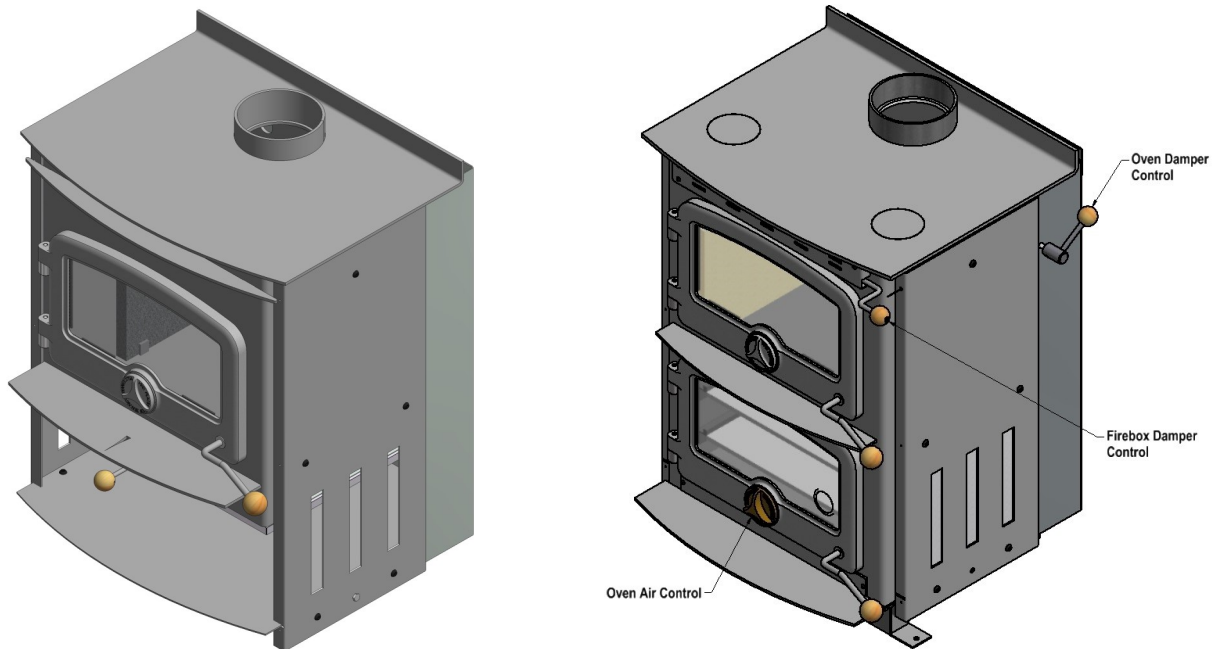


Southern Series Woodburners

Lewis, Lindis, McKenzie and the Cardrona Cooker

Maintenance and Operating Instructions



Visit www.warmington.co.nz for specs, DWGs and PDF uploads of fires

OPERATION

Storing/Drying Fuel

Damp wood is dried naturally while it is stored. Use dry timber preferably cut and stored under cover the previous year.

Purchasing the Firewood

The quality of the firewood you burn can have a dramatic effect on the efficiency and operation of the heater. The main factors that affect the burning characteristics of firewood are moisture content, tree species and piece size.

The moisture content of the wood affects the rate at which burns and the efficiency of combustion. When trees are cut, wood moisture content ranges between 35 and 60 percent by weight. If you attempt to burn wood this wet, it will be hard to ignite, slow to burn and will hiss and sizzle in the firebox.

So much energy will be consumed in boiling off the excess water that the efficiency of combustion and the heat to your home will be low, condensation and corrosion may be occurring in the flue and smoke may be causing problems to your neighbours. Properly seasoned wood ignites readily and burns efficiently.

Firewood should be cut and split in the early spring and stacked under cover, with good ventilation, to be ready for burning when required.

Look and check for cracks in the end grain as a sign of dry wood. The stacks of firewood should be in an open area so that air can circulate between them. During the summer, as warm breezes flow through the stacks, carrying away the evaporating water, the moisture content of the wood will fall to around 20 percent. At this moisture content the wood is ready for burning.

Although the energy content of dry wood per kilogram is almost the same regardless of species, softwoods and hardwoods burn differently because of differences in density. Softwoods, such as pine, are less dense than hardwoods like gums, Manuka or ironbark. A denser wood will produce a longer-lasting coal bed, while a less dense wood will bring a fire to an optimum burning temperature more quickly.

