

# CATALYST OWNER'S MANUAL



**Safety Notice: Please save these instructions for future reference. Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury, or even death. Contact local building or fire officials about restrictions and installation inspection requirements in your area. Do not install in a mobile home!**



Conforms to UL 1482-11 (R2015)

Report # 055WS001S

Revision #0021

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# Introduction

What you have in your hands is not the greatest wood burning device ever invented – it is just the manual for the greatest wood burning device ever invented.

Catalyst is the world's first smart wood stove. We built the Catalyst around state-of-the-art combustion techniques and using a revolutionary smart controller that delivers efficient, clean, and safe burning for you and your family.

As a result, we've won a few prizes. In the 2013 Wood Stove Design Challenge, the prototype Catalyst won the Low Emissions Prize. In the 2014 Wood Stove Design Challenge, the Catalyst won the Grand Prize. In the MIT Clean Energy Prize, the Catalyst won the Energy Efficiency Prize and the People's Choice Award. Not a bad track record.

Before we built Catalyst we talked to hundreds of wood stove users, and we heard the same thing over and over. Traditional wood stoves are dirty, inefficient, and difficult to operate. We made Catalyst differently. Unlike traditional wood stoves, with Catalyst all you need to do is load it, light it, and lock it, and you can enjoy a clean and efficient fire.

We at MF Fire are determined to give you a different experience than with any other wood stove. We want every fire to be easy and enjoyable.

If you ever have any questions, give us a call at 1-855-MFFire1 or shoot us an email at [info@mffire.com](mailto:info@mffire.com). We're happy to help at any time.

Thank you for your purchase of the Catalyst and welcome to the MF Fire Family!

Sincerely,  
The MF Fire Team

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# Safety Precautions

## Installation

- The Catalyst must be properly installed to prevent house fires. Please strictly adhere to the installation instructions.
- The Catalyst must be connected to a listed high temperature chimney or approved masonry chimney with liner.
- Do not install in a mobile home
- We recommend you use smoke and CO detectors
- Contact your local building officials to obtain information on any local wood stove installation requirements.
- Carefully route all power cords through to avoid contact with hot stove surfaces.
- Do not connect to or use in conjunction with any air distribution ductwork unless specifically approved for such installations

## Operation

- The viewing door and back panel of the Catalyst must be shut and latched during operation.
- Do not touch the Catalyst while hot. Young children should be supervised while the Catalyst is in use.
- Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this stove. Keep all such liquids well away from the stove while it is in use.
- This wood heater has a manufacturer-set minimum
- Never obstruct airflow through the inlet vents or exhaust vents
- The Catalyst has been designed for the burning of cordwood only. Do not attempt to burn any other type of fuel in the Catalyst.
- Keep all flammable objects (fabrics, paper, wood, etc.) at least 1 yd (1 m) from the front of the Catalyst.
- Do not use chemicals or fluids to start the fire.

- low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.
- Hot while in operation. Keep children, clothing and furniture away. Contact may cause skin burns.
- Do not burn garbage or flammable fluids such as gasoline, naphtha or engine oil
- Never over-fire the Catalyst, as it could lead to a house fire. If the unit or chimney connector glows, you have over-fired the unit.

## Maintenance

- Never attempt to modify or repair the appliance beyond instructions given in this manual.
- Empty the ash regularly and dispose of it in a metal container with tight lid.
- Allow the Catalyst to cool before conducting any maintenance.
- Inspect the chimney connector at least twice monthly.

# Features and Specifications



## Heating Specifications

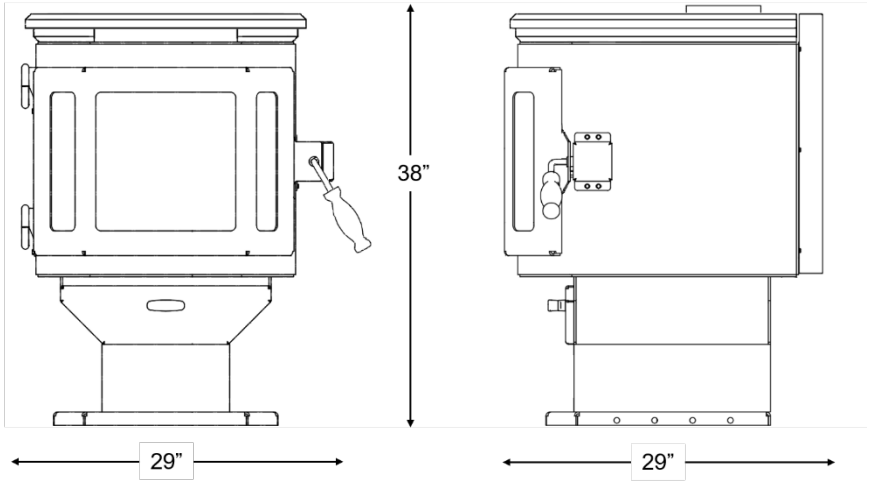
Catalyst is equipped with a 2.0 cubic foot firebox and accepts logs more than 18" in length.

2,000 sq. ft. (175 m<sup>2</sup>) approximate maximum heating capacity. Heating capacity will vary depending on the home's floor plan, degree of insulation, and the outside temperature.

28,000 BTU per hour (8 kW) EPA certified heat release rate, with actual heat release rates ranging between 10,000 and 60,000 BTU per hour.



