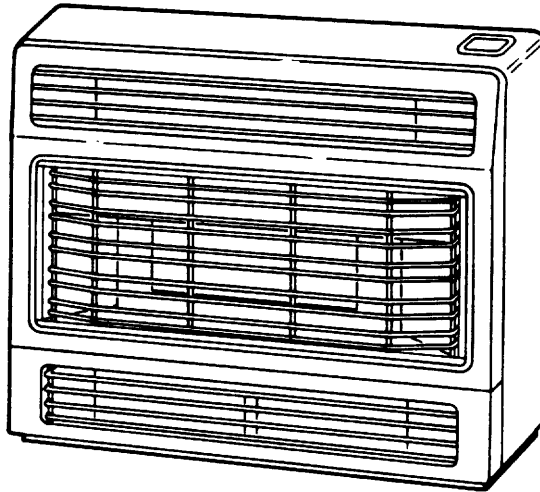


Rinnai
SAPPHIRE 24
FLUED
CUSTOMERS OPERATING
INFORMATION
AND
INSTALLATION INSTRUCTIONS



This appliance shall be installed in accordance with:-

Manufacturer's Installation Instructions

Local Gas Fitting Regulations

Municipal Building Codes

A.G.A. Installation Code for Gas Burning Equipment

Any other relevant Statutory Regulation

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

Rinnai 
GAS SPACE HEATERS

FEATURES OF YOUR SAPPHIRE 24

1. 24 MJ/h input, fan assisted, radiant convection space heater.
2. 3 step push button top mounted control for easy operation.
3. Electronic automatic ignition.
4. Large capacity fan to circulate warm air effectively.
5. Automatic fan control to turn the fan on and off and match the fan speed to the heat output.
6. Overheat switch to protect the unit should it become too hot.
7. Fan filter to protect the fan against dust and lint.
8. Flame failure device which cuts the gas off if the flame should be extinguished.
9. Glass rod and Jewel Plaque burner design for maximum efficiency and good looks.

INSTALLATION

This heater must be installed correctly by an authorised person, and the installation must conform to local regulations.

The installation must also comply with the instructions supplied by Rinnai.

Service and removal must be carried out by an authorised person.

Full instructions Page 10.

APPROVAL

Your Sapphire 24 has been approved by the Australian Electrical Authorities and the Australian Gas Association.

A.G.A. Approval number 4988.

No parts or functions should be modified or permanently removed from the unit.

Please keep these instructions in a safe place for future reference.

CUSTOMERS OPERATING INFORMATION

For trouble free operation, please read the following information carefully

For your convenience the controls on your new Sapphire 24 are situated under the cover on the top right hand side of the heater.

All necessary adjustments to the operation of your Sapphire 24 can be made with these controls.

IGNITION

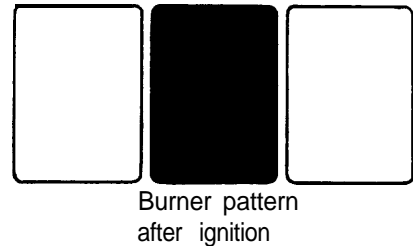
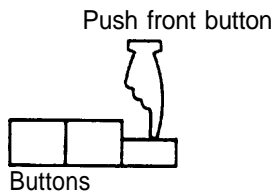
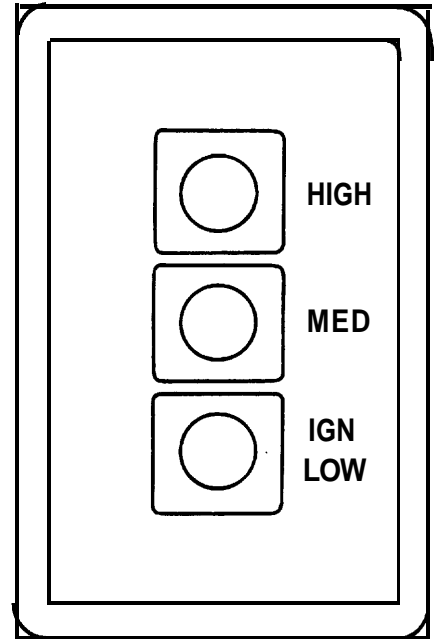
Press the front control button firmly, this operates the built in safety device and starts the electronic spark, the centre burner will ignite. Check that the burner has lit, continue to hold the button down for about 15 seconds. The spark will continue whilst the button is held down.

Release the button.

If the burner does not remain alight, push the button again and release it, this will return it to the "OFF" position. Wait 30 seconds, then repeat the ignition procedure.

(The ignition button must be in the "OFF" position before attempting re-ignition).

CONTROL BOX



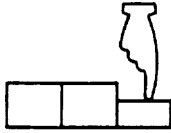
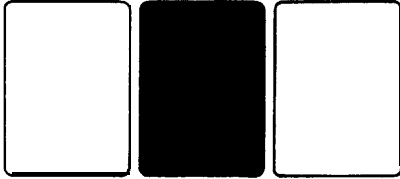
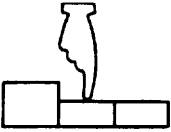

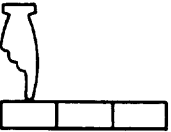

After ignition the heater is at its lowest setting with one burner alight.

CUSTOMERS OPERATING INFORMATION

■ TO INCREASE THE HEAT

Press the control buttons in order from front to rear, this will ignite additional burners as shown in the diagram.

There is no need to hold the buttons for 15 seconds when increasing the heat.

Setting	Input	Buttons	Fan	Burner Pattern
1. Ignition/Low	8 MJ/h		Low	
2. Medium	16 MJ/h		Low	
3. High	24 MJ/h		High	

FAN

The fan starts automatically when the heat exchanger has warmed up, this helps to prevent cold draughts.

