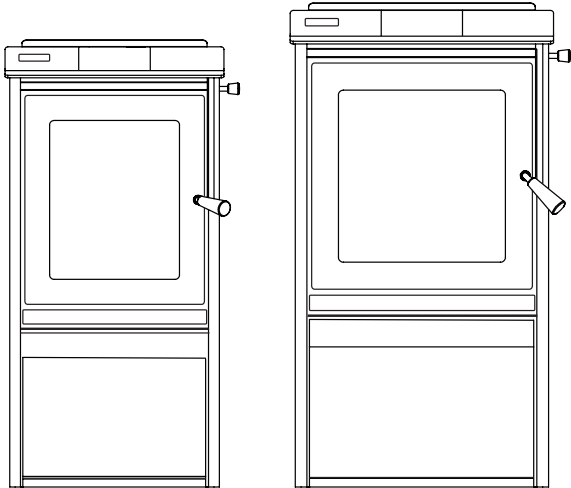




metrofires

RAD ONE / RAD PLUS

WOOD FIRES

Wood fire installation and operation manual

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IMPORTANT INSTALLATION INFORMATION

All Metro freestanding fires have been tested and approved to AS/NZS 2918 with a ceiling height of 2.4m (+/-0.1m) with a Pioneer double flue shield fitted.

All Metro fires comply with AS/NZS 2918 when installed in accordance with this manual. Please ensure you are fully conversant with the relevant Standard and the full contents of this manual.

Correct installation is critical to the safe operation and performance of this wood fire. Please take particular note of the following:

- The Rad One MUST be installed with the Metro ECO or STD 130 flue system (130mm diameter flue)
- It is recommended that the Rad Plus be installed with a Metro ECO flue system which has been developed to enhance the performance of Metro wood fires. Any alternative flue system must have a minimum flue pipe length of 4.2 metres of 150mm diameter flue pipe and have been tested to AS/NZS 2918 with a 12mm spaced ceiling plate of no less than 345mm square
- For the Rad One and Rad Plus models to be installed with the minimum clearances as detailed, only the Pioneer 900 double flue shield can be used. All other flue shields will invalidate the installation
- The active flue pipe must be fully encased from the ceiling to the underside of the flashing cone at the top of the flue system, (i.e. there must not be any 130mm or 150mm flue pipe exposed)
- All flue pipe joints must be sealed and riveted. The bottom of the flue pipe in particular MUST be fully sealed into the flue outlet of the Metro fire
- The Metro fire must be bolted through the floor protector into the floor to comply with the seismic restraint provisions of AS/NZS 2918
- All Metro's are extremely heavy, varying in weight from 75kgs up to 185kgs. During the installation process DO NOT lift the appliance by yourself, and take care not to damage the panel coating
- Take care when lifting the fire into place onto the hearth or floor protector as point loading will break tiles and/or scratch surfaces

WARNING! Important Information

WE HIGHLY RECOMMEND YOU READ THIS ENTIRE MANUAL AS INCORRECT OPERATION, MISUSE AND/OR LACK OF MAINTENANCE WILL VOID THE WARRANTY

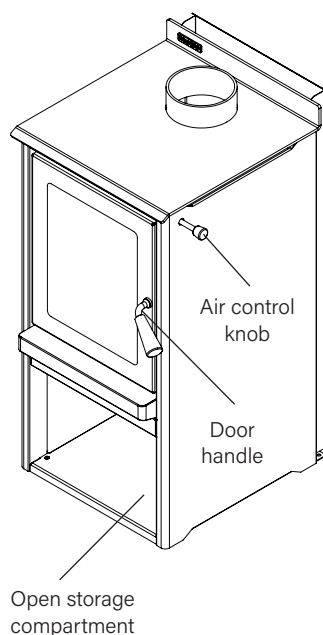
- The appliance and flue-system shall be installed in accordance with AS/NZS 2918 and the appropriate requirements of the relevant building code or codes
- Any modification of the appliance that has not been approved in writing by the testing authority is considered to be in breach of the approval granted for compliance with AS/NZS 4013 and will void the warranty
- The appliance must be installed correctly. We recommend a competent and suitably qualified NZHHA installer

CAUTION! Important Information

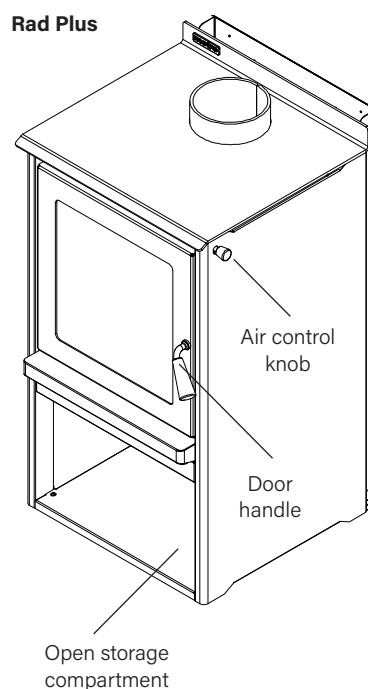
- Mixing of appliance or flue-system components from different sources or modifying the dimensional specification or components may result in hazardous conditions. Where such action is considered, the manufacturer should be consulted in the first instance
- DO NOT install a Metro fire if there is any sign of visible damage to the product
- This appliance must be regularly maintained.
- Use authorised Metro replacement parts only. The use of unauthorised parts may void the warranty
- This manual MUST be left with the home owner

METRO RAD ONE AND RAD PLUS MODELS

Rad One



Rad Plus



ASSEMBLING YOUR METRO FIRE - RAD ONE

CAUTION! Important Information

The Metro Rad One model **MUST** be installed with the Metro ECO or STD 130 flue kit and Pioneer 900 double flue shield only.

Note: You should only assemble this wood fire if you are suitably experienced in wood fire assembly and installation.

The Metro Rad One is packed in a single heavy-duty carton, and tek screwed to a wooden pallet. Having removed the packaging and located this manual, familiarise yourself with the diagrams on this page, and proceed as follows:

The Rad One is supplied virtually fully assembled. Packed inside the firebox you will find bricks in a cardboard wrapper, a door handle, air control knob and rear deflector.

- Remove the tek screws holding the fire onto the pallet. These are located in the rear tabs at the base of each side panel
- Carefully lift the Metro off the pallet

Note: Temporary removal of the rear heat shield panel will make it easier to carry and locate the fire onto the floor protector while protecting the painted surface from damage

Brick and rear air deflector placement

- Open the firebox door fully and place the rear brick centrally against the back of the fire and hold in place with the rear air deflector placed onto the brick and supported by the Z brackets. Position the rear air deflector as per Diagram 2 and 2A.
- Place the side bricks into the Z brackets and push back into position.
- Attach the handle to the door spindle by screwing it on clockwise
- Attach the air control knob by screwing it on clockwise.

Baffle positioning

Check to ensure the top baffle is in its correct position in the top chamber of the firebox. It should be resting on four support lugs (two on each side of the firebox). The baffle must be hard back against the rear of the firebox with the return front steel edge of the baffle facing forward as illustrated in Diagram 2A.

When removing the top baffle for servicing it is necessary to first remove the side bricks. Raise the top baffle upward and forward to clear the baffle support lugs, then swing the rear vertically down to the base of the firebox. This will enable the baffle to slip out of the firebox opening between obstructing hinge and latch pin fixings.

After servicing, re-fit the top baffle and all firebricks back into the firebox prior to operation.