## Dimensions



All clearances, side, corner, and back, are measured from the largest dimensions.

## Emissions

U.S. Environmental Protection Agency certified to comply with 2020 particulate emission standards for single burn rate heaters. This single burn rate wood heater is not approved for use with a flue damper. Certified average emissions rate of 1.9 g/hr, tested to EPA Method 28R and ASTM E2515-11.

# Stove Installation

**Safety Notice: Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury, or even death. Contact local building or fire officials about restrictions and installation inspection requirements in your area. Do not install in a mobile home!**

## Planning the Installation

Proper care and attention to service helps to protect you from unnecessary fires and carbon monoxide poisonings. To get the best service and wood stove installation for your Catalyst wood burning stove, we recommend Installers or Chimney Sweeps certified by the Chimney Safety Institute of America (CSIA). The CSIA has been the industry leader in chimney maintenance education since 1983.

To locate one of the more than 1,800 active CSIA Certified Chimney Sweeps across North America, please use the CSIA Certified Professional Locator on their website: <http://www.csia.org/search.html>

Check with your local building officials and your home insurance company before installation. When this room heater is not properly installed, a house fire may result. To reduce the risk of fire, follow the installation instructions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

If there are any major dents or other damage to your stove, please report to MF Fire prior to installation.

# Stove Placement Requirements

Catalyst must be placed in a room with a source of fresh air.

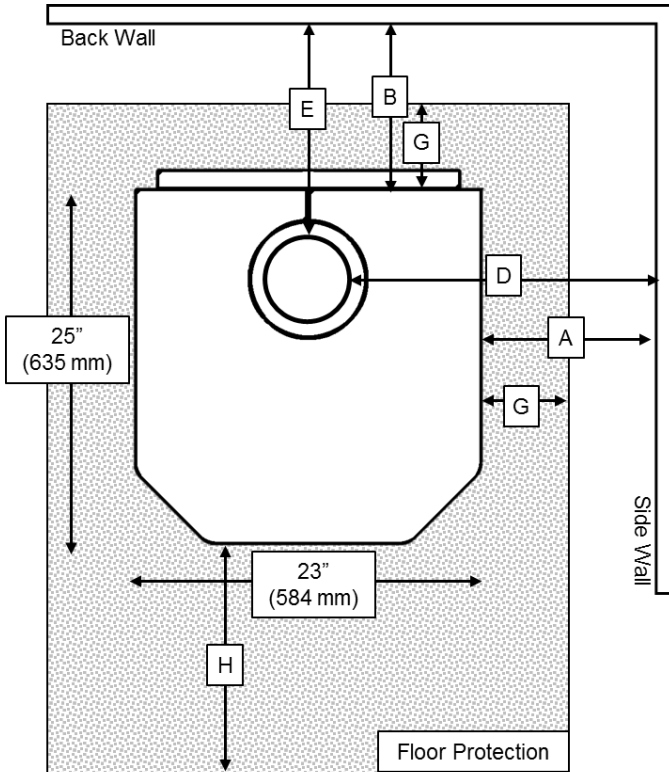
Stove must be placed so that no combustibles are within, or can swing within 36" (914mm) of the front of the stove (drapes, doors, etc.).

Floor protection must extend around the front, sides, and rear of the stove, according to listed clearance requirements below. Floor protection must be made of a non-combustible material and at least 0.018" (0.45 mm) thick with a minimum R-value of 2.67 ft<sup>2</sup>•hr•°F/Btu/in.

Catalyst must also maintain the following minimum clearances to combustibles (drywall, furniture, etc.):

Minimum Clearance Requirements		
A	Side wall to stovetop	20" (508 mm)
B	Back wall to stovetop	12" (305 mm)
C	Corner wall to stovetop	8" (203 mm)
D	Connector to side wall	30" (762 mm)
E	Connector to back wall	15" (381 mm)
F	Connector to corner wall	18" (458 mm)
G	Floor protection, side and back	8" (203 mm)
H	Floor protection, front	16" (407 mm)
I	Floor protection, connector side	2" (51 mm)
J	Back wall to electronic enclosure	12" (305 mm)

