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#### **Report Number:**

Output:

Item Under Test (IUT): Make: Model: Type:

Client Details: Attention: Company Name: Company Address: Phone: Manufacturer: 0485a.

Jayline. UL200. Freestanding. 12.5 kW.

Mr. Ross Sneddon. Retail Links Ltd. 7 Forrests Road, Annesbrook, Nelson. (03) 547 0770. Same as above.

# **Test Method Specification:**

CM1 – 'Canterbury Method Version 1.6 for testing of ultra-low emission wood burners.' (Modified-See Technical Notes).

## **Client Instructions:**

The client requested the item be tested in accordance to the council method shown above.

## Compliance with method:

CM1.6 required that the particulate emission factor be not greater than 0.5 g/kg and efficiency no less than 65 % when calculated as per the method. The Jayline UL200 complied with the methods requirements.

## **Technical Notes:**

- 1. This report replaces report #0485 issued on 10/03/18 with editorial corrections.
- 2. This report is to be read in conjunction with Test report 0486 Appendix 1 installation instructions.
- Spectrum Laboratories' iANZ applied physics accreditation could not be applied to this report however it should be noted that all testing was conducted using the same equipment and technical engineering staff as if conducting accredited AS/NZS4012:2014+A1 and AS/NZS4013:2014 testing in accordance with CM1.6.
- 4. The client supplied the heater for testing on the 10<sup>th</sup> of Nov 2017. Testing commenced on the 14<sup>th</sup> with compliant sets of results achieved on the 14<sup>th</sup> to the 15<sup>th</sup> of Nov 2017.
- 5. The heater under test was not a mass production sample it was an engineering sample.
- 6. The upper firebox had a firebox dimension L less than 430mm and was classified as an intermediate/small size firebox under CM1.6. All fuel was approximately 250mm in length.
- 7. The following fuel loads were required. Kindling load 16 pieces 1.0 kg ± 100g. Intermediated Load 1 (I1) 4 pieces 1.2 kg ± 120g. Intermediated Load 2 (I2) 4 pieces 2.5 kg ± 120g. 4 sets of main loads (MH1, MH2, MH3, and MH4) 3 pieces 3.0 kg ± 120g. Partial seasoned (PS) / Hardwood (HW) 3 pieces 3.0 kg ± 120g. Total kg/day: 19.7 ± 0.94 kg.
- As the actual calorific value of the real world fuel cannot be accurately determined due to changes in the composition of the fuel a value of 20.1 MJ/kg was taken from Chapter 3:AQL2)b)iii of ECAN's air guality document. This is the value used to calculate the mg/MJ within AQL2.
- 9. The appliance used the default start-up procedure as specified in clause 5.1.3 from CM1.6, except with the type of fire starter used and the door was fully closed after fire was lit. Four small Promatect H blocks soaked with methylated spirits were used as re-usable firelighters.
- 10. Fuel load orientation for all main loads were side to side.

Checked by.

Mr. P. Sparrow

Signatory

en

Tested by, Mr. P. Chen Engineer

Issue Date: 05/04/2018

http://www.spectrumlab.co.nz/ - 1 -



# Section 1: Description and Materials

## **Heater External Description:**

The heater supplied was constructed primarily from steel, the flue spigot was centrally located towards the rear when viewed from the front.

The heater door consisted of a one-piece metal frame with a rectangular glass window.

The heater was not fitted with a water heating device.

The heater was not fitted with an air circulation fan.

The heater was not fitted with a catalytic combustor.

The heater was fitted with a bypass damper.

The heater did not have a removable grille or cook top.

#### **Heater Internal Description:**

The un-controlled primary air supply entered the firebox at the top of the upper door via air inlets located just under the appliance's top panel, and the holes in the lower frame of the external door

The upper combustion chamber contained total of four vermiculite bricks covering the sides, rear and ceiling.

The lower combustion chamber contained a total of four vermiculite bricks; covering sides, rear and floor.

