



Ultimate

WOODHEATERS & GAS LOG FIRES

AUSTRALIAN DESIGNED AND MANUFACTURED WOOD HEATING APPLIANCES



OPERATING AND INSTALLATION INSTRUCTION MANUAL FOR ALL



SPECTRE

WOOD HEATER MODELS

MANUFACTURED BY
ILLUSION AUSTRALIA PTY. LTD.
145 SOUTH GIPPSLAND HWY. DANDENONG SOUTH
VIC. 3175

KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

The Ultimate Value In Wood Heating

FOREWORD

At Illusion we are totally committed to design quality and value into our Australian made wood heating products. With this dedication, Illusion has designed and constructed one of the most clean burning heaters in the world.

The extremely strong construction and highly efficient burning properties of our wood heaters, along with our modern and innovative styling will ensure a long and hassle free life for your Ultimate wood heater.

DISCLAIMER

Illusion Australia Pty. Ltd. does not accept any responsibility whatsoever for errors and omissions regarding building codes. It is the responsibility, entirely, of the purchaser to investigate local council requirements to ensure the Illusion wood heater is installed correctly.

All Installations must be approved and a certificate of compliance issued by the installer. Should the contents of the manual, and the relevant Australian standards not be adhered to, a hazardous situation may result. Illusion Australia Pty. Ltd. accepts no responsibility for printing errors or omissions within this document.

IMPORTANT

ALWAYS INSTALL YOUR APPLIANCE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS/NZS 2918.

Local council approval may be required to install this appliance.

SAFETY PRECAUTIONS

For your protection as well as the safety of others, please observe the following safety precautions.

1. Before starting a fire in the heater make sure the immediate area is clear of combustible materials such as clothes, newspaper, furniture etc.
2. Never allow anyone to operate the heater if they are unfamiliar with the unit or the contents of this manual.
3. Never use petrol, kerosene or similar liquids to start or 'freshen up' a fire. Keep all such liquids well away from the heater.
4. Do not over fire the heater. Always operate with the door closed except when lighting or refueling.
5. Keep toddlers and children away from the heater while it is operating.
6. Do not burn rubbish in the heater, as its contents are usually unknown and could damage the unit. The resulting fumes may also be dangerous to your health.
7. Do not burn wet or green wood.
8. Do not install the unit closer to combustibles than shown on the compliance plate or a hazardous situation may result

WARNING

1. **WARNING: ANY MODIFICATION OF THE APPLIANCE THAT HAS NOT BEEN APPROVED IN WRITING BY THE TESTING AUTHORITY IS CONSIDERED AS BREACHING AS/NZS 4013.**
2. **WARNING: DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS TO START OR RE-KINDLE THE FIRE.**
3. **WARNING: DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHEN IT IS OPERATING.**
4. **WARNING: DO NOT STORE FUEL WITHIN HEATER INSTALLATION CLEARANCES.**
5. **WARNING: WHEN OPERATING THIS APPLIANCE AS AN OPEN FIRE USE A FIRE SCREEN.**
6. **WARNING: OPEN AIR CONTROL (AND DAMPER WHEN FITTED) BEFORE OPENING FIRING DOOR.**
7. **CAUTION: THIS APPLIANCE SHOULD NOT BE OPERATED WITH A CRACKED GLASS.**
8. **CAUTION: THIS APPLIANCE SHOULD BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THESE INSTRUCTIONS.**
9. **CAUTION: THE USE OF SOME TYPES OF PRESERVATIVE TREATED WOOD AS A FUEL CAN BE HAZARDOUS.**
10. **THIS APPLIANCE AND ITS FLUE SYSTEM SHOULD NOT BE MODIFIED IN ANY WAY WITHOUT WRITTEN APPROVAL FROM THE MANUFACTURER.**

SUITABLE FUEL TYPES

BURN ONLY WOOD!

All Illusion wood heaters have been designed to burn common Australian timbers, preferably hardwoods. Some woods are preferable to others however most dry Australian hardwoods will produce good results.

The rate of burning is inversely related to the density of the timber used, for example, to maintain a fire burning pine, double the amount of stoking is required to produce similar heat output as a box wood.

(Refer to Table 1. at the rear of this manual.)

ULTIMATE WOOD HEATERS HAVE NOT BEEN DESIGNED TO BURN BRIQUETTES OR COAL

The use of these fuels may damage the appliance and/or void the warranty.

LIGHTING AND MAINTAINING A FIRE

ONLY USE GOOD DRY WOOD THAT HAS BEEN STORED IN A WELL VENTILATED COVERED AREA IMPORTANT!

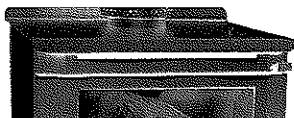
DO NOT BURN A LARGE FIRE UNTIL THE HEATER PAINT HAS CURED!

This usually takes only 1 firing of the heater. It is recommended that windows be left open whilst the paint cures, as the heater may produce a light smoke, however this is no cause for alarm and in most cases, will quickly dissipate.



LIGHTING INSTRUCTIONS

1. Open the door by turning the handle anti clockwise. As the catch releases, open the door fully.
2. Set the primary air control knob to maximum (to the right).



3. Place several balls of crumpled newspaper directly on the base of the firebox.
4. Add plenty of small dry kindling and then more newspaper on top of the kindling.
5. Light both the top and bottom newspaper and leave the door slightly ajar to allow extra air for the initial combustion.
6. Allow a few minutes for the kindling to become well alight, then add some larger split wood.
7. Return the door to the ajar position until the split wood is well alight, then close the door.
8. After approximately 30 minutes the firebox should be up to temperature and if fitted, the optional fan can be set to the desired position. i.e. LOW, HIGH or BOOST.
9. Once the fire is well established with a good coal base, the air control can be adjusted to maintain the desired comfort level.
10. Re-fuel as required with large split wood.

MAXIMISING BURN TIME

WITH EXPERIENCE, IT IS POSSIBLE TO OBTAIN A BURN DURATION OF UP TO 8 HRS ON A SINGLE FUEL LOAD.

1. Approximated 1/2 Hour before you intend to close down the heater, load the firebox with large dry pieces of firewood.
2. Set the primary air control knob to maximum (to the right).
3. When the wood has been burning for 15 - 20 minutes, slowly adjust the air control to the left until it is fully closed.
4. In accordance with Emissions Control Standard AS 4013-1999, it is important to make sure the fan (if fitted) is **OFF** when the heater is set to burn overnight.

NOTE: The procedure for extended burn is also relevant for normal refueling. This method allows the wood to be well alight and the majority of moisture and impurities to be burnt in the firebox, thus reducing the buildup of creosote within the flue or on the door glass.

REMEMBER THE HOTTER THE FIRE, THE CLEANER THE HEATER WILL BURN.

- Your wood heater should be serviced at least once a year and you should have your flue cleaned regularly by your local chimney sweep.
- Creosote is a substance formed by solid fuel combustion. Creosote and resin buildup can cause flue fires. Check the flue prior to each winter.
- Make it a habit to look outside and check your flue for smoke. If it is smoking excessively, you are wasting fuel and heat and may be causing unnecessary emissions. You need to increase the air supply to the fire. A little air avoids a lot of smoke.

OPERATION AND MAINTENANCE

DO NOT THROW WOOD INTO THE FIREBOX!

Throwing wood into the firebox may damage the firebrick lining. (Where fitted)

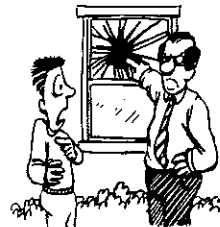
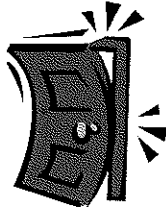
It is worth noting that the firebricks (selected models) will develop cracks during use however this is quite normal and will not affect the performance of the heater.

A firebrick should be replaced if significant pieces have broken away. Although extremely hardy, care should be taken to avoid breakages when handling firebricks as they are not covered by warranty.



DO NOT SLAM THE FIREBOX DOOR!

Wood may be protruding from the firebox and a broken door glass may result. The glass is a special ceramic type and can be expensive to replace.

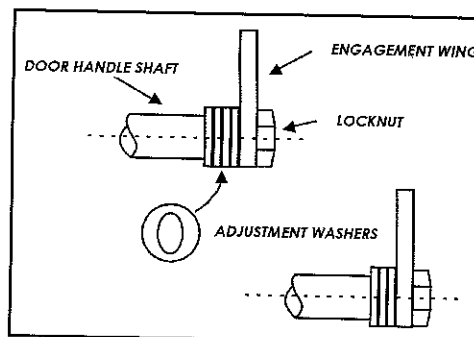


DO NOT BURN WET OR TREATED WOOD!

Fire wood not stored under cover can contain large amounts of water which will cause poor heating performance, abnormal build up of creosote with the heater and flue system (A potential fire hazard) and increased smoke emissions. Treated pine may contain the chemicals Chromium, Copper and Arsenic and it is illegal and potentially dangerous to burn timber which has been treated with CCA.

DOOR HANDLE ADJUSTMENT

Adjusting the door handle latch may be necessary from time to time as the door sealing rope beds in. This is easily accomplished by removing the nut and engagement wing from the end of the handle shaft, removing one of the adjustment washers and replacing the engagement wing and nut. This will make the door close more tightly against the rope seal. Alternatively the rope seal can be removed and replaced with a new seal, (available from any Illusion Wood Heater Dealer) or, if the old seal is merely compacted but otherwise in good condition, it can be taken outside and shaken up to loosen the fibres then re-fitted to the door.



GENERAL MAINTENANCE

PAINTED SURFACES

Clean the heater with a damp cloth only. (Do not use abrasive cleaners) Illusion wood heaters are painted with the highest quality heat resistant paint available.

It can be expected however, to lighten over time. Small scratches and marks can be touched up with Aerosol spray cans which are readily available from your Ultimate Dealer.

FLUE MAINTENANCE

Your new Ultimate heater is a wood burning appliance.

When wood is burnt it gives off gases and moisture as steam which, if not burnt in the firebox will exhaust into the flue system and may cool and condense, forming creosote on the walls of the flue pipe. (Especially during low burn)

When dry, creosote is highly flammable and a potential fire hazard if not attended to. A flue fire can occur when creosote buildup within the flue has dried out. The temperatures generated in a flue fire have the potential to damage the flue system or possibly the home. Your flue system should be regularly checked before and during the heating season and cleaned when necessary. You can perform the cleaning yourself with a suitable flue brush, or arrange for a chimney sweep to do the job.

IF A FLUE FIRE SHOULD OCCUR, IMMEDIATELY SHUT DOWN THE AIR CONTROL AND ENSURE THE HEATER DOOR IS CLOSED. CONTACT THE FIRE BRIGADE AND FOLLOW THEIR INSTRUCTIONS. AFTER ANY FLUE FIRE THE FLUE SYSTEM MUST BE INSPECTED BY A CERTIFIED INSTALLER AND REPLACED IF NECESSARY.

Aside from the potential for a flue fire, a buildup of creosote within the flue will reduce the ability of the flue system to exhaust the flue gases, creating poor heater performance and increased emissions.

In the past we have found that most cases of poor heater performance requiring servicing are a direct result of poor flue maintenance.

Time and money can be saved by regularly checking the flue system and keeping it clean.

ILLUSION RECOMMENDS CLEANING THE FLUE PRIOR TO EACH HEATING SEASON AND AT 3 MONTHLY INTERVALS OR MORE IF LOW QUALITY FUEL IS USED.

Flue brushes may be purchased from your local Ultimate wood heater dealer, or alternatively they can supply the details for recommended chimney sweeps.



GENERAL MAINTENANCE (CONT.)

FAN MAINTENANCE

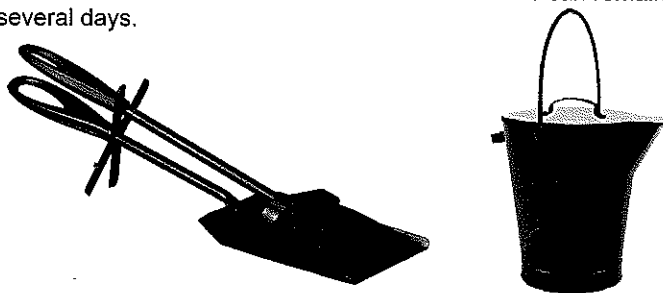
The fan blower (if fitted) should be inspected prior to the start of each heating season. Keep the area around the fan air intake clean and vacuum regularly to prevent build up of fluff on the fan blades. A dirty fan assembly is the major cause of premature fan failure.

BEFORE ANY FAN MAINTENANCE IS PERFORMED, MAKE SURE THE POWER LEAD IS DISCONNECTED FROM THE WALL SOCKET!



ASH REMOVAL

With our advanced triple burn system, ash build up is greatly reduced. When the ash has reached the point where spillage from the firebox may occur, place ash in a metal container with a tightly fitting lid and move outside to a location clear of combustible materials. It is important to use a metal container for ash removal as ash and coals can remain hot for several days.



Should the power lead become damaged in any way, disconnect it from the wall socket immediately. **ANY ELECTRICAL WORK SHOULD ONLY BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.**

DOOR GLASS CLEANING

A dirty or stained door glass is usually the result of creosote build up on the inner face of the glass.

On Inbuilt models it may be necessary to remove the lower trim cover (Directly below the door) before removing the fan cover. This can occur if the flue is poorly maintained (See flue maintenance at left) or if the heater is not drawing sufficiently. It also occurs when the fuel used is wet or green.

Creosote is flammable and can generally be burnt off the glass with a good hot fire.

Overnight or extended burning on low fire setting may also cause some build up on the door glass.

It is always preferable to try to burn the glass clean with a hot fire burning dry hardwood, rather than attempting to clean the glass manually.

Abrasive cleaners should **NEVER** be used because they will scratch the glass surface and only compound the problem.

Many people have ideas on the best way to clean the glass, but aside from burning it clean, we have found that a wet cloth and razor blade scraper is the most effective method. Using wet newspaper rubbed in the ashes of the fire is **NOT** recommended because it **WILL** scratch the glass.

GENERAL MAINTENANCE cont.)

DOOR GLASS REPLACEMENT

The door glass on your heater is a special heat resistant ceramic glass. **ONLY** this type of glass can be used for a wood heater. **NO OTHER TYPE** of glass can be used and doing so may cause a hazardous situation.

If the door glass should become cracked or broken during use, shut down the fire and allow it to cool before removing the door assembly. The door glass is fixed to the frame underneath the fibre glass rope seal.

You can return the door to your dealer for a replacement or you can purchase the parts and fit the glass yourself

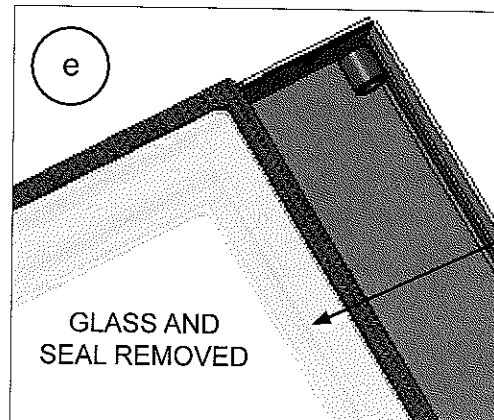
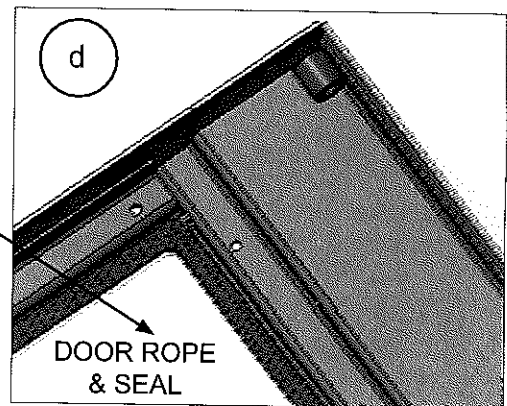
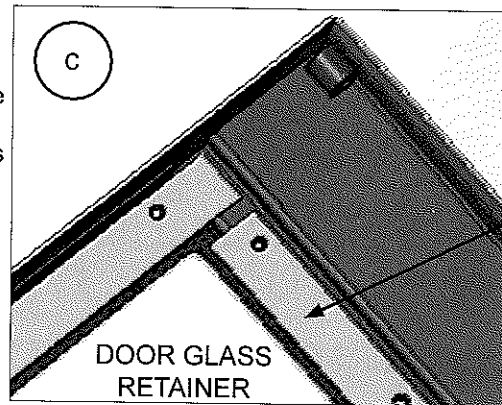
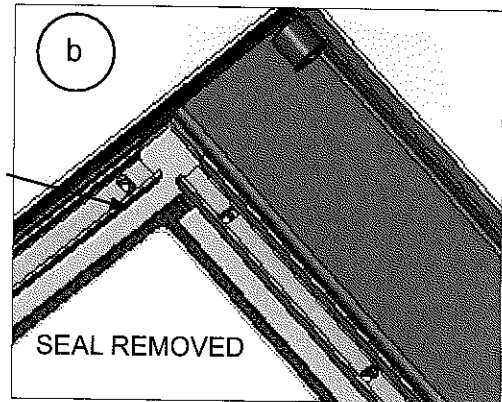
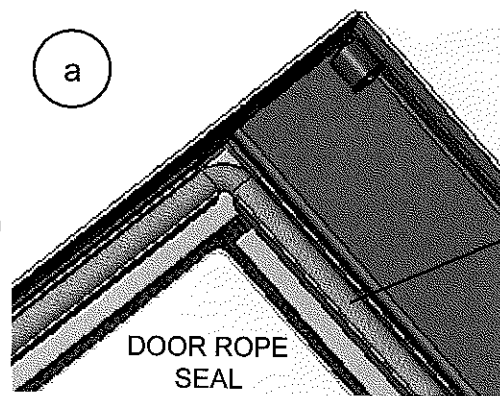
TIP. The glass is quite expensive and we advise that the job is left to the experts as we cannot warrant glass fitted by anyone other than an authorised Illusion dealer.

If you wish to fit the new glass yourself, ask the dealer for advice and ask him to fit the glass tape to the glass. This will make the job much easier.

To replace the glass-

- 1: Determine the model of your wood heater from the badge on the front, and/or your invoice.
- 2: Obtain a new door glass, glass seal and door rope seal from your Illusion dealer.
- 3: Remove the door assembly by opening the door then lift it up on the hinge pins. On some models it may be necessary to lift the top cover panel to facilitate removal of the door.
- 4: Lay the door flat on a table or bench with a protective carpet or mat to avoid scratching the paint finish. You might need to remove the door handle or let it hang over the end of the bench so that the door sits flat.
- 5: Remove the fibre glass rope seal (a) starting at the point where the two ends meet. Underneath the rope, the star screws holding the rope channels in place (b) will now be visible.
- 6: Using a medium star screwdriver (Also called a Phillips) remove all the screws holding the rope channels in place and store them in a safe place. Remove the rope channels.
- 7: Underneath the rope channels you will see the flat glass retainers (c). Remove these, then carefully lift out the broken glass & its seal (d&e) and discard. Keep the glass retainers to one side for re-assembly.
- 8: Brush off any dirt or ash from the frame, then fit the new glass in place. It should be a reasonably snug fit. Place the flat glass retainers in position, then put the rope channels over the top of them and fit the screws back into the holes making sure to pass through the matching holes in the glass retainers and the door frame.
- 9: Tighten the screws starting with one corner, then diagonally across to the opposite corner and so on.

TIGHTEN SCREWS SLOWLY & EVENLY or the glass will break. Fit the new door rope seal and trim off excess rope. Re-fit the door and adjust the handle washers if the door is too loose or tight. (See door handle adjustment.)



INSTALLATION

ULTIMATE RECOMMENDS THAT ONLY QUALIFIED PERSONS SHOULD INSTALL THESE APPLIANCES

If you wish to carry out the installation yourself, you will need to obtain a current copy of AS2198, have the technical expertise to understand it, and be capable of performing the necessary work.

If you engage an installer, you should ensure that the person is recognised as being suitably qualified to competently and safely carry out wood heater installations.

WARNING

THE APPLIANCE AND FLUE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZS 2918 CURRENT EDITION AND THE REQUIREMENTS OF THE RELEVANT BUILDING CODES.

