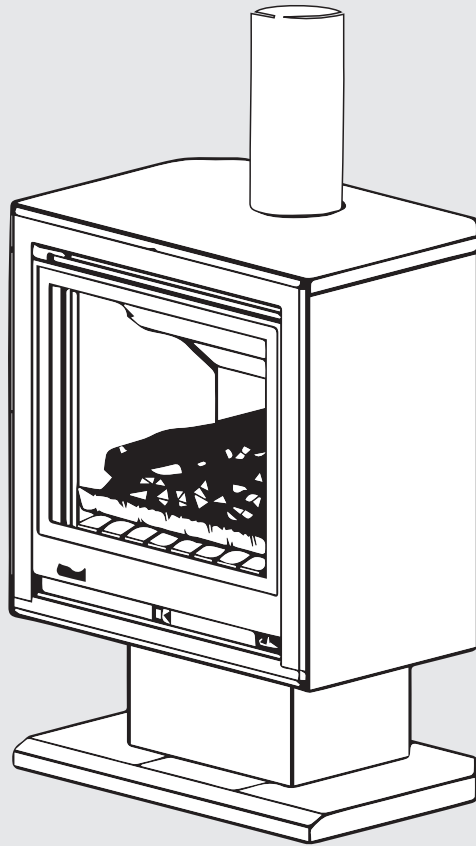


Model:  
**650FS**



## **650 Free Standing Gas Fireplace**

Installation and Flueing Manual

**Rinnai**

Congratulations on the purchase of your Rinnai 650FS Free Standing gas log flamefire. We trust you will have many years of comfort and enjoyment from your appliance.



### **BEFORE USING THIS APPLIANCE**

Before proceeding with the operation or installation read this manual and the other manuals supplied with the engine thoroughly to gain a full understanding of the appliance and to ensure safe and correct use.

For details on how to use this appliance refer to the Operation Manual.

Use only Rinnai genuine parts.

This appliance must be installed in accordance with:

- Manufacturer's Installation Instructions
- Current AS/NZS 3000, AS/NZS 3500 & AS/NZS 5601
- Local Regulations and Municipal Building Codes including local OH&S requirements

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

For continued safety of this appliance it must be installed and maintained in accordance with the manufacturer's instructions.



**The Australian Gas Association**  
All Rinnai gas products sold in Australia are A.G.A. certified.

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This appliance **MUST** be installed, maintained and removed **ONLY** by an Authorised Person.

For continued safety of this appliance it **MUST** be installed and maintained in accordance with the manufacturers instructions.

# WARNINGS & IMPORTANT INFORMATION



## BEFORE USING OR INSTALLING THIS APPLIANCE

Before proceeding with the operation or installation read this manual thoroughly and gain a full understanding of the appliance, to ensure safe and correct use.

Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, fire or explosion, property damage, personal injury and/or death.

**DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in personal injury or death.

**WARNINGS:** Indicates a potentially hazardous situation which, if not avoided, could result in personal injury or death.

**CAUTIONS:** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to the appliance. It may also be used to alert against unsafe practices.



## REGULATORY INFORMATION

This appliance and flue system shall be installed in accordance with:

Manufacturer's Installation Instructions supplied by Rinnai.

Current AS/NZS 3500 & AS/NZS 5601.

Local Regulations and Municipal Building Codes including local OH&S requirements.

Your Rinnai 650FS gas fire and flue system has been certified by the Australian Gas Association. The A.G.A. Certification Number is shown on the data plate.

This appliance **MUST** be installed, maintained and removed **ONLY** by an Authorised Person.

For continued safety of this appliance it **MUST** be installed and maintained in accordance with the manufacturer's instructions.

Flue components **MUST** be installed correctly by an appropriately licensed tradesperson. The installation of gas, water and electricity must conform to local regulations.

## NOTICE TO VICTORIAN CONSUMERS

This appliance **MUST** be installed by a person licensed with the Victorian Building Authority. **ONLY** a licensed person will have insurance protecting their workmanship.

So make sure you use a licensed person to install this appliance and ask for your Compliance Certificate. For further information contact the Victorian Building Authority on 1300 815 127.



## MANDATORY INSPECTION PRIOR TO INSTALLATION

Immediately report any damage or discrepancies to the Supplier of the appliance. This appliance was inspected and tested at the time of manufacture and packaging, and released for transportation without known damage. Upon receipt, inspect the exterior for evidence of rough handling in shipment. Ensure that the appliance is labelled correctly for the gas and electrical supply, and/or other services it is intended to be connected to.

For safety and warranty purposes, appliances that may be damaged or incorrect **MUST NOT** be installed or operated under **ANY** circumstances. Installation of damaged or incorrect appliances may contravene local government regulations. Rinnai disclaims any liability or responsibility whatsoever in relation to the installation or operation of damaged or incorrect appliances.

Take care when opening or unpacking this appliance. Failure to do so may result in serious injury or product failure.

Check the label for the correct gas type (refer rating plate, inside the appliance). Refer to local gas authority for confirmation of the gas type if you are in doubt.



### MODIFICATIONS

**DO NOT MODIFY THIS APPLIANCE**, modifying from original specifications may create a dangerous situation and will void your warranty. Failure to comply with these instructions could result in a fire or explosion, which could cause serious injury, death or property damage.

**DO NOT** modify the electrical wiring of this appliance.

If the power cord is damaged or deteriorated it **MUST** be replaced by an authorised person. Failure to do so may result in electric shock, fire, serious injury or product failure.

Improper installation, adjustments, service or maintenance can cause serious injury, death or property damage. Such work **MUST ONLY** be performed by an authorised person.

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



### GENERAL SAFETY WARNINGS

This appliance is **HEAVY**, during installation the use of a mechanical lifting aid is recommended, noting that improper lifting may result in serious injury.

**WARNING:** This heater **MUST NOT** be used if any of the glass panels are damaged.

Flue terminal **MUST** always vent directly to outdoors. **DO NOT** extend the flue vertically or horizontally in ways other than prescribed in this appliance manufacturer's installation instructions. **ONLY** the flue components specified by Rinnai **MUST** be used.

When considering installation ensure minimum clearances as follows are adhered to, refer Fig. 1.

Heat radiating from the front of this heater 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, candle vapours and cigarette smoke, etc. To avoid this possibility, it is recommended that a mat or similar protective sheet be placed in front of the appliance, extending at least 750 mm.

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.

**DO NOT** attempt to dry clothes on this heater while it is in operation.

This appliance is **NOT** intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction in use of the appliance by a person responsible for their safety.

The appliance is **NOT** intended for use by young children or infirm persons without supervision. Young children and the infirm **SHOULD** be supervised at all times when in the vicinity of this heater while it is in operation.

The heater **MUST NOT** be located immediately below a power socket outlet.

A dedicated 230 V earthed 10 Amp power point must be used with this appliance.

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

Suitable **ONLY** for indoor installation.

**DO NOT** operate this appliance before leak checking hoses and gas cylinder connection.

This heater **MUST NOT** be used if the glass panels are damaged.