The door frame was fitted with fire resistant rope to seal the gap between the door and the firebox aperture.

Refer to supplied documentation section for additional materials data.



# Section 2: Dimensions

# Heater - External Dimensions:

	Measured Dimension		Drawing Dimension		Drawing Tolerance		
Height - overall	1078	mm	1080	mm	+/- 2	mm	measured to the highest point of the heater.
Width - overall	475	mm	477	mm	+/- 2	mm	measured at the widest points of the heater.
Depth - overall	536	mm	539	mm	+/- 3	mm	measured from the rear most heat shield panel to the door glass.
Door Height	921	mm	921	mm	+/- 2	mm	measured at the tallest part of the door frame.
Door Width	480	mm	480	mm	+/- 2	mm	measured at the widest part of the door frame.
Door Glass Height	906	mm	906	mm	+/- 2	mm	measured at the tallest part of the door glass.
Door Glass Width	465	mm	463	mm	+/- 2	mm	measured at the widest part of the door glass.
Lower Glass Edge	152	mm	140	mm	+/- 2	mm	measured from the bottom of the glass with respect to the floor.

# Firebox - Internal Dimensions:

	Measured Dimension		Drawing Dimension		Drawing Tolerance			
Upper Chamber								
Height	437	mm	435	mm	+/- 2	mm	measured between metal floor and rear metal ceiling baffle.	
Width	410	mm	410	mm	+/- 2	mm	measured between the interior metal side walls.	
Depth	357	mm	355	mm	+/- 2	mm	measured between the rear metal interior wall and door lip.	
Lower Chamber								
Height	242	mm	242	mm	+/- 1	mm	measured between brick floor and metal ceiling.	
Width	410	mm	410	mm	+/- 2	mm	measured between the interior metal side walls.	
Depth	357	mm	355	mm	+/- 2	mm	measured between the rear metal interior wall and door lip.	
Primary Air Area - Max	2356	mm <sup>2</sup>	maximum primary	/ cross	-sectional are	а		
Secondary Air Area	660	mm <sup>2</sup>	secondary cross-	section	al area - All s	ettings.		
Flue Spigot	149.0	mm	150	mm	+/- 2	mm	flue spigot internal diameter.	
Flue Spigot - Area	17433.3	mm <sup>2</sup>					flue spigot internal cross-sectional area.	

Refer to design drawings for detailed dimensions.

Measurement notes: nil



# **Section 3: Test Conditions**

Testing was carried out in accordance with the Canterbury method (Version 1.6) as per the client's instructions.

During testing the air controls were set as required to achieve the maximum burn rate.

Type of Fuel used:	Soft Wood and Hardwood.
Species of Firewood:	Pinus Radiata.
Fueling Rate:	as per CM1.6
Usable volume of firebox:	48.7 L.
Longest dimension of firebox:	356 mm (Side to Side).
Average Calorific Value:	20.1 MJ/kg.
Average Ash content:	0.50 %.
T <sub>amb</sub> (During test):	16 °C to 25 °C

## Section 4: Results

The heaters efficiency and particulate emission factor were calculated by averaging the results for both days.

Fuel data: Type of Fuel used: Species of Firewood:	Primarily Soft W Pinus Radiata a	lood. <i>(Refer to method)</i> and New Zealand Red Gum
Fueling Rate: Longest dimension of firebox: Fuel Loading Orientation: Firewood piece length range in mm: Calorific Value: Ash content:	As per a modifie 356 mm (Side to Side to Side. 250 mm. (as pe 20.1 MJ/kg (def 0.5 % (default v	ed CM1.6 o Side). r intermediate/small firebox). fault value). ralue).
Day 1 Flue Gas (Temperature by setting): Day 2 Flue Gas (Temperature by setting):	223 °C (Note this 203 °C (Note this	unit has only one setting) unit has only one setting)
Total Burn Time (14 <sup>th</sup> November 2017): Total Burn Time (25 <sup>th</sup> November 2019):	954 minutes. 990 minutes.	
<b>Efficiency:</b> Day 1 Day 2 Overall as per CM1	% 76.7 81.0 78.9	
Emission factor: Day 1 Day 2 Overall as per CM1.6 / ECAN-AQL2	<b>g/kg</b> 0. 65 0. 41 0. 53	<b>mg/ MJ</b> 42.4 25.3 33.9



# Raw data: 14<sup>th</sup> Nov 2017

	K1 + l1 + l2	High (H1+H2)	High (H3+H4)	HW	Total
Wet load	4.78	6.08	6.00	3.06	19.92
Moisture	18	17	18	15	
Dry Load	3.90	5.02	4.90	2.59	16.40

TEST DATA	Start	High	High	End (HW)	Overall		
Reference file			0485				
Test date		14/11/2017					
Start Time			8:57				
Heater model			UL200				
Weight of Wood charge, kg	4.78	6.08	6.00	3.06	19.92		
Weight of Wood (Dry mass) kg	3.900002	5.021168	4.8954	2.587995	16.404565		
Main filter Start, g	0.08554	0.08659	0.08726	0.08793	0.34732		
Backup filter Start, g	0.08704	0.08569	0.08542	0.08772	0.34587		
Main filter Stop, g	0.09248	0.09263	0.09173	0.09030	0.36714		
Backup filter Stop, g	0.08725	0.08590	0.08560	0.08789	0.34664		
Dry gas meter START, cu.m.	2321.426	2321.831	2322.613	2323.555	2321.426		
Dry gas meter STOP, cu.m.	2321.831	2322.613	2323.555	2324.148	2324.148		
Average Power, kW					4.26		
Dilution tunnel temperature	29.7	34.1	34.4	34.4	33.61		
Dry Gas Temperature, °C	18.7	19.6	19.9	19.77	19.61		
Total Cycle Time (mins)	41.38	79.98	96.22	60.39	990		
Barometric Pressure	1022	1022	1022	1022	1022		
Dilution Tunnel volume, cu.m.	208.647	401.405	483.115	302.713	1395.88		
Efficiency %	76.74						
Emission (g) – Filter	0.00730	0.00644	0.00479	0.00261	0.02114		
Emission Factor (g/kg)	0.9518	0.6518	0.4974	0.5100	0.6543		
Fuel consumption rate, kg/h	5.65	3.77	3.05	2.57	0.99		

# Test conditions immediately prior to loading each phase.

Phase	Time (minutes)	Bed Weight	Fuel Mass	Flue Temp*
К	-	-	1.08	18.94
l1	8.40	0.46	1.24	256.3
12	13.1	1.15	2.46	298.3
H1	41.2	1.107	3.02	241.5
H2	73.7	1.51	3.06	245.2
H3	121.5	1.35	3.02	241.6
H4	164.2	1.51	2.98	242.4
HW	271.0	1.32	3.06	245.6
HW Termination	278.2	-	-	240.2



# Raw data: 15<sup>th</sup> Nov 2017

	K1 + l1 + l2	High (H1+H2)	High (H3+H4)	PS	Total
Wet load	4.66	6.12	6.06	2.98	19.82
Moisture	17	17	18	25	
Dry Load	3.85	5.05	4.94	2.22	16.07

TEST DATA	Start	High	High	End (PS)	Overall		
Reference file		0485					
Test date		15/11/2017					
Start Time			10:03				
Heater model			UL200				
Weight of Wood charge, kg	4.66	6.12	6.06	2.98	19.82		
Weight of Wood (Dry mass) kg	3.848461	5.054202	4.944354	2.223825	16.070842		
Main filter Start, g	0.08616	0.08891	0.08589	0.08685	0.34781		
Backup filter Start, g	0.08629	0.08746	0.08659	0.08629	0.34663		
Main filter Stop, g	0.08960	0.09346	0.08897	0.08784	0.35987		
Backup filter Stop, g	0.08644	0.08763	0.08673	0.08634	0.34714		
Dry gas meter START, cu.m.	2324.148	2324.597	2325.458	2326.479	2324.148		
Dry gas meter STOP, cu.m.	2324.597	2325.458	2326.479	2327.079	2327.079		
Average Power, kW					4.57		
Dilution tunnel temperature	31.8	35	36.7	38.3	35.77676183		
Dry Gas Temperature, °C	18.9	20.7	22.4	24.1	21.71166422		
Total Cycle Time (mins)	45.81	88.1	103.91	61.3	954		
Barometric Pressure	1025	1025	1024.4	1024	1024.586634		
Dilution Tunnel volume, cu.m.	230.748	441.693	518.68	305.366	1496.487		
Efficiency %					80.98		
Emission (g) – Filter	0.00371	0.00488	0.00335	0.00110	0.01304		
Emission Factor (g/kg)	0.4879	0.4908	0.3432	0.2526	0.4121		
Fuel consumption rate, kg/h	5.04	3.44	2.85	2.18	1.01		

# Test conditions immediately prior to loading each phase.

Phase	Time (minutes)	Bed Weight	Fuel Mass	Flue Temp*
K + I	-	-	1.02	19.9
M1	9.5	0.34	1.24	272.0
M1	15.5	1.13	2.40	322.8
M1	46.0	1.08	3.06	234.0
M2	83.9	1.53	3.06	235.9
M2	134.0	1.38	3.04	232.1
M2	177.3	1.50	3.02	240.1
HW	238.0	1.36	2.98	230.1
HW Termination	299.3	-	-	229.4



# Section 5: Photo-documentation



Heater under test



Kindling load (K)





Intermediate load 1 (I1)



Intermediate load 2 (I2)





Typical main fuel load (M)



Typical main fuel load (PS)





Typical main fuel load (HW)



Re-usable firelighter placement





Kindling placement



# Design drawings as supplied:









































































Installation manual as supplied:





## 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<sup>2</sup>) as would be emitted through the natural decomposition of the wood itself.

The quantity of CO<sup>2</sup> produced by combustion or decomposition of a tree is equal to the quantity of CO<sup>2</sup> 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<sup>2</sup> 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.

DECEMBER 2017

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#### Items supplied with the fire

- Installation / Owners Manual
- Fire Lighter Cubes

# INSTALLATION OF YOUR UL200 ULTRA LOW EMISSION BURNER

Jayline recommend you use a suitably qualified installation technician to install your fire. Your dealer or heating specialist will be able to help with recommendations as well as advise on permits/consents required for the installation in your area.

Please follow carefully all dimensions and recommendations provided on the individual specification sheet for your model of heater as these dimensions comply with the required New Zealand standard (AS/NZS 2918:2001).

As safety and emissions performance can be affected by altering the appliance, no modifications are allowed without the written permission from the manufacturer.

## Installation

- 1. Unpack the heater and check that there is no damage.
- 2. Ascertain the position of the roof penetration for the flue system.

A correctly installed flue system will normally prevent down draught problems during windy weather and eliminate smoke spillage problems due to lack of draught.

- Ascertain suitable position for appliance and size of floor protector and check the ceiling to ensure that no major structural members will be affected by the path of the flue.
- 4. Check measurements of the heater to combustibles.
- Locate the heater in the required position (also see 'Fitting Seismic Restraint' after installation instruction #10).
- Using a plumb line fastened to the ceiling, mark the centre of the flue penetration position and cut the ceiling hole to the required size and frame out.
- 7. Install the flue system (see flue installation instructions supplied with flue system).

#### Remember:

- The flue system should rise vertically from the appliance with as few offsets as possible.
  Offsets should be limited as each change in direction creates a resistance to airflow and makes flue cleaning difficult.
- . The flue system must be well sealed using flue sealant with a minimum of 3 fixings at each joint.
- The flue pipe penetrating the chimney must continue to the minimum length of 4.6m from the top of the floor protector to the cowl.
- The Ø200mm liner must be fitted from the ceiling plate (as per the flue kit instructions) 1 x 1200mm length is supplied in the MKIII Flue Kit.

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Page 3

- Flue exiting more than 3 metres from the ridgeline must terminate no less than 1 metre above the roof penetration (see diagram 1 below).
- Where the top of the flue pipe is more than 2 metres above its highest fixing point, it must be stayed against high winds.



- 9. Drill and fix flue system into flue spigot with stainless steel self-tapping screws.
- Drill and secure the appliance to the floor protector using the two holes in the rear bracket of the appliance.

# FITTING SEISMIC RESTRAINT

The Floor Protector must be mechanically fixed to the floor by bolting or screwing. Note: Floor Protector to be fixed by gluing when on a concrete floor that may have water pipes or electrical wires present. The appliance can then be bolted to the floor protector with two 6mm x 50mm dynabolts or equivalent.

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# 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
- Intermediate Load#2: 4 pieces of wood approximately 300mm in length weighing approximately 2.5kg in total
- 4. 4 x Fire Lighter Cubes (supplied) or fire lighters.
- 5.1 x long reach lighter







2 Intermediate Load #1



3 Intermediate Load #2

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## Lighting Instructions



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

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.

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.)

#### 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.

Use well-seasoned wood with a moisture content of 10% up to 25% moisture. Kiln dried fuel is not recommended. 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

waintain the exterior surfaces or your fire using only a damp cotton cloth, your glass should remain clear when the UL200 is operated correctly.

DON'T: Be cold this winter



DECEMBER 2017

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page 6

- 35 -

#### 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% - 20% 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.

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# 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.

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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.

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

See Page 12 for warranty details.

DAVE page 9





# Recognising errors and taking measures against faults

ERROR	POSSIBLE CAUSE	MEASURE
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 Excess moisture in fuel	Check the flue system is not blocked and is clean. Have the fire maintenance & cleaning procedures been done? 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 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.
- 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.
- CAUTION: NEVER THROW WATER ON THE FIRE WHEN IN USE, OR USE WATER TO EXTINGUISH THE FIRE UNDER NORMAL CONDITIONS.
- CAUTION: THIS APPLIANCE SHOULD BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THESE INSTRUCTIONS.
- CAUTION: THE USE OF PRESERVATIVE-TREATED WOOD, COAL, PLASTICS, DRIFTWOOD
  AND/OR WASTE PRODUCTS AS A FUEL CAN BE HAZARDOUS.

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# UL200 WARRANTY

THIS IS AN IMPORTANT DOCUMENT - KEEP IT IN A SAFE PLACE

#### Congratulations!

We appreciate your decision to invest in our product. Your fire will become an integral part of your lifestyle, heating your home during the colder months and at the same time maintaining its appearance as a quality appliance. We want you to get the best possible performance from your fire and for this reason ask that you read this booklet carefully to take full advantage of your warranty.

In particular we urge you to have your fire and flue inspected annually and the flue swept if necessary. At the same time any other minor potential problems can be detected and corrected before they turn into major ones.

We think this is a small price to pay to ensure your heater is kept in peak condition. There is no doubt in our minds that you will extend the life of your fire.

We select only certain companies to act as our UL200 dealers. They must have high standards and be able to provide a total service both pre and post sale to you the customer. Therefore we have every confidence that our dealers will be able to answer your questions or fix any problem that may occur. If you have any further queries, please contact us at:

RETAIL LINKS PO BOX 9056 ANNESBROOK, NELSON NEW ZEALAND, 7044 FAX: 03 547 0780 EMAIL: heating@retaillinks.co.nz

Thanks again for choosing a UL200 wood fire. We wish you many warm winters to come!

