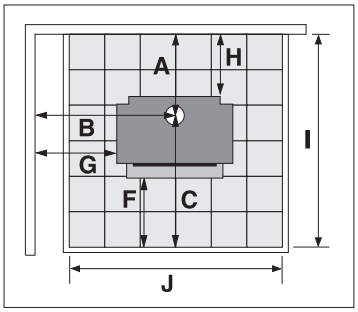
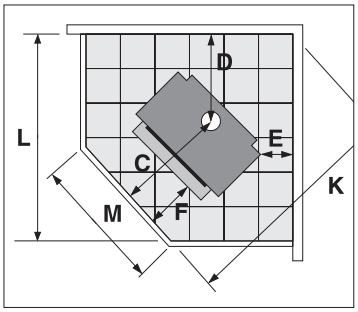
Wood Fire Installation & Owner's Operation Manual





metrofires

Rad Plus Wood Fire

Includes: Rad Plus, Rad Plus (wet model) and LTD Rad Plus

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NZHHA New Zealand Home Heating Association Inc.

NEW ZEALAND MADE

PIONEER MANUFACTURING LIMITED

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⚠ 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/NZS2918 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/NZS4013 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

All Metro wood 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 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:

- It is recommended that Metro fires 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
- The 150mm 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 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
- In New Zealand, 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
- Please take care when lifting the Metro fire into place onto the hearth or floor protector as point loading may break tiles and/or scratch surfaces.

Assembling your Metro fire

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

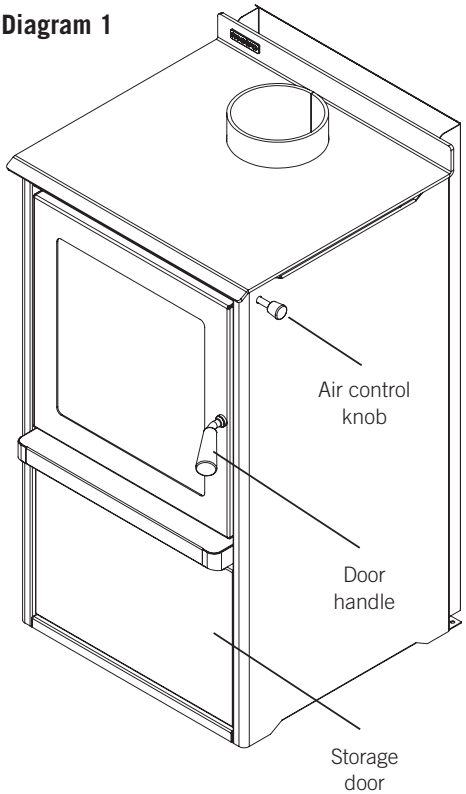
All Metro wood fires are packed in a single heavy-duty carton, and tek screwed to a wooden pallet. Having removed the packaging and located this manual, familiarise yourself with the illustrations on pages 2 & 3, and proceed as follows.

Metro Rad Plus wood fire

The Rad Plus is supplied virtually fully assembled. Packed inside the firebox you will find 3 x bricks in a cardboard wrapper, a door handle and air control knob.

- Remove the three tek screws holding the fire onto the wooden pallet. Two are located in the rear base of each side panel and one central in the front lower cross rail under the lower door. To open the wood storage door push the right hand side to release the magnetic spring loaded catch. Carefully lift the Metro off the pallet.
- Open the door fully and fit the side bricks to each side of the firebox. 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 2 for the orientation of the bricks.
- Attach the door handle to the door latch assembly by screwing it on clockwise.
- Attach the air control knob by screwing it on clockwise.

Diagram 1



Assembling your Metro fire

Baffle and Air Tube positioning

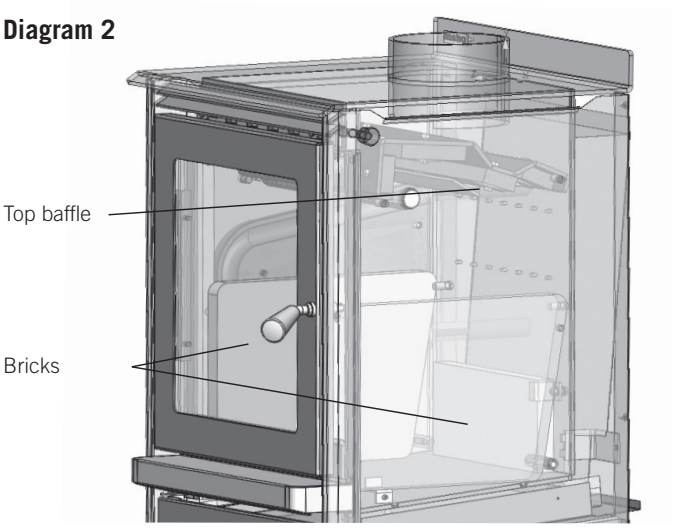
Check to ensure the top baffle and air tube is in its correct position in the top chamber of the firebox. The top baffle should be resting on four support lugs (two on each side of the firebox). The baffle must be pushed hard back against the rear of the firebox as illustrated in Diagram 2.

