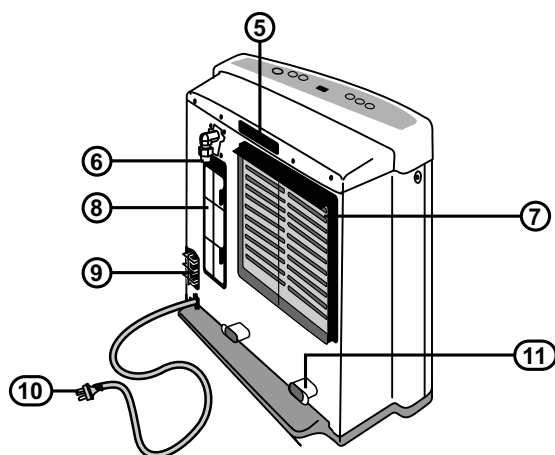
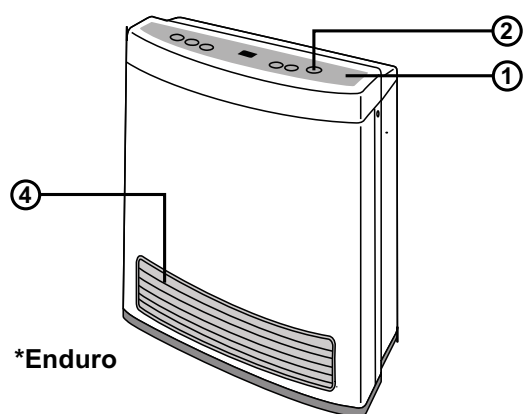
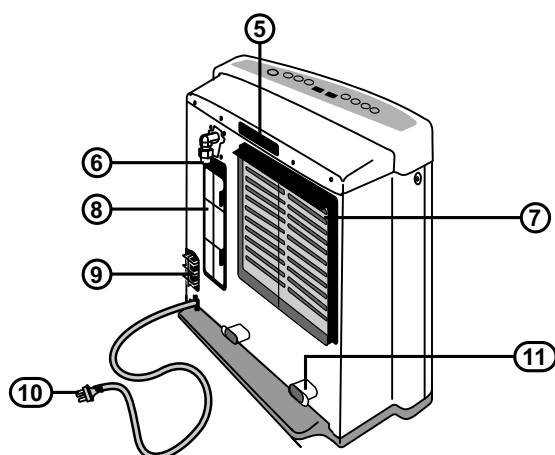
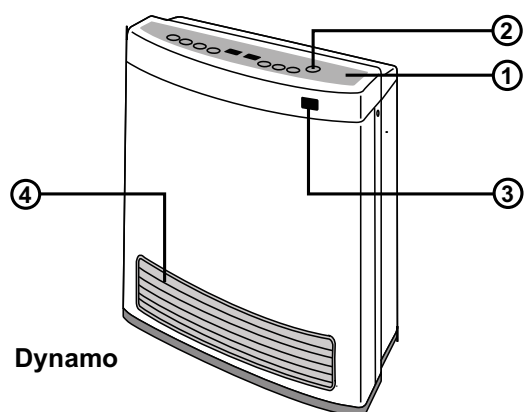
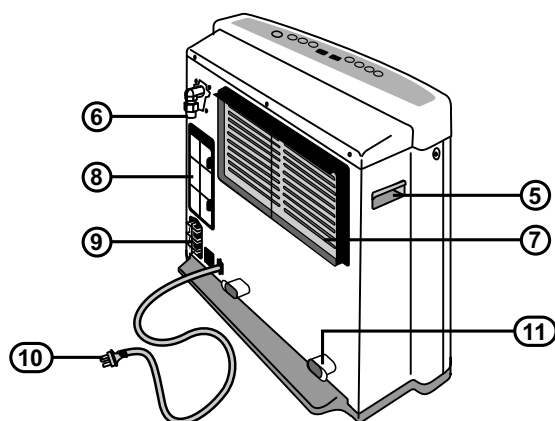
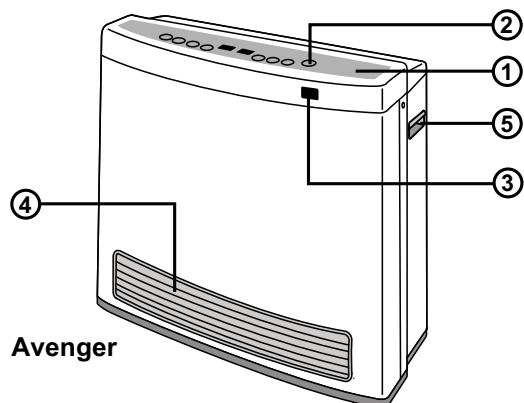
Scan QR to register your warranty

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ABOUT YOUR PORTABLE CONVECTOR HEATER

GENERAL DESIGN LAYOUT



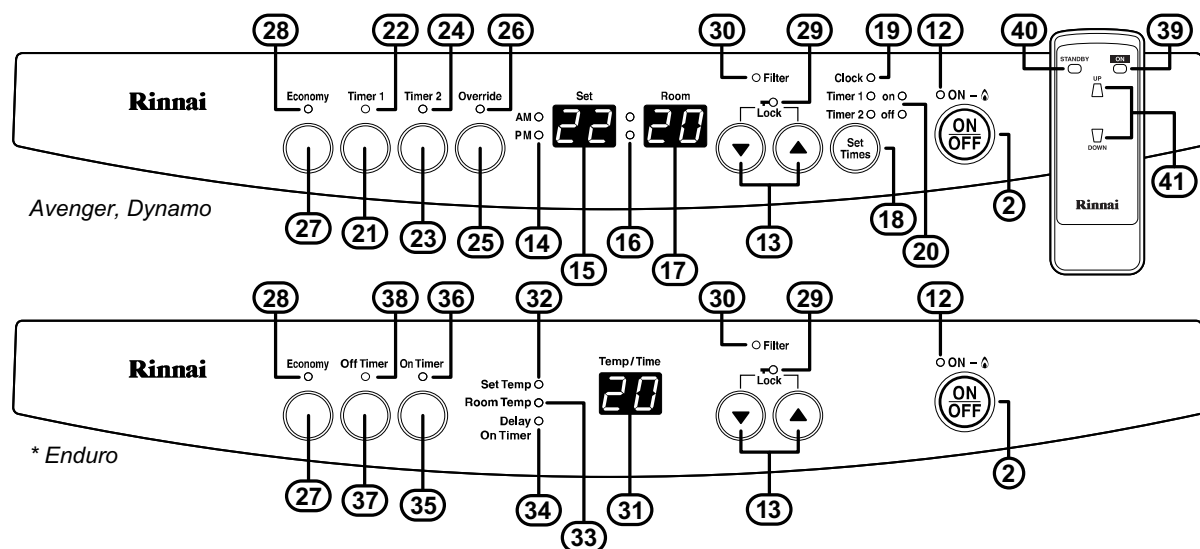
- ① Control panel
- ② ON / OFF button
Stops and operates the heater.
- ③ Remote control receiver window
- ④ Louvre, warm air discharge
- ⑤ Carry handle(s)

*** Enduro Model is for Australia Only**

- ⑥ Gas inlet connection
- ⑦ Filter 1
- ⑧ Filter 2
- ⑨ Thermistor
- ⑩ 230/240V power cord
- ⑪ Power cord tidy