The size of the firewood pieces affects the rate of combustion. Larger pieces ignite and release their energy more slowly than small pieces. Smaller pieces are better for short, hot fires and larger pieces are preferable for extended firing cycles. In general, commercial firewood dealers produce firewood in larger pieces than modern wood-burning appliances can handle. It is often necessary to split some of the wood again before using it.

Firewood harvesting can have an effect on native woodlands and a variety of threatened species. Dead standing and fallen timber provides habitat for numerous species of animals and birds. Wood heater operators should be encouraged to be sensitive about the source of their firewood. If collecting it privately, operators should leave some dead wood behind as it provides habitat for birds and animals.

Burn Control and Operation

The primary air control wooden knob controls the amount of air drawn into the stove and thus the combustion rate. Turning the air control clockwise will let more air into the fire thus giving you a higher peak power out but shorter burn time, screwing the air control knob anti-clockwise will give you a longer burn time however you will get a lower peak power output.

- When lighting the stove, the air control should be fully open (Turn the air control wooden ball clockwise).
- Place paper or fire lighters into the base of the firebox.
- Arrange kindling on top of paper or firelighters, allowing air to move easily through the kindling.
- Light the fire around the base to ensure good ignition of paper or firelighters.
- Leave the door ajar 5 to 10 mm to aid with speedy ignition of the fire. Do not run the fire for long periods with the door ajar as damage may result.
- When the fire is happily burning the main fuel loads can be placed into the fire, from the front to the rear in a lined pattern, ensuring that the flames can easily move through the fuel load.
- Close the door to ensure a seal to the firebox.
- Once the fire is fully established and burning brightly the air supply can be considerably reduced to control heat output (and fuel consumption). Note, the air control is designed such that even when fully closed some air still enter the firebox. This keeps unwanted flue emissions to a minimum.

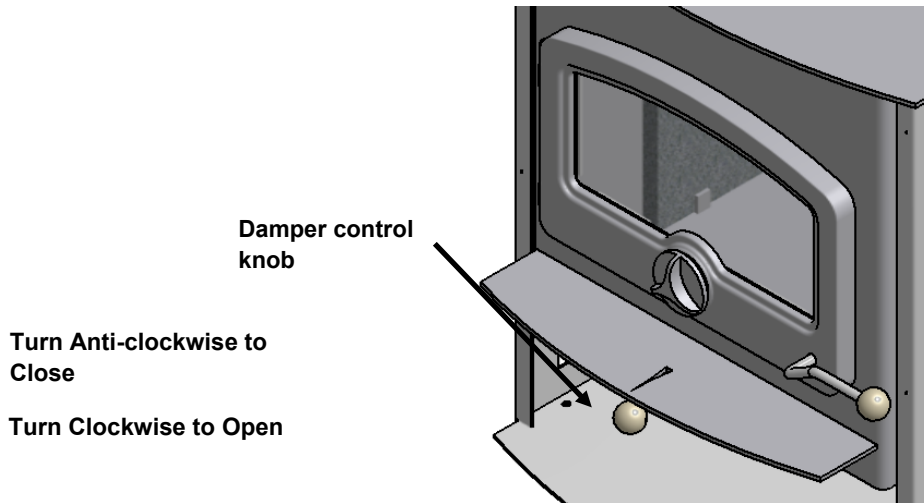
Removing Ashes

When you use your fire for a few weeks you will find that ashes accumulate in the firebox. The ashes can be removed easily through the fire door when the fire is at its lowest, such as first thing in the morning, or when it is completely out. The amount of charcoal in the ash is often a good indicator of how well you are operating the heater. If there is no charcoal and only very fine ash then you are doing an excellent job. If there is a lot of charcoal you may be turning the combustion air down too soon after refueling, or not raking the charcoal to the combustion air inlet, or turning the combustion air down too low to support efficient combustion, or all of the above. Warmington wood-burning appliances work best when a small amount of ash is left approximately 25mm deep in the firebox after cleaning, this aids with stable burning. The ash should be placed in a noncombustible container with a tightly fitting lid and moved outdoors immediately to a location clear of combustible materials.

Cooking

Because the top of the fire is in direct contact with the flame, it offers a large cooking surface. Ideal for entertainment at home or cooking for holiday homes and farm cottages. If spillage occurs, clean the surface with a soft cloth and dish washing liquid, avoid scratching the surface.

Damper Control Position



Operating Instructions for Damper Control

The Primary Air Control Handle (Wooden Knob) Controls the amount of air drawn into the Firebox, and thus the combustion rate. Turning the Air Control Clockwise will let more air into the Fire thus giving higher peak output, but shorter burn time. Turning the Air Control Knob Anti-Clockwise will give you a longer burn time, but lower peak output .

- When lighting the fire, the Air Control should be fully open (approx. 10 turns).
- Light Fire around the base to ensure good ignition of paper or firelighters.
- Leave the door ajar 5-10mm to aid speedy ignition of the Fire.
- When the Fire is burning well, the main fuel load can be placed into the Fire, from front to rear in a lined pattern, ensuring the flames can move through the Fuel Load.
- Close door to ensure a seal to the Firebox.

Once the Fire is fully established and burning brightly, the air supply can be reduced to control heat output (and Fuel Consumption).

Note: The Air Control is designed such that even when fully closed, some Air can still enter the Firebox. This keeps unwanted fuel emissions to a minimum.

MAINTENANCE

The operation, components and general condition of the fire and flue system need to be checked annually, or more frequently if required. Repair or replace parts when necessary. For more information, contact your local retailer.

The chimney, firebox are to be cleaned and swept annually or more frequently if required.

Chimney Maintenance

To clean the chimney, remove baffle plate inside the top of the firebox & close the door. With a ladder, access the roof and remove the cowl assembly. Make sure the door is closed on the fire & close air control (turn clockwise) to ensure soot etc. can fall into the firebox. With a chimney sweeping brush that suits the flue diameter, clean the flue ONLY from the top down. Remove soot/ash from the firebox. This is recommended to be done annually before each winter.

Firebox Maintenance

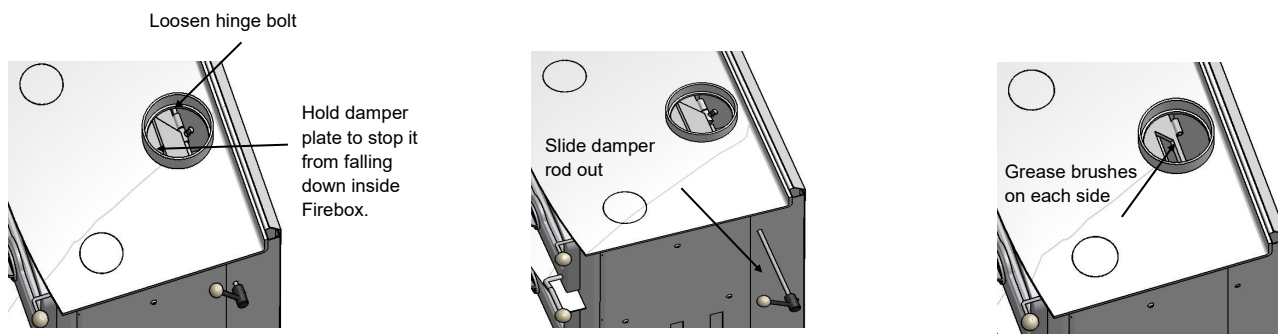
Keep your stove clean by polishing all over with a soft cloth when unit is cool. In humid climates more interior firebox corrosion will occur in non-use summer months than in winter. The stoves life can be greatly extended by cleaning the firebox interior at the end of winter and spraying with Stovebright high temperature black paint.

In the event of a soot or creosote fire

- Alert all the people in the house. Either have them leave, or be ready to leave.
- Call the fire department.
- Suppress the fire the best you can until the fire department arrives, being careful of your own safety. Be sure you always have a way out of the house should the fire get out of hand.
- Close the air inlets of the appliance.
- Discharge a dry chemical household fire extinguisher into the appliance.
- Use a chimney fire extinguishing product (water on the base of the fire will turn to steam and aid to put out the fire)

CADRONA COOKER OPERATING AND MAINTENANCE

DAMPER ROD MAINTENANCE - HIGH TEMPERATURE GREASE (COPPER COAT)

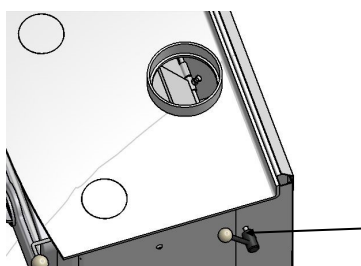


Step 1:

Lift or remove flue system from the Fire to view the damper plate. On the damper plate there are 2 x hinge bolts; loosen these bolts and slide the damper rod out from the R/H side. Ensure to hold the damper plate to stop it falling inside back of the Firebox.

Step 2:

Grease end of hinge bushes & rod with high temp grease to ensure the damper rod maintains a free motion back & forth.



Step 3:

Slide damper rod back in position through the side of the Firebox. Ensure to hold damper plate in position when sliding the damper rod back in place. Tighten the bolts, once set in same position as when you started.