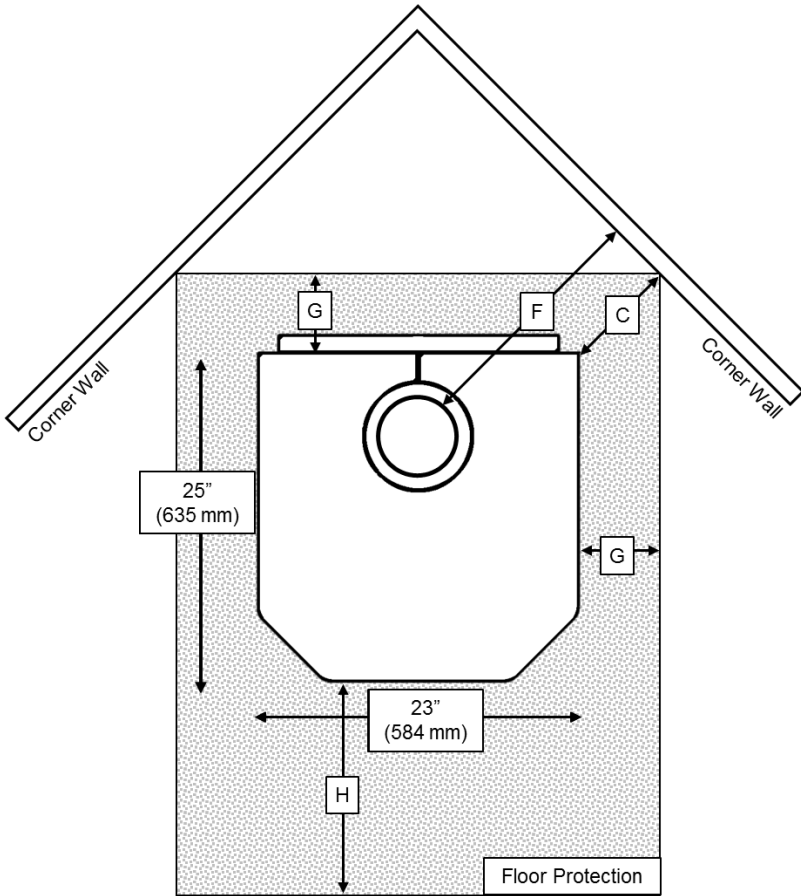
# Standard Installation



## Minimum Clearance Requirements

A	Side wall to stovetop	20" (508 mm)
B	Back wall to stovetop	12" (305 mm)
D	Connector to side wall	30" (762 mm)
E	Connector to back wall	15" (381 mm)
G	Floor protection, side and back	8" (200 mm)
H	Floor protection, front	16" (407 mm)
I	Floor protection, connector side	2" (51 mm)

# Corner Installation



Minimum Clearance Requirements		
C	Corner wall to stovetop	8" (203 mm)
F	Connector to corner wall	18" (458 mm)
G	Floor protection, side and back	8" (200 mm)
H	Floor protection, front	16" (407 mm)

# Chimney Requirements

Do not connect Catalyst to a chimney flue serving any other appliance or use in conjunction with any air distribution ductwork, unless specifically approved. This room heater must be connected to:

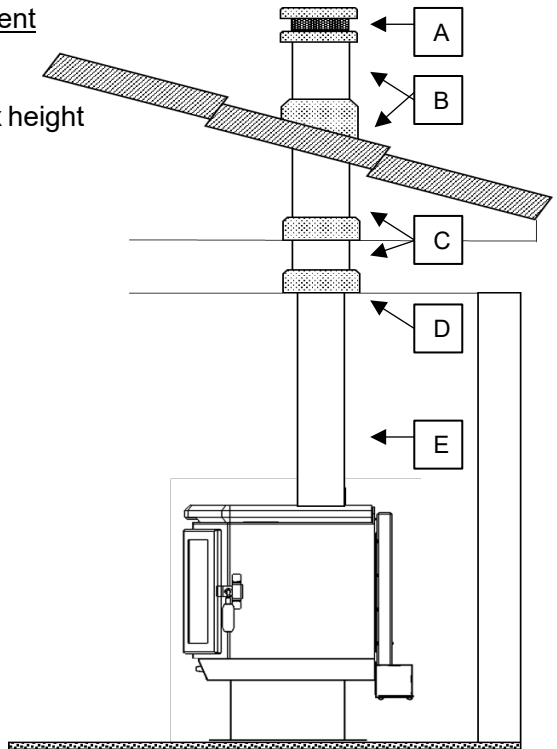
1. A 6" (150 mm) diameter, UL 103 HT chimney, from a single manufacturer

OR

2. A code approved masonry chimney with a flue liner.

## Standard Chimney Arrangement

- A. Chimney termination  
15' / 33' (4.5 / 10m) min / max height
- B. Roof penetration
- C. Chimney sections
- D. Ceiling penetration
- E. Chimney connector



## Chimney Connector Requirements

Chimney connector is required from the flue collar of the stove to the factory-built chimney or masonry chimney. The chimney connector must be 6" (152mm) diameter and a minimum 24 gauge black steel. Aluminum or galvanized steel is not allowed – these materials cannot withstand the flue temperatures and may give off toxic fumes when heated.

The chimney connector may not pass through a ceiling, attic, roof, closet, or any other concealed space (use listed UL 103 HT chimney – see “Chimney Requirements for details). **DO NOT USE CONNECTOR PIPE AS CHIMNEY.**

The chimney connector should be as short and direct as possible. No more than 180° of elbows (two 90° elbows, or two 45° & one 90° elbow, etc.) may be used for the entire system (connector and chimney). Do not use “T” connections in installation. Horizontal runs should slope upwards 1/4" (6mm) per foot and be a maximum 36" (914mm) long.

The chimney connector must be installed with the crimped end pointing downwards. This prevents creosote from leaking to the exterior of the pipe.

The chimney connector must be fastened to the stove and each adjoining section (and chimney) and kept clean.

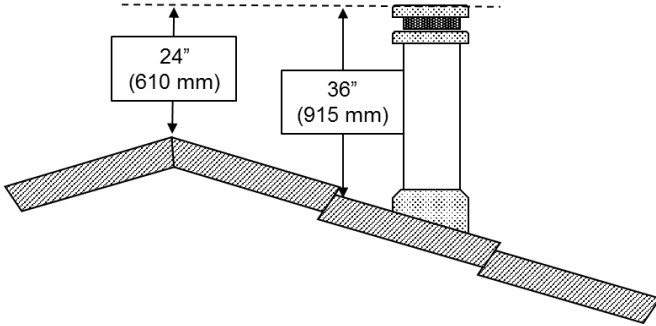
Each joint in the chimney connector must be hermetically sealed to prevent smoke leakage using furnace cement, high temperature silicone sealant or other suitable sealing medium. Smoke leakage from the chimney pipe is a sign of improper sealing.