APPLIANCES INSTALLED IN ACCORDANCE WITH THIS STANDARD SHALL COMPLY WITH THE REQUIREMENTS OF AS/NZS 4013 CURRENT EDITION WHERE REQUIRED BY THE REGULATORY AUTHORITY, IE: THE APPLIANCE SHALL BE IDENTIFIABLE BY A COMPLIANCE PLATE WITH THE MARKING 'TESTED TO AS/NZS 4013'

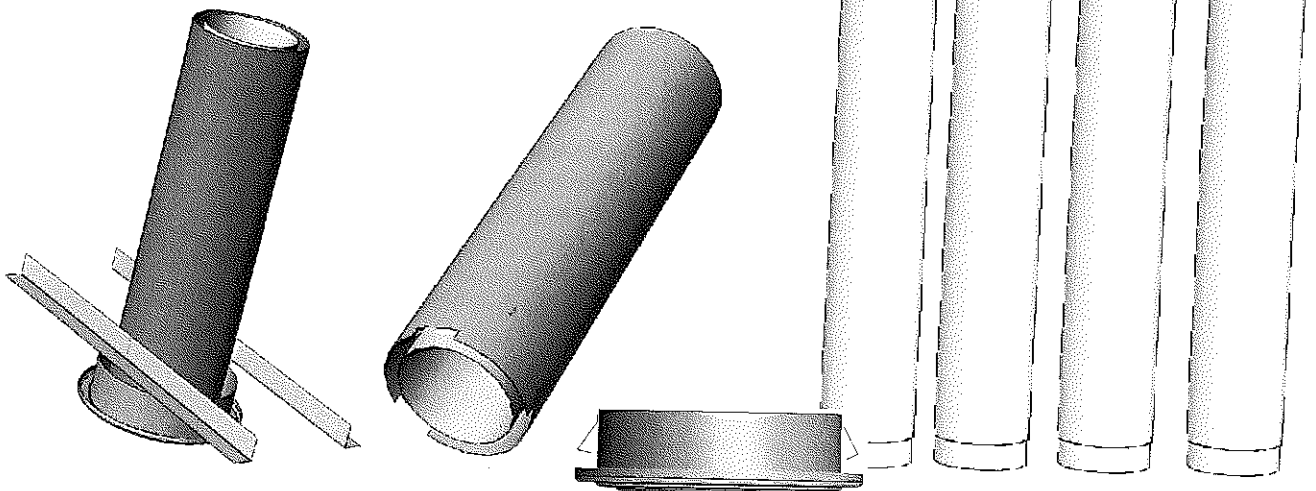
ANY MODIFICATION OF THE APPLIANCE THAT HAS NOT BEEN APPROVED IN WRITING BY THE TESTING AUTHORITY IS CONSIDERED TO BE IN BREACH OF THE APPROVAL GRANTED FOR COMPLIANCE WITH AS/NZS 4013.

MIXING OF APPLIANCE OR FLUE SYSTEM COMPONENTS FROM DIFFERENT SOURCES OR MANUFACTURERS OR MODIFYING THE DIMENSIONAL SPECIFICATION OF COMPONENTS MAY RESULT IN HAZARDOUS CONDITIONS. WHERE SUCH ACTION IS CONSIDERED THE MANUFACTURER SHOULD BE CONSULTED IN THE FIRST INSTANCE. CRACKED OR BROKEN COMPONENTS IE: CERAMIC DOOR GLASS, MAY RENDER THE INSTALLATION UNSAFE.

APPROVED FLUE SYSTEMS

ILLUSION & ULTIMATE FREESTANDING WOOD HEATERS HAVE BEEN APPROVED FOR USE WITH THE FOLLOWING FLUE SYSTEMS.

WILDCAT SINGLE FLUE KIT CONSISTING OF STAINLESS STEEL ACTIVE FLUE PIPE SURROUNDED BY A SINGLE OUTER GALVANISED CASING (SELECTED MODELS ONLY)



COMPONENTS REQUIRED

The following components are required for a standard freestanding Illusion wood heater installation.

1. Approved flue kit.
2. Flashing suitable for the type of roof.
EG: Dektite
3. Floor protector or hearth if required as per AS/NZS 2918 3.3.2
4. Any extra flue lengths or parts as determined at the initial site inspection.

TOOLS REQUIRED

Installers usually carry a wide variety of the tools necessary to install a wood heater however the basic requirements are listed below.

SAFETY GLASS AND HEARING PROTECTION
TAPE MEASURE
SHARP BLADED KNIFE
WOOD SAW
PLASTER CUTTING SAW
TINSNIPS & HACKSAW
STAR & FLAT SCREWDRIVERS
PLUMB BOB
ANGLE GRINDER WITH METAL CUTTING BLADES
CANVAS TYPE DROP SHEET
ELECTRIC OR CORDLESS DRILL
POP RIVETER AND POP RIVETS
SELF TAPPING SCREWS
SILICONE SEALANT

IN SOME INSTANCES YOU MAY REQUIRE TOOLS NOT LISTED ABOVE.

INSTALLATION

FREESTANDING MODELS

FOR YOUR SAFETY, ALL WOOD HEATER INSTALLATIONS MUST CONFORM TO AS/NZS 2918-CURRENT EDITION AND WHEN REQUIRED THE INSTALLATION SHALL BE APPROVED BY THE REGULATORY AUTHORITY. THE APPLIANCE SHOULD BE ASSEMBLED & INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ALL INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS SUPPLIED WITH THE APPLIANCE SHOULD BE LEFT WITH THE OWNER AFTER WORK ON THE INSTALLATION HAS BEEN COMPLETED.

FLOOR PROTECTION

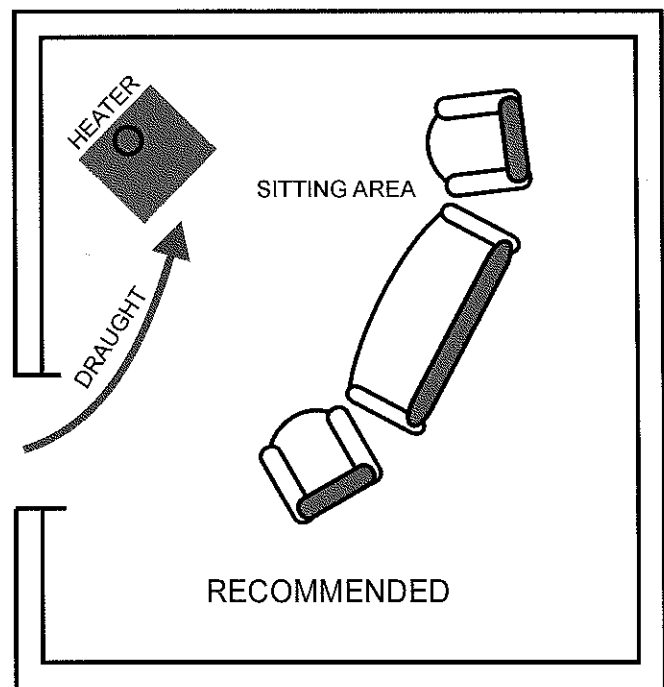
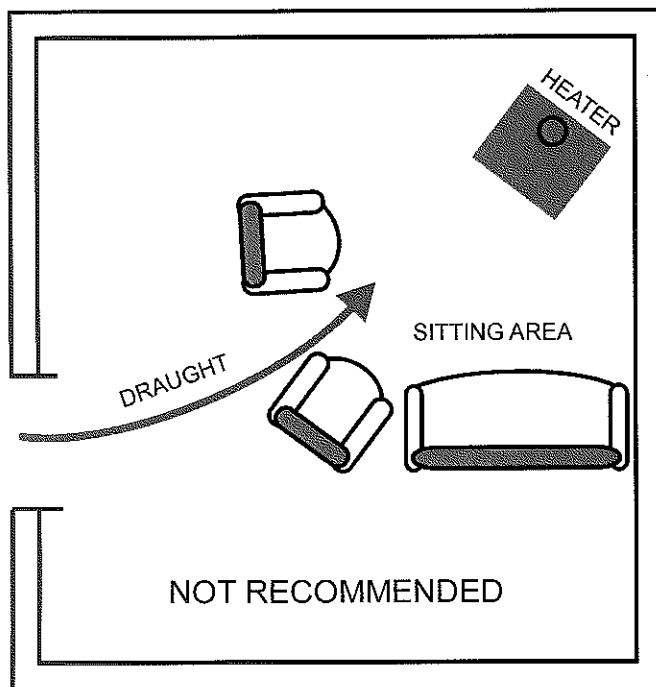
When installing an Ultimate SPECTRE Pedestal, Parlour Stove OR Leg Model wood heater on an unprotected combustible floor e.g. timber or carpet, it is not necessary to remove any carpet or under the heater. (See NOTE below)

However a hearth *is required*, (which must be sealed to the front of the pedestal) protruding 500mm from the front of the pedestal base and 200mm either side of the fuel loading opening. (See CLEARANCES for more detail.)

The minimum requirement is that this embers tray or hearth shall be constructed of not less than 6mm F/C (Fibre Cement) sheet with 6mm (MIN) thick ceramic tiles attached to the upper surface. Ultimate can supply pre fabricated slate or tile hearths specifically for these appliances at extra cost.

POSITIONING THE HEATER

1. The first step with any wood heater installation is to determine the best location for the heater. All heaters disperse warm air from the heater towards the ceiling and pull cooler air towards the heater near floor level. Try to locate the heater so that the cool draught does not flow across the main sitting area. (See diagram below)



2. Once the optimal position for the heater has been decided, the installer will need to check the roof above to ensure that the flue pipe will pass through the ceiling and roof cavity centrally between rafters and clear of any main roofing timbers such as ridge beams. It is also a good idea to check the flue position outside in relation to surrounding buildings i.e. second storey extensions, or neighboring buildings in close proximity to the desired flue termination as this can be influential in determining the required height overall of the flue system. (REFER TO FIGURE 4.9 Extract from AS/NZS 2918.)

INSTALLATION

(Continued)

3. **IMPORTANT - CHECK TO ENSURE THAT MINIMUM DISTANCES TO COMBUSTIBLES ARE MAINTAINED THROUGHOUT THE INSTALLATION.** (See page 15.)

Mark the position of the centre of the flue on the ceiling and make a small hole through the ceiling material. (The hole should be big enough to push a large nail or a screwdriver through so that the hole centre can be checked within the roof cavity before continuing.)

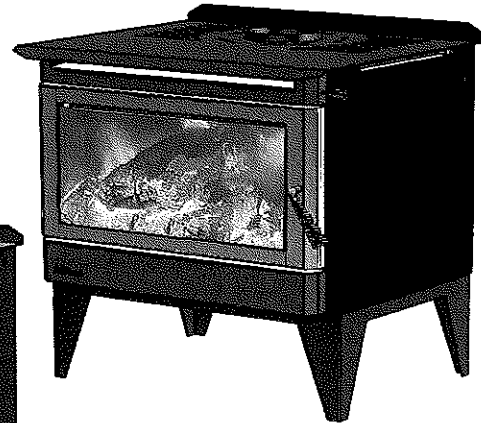
4. Remove the carton and packaging from the heater. (Leave the plastic bag on to protect the heater during installation.)



SPECTRE 'PEDESTAL' VERSION



SPECTRE 'PARLOUR STOVE' VERSION

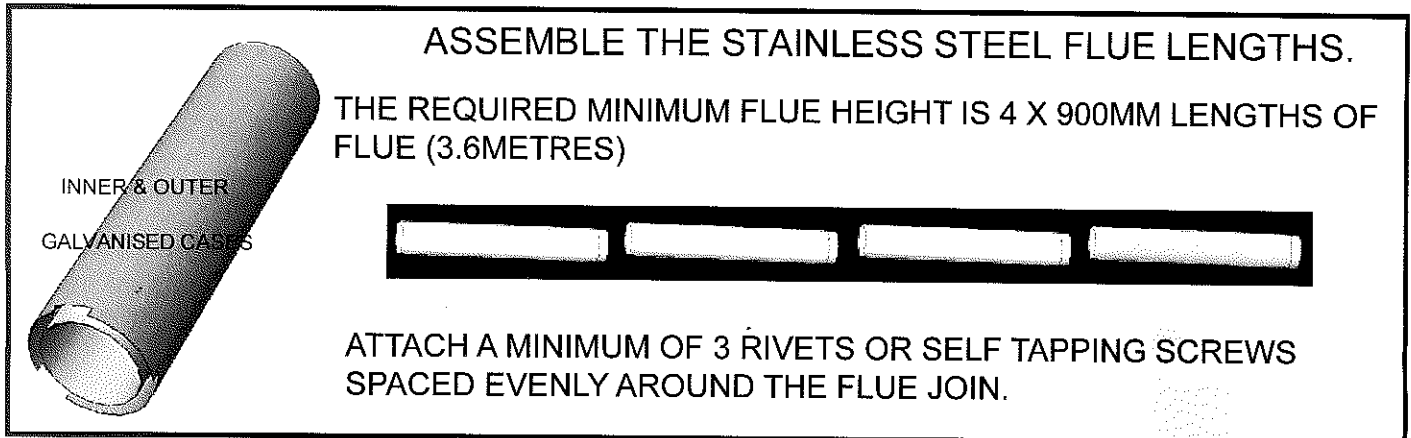


SPECTRE 'LEG' VERSION

5. Remove the pallet screws where fitted (8mm hex head) and fold any tabs under the pedestal base or break them off (taking care not to damage the pedestal base.) Remove the heater from the pallet. The pallet can be chopped up and used as kindling for the first fire provided it is not made from treated pine.
6. If the heater is to be placed on a hearth or floor protector, the hearth or floor protector should be fitted now. Be sure to allow for the minimum required clearance to combustibles for the heater and hearth because it will be next to impossible to move the hearth once the heater is in position.
7. Place the heater in position and drop a plumb bob down from the small hole in the ceiling to align it with the flue spigot centre on the heater. Adjust the heater, or the hole position as necessary but make sure the heater stays the required distance away from combustible walls etc.
8. When satisfied with the heater and flue alignment, the hole for the ceiling ring can be marked and cut with a suitable saw or knife. Make sure hole size is as per the lue kit instructions.
9. Fit the ceiling ring from below, pushing it through the hole and then bending the three tabs down so that they catch firmly on the ceiling material. Ensure the ceiling ring is centrally located within the hole, with the required clearance between the ceiling ring vertical riser and the edge of the hole.
10. Use the plumb bob again to mark the centre point of the lue on the underside of the roofing material.
11. Drill a small hole through the roofing material at the centre point, then from outside, mark the hole size required for the outer lue case on to the roofing material. (The outer lue case can be used as a template.)
12. Cut out the hole through the roofing material for the outer case to pass through.
13. Inside the roof cavity place the two galvanised angle brackets across the roof joists on either side of the ceiling ring. Do not fit to joists yet. These brackets will be attached to the outer lue case to support the weight of the lue and prevent the outer case pushing the ceiling ring down.)
14. Assemble four lengths of stainless steel lue with stainless steel self tapping screws or rivets.
15. For a triple skin lue (Two outer galvanised cases) take the bottom length of outer (260mm dia. with three cutouts as shown next page) and attach to the inner (210mm dia with 3 spacer brackets) by drilling through the outer into the bracket and securing with a rivet or screw.

INSTALLATION

(Continued)



INNER & OUTER
GALVANISED CASES

ASSEMBLE THE STAINLESS STEEL FLUE LENGTHS.
THE REQUIRED MINIMUM FLUE HEIGHT IS 4 X 900MM LENGTHS OF
FLUE (3.6METRES)

ATTACH A MINIMUM OF 3 RIVETS OR SELF TAPPING SCREWS
SPACED EVENLY AROUND THE FLUE JOIN.

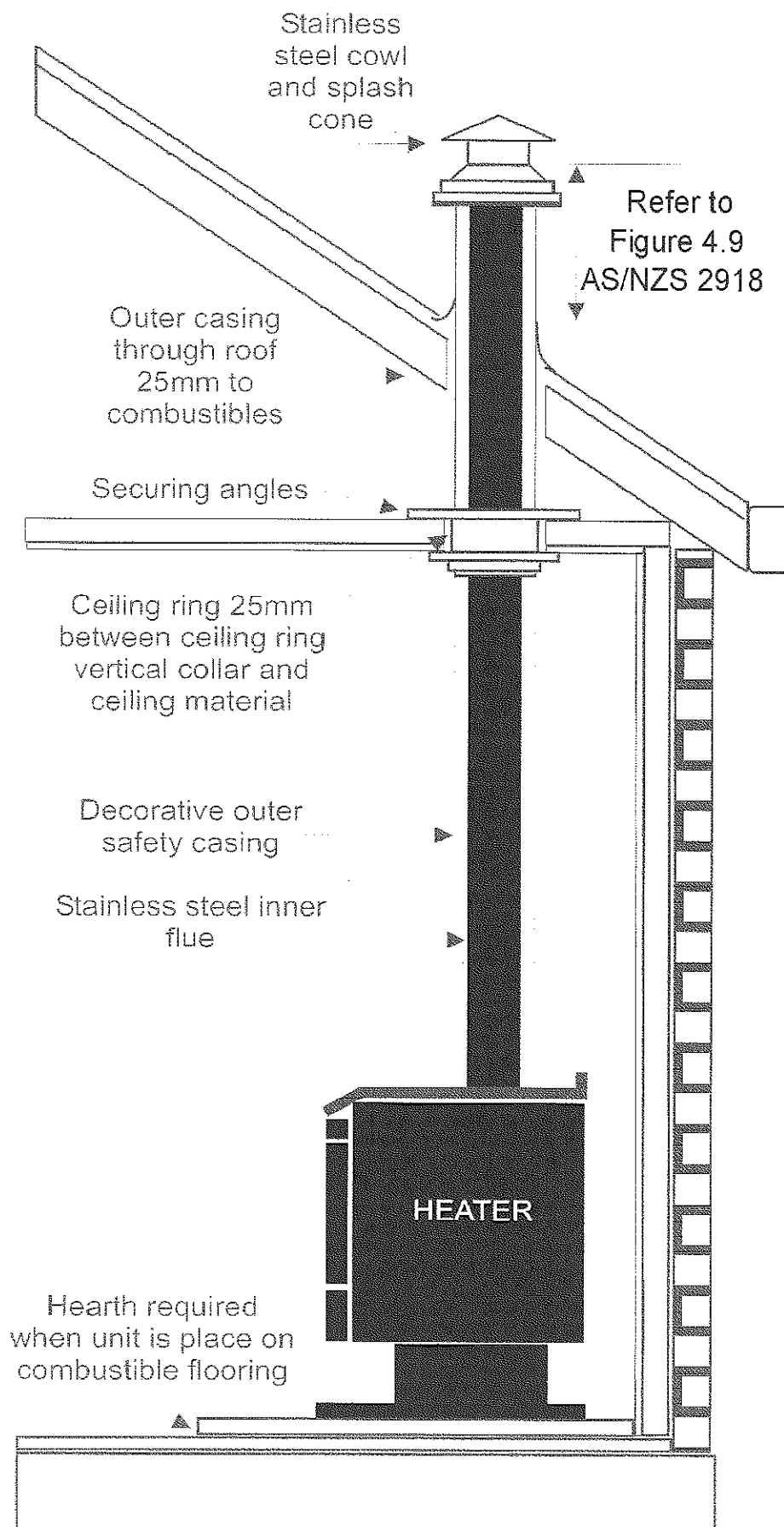
16. Attach the previously joined length of inner & outer galvanised casing (vented end down, crimped end up) to the galvanised angle brackets with screws or rivets so that the vented end is approx. 6mm short of touching the ceiling ring plate. This will prevent the outer flue assembly bearing down on the ceiling ring and possibly dislodging it when all the outer cases are attached.
17. Now remove the decorative cases from their plastic sleeves and push the top decorative length (NO LUGS) to the bottom section with the lugs. Keep the pattern aligned so that the solid section is at the rear and carefully push up through the ceiling ring until the bottom length with lugs can sit flat on the heater flue spigot. For high ceilings add more decorative flue above the first length.
18. Check for vertical alignment using a spirit level if necessary.
19. From the roof, lower the joined lengths of stainless steel flue crimped end DOWN through the galvanised casings and into the heater flue spigot.
20. Fit the lashing loosely over the outer cases, attach extra outer galvanised cases as necessary to satisfy the requirements of AS/NZS 2918 (FIG 4.9) then fit the cowl supplied with self tapping screws. Ensure the stainless steel riser on the cowl fits snugly into the last length of stainless steel flue pipe. Loose fitting cowls will not vent properly and may rattle during use.
21. After securing the lashing it is good practice to seal the vertical joints in the outer galvanised cases with a thin bead of silicone from the cowl to the lashing.
22. Finally check inside the roof cavity to ensure all clearances are correct and make sure no roof insulating material is close to the flue pipes. (Fitting a metal guard around the flue pipe will prevent loose insulation from coming in contact with the flue outer pipe. Details on requirements for a suitable guard can be found in AS/NZS 2918) Re-check the heater to combustible clearances, flue pipe alignment within the room and remove the protective plastic bag from the heater.
23. Check that the heater baffle plate is in position and any firebricks are correctly fitted.

WARNING

THE FOLLOWING PAGES CONTAIN DIAGRAMS TO ASSIST IN THE INSTALLATION OF FREESTANDING ILLUSION WOODHEATERS. THESE DIAGRAMS ARE INTENDED AS A GUIDE AND SHOULD ONLY BE USED IN CONJUNCTION WITH AS/NZS 2918.

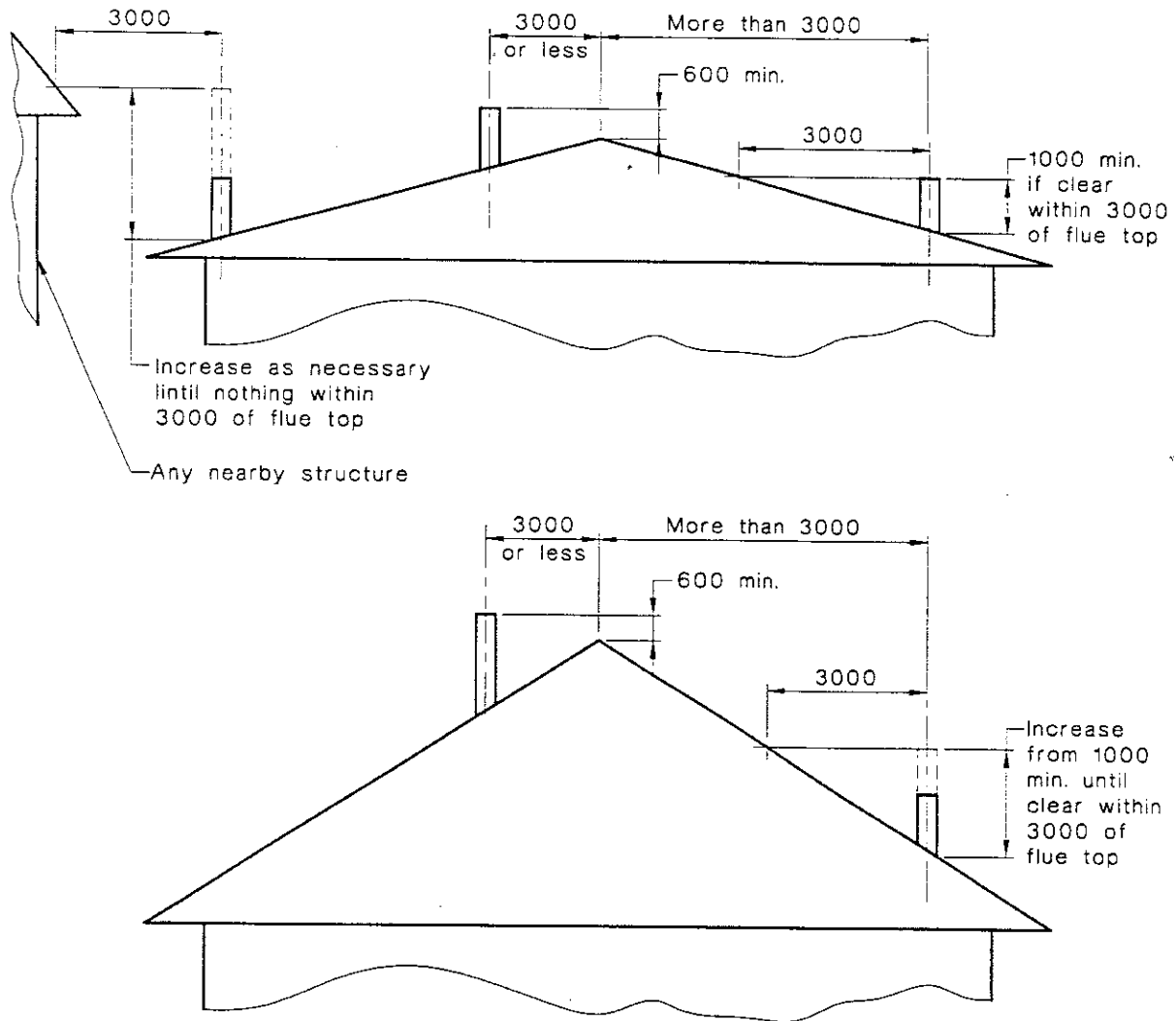
Illusion Australia Pty. Ltd. AND ITS ASSOCIATED COMPANIES TAKE NO RESPONSIBILITY FOR THE INSTALLERS INTERPRETATION OF AS/NZS 2918 AND ANY OTHER RELEVANT CODES. QUERIES OR PROBLEMS WITH THE INSTALLATION OF AN ILLUSION WOODHEATER SHOULD BE TAKEN UP WITH THE PERSON INSTALLING THE WOOD HEATER IN THE FIRST INSTANCE. ILLUSION DOES NOT WARRANT ANY INSTALLATION PERFORMED BY PERSONS OTHER THAN AN ILLUSION APPROVED INSTALLER. IT IS IN THE BEST INTERESTS OF THE OWNER THAT ANY WOODHEATER INSTALLATION IS PERFORMED BY AN APPROVED WOODHEATER INSTALLER.

INSTALLATION



INSTALLATION

FIGURE 4.9 EXTRACT FROM AS/NZS 2918



DIMENSIONS IN MILLIMETRES

MINIMUM HEIGHT OF FLUE SYSTEM EXIT

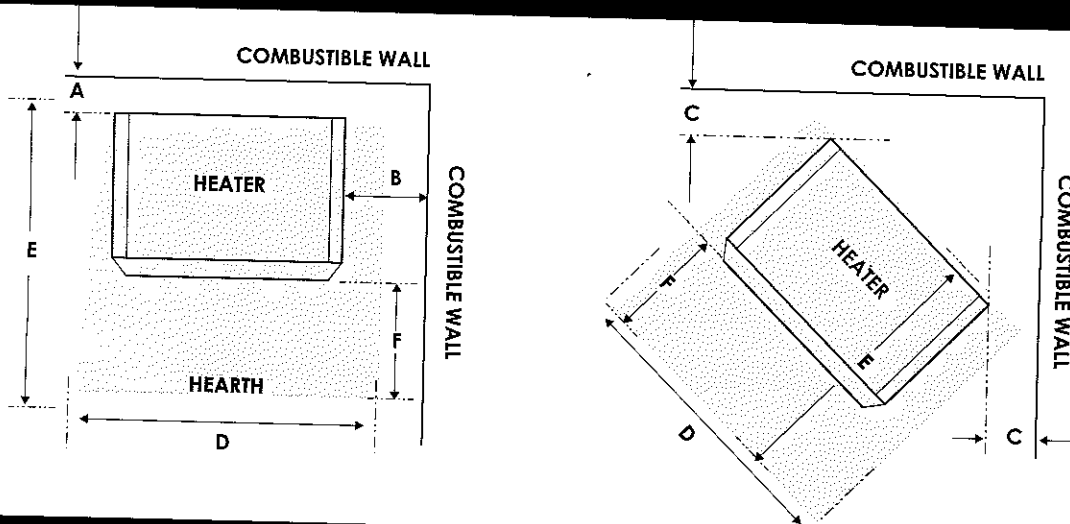
TEXT EXTRACT FROM AS/NZS 2918

The flue exit shall be located outside the building (See Above) in which the appliance is installed so that-

- The flue pipe shall extend not less than 4.6m above the top of the floor protector.
- The minimum height of the flue system within 3m distance from the highest point of the roof shall be 600mm above that point.
- The minimum height of a flue system further than 3m from the highest point of the roof shall be 1000mm above the roof penetration.
- No part of any building lies in or above a circular area described by a horizontal radius of 3m about the flue system exit.
- Termination of the flue system does not constitute a risk of fire to heat sensitive materials.
- There is no foreseen risk of penetration of flue gases through nearby windows or other openings, fresh air inlets, mechanical ventilation inlets or exhausts, or the like.

CLEARANCES

MINIMUM SPECTRE WOODHEATER CLEARANCES TO COMBUSTIBLE MATERIALS



MODEL	A	B	C	D	E	F
100-Pedestal	A= 100mm	B= 450mm	C= 125mm	D= 880mm	E= 1155mm	F= 450mm
100-Parlour	A= 100mm	B= 475mm	C= 200mm	D= 880mm	E= 985mm	F= 430mm
100-Leg	A= 100mm	B= 375mm	C= 150mm	D= 880mm	E= 1005mm	F= 450mm
MODEL	A	B	C	D	E	F
200-Pedestal	A= 100mm	B= 375mm	C= 150mm	D= 940mm	E= 1135mm	F= 500mm
200-Parlour	A= 125mm	B= 475mm	C= 250mm	D= 940mm	E= 1005mm	F= 400mm
200-Leg	A= 125mm	B= 425mm	C= 125mm	D= 940mm	E= 1105mm	F= 500mm
MODEL	A	B	C	D	E	F
300-Pedestal	A= 125mm	B= 500mm	C= 125mm	D= 995mm	E= 1255mm	F= 600mm
300-Parlour	A= 150mm	B= 525mm	C= 100mm	D= 990mm	E= 1260mm	F= 600mm
300-Leg	A= 125mm	B= 500mm	C= 100mm	D= 995mm	E= 1155mm	F= 500mm

TROUBLE SHOOTING

PROBLEM: *Heater is burning too much wood.*

CAUSE: Primary air draft control open too far or low-density wood being used.

SOLUTION: Change to hardwood i.e. box gum

PROBLEM: *Heater produces drafty areas.*

CAUSE: Drafts are usually movements of cold air, as warm air circulation is not normally noticed. Using the fan before the heater is fully hot will cause drafts.

SOLUTION: Wait at least 30 minutes before turning the fan on. Make sure the primary air control is open fully.

PROBLEM: *Heater will not heat.*

SYMPTOM 1: Thick creosote on door glass.

CAUSE: Creosote is formed through moisture in the wood combining with gases. Wet wood will not produce a hot fire and should not be used.

SOLUTION: Change to dry wood.

SYMPTOM 2: Fan blowing cold air.

CAUSE: If the fan is switched on when the fire is not hot enough, air will pass over the firebox without being heated.

SOLUTION: Always wait at least 30 minutes after lighting the fire before switching on the fan. By doing so, the heater will be hot enough to heat the air being circulated by the fan and the problem of cold air will be eliminated.

PROBLEM: *Heater will not draw.*

SYMPTOM 1: Blocked flue.

CAUSE: The flue has become restricted due to the buildup of creosote which is usually the result of burning wet or green wood.

SOLUTION: Clean the flue. A chimney sweep may do this for you, or flue brushes can be obtained from your Dealer.

SYMPTOM 2: Deposits of ash or creosote on top of the baffle plate inside the heater.

CAUSE: Ash is drawn to the top of the firebox and settles on the baffle plate building up and restricting the flue outlet. Alternatively creosote deposits fall down the flue and settle there.

SOLUTION: This is quite normal. The flue should be inspected regularly & cleaned if necessary.

PROBLEM: *Heater creates a lot of ash.*

CAUSE: Some woods produce more ash than others. A heater burning hardwood such as box or redgum will require less cleaning than a heater burning pine. Experience will help determine how often the heater requires cleaning.

NOTE: Firewood that has had the bark removed will produce less ash.

SOLUTION: Change to hardwood.

PROBLEM: *Heater won't burn overnight.*

SYMPTOM 1: Deposit of unburnt wood in the firebox.

CAUSE: Green or wet wood being used.

SOLUTION: Change to dry wood & experiment with the primary air control in different positions until overnight burn is achieved.

SYMPTOM 2: Wood burnt completely away.

CAUSE: If the primary air control is open too wide, the wood will burn too quickly. Remember the less air reaching the fire, the longer the burn.

SOLUTION: Adjust the primary air control and try fitting some more wood in the firebox, or larger more solid pieces of timber.

Know Your Wood

(Forestry Commission of Victoria)

FIREWOOD DENSITY IN RELATION TO HEAT OUTPUT.

The denser the firewood, the more btus' (megajoules) it can produce provided moisture content & mass are relative. Australian hardwoods such as Grey Box, Mallee Roots and Black Box have a very high density and burn exceptionally well. Dry box wood has 2.25 times the density of Pine so double the volume of Pine is required to provide a similar amount of heat. As an example to show how different firewood can affect the performance of a heater, consider that dry Grey Box will produce around 85% more heat than the same amount of wet Radiata Pine. The following chart will give a good indication of heat output from various common firewoods.

Firewood Species (Botanical and Common Names)	Forest Type	Heat Available Per Unit Volume (%)	Density (Air Dry)	Splitting	Ignitability	Coals	Sparks	Availability	Calourific Value (Air Dry)
			lb/ft ³						B.T.U.Ab
			kg/m ³						Mykg
Eucalyptus spp. Mallee Roots	Mallee	100	N.A.	Difficult	Poor	Excellent	Few	Limited	
Casuarina spp. Belah, Buloke	Mallee	100	70	Good	Poor	Excellent	Few	Limited	7400
	Box-Ironbark		1121						17.2
Eucalyptus microcarpa Grey Box	Box-Ironbark	100	70	Difficult	Poor	Excellent	Few	Good	7400
			1121						17.2
Eucalyptus Laryiflorens Black Box	Box-Ironbark	100	69	Difficult	Poor	Excellent	Few	Limited	
			1005						
Eucalyptus sideroxylon Red Ironbark	Box-Ironbark	97	69	Difficult	Poor	Excellent	Few	Good	
			1005						
Eucalyptus melliodora Yellow Box	Box-Ironbark	91	65	Difficult	Poor	Excellent	Few	Good	
			1041						
Eucalyptus Polyanthemus Red Box	Box-Ironbark	91	67	Difficult	Poor	Excellent	Few	Good	7400
			1073						17.2
Eucalyptus Leucoxylo Yellow Gum	Box-Ironbark		62	Difficult	Poor	Excellent	Few	Good	
			993						
Eucalyptus camaldulensis River Red Gum	River Red Gum	80	56	Difficult	Poor	Excellent	Moderate	Good	7600
			897						17.7
Eucalyptus globulus Blue Gum	Foothill	80	61	Fair	Fair	Good	Few	Good	
			977						
Eucalyptus macrorhyncha Red Stringybark	Foothill	72	54	Good	Good	Good	Few	Good	
			865						
Eucalyptus radiata Narrow Leafed Peppermint	Foothill	68	50	Excellent	Good	Good	Few	Good	
			801						
Eucalyptus obliqua Messmate	Foothill	68	45	Good	Good	Good	Few	Good	
			721						
Eucalyptus regnans Mountain Ash	Mountain	53	42	Excellent	Excellent	Fair	Moderate	Good	
			673						
Callitris columellaris White Cypress Pine	Box-Ironbark	60	42	Good	Excellent	Poor	Many	Limited	8000
			673						18.6
Pinus Radiata Radiata Pine	Foothill		32						7700
			512						17.9

Extract From Victorian Solar Energy Council