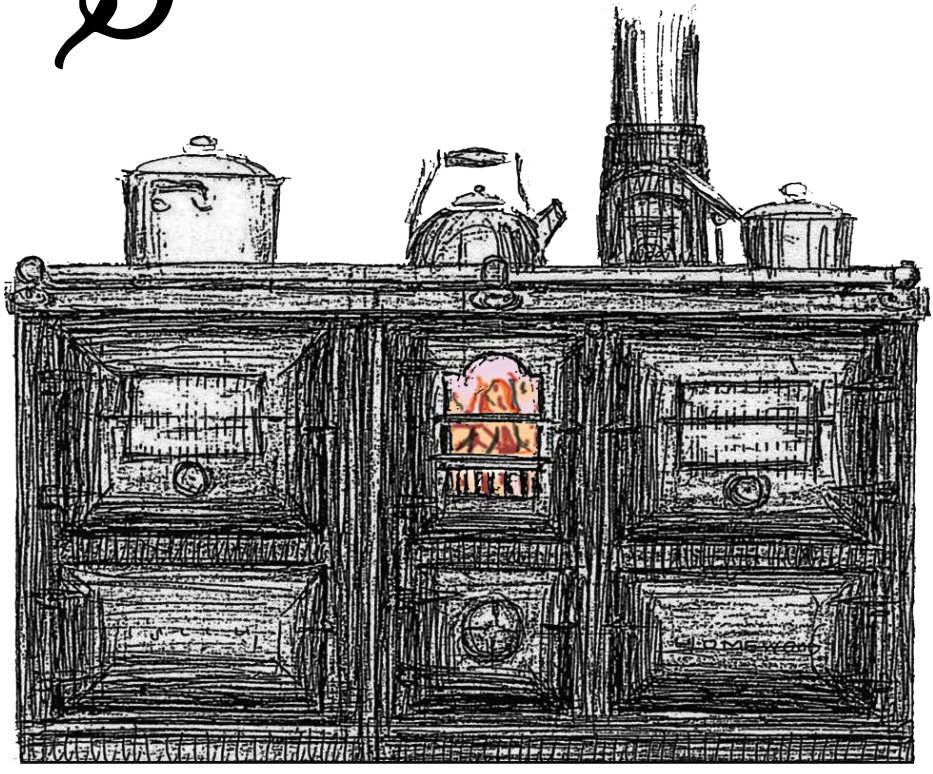
Homewood

MATRIARCH



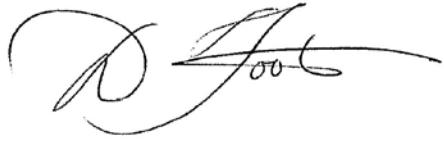
Operating Manual

HOMEWOOD STOVES LTD

Congratulations on your choice of a Homewood Matriarch stove. We work hard in order to offer handcrafted stoves of world-class quality, and we appreciate your support.

Take the time to read this entire manual, as it contains ***essential information*** for safe and effective operation, and will help you to get the most out of your stove.

Stay in touch, and welcome to the Homewood way of life.



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THE HOMEWOOD PROMISE

Your Homewood Matriarch stove is guaranteed against defective materials and sub-standard workmanship, for **FIVE YEARS** from date of shipping, provided all installation, operation and maintenance directions are followed correctly.

This warranty does not cover normal wear and tear, nor damage or failure caused by tampering, carelessness, misuse, or neglect, and only applies to the original owner.

Normal wear and tear - expected degradation as a result of normal use, including wear to your refractory bricks, your baffle, your rope seals and door catches.
Tampering - any modification to your stove that we have not first approved in writing.
Carelessness - any operator-caused damage.
Misuse - deviating from installation or operation instructions.
Neglect - failure to correctly follow all maintenance and protection directions contained within the installation and operation instructions.

Take care of your Homewood, and enjoy it for life.

Stove number:

Shipping date:

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CONTENTS

IMPORTANT

Heed all warnings to ensure the safe operation of your stove, and to avoid the invalidating of your warranty.

- Read this manual and our installation specifications in their entirety before attempting to operate your Homewood.
- Only operate a Homewood Matriarch that has been installed to our specifications, and run in as per page 16.
- Fire is hot, and your Homewood Matriarch will heat up during use - exercise appropriate care.
- If your stove has a water heating system, it must be connected to water *every time* you light your Homewood.
- **Keep your stove dry.** Water corrodes iron. Make sure all flue seals and caps are intact at all times, and clean up any spills as soon as it is safe to do so. Treat any unexplained moisture seriously, and immediately investigate for cause.
- Do not modify your Homewood Matriarch in any way without prior written approval from Homewood Stoves Ltd.

WARNING: DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS TO START OR REKINDLE THE FIRE.

WARNING: DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHEN IT IS OPERATING.

WARNING: DO NOT STORE FUEL WITHIN STOVE INSTALLATION CLEARANCES.

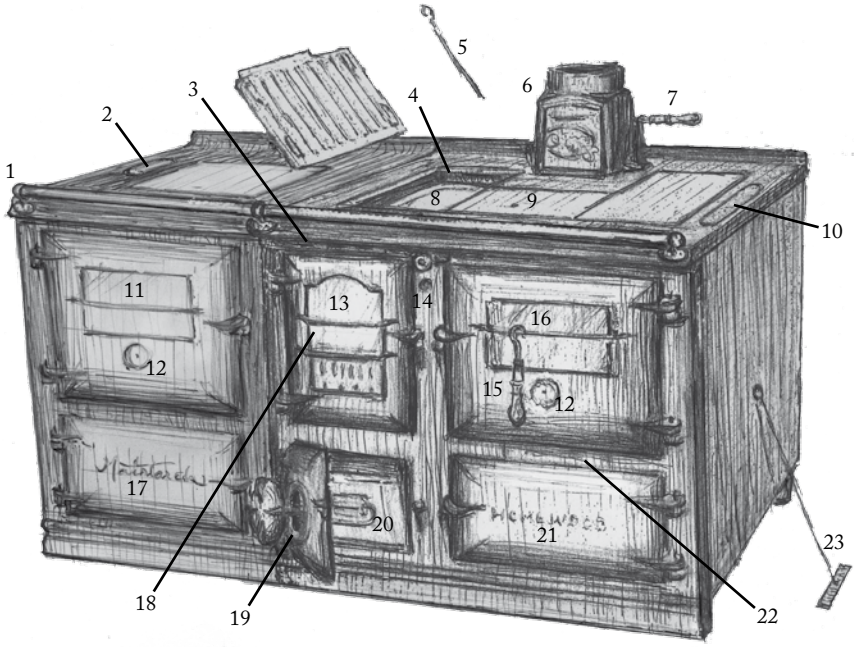
WARNING: IF OPERATING THIS APPLIANCE AS AN OPEN FIRE USE A FIRE SCREEN.

CAUTION: THIS APPLIANCE SHOULD NOT BE OPERATED WITH BOTH FIREBOX GLASS PANES CRACKED.

CAUTION: THE USE OF SOME TYPES OF PRESERVATIVE-TREATED WOOD AND DRIFTWOOD AS A FUEL CAN BE HAZARDOUS AND CORROSIVE.

CAUTION: THIS APPLIANCE SHOULD BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THESE INSTRUCTIONS.

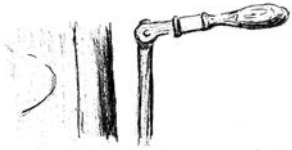
THE HOMEWOOD MATRIARCH



1. Handrail (keeps cool)
2. Left cleaning port
3. Top air control
4. Optional copper water jacket at rear of firebox
5. Plate tool
6. Flue collar, with soot door
7. Bypass lever
8. Baffle and preheated air pipe
9. Cooking plates, with left plate lifted, showing underside
10. Right cleaning port
11. Top left oven
12. Thermometers
13. Firebox
14. Secondary air intake, (uncontrolled)
15. Handle tool
16. Top right oven (main oven)
17. Warming oven
18. Refractory bricks
19. Ash compartment door, with bottom air control
20. Ash pan
21. Lower oven
22. Front cleaning port
23. Poker/scraper tool

STOVE CONTROLS

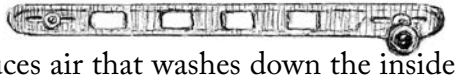
Bypass lever - the wooden-handled lever, to the right side of the flue collar.



The bypass lever should only ever be in two positions: fully open during start-up, then once your flue has heated up enough to be generating its own draw, fully closed for the rest of the time.

When in the open position (handle away from you), the hot combustion gases escape directly up the flue. When closed (handle toward you), these gases circulate around the ovens, heating things evenly, before then escaping out the flue. You do not use this control to regulate your oven temperatures - it remains closed after start-up, even if the ovens are not in use.

Top air control - the sliding vent with wooden handle, immediately above the firebox door.



This variable control introduces air that washes down the inside of the door, keeping the glass clean during lighting. It supplies primary air to the firebox, and is mainly used to regulate how *cleanly* your fire is burning. If you ever see smoky, black-tipped flames, your top air control needs to be opened up a bit more. Avoid slamming this control open or shut: just slide it gently.

Bottom air control - the rotating cast-iron cap, on the ash compartment door.

This lower control blasts air up through the firebox grate, and is what really drives your stove along. It has been designed to be easily operated by foot, and is used during start-up and whenever wanting to boost oven temperatures.

Be aware that this control will heat up once closed, so exercise appropriate care.

Page 6 details the proper use of these controls.

FUEL

The wood you choose to burn is going to have the single greatest influence on your stove's performance. Only thoroughly *dry* wood will produce a clean, hot fire.

It is desirable to have a mixture of both *softwoods* and *hardwoods*. Hardwoods are generally heavier and denser, so burn slower and for longer – making them ideal for maintaining an already-established fire with minimal refuelling. Softwoods burn much faster, and that quicker release of energy is exactly what you want for getting a fire going and to quickly boost oven temperatures when desired.

Some common firewood types around New Zealand:

Softwoods

Totara (moderate burning)
Pine (quick burning, and hot)
Macrocarpa and Lawson Cypress (moderate burning)

Hardwoods

Black Wattle and Manuka/Kanuka (hot burning)
Eucalypts (hot burning - Gum is very slow to dry properly)
Willow and Poplar (not very hot, but very clean)

You may have different kinds of wood available in your area - just remember, the very best is always dry wood. Wood that is still green will drop your combustion temperatures and burn dirtily. Avoid overly resinous woods, such as red-heart totara or very gummy pine, as they can leave heavy deposits around the oven and in the flue.

Even well-seasoned wood can create creosote, when large logs are prematurely added and left to smoulder on a fire that has not yet reached the necessary temperatures for good combustion.

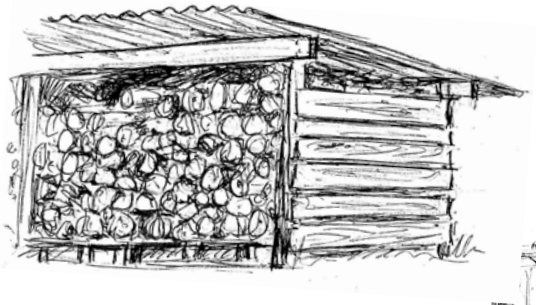
Tip: old pallets can be an excellent source of free starter fuel. Just make sure they are both untreated *and* unwanted; and be prepared to sift through the ash for nails!

Wood Storage

To have good, dry wood to feed your fire, you will need to store it in a place that is well-aired and sheltered from the elements. Some woods can take a significant time to dry properly after felling, so if you are cutting your own wood you will need a good-sized woodshed and an organised rotation system.

Different woods, cut to different sizes, dry at different rates; the denser the wood, the longer the drying period. While some softwoods can be dry and ready to burn in as little as three to six months, it can take some of the denser hardwoods several *years* to season properly.

Tip: if you hit two dry pieces together, they should ring - a dull thud indicates excess moisture: more drying needed! Alternatively, electronic moisture meters are inexpensive and readily available these days.



Wood Cutting

The Matriarch has a very large firebox, with a maximum log size of around 460 mm by 210 mm (about 400 mm long is ideal). Be sure to also split plenty of intermediate diameters for building the fire.

A Note on Coal

This stove has been designed as an efficient and clean-burning *wood* stove. While the Matriarch is certainly capable of burning coal (it has a grate, and air can be introduced from below), it has not been tested to establish safe clearances to heat-sensitive walls for coal-only running. If intending to burn coal only, it must be installed as an "untested appliance", as per AS/NZS 2918.

BUILDING A GOOD FIRE

A good fire is one that has established a thick bed of hot embers in the firebox, reached effective combustion temperatures, and is now burning cleanly and economically. The investments you make during start-up are what allow your fire to reach this state.