The fan speed is also controlled automatically; when the heater is set at low and medium settings the fan runs at low speed, at the high setting the fan runs at high speed.

This gives the best combination of comfort and efficiency. When the heater is turned off the fan will continue to run until the heat exchanger is cool, then stop automatically.

■ TO DECREASE THE HEAT

This is simply done by releasing the control buttons in order from rear to front, to the required setting.

TO TURN THE UNIT OFF

Press and release the buttons in order from back to front until all 3 buttons are in the “OFF” (UP) position. The fan will stop when the heater cools off.

Ensure all burners are extinguished.

CARE OF YOUR SAPPHIRE 24

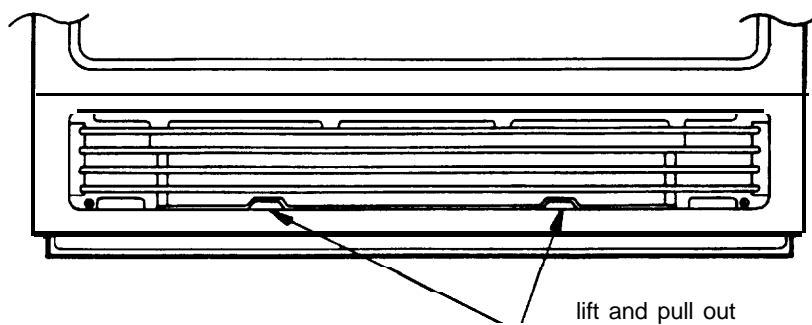
Your Sapphire 24 needs very little maintenance, but the following will help you to keep it looking good and working efficiently.

■ Fan Filter

To protect the fan from lint and dust, the Sapphire 24 is fitted with a fan filter. It is located inside the bottom louvre opening just below the lowest louvre.

To remove the filter, lift the front edge slightly and pull it gently forward then out of the heater. Clean it with a soft brush or vacuum cleaner. To replace, simply slide filter back to its original position and make sure it is clipped into place.

Weekly cleaning is recommended during the heating season.



■ Outer Case

The outer case of the heater should be cleaned with a soft, damp cloth.

Do not use aerosol polishes to clean the casing whilst the heater is in operation.

Do not place articles on or against this appliance.

Do not use or store flammable materials near this appliance.

Do not spray aerosols in the vicinity of the appliance while it is in operation.

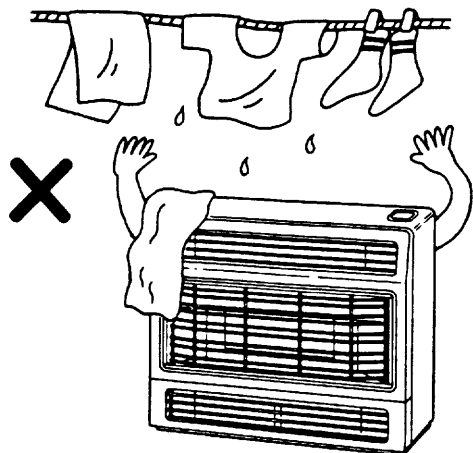
Do not clean plastic parts with solvents, use a soft, damp cloth.

The guard on this appliance conforms to A.G.A. requirements. It is designed to prevent risk of fire or injury from burns, and no part of it should be permanently removed.

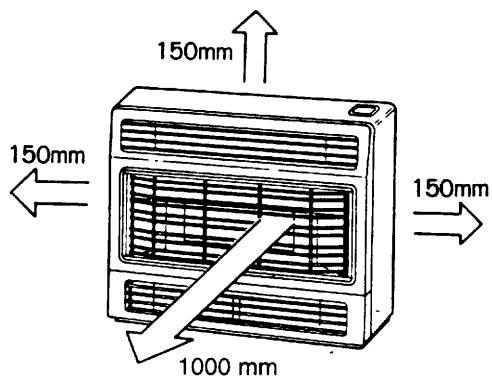
IT DOES NOT GIVE FULL PROTECTION TO YOUNG CHILDREN OR THE INFIRM.

IMPORTANT POINTS

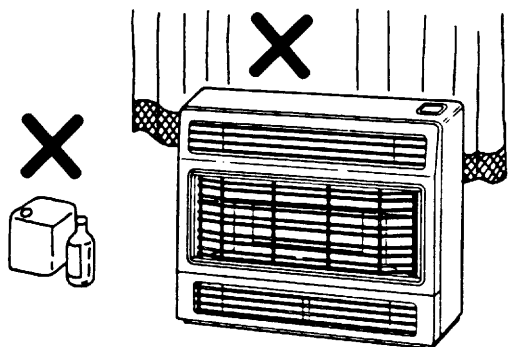
Do not use for any purpose other than heating.



These clearances should be maintained at all times.

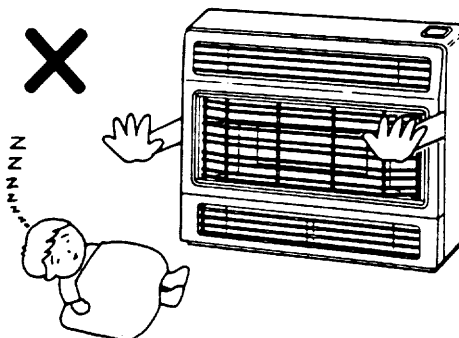


Do not allow curtains or other flammable materials to come into contact with the heater.

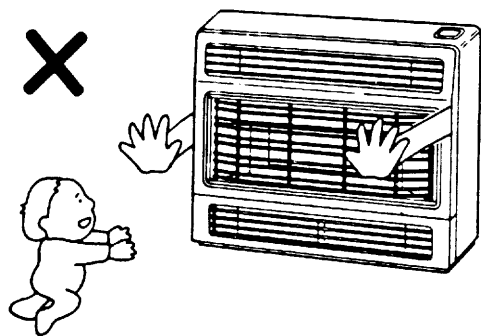


Do not store flammable products near the heater. Combustible materials must not be placed where the heater could ignite them.

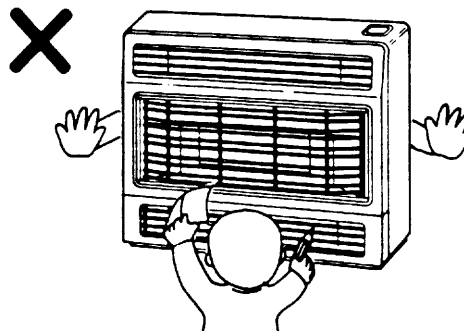
Do not allow young children or the infirm to sleep directly in front of the heater.



Supervise children near heater.



Don't allow children to "post" articles in the louvres.



GUARANTEE INFORMATION

Please record below :

Your Retailer:

Phone :

Address :

Date of Purchase:

Your Installer :

Phone :

Address:

Date of Installation :

Licence Number:

The installer is responsible for your heater's correct installation.

There is no need to post this guarantee back to Rinnai. Simply keep it in a safe place as your record.

SAFETY DEVICES

■ Overheat Switch

This device cuts the gas off if the heater exceeds a pre-determined temperature. This could be caused by an obstruction in front of the louvres, a blocked fan filter or a power cut.

If this switch operates, turn the unit off, remove the obstruction (clean filter), let the unit cool off before re-operating. If the cause is a power cut, let the unit cool, relight when the power is restored.

■ Flame Failure Device

If the flame goes out during operation, the flame failure device cuts the gas off.

■ Fan Switch

Turns the fan on automatically when the heat exchanger warms up and off when it cools off. This helps to prevent cold draughts and adds to the units efficiency.

PRE-SERVICE CHECK LIST AND FAULT FINDING

Please check this fault finding chart before asking for a service call.

You may be able to overcome the problem without a service call, or the unit may be operating normally.

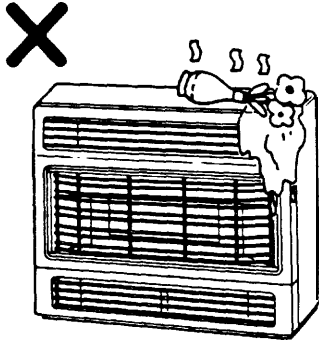
Service calls to a unit which is operating normally may be chargeable, even when the unit is under guarantee.

Problem Cause	Unit won't ignite.	Unit cuts off soon after ignition.	Fan keeps running after unit is turned off.	Takes too long to warm room.	Smell of gas	Unit goes out when ign. button is released.	Unit cuts off at all settings.	Remedy
Not plugged in	●	●						Plug in
Power Cut	●	●					●	Allow to cool, re-ignite when power is restored.
Air in gas pipe Initial Installation	●							Purge air (installer)
Gas Filter blocked	●			●				Service Call
Not pushing ignition button firmly enough	●					●		Push button firmly
Louvre obstructed							●	Remove obstruction
Gas Escape					●			Service Call
Room too large				●				Check with retailer
Fan Filter Blocked		●		●			●	Clean filter (weekly)
Faulty fan		●		●			●	Service Call
Auto fan switch operating			●					Normal Operation
Gas turned off at meter	●							Turn gas on

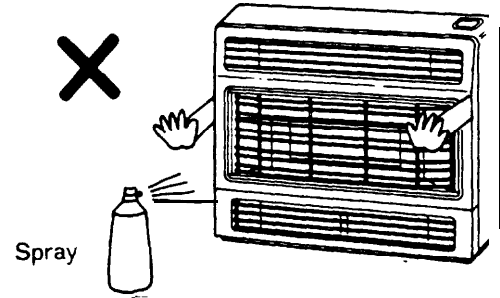
Rinnai Australia has a service network in all states. Our service network personnel are fully trained and equipped to give the best service on your Rinnai appliance. If your appliance needs service, please ring one of the service contact numbers shown on the back of this booklet.

IMPORTANT POINTS

Do not place any articles containing liquid on top of the heater.

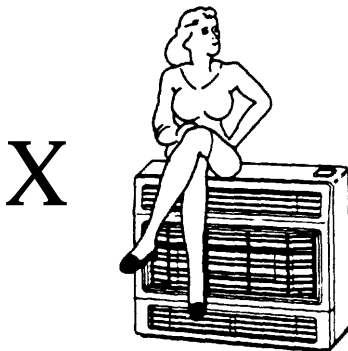


Don't spray aerosols on the unit whilst it is in operation.

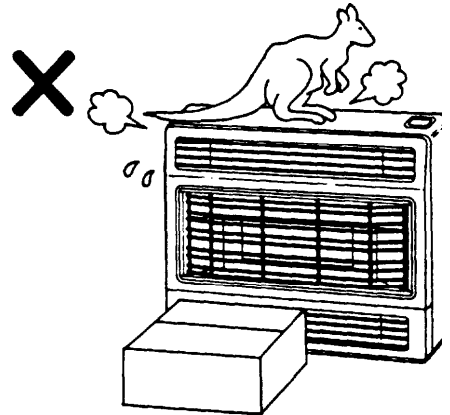


Most aerosols contain butane gas, and can be a fire hazard if used near this heater when it is in use.

Do not sit on this heater.



Do not place articles on or against the heater.



RINNAI GUARANTEE OF QUALITY

As a purchaser of a high quality Rinnai product, we provide you with the following guarantee on your new Sapphire 24.

	<u>Free Labour</u>	<u>Free Parts</u>
Heat Exchanger	1 year	10 years pro rata*
Fan	1 year	2 years
All other parts	1 year	1 year

* Heat exchanger: Full replacement parts cost in the first year, reducing 10% per year thereafter.

The benefits conferred by this guarantee are in addition to all other rights and remedies in respect of the product which you have under the Trades Practices Act and other State and Territory laws.

This guarantee does not cover cleaning and normal wear and tear, calls of this nature may be chargeable.

INSTALLATION INSTRUCTIONS

Specifications: See back cover

■ Unpacking

Undo straps, lift carton off heater.

Never lift the heater out of the carton by the top louvres. Check for damage.

If unit is damaged, contact Supplier or Rinnai for advice BEFORE INSTALLATION.

Check unit supplied is correct for gas type in your area.

Refer to local gas authority for confirmation of gas type if in doubt.

Data plate is inside heater on left hand side.

■ Included In Carton

Instructions

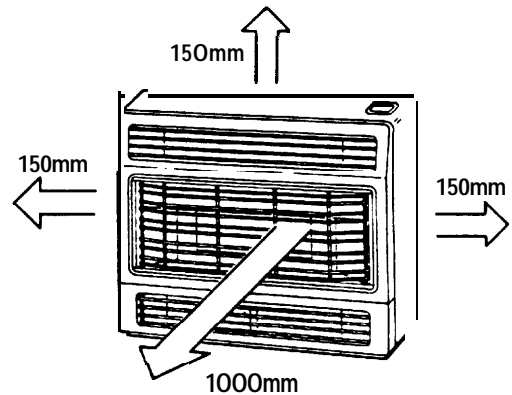
Back spacer and screws with wall brackets.

INSTALLATION-GENERAL

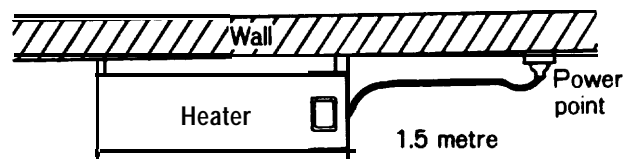
This heater must not be installed where curtains or other combustible materials could come into contact with it. In some cases curtains may need restraining. Other clearances are shown in the diagram.

THIS UNIT IS NOT DESIGNED TO BE BUILT INTO BOOKCASE OR SHELVES

Check that ventilation complies with local regulations.



Check that an EARTHED power point is within 1.5m of the right hand side of the unit.



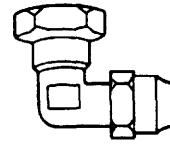
INSTALLATION

■ INLET UNION

For ease of connection a combined inlet union/copper elbow is provided with every heater.

It is situated at the right hand side below the control.

Union connection to heater



Copper connection
15mm copper.

■ REMOVE INLET UNION FROM UNIT

The inlet union/elbow should be fitted to the end of the copper supply tube before installing the heater.

For access to union:

Remove Fan Filter-see page 5.

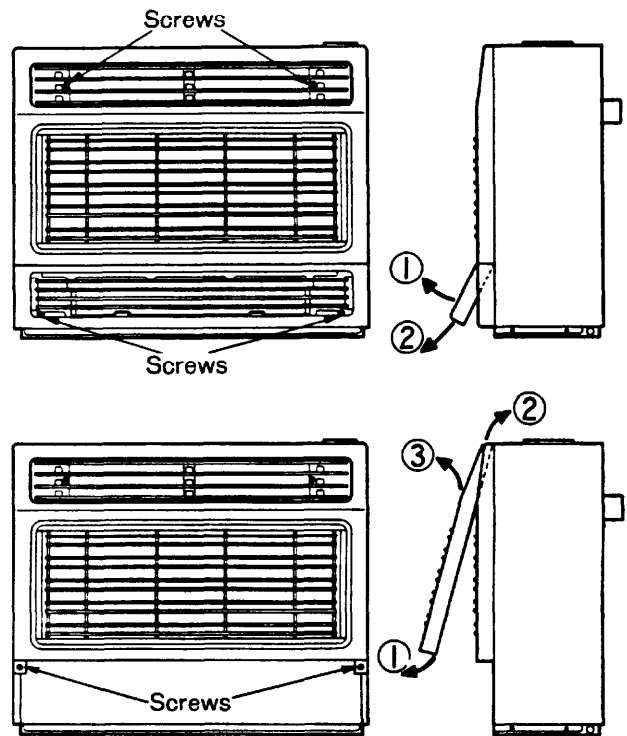
Remove bottom louvre panel, 2 screws in the lower right and left hand corners of louvres.

Remove upper front panel, 2 screws at the bottom right and left hand edges of the panel and 2 screws inside the top louvres.

Lift panel to disengage top and remove from heater.

DON'T lift the panel by the dress guard or top louvres.

Remove union.



ENSURE THAT REMOVAL AND RE-PLACEMENT OF THE BOTTOM PANEL IS NOT OBSTRUCTED BY CARPET ETC.

■ Run Gas Supply

Refer to A.G.A. pipe sizing chart if in doubt about size of gas line.

Copper supply should be run leaving a flared connection in the position shown on page 12. Don't forget to put flare nut on tube before flaring.

Connect the union/elbow fitting to the copper supply with the union nut facing upwards.

PURGE SUPPLY OF AIR AND SWARF.

All foreign materials such as filings must be purged from the gas supply, as they could cause the gas valve to malfunction.

INSTALLATION INTO TWIN SKIN FLUE

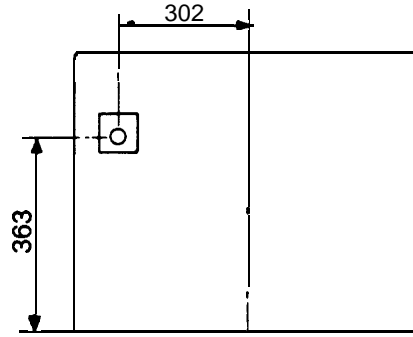
Gas Connection Position

Drawing is from rear of heater. Actual connection is on RHS from front.

Dimensions are to the centre of the flare fitting on the inlet elbow.

There is an opening in the base of the unit to allow for piping through the floor.

CONNECTION SUITS 15mm COPPER TUBE .

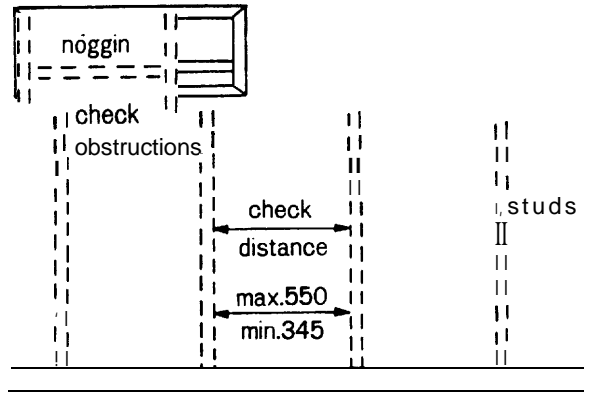


(mm)

Instructions for installation into a 75mm cavity wall using twin skin flue.

Select position for heater and locate studs, there must be a minimum distance of 345mm and a maximum of 550mm between studs.

Check to make sure ceiling and roof structure will not obstruct flue.



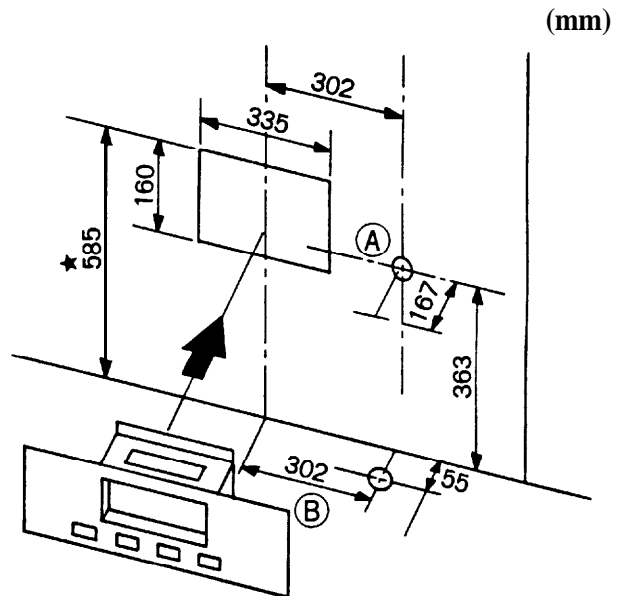
(mm)

Cut Opening in Wall. READ NOTE*

Wall box measures 330mm × 100mm, but opening required is 335mm × 160mm.

This is to allow for ventilation around the wall box.

Failure to cut the correct sized hole may lead to excessively high wall temperatures.



Gas Supply Position

The gas can be brought in from one of two positions, either through the wall (A) or through the floor (B).

There is an opening in the base of the casing to allow for piping through the floor.

When using this opening, the copper tube will have to be fed from underneath after fitting the heater.

The inlet elbow will need changing for a straight fitting.

★ 585 to top of opening. Take special care with this measurement, allow for unit settling into soft surfaces, e.g. carpet.

The appliance is 600mm high, top of hole 585mm, there is only 15mm between top of hole and top of unit.

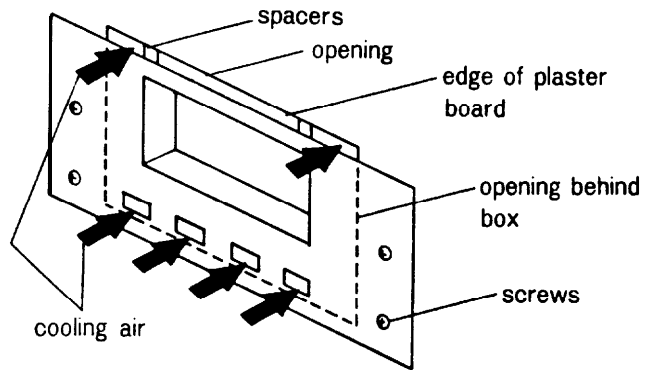
INSTALLATION INTO TWIN SKIN FLUE

CUT AWAY TOP PLATE AND ANY NOGGINS BETWEEN STUDS

FIT HOUSING INTO PREPARED OPENING

Spacers should be fitted tightly against the plasterboard. Drill through flanges at stud centres and fix to wall with 4 screws. The housing must be secured to the studs so as to allow the outlet to protrude back into the cavity, giving the twin skin flue a minimum clearance from the plasterboard of 10mm excluding spacers.

Housing fitted to opening



LOWER TWIN SKIN FLUE DOWN CAVITY

Straighten tabs at bottom of twin skin flue assembly and lower down wall cavity to housing. Insert tabs in slots in housing then bend tabs to secure flue to housing.