ABOUT YOUR PORTABLE CONVECTOR HEATER

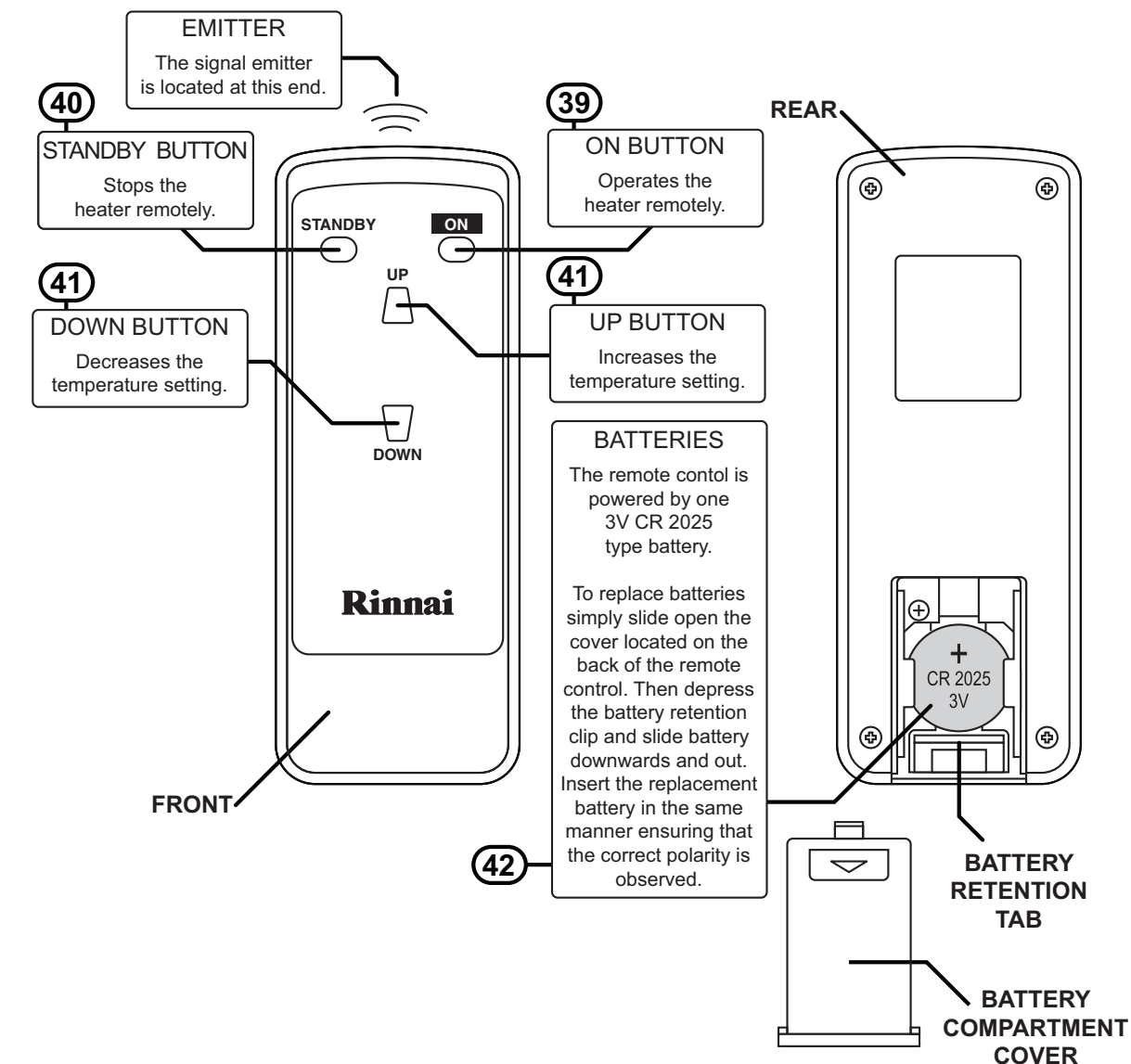
NAVIGATING THE CONTROL PANEL



- (12)** On / Combustion indicator
When GREEN appliance is in standby, when RED the burner is operating and when flashing RED there is a fault.
- (13)** Up and Down buttons
Used to adjust set temperature, clock / timer settings and to operate the Lock function.
- (14)** AM / PM indicators
Indicates AM / PM of clock / timers.
- (15)** Digital (Set) display
Displays set temperature and hour digits for clock / timers.
- (16)** Hour / Minute delineators
Delineates hours / minutes of clock / timers.
- (17)** Digital (Room) display
Displays current room temperature, minute digits for clock / timers and error codes.
- (18)** Set Times button
Sets heater to adjust clock / timer functions.
- (19)** Clock set indicator
Indicates heater is in clock setting mode.
- (20)** Timer set indicators
Indicates heater is in timer setting mode.
- (21)** Timer 1 button
Operates Timer programme 1.
- (22)** Timer 1 indicator
Indicates Timer 1 is in operation.
- (23)** Timer 2 button
Operates Timer programme 2.
- (24)** Timer 2 indicator
Indicates Timer 2 is in operation.
- (25)** Override button
Operates the manual Override function.
- (26)** Override indicator
Indicates the Override function is in operation.
- (27)** Economy button
Operates the Economy mode.
- (28)** Economy indicator
Indicates Economy function is in operation.
- (29)** Lock indicator
Indicates the Lock function is activated.
- (30)** Filter indicator
Indicates that there is a filter blockage.
- (31)** Digital (Temp / Time) display
Displays current room temperature (default), set temperature, Delay On Timer settings and error codes.
- (32)** Digital Display Set Temp Indicator
Indicates that the Digital (Temp / Time) display **(31)** is in the temperature setting mode.
- (33)** Digital Display Room Temp indicator
Indicates that the Digital (Temp / Time) display **(31)** is in room temperature mode.
- (34)** Digital Display Delay On Timer indicator
Indicates that the Digital (Temp / Time) display **(31)** is in the timer setting mode.
- (35)** On Timer button
Sets and or operates the Delay On Timer.
- (36)** On Timer indicator
Indicates heater is in Delay On Timer mode.
- (37)** Off timer button
Operates the Off Timer (60 minutes).
- (38)** Off timer indicator
Indicates heater is in Off Timer mode.
- (39)** On button
Operates the heater remotely.
- (40)** Standby button
Stops the heater remotely.
- (41)** Up / Down buttons
Increases / decreases temperature setting.

ABOUT YOUR PORTABLE CONVECTOR HEATER

NAVIGATING THE REMOTE CONTROL



- **ONLY** use the battery specified 1 x 3V CR 2025.
- Remove the battery if the remote control is not going to be used for a long period. This will help avoid damage from leaking batteries.
- The remote control will not function if the heater is in Timer mode.
- If the heater is operating in Override mode, using the STANDBY button will cancel any future timer operations, these will have to be reset manually.
- Some fluorescent lights may interfere with the transmission of remote control signals, in this case changing the position from which you are operating the remote control may help.
- Avoid leaving the remote control in direct sunlight and do not place the remote control close to the louvres of the heater.
- Avoid getting the remote control wet, or dropping it.

Note: Remote control not supplied with Enduro 13



KEEP BATTERIES OUT OF REACH OF CHILDREN

- Swallowing button batteries may lead to serious injury in as little as 2 hours or death, due to chemical burns and potential perforation of the oesophagus.
- If you suspect your child has swallowed or inserted a button battery immediately call the 24hr Poisons Information Centre on 13 11 26 for fast, expert advice.
- Regularly examine the remote controller and make sure the battery compartment is completely secured.
- Dispose of used button batteries immediately and safely.

FEATURES

FEATURES COMMON TO ALL MODELS

PUSH BUTTON IGNITION	Only one touch of the STANDBY/ON switch is required to operate the heater.
CHILD LOCK	When the Child Lock is activated all controls other than the STANDBY/ON switch will be locked. Deactivating the lock releases the controls. If the lock is activated when the appliance is in STANDBY, all functions will be locked.
FILTER INDICATOR	When the fan filters become covered with dust, the filter indicator will flash. The filters should be vacuumed at regular intervals to optimise heating effectiveness.
ECONOMY FUNCTION	The Economy (ECON) function is an energy saving feature designed to control the room temperature and prevent discomfort from overheating.

FEATURES OF AVENGER AND DYNAMO HEATER MODELS

REMOTE CONTROL	For the convenience of operating the heater between STANDBY or ON, as well as adjusting the temperature up or down while at a short distance from the heater.
PRE-HEAT	This function will automatically operate the appliance before the programmed start time of the Timer, in order to heat a room to the pre-set temperature by the programmed start time.
MEMORY	The micro-computer records selected preset temperatures, the times programmed into Timers as well as operating the Economy/Auto-Off and Pre-heat modes, to maintain comfort levels.
DUAL TIMERS	The Dual Timers allows you to program the appliance to come on for two separate periods each day, one period in the morning and one period in the evening. The built in Pre-heat Mode brings the room temperature to the temperature you have selected, by the time programmed into the Timer. The Dual Timer feature means that you can "Set and Forget" your heater. It will turn itself ON or to STANDBY at the times you have programmed until you cancel the Timer program.

FEATURES OF THE *ENDURO HEATER MODEL (for Australia Only)

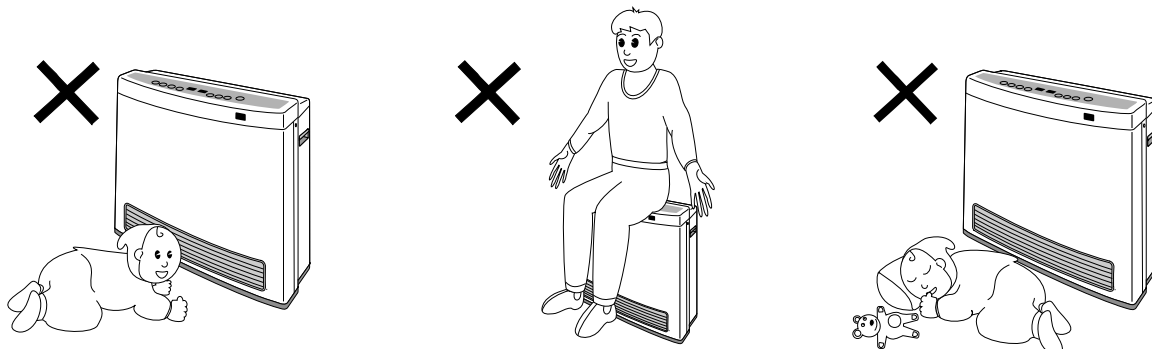
MEMORY	The micro-computer records selected preset temperatures, the time programmed into the On Timer as well as operating the Economy modes, to maintain comfort levels.
DELAY ON TIMER	The On Timer allows you to program the heater to come on after a delayed period. This is a particularly useful feature to use overnight for automatic heating in the morning. The appliance begins heating a room once it has reached the end of the delay period selected. The heater will automatically come on and will continue to operate for a period of 60 minutes then automatically turn off.
OFF TIMER	This feature allows you to program the heater to operate for a period of one hour before it automatically turns off.

IMPORTANT POINTS

The appliance is not intended for use by young children or infirm persons without supervision.

Young children should always be supervised to ensure that they DO NOT play with the appliance.

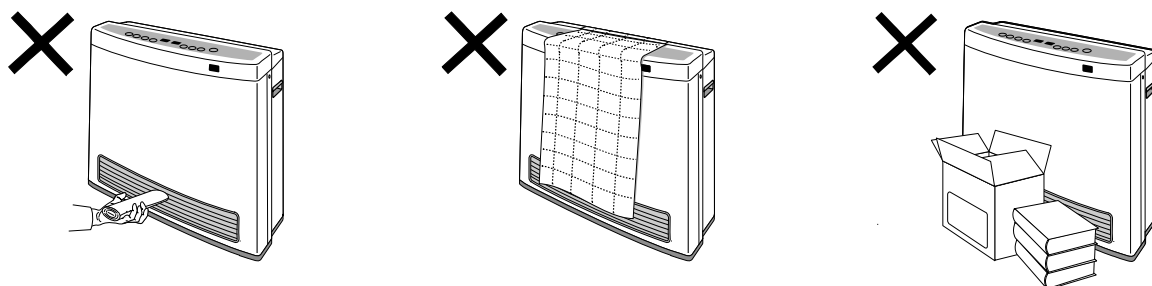
DO NOT allow children or elderly persons to sleep in the warm air discharge from the heater. DO NOT sit on this heater.



DO NOT force or insert articles into the louvres of the heater.

DO NOT cover or place articles on or against this appliance.

DO NOT place articles in front of the louvres

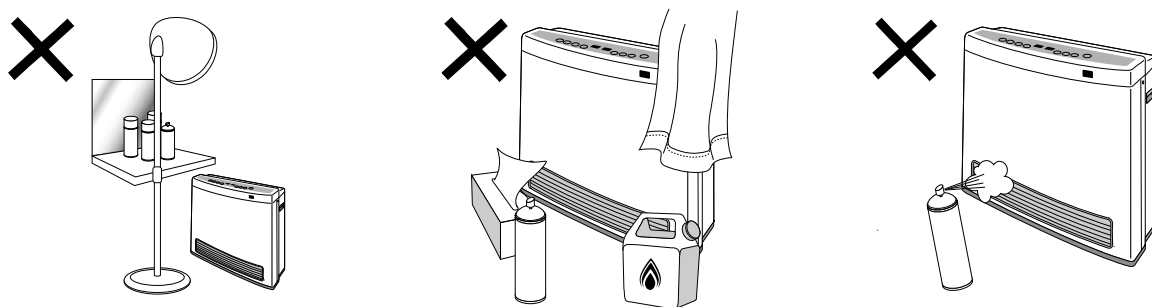


DO NOT operate / install this heater in areas where painting is taking place, or in places such as hairdressing salons, where there may be fluff and dust, and where aerosols are used.

DO NOT use or store flammable materials in or near this appliance.

DO NOT spray aerosols near this heater while it is in operation. Most aerosols contain butane gas which can be a fire hazard if used near this heater when it is in operation.

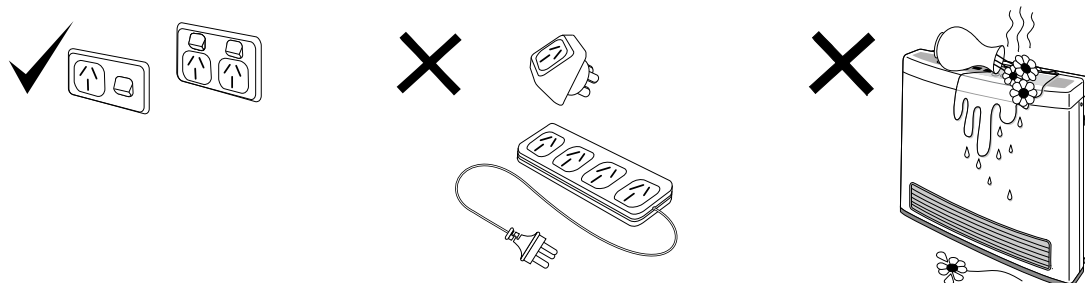
Use of aerosols, paint, polishes etc. whilst this heater is in use may also cause unpleasant smells.



IMPORTANT POINTS

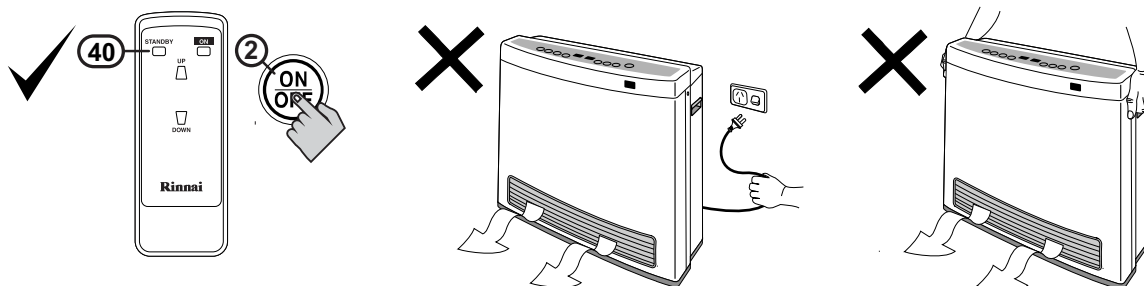
It is recommended that a dedicated 230/240V 10 Amp power point be used with this appliance. DO NOT use power boards or double adaptors to operate this appliance. Heater MUST NOT be located below a power socket-outlet

DO NOT place containers of liquid on top of the heater. Water spillage can cause extensive damage to the appliance and create an electrocution hazard.



When the heater is unplugged for an extended period the clock will stop and will need to be reset. However programmed ON/OFF times will remain in the memory.

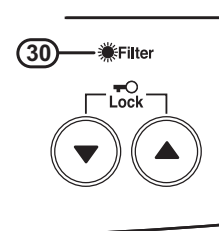
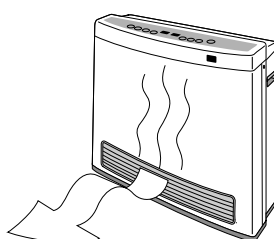
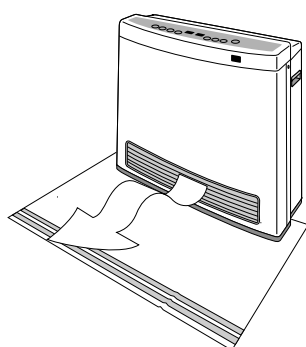
Turn the heater OFF after use. DO NOT unplug the heater while it is in operation or while the fans are still cycling. DO NOT move the heater while it is in operation or while the fans are still cycling.



Heat emanating from the front of this appliance may over time affect the appearance of some materials used for flooring such as carpet, vinyl, cork or timber. This effect may be amplified if the air in the room contains cooking vapours or cigarette smoke. To avoid this possibility, it is recommended that a mat be placed in front of the appliance, extending at least 750 mm in front of it.

When the heater is operated for the first time or after long periods of non use a slight odour may be emitted, this is normal. However if odours persist switch off the appliance and contact Rinnai.

During peak operating periods the filters should be cleaned weekly, however if the Filter warning indicator illuminates, turn off the appliance immediately and clean filters before further use.



INSTALLATION

UNPACKING THE APPLIANCE

Check for damage. If the heater is damaged, **DO NOT INSTALL** and contact your supplier for advice.



DO NOT modify this appliance.

Servicing shall be carried out ONLY by authorised personnel.

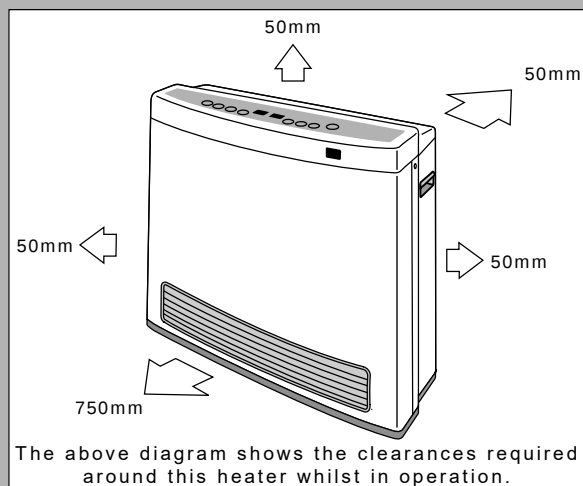
WHAT'S IN THE BOX

The following items should also be included in the carton: This Operation Manual and Remote Control with Battery. (Remote control not supplied with Enduro 13 model).

BEFORE INSTALLING THE APPLIANCE



- Check it is labelled for the correct gas type (see label on rear of heater). Refer to local gas authority for confirmation of gas type if you are in doubt.
- The appliance must be installed in accordance with the local gas and electrical authority regulations.
- A dedicated 230/240V Earthed 10 Amp power point must be used with this appliance.
- For information on gas consumption, see data plate on the appliance.
- When using this appliance, ensure that the room is correctly ventilated, in accordance with the section "VENTILATION" on page 9 and the warning label located on the appliance. For further information regarding room ventilation contact Rinnai or your local gas authority.
- **DO NOT USE THIS APPLIANCE TO HEAT A BEDROOM, BATHROOM, TOILET, COMBINED LIVING/SLEEPING AREA OR SAUNA.**
- **DO NOT CONNECT TO A PROPANE (LPG) GAS CYLINDER INDOORS.**
- This appliance must not be installed where curtains or other combustible materials could come into contact with it. In some cases curtains may need restraining.
- This appliance is not designed to be built in. NOT intended for fireplace insert.
- This appliance must not be located below a power socket-outlet.
- If you move house, check the gas type in the area where you are moving to.
- The local gas and electrical authorities will be able to advise on local regulations.
- Heat emanating from the front of this appliance may over time affect the appearance of some materials used for flooring such as carpet, vinyl, cork or timber. This effect may be amplified if the air in the room contains cooking vapours or cigarette smoke. To avoid this possibility, it is recommended that a mat be placed in front of the appliance, extending at least 750 mm in front of it.
- The appliance is not intended for use by young children or infirm persons without supervision.
- Young children should be supervised to ensure they do not play with the appliance.
- If the supply cord or gas hose are damaged or require replacing, they must be replaced by the manufacturer or the manufacturer's agent or similarly qualified person in order to avoid a hazard.
- The Avenger heater weighs 12.5 kg & the Dynamo / Enduro heaters weigh 10 kg. Exercise caution when lifting or moving an appliance.



INSTALLATION

CHECKING ROOM SIZE

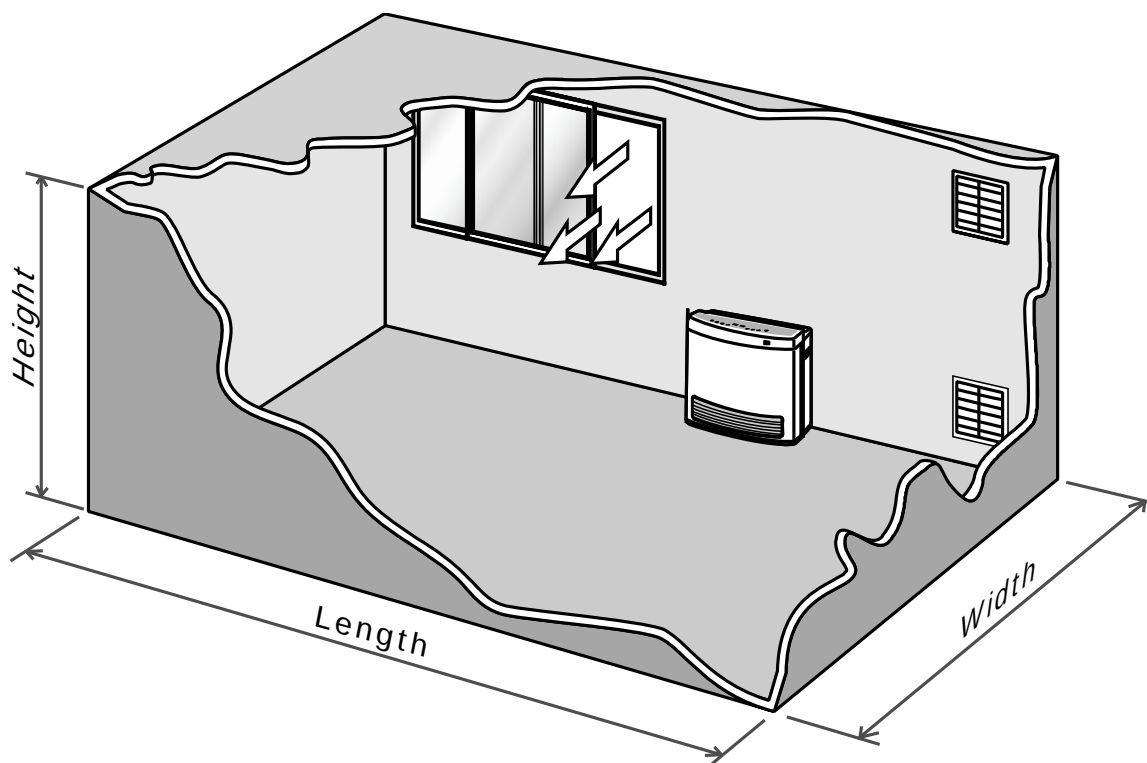
The heaters **MUST NOT** be installed in a room smaller than specified, these are:

The Avenger 25 minimum room size 62.5 m³.

The Dynamo 15 minimum room size 37.5 m³.

The Enduro 13 minimum room size 32.5 m³.

To determine if the intended room meets the minimum size requirements simply multiply the Height x Width x Length. For example if the room dimensions are Length 5.3 metres, Width 5.0 metres and Height 2.4 metres then the volume would be 63.6 m³ and suitable for use with an Avenger 25.



A Rinnai VENT kit provides 2 x 250cm² open area vent grills.

VENTILATION

Fixed ventilation must conform to local regulations.

The number and positioning of vents as shown is for illustrative purposes only.

DO NOT use this appliance to heat a bedroom, bathroom, toilet, combined living/sleeping area or sauna.

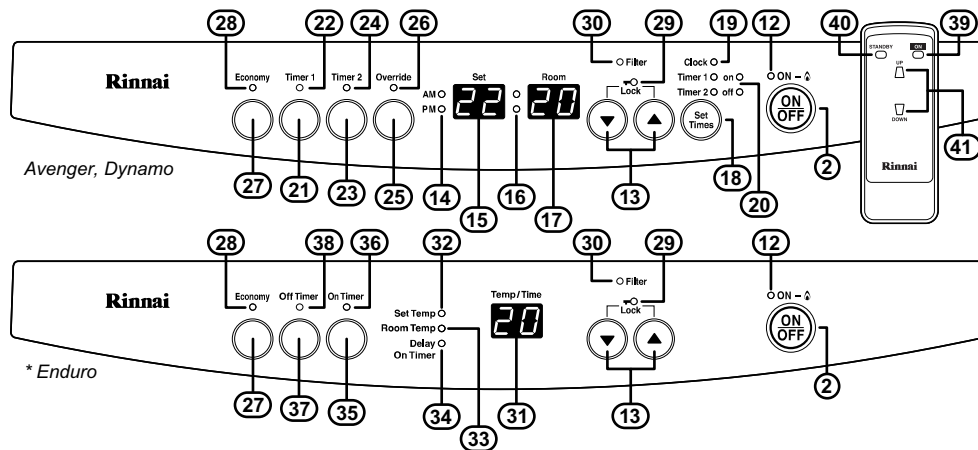


If you require more information regarding your local ventilation requirements contact Rinnai (see back page for contact details) or your local gas regulatory authority.

GAS CONNECTION

The bayonet plug on the factory fitted flexible hose simply plugs into your bayonet fitting.

HOW TO OPERATE THE HEATER



TO TURN THE HEATER ON

Before you begin, ensure that the Gas and Power have been connected correctly to the appliance.

To turn the appliance on press the ON/OFF button (2) located on the control panel. For models that are equipped with a remote control the ON button (39) may also be used.

When pressed the appliance will begin to operate in the following factory preset manner:

- The default set temperature will be 22° C (15).
- The current room temperature will be displayed (17), (31) / (33)
- The ON/Combustion indicator (12) will illuminate Green (steady). Ignition will take 5 ~ 10 seconds. The ON/Combustion indicator will change to Red (steady) after proper ignition has been achieved to signify the correct burner operation.



When using the appliance for the first time or after long periods of disuse, ignition may not occur the first time it is operated as there may be air within the pipes. If ignition does not occur after approximately 30-seconds the unit will cease operation automatically. If this occurs press the ON/OFF button (2) twice to restart. For models that are equipped with a remote control the press the STANDBY button (40) and then press the ON button (39) to restart.

The unit may make noises after ignition/extinction. This is due to expansion and contraction of the heater components and is normal.

The heater will not immediately ignite if the ON/OFF button (2) is pressed straight after extinction. After approximately 20 seconds has passed, the heater will automatically go into ignition mode.

TO ADJUST SET TEMPERATURE

The "SET" temperature may be raised or lowered by use of the Up and Down buttons (13) located on the control panel. For models that are equipped with a remote control the Up and Down buttons (41) may also be used.

The following "SET" temperatures can be selected.

- 'L' for continuous combustion on lowest burner setting.
- Adjustable temperature setting between 16° C to 26° C in 1° C steps. Gas consumption will adjust automatically to help maintain the "SET" temperature.
- 'H' for continuous combustion on highest burner setting.

Once the temperature is set it will be stored in the microcomputers memory, if the temperature is not adjusted further it will be available as the initial setting when the appliance is next used.

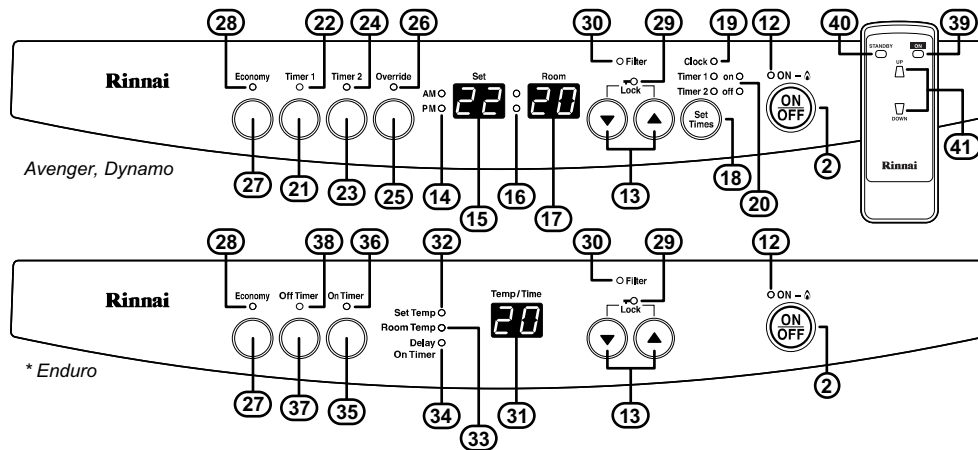


Rooms may not arrive at the "SET" temperature due to the size and construction of the room, location of the appliance or external temperatures.

If the appliance burner does not ignite then the room temperature may be higher than the "SET" temperature.

* Remote Control not available with this model.

HOW TO OPERATE THE HEATER



TO TURN THE HEATER OFF

To turn the heater off while it is in operation press the ON/OFF button (2) located on the control panel. For models that are equipped with a remote control the STANDBY button (40) may also be used.

The On/Combustion indicator (12) will go out.



After the On/Combustion indicator (12) has gone out, the appliance fan will continue to cycle for several minutes. This is to lower the temperature within the appliance and is normal. DO NOT disconnect the power during this time.

USING THE ECONOMY MODE

As a room is warmed, the walls and ceilings are also warmed, making one feel a little warmer than when the ceilings and walls were cold, even though the room temperature is the same. The Economy mode prevents discomfort from overheating and saves energy.

When the Economy mode is selected the appliance will heat the room. Once the set temperature has been maintained for a period of 30 minutes, the comfort control system will progressively lower the set temperature by 2°C over a period of 60 minutes.

To operate the heater in Economy mode, press the Economy button (27) while the appliance is in operation (27). The Economy indicator (28) will illuminate to show the appliance is now operating in Economy mode.

To cancel Economy mode press the Economy button (27) and the Economy indicator (28) will go out to show that the economy mode has now been cancelled.

*** Remote Control not available with this model.**

TIMER OPERATION - AVENGER & DYNAMO

PROGRAMMING TIMER 2

Pressing the Set Times button (18) again after setting programming Timer 1 (four presses from the beginning) selects the Timer 2 'On' programming mode which allows adjustment of the time when the heater switches 'On' (or starts). The Timer 2 and On indicators (20) are illuminated.

The factory default Timer 2 'On' time is AM 06:00. Press the Up or Down buttons (13) to adjust the Timer 2 'On' time.

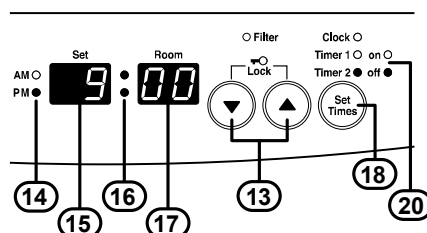
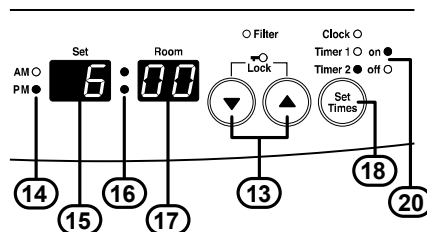
Pressing and holding either the Up or Down buttons (13) will scroll digits, at first by minute (17) intervals and then by hours (15) intervals. When adjusting the time ensure that the correct AM or PM (14) setting is observed.

Pressing the Set Times button (18) again (five presses from the beginning) selects the Timer 2 'Off' programming mode which allows adjustment of the time when the heater switches 'Off' (or stops). The Timer 2 and Off indicators (20) are illuminated.

The factory default Timer 2 'Off' time is AM 09:00. Press the Up or Down buttons (13) to adjust the Timer 2 'Off' time.

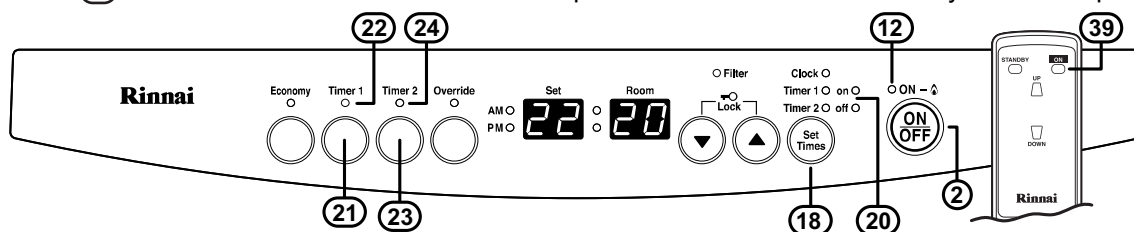
Pressing and holding either the Up or Down buttons (13) will scroll digits, at first by minute (17) intervals and then by hours (15) intervals. When adjusting the time ensure that the correct AM or PM (14) setting is observed.

Pressing the Set Times button (18) again (or six presses from the beginning) will exit programming mode and return the appliance to normal operation.



OPERATING TIMERS

Turn the appliance on by pressing the ON/OFF button (2) located on the control panel or the ON button (39) of the remote control. Set desired temperature and select the economy mode if required.



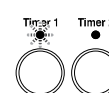
Timer 1 and Timer 2 may be operated together or individually.

The heater will continue to operate under control of the timers until timer operation is cancelled.

To select operation by Timer 1 press the Timer 1 (21) button. The Timer 1 indicator (22) will illuminate steady to show that the heater is waiting for the programmed 'on' time to be reached.

To select operation by Timer 2 press the Timer 2 (23) button. The Timer 2 indicator (24) will illuminate steady to show that the heater is waiting for the programmed 'on' time to be reached.

The heater automatically turns itself on once the 'on' time of the selected timer(s) has been reached and the associated Timer indicator (22) or (24) will flash while the heater is operating under timer control.



When the 'Off' time of a selected timer is reached the heater will automatically turn off and the Timer indicator will illuminate steady to indicate the heater is waiting for the next programmed timer cycle to begin.

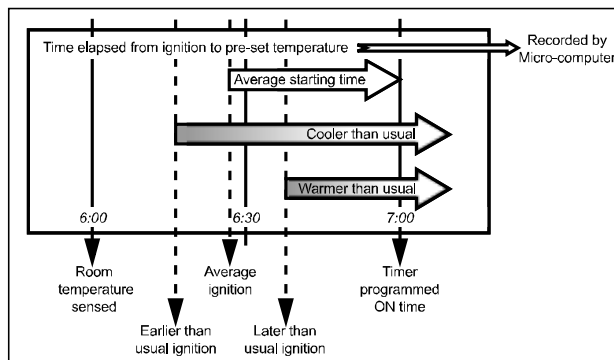
To cancel timer(s) operation press the associated timer button(s). The indicator will go out to signify that the heater is now operating under manual control.

TIMER OPERATION - AVENGER & DYNAMO

PREHEAT

This function operates automatically in conjunction with the Timers. When a Timer is selected, the heater may operate anywhere within an hour prior to the programmed starting time of a Timer.

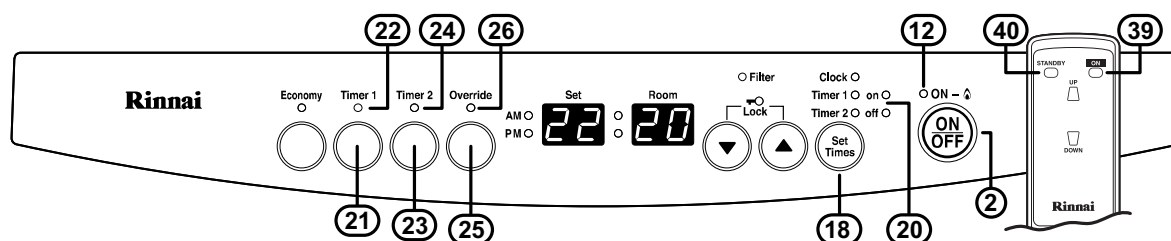
This function is called Pre-heat since it ensures the room reaches the desired temperature by the On Time programmed into the Timer(s). The room temperature is sensed one hour before the programmed On Time.



The temperature differential at the time of sensing the room temperature combined with the data from previous operation governs exactly how long before the programmed On time the micro-computer will operate the heater and ignite the burner.

USING THE OVERRIDE FUNCTION

This function is used to manually override the current operation of the heater. For example: if the heater is between the finishing and starting times of a timer program and the Override button is selected, then the heater will begin to operate and heat the room.



The heater must be between the finishing and starting times of a timer program for the Override to function to work. Either of the Timer indicators (22) or (24) will be illuminated and the Combustion indicator (12) is illuminated green when this is the case. If the Override button (25) is pressed the Override indicator (26) will flash to show that the heater is now operating in override mode. The heater will now start and full manual control will now be available.

To cancel override and to return to Timer operation press the Override button (25) again. The Override indicator (26) will go out and the Combustion indicator (12) will be illuminated green to confirm that timer operation has been restored and that the heater is awaiting a timer operation to begin. If the Override button (25) is not pressed the heater will remain on until the next programmed Off time setting is reached.

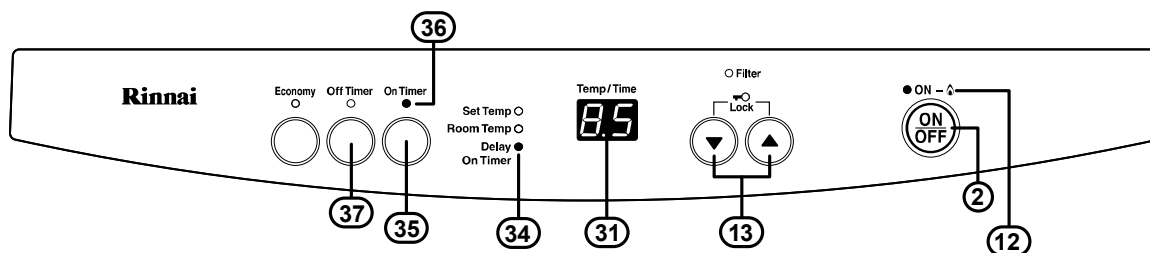


If the ON/OFF button (2) or the STANDBY button (40) on the remote control are pressed the heater will be turned off and the timer programs will not operate.

TIMER OPERATION - * ENDURO

OPERATING THE ON TIMER

The Delay On Timer allows you to delay the start time of the heater for up to 24 hours.



To operate, press the On Timer button (35). The On Timer indicator (36) will illuminate and the Combustion indicator (12) will be illuminated green to confirm that the heater is awaiting for the Delay 'on' time period to pass before commencing operation. The Delay On timer indicator (34) will also illuminate and the current Delay On Time period will be displayed on the Digital (Temp / Time) display (31) for 60 seconds. Whilst displayed, the Delay On time can be adjusted by pressing the Up or Down buttons (13). A delay time of up to 9½ hours can be set in increments of 30 minutes and a delay time of up to 24 hours in increments of 60 minutes.

When the programmed Delay 'On' time period has passed, the heater will automatically begin operation.



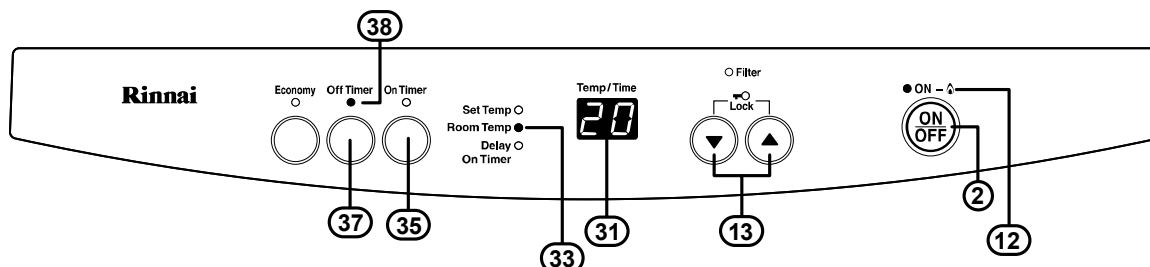
The heater will continue to operate for a period of 60 minutes. On Timer operation can be cancelled by pressing either the ON/OFF button (2) or the Off Timer button (37).

The delay 'On' time last programmed is stored in the memory and will be the default until it is re-adjusted.

If the On Timer button (35) is pressed whilst the heater is in operation the On Timer will override manual operation.

OPERATING THE OFF TIMER

The Off Timer allows you to set a 60 minute delay before the heater will automatically turn off.



To operate, press the Off Timer button (37). The Off Timer indicator (38) will illuminate and the Combustion indicator (12) will be illuminated red to confirm that the heater will continue operation until the Delay 'off' time has passed after which it will stop. The Delay Off time is 60 minutes. When this time has passed, the heater will automatically stop operation and the Off Timer indicator (38) will flash.

During Off Timer operation full manual control of the heater is available.



After the Off timer operation is completed the ON/OFF button (2) twice to restart the heater.

The Off Timer and On Timers work independently of each other. However, if both timers are operating and the Delay On time period is 30 minutes, the Delay Off Timer will override the Delay On Timer.

* Enduro Model is for Australia only.

LOCK AND SAFETY DEVICES

USING THE LOCK FUNCTION

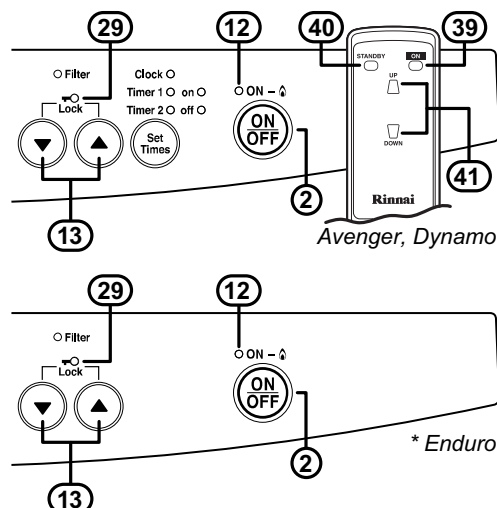
The Lock function will avoid accidental operation and prevent small children from altering the heater settings.

To Activate the Lock

To activate the Lock function press both the Up and Down buttons (13) simultaneously. The function is activated immediately and the Lock indicator (29) will be illuminated.

To Deactivate the Lock

To deactivate the Lock function press both the Up and Down buttons (13) simultaneously for 3 seconds. The Lock indicator (29) will go out to show that the Lock function is no longer active. The Lock function can be deactivated at any time in this manner.



If the Lock function is activated whilst the heater is in operation or in Timer mode, all controls other than the ability to switch the appliance OFF with the ON/Off button (2) or for models with a remote control the STANDBY button (40) will be locked until the Lock is deactivated. Timer operation will not be affected.

If the lock function is activated whilst the appliance is in the off position, all controls will be locked until the Lock function is de-activated.

If the appliance is switched off whilst the Lock function is activated, all controls will be locked until the Lock function is de-activated.

Lock programming (activated or de-activated) is stored in the appliance memory. Unplugging the appliance from the power supply has no effect on Lock programming.

SAFETY DEVICES

Over heat switch

When the heater gets too hot during operation (for example when the filters or air outlet louvres are blocked) this device turns the gas off automatically.

Electrical fuse

The electrical circuits are protected by a fuse.

Flame failure sensor

This device automatically cuts off the gas supply to the heater in the event of a gas failure.

Oxygen depletion sensor

If the oxygen level in the room drops below a pre-set limit, this device cuts the gas supply to the heater.

Tilt switch

If the heater is knocked over, the tilt switch will cut the gas supply. The fan keeps cycling.

Power failure

In the event of a power failure or power cut, the gas valves will automatically close.

** Remote Control not available with this model.*

CARE AND MAINTENANCE

Your heater needs very little maintenance, but the following information will help you to keep it looking good and working efficiently.



Unplug before cleaning.

All parts of the heater can be cleaned using a soft, damp cloth.

DO NOT use solvents to clean any parts.

DO NOT spray aerosols in the vicinity of this appliance while it is in operation.

DO NOT place articles on or against this appliance.

DO NOT use or store flammable materials in or near this appliance.

AIR FILTERS

Dusty filters reduce heating effectiveness.

DO NOT wait for Filter indicator (30) to come on before cleaning filters.

DO NOT use the heater with the filter warning lamp on. This may cause it to overheat.

REMOVING FILTERS

Filters require cleaning at least once a week during the heating season to prevent blockages.

For cleaning Filter 1 (7), undo and remove the retaining screw (ensure the retaining screw is stored in a safe place).

Carefully lift filters up then backwards to remove from locating tabs.

With the careful use of a vacuum cleaner, gently remove any contaminates such as dust and lint.

Replace filters by carefully repositioning the location tabs and fasten in place with the retaining screw.

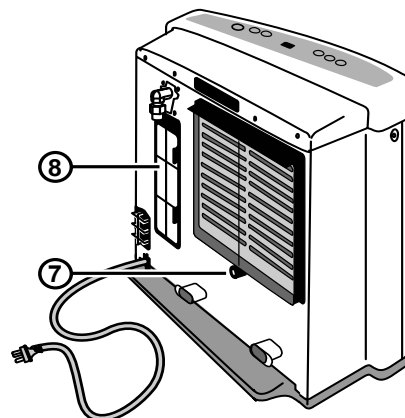
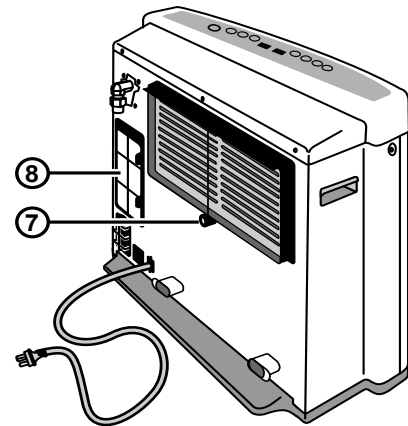
Filter 2 (8) (the small filter) should be left in position for cleaning, carefully use a vacuum cleaner to remove any contaminates such as dust and lint.

SERVICE

Rinnai recommend that this appliance be inspected and serviced every 2 years.

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

Any service or repair work should only be carried out by an authorised person. Rinnai has service and spare parts departments nationally see back cover for contact details.



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.

CARE AND MAINTENANCE

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.

Fault Condition →	→	No Display	Burners fail to ignite	Filter Indicator is illuminated	Combustion stops during operation	Smell of gas	Takes a long time to warm the room	Remote control doesn't work	Possible Remedy ↓
Probable Cause	↘								
Not plugged in or turned off.		●	●				●		Plug in power cord and turn power on.
Mains power failure.		●	●		●			●	Re-ignition, when power restored, page 10.
(Initial Install) Air in gas pipe.			●						Installer to purge air from gas supply.
Air in hose			●						Repeat Ignition procedure page 10.
Room too large							●		Check with retailer.
Dust on air filters				●					Clean the air filters (Weekly).
Louvre obstructed					●		●		Remove obstruction
Air filter blocked					●		●		Clean the air filters (Weekly).
Gas escape						●			Isolate gas supply, call Rinnai service.
Gas supply turned off.		●	●						Turn gas supply on at the meter or cylinder.
Lock set.			●						Cancel Lock as described on page 16.
On Timer is set.			●						Cancel timer by using the override page 14.
Flat batteries.								●	Replace remote control battery.

ERROR CODES

Your heater is also fitted with self diagnostic electronics that monitor the appliance during start-up and operation. Should a fault occur the heater will shut down and the cause fault will be indicated by a pair of flashing digits in the Digital display (17) or (31) depending on the model and the On/Combustion indicator (12) will also flash Red. Refer to the table below for probable cause and the suggested remedy

Code	Probable Cause	Suggested Remedy
00	Mains power failure during operation	Press the ON/OFF button (2) twice to reset heater.
03	Tilt switch activated	Ensure appliance is level & upright. Service call if repeated.
10	Oxygen shortage	Clean filters. Ventilate room. Service call if repeated.
11	Ignition failure	Check gas supply is turned on, turn the heater OFF and then ON again. If the heater fails to ignite after 4 attempts a Service call will be required.
12	Incomplete combustion	As above.
13	Combustion control faulty	Service call.
14	Filter Blockage / Overheat	Clean filters. If error continues a service call will be required.
16	Room overheat	Lower room temp to below 40°C.
18	Thermocouple output error	Lacking in gas supply or incorrect gas type or Service call.
31	Room temperature sensor faulty	Service call.
32	Overheat temperature sensor faulty	Service call.
33	Overheat temperature sensor faulty	Service call.
34	Overheat temperature sensor faulty	Service call.
62	Faulty fan motor	Service call.
70	ON/OFF switch faulty	Service call.
71	Solenoids faulty	Service call.
72	Flame detection circuit fault	Service call.
73	Communication error	Press the ON/OFF button (2) twice to reset heater. Service call if repeated.

SPECIFICATIONS

GENERAL SPECIFICATIONS

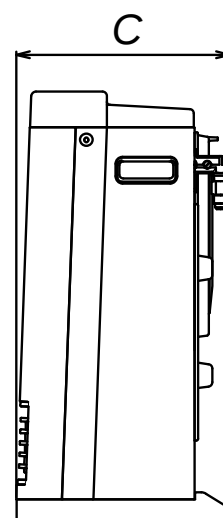
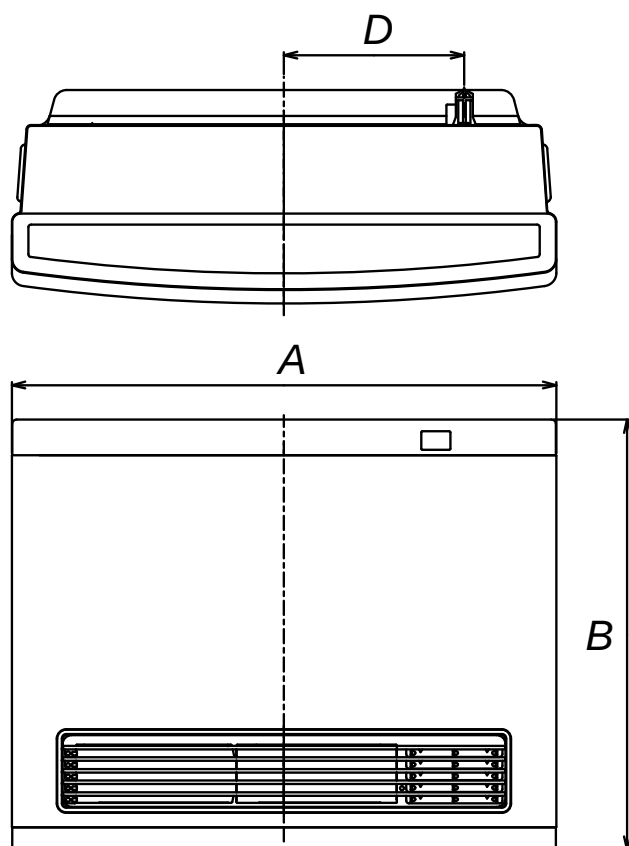
General Description:	Portable Gas Convector Heaters.	
Gas Control:	Electronic control	
Burner	Surface Combustion Burner	
Gas Connection:	3/8" MI BSP into 3 metre flexible gas hose with bayonet connection	
Convection Fan:	Multi Speed Fan	
Ignition System:	Continuous spark electronic ignition	
Operation:	Push button electronic, remote control (Avenger and Dynamo)	
Safety Devices:	Over Heat Switch Electric Fuse Flame Failure Sensor	Oxygen Depletion Sensor Tilt Switch Power Failure

WEIGHT AND MEASURES

Model	Dimensions (mm)				Weight (Kg)
	A	B	C	D	
Avenger 25 (RCE 671TR)	610	482	239	202	12.5
Dynamo 15 (RCE 471TR)	487	492	244	125	10
Enduro 13 (RCE 371H)	487	492	244	125	10



Refer to appliance data plate for Gas Type, Gas Rates, Burner Pressures and Injector Sizes.



SPECIFICATIONS

WIRING DIAGRAM

WIRING DIAGRAM

The diagram shows the main P.C.B. (Main P.C.B. (TS)) with various components connected to it. The components include:

- RCR** (Remote Control Receiver) connected to terminals 1, 2, 3.
- SV1** (Main Solenoid Valve 1) connected to terminals 4, 5.
- SV2** (Main Solenoid Valve 2) connected to terminals 6, 7.
- TH** (Thermistor) connected to terminal 8.
- TF** (Thermal Fuse) connected to terminal 9.
- CFM** (Convection Fan Motor) connected to terminals 10, 11.
- ER** (Electrode) connected to terminal 12.
- POV** (Modulating Solenoid Valve) connected to terminal 13.
- OH.TH** (Over Heat Thermistor) connected to terminal 14.
- SP** (Spark) connected to terminal 15.
- TS** (Tip Over Switch) connected to terminal 16.
- RCR** (Remote Control Receiver) connected to terminal 17.

The main P.C.B. is connected to a **CONTROL DISPLAY UNIT** and a **CFM** (Convection Fan Motor). The main P.C.B. is also connected to a **POWER SUPPLY CIRCUIT** and a **CONVECTION FAN CIRCUIT**. The main P.C.B. is connected to a **FLAME FAILURE CIRCUIT**, an **IGNITION CIRCUIT**, a **MODULATION VALVE CIRCUIT**, and a **SOLENOID VALVE CIRCUIT**. The main P.C.B. is connected to a **TEMP CONTROL CIRCUIT** and a **SAFETY TIMER CIRCUIT**. The main P.C.B. is connected to a **MAIN BURNER** and a **GAS** inlet.

MARK

MARK	PART NAME
TH	THERMISTOR
TF	THERMAL FUSE
F	FUSE
CFM	CONVECTION FAN MOTOR
ER	ELECTRODE
POV	MODULATING SOLENOID VALVE
OH.TH	OVER HEAT THERMISTOR
SP	SPARKER
SV1,2	MAIN SOLENOID VALVE 1,2
ODS	OXYGEN DEPLETION SENSOR
TS	TIP OVER SWITCH
RCR	REMOTE CONTROL RECEIVER

CODE

CODE	COLOR
bk	black
bl	blue
br	brown
gr	green
gr/y	green/yellow
gy	grey
r	red
w	white
y	yellow
or	orange

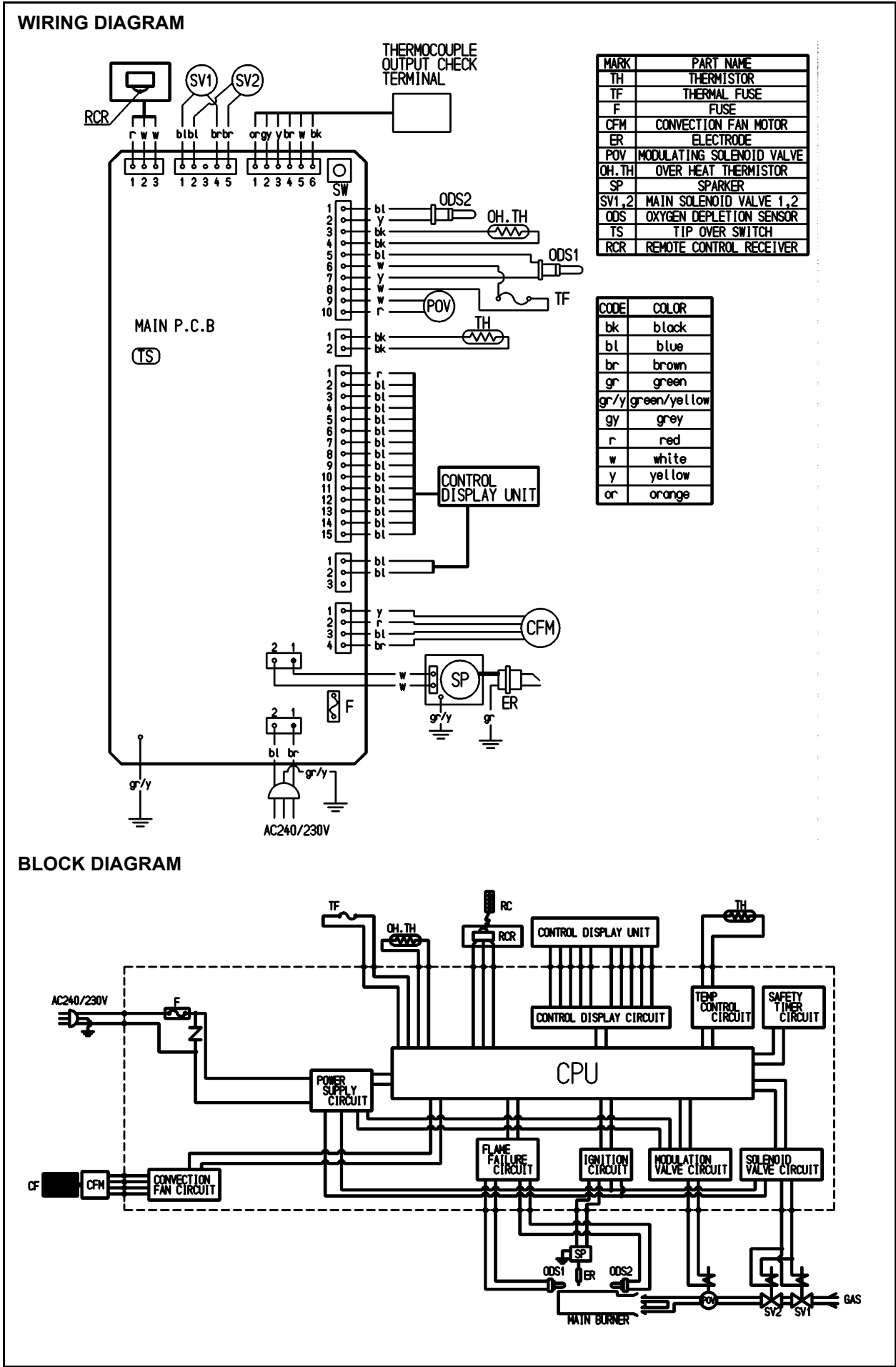
BLOCK DIAGRAM

BLOCK DIAGRAM

The block diagram shows the functional blocks of the system and their interconnections. The blocks include:

- AC240/230V** (Power Source)
- F** (Fuse)
- CFM** (Convection Fan Motor)
- CONVECTION FAN CIRCUIT**
- POWER SUPPLY CIRCUIT**
- CPU** (Central Processing Unit)
- CONTROL DISPLAY UNIT**
- CONTROL DISPLAY CIRCUIT**
- TEMP CONTROL CIRCUIT**
- SAFETY TIMER CIRCUIT**
- FLAME FAILURE CIRCUIT**
- IGNITION CIRCUIT**
- MODULATION VALVE CIRCUIT**
- SOLENOID VALVE CIRCUIT**
- MAIN BURNER**
- GAS** (Gas Inlet)

The diagram shows the interconnections between these blocks, including the power supply, control circuits, and the main burner.



WIRING DIAGRAM

WIRING DIAGRAM

The diagram shows the main P.C.B. (Main Printed Circuit Board) with various components connected to it. The components include:

- RCR** (Remote Control Receiver) connected to terminals 1, 2, and 3.
- SV1** and **SV2** (Main Solenoid Valves 1 and 2) connected to terminals 4, 5, 6, and 7.
- orgy** (Oxygen Depletion Sensor) connected to terminals 8, 9, and 10.
- ybr** (Yellow/Brown) connected to terminals 11, 12, and 13.
- wk** (White/Black) connected to terminals 14, 15, and 16.
- SW** (Switch) connected to terminals 17, 18, and 19.
- bl y** (Blue/Yellow) connected to terminals 20, 21, and 22.
- bk** (Black) connected to terminals 23, 24, and 25.
- bl** (Blue) connected to terminals 26, 27, and 28.
- y w** (Yellow/White) connected to terminals 29, 30, and 31.
- w r** (White/Red) connected to terminals 32, 33, and 34.
- POV** (Modulating Solenoid Valve) connected to terminals 35, 36, and 37.
- TH** (Thermistor) connected to terminals 38, 39, and 40.
- OH.TH** (Over Heat Thermistor) connected to terminals 41, 42, and 43.
- ODS2** (Oxygen Depletion Sensor 2) connected to terminals 44, 45, and 46.
- ODS1** (Oxygen Depletion Sensor 1) connected to terminals 47, 48, and 49.
- TF** (Thermal Fuse) connected to terminals 50, 51, and 52.
- CFM** (Convection Fan Motor) connected to terminals 53, 54, and 55.
- SP** (Spark) connected to terminals 56, 57, and 58.
- ER** (Electrode) connected to terminals 59, 60, and 61.
- TS** (Tip Over Switch) connected to terminals 62, 63, and 64.
- MAIN P.C.B.** (Main Printed Circuit Board) with terminals 1 through 64.
- CONTROL DISPLAY UNIT** connected to terminals 1 through 15.
- AC240/230V** (AC Power) connected to terminals 65, 66, and 67.

Legend:

MARK	PART NAME
TH	THERMISTOR
TF	THERMAL FUSE
F	FUSE
CFM	CONVECTION FAN MOTOR
ER	ELECTRODE
POV	MODULATING SOLENOID VALVE
OH.TH	OVER HEAT THERMISTOR
SP	SPARKER
SV1,2	MAIN SOLENOID VALVE 1,2
ODS	OXYGEN DEPLETION SENSOR
TS	TIP OVER SWITCH
RCR	REMOTE CONTROL RECEIVER

CODE	COLOR
bk	black
bl	blue
br	brown
gr	green
gr/y	green/yellow
gy	grey
r	red
w	white
y	yellow
or	orange

BLOCK DIAGRAM

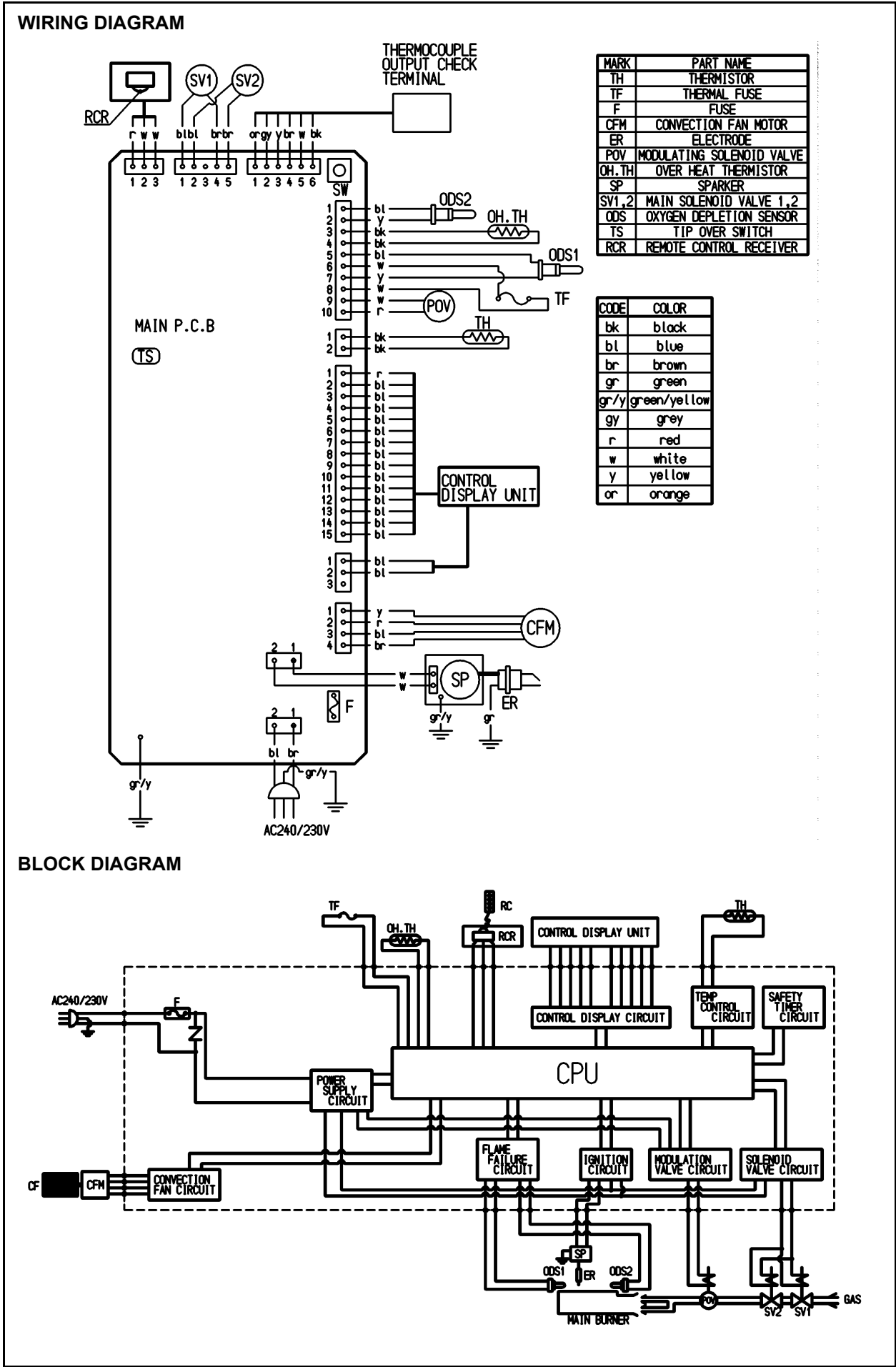
BLOCK DIAGRAM

The diagram shows the functional blocks of the system and their interconnections. The blocks include:

- AC240/230V** (AC Power)
- F** (Fuse)
- CFM** (Convection Fan Motor)
- CONVECTION FAN CIRCUIT**
- POWER SUPPLY CIRCUIT**
- CPU** (Central Processing Unit)
- CONTROL DISPLAY UNIT**
- CONTROL DISPLAY CIRCUIT**
- TEMP CONTROL CIRCUIT**
- SAFETY TIMER CIRCUIT**
- FLAME FAILURE CIRCUIT**
- IGNITION CIRCUIT**
- MODULATION VALVE CIRCUIT**
- SOLENOID VALVE CIRCUIT**
- MAIN BURNER**
- SV2** and **SV1** (Main Solenoid Valves 2 and 1)
- GAS** (Gas Supply)

The diagram shows the following connections:

- AC240/230V** is connected to the **F** (Fuse) and the **CONVECTION FAN CIRCUIT**.
- The **CONVECTION FAN CIRCUIT** is connected to the **CFM** (Convection Fan Motor).
- The **POWER SUPPLY CIRCUIT** is connected to the **CPU** and the **CONTROL DISPLAY UNIT**.
- The **CPU** is connected to the **CONTROL DISPLAY CIRCUIT**, the **TEMP CONTROL CIRCUIT**, the **SAFETY TIMER CIRCUIT**, the **FLAME FAILURE CIRCUIT**, the **IGNITION CIRCUIT**, the **MODULATION VALVE CIRCUIT**, and the **SOLENOID VALVE CIRCUIT**.
- The **CONTROL DISPLAY UNIT** is connected to the **CONTROL DISPLAY CIRCUIT**.
- The **TEMP CONTROL CIRCUIT** is connected to the **CPU** and the **MODULATION VALVE CIRCUIT**.
- The **SAFETY TIMER CIRCUIT** is connected to the **CPU** and the **SOLENOID VALVE CIRCUIT**.
- The **FLAME FAILURE CIRCUIT** is connected to the **CPU** and the **IGNITION CIRCUIT**.
- The **IGNITION CIRCUIT** is connected to the **CPU** and the **MODULATION VALVE CIRCUIT**.
- The **MODULATION VALVE CIRCUIT** is connected to the **CPU** and the **SOLENOID VALVE CIRCUIT**.
- The **SOLENOID VALVE CIRCUIT** is connected to the **CPU** and the **MAIN BURNER**.
- The **MAIN BURNER** is connected to the **SV2** and **SV1** (Main Solenoid Valves 2 and 1).
- The **SV2** and **SV1** are connected to the **GAS** supply.



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

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



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