Diagram 2

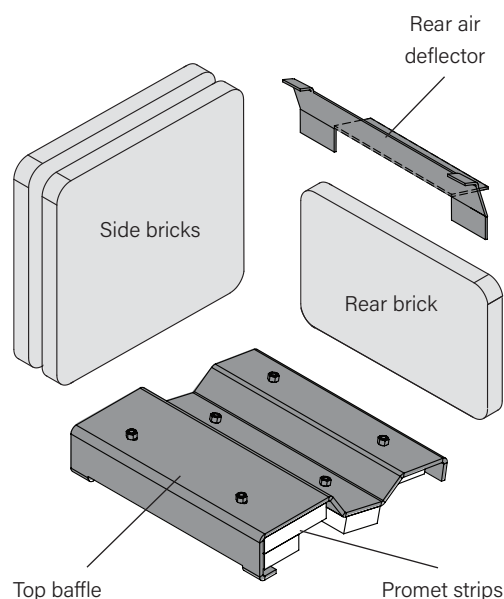
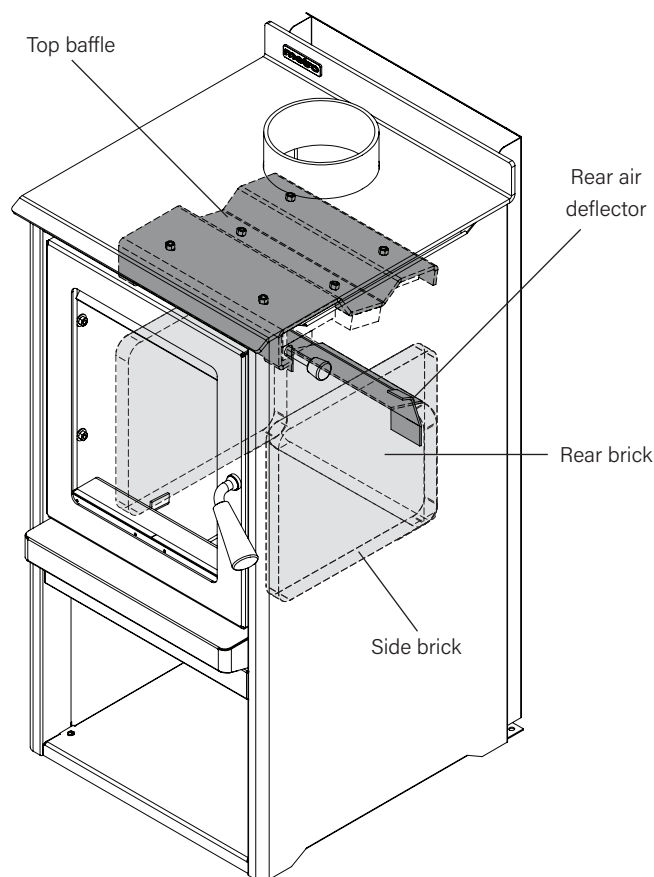


Diagram 2A



ASSEMBLING YOUR METRO FIRE - RAD PLUS MODEL

CAUTION! Important Information

The Metro Rad Plus model **MUST** be installed with the Pioneer 900 double flue shield only.

Note: You should only assemble this wood fire if you are suitably experienced in wood fire assembly and installation.

The Metro Rad Plus model is packed in a single heavy-duty carton, and tek screwed to a wooden pallet. Having removed the packaging and located this manual, familiarise yourself with the diagrams on this page, and proceed as follows:

The Rad Plus model is supplied virtually fully assembled. Packed inside the firebox you will find bricks in a cardboard wrapper, a door handle, and air control knob.

- Remove the tek screws holding the fire onto the pallet. These are located in the rear tabs at the base of each side panel
- Carefully lift the Metro off the pallet

Note: Temporary removal of the rear heat shield panel will make it easier to carry and locate the fire onto the floor protector while protecting the painted surface from damage

- Open the firebox door fully and fit the side and rear bricks. Z brackets and location lugs are fitted to the base and rear wall of the firebox to retain the side bricks in position. Refer to Diagram 3A
- Attach the handle to the door spindle by screwing it on clockwise
- Attach the air control knob by screwing it on clockwise.

Baffle and air tube positioning

Check to ensure the top baffle is in its correct position in the top chamber of the firebox. It should be resting on four support lugs (two on each side of the firebox). The baffle must be hard back against the rear of the firebox with the return front steel edge of the baffle facing forward as illustrated in Diagram 3A.

The air tube retaining clip is easier accessed if the front of the baffle is raised by resting a spacer on top of the pin to see the tube slip ring and locking pin. Once the locking pin and slip ring is removed, the air tube slides to the right to release the left side allowing the air tube to be fully removed. When re-fitting the air tube the left side has to index over the bolt head locator so the air jets face in a forward/downward direction.

If removing the top baffle for servicing, the air tube can remain in place.

When removing the top baffle for servicing it is necessary to first remove the side bricks. Raise the top baffle upward and forward to clear the baffle support lugs, then swing the rear vertically down to the base of the firebox. This will enable the baffle to slip out of the firebox opening between obstructing hinge and latch pin fixings.

After servicing, re-fit the top baffle and all firebricks back into the firebox prior to operation.

Diagram 3

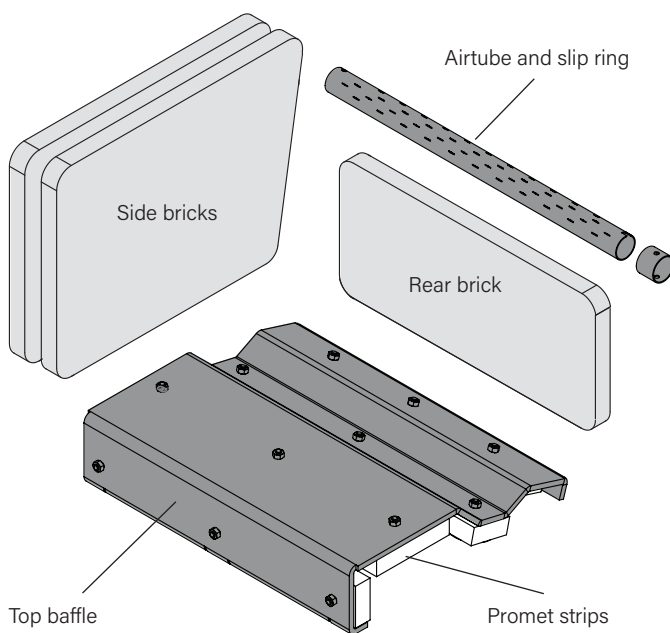
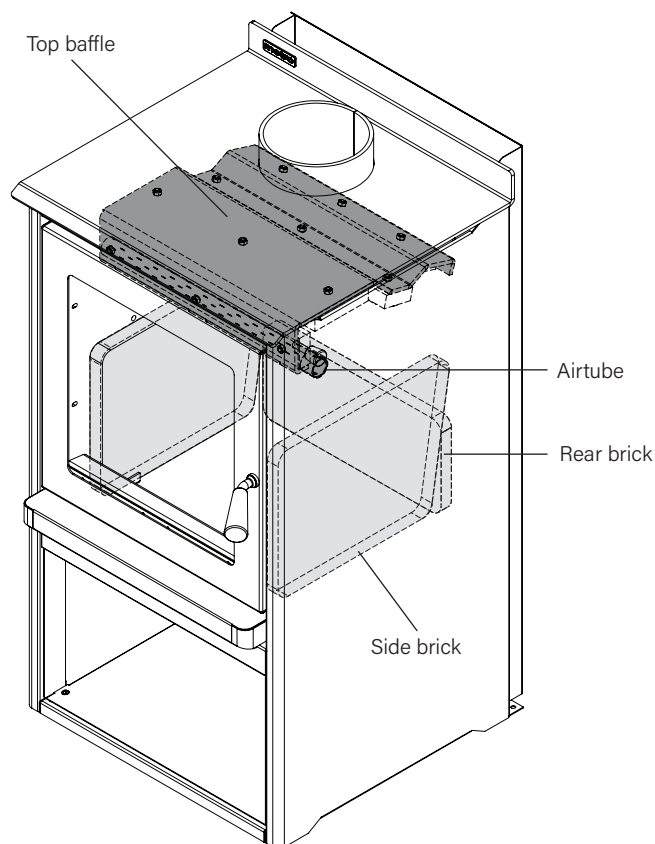


Diagram 3A



FLOOR PROTECTOR

Pioneer manufacture an extensive range of Pioneer 'Ash Floor Protectors' which comply with the minimum floor protector requirements of AS/NZS 2918 and can be installed with any freestanding Metro wood fire.

