JAYLINE

your fire place

# UL200
# FREESTANDING WOOD FIRE

## OWNERS OPERATING INSTRUCTIONS

*Please leave this information with the appliance*

MARCH 2021

***Congratulations on the purchase of your UL200 Ultra Low Emission Burner, by Jayline.***

*UL200 Ultra Low Emission Burner is not a conventional wood fire, it is a 'wood gasification stove', developed for the optimal burning of air dried natural wood.*

**The principle of the wood gasification stove & double combustion and its advantages**

**Generally:** In a wood burning stove, a correctly burning flame emits the same amount of carbon dioxide ($CO^2$) as would be emitted through the natural decomposition of the wood itself.

The quantity of $CO^2$ produced by combustion or decomposition of a tree is equal to the quantity of $CO^2$ that the tree would have extracted from the environment, releasing oxygen into the air whilst utilising the carbon for growth during its lifetime.

Unlike wood, when fossil fuels are burned (which are not renewable), like coal, diesel oil & gas, a huge amount of $CO^2$ accumulated in the course of millions of years is emitted into the atmosphere, increasing the green-house effect. Consequently, the use of wood as fuel maintains the perfect equilibrium of nature because it is a renewable fuel of which burning is comparable with nature's life cycle.

The principle of clean combustion is in perfect harmony with these characteristics.

**Double combustion:** What exactly do we mean by clean double combustion and how does it work? By controlling the flow of primary air and by adding secondary air, secondary combustion, or post-combustion, takes places. This is indicated by a second characteristically clearer and stronger flame below the main flame. By adding new oxygen, this flame consumes the unburned gasses, remarkably improving heat production and reducing the harmful emission of CO (carbon monoxide) caused by incomplete combustion. This is a unique feature of the UL200 stove.

*Simply by burning your UL200 fire correctly, you can improve efficiency, reduce fuel consumption and minimise air pollution.*

*Please read this installation and operation manual carefully.*

*The installation of this fire must comply with the Installation Standard AS/NZS 2918:2001 as well as any additional local requirements. Please ensure you have all relevant permits prior to installation.*

*Keep this booklet as a reference guide.*

# CORRECT OPERATION OF YOUR UL200 WOOD FIRE

*Simply by burning your UL200 fire correctly, you can improve efficiency, reduce fuel consumption and minimise air pollution.*

## Starting A New Fire

*Please note: If lighting the fire for the first time, dust the fire, glass, trim and flue before firing to avoid particles sticking or discolouring. Once fired, some smoke and vapour will be released as the VHT painted surfaces enter the final curing process. Open all windows and doors while running the fire for up to 5 hours. People with respiratory, heart or other relevant medical conditions should avoid inhaling vapours during the curing process. All VHT paint will cure at the highest temperature achieved and will produce smoke again if this temperature is exceeded.*

To start and maintain a good fire you will need the following items:

**1.** Approximately 16 pieces of kindling at 1kg in weight total.

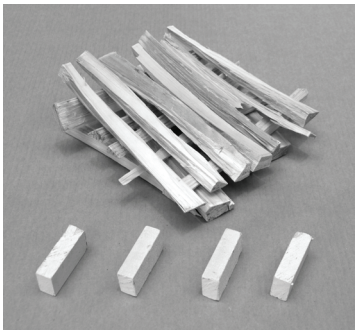
**2.** Intermediate Load #1: 4 pieces of wood approximately 300mm in length at 1.2kg total weight.

**3.** Intermediate Load#2: 4 pieces of wood approximately 300mm in length weighing approximately 2.5kg in total.

**4.** 4 x Fire Lighter Cubes (supplied) soak fire lighter cubes in methylated spirits in the plastic container provided. Keep these away from children and the fire when not in use.

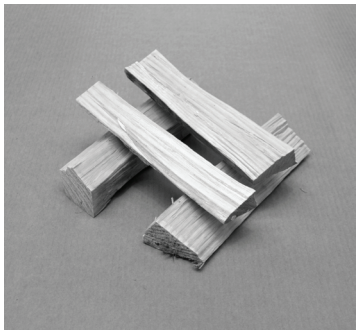
**5.** 1 x long reach lighter.

Optional accessories recommended but not included: Long reach fire poker, Fireproof mitt/glove to assist with fuel loading during operation.



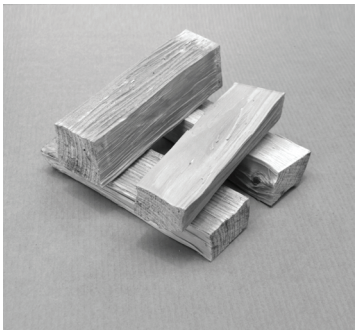
**1**

Kindling and 4 x Fire Lighers



**2**

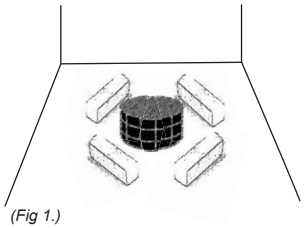
Intermediate Load #1



**3**

Intermediate Load #2

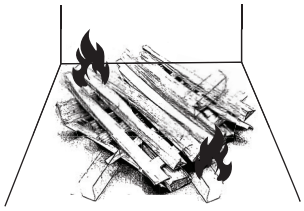
## Lighting Instructions



*(Fig 1.)*

Once the firelighter cubes have absorbed methylated spirits (2+ hours), they'll help give you a quick clean ignition. Remember; always ensure the firelighter cubes have cooled before removing from the firebox and returning them to the container of methylated spirits to soak again.

Place the fire lighter cubes at even intervals around the circular downdraught cylinder. *(Fig 1.)*

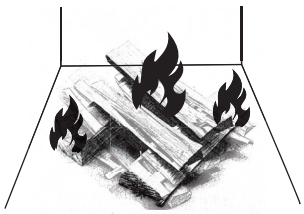


*(Fig 2.)*

Stack the kindling in a cross stack manner *(Fig 2.)*
Light the fire lighters using the long reach lighter then close and lock the door.

Once the kindling fuel is well-alight (approximately 6-8mins) then the Intermediate #1 fuel loading can be added on top of the fuel bed.
Again close and lock the door.

After another 6-8 minutes add the Intermediate #2 fuel load.
Close and lock the door.



*(Fig 3.)*

Ensure fuel is placed into the firebox - never thrown. This will preserve the life of your components, and avoid your fuel load toppling.

At this time the automatic bypass damper may engage, this will happen automatically between 14-20 minutes after the fire is started. This is dependent upon wood condition, heating of the firebox and ambient (room) temperature.

Once the initial fuel loads have burned down to an ember bed, the main loads can be applied (approximately 3kg of wood in two pieces).
Apply further fuel as required. *(Fig 3.)*

## Ember Bed Maintenance:

To ensure a clean burning and easy to use fire, it is important to maintain a suitable ember bed level. Once the UL200 is up to normal operating temperature (1-1.5hours after start up), the ember bed should be kept at a height of approximately 50% of the ember retaining glass. This will ensure rapid ignition when reloading fuel.

## Rekindling:

This can be required if the ember bed should drop to a level that will not allow rapid ignition when reloading. This can happen if the firebox mass is allowed to cool before the automatic bypass can reset. Rekindle as per a normal start up. With the kindling alight, the door can be left slightly ajar (5-10mm with the handle unlatched) for 5 minutes, this will increase the firebox temperature enough to allow an intermediate fuel load to burn correctly. Follow up with a normal fuel load 5-10 minutes later.

## General Operational Guidelines

**DO:**
When opening the door, unlatch the handle, slowly open the door approximately 25mm ajar, pause for 5-10 seconds then slowly draw the door fully open (this allows for smoke to exit correctly through the flue).
From this time forward, the UL200 can be operated much like a traditional wood fire due to its automatic functions.

Ensure the entire fuel load fits inside the firebox before closing the door. The optimum fuel length is 300mm pieces. It's good to check if your wood will fit before lighting the fire.