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 tube to be fully removed. When refitting the airtube the left side has to index over the bolt head locator so the air jets face in a forward/down direction.

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

Note: The airtube is not applicable for the LTD Rad Plus model.

Diagram 2



Wetback installation

⚠ 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 or codes.

⚠ CAUTION! Important Information

- Wetbacks must be connected with water before operating the fire and 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 water 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
- It is recommended the return pipe has a minimum rise of 1 in 12; performance will reduce as the distance to the storage cylinder increases.

Water heating is another key feature of your Metro wood fire. Only the Pioneer cast jacket wetback system should be fitted to your Metro; alternative wetbacks will void the Metro's emission approvals and may seriously affect the performance of the appliance and void its warranty.

Wetbacks can enable substantial power savings, dependent on the climate in the area in which you live. If you live in a cold climate you are likely to use your Metro for many months of the year, in which case a wetback will reduce or even eliminate your water heating costs over those months. If however you live in a warmer climate and use your Metro for only a few hours a day over the colder months, electricity savings will likely be less.

- Distance from your Metro to the storage cylinder will affect the amount of hot water produced
- Your climate and the manner in which you will 'fire' your Metro will determine the amount of hot water produced.

Wetback connections

Wetback connections are taken facing the Metro/wall. The return pipe connection is directly above the inlet connection. Connection heights are detailed in the clearances table on page 4.

- The Rad Plus model is 206mm left of the flue centre

Fitting the side wetback

- Remove the 6 x small pozi drive screws holding the outer rear panel. Remove the two pre-punched knock outs from this panel.
- Remove the firebox door.
- Next to the door hinge, Loosen the 2x pozi drive screws holding the side panel to the fire box, DO NOT remove.
- At the rear of the fire remove the 1x large pozi-drive screw holding the side panel to the fire box lower angled mount plate.
- Remove the three M6 counter sunk bolts and nuts on the left hand side wall of the firebox.
- At the back of the fire pull the side panel open so to create better access to fix the wet back to the outer side of the fire box down between that and the side panel.
- Using the tube of sealant supplied with the wet back, apply a liberal amount to the rear flat face of the wetback. Using the 3x counter sunk M6 bolts supplied fit the wetback to the fire box side. The front hole of the wet back is threaded.
- Reassemble and retighten all screws/panels

Wetback	Suitable for models:
Side Wetback 	• Tiny Rad Woody • Wee Rad Leg & Wee Rad Base • Wee Rad Woody • Wee Ped • Rad Plus & LTD Rad Plus

Floor protector size, construction and fitting

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 below and in the table and diagrams illustrated below. Note;
- The floor protector must extend 200mm horizontally to 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.

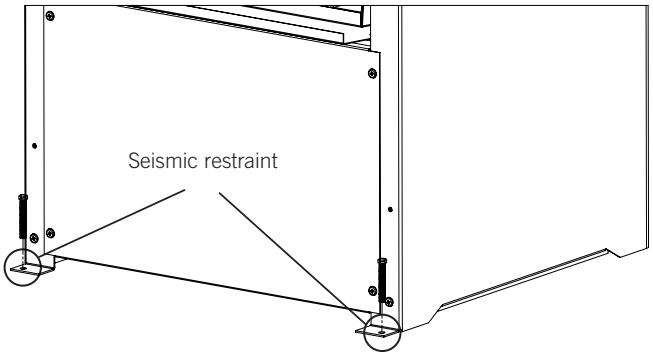
A suitable floor protector for a Metro freestanding wood fire is therefore any non-combustible material which could include;

- 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 floor.

Metro Rad Plus

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 into the sub floor.



Metro clearances and specifications (Minimum clearances shown are in mm, with a Pioneer double flue shield fitted)

Minimum clearances

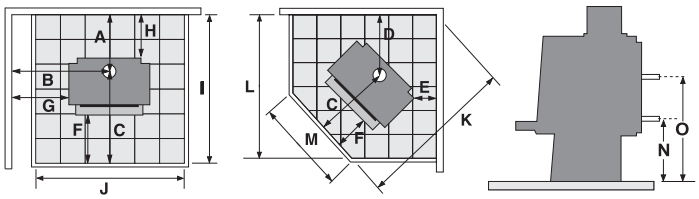
All Metro wood fires comply with AS/NZS 2918. Minimum clearances shown below are detailed in millimetres, with a Pioneer double flue shield fitted to the appliance. Measurements are taken from the following reference points as illustrated:

- From the nearest combustible wall or surface (A, B, D, E, G, H)
- From the Metro's flue centre (A, B, C, D)
- From the Metro's cabinet/heatshield outermost point (E, F, G, H)
- To 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 has undergone additional testing which allows for reduced corner clearances. Please see the footnote below the clearance table.

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 retailer or metrofires.co.nz.



	Minimum installation clearances with a Pioneer double flue shield fitted (mm)													Wetback		Dimensions		
Model	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**Width**	**Depth**	**Height**
Rad Plus	285	612	608	450	170	240	350	100	893	775	1244	1013	375	530	720	525	553	961
LTD Rad Plus	285	612	608	450	170	240	350	100	893	775	1244	1013	375	530	720	525	553	961

The Rad Plus installed with a 900mm Pioneer double flue shield with the Pioneer corner wing shields fitted allows for reduced clearances as follows:

[1] Rad Plus 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.

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.

All Metro fires require a 150mm diameter flue. Please note:

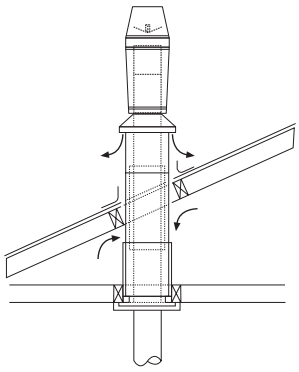
- Metro ECO flue systems must be installed to allow unrestricted air supply from either the ceiling cavity for an ECO Flue Kit, or above the roof line if the ECO Flue Kit and ECO Option Kits are both installed
- The ECO Flue system must be installed into a 'vented' flat ceiling cavity, or have an ECO 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 150mm diameter 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 Plus has been tested with a 900mm Pioneer double flue shield only. For the Metro fire to be installed with the minimal clearances as detailed on the previous page, only the 900mm Pioneer double flue shield can be used. All other flue shields will invalidate the installation.

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

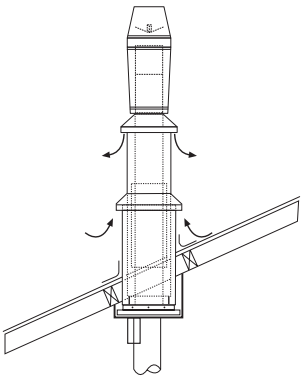
Detailed below are the more common installation methods for installing Metro ECO Flue Systems. To ensure a safe and efficient installation, this flue system must be installed as detailed below by either a registered installer, or someone competent in installing solid fuel appliances.

Single Storey Installations



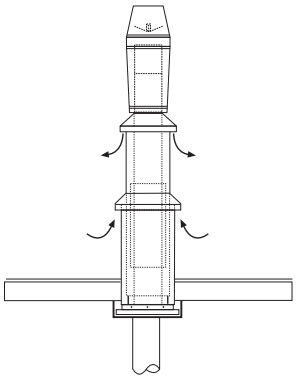
Flat Cavity Ceiling

ECO Flue Kit only required as air is drawn into the flue system direct from the ceiling cavity.



Sloping Ceiling

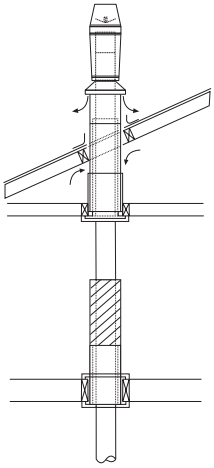
Both the ECO Flue Kit and ECO Option Kit are required to enable air to be drawn from outside the home.



Flat Ceiling/Roof

Requires both ECO Flue Kit and ECO Option Kit as per sloping ceiling unless a vented ceiling cavity exists.

Two Storey Installations



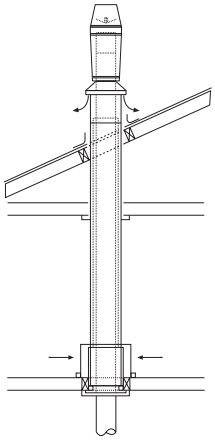
2nd Floor - Exposed Flue pipe

Requires an ECO Flue Kit only with additional lengths of flue pipe.

Additional components below are not supplied by Metrofires but are also required for this installation*

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

*In accordance with AS/NZS 2918



2nd Floor - Enclosed Flue pipe

Requires an ECO Flue Kit only with additional lengths of flue pipe.

Additional components below are not supplied by Metrofires but are also required for this installation*

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

*In accordance with AS/NZS 2918

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- 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
- Never operate your Metro with the top grill removed
- 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 Metro's specified installation clearances
- Never operate your Metro with the door ajar, except on initial start up
- Open the air control fully before opening the Metro's door.

⚠ CAUTION! Important Information

- This appliance should be maintained & operated at all times in accordance with this instruction manual
- This appliance should not be operated with cracked door glass, over worn, faulty or missing door seals
- Do not use driftwood, treated or unseasoned (wet) fuel, the use of most types of preservative treated wood as fuel can be hazardous and will damage your appliance
- 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 the flue pipe, flue spigot and upper burn chamber failing. 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
- This appliance must be regularly maintained and replacement parts must be authorised Metro parts only
- Do not empty ash into a combustible container.

Congratulations on the purchase of your Metro fire

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 and flue blockages and potential product issues.

1. Your Metro fire must be installed correctly. We recommended 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 over worn, faulty or missing door and glass seals. Door seals harden over time and become over-worn (3-4 year's). This allows air to leak into the fire, causing the appliance to 'over fire'
- DO NOT operate the fire with over worn, faulty or missing bricks, baffle plate, promet extension (white board on the baffle plate)
- DO NOT operate the fire with cracked or broken door glass.

Please 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 advertised 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.

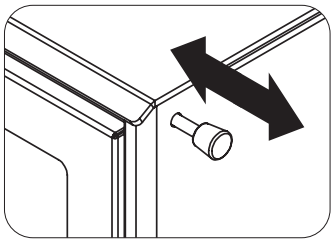
A specific loading method is used with specific fuel to obtain the results, which includes using dry 150mm x 50mm pine and the appliance being loaded and operated on the high setting for an extended period of time. During this time the appliance is periodically refuelled until the appliance reaches it's 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.

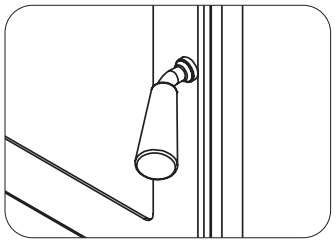
Getting to know your Metro fire

There is a single air control making your Metro 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.



Rad Plus air control



Rad Plus door handle

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.

Start up

Place 3 or 4 smaller pieces of wood across the base of the fire orientated in a front to back direction with air gaps between each piece.

Place a couple of fire lighters on top of this base fuel near the front, it's ideal if the fire lighters are approximately at the bottom of the door opening. Place some layers of kindling over the base fuel and fire lighters. Some smaller pieces of fuel similar to that placed in the base should be placed above the kindling in a front to back orientation with air gaps between. The fire box can be loaded to ¾ full of fuel with a clear space below the baffle.

With the air control fully open (extended to the far right) light the firelighters and leave the door ajar for two minutes, but only if necessary. It's best to shut the door as soon as possible to allow the fire to self-generate. Leave the fire to fully light and burn down to a healthy ember base over the next 30 to 45 minutes before loading additional fuel.

Normal operation

Once the fire is well established, regulate the air control to achieve the desired burn rate and heat output. As you move the air control to the right, burn rate, firebox temperature and heat output will increase, if you move the control to the left they will decrease. Please note:

- Always open the air control fully prior to opening the door, then open the door slowly. Every time you refuel, leave the air control on 'high' for a minimum of 20-25 minutes to ensure proper combustion
- When loading logs, place them end-on, 'front to back'; air spaces should be left between the logs to enable oxygen to get to as much of the surface of the fuel as possible
- Never use the door to force wood into the firebox, as this is likely to break the glass.

⚠ CAUTION! Important Information

If not operated correctly on extended burn cycles, your Metro is likely to incur flue blockages, corrosion of the upper baffle, lower flue pipe and firebox flue spigot. As these are not covered under warranty if they fail through improper use, it is important you operate your Metro correctly.

Extended burning (rural models only)

It is most important if your Metro is to be refuelled and turned down for an extended period, such as an overnight burn that you operate it correctly:

- The wood used as fuel for extended burning MUST BE FULLY SEASONED (DRY). Once the fuel is loaded, the appliance must be operated on high for a period of at least 20 minutes to drive out residual moisture from the fuel (dry wood is usually 20% water content) and ensure surface area combustion.
- DO NOT turn the air control down lower than you need to, if you want the Metro to burn overnight, endeavour to obtain an 8 hour burn time, not 12 hours. It will take a few burns to find the correct location of your Metro's air control setting to achieve the length of burn cycle you desire as this setting is affected by several variables including fuel density, flue length and outside wind velocity.
- A smouldering fire over an extended period is likely to deposit corrosive elements into your system which could be detrimental to your Metro.

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. The Radiant models have a dedicated cooking top enabling large pots to be placed on the cook top, while all other models have a lift-off grill.

Note: Metro's supplied with a lift-off top grill have this feature to enable the grill to be removed for cleaning if you have a spill. The lift-off top grill must be left on when cooking, because if removed the wall temperatures next to the appliance may become excessive and the top of the firebox is generally too hot to cook on directly.

Cleaning and maintenance for your Metro fire

⚠ 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 over 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 ashlip, even for a short time, will burn off the painted surface exposing the parent material to oxidisation
- Take note that high salt laden air environments (coastal installations) can impact on the appliances surface degradation

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, your Metro door rope and glass seals will gradually harden. Usually around 3-4 years, these seals will become hard and cause air to leak into the firebox, causing the appliance to 'over fire'. Your Metro retailer stocks replacement woven fibreglass door and glass seals, which need replacing when they become hard and over worn.

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 ashlip 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.

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.

Cleaning and maintenance for your Metro fire

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 board) 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 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.

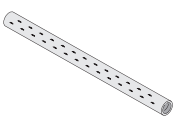
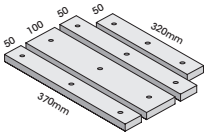
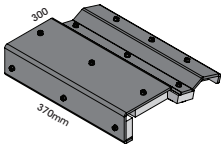
Note: The baffle must be fitted so its rear is touching the back of the firebox; if uncertain refer to page 3 in the installation section at the front of this manual, which shows illustrations of the baffle location.

Parts guide for your Metro fire – Promet, baffles and wetback options

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.

Model	Type of promet required / Type of steel baffle(s) required			Wetback options
	Rad Plus Airtube 500-1503	Rad Plus Promet Set 500-1580	Rad Plus Baffle 500-2507	Side Wetback 450-0275
• Rad Plus • LTD Rad Plus	 Air tube not applicable for LTD Rad Plus			

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 using 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. 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 the Metro 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 fire 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 8 before proceeding with this maintenance.

Warranty details for your Metro fire

Metro wood fires are manufactured in New Zealand, using the highest quality of materials, workmanship and the latest manufacturing techniques, which is why we offer a full 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 & 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 building code and this installation and operation manual
- The Metro fire must be installed and used in a domestic application
- 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
- Your Metro fire must be regularly maintained and we recommended it is also serviced annually. Proof of servicing may be required. 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, warranty may be declined

⚠ CAUTION! Important Information

Note: The following 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. Please ensure you keep your proof of purchase/receipt on any parts you buy.

- It is critical the fire not be operated with over worn, faulty or missing door seals. Door seals will harden over time and become over-worn (3-4 year's) and will cause air to leak into the fire, causing the appliance to 'over fire'. Do not operate the fire with cracked, or broken door glass
- It is critical the fire not be operated with over worn, faulty or missing bricks, baffle plate or baffle extension (white board on or under 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

(This manufacturer's warranty does not cover)

- Service calls which are not related to any defect in the product (i.e. 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 – This will result in distortion of the firebox)
- Defects to the product caused by accident, neglect, misuse or act of God
- The cost of repairs carried out by non-authorised repairers or the cost of correcting such unauthorised repairs
- Required 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.

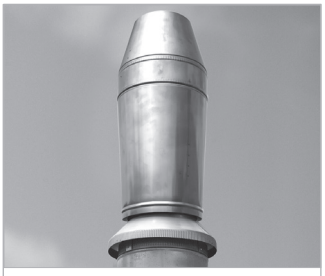
⚠ IMPORTANT! Complete and retain these details at time of purchase:

Purchase Date	
Serial Number	
Model	
Colour	
Retailer	

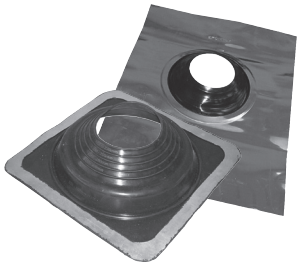
Pioneer heating accessories

Pioneer/Metro Fires offer a wide range of heating accessories designed to complement your Metro wood fire. The range includes ECO flue systems, floor protectors, wetbacks, heat transfer systems, baffles, bricks and more.

For further details talk to your Metro agency or visit www.metrofires.co.nz



ECO Flue Systems



Flashrites and Versatiles

Wetbacks

High Temperature Paint

Corner and Wall Floor Protectors

Heat Transfer Systems

Universal Door Seal Kits

Fire Cement And Silicone