Metro freestanding wood fires do not require an insulated floor protector as they comply with the minimum floor protector requirements of AS/NZS 2918. These minimum floor protector requirements are;

- They must be of adequate size to give appropriate wall, rear and front clearances/projections as detailed in the Clearances and Specifications table below
- The floor protector must extend 200mm horizontally to the rear and each side directly below the door opening, and 300mm forward of the door opening
- The upper surface of the floor protector must be made of non-combustible material.

A suitable floor protector for a Metro freestanding wood fire is therefore any non-combustible material which could include;

- Ceramic tiles with grouted joints fixed directly to a hard base over timber flooring
- A sheet of toughened glass, panel steel etc. laid directly onto a wooden or other combustible flooring material.

Note: DO NOT tip the fire backwards with the rear heat shield on the fire, as it will damage the rear heat shield.

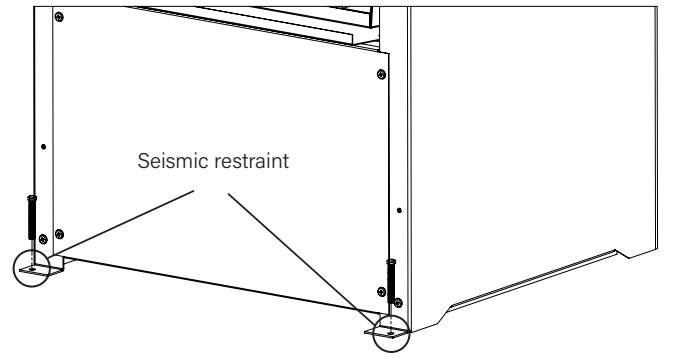
Temporary removal of the rear heat shield panel on the Rad One and Rad Plus models will make it easier to carry and locate the fire onto the floor

protector while protecting the painted surface from damage. With the rear heat shield removed it will also provide more access to drill and seismically restrain the fire.

Ensure the rear heat shield is re-fitted to the appliance once the seismic restraints are completed.

Take care when lifting the Metro fire onto the floor protector and using a suitable measuring device, ensure that the minimum wall clearances and front floor protector projections as detailed in the table below are met or exceeded. Once the Metro's location on the floor protector is established and if the installation is within New Zealand, seismic restraint to comply with AS/NZS 2918, 3.8 is required.

Note: The anchors must pass through the floor protector and securely anchor the Metro to the sub floor.



CLEARANCES AND SPECIFICATIONS

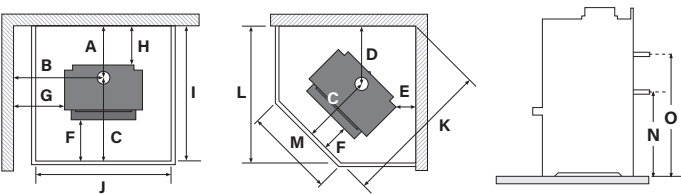
Minimum clearances

All Metro freestanding fires comply with AS/NZS 2918. Minimum clearances detailed below are in millimetres, with a Pioneer 900 double flue shield fitted to the appliance. Measurements are taken from the following reference points as illustrated:

- The nearest combustible wall or surface (A, B, D, E, G, H)
- The Metro's flue centre (A, B, C, D)
- The Metro's cabinet/heatshield outermost point (E, F, G, H)
- The edge of the ash floor protectors non-combustible surface (C, F, I, J, K, L, M)

AS/NZS 2918 allows for a reduction in minimum clearances as detailed in Section 3, Tables 3.1 and 3.2 of the Standard.

The Rad Plus model has undergone additional testing which allows for reduced installation clearances. Please refer to footnote (1) below the table.



Models	MINIMUM INSTALLATION CLEARANCES (mm)															WETBACK DIMENSIONS		
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	WIDTH	DEPTH	HEIGHT
Rad One	265	532	585	335	93	245	320	100	850	680	1060	850	280	-	-	423	503	880
Rad Plus	285	612	608	450	170	240	350	100	893	775	1244	1013	375	530	720	525	553	961

The Rad Plus model installed with a 900mm Pioneer double flue shield with the Pioneer corner wing shields fitted allows for reduced clearances as follows:
¹ Rad Plus model corner clearance (E) can be reduced to 100mm. This in turn also reduces clearances (D) to 380mm, (K) to 1145mm and (L) to 942mm. When fitting the corner wing shields, the Rad Plus itself must be installed to a corner clearance (E) of 100mm. The corner wing shields are then fitted which gives a wall to shield corner clearance of 58mm.
Specifications were correct at the time of printing, but may alter and those detailed within should be used only as a guide. If in doubt, please consult your Metro specialist or metrofires.co.nz.

⚠ WARNING! Important Information

- **DO NOT** connect to an unvented hot water system
- Install in accordance with AS 3500.4.1 or NZS 4603 and the appropriate requirements of the relevant building code(s).

⚠ CAUTION! Important Information

- Wetbacks must be connected with water before operating the fire and water must always be available to the wetback while the fire is in operation
- Wetback systems are not suitable for use in locations where the water supply has lime content. Lime build up inside the coil will eventually block the coil causing the wetback to fail
- Rainwater collection tanks installed lower than the wetback that use a pump to supply the home, can cause problems if the pump is not operational. In these situations either the type of wetback or a roof header tank should be considered
- When the wetback is fitted correctly, excess fire cement should be visible around the entire perimeter of the casting
- Ensure the upper hot pipe is well insulated using 20mm wall thickness phenolic foam insulation tubes. Fit these firmly to the copper pipe without any gaps to achieve optimum thermal flow.

Pioneer wetbacks

Pioneer wetbacks are manufactured with 25.4mm outside diameter (OD) copper tube. The plumbing industry in New Zealand use copper tube specified at 25mm inside diameter (ID). To fit the 25mm ID copper tube over the Pioneer wetback tube, you need to first flare it 0.5mm, which being copper is very easy with a tool or with a little heat, if preferred.

We promote soldering this joint, rather than using fittings that can leak under continuous expansion and contraction of high temperatures. Solder the joint with Silphos to ensure a durable joint that won't leak over time.

Please note: This wetback fits to the left hand side of the firebox externally. Left hand is deemed as looking at the fire from the front. It is recommended to fit the wetback prior to the wood fire installation.

To further enhance wetback performance:

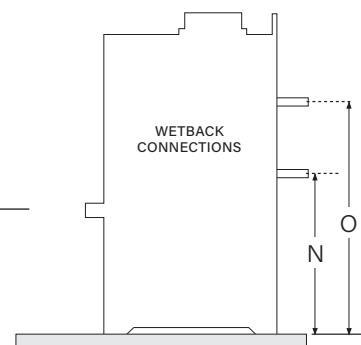
- The wetback must be sealed to the fire with fire cement, ensuring any minute thermal gaps are filled prior to securely bolting it to the fire
- It is recommended the return pipe has a minimum rise of 1 in 12. Distance to the storage cylinder will affect the amount of hot water produced, as will the manner in which you operate your Metro fire
- Maximise the elevation gradient of the upper hot wetback pipe it's entire length from the back of the fire, then insulate it well to achieve improved thermal flow. Use 20mm wall thickness phenolic foam insulation tubes that will withstand 100 degrees, fitted firmly to the copper pipe without any gaps

Please note: Only the Pioneer cast jacket wetback system should be fitted to your Metro fire. Any alternative wetback system will void the Metro's emission approvals and may seriously affect the performance of the appliance and void its warranty.



Side wetback

Note: The Rad One model cannot be fitted with a wetback.



Wetback connections

Wetback connections are measured left of the flue centre when facing the Metro fire/wall as follows:

- Rad Plus 206 mm

The return pipe connection (O) is directly above the inlet connection (N).

To fit the wetback proceed as follows:

1. For the best access during the wetback installation, remove the wood fire door and place in a safe area to prevent any damage to parts or the fire's paint finish coating.
2. At all times, place any removed fastenings in a safe location as these will be needed to refit the necessary parts.
3. Remove the outer rear panel from the wood fire by unscrewing the 6x small pozi drive screws. Remove the two pre-punched knock outs from this panel.
4. Next to the door hinge at the front of the fire, loosen the 2x pozi drive screws holding the side panel to the firebox. **DO NOT REMOVE.**
5. At the rear of the fire remove the 1x large pozi-drive screw holding the side panel to the firebox lower angled mount plate.
6. Remove all countersunk M6 fastenings from inside the firebox on the left hand side wall. These are used for fixing the wetback to the outside wall of the appliance.
7. Using the tube of Pioneer fire cement supplied with the wetback, apply contents of the tube over the whole rear surface of the wetback, ensuring cement is directly over the inset copper pipe.
8. Insert the wetback into the gap provided by spreading out the side panel carefully. Fix in place with a countersunk M6 fastening and nut at the rear top slot of the wetback first. Tighten, but allow for a small amount of movement.
9. Line up the front M6 tapped hole in the wetback casting with the front 8mm dia hole in the firebox wall. Using a second countersunk fastening, screw into the casting from inside the firebox, discard the M6 nut. Tighten both fastenings to ensure a tight fit to the firebox. Insert and tighten the remaining rear fastening and nut.
10. Re-assemble and tighten all panels and fixings.
11. The wetback is now fitted and ready for connection to the storage cylinder by a registered plumber.

FLUE INSTALLATION

It is recommended that all Metro freestanding wood fires be installed with the energy efficient ECO Flue System which comes complete with a detailed installation manual. This installation manual must be presented with your application to gain consent with your local council.

A copy of the ECO Flue System installation manual can be downloaded from metrofires.co.nz, or a copy can be obtained from your Metro retailer. Any alternative flue system must comply with and be installed as detailed in AS/NZS 2918, and a copy of the installation manual must also be presented with your application to gain consent with local council.

Please note:

- Metro ECO flue systems must be installed to allow unrestricted air supply from either the ceiling cavity for an ECO Flue Kit, or above the roof line if the ECO Flue Kit and ECO Option Kits are both installed
- The ECO flue system must be installed into a 'vented' flat ceiling cavity, or have an ECO Option Kit added to the flue system to provide an external air supply
- ECO flue systems shall be installed in accordance with AS/NZS 2918 and the appropriate requirements of the relevant building codes
- Any modification to this flue system that has not been approved in writing by the testing authority is considered to be in breach of all approvals granted

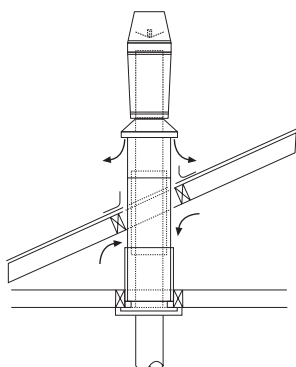
- The flue systems flue pipe must terminate a minimum of 4.6 metres above the top surface of the floor protector
- All joints in the flue pipe must be sealed with Pioneer fire cement (or similar) and riveted. The base of the flue pipe must also be sealed into the Metro fires flue outlet. This is critical for optimum operation.

The Rad One and Rad Plus models have been tested with a Pioneer 900mm double flue shield only. For the Metro fire to be installed with the minimal clearances as detailed on page 5, only the Pioneer 900mm double flue shield can be used. All other flue shields will invalidate the installation.

The Pioneer 900 double flue shield is a universal design using the 5B lower mounting bracket. Bracket 5B is packaged with the Pioneer double flue shield.

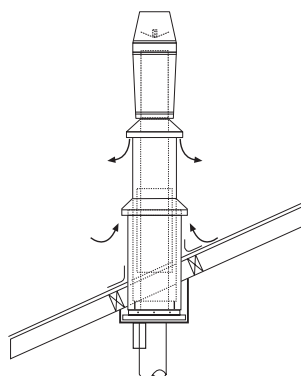
Detailed below are the more common installation methods for installing Metro ECO flue systems. To ensure a safe and efficient installation, this flue system must be installed as detailed below by either a registered installer, or someone competent in installing solid fuel appliances.

Single storey installations



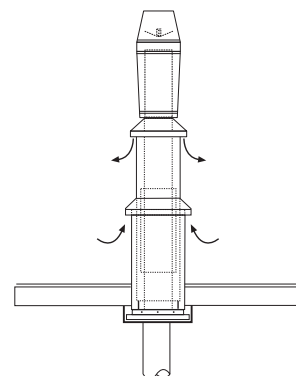
Flat cavity ceiling

Requires the ECO flue kit as air is drawn into the flue system directly from the homes vented ceiling cavity.



Sloping ceiling

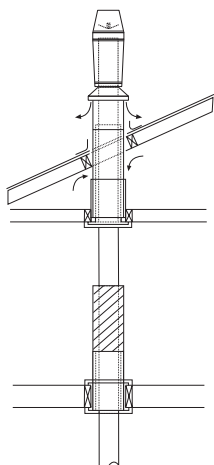
Requires the ECO flue kit and ECO option kit for air to be drawn into the flue system from outside the home.



Flat ceiling/roof

Requires the ECO flue kit and ECO option kit as per sloping ceiling unless a vented ceiling cavity exists.

Two storey installations



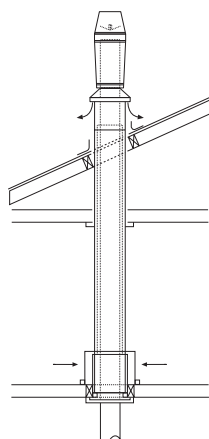
2nd floor - Exposed flue pipe

Requires the ECO Flue Kit with additional lengths of 150mm flue pipe.

Additional components are also required for this type of installation in accordance with AS/NZS 2918*

- A floor penetration kit
- 1x 1200mm long mesh/screen

*Not supplied by Metro Fires



2nd floor - Enclosed flue pipe

Requires the ECO Flue Kit with additional lengths of 150mm flue pipe.

Additional components are also required for this type of installation in accordance with AS/NZS 2918*

- 200/250mm inner/outer combination liners
- 2nd floor vent cover and additional ceiling plate with a 250mm diameter hole

*Not supplied by Metro Fires

WARNING! Important Information

WE HIGHLY RECOMMEND YOU READ THIS ENTIRE MANUAL AS INCORRECT OPERATION, MISUSE AND/OR LACK OF MAINTENANCE WILL VOID THE WARRANTY

- Any modification of the appliance that has not been approved in writing by the testing authority is considered as breaching AS/NZS 4013 and will void the warranty
- **DO NOT** use flammable liquids or aerosols in the vicinity of this appliance when it is operating
- **DO NOT** dry clothes on or near this appliance
- **DO NOT** use flammable liquids or aerosols to start or rekindle the fire OR store fuel within the specified clearances
- **DO NOT** operate your Metro with the door ajar, except on initial start up
- **DO NOT** empty ash into a combustible container
- Open the air control fully before opening the Metro's door

CAUTION! Important Information

THIS APPLIANCE MUST BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THIS MANUAL

- **DO NOT** operate this appliance with cracked door glass, worn, faulty or missing door seals
- **DO NOT** burn driftwood, treated or unseasoned fuel (wet). The use of most types of preservative treated wood as fuel can be hazardous and will damage your appliance
- Burning unseasoned fuel (wet) or incorrect operation on extended low burn cycles will cause excessive creosote to form. Creosote is very corrosive and excessive buildups will result in the flue pipe, flue spigot and upper burn chamber failing. Failure of the firebox and/or flue system due to creosote is not covered under warranty. The formation of such is not an appliance issue, it is a fuel and operational issue
- All replacement parts must be authorised Metro parts only

IMPORTANT OPERATION INFORMATION

Your Metro fire is designed to give you many years of warmth and service, subject to the following key factors. These key factors, if not adhered to are the major causes of unsafe installation, poor performance, flue blockages and potential product issues.

1. Your Metro fire must be installed correctly. We recommend you have your new fire installed by a NZHHA registered installer or a competent and suitably qualified installer.
2. In New Zealand a building consent is required from your local building authority. The homeowner is responsible for obtaining this consent.
3. It is preferable that Metro fires should be installed with a Metro ECO Flue System for improved heat retention.
4. Properly seasoned (dry) wood is necessary for your fire to operate efficiently. Wood with a high moisture content will result in flue pipe blockages, reduce heat output and create other issues. The only fuel to be used in this fire shall be wood that meets the following criteria.
 - Less than 25% moisture content
 - Has not been treated with preservatives or impregnated with chemicals or glue,
 - Is not chipboard, particle board, or laminated board,
 - Is not painted, stained or oiled
 - Is not driftwood or other salt impregnated wood
 - Coal must not be used as a fuel

Note: Once split, Softwood usually takes a minimum of 12 months to season - Hardwoods can take up to 24 months to season - Wood must be stored in a location that enables air circulation. Unseasoned wood stored in a closed woodshed without air circulation will still remain unseasoned 12 months later.

5. Burning unseasoned (wet) fuel or incorrect operation on extended low burn cycles will cause excessive creosote to form. Creosote is very corrosive and excessive buildups will result in failure of the flue pipe, flue spigot and upper burn chamber. Failure of the appliance and/or flue system due to creosote damage is not covered under warranty. The formation of such is not an appliance issue, it is a fuel and operational issue.

Regular maintenance

- **DO NOT** operate the fire with worn, faulty or missing door and glass seals. Door seals harden over time and become worn (3-4 years). This allows air to leak into the firebox, causing the appliance to 'over fire'
- **DO NOT** operate the fire with worn, faulty or missing bricks, baffle plate, promet (white brick attached to the baffle plate)
- **DO NOT** operate the fire with cracked or broken door glass.

Note: The above 3 points require regular inspection/maintenance (every time the ash bed is cleaned out, generally 3-5 times a season) and if not maintained will void the firebox warranty. A glowing firebox or lower fluepipe is just one sign you are over firing your appliance. Please ensure you keep your proof of purchase/receipt on any parts you purchase.

Your Metro is covered by a full unconditional 12 month warranty on replacement parts, and a 10 year firebox warranty.

Heat output

Metro Fires peak outputs (kW ratings) are based on the NZHHA Maximum Output test method which is undertaken by independent International Accredited New Zealand (IANZ) testing facilities. IANZ accreditation provides assurance that the independent testing facility operates effective quality processes, providing a professional service through expertise and technical competence that is recognised as world-class.

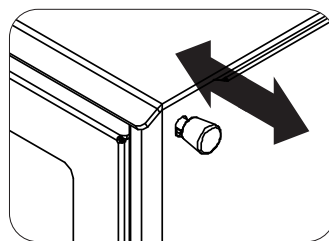
A specific loading method is used with specific fuel to obtain the results, which includes using dry 100mm x 50mm pine and the appliance being loaded and operated on the high setting for an extended period of time. During this time the appliance is periodically refuelled until the appliance reaches it's peak output.

Note: It is not recommended that the appliance be continually operated at it's peak output as this could increase the chance of damage to the appliance firebox and associated parts.

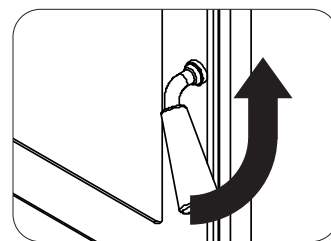
GETTING TO KNOW YOUR METRO FIRE

There is a single air control making your fire easy to adjust. The air control moves from left to right, which is 'low to high'. Slide this control knob gently from right to left until you reach a stop. This is a pre-set 'low' position. Your Metro must not be operated at a lower burn rate than this setting.

Raising the door handle anti-clockwise until the latch releases will open the door. You will note that if you let the door go before it is at 90° to the appliance, it will fall closed. This is a safety feature that ensures the door cannot fall open if it is not latched securely. For the door to remain open, you must open it fully.



Air control adjustment



Door opening

OPERATING YOUR METRO FIRE

If your Metro has only been installed within the past few days, the fire cement seal at the base of the flue will not be fully cured. To ensure the cement sets without blistering it is recommended you burn 2-3 sheets of loosely crumpled newspaper at a time, approximately once every hour over a 6-8 hour period.

During the very first fire your Metro will give off an odour and fumes as the firebox paint cures. Do not be alarmed; open all windows and externally opening doors in that room and close any internally opening doors. The fresh paint finish on your wood fire needs to be cured to preserve its quality and the curing process will last for approximately one hour and is likely to happen this one time.

IMPORTANT: Burning a small fire at a medium burn rate for the first few hours of operation will achieve the optimal curing process. Too hot or too cold could present curing issues.

Fuel

Properly seasoned (dry) timber is necessary for the Metro to operate efficiently; firewood that contains a high moisture content will result in flue pipe blockages, reduce heat output and create other issues.

It is always recommended to burn well dried fuel that has good air flow to ensure the timber has dried right through to the core. Seasoned timber will only dry over one summer subject to it's size and if it is covered from rain but also allowing plentiful air to pass through the stack for drying. The moisture content must be under 25%. It is best to allow a minimum of 12 months drying time for soft woods and at least double this for hard woods with good air flow required through the stack.

Note: Once split, Softwood usually takes 12 months to season - Hardwood can take up to 24 months to season - Wood must be stored in a location that enables air circulation. Unseasoned wood stored in a closed woodshed without air circulation will still be unseasoned 12 months later.

Burning properly seasoned (dry) fuel will result in;

- Less ash buildup
- Less emission into the environment
- Less creosote that can cause a host of issues
- Maintain a clean flue system
- Extend the life of the sacrificial components in your fire

Cooking

All Metro's are designed to enable cooking of soups, stews and casseroles etc, and your Metro will easily boil a flat bottom stainless steel kettle. Metro radiant models have a dedicated cook top enabling large pots to be placed on top of the fire during operation.

OPERATING YOUR METRO FIRE

You can greatly assist in minimising emission discharge by following the guide below for the ideal fire lighting technique for your Metro Rad Plus.

This 'upside-down method' is particularly time saving to light as a few minutes after lighting, the door can be fully closed while the fire generates a good ember bed. A good fuel mass is required when first loading the fire to prevent the need to open the door at all when the fire is building temperature. The less time the fire door is opened, the quicker the fire heats and forms an ember bed of hot coals to enable the addition of further fuel.

Fuel positioning is predominantly in a front to back orientation to promote good air flow within the combustion chamber.

The specified emission results were achieved by following the described method below using dry fuel with less than 25% moisture content.

Step 1 - Building the fire / Air control full open (high):

- Place larger pieces of fuel at the bottom sides of the firebox with fuel in the centre to place firelighters at the lower door level height
- Build a kindling base above this. The fuel must have open space to allow air to travel between and towards the rear of the fire beneath the kindling. If the firebox is particularly low of ash, place two smaller pieces of wood across the firebox to raise the fuel load up
- Ensure there is kindling placed directly above the fire lighters and not open space. Build a further cross stack of kindling above this

Step 2 - Building the fire / Air control full open (high):

- Place additional small to medium sized fuel above the kindling stack as shown. The intention is to build sufficient fuel mass that will result in a healthy ember bed over the next 45 to 60 minutes without opening the door at all
- Light the fire lighters and partially close the door, resting the door spindle on the latch
- After 2-3 minutes with the kindling well alight, you can fully close the door and begin to establish a good ember base
- After 15 minutes you may be able to reduce the air setting if the fire is over-raging, but this will be dependent on the type, size and moisture content of fuel that you are using
- Approximately 60 minutes later you will be left with a hot bed of embers to which you can add more fuel as required. Always place fuel in a front to rear orientation to ensure proper air flow

Reloading fuel / Air control full open (high):

- You can now place your normal sized firewood (approximately 2kg). Once the fire is well established, regulate the air control to achieve desired burn rate and heat output
- Always move the air control to the right (high) prior to opening the door, then open the door slowly. Every time you refuel, leave the air control on 'high' to re-establish the fire
- When loading fuel, always place firewood end-on, 'front to back'. Air gaps should be left between the fuel to enable oxygen to get to as much of the surface of the fuel as possible
- **DO NOT** use the door to force wood into the firebox as this is likely to break the door glass.

When reloading, always ensure firewood is placed onto an established ember bed to ensure proper and complete combustion. If the ember bed is low, open the air control to maximum and load smaller timber pieces first to re-establish the ember bed.



Step 1 - Building the fire – Air control full open (high).
Place large sized pieces of fuel in the base and build a kindling cross stack on top



Step 2 - Building the fire – Air control full open (high).
Add additional small to medium sized pieces of fuel on top of the kindling stack

CLEANING AND MAINTENANCE



WARNING! Important Information

WE HIGHLY RECOMMEND YOU READ THIS ENTIRE SECTION AS LACK OF MAINTENANCE AND SERVICING PARTS AS REQUIRED MAY VOID THE WARRANTY

- **This appliance must be regularly maintained and operated at all times in accordance with this instruction manual. All replacement parts must be authorised Metro parts only.**



CAUTION! Important Information

- **DO NOT operate this appliance with cracked door glass.**
- **DO NOT operate the fire with worn, faulty or missing door seals. Door seals will harden over time and allow excess air to leak into the firebox causing the appliance to 'over fire'.**
- **DO NOT empty or store ashes in a combustible container.**
- **DO NOT use Stove Black, Cast Iron Stove Polish or similar based products to refurbish your paint finished fire. Pioneer Metallic Black high temperature paint is the ONLY product suitable for revitalising the paint finish on your Metro fire.**

Your Metro fire will give you many years of efficient service with minimal maintenance if operated correctly using dry well seasoned fuel. Your Metro fire must be regularly maintained and any replacement parts must be genuine authorised Metro fires parts only. We recommend using a suitably qualified service agent.

Metro paint finish fires

Metro paint finish wood fires are coated with Pioneer Metallic Black high temperature paint. Over time paint finish fires will require periodic repainting to keep them looking their best. A coastal installation will likely require more regular maintenance over an inland environment due to the presence of salt laden air. Pioneer Metallic Black high temperature paint is the ONLY product suitable for revitalising the paint finish on your Metro fire.

DO NOT use Stove Black, Cast Iron Stove Polish or similar based products to refurbish your paint finished fire.

- The high temperature paint coating is porous to allow for expansion of the product materials and will degrade over time due to the temperatures experience during normal operation
- **DO NOT** wipe the painted surfaces with anything other than a dry soft cloth. Any ash on the surface when wiping will act as an abrasive to the surface finish
- **DO NOT** use any abrasive, solvent based or general household cleaners on your appliance as they will damage the surface coating
- Hot coals left on the ashtray, even for a short time, will burn off the painted surface exposing the parent material to oxidation
- Take note that high salt laden air environments (coastal installations) can impact on the appliances surface degradation

All Metro fires can be easily cleaned with a dry soft cloth when the appliance is not in operation.

Door glass

Providing your fuel is properly seasoned, under normal operating conditions the air-wash design of the Metro's firebox will keep the door glass clear.

If the glass requires cleaning you may use either a razor blade scraper or crumpled wetted newspaper dipped in wood ash rubbed over the glass.

- **DO NOT** use any general household cleaners or solvents to clean the glass on your Metro fire
- If your door glass breaks it must be replaced with 5mm thick ceramic glass which is available from your local Metro retailer
- Never use the door to force wood into the firebox, as this is likely to break the glass.

Door seals

The door and glass seals are something to be mindful of to achieve the optimum performance and heat output from your Metro fire.

A loose fitting door or glass panel are clear signs that the appliance seals need to be addressed. You may also notice that you're burning through more firewood than usual due to the excess air entering the firebox.

Over time (usually around 3-4 years) your Metro door rope and glass seals will gradually harden. When this happens, these worn seals will start to allow air to leak into the firebox, causing the appliance to 'over fire' and use more firewood during operation. Your Metro retailer stocks replacement door rope and glass tape for renewing these seals.

The door of your Metro is easily removed to replace both door and glass seals. Hold the door in both hands and lift the hinge end of the door up and over the top hinge pin, then carefully lower the door from the bottom hinge pin taking care not to damage the ashtray and/or appliance coating.

Fire bricks

Hair-line cracks are not uncommon and are a result of the intense heat within the firebox, coupled with mechanical damage caused by accidental impact when loading fuel. If the fire bricks become cracked to the extent that they start to break up and fall into the fire, they must be replaced.

Door adjustment

Provision is available on both sides of the door for adjustment.

To adjust the hinge end of the door, open the door fully, loosen the top hinge nut and slightly lift the latch end of the door. You will see the hinge assembly move back 1-2mm which will usually be sufficient. Retighten, then repeat by loosening the lower hinge nut, this time applying a slight downwards pressure onto the door to move the lower hinge assembly back a similar distance, then retighten.

The door latch is also adjustable as the latch pin on the right side of the firebox is fitted through a slot. This enables the latch pin to be loosened, moved forward/back and re-tightened to ensure a good tight door seal.

CLEANING AND MAINTENANCE

Ash removal

Over a period of time ash will build up in the base of the Metro's firebox and require removal. The time this build-up takes depends on the density and cleanliness of your fuel.

DO NOT operate your fire continuously with a high ash or ember bed as you can damage the firebox rear wall components or increase the likelihood of necessary maintenance.

To remove the excess ash your Metro should not be operating.

- Open the door, and using a hearth shovel or similar, empty the excess ash directly into a steel or non-combustible container. If the ash is not disposed of immediately, be careful where you store it, as the ash can retain heat for many days and become a fire hazard.
- You must leave a bed of ash in the base of the firebox approximately 10mm deep. This insulates the firebox base and improves combustion.