**NOT** to be connected to an LP gas cylinder located indoors.

All dimensions referred to in these instructions are in millimetres, unless otherwise specified. Please keep this instruction booklet in a safe place for future reference.



### INSTALLATION REQUIREMENTS

This heater **MUST** be installed **ONLY** by an authorised person.

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 **ONLY** by an authorised person.

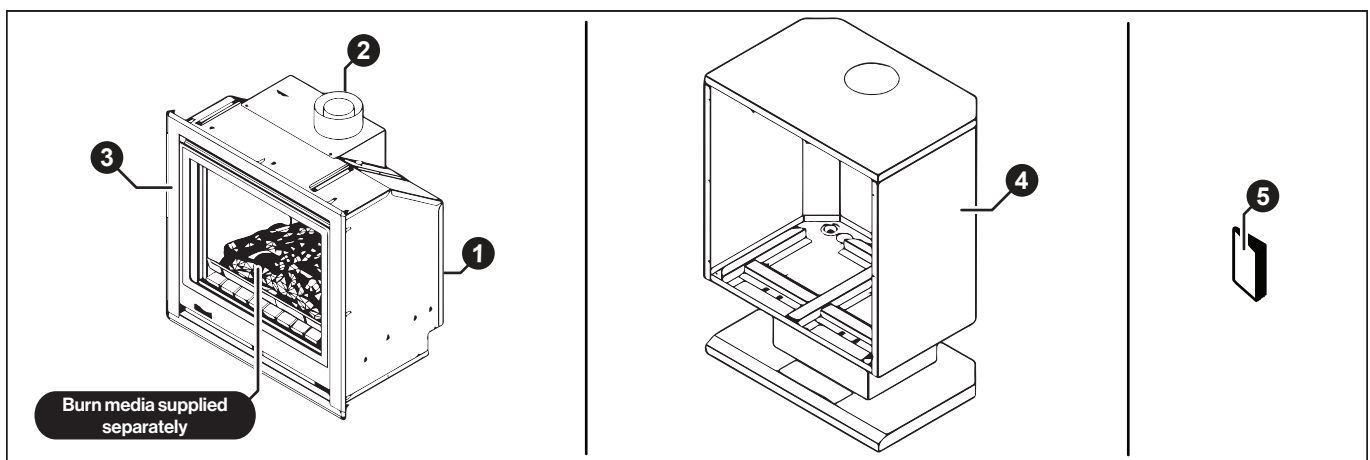
# BEFORE YOU START

## CARTON CONTENTS / ITEM CHECKLIST

- The Engine, Fascia and Flue Adapter for the Rinnai 650FS Gas Fire is supplied in one carton.
- The Flue is available as a kit, 650FSKIT01 and is supplied separately.
- Burn Media; Logs R2423 or Stones R2422 are supplied separately.

Ensure that the components listed below are present in the carton before proceeding with the installation.

Major component descriptions and carton contents		Qty
①	Rinnai 650 Engine (inside Cabinet)	1
②	Co-axial Flue Adapter (pre-fitted to the heater engine).	1
③	Four sided 650 Fascia - Black	1
④	Free Standing Cabinet.	1
⑤	Operation and Installation manual.	1
-	Various labels	n/a



## ADDITIONAL TOOLS REQUIRED (NOT SUPPLIED)

- 7mm AF Spanner (for fascia top attaching screws)
- No. 2 Phillips (unless specified otherwise, all screws are No. 2 Phillips)

## CLEARANCE CONSIDERATIONS

Refer to "Clearances" on page 7 for detailed clearance allowances. A minimum of 50mm clearance is required for all surfaces of the cabinet to allow for adequate ventilation. Consideration must be given for gas and electrical connections located at the lower rear of the cabinet.

## SELECTING A POSITION

Please consider the following when deciding on a position for the heater:

- This 650 Freestanding appliance is suitable only for indoor installation.
- It is not intended as an outdoor appliance.
- It is not intended as a built-in appliance.
- Gas and electrical connections are at the rear. It is essential therefore to allow adequate room at the back of the appliance for access to the gas and electrical inlets and the pedestal cover plate for these connections.
- This appliance is suitable for a corner installation.

## FLUEING REQUIREMENTS



**No Flue bends are authorised with this heater.**

- Consider the location of the vertical flue when choosing a position for your heater.
- Use in conjunction with flue kit FS650KIT01.
- Only use a vertical flue with a maximum length of 7.5 metres with zero bends. The heater will not function with a horizontal flue. No bends are permitted with this heater.

# GENERAL INSTALLATION INFORMATION

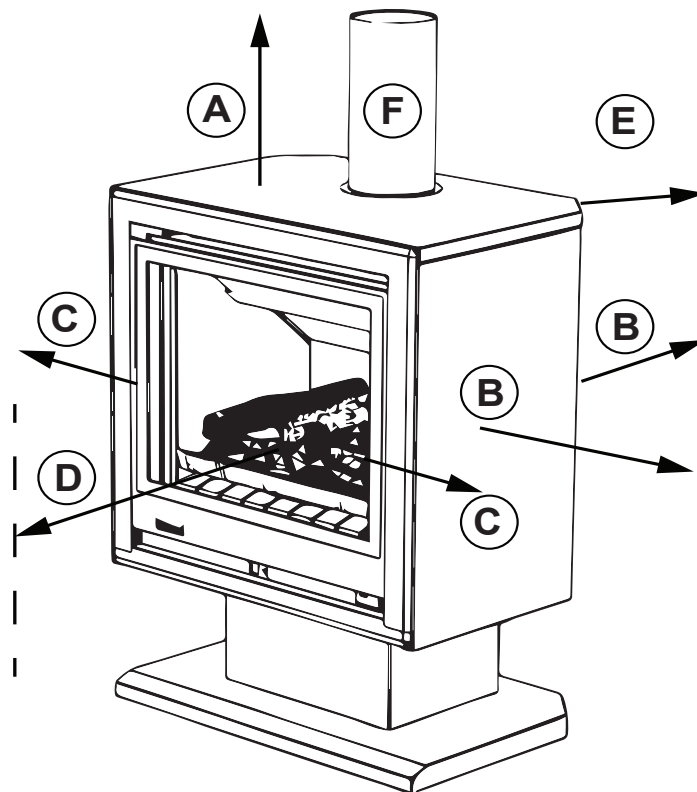
## CLEARANCES

When positioning the heater, the main variables governing the location are Flueing and Warm Air Distribution.



This heater **MUST NOT** be installed where curtains or other combustible materials could come into contact with it. Refer to the table below for clearances to furnishings, adjacent walls, curtains and combustibles.