Stage One: Ignition

Both air controls and the flue bypass lever must be fully open when lighting your stove. Page 3 introduces these controls.

1. Push the bypass lever away from you, to the open position.
2. Slide the top air control all the way open to the right.
3. Wind the bottom air control completely open.
4. Scrape the grate slots clear of ash.
5. Place paper on the grate, then kindling and some smaller pieces of wood, and ignite in multiple places. The Matriarch lights very easily; you shouldn't need much kindling.
6. Close the firebox door as soon as the paper is lit to allow the controlled air to circulate and do its job. The glass in the firebox door allows you to monitor the fire.

☞ **Warning:** do not burn household rubbish. Never burn plastics nor anything overly glossy. This is not an incinerator!

Stage Two: Start-up

During this stage, which should only last for 45 minutes or so, it is important to be very generous with your smaller wood.

This is *the most critical* phase for building an efficient and economical fire - heat is being absorbed by the refractory panels and the cast iron, and a hot mass is building in the firebox. Burning plenty of smaller wood early, to get all this thermal mass quickly heated up, will then pay off in a great fire that requires less wood later on.

Failure to build sufficient heat during this phase will leave you with a lacklustre fire that limps along at poor combustion temperatures.

1. Feed your fire with starter wood: dry, quick-burning softwood around 50 - 100 mm in diameter. Add progressively larger pieces throughout this stage, without smothering your fire.
2. About 15 minutes after ignition, your flue will have heated up enough to be generating its own draw. Turn the bypass lever fully toward you, to the fully closed position. Heat now circulates, causing the oven temperatures to steadily rise.
3. Over the second half of this stage, you can be progressively closing the top air control to the minimum required to maintain clean burning. Begin gradually winding in the bottom air control.

If your fire is struggling - characterised by black-tipped flames, smouldering wood, dull embers and a lot of smoke coming from the flue - be more generous with your air and/or smaller wood, so that you reach the proper combustion temperatures needed to achieve the final stage. There is an enormous mass to heat in a Matriarch.

Remember: only properly seasoned wood gives a clean, hot fire!

Stage Three: Ticking Over

Any soot that may have deposited on your glass or bricks during the start-up phase has burned off, and even with all controls fully closed your fire is burning cleanly. The mass of iron and brick has heated up, and the fire can now be maintained with just infrequent additions of larger logs. The main oven is sitting around 180 - 200° C.

If it is taking you longer than about 45 minutes to an hour to reach this benchmark, you need to be pushing things along more aggressively during Stage Two: Start-up.

Visit **www.homewoodstoves.co.nz** for a video guide!

MAINTAINING A GOOD FIRE

Oven temperature is a combined function of the air supply and the wood type and size. Experience will soon provide a knack for judging how much wood or air is required.

Cooking Temperatures

Wood should be replenished before the last log burns down completely, while the ember bed still retains its heat. To quickly *raise* temperatures, increase the primary air and add starter wood (see Stage Two, page 6). To quickly *drop* temperatures, simply hold open the oven door as required.

Depending on what you are baking, your main oven will usually be sitting somewhere in the 160 - 220° C range. You can bring this up higher, if cooking pizza or similar, but only briefly as needed, and *never* exceed 260° C. If you have to leave your oven door open to maintain usable temperatures, you are running your fire far too hot!

Overloading

Running your stove at excessive temperatures for prolonged periods could cause the cast panels to crack, distort or even burn out. Adding fast-burning wood to an established fire is effective for boosting oven temperatures when required, but running the stove constantly on a full supply of fuel and maximum air will damage your stove.

Idling

A fire that is not being used for cooking can be run more lethargically, by allowing logs to burn down almost completely before refuelling.

Overnight Burn

To achieve a good, clean, overnight burn you need a well-established bed of embers. Place one large (as big as can fit), *dry* log of a slow-burning hardwood onto these thick embers and close all stove controls once it has started burning well.

In the morning, open all controls right up (including your bypass lever - your flue will have cooled overnight), stoke the embers, and re-establish a good fire from the beginning of Stage Two, page 6.

COOKING

This is what it's all about: a bubbling kettle, home-baking fresh out of the oven, and the warmth and comfort of a Homewood kitchen.

The Cast Iron Benefit

The Homewood Matriarch is a cast-iron stove. Cast iron is the material of choice for premium cookstoves, due to its tremendous ability to absorb, retain and radiate heat. The thick, heavy castings take in and hold the circulating heat, evening out temperature fluctuations and creating very stable and forgiving ovens.

Opening the door to check your baking will have very little detrimental effect on your temperature, and you needn't turn your baking around in the oven for even browning, as the cast iron of the Homewood minimises fire-side heat bias.

Tip: if you are in a rush, and needing to bake on a fire that's not yet established, you may notice extra heat on the fire side of the oven until a stable temperature has been reached.

Top Ovens

The left oven takes longer to get up to temperature and runs at a lower heat than the main oven, but holds a steady temperature for a *very* long time. Heat rises, so these are hottest in the upper portions. Use as you would a conventional oven, regulating the temperature as instructed on the previous page. The thermometer and large glass window in the doors will allow you to monitor your baking.

Tip: a torch can be handy to check on your baking through the glass, especially in low light!

Before thermometers became commonplace, cooking temperatures would be gauged by the rate and degree of paper browning - a fairly imprecise art, yet many people remember the food that came out of their grandmother's woodstove as the best they ever had! With time and experience you too will soon relax into a rhythm of being less fussed about exact temperatures or cooking times.

Lower Oven and Warming Oven

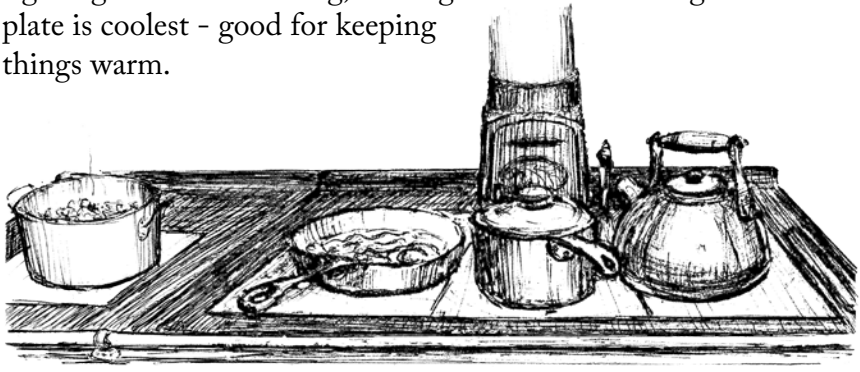
The lower oven runs at around three quarters the temperature of the main oven, so if your main oven is in the 180 - 200° C range, this one will be around 150° C: ideal for slow roasts, casseroles, puddings and cakes.

The warming oven won't cook much more than meringue, but is great for keeping meals warm, heating plates and drying fruit.

Tip: having multiple ovens available at different temperatures is one of the best features of your Matriarch! It is very hard to beat a roast that has been browned in the main oven, then shifted to a cooler oven to slowly cook for hours.

Top Plates

Your cooking plates will heat rapidly upon lighting your stove. The plate directly above the fire will always be the hottest, and is good for boiling, searing and frying. The plates get cooler to the right - good for simmering, stewing and slower cooking. The far left plate is coolest - good for keeping things warm.



The great thing about having cast iron plates like this is that you always have instant access to variable heat. Simply slide your pot or pan away from the fire for less back, and back to it for more - a whistling kettle works wonders in demonstrating this!

☞ **Warning:** Avoid spills. Jam and syrup spills in particular can be especially difficult to remove; and keep in mind that *salt* is a corroding agent. Regular salt spills on the top of your stove will cause pitting in the cast iron.

RECIPES

Once you're up and running with your Homewood, why not give one of these simple recipes a try?

David's Date Scones

3 cups flour
1 tablespoon raw sugar
¼ teaspoon salt
1 teaspoon baking soda
2 teaspoons cream of tartar
1 cup chopped dates
1 cup milk
1 egg
1 - 2 tablespoons sour cream
2 teaspoons golden syrup (optional)

Mix sugar, salt, baking soda, cream of tartar and dates into flour and create a well in the centre for the milk. Beat the egg, sour cream and syrup into the milk with a fork, then mix into the dry ingredients. Add more milk if needed to make a soft dough. Sprinkle with flour to enable handling, and shape into about 8 squares.
Bake in a hot oven for 10 - 15 minutes, until brown.

Penny's 'No Knead' Bread

(Makes 3 loaves, does not require kneading)
4 teaspoons sugar
4 teaspoons yeast
8 cups wholemeal flour
4 cups white flour
5 teaspoons salt
6 - 7 cups lukewarm water

Dissolve sugar and yeast in 6 cups of lukewarm water. Oil tins, giving yeast time to activate. Mix flour and salt in a large bowl, and add the yeast mix. Mix well - add extra water as needed to make a sticky dough. Pat down into tins. Leave to rise almost to top.
Bake for 60 - 75 minutes or so in a moderate oven, until well-cooked.

Visit **www.homewoodstoves.co.nz** for more recipes!

CLEANING

Only clean and maintain your Homewood while unlit and at room temperature. Soot is known to be bad for you, so take appropriate precautions if coming into contact with it while cleaning.

Clean

The exterior iron of the stove can be cleaned as needed with kerosene or turpentine on a rag. In the event of a bad spill, you can use a plastic scourer with kerosene to clean the iron.

Your cast-iron oven panels are 'self-cleaning' - anything spilled within should simply burn away, and the iron will actually absorb and appreciate any splattering of oils or fats. Use an oven cleaner of your choice on any of the stainless steel components, as required.

Polish

Over your first weeks of use, build up the polished surface of your Matriarch (only polishing the external cast iron) with a few applications of stove polish (follow manufacturer's instructions); then polish monthly, or as desired. Any kind of iron polish should be suitable, or you can even do as they did in the 1800s: rubbing lard or other fat into the iron while it's still slightly warm, a bit of soot from under your cooking plates for blackening if desired.

It's up to you whether you wish to polish over your cooking plates or not - some people like to keep them bare to cook directly on them. Bare iron will oxidise, and in its natural state look brown.

Ash

Ashes should be emptied regularly, and before the pan becomes full. Place in a noncombustible container with a tightly fitting lid, clear of combustible materials and out-of-doors. Support your ash pan well while carrying it.

Tip: wood ash has value in a garden compost, but take care not to add hot embers. Wood ash combined with diluted human urine makes an organic fertiliser of high quality!

Glass

The double-glazed windows are vulnerable parts of your doors. Exercise care to ensure they enjoy a long life: make sure the doors are shut securely when in use; never use them to push in firewood or oversized baking dishes; make sure wood or oven dishes are not left in contact with the glass (this will result in deposits very difficult to remove); don't attempt to clean while hot; never pour cold liquid on hot glass; when using the handle tool, *lift* your doors shut, rather than pushing against the glass.

The cycle of heating and cooling may see your door screws work loose over time. Tighten them just enough so the washers below become difficult to move (but still can) - any tighter could crack your glass!

Tip: as your fire dies, a white residue is deposited on the glass. This can eventually etch in, for a permanently cloudy glass. To keep that from happening, wipe the inside firebox pane with a damp, soft rag as part of your lighting procedure - even if looking clear. Dip your rag in ash to remove anything stubborn!

Full Clean

Every couple of months or so, depending on frequency of use and firewood quality, you will notice your stove is feeling sluggish and taking longer than it should to come up to normal temperatures. Soot has built up where the combustion gases circulate, and it's time to use your cleaning tools to give things a full scrape out:

1. Brush down the underside of the cooking plates, and scrape the top of the ovens. Sweep deposits down the end cavities.
2. Scrape down the wall between the firebox and right oven.
3. Remove left and right cleaning ports, and scrape down the inner sides of the ovens.
4. Open front cleaning port, and sit ash pan in the lower oven below.
5. Scrape both surfaces, top and bottom, through the front cleaning port and pull out all debris into the ash pan.
6. Use your extra long scraper and brush tools to clear out the channel beneath your firebox and left ovens. Push these tools through the front cleaning port, to back left of this cavity. Confirm via the left cleaning port that you have reached all the way.

MAINTENANCE

Your stove has been built to last, and designed so that you can do the regular maintenance on it yourself.

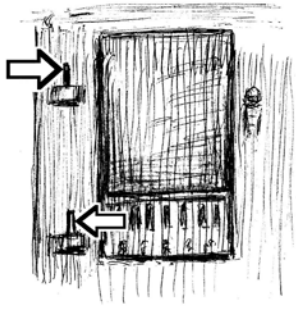
Replaceables

The baffle, the refractory bricks, the door catches and the rope seals around doors and cooking plates are all subject to normal wear and tear, and may require replacing every so often. We can supply replacement parts as required - just get in touch.

Tip: your local hardware store likely carry a refractory mortar product. Use this to fill any pitting or cracking in your refractory bricks. After a few years with your Homewood, start applying a sacrificial layer of this, diluted with water, to the face of the bricks before each winter to extend their life.

Door Adjustments

Your doors have been fitted at room temperature in our workshop. This fit may experience movement over time and can be tweaked to taste. Remove door, and put in a safe place. With a hammer, gently tap the hinge pins in the directions required to restore a snug fit.



Tapping the pins in the directions indicated will *tighten* the firebox catch. To *loosen* the catch, reverse the tapping directions. Most adjustments should require moving only the top pin. While changes to the ash and left oven doors will be identical to this, the adjustments for the right oven doors will be opposite.

Flue

Maintain your flue as per the manufacturer's instructions, inspecting and cleaning it regularly. **You do not want a leaking flue.**

Handrail

Make sure that the screws on the rail ends keep tight.

Seasoning

At the end of each winter, give your stove a full clean as described in the previous section, but rather than polish your clean stove, instead paint it with a liberal coating of boiled linseed oil, diluted about 50/50 with kerosene or turpentine.

As with polishing, only apply the linseed oil to the *cast iron* of your stove: the top panel and flue collar, the front panel and doors, and with this you can also do the cast iron inside the ovens. Avoid the cooking plates, and avoid your top air control as the moving slide can become sticky with linseed.

Cast iron is surprisingly absorbent, so leave it to soak in for a couple of hours, then wipe off any excess with a rag - unabsorbed linseed oil not removed will become very sticky, and collect dust. Leave overnight, then light a small fire to fully harden. Once cool, polish, and go back to normal use.

This seasoning maintains a protective layer and helps to minimise corrosion - you're welcome to do it more often should you wish to. If you live in a coastal environment, with salty air, we strongly encourage following this seasoning procedure more frequently!

☞ **Warning:** linseed-soaked rags can spontaneously combust, and are a fire hazard, so dispose of them safely.

Storage

Your stove is most vulnerable to corrosion when not seeing regular use. If planning to leave out of use for an extended period of time, season as above, but also leave a film of cooking oil on the cooking plates to protect them from corrosion. Remove your soot door, and stuff some newspaper up your flue and into your flue collar.

Remove the newspaper when ready to begin using again, and use a turpentine-soaked rag to wipe away the oil and any superficial rust.

Irregular Maintenance

If requiring any maintenance more major than what has been covered in this manual, please be in touch with us or visit our website: **www.homewoodstoves.co.nz** for further guidance.

YOUR FIRST FIRE

In order to heat treat the cast iron, it is very important that your Homewood is **run in** properly the first few times you light it. These first fires will be much slower and gentler than the strong fire you will normally build. They must be built up very slowly to avoid over-stressing the metal, kept below certain temperatures, and allowed to slowly cool.

Run as per page 6, with the following modifications:

Close the bypass lever after 30 minutes of lighting.
Burn little more than kindling for the first hour.
Maintain only a very small fire for at least two further hours.
Do **not** let the main oven temperature exceed 140° C / 280° F.
Then allow it to completely cool (eg: overnight).

Do the same at the second lighting, but let it get a little hotter. It is still essential that you build the fire very slowly and be careful to keep the main oven at only a moderate temperature (this time, do **not** exceed 160° C / 320° F). Allow it to slowly cool again.

From your third lighting on, you can now run it normally, as per the directions that start on page 6 of this Operating Manual.

You will notice that these first fires cause the bare cast iron (visible as the cooking plates) to turn different colours. This is an initial reaction to the heat and is normal. You may get a little water coming out the ash compartment door, and some weeping down the firebox window. Also normal, as the refractory panels can retain some moisture that first lighting forces out – but this should be the only time you are ever relaxed about seeing water come from your stove!

You may also notice a small amount of surface smoking or smell – this too is normal: avoid cooking during the very first run, and ventilate the room as needed.

Visit **www.homewoodstoves.co.nz** for video directions on this process!