Top baffle

This is a 'sacrificial' wear part of the firebox and should be checked monthly. Usually only the promet (white brick) front/underneath section needs to be replaced when it starts to disintegrate and fall into the firebox.

To remove and replace your Metro's top baffle, proceed as follows: -

- Fully open the Metro's door and remove the side firebricks carefully. This will give you maximum firebox width to easily remove the baffle
- Reach inside with the palms of your hand face up and extended and lift the top baffle up vertically towards the ceiling of the firebox. You can then pull the baffle assembly forward towards the front of the firebox. This will allow you to then lower the rear of the baffle past the lug supports and lift it out through the door opening. Place it onto a sheet of newspaper or similar to protect the floor protector/coverings
- To refit the top baffle. Proceed in the reverse order and note, the baffle must be fitted so its rear is touching the back wall of the firebox.

Note: Cracks in the promet are not uncommon and have no adverse effect on the operation of your Metro. These cracks are the result of intense heat coupled with expansion and contraction. Impact damage when loading wood and burning wood which is not properly seasoned, i.e. 25% moisture content or more, will cause the promet to disintegrate and require replacement.

Flue systems

Should be checked annually, particularly the bottom end of the lower flue section at its rear lock formed joint. If deterioration is noticed contact your Metro retailer or installer.

The flue pipe should also be swept a minimum of once a year, or as required during the winter season. If smoke enters the room when you open the Metro's door this usually indicates the flue pipe is becoming restricted and needs cleaning. The frequency of flue pipe cleans depends on many factors, with the main variables being:

- The seasoning of the wood. If not properly seasoned you will require frequent flue pipe cleans.
- The density of the wood. Softwoods generally result in more deposits building up in the flue pipe.

To clean the flue pipe of your Metro, proceed as follows:-

- Open the Metro's door fully, reach inside with the palm of your hand face-up and extended, lift the top baffle approximately 20mm, then lift it forward out through the door opening, placing it on a sheet of newspaper you have placed on the front of the floor protector. To prevent jamming, removal and replacement of the top baffle is best performed using both hands.

Note: Some appliances have a two piece top baffle.

- Close the door and slide the air control to the left.
- Once on the roof, remove the cowl from the top of flue system and sweep the flue pipe using a 150mm-diameter flue pipe brush as detailed in the instructions provided with the fluebrush.
- Once the flue pipe is clear, clean and refit the cowl. Remove the excess soot which has fallen into the firebox, leaving a layer of ash 10mm deep on the base of the firebox, then refit the top baffle.

Note: The baffle must be fitted so its rear is touching the back of the firebox. If uncertain refer to pages 3 and 4 in the installation section at the front of this manual, which shows illustrations of the baffle location.

Wetback blanking plates

Metro models that can be fitted with an internal wetback will feature two wetback blanking plates in the rear wall of the firebox. These plates 'seal' the wetback connection holes and are only removed if you choose to fit a wetback to your fire.

NO WETBACK FITTED

The wetback blanking plates should be checked annually, as any corrosion/erosion or deterioration can allow air to leak into the firebox at these points causing the appliance to 'over fire' and stress firebox integrity.

If deterioration is noticed during regular servicing and maintenance, please contact your Metro retailer or installer to have these blanking plates and sealing compound replaced. Failure to act on this may impact on warranty.

WETBACK FITTED

Wetback connection holes are sealed by your installer during wetback installation. The connection holes should be checked annually to ensure the seal remains intact, as any deterioration can allow air to leak into the firebox causing the appliance to 'over fire' and stress firebox integrity.

If deterioration is noticed during regular servicing and maintenance, please contact your Metro retailer or service agent. Failure to act on this may impact on warranty.

TROUBLESHOOTING

If your Metro is installed correctly, your fuel is dry and you operate your fire correctly, you will find it to be a pleasure to use. Metro's many years of experience within the wood heating industry has shown that dissatisfaction is mainly due to:

- unseasoned fuel
- faulty installation
- operational error
- or a combination of the above 3 points.

Correct operation

Modern day wood fires need to be operated hard and fast, more so than low and lazy to ensure the firebox and flue pipe runs hot and efficiently. If the fire and flue pipe is up to temperature it will perform extremely well, the smoke will draw up the flue pipe with ease, and the fire will produce good amounts of heat.

If the fire is operated on low a lot of the time, the door glass will run black, the flue pipe will tend to block up more frequently and the fire will end up smoking into the room when reloading. It's better to have a small fire running hard and fast, rather than a big fire running low and lazy.

The following may be of assistance if you are experiencing any problems with the operation of your Metro Fire.

Smoke enters the room when the Metro's door is ajar (possible reasons and solutions)

Check flue pipe joins

If the flue pipe joins are not sealed correctly, the flue pipe will not draw as well as it should. The flue pipe join connecting into the flue spigot on top of the Metro is most critical. If this is not sealed correctly, smoke will enter the room when the door is ajar. To check this join is sealed correctly, run a match or lighter flame around the join. If the flame is sucked into the spigot then it is not sealed correctly. This check needs to be done when the fire is not going. Ensure you check the rear of the flue pipe/spigot join, as due to the seam in the flue pipe, this is the most common area for not being sealed correctly.

Ensure the fuel you are using is correctly seasoned

If you are burning unseasoned fuel (wet), the fire will cause nothing but problems. The Metro won't deliver much heat, it will be lazy, smoke will enter the room when the door is ajar, and the door glass will run black. Unseasoned fuel is the main contributor to excessive creosote deposits which can be corrosive to your appliance and flue system.

Flue pipe length is too short

Add more flue pipe as the longer the flue system, the better the draw of the flue pipe. Please note, if you did not purchase the Metro ECO flue system, you will not have the ECO cowl which increases draw. We highly recommend the Metro ECO cowl is fitted as this will increase the draw. If you already have an ECO cowl and smoke is still entering the room, please add another 600mm length of flue pipe.

Downdraft/Turbulence blockage

If you have checked all of the previous factors and the fire is still smoking into the room, it's possible there may be a down draft issue. Down draft is environmental and can be caused by many variables, and it is purely trial and error to ascertain the cause.

Air turbulence and/or negative air pressure influences around the flue termination can be caused by too close or overhanging trees or natural/artificial ridges etc. Address these where possible or look to extend the flue above the roofline.

Other options may be:

- 'H' Cowl, designed purely for downdraft issues, but if you have an ECO cowl fitted as standard, you will also need to add another 600mm of flue pipe to compensate as the H cowl is shorter in length
- A directional cowl, designed to move with the wind direction. A simple solution for reducing down draughting and atmospheric issues in troubled areas.

Air control setting

Ensure the air control setting is on high before opening the door to reload, as this increases the draw up the flue pipe. Open the door slowly.

If your Metro did not smoke, but its starting too and is getting worse:

The flue pipe is in need of a clean. It is recommended that the flue pipe be cleaned every season, however if you are burning the fire on low a lot, or are burning unseasoned fuel, flue pipe cleans will be required more frequently.

Other issues you may experience

I can smell smoke in the room after a low burn cycle

The smell is creosote that will be seeping through the flue pipe join or out of the flue spigot onto an external surface, thus creating the smell in your room. The cause will be either unseasoned fuel, fuel mass too large, incorrect operation on low burn cycles or a combination of all three.

Creosote is very corrosive and excessive buildups will result in the flue pipe and potentially the flue spigot and upper burn chamber failing. The formation of excessive creosote is not an appliance issue, it is a fuel and operational issue. Failure of flue pipe or firebox due to creosote build up is not covered under warranty as excessive creosote build up is only possible from either unseasoned fuel or incorrect operation.

The Metro is noisy as it heats up and cools down

There will always be some expansion and contraction noise as a wood fire heats and cools. This can usually be reduced by loosening the fixings at the rear of the appliance. To remedy, locate the 25mm deep cavity at the rear of your Metro between the 'rear panel' and the 'inner rear heat shield'. Using a 10mm ring or open ended spanner, loosen any visible nuts/bolt heads so they are finger tight only.

On all Metro freestanding fires the air channel that allows the combustion air to enter the firebox is fitted to the top underneath of the door opening. It is fitted with two M6 bolts. Slightly loosen both of these bolts.

The Metro won't turn down as much as it did

The door itself may need readjusting, the hinge and latch is slotted and allows for movement. Loosening the hinge and moving it back a few mm will make the door seal tighter and stop air leaking into the fire. The door and glass seals may be in need of replacing, which is generally required every 3-4 years.

Familiarise yourself with the instructions on page 10 before proceeding with this maintenance.

WARRANTY



CAUTION! Important Information

Your Metro fire must be regularly maintained and we recommend it is also serviced annually. Proof of servicing may be required. If your fire is not regularly maintained and serviced, the life span will be reduced. If your fire has been neglected by not being regularly maintained and serviced, a warranty claim may be declined.

Metro wood fires are manufactured using the highest quality of materials, workmanship and the latest manufacturing techniques, which is why we offer a 10 year firebox warranty and a 1 year parts warranty for your peace of mind.

Metro warranty
(NZ Consumer laws apply to this warranty)

Pioneer Manufacturing Limited (Pioneer) warrants the steel firebox against defective materials and workmanship which would render it unfit for normal domestic use, from the date of purchase by the original consumer, for a period of 10 years.

Components including panel coating, door retainers, door seals, glass, trim, baffle and bricks are warranted for a period of 1 year from the date of original purchase for normal domestic use against defective materials and workmanship.

All associated accessories including, but not limited to, fans, flue systems, flue shields, wetbacks, tool sets, ash pots etc, are covered by a 1 year warranty against defective materials and workmanship.

It is recommended, but not a condition of this warranty, that a full service/ inspection of the Metro fire be carried out at the end of each winter season.

Warranty conditions

- The Metro fire must be installed, operated and maintained strictly in accordance with the relevant building codes and this installation and operation manual
- The Metro fire must be installed and used in a domestic application
- The Metro fire requires regular inspection and maintenance every time the ash bed is cleaned out (generally 3-5 times a season). If the Metro fire has not been maintained correctly you will void the warranty. Please ensure you keep the proof of purchase/receipt for any parts purchased and servicing work completed.

- This warranty covers appliance like for like replacement or repair at the manufacturer's discretion but excludes freight, travel, installation, labour and/or any other associated costs
- Pioneer or their agents are not liable for any loss or expense direct or indirect arising from the failure of any part or operation of the appliance
- Operation of this appliance in violation of the warnings in this operation and installation manual will void this warranty
- It is critical the fire not be operated with worn, faulty or missing door seals. Door rope and glass seals will gradually harden over time allowing excess air to leak into the firebox, causing the appliance to 'over fire' and use more firewood during operation.
- It is critical the fire is not operated with cracked, or broken door glass
- It is critical the fire not be operated with worn, faulty or missing bricks, baffle plate or promet (white brick attached to the baffle plate)
- A claim under this warranty should be directed to the retailer who supplied the Metro fire. If this is not possible write directly to the manufacturer stating details of fault, model, serial number of your Metro, dated proof of purchase and name of retailer purchased from.

Warranty exclusions

Service calls which are not related to any defect in the product (for example: operational, installation or fuel issues). The cost of a service call will be charged if the problem is not found to be a product fault

- Defects caused by factors other than normal domestic use or use in accordance with the product's operation manual
- Defects caused through the product being operated in an 'over-fired' manner resulting in sections of the firebox operating excessively hot to the point that sections glow red.

Note – Overfiring your appliance will result in distortion of the firebox

- Defects and damage to the product caused by accident, neglect, misuse or act of God
- The cost of repairs carried out by non-authorized repairers or the cost of correcting such unauthorised repairs
- Required maintenance as set out in this manual
- Surface coating deterioration through general wear and tear and lack of regular maintenance as set out in this manual.

Service under this manufacturer's warranty must be provided by a repairer authorised by Pioneer Manufacturing Ltd. Such service shall be provided during normal business hours.

Warranty	Complete and retain these details at the time of purchase
Purchase date:	
Model:	
Serial number:	
Retailer:	
Installer:	
Installation date:	

REPLACEMENT PARTS GUIDE

Your Metro wood fire must be regularly maintained and we recommended it is also serviced annually. If a wood fire is not regularly maintained and serviced, the life span will be reduced.

If your Metro wood fire has been neglected, by not being regularly maintained and serviced, with authorised Metro parts replaced as required, your warranty may be declined.

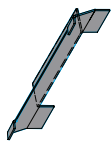
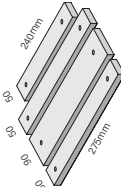
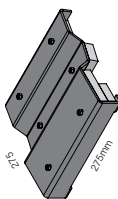
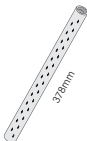
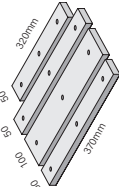
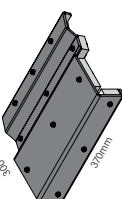
Listed below are the parts and product codes for your Metro wood fire. The promet/baffle should be regularly checked and must always be in place during the operation of your fire.

The baffle should be resting on four support lugs (two on each side of the firebox). It must be hard back against the rear of the firebox with the 'promet extension' (white board) or return front steel edge of the baffle facing forward.

Hairline cracks in the promet extension are not uncommon and will have no adverse effect on the operation and performance of your Metro wood fire. These cracks are the result of intense heat coupled with expansion and contraction and is normal wear and tear.

If the promet extension starts to break up and pieces fall into the firebox it must be replaced.

Note: Impact damage when loading wood and burning wood which is not properly seasoned, i.e. 25% moisture content or more, will cause the promet to disintegrate and require replacement. Always burn dry well seasoned wood and take care when loading wood into the firebox.

FREESTANDING MODELS		AIR TUBE / PROMET / BAFFLE		WETBACK	DOOR GLASS AND RETAINER		FIREBRICKS	
	Rad One		Rad One Rear Air Deflector 9010-5251	 Rad One Promet Set 500-1579	 Rad One Baffle 500-2502	No wetback can be fitted to this appliance	 Rad One NightView Door Glass 500-0268 Rad One Glass Retainer 500-0470	 Rad One Brick Set 500-1177
	Rad Plus	 376mm	Rad Plus Air Tube 500-1503	 Rad Plus Promet Set 500-1580	 Rad Plus Baffle 500-2507	 Side Wetback 450-0275	 Rad Plus NightView Door Glass 500-0267 Rad Plus Glass Retainer 500-0475	 Rad Plus Brick Set 500-1180

metrofires.co.nz

Visit the Metro website to view the full product range, find your nearest Metro stockist or simply check out the latest specifications, installation requirements and technical data.

- FREESTANDING FIRES
- INSERT & BUILT-IN FIRES
- ULTRA FIRES
- OUTDOOR FIRES
- ECO FLUES
- REPLACEMENT PARTS
- HEATING ACCESSORIES
- WETBACK SYSTEMS
- CATALOGUES AND INSTALLATION MANUALS
- NES TEST CERTIFICATES
- MAINTENANCE AND SERVICING
- PRODUCT VIDEOS AND HOW-TO GUIDES
- TROUBLESHOOTING
- FAQ'S



metrofires

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