Dimension	Description	Minimum Clearance (mm)
Ⓐ	<b>Cabinet top</b> - Leave Open Space. Not recommended to place items on top of this panel.  <b>DO NOT</b> drape items over the front of this panel.	See Description
Ⓑ	<b>LH, RH and Rear Cabinet Ventilation Clearance.</b>  Note: Installation Access Required at Rear.	50
Ⓒ	<b>LH and RH Side Fascia Edge Clearance</b> - from edge of glass to combustibles.	150
Ⓓ	<b>Front Clearance</b> - From front of glass to objects.	1000
Ⓔ	<b>Corner Installation Clearance</b> - LH and RH rear corners at 45° to nearest surface.	50
Ⓕ	<b>Flue clearance</b> - Flue is cool to touch.	0



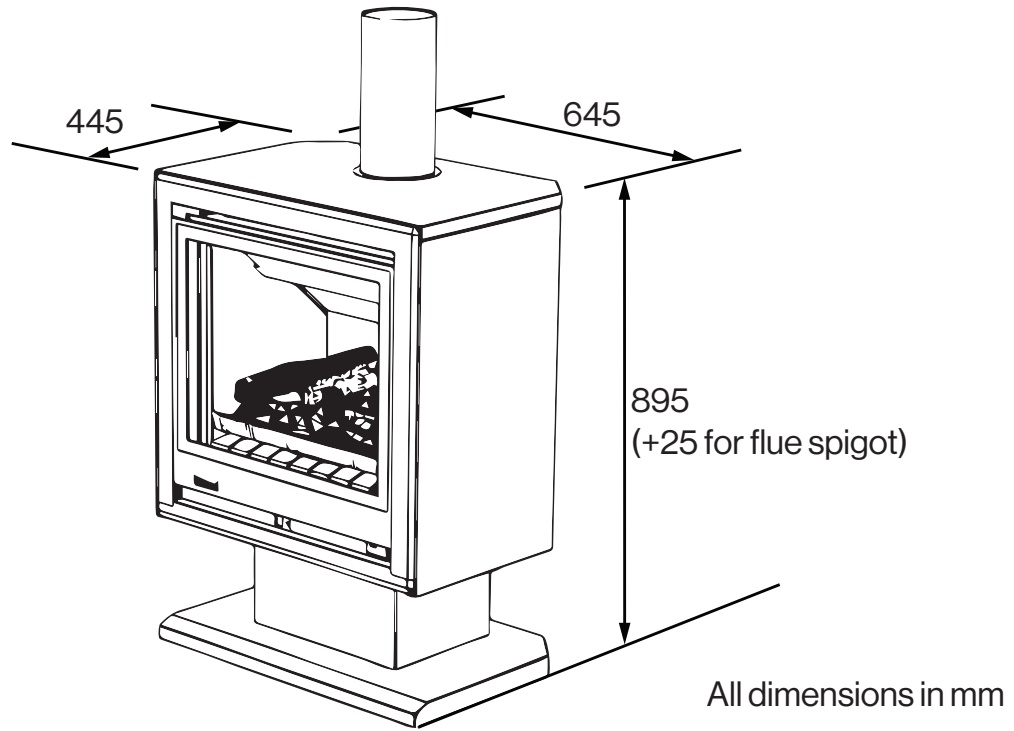
## GENERAL INSTALLATION INFORMATION

### DIMENSIONS & WEIGHTS

Cabinet dimensions are as shown below. Refer to Rinnai 650 Installation and Operation manuals for full engine details.

Gross Weight: **85 kg**

#### 650 FS - Overall Dimensions





# CABINET INSTALLATION

## STEP BY STEP CABINET INSTALLATION

### Step 1. Prepare Site.



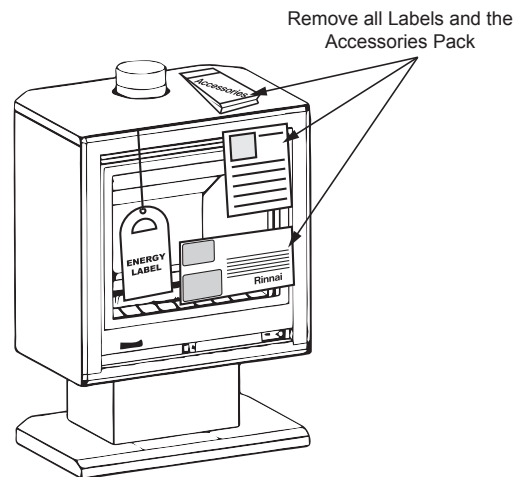
Ensure that gas and electrical supplies have been prepared in accordance with the heater engine Installation Manual.

### Step 2. Unpacking.



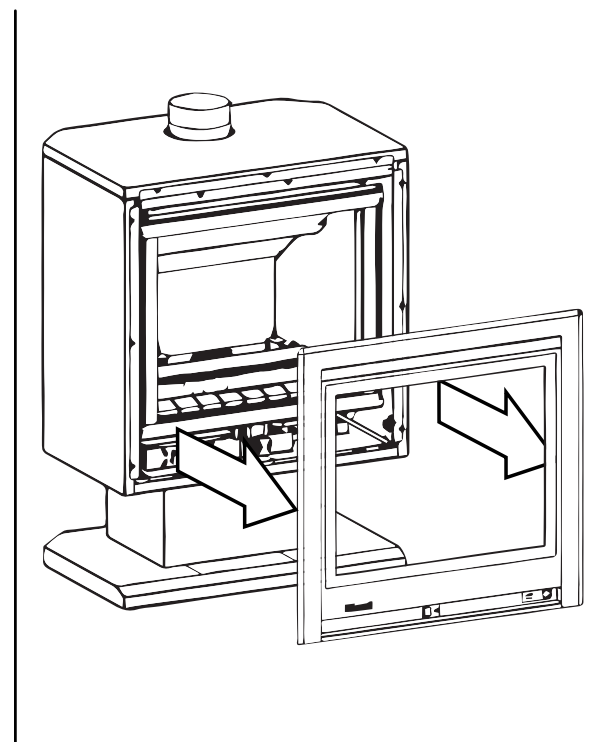
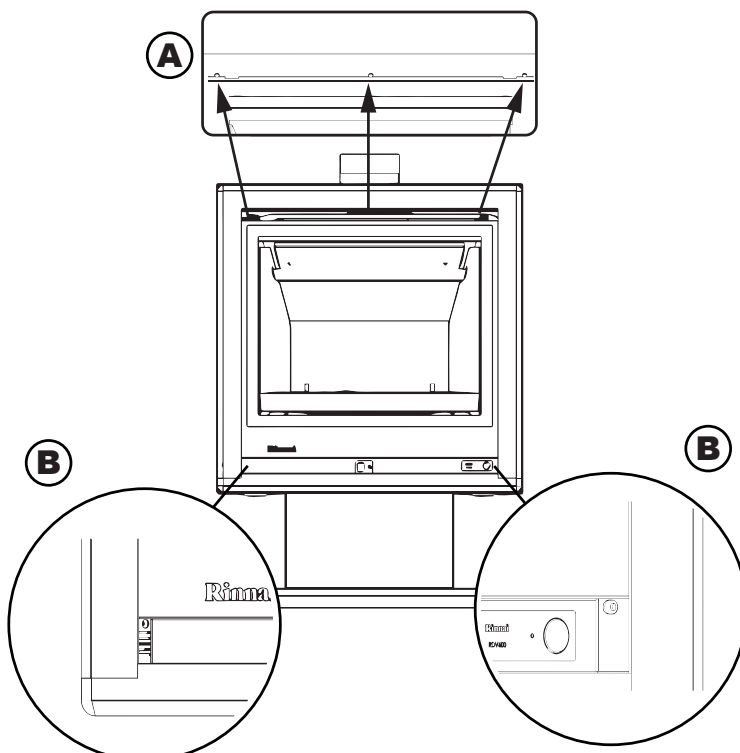
Gross weight of appliance is 85kg. Two person lift required for this step.