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JAS



# JAYLINE WOOD FIRE WARRANTY 15 YEARS (conditional)

Congratulations on the purchase of your Jayline Wood fire. You must register your fire by email or post within 30 days of installation to validate the guarantee (this registration card is in your install/operation guide).

Your firebox is guaranteed for domestic application against faults and defects in workmanship for 5 years up to a maximum of fifteen years (except for door seals, glass, glass seals, fire bricks, secondary air systems and baffle - which have 12months parts only cover). This firebox cover is subject to proof of annual inspection and servicing by a suitably qualified fire technician. Evidence of Jayline service pack at each 5 year interval enables your warrany for a further 5 years, up to a maximum 15 years.

Your fire must be installed in accordance with the manufacturer's instructions, any relevant bylaws, standards and regulations. Jayline are not responsible for consequential damage by a failure or defect covered in this guarantee. All claims (in the first instance) should be directed to the store of purchase. Any repairs undertaken without the manufacturer's authority will render the guarantee void. Water boosters must be a Jayline model specified with the fire to be covered; this guarantee applies to the original purchaser only.

Any damage caused by mishandling, misuse, abuse or alteration is not covered by this guarantee neither is normal wear and tear. Accessories such as flues, non-genuine parts or any third-party service are not covered by this manufacturer guarantee.

In the event of an approved claim; Jayline will complete repairs or replacement (at their discretion) and return the product to the owner. Any claim which can be remedied by on-site repair will be solely at Jayline's discretion and arrangement. Jayline are not responsible for site conditions such as draughts, cleaning or environmental conditions affecting performance.

For easy support on best use, troubleshooting and optional accessories; please see www.jayline.co.nz for further details and online product registration.

Jayline Fires PO Box 9056 Annesbrook – 7044 Nelson heating@retaillinks.co.nz

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VLINE



# JAYLINE WOOD FIRE - SERVICE REGISTER Jayline recommends NZHHA registered service technicians

To ensure many years of performance and safety with your Jayline Fire, we have outlined the key servicing requirements that form part of routine annual servicing. Maintenance of parts that protect your firebox will extend the life of your fire, ensuring it burns clean and correctly. In the event the firebox is not maintained regularly, this will void the warranty and compromise future claims.

Every season following your fire installation, ensure your fire service technician checks the following points and performs a sweep. In the event you need to claim on your warranty; this evidence of your routine servicing will be requested to validate your claim

- sweep the chimney
- check the condition of the fire box
- check or replace the firebricks if necessary
- check combustion plates and replace if necessary
- check and replace air tubes if fitted/required
- check and replace glass and door seals if necessary
- check door seal and alter if not sealing correctly
- . check installation if necessary, correct length of flue, flashing for weather tightness, flue being riveted correctly, flue joins sealed and fixed to appliance, overall operation of appliance with homeowner
- order parts and fit to appliance
- · notify homeowner of all findings and invoice accurately for all work carried out

I confirm that the appliance has been checked and repaired to a safe and correct operating standard as per the manufacturer's best practise recommendations above:

Interval	Service Agent	Signature	Phone	Date
1.				
2.				
3.				
4.				
5.				
6.				
7.				
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15.				
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JAYLINE PRODUCT REGISTRATION	
TO ACTIVATE YOUR EXTENDED WA	RRANTY COVER, PLEASE COMPLETE AND RETURN
RETAIL LINKS LTD PO BOX 9056 ANNESBROOK, 7044 NELSON	OR ONLINE AT: WWW.JAYLINE.CO.NZ
NAME:	
EMAIL:	PHONE:
MODEL:	
SERIAL NUMBER:	
DATE PURCHASED:	
PURCHASED FROM:	
DATE INSTALLED:	
INSTALLED BY:	
	•
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# Section 7: Measurement Uncertainty

All test equipment used and the test method is accurate to +/- 5%

Emissions filter balance uncertainty at 95% confidence (K=2) +/-0.0001g when weighing a 1g sample.

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End of report.