Use well-seasoned wood with a low moisture content on start up or when rekindling the fire, then ideally use your less seasoned wood (under 25% moisture) for normal operation. Kiln dried fuel is not recommended as it burns much faster resulting in more fuel consumption, lower efficiency, and increased wear on the firebox parts. Treated timbers of any kind should not be burned due to the release of harmful gases.
Keep the lower chamber closed during operation and keep it free of any foreign material. Small pieces of charcoal may fall into the lower chamber, these will burn away in a short time.
Maintain the exterior surfaces of your fire using only a damp cotton cloth, your glass should remain clear when the UL200 is operated correctly.

### Important points to remember

• *Do not attempt to add fuel (or any objects) into the lower chamber.*

• *Keep the lower door closed at all times during operation*

• *Because of the high temperatures achieved, surface colour may change*

## 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 it burns and the efficiency of combustion. When trees are cut, the wood moisture content ranges between 35% and 60% 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.

**PLEASE NOTE: WOOD WITH A MOISTURE CONTENT OF 10% - 25% IS THE RECOMMENDED WOOD TO USE IN CLEAN AIR ZONES**

**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 for cracks in the end grain as a sign of dry wood. Stacks of firewood should be in an open area so that air can circulate through 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%. At this moisture content the wood is ready for burning. This can be checked with a moisture meter.

Although the energy content of dry wood per kilogram is almost the same regardless of species, some burn differently because of differences in density e.g pine is less dense than woods like Gum, Manuka or Black Wattle. A denser wood will produce a longer-lasting burn, while a less dense wood will bring a fire to an optimum burning temperature more quickly.

In general, commercial firewood dealers supply firewood in thicker pieces than modern wood-burning heaters can handle. It is often necessary to split some of the wood again before using it. The thickest piece size for high-efficiency and use in the UL200 fire should not exceed about 150mm (6 in.) across the largest dimension, or weigh no more than approximately 1.3kg. A range of smaller pieces will be needed for effective starting as described in the lighting instructions. Maximum log length should be no more than 300mm.

## BURNING COAL, TREATED TIMBER, DRIFTWOOD, PLASTICS OR WASTE PRODUCTS

Due to the design and use of this product, the burning of coal, treated timber, driftwood, plastics or waste products is forbidden and will void the warranty.

## CLEANING & MAINTENANCE: Perform only when unit has cooled.

### Removing Ash from the Fire:

Residual ash in the upper firebox can still be burned in the next firing.
Remnants will burn away with each firing.

### Removing the Downdraught cylinder:

Lift the cylinder out of the unit, and brush remaining ashes into the lower chamber for removal.
Replace the downdraught cylinder correctly. Open the lower door and sweep out residual ashes, then close and lock the door.

### Safety precautions

The following precautions must be taken prior to cleaning:

a) Make sure all parts of the fire are cold.

b) Make sure the ashes are completely cold and not burning.

c) Always use the most appropriate tools and items supplied.

### Cleaning the glass

DO NOT CLEAN THE OUTSIDE OF THE GLASS AS IT IS SPECIALLY TREATED.
Clean the inside of the glass with a damp cloth, newsprint, or damp paper rubbed in ashes. Do not clean the glass while the fire is working and do not use abrasive sponges or abrasive chemicals.

Clean all other external parts with a damp cloth. Never use alcohol or cleaning liquids.

## GENERAL SEASONAL INSPECTION:

Jayline recommend all appliances are checked and serviced at least once every season by an NZHHA certified technician. This ensures safe operation of your appliance, and the opportunity to replace any consumables should it be necessary. A service record is included in this manual to retain proof of servicing should a warranty claim be required.

## CHIMNEY CLEANING AND CHECKING FLUES

For all wood fires, flue cleaning must be done regularly to avoid serious flue fires. Frequently used fires should be cleaned at least once a year (some sooner). The cleaning rate, however, depends on the burning habits of the individual operating the wood fire and the fuel used.

It is recommended that flue sweeping be done by a professional chimney sweep. Chimney sweeping is a specialist task and competent professional sweeps are available throughout the country. When the flue is cleaned it is recommended that other parts, such as baffles and ceramic insulation materials are checked. Flue systems should be checked at least once or twice a heating season and may require checking more often if the fuel or operation of the appliance is incorrect. When a flue system becomes excessively blocked or requires frequent cleaning, advice should be sought to investigate the installation and the operation of the fire. Flue pipes can deteriorate very quickly with incorrect firing.

## CONSUMABLES

Some parts of your UL200 fire are considered consumable. They are designed to be replaced as they will degrade over time. The life of the consumables will vary depending on;

- How often the fire is used
- Type of fuel. Some woods are much harsher than others

General items that are considered consumables:

- Baffles
- Fire Bricks
- Glass and door ropes
- Downdraft cylinder and downdraft cassette

It is very important that you replace these parts when they show signs of wear. They effect how the fire runs and you may increase your fuel consumption or lower your efficiency if not replaced and can in some cases, damage the firebox. It is generally obvious once a part is in need of replacement. Steel components may split or large holes may appear, fire bricks may crack and disintegrate. We recommend you check your fire visually several times a year for damaged components.

## JAYLINE WARRANTY SERVICE INTERVALS

Jayline UL200 comes with an initial 5 year firebox warranty. This warranty is validated every 5 years to a maximum 15 year firebox warranty subject to a technicians service pack update. This ensures all consumable items have been inspected and replaced if required, and also notifies Jayline that your service records are current. Evidence of service pack update will be required in the event of a claim.

To order your service pack or for more information see www.jayline.co.nz or your local Jayline retailer.

See Page 11 for warranty details.

## Recognising errors and taking measures against faults

For the most up to date information and video technical support, please visit www.jayline.co.nz

| SYMPTOM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| Smell/stench in the room | Leaking seals | Check the sealing of the doors and replace seals if necessary |
| Smell/stench in the room | Flue too short/poor draught | Check the flue system is not blocked and is clean. Have the fire maintenance & cleaning procedures been done? |
| The flame in the upper combustion chamber continously goes out | Flue too short/poor draught<br>Excess moisture in fuel | Check the flue system is not blocked and is clean. Have the fire maintenance & cleaning procedures been done?<br><br>Change fuel for moisture level 10-25% only. |

# WARNINGS

Below is a list of warnings to ensure efficient and safe operation of your UL200 wood fire:

- **WARNING:** DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHEN IT IS OPERATING.
- **WARNING:** DO NOT STORE FUEL OR COMBUSTABLES WITHIN APPLIANCE INSTALLATION CLEARANCES.
- **WARNING:** NEVER OPEN THE LOWER DOOR WHEN IN USE.
- **WARNING:** DO NOT STORE FIRE LIGHTERS OR ANY FUEL NEAR THE FIRE DURING OPERATION. KEEP FLAMMABLE FUELS AWAY AT ALL TIMES.
- **WARNING:** DO NOT TOUCH ANY PART OF THE FIRE OTHER THAN THE DOOR HANDLE WHEN IN USE, AS ALL PARTS ARE EXTREMELY HOT.
- **WARNING:** SUPERVISE CHILDREN AT ALL TIMES WHEN NEAR THE FIRE.
- **CAUTION:** THIS APPLIANCE SHOULD BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THESE INSTRUCTIONS.
- **WARNING:** DO NOT ATTEMPT ANY CLEANING OF THE FIRE WHEN IN USE. WAIT FOR THE APPLIANCE TO COOL DOWN BEFORE CLEANING
- **WARNING:** DO NOT REMOVE ASH FROM THE FIRE WHEN IN USE.
- **CAUTION:** THIS APPLIANCE SHOULD NOT BE OPERATED WITH CRACKED GLASS.
- **CAUTION:** DO NOT USE THE FIRE IF THERE IS A MALFUNCTION, A SUSPICION OF BREAKAGE OR UNUSUAL NOISES.