1. Remove the plastic strapping and lift the cardboard box directly up off from the appliance. Remove all packing materials.
2. Ensure to locate and keep the Engine Accessories pack and labels.
3. Lift the appliance from the pallet and place in position.



### Step 3. Remove fascia.

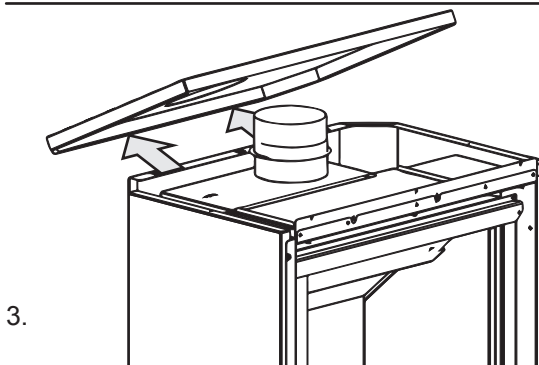
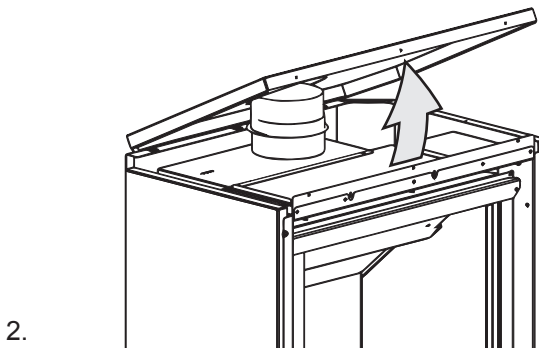
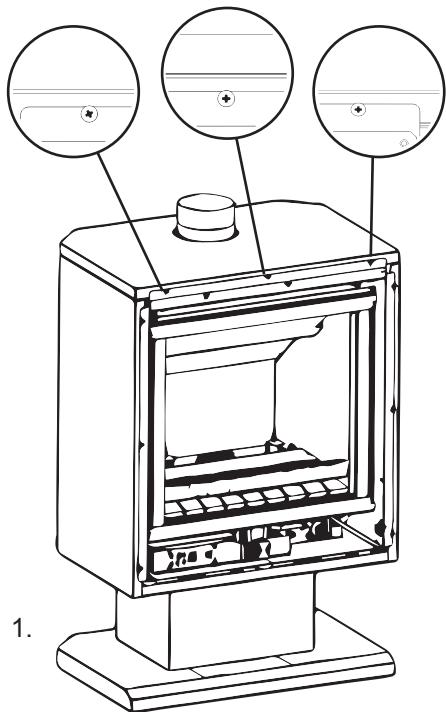
1. Locate and **LOOSEN** the 3 x M4 (7mm AF) hex head screws at the top of the discharge vent (A). The fascia holes are slotted. Leave the screws loose in the panel.
2. Locate and remove the screws at the bottom left and right of the inlet vent (B).
3. Firmly draw fascia out and away and place carefully aside.



## CABINET INSTALLATION

### Step 4. Remove top panel.

1. Remove the 3 black Phillips-head screws at the front of the unit.
2. Carefully lift the front of the top panel up at the front taking care to clear the flue spigot.
3. Then push it rearward clear of the 3 location tabs in the top face of the rear panel.

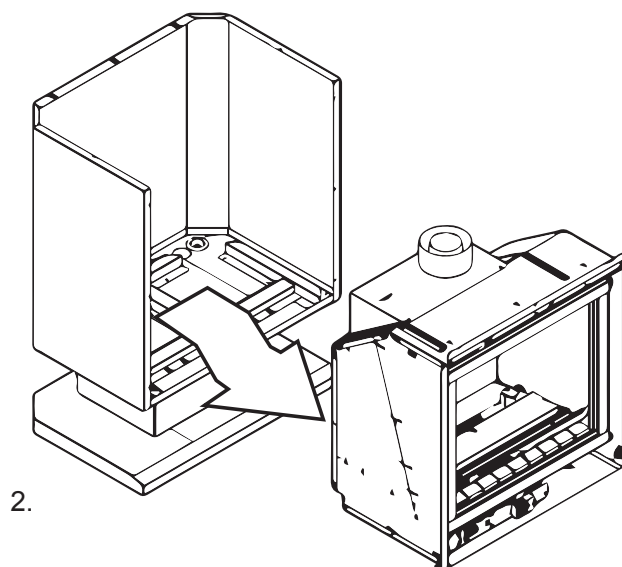
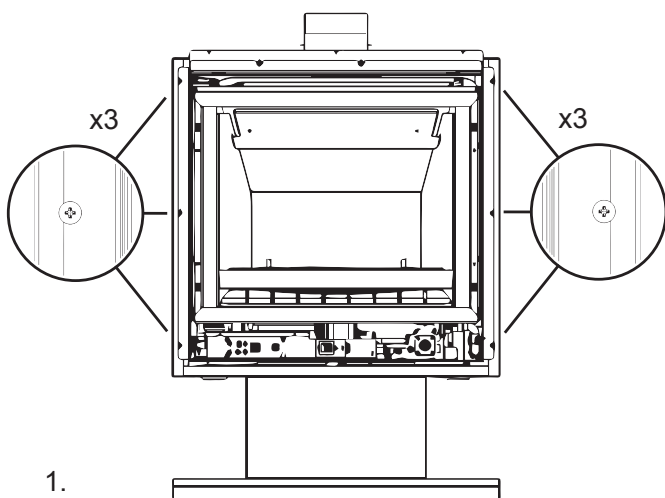


### Step 5. Remove engine.



Engine is heavy. Two person lift required for this step.

1. Remove the 6 Phillips-head screws located at the left and right of the engine side panels.
2. Carefully slide the engine forward and out of the cabinet. Gently place it down out of the way.



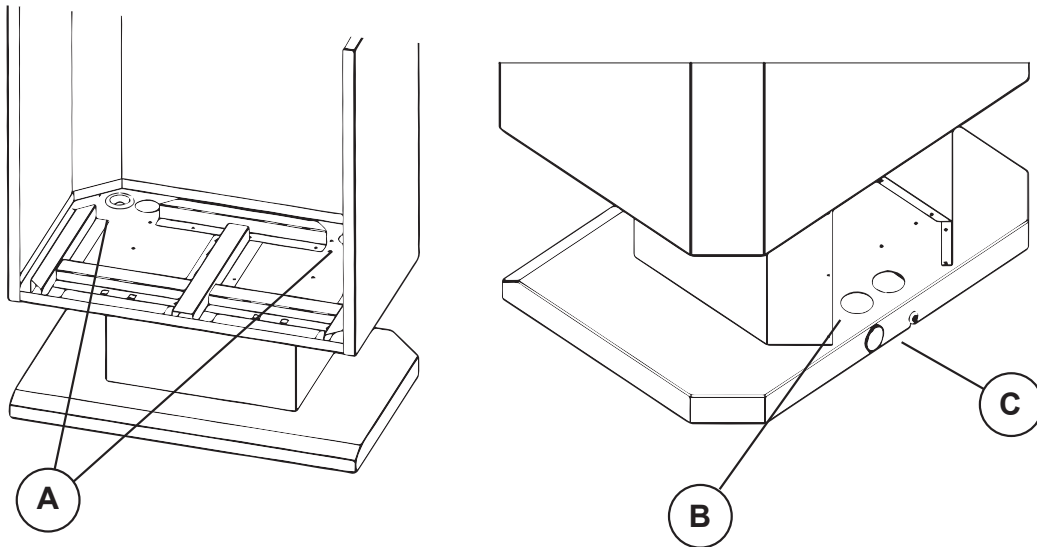
**Step 6. Gas and electrical connection.**

**Cabinet access points.**

Gas and electrical connections enter the cabinet at the bottom rear. Allowances have been designed into the cabinet to accommodate; left, right, centre (A), through the pedestal (for under floor) (B) and through the base panel (C) (for on top of floor). Rubber grommets have been supplied to protect cables and pipes. **Refer to the engine installation manual for full gas and electrical connection details.**



The grommet for the electrical cable will need to be slit to enable the 3 pin plug to be accommodated.

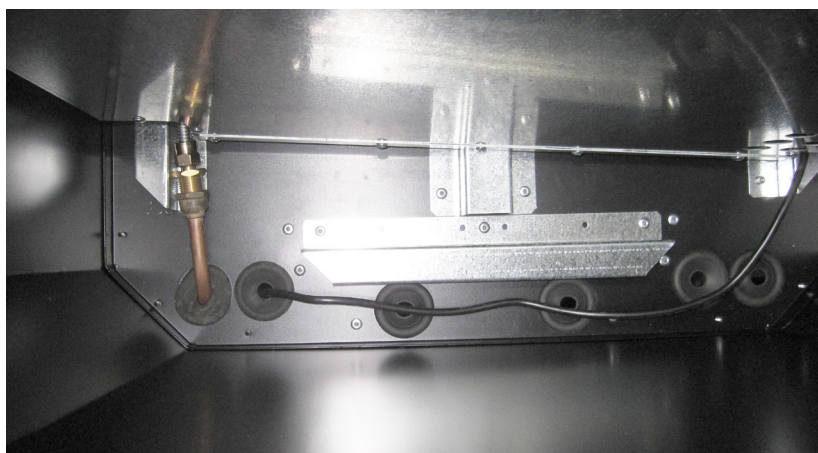


**Step 7. Return engine to cabinet.**

1. Return engine and secure into position in reverse order of "Step 5. Remove Engine" on page 10.



When returning the engine to the cabinet, ensure that the electrical and gas lines are not pinched, squashed, bunched or otherwise damaged. Refer to adjacent image.



2. Refit top panel in reverse order of "Step 4. Remove top panel" on page 10.
3. **DO NOT** re-attach fascia at this point. Proceed to installing the flue.

# FLUE INSTALLATION

## FLUE INSTALLATION OPTIONS



These instructions **ONLY** apply to the Rinnai 650FS gas fire coaxial flueing system. This flue system utilises pipe components with an aluminium inner pipe, a white plastic outer pipe and powder coated dress pipe.

Before commencing installation, please read the Installation Instructions located with the engine. All Rinnai products must only be installed with Rinnai flueing as referred to in their instructions.

Rinnai appliance warranty conditions may be voided if non Rinnai Flue Components are fitted.

A Rinnai 650FS gas fire is room sealed as defined in AS/NZS 5601.

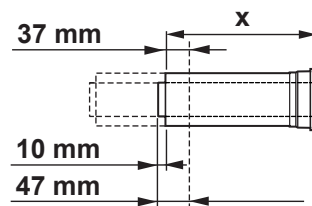
The outer plastic section of the coaxial flue complies with temperature hazard requirements and can be installed with zero clearance to combustible material.

## CUTTING THE FLUE COMPONENTS

Using the dimensions shown on page 8, calculate the required number and type of flue components that are needed to reach from the heater to the flue terminal.

When cutting components the outer flue pipe should be cut to the required length plus 37mm and the inner flue pipe should be cut to the required length plus 47mm, this will ensure that the correct penetration is provided for joining of components.

When inner and outer pipes are re-assembled after cutting the inner pipe should extend 10mm beyond the end of the outer pipe. See Fig. 1.



When cutting flue components **ONLY** the male end is to be cut!

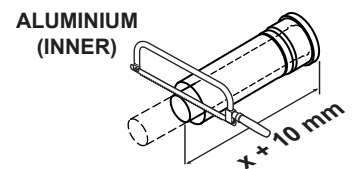
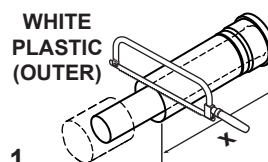


Fig. 1



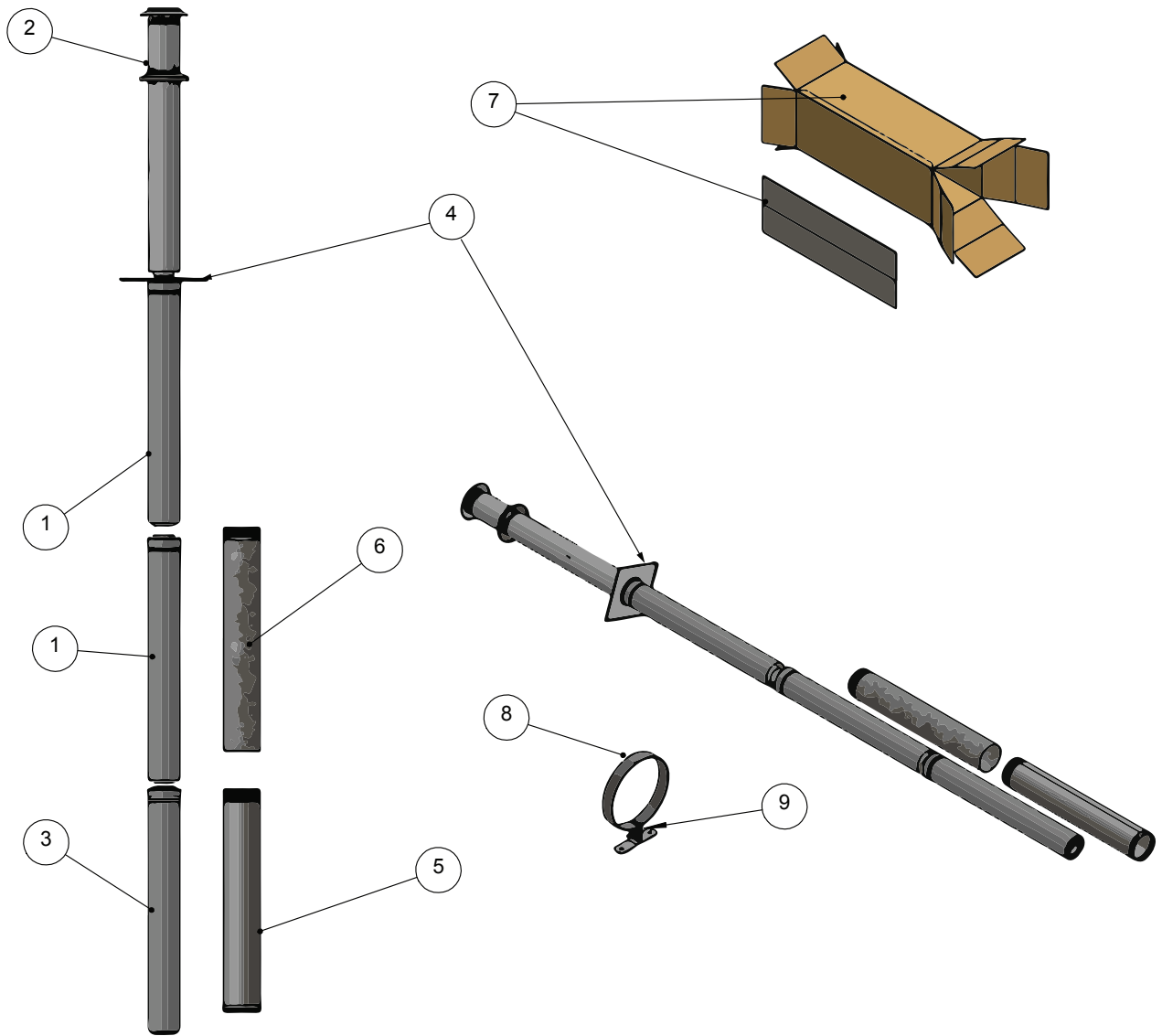
Cutting flue components can create sharp edges, care must be taken to avoid injury, use a file to remove debris, burrs and sharp edges from cut ends.

Ends that are left unfinished can damage the flue seals and result in the flue components no longer being air or weather tight.

The **ONLY COMPONENTS** that can be cut are as follows: **650FS-PIPE1000**, **650FSROOFCOWL** and **13999015 PC TUBE SWAGE X 1**.

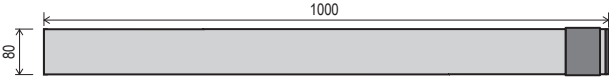
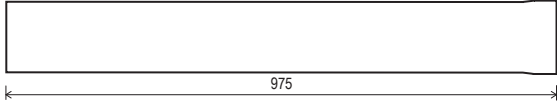


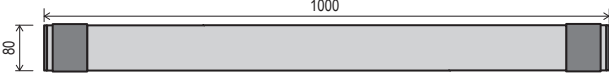
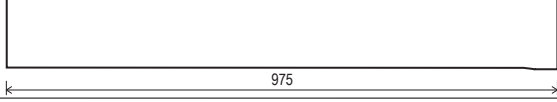


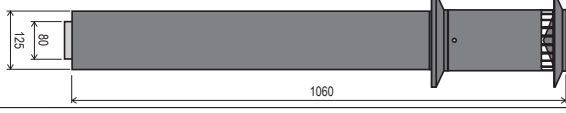

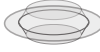

Ensure all ends are cut square (the use of a mitre box will ensure a clean square cut).

**FLUE KIT COMPONENTS**



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	B065411	650FS-PIPE1000	2
2	B065412	650FSROOFCOWL	1
3	B065413	650FS-PIPE1000-2	1
4	B063960	PLATE CEILING COVER	1
5	13999020	PC TUBE O/A SWAGE X 2 SAPPHIRE	1
6	13999015	PC TUBE O/A SWAGE X 1 SAPPHIRE	1
7	B065414	650FS CARTON KIT	1
8	27201035	CLAMP PIPE CLIP DN125	2
9	26601711	BRACKET GALV STAND OFF	2

**BASIC FLUE KITS**

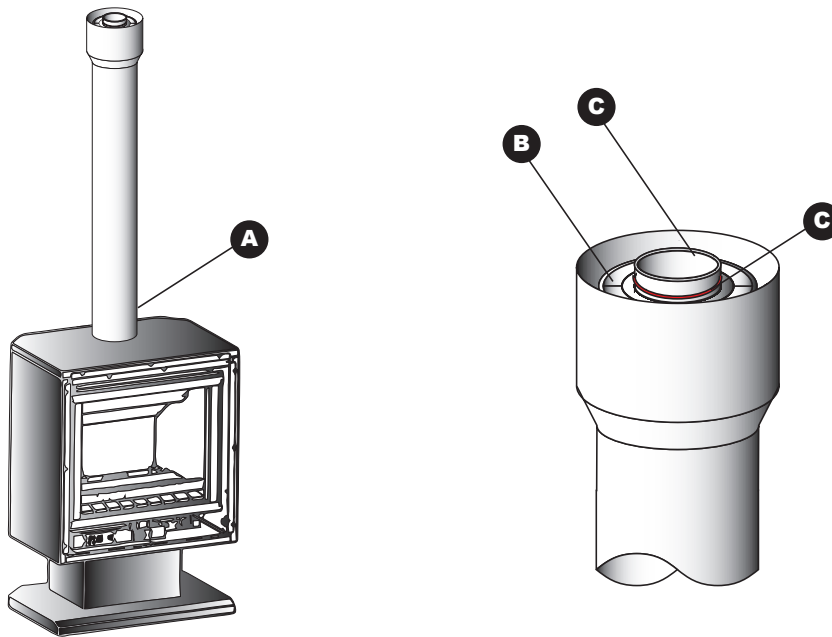
B065411 650FS-Pipe 1000 Components	Part No. / Description	Quantity
	11601211 Aluminium Tube	1
	13901013 Flared PVC Tube	1
	35401021 Seal O-Ring Silicone Red Ø80mm	1
	22801014 Plastic Flue Spacer	1
B065413 650FS-Pipe 1000-2 Components	Part No. / Description	Quantity
	B065403 Aluminium Tube	1
	13901013 Flared PVC Tube	1
	35401021 Seal O-Ring Silicone Red Ø80mm	2
	B065456 Plastic Seal Spacer - Split	1
B065412 650FS ROOFCOWL - Components	Part No. / Description	Quantity
	B065411 650FS ROOF-COWL	1
	B012875 Plastic Bag. 255 x 205	1
	26201009 Silicone Grease	2
	27201035 Galvinised Pipe Clamp & 26601711 Galvinised Stand-off Bracket	2



Carefully plan position of roof penetration. This appliance is only compatible with a vertical flue. Heater **MUST BE** positioned so that vertical flue path avoids roof structure. Additional flue bends to avoid roof structure and other obstructions **MUST NOT** be used.