# Chimney Termination Requirements

Must have an approved cap (to prevent water from entering)

Must not be located where it will become plugged by snow or other material

Must terminate at least 3' (914mm) above the roof and at least 2' (610mm) above any portion of the roof within 10' (3.048M)



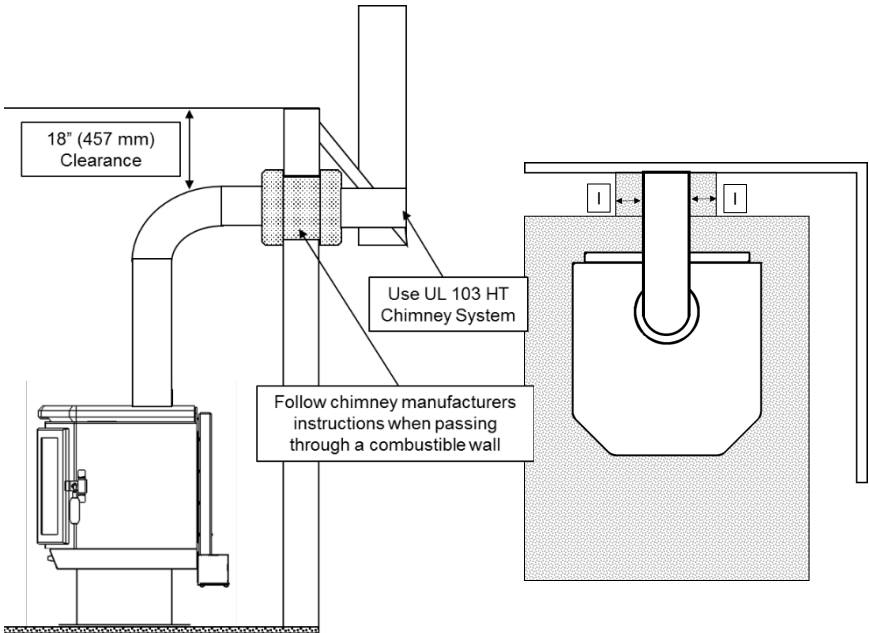


# Special Installation: Exterior Factory-Built Chimney

Catalyst may be used in conjunction with an exterior factory built chimney provided that the chimney meets UL 103 HT requirements.

Special care must be taken regarding the wall thimble, or penetration from the chimney connector pipe to the exterior chimney, if the wall thimble must pass through an exterior wall. Here all chimney manufacturer's instructions must be followed, including guidance on spacing to combustibles surfaces, piping requirements, and liner requirements. Check with local authorities before installation to ensure all requirements are met.

Floor protection is required 2" on both sides of the chimney connector.

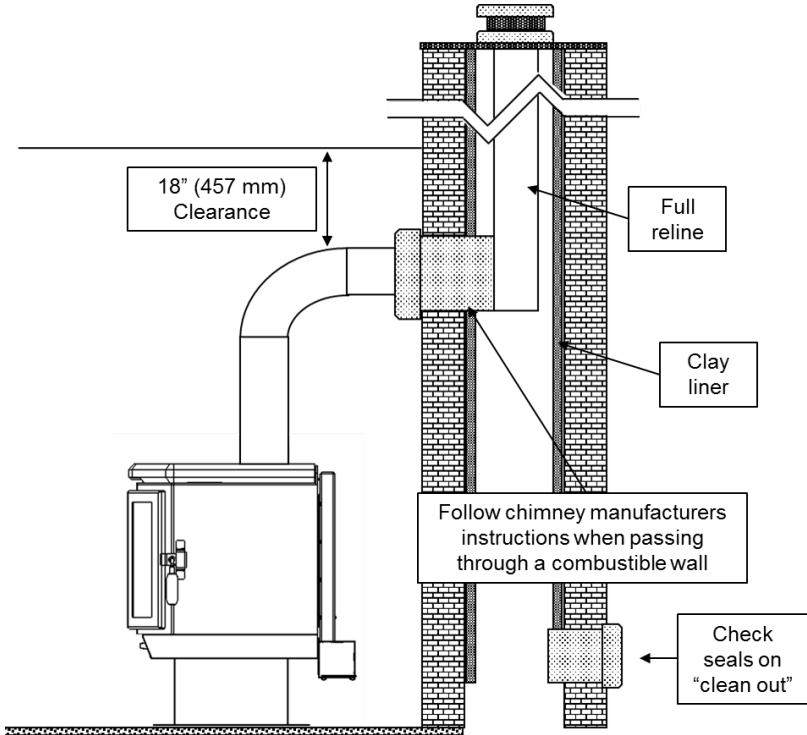


Minimum Clearance Requirements	
I Floor protection, connector side	2" (51 mm)

## Special Installation: Masonry Chimney

Catalyst may be used in conjunction with a masonry chimney provided all installation instructions are followed.

We strongly recommend a full reline when installing the Catalyst in a masonry chimney. If the chimney does not have a clay tile liner, a full reline is required. The chimney must be clean, undamaged, and meet all local building codes.