INSTALL FLUE SUPPORT

Drop top plate flue support over top of flue, position centrally in space between studs and secure support in position.

FIT SEALING PLATE

IF FLUE PROTRUDES MORE THAN 65mm ABOVE TOP PLATE.

Adaptor supports must be screwed to the flue, and positioned so that when the sealing plate is fitted it is 50mm from the top of the flue.

FIT RECTANGULAR TO ROUND ADAPTER

Fit adapter to top of twin skin.

Fit 100mm flue and approved cowl.

MINIMUM DISTANCE FROM COWL TO NEAREST PART OF ROOF IS 610 mm.

POSITION ELBOW INTO HOUSING

Locate the longer end inside the aluminium liner of twin skin.

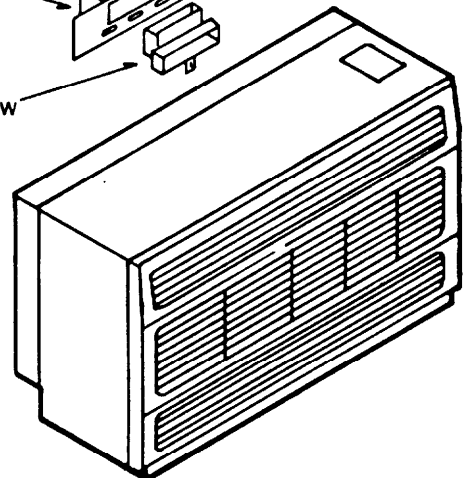
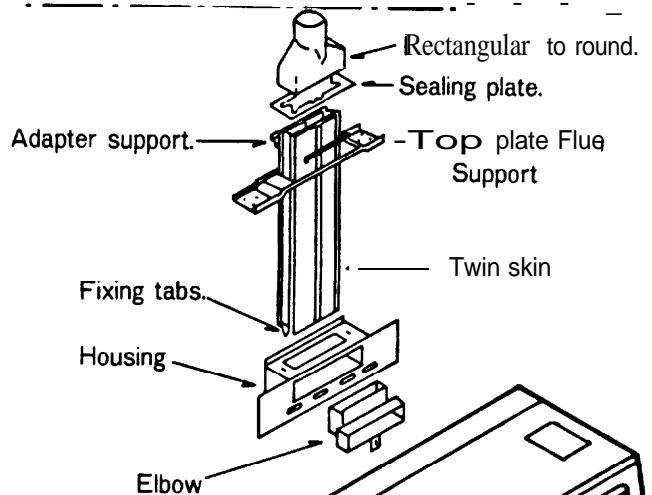
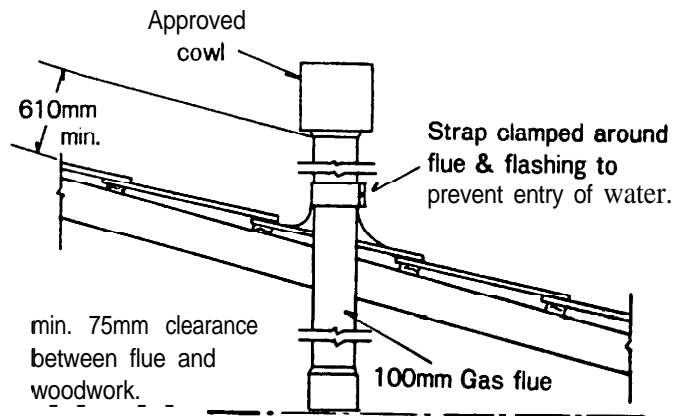
Attach loosely to housing with screw provided.

Measure distance from floor to flue outlet. Adjust elbow to these dimensions, tighten screw.

FIT REAR SPACER TO OUTER CASING.

Fit right and left hand rear spacers to outer casing.

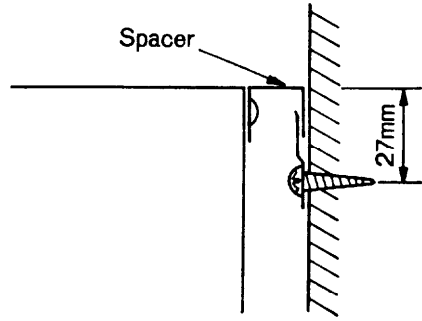
Position top spacer temporarily for marking wall.



INSTALLATION USING TWIN SKIN FLUE

Position Heater

Mark position of top of spacer on wall
 Remove heater and fit wall clips.
 Remove top spacer.



ATTACH ELBOW/UNION TO GAS SUPPLY

Check position of gas supply.

Push the heater back into position, feeding the union/elbow through the rear access opening.

Ensure spigot is fully engaged in elbow.
 Clip top spacer into position, engaging it on the wall clips at the same time.
 Secure top spacer to side spacers (2 screws).
 Heater is now secured to wall.

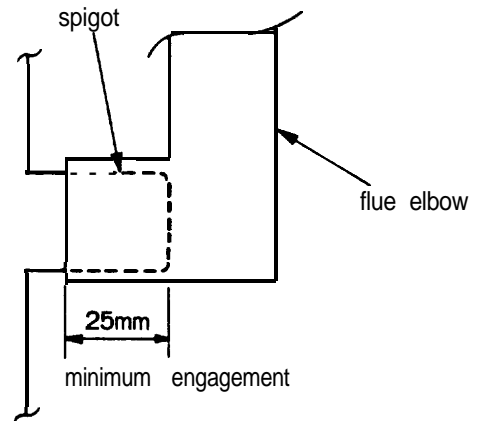
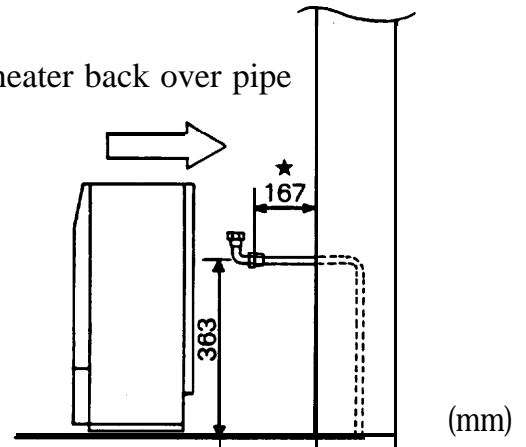
CONNECT GAS

TEST UNIT See page 16.

INSTRUCT CUSTOMER See page 16.

★ Distance from wall to end of flare (when back spacer is touching wall)

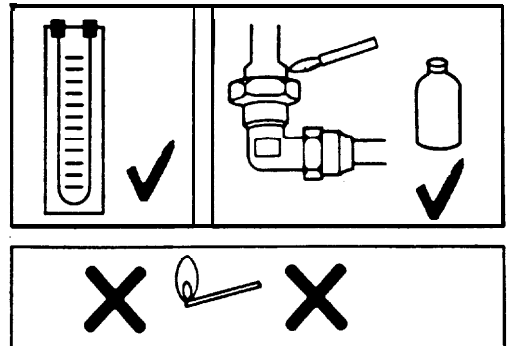
Push heater back over pipe



CHECK FOR ESCAPES

Use a manometer or soapy water.

DON'T USE A NAKED FLAME.



INSTALLATION INTO A MASONRY FIREPLACE

CLOSE OFF FIREPLACE WITH FIREPROOF MATERIAL.

DO NOT INSTALL UNDER A LOW WOODEN SHELF.

Brick Flues shall be completely sealed from cavities and shall be free from mortar droppings or any other debris.

In this type of installation the spigot must have an extension added which is to extend beyond overhead brickwork. The extension shall be constructed so that it prevents falling debris entering the flue spigot.

The spigot extension shall not be extended so far into the chimney so as to cause any obstruction to the discharge of flue gas.

Minimum clearance from end of spigot extension to any obstruction 75mm.

REMOVE DAMPER PIXIE/BAFFLE

Any damper plate or baffle which has been installed in the chimney shall be removed.

Fit flue cowl.

An approved cowl shall be fitted to the chimney, with a minimum clearance of 200mm between top of chimney and the lowest opening in the flue cowl.

PREPARATION OF FIREPLACE

Provide a firm, flat base for unit, fireplace must be sealed, no holes or openings. Seal all openings in back, base or sides of fireplace.

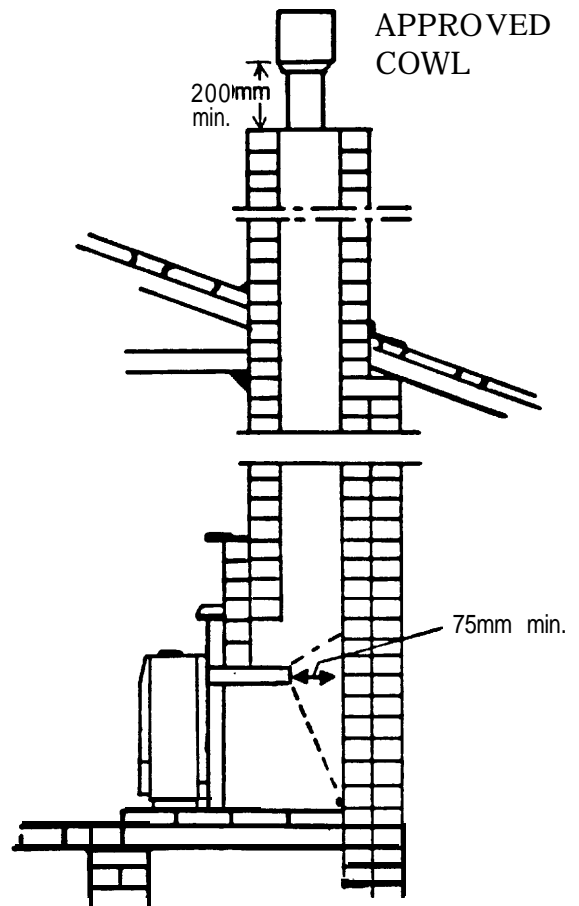
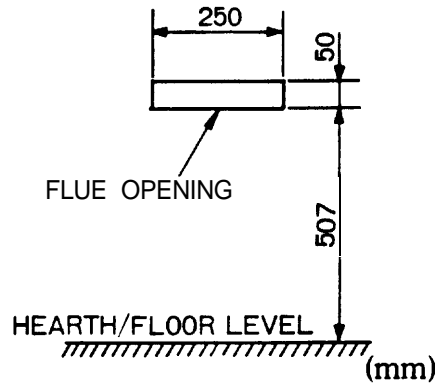
A rough base or unsealed fireplace may affect the performance of this heater.

FIT BACK SPACER AND WALL CLIPS:
See page 13 & 14.

CONNECT GAS and CHECK FOR ESCAPES: See page 11 & 14.

TEST UNIT and INSTRUCT CUSTOMER: See page 16.

FIREPROOF MATERIAL TO FILL IN FIREPLACE



TESTING Applies to all Installations, Twin Skin and Fireplace

TESTING PROCEDURE

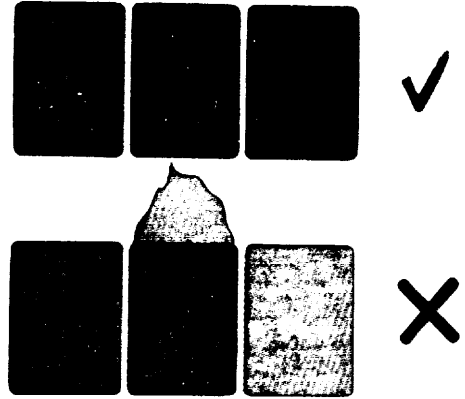
After purging and clearing supply, connecting gas and checking for escapes, plug the unit into the power point and light the burner. (Caution: 240V inside unit).

See customers instructions Page 3.

Check appearance of flame and that controls operate correctly.

The tiles should glow evenly (it will take a few minutes of operation for them to reach full, even brightness).

There should be no abnormal after burning or yellow flames.



■ TO CHECK BURNER PRESSURE

See Specifications back page.

Turn control to "OFF" position. Remove test point screw, attach manometer to test point, light heater, turn to high, and check pressure. Test point is on the side of the gas valve.

The regulator has been factory pre-set; before making any adjustments to the appliance regulator, check the supply pressure.

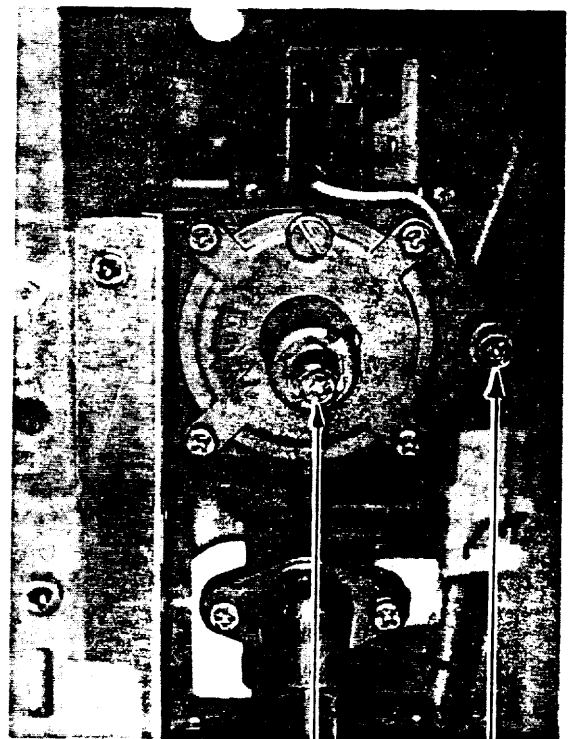
If adjustments are necessary, regulator is situated on the left hand side of the gas control.

PILOT CANNOT BE ADJUSTED.

After checking pressure, turn the unit off, remove manometer and replace test point screw.

Turn the heater on and off a few times to check ignition.

When you are satisfied that the heater is working correctly re-assemble front panels, refit Fan Filter.



Regulator Adjusting
Screw

Test Point

If you are unable to get the unit to operate correctly, contact your agent or Rinnai for advice.

Check Page 9 "Fault Finding" first.

INSTRUCT CUSTOMER ON USE OF UNIT
Explain to customer about use and care of unit. Make sure customer understands the instructions.

Explain :
Ignition. Fan Delay Switch,
Adjusting heat level, Turning "OFF",
Removal and replacement of Fan Filter.

SPECIFICATIONS

Description:	REH240EC Rinnai Sapphire 24 Radiant/Convactor, open fronted, surface combustion space heater with forced convection and natural draught flue system.
Input:	21 MJ/h Natural Gas, Towns Gas and Propane. TLP 19.5 MJ/h.
Gas Control:	Rinnai Push Button Combination Control.
Burner:	Rinnai Jewel Cut Plaque.
Gas Inlet:	Barrel Union/Elbow with Flare Fitting (15mm Copper Flare Connection).
Test Point Pressure:	Natural Gas 0.98kPa; Propane 2.15kPa.
Flue:	Natural Draught for twin skin or fireplace installation.
Flue Termination:	An approved 100mm cowl must be fitted to all installations.
Ignition:	Electronic
Power Supply:	240V 50Hz unit is supplied with 3 pin plug and supply lead, replace only with Rinnai part number 90148206.
Fan:	Tangential 2 speed, Watt Rating.
Data Plate:	Bottom right hand side behind front panel.

Rinnai are continually updating and improving products, therefore specifications are subject to change without prior notice.

SERVICE CONTACT POINTS

Rinnai AUSTRALIA PTY. LTD. A.C.N. 005 138 769

Head Office:	1 O-I 1 Walker Street, Braeside, Vic 3195. Tel: (03) 580 7811. Fax (03) 580 8098. For Service Ring (03) 586 7948 or (03) 586 7918 For Sales Ring: (03) 586 7977. Fax (03) 587 0107.
N.S.W. Branch:	62 Elizabeth Street, Wetherill Park, NSW 2164 Tel: (02) 609 2111. Fax (02) 609 5260. After Hours Emergency Hot Water Tel: (02) 729 0468
S.A. Branch:	140 Days Road, Ferryden Park, SA 5010. Tel: (08) 345 0292. Fax (08) 345 4760.
W.A. Branch:	17-19 Belgravia Street, Belmont, WA 6104. Tel: (09) 478 3355. Fax (09) 277 2531.
QLD Branch:	6 Curban Street, Underwood, QLD 4119. Tel: (07) 341 8777. Fax (07) 341 8868.
A.C.T.	Bird & Stirling Agencies Pty. Ltd. 3 Lithgow Street, Fyshwick, ACT 2609. Tel (06) 280 4833. Fax (06) 280 6561.
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Rinnai NEW ZEALAND LTD.
Head Off ice:

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