### FLUE INSTALLATION

1. Prepare roof penetration at 125mm Ø to suit B065412 650FS-ROOFCOWL and ceiling penetration to suit 1399901 Single Swage Tube.
2. Fit one section of 13901013 PVC Tube to the large ring on the flue adapter **A**. Flare end up.
3. Fit B065413 Double Swaged Aluminium Tube and B065456 white split locator to the small ring on the flue adapter ensuring the spacer **B** is correctly located at the top end of the assembly. Use the supplied silicone grease to lubricate all red 'O' rings and cup seals **C**.

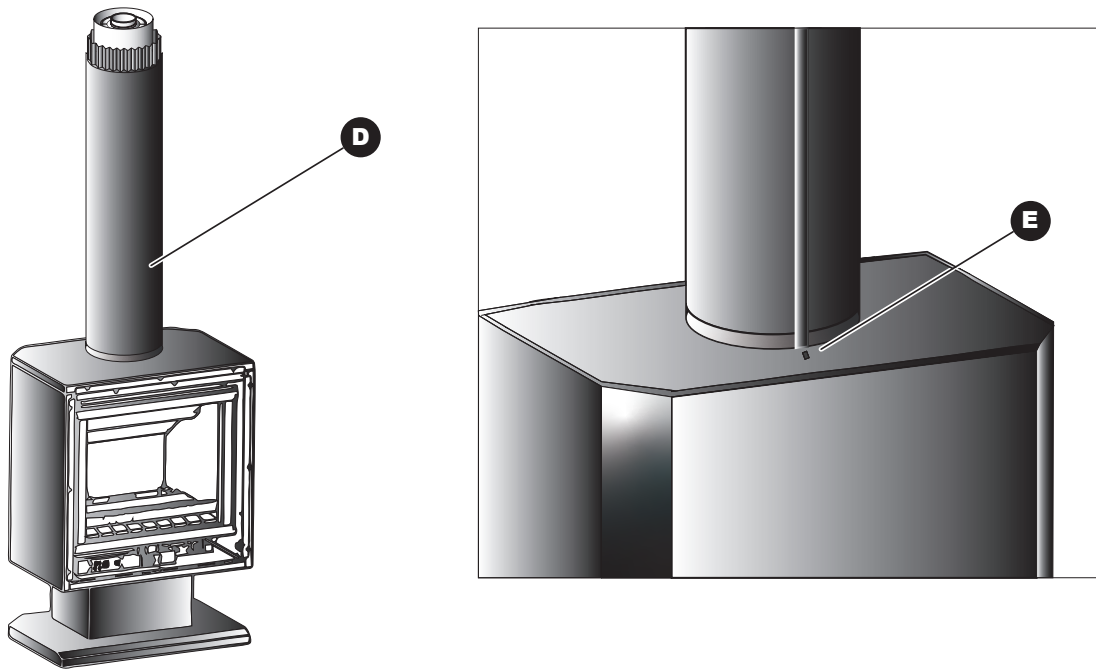


Use only a silicone based 'O' ring seal lubricant. **DO NOT** use petroleum based lubricants such as petroleum jelly as these products may cause deterioration.

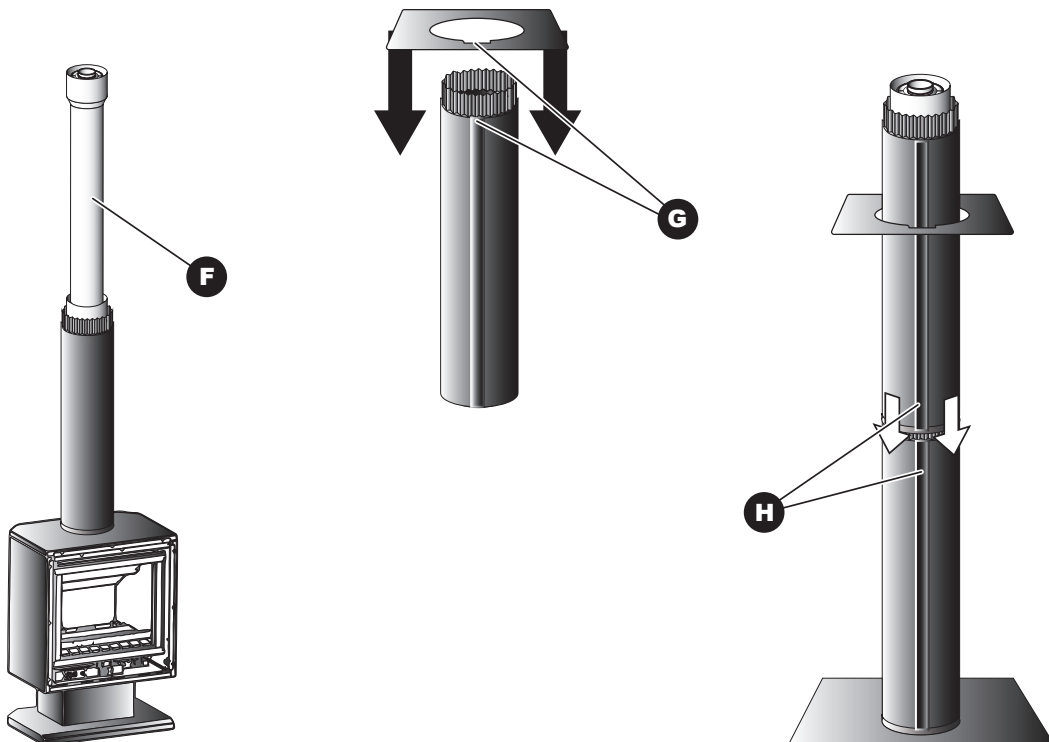
Two containers of silicone grease are provided. To ease assembly, lubricate the 'O' rings and cup seals of each flue component prior to assembly.

## FLUE INSTALLATION

- Fit 13999020 Double Swaged Powder Coated Dress Tube over PVC assembly **D**, short swage down. Ensure the seam lines up with the notch in the top panel **E**.



- Fit assembly B065411 650FSPIPE 1000 to continue flue length **F**. Ensure white spacer is located correctly into the top of the assembly and use silicone grease on all red 'O' rings and cup seals.
- If required, carefully slide 15299020 Powder Coated Ceiling Plate over 1399015 Single Swaged Powder Coated Dress Tube. Ensure the seam is lined up with the notch **G**.
- Slide 1399015 Single Swaged Powder Coated Dress Tube over PVC assembly, swage-up. This may have to be done through the roof cavity. For a professional look, ensure the seams are 100% in line **H**.





8. Fit ceiling plate to inside with appropriate fasteners (not supplied) in 4 places. Refer to diagram below.

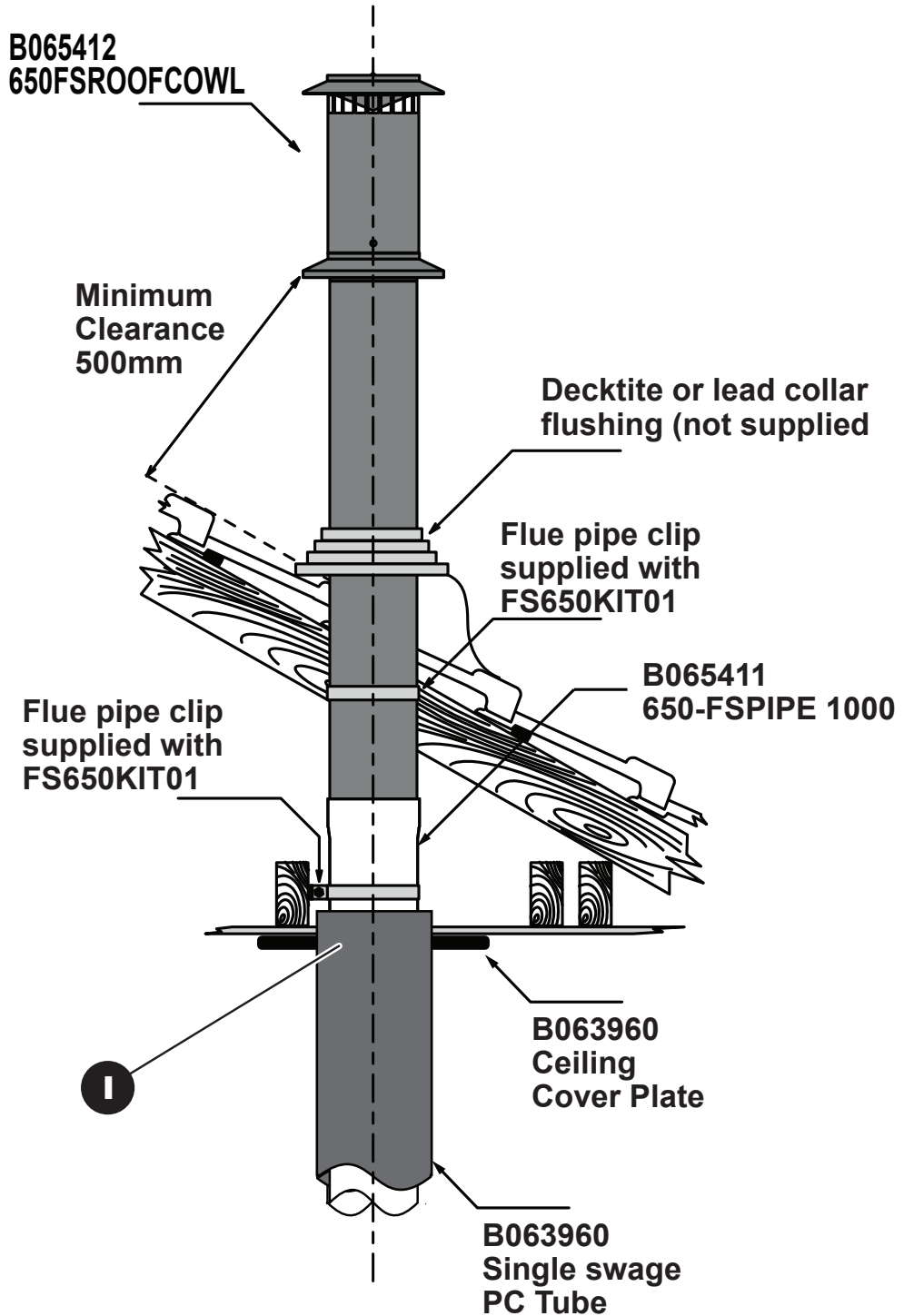


**Ceiling plate use is not mandatory as there is zero clearance requirement of dress tube to ceiling material.**

9. Continue flue lengths with B065411 650FS-PIPE1000 as required to B065412 650FSROOFCOWL. Finish off as per illustration below.



**The 139901 PC Tube Single Swage must enter the ceiling cavity ❶.**



10. Proceed to commissioning the engine.

# COMMISSIONING

## COMMISSIONING INSTRUCTIONS

### Step 1.

Commission the appliance as per the Commissioning Instruction located on top of the PCB within the engine as per the instructions found in the engine installation manual. This includes the burn media.

### Step 2.

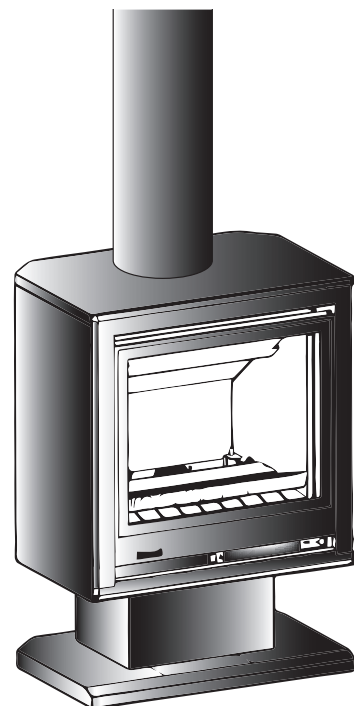
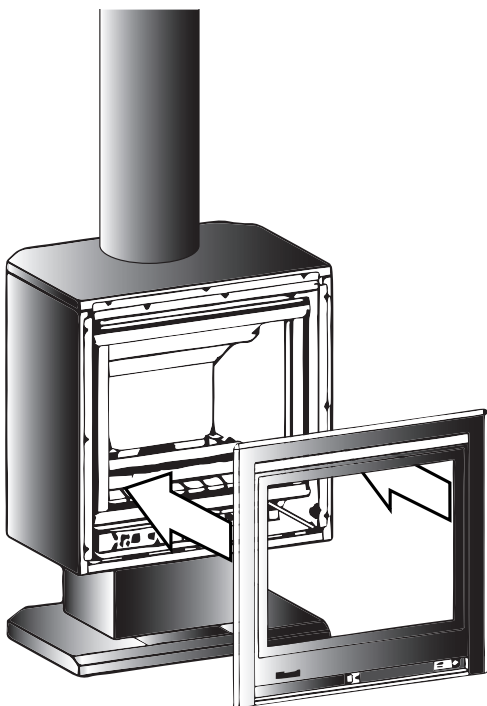
Replace the fascia in reverse sequence to "Step 3. Remove Fascia" on page 9.

### Step 3.

Complete the Installation Checklist and Installation Record found on pages 16 and 17 of the operations manual found with the engine.

### Step 4.

Clean up the installation site, remove any fingerprints from the cabinet and glass and you are now done.





# Rinnai Australia Pty Ltd

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## **National Help Line**

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

*Monday to Friday, 8.00 am to 5.00 pm EST.*

*\*Cost of a local call may be higher from mobile.  
(National calls from public phones in Australia are free).*

For further information visit **[www.rinnai.com.au](http://www.rinnai.com.au)**  
or email **[enquiry@rinnai.com.au](mailto:enquiry@rinnai.com.au)**

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

With our policy of continuous improvement, we reserve the right to change, or discontinue at any time, specifications or designs without notice.