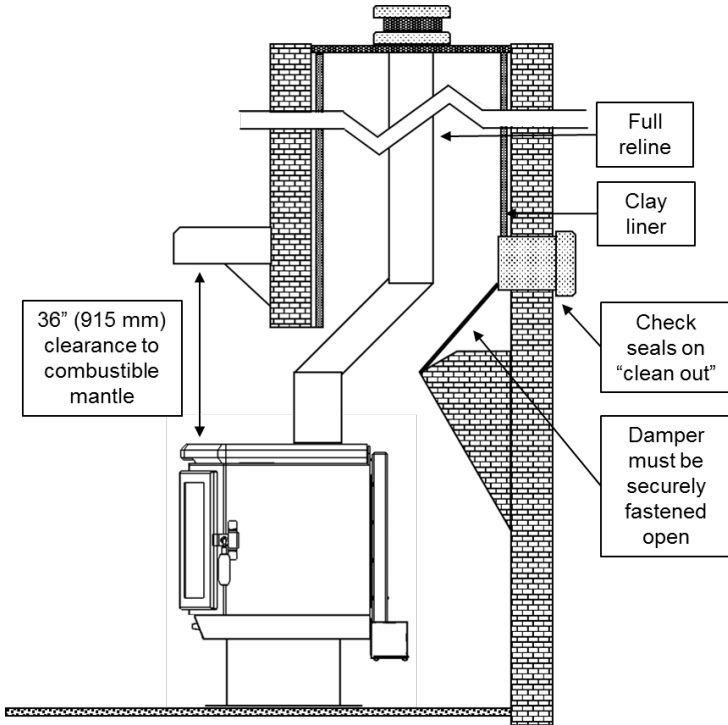


Special care must be taken regarding the wall thimble, or penetration from the chimney connector pipe to the masonry chimney, if the wall thimble must pass through an exterior wall. Here all chimney manufacturer's instructions must be followed, including guidance on spacing to combustible surfaces, piping requirements, and liner requirements. Check with local authorities before installation to ensure all requirements are met.

## Special Installation: Masonry Fireplace

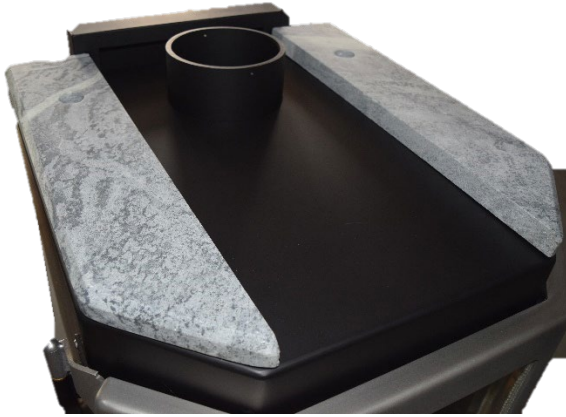
Catalyst may be used in conjunction with a masonry fireplace provided all installation instructions are followed.

The entire fireplace must be clean, undamaged, and meet all local building codes. This installation requires a full reline. The liner must be stainless steel chimney connector or flexible vent pipe. Follow the liner manufacturer's instructions for installation and support.



## Installing the Soapstone

Catalyst's soapstone pieces are designed to maintain a smooth even heating while effectively directing your blower air into the room. To install the soapstone, simply rest the two smaller soapstone side panels on top of the stove and then rest the larger top panel on top of the side pieces, as shown below. The soapstone must be installed before attaching your Catalyst to the chimney connector.



## Connecting the Combustion Fan

The combustion fan (AD-MF) is responsible for moving the air throughout your stove and is mounted on the exhaust of your Catalyst in the section of single wall chimney connector pipe directly adjacent to the stove.



Catalyst's combustion fan is mounted in your existing single wall chimney pipe.

You will need a dremel or jigsaw, drill, a pair of scissors, and a flat head screw driver for your installation.

**CAUTION: The combustion fan must be mounted on a piece of single wall chimney connector pipe. Do not mount the combustion fan on double walled pipe.**

The combustion fan may be mounted on vertical, horizontal or inclined chimney connector pipe. If used on a horizontal chimney, mount fan on bottom of pipe, not on top, to avoid creating a heat trap in inducer. The combustion fan motor shaft must be mounted horizontally to prevent motor bearing wear. The combustion fan should be mounted at least 12" from the top surface of Catalyst.

Chimney connector pipe downstream of the combustion fan should be hermetically sealed to prevent smoke leakage. Avoid the use of tee connections downstream of the combustion fan.

### **Step 1: Gather the combustion fan parts**

Each Catalyst comes with a combustion fan, four “U” nuts, four screws, rope gasket, and a paper template cutting your chimney connector. Catalyst does not come with the screws necessary to secure your chimney connector pipe to your stove or to the remainder of your chimney connector.

### **Step 2: Clean pipe surface and adhere the template to your pipe**

Ensure the chimney connector pipe is clean and adhere the template so that the arrow points towards the chimney exit. For best appearances, adhere the template so that the hole for the combustion fan is on the back latch side of the stove.

### **Step 3: Drill and cut the chimney connector pipe**

Drill four 7/32” diameter holes where indicated on the template. Cut the pipe along the dashed line using a dremel tool or jigsaw.

### **Step 4: Attach “U” nuts to the mounting pipe and apply rope gasket around the edges of the flange**

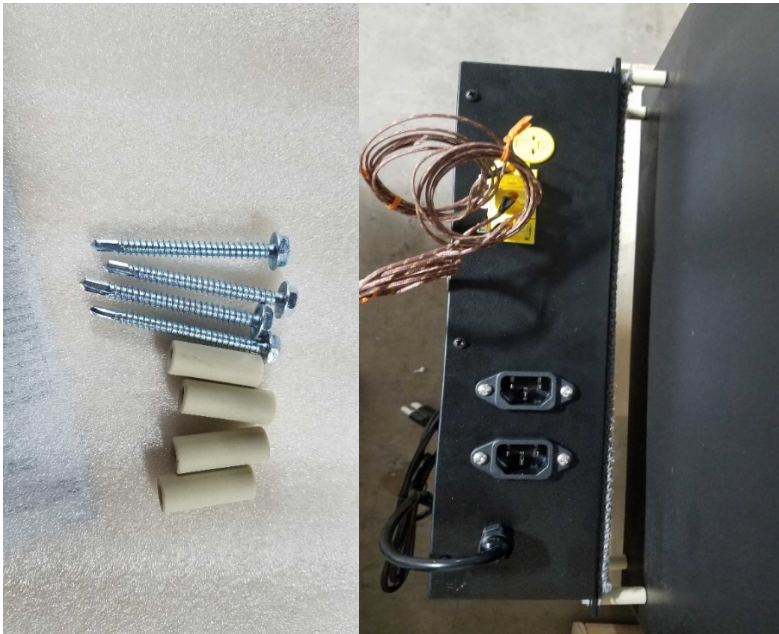
Press each “U” nut over the holes on the cutout of the side of the pipe such that the flat side of the nut is on the exterior of the pipe. Remove the paper backing from the gasket tape and press firmly to adhere to the edges of the mounting pipe.

### **Step 5: Secure combustion fan to mounting pipe**

Insert the curved edge of the combustion fan housing into the mounting pipe in direction of airflow. The curved edge can be flexed if need be to get a proper fit. Secure to pipe with the four screws.

## Catalyst Smart Controller Assembly

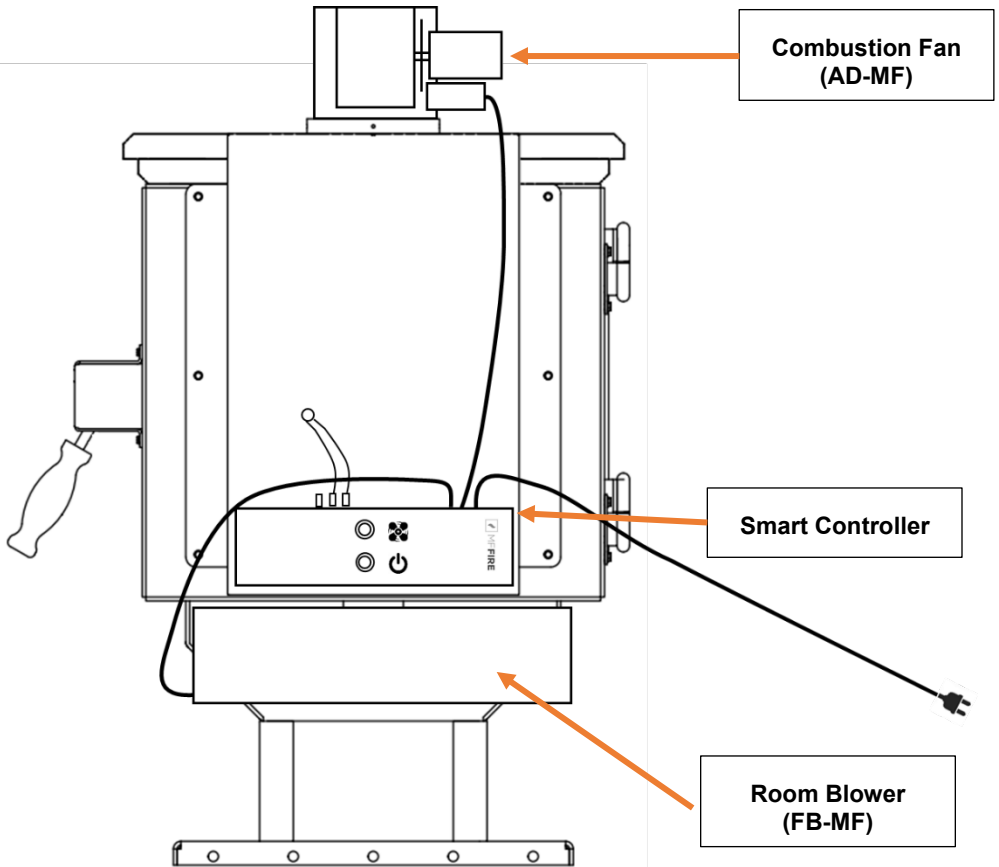
The Catalyst smart controller assembly includes the smart controller, 4 ceramic spacers, and 4 self-drilling screws. The smart controller should be screwed in to the four piloted holes on the bottom of the rear air duct with the ceramic spacers being placed between the smart controller and the rear air duct. The screws should not be over tightened in order to avoid damaging the ceramic spacers. The three temperature sensors should be plugged into their respective ports (TC1, TC2, TC3). TC1 and TC2 will already be installed in your stove with the yellow connectors hanging out of the rear air duct. Refer to the Catalyst Owners Manual for further information on the temperature sensors. NOTE: If the location of the combustion fan for your installation is such that the smart controller needs to be moved farther up the rear air duct, new pilot holes can be made or an extension cord can be requested from [info@mffire.com](mailto:info@mffire.com).



## Connecting the Electronics

The combustion fan and smart controller are the two electronic components that must be installed.

Special care should be taken when routing the primary power cord (the right cord), and the combustion fan cord (the middle cord), and the blower fan cord (the left cord). Under no circumstances should the power cords be routed in front of or underneath the appliance. Be sure to avoid contact with all metal on the stove, with the exception of the blower duct, the rear-most piece of metal on the stove.





## Connecting the Smart Sensors

Catalyst is equipped with three temperature sensing thermocouples. Each sensor is plugged into the smart controller and help's Catalyst to smoothly regulate your burn.

### **Thermocouples**

These thin wires monitor temperature at their tip. They are very low voltage, and not dangerous to touch, but are somewhat fragile and should be handled with care.

The first two thermocouples are routed through the back of the stove and above the main baffle in Catalyst's firebox. The thermocouples should be located such that their tips are roughly an inch above the baffle, directly below the catalytic combustor with roughly three inches between the two. These thermocouples help Catalyst to monitor the fire temperature and understand the emissions and efficiency of your fire.

The third thermocouple monitors room temperature. The tip should be positioned as far away from Catalyst as possible and suspended in the air, not touching any solid surfaces.



## Initial Curing

During the first burn of your wood stove, the paint on the stove may off-gas as part of its final curing process. This is to be expected. Open windows and ventilation means are recommended. Please refer to the Exterior Paint section for additional details.

## How Catalyst Works

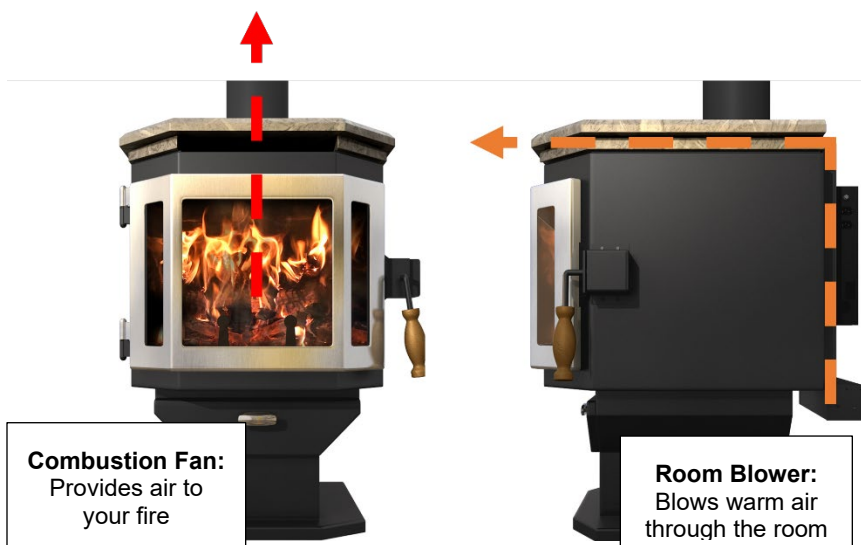
Catalyst is a whole lot easier to use than any wood stove you have ever used. Gone are the days of dampers and keeping the door open to start the stove, spilling smoke into the room. Instead, Catalyst is 100% automatic, so you just build a fire and walk away, and the Catalyst goes to work automatically tending your fire and minimizing emissions.

### Combustion Fan and Room Blower

Catalyst comes equipped with two powerful fans: the combustion fan and the room blower. Both fans are plugged into Catalyst's smart controller and both work to heat your home.

The combustion fan is responsible for controlling your fire. It draws air up through your stove and sends smoke up and out your chimney. The combustion fan is located in your chimney stack.

The room blower is responsible for sending warm air from the stove out into your room. The room blower is located on the bottom back of your stove.



## Turbo-Start

**Safety Notice: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.**

**Before starting your Catalyst, be sure that all power cords are remote from the main firebox, to prevent burning and electrical failure.**

Catalyst is the only wood stove in the world with a Turbo-start system, making Catalyst the easiest wood stove ever to start.

To start Catalyst, simply press the power on button on your Catalyst smart app or on your Catalyst controller (the bottom button) once or twice until the combustion fan turns on. Your Catalyst will kick into its five minute start-up mode, turning the combustion fan on high to quickly deliver air to your fire.

The easiest way to start a fire in a cold stove is to use newspaper to create a base, then cover the base in small kindling, and cover the kindling in logs. When placing logs atop the kindling, increase log size as you build up. One of the keys to a quick and easy start up is to ensure there is plenty of air for the fire. So, be sure to leave air gaps between kindling and logs alike. The newspaper, kindling, and log combination should be built to fill the majority of the firebox. Do not elevate the fire above the provided grate by use of additional grates, andirons, etc.

When you have stacked your wood take a match or lighter and light the newspaper in several different areas. Immediately after lighting, shut and latch the door. **There is no need to leave the front door ajar.** Catalyst's smart control system will help provide enough air flow to start the burn, and will automatically adjust to burn in the burn mode you have selected.

## Controlling the Burn

Your Catalyst has only one burn mode – perfect. Catalyst will automatically adjust to maintain the perfect room temperature. If you don't do anything, Catalyst will automatically work to achieve a perfect

70°F. If you'd like to set your ideal temperature, just use the Catalyst Smart App.

## Reloading

When reloading, if there is a large coal bed (glowing red coals, covering the entire bottom, at least an inch deep), there is no need to use kindling or newspaper. To reload, press the power on button on your Catalyst smart app or on your Catalyst controller (the bottom button) until the combustion fan turns on. The pull from your combustion fan helps to prevent smoke from spilling into the room. Next, slowly open the door, giving the new air flow pattern time to stabilize. Fill the firebox chamber with logs, taking care not to stack the logs too close or touching the front door glass. Then simply shut the door, and walk away.

## Controlling the Blower

The blower can be cycled through different power settings by pushing the blower button (the top button) on the controller. The blower will cycle through the following settings

Off → High → Medium → Low → Off → High ...

## Wood Selection

Use ONLY untreated wood in your Catalyst. The use of any other fuel may result in unsafe burning conditions and cause damage to the stove.

When choosing wood, you must use non-resinous, seasoned hardwoods. Example of appropriate hardwoods are Oak, ash, and maple. Seasoned wood is wood with between 15-20% moisture content. To test the moisture content, split a piece of wood and use your wood moisture meter on the interior center of the wood. Store this wood in a dry place and remote from your Catalyst. Do not dispose of ashes where near where fuel is stored to prevent accidental fires.

Why does dry wood matter? It burns much more efficiently, increasing heat output from the stove and reducing creosote buildup in the chimney.

## Ordinary Operating Sounds

During the typical \_ of your Catalyst, the wood stove will make occasional creaking noises. This is completely normal and is likely caused by the heating and cooling of the stove. Additionally, the fans will create some noise as they move air through the stove and the room.

## Operating Without Electricity

Catalyst is designed to be used with electricity, but that doesn't mean that it won't work in the event of a power outage! Without electricity Catalyst's smart control, turbo-start fan, and blower fan don't work, but Catalyst can still provide a smooth and steady heat to your home.

Just build a fire as you normally would and allow it to burn. Catalyst has no manual controls, so no adjustment is possible. If you are having difficulty getting enough airflow to get the fire started, we recommend leaving the stove door or the ash pan slightly cracked until the fire is well established. Never leave Catalyst unattended with either the door or the ash pan open.

# Catalyst Smart App

Catalyst is the first wood stove that can be controlled directly from your smart phone. That means you can achieve your perfect burn with just the push of a button. Let's show you how it works

## Downloading the Catalyst Smart App

To get your Catalyst Smart App simply visit the Google Play Store, Amazon App Store, or iTunes and search "MF Fire Catalyst", and follow instructions to install. Having trouble? Shoot us an email at [info@mffire.com](mailto:info@mffire.com) and we'll help.

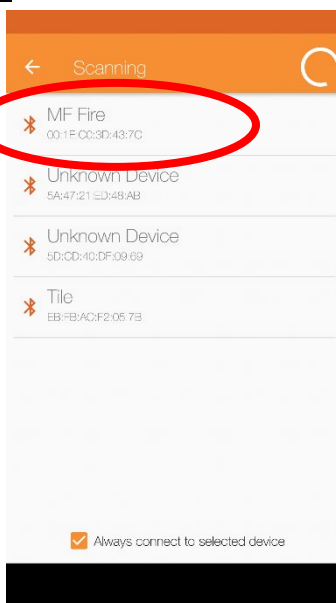
## Connecting To Your Catalyst

Make sure your Catalyst is plugged in and turned on (the left button on the back should be lit) before you try to connect. Then just start your Catalyst Smart App while standing near your Catalyst stove.

The on screen prompts will give you a list of nearby Bluetooth devices. If no prompts pop up, click the Bluetooth icon on the control screen.

Check the box at the bottom of the screen to always connect to the selected device, and then click on the device "MF Fire".

If you do not see MF Fire as a device option, try unplugging and re-plugging in your Catalyst. If that fails, restart your smart device. If you're still having problems, shoot us an email at [info@mffire.com](mailto:info@mffire.com) and we can help.



# Stove Control Screen

You can control your Catalyst from the stove control screen. Set your room temperature or adjust the room blower.

The screenshot shows the MF FIRE app interface. At the top, the status bar displays 'App Sto...', signal strength, Wi-Fi, time '8:20 AM', Bluetooth, and battery at '20%'. The app header is orange with the MF FIRE logo and a settings menu icon. Below the header, there are four main control sections: 'Room Temperature' with a circular dial set to 72°F; 'Blower Fan Speed' with a horizontal slider; a 'POWER OFF' button; and a 'Five Minute Start-up' orange bar. At the bottom, there are two icons: 'Control' (a house with a Wi-Fi symbol) and 'Status' (a waveform symbol). Five callout boxes with arrows point to these elements, providing instructions for each.

**Settings:** Adjust stove settings or learn more about the Catalyst Smart App

**Room Temperature:** Set your desired room temperature

**Blower Speed:** Set the speed of the fan blowing air throughout your room

**Power On/ Power Off:** Turn on or off your Catalyst smart controls.

**Stove Mode:** See what burning mode your stove is currently in

*\*Note: Screen layout may vary somewhat on different devices.*

## Setting the Temperature

Catalyst will automatically adjust to maintain the perfect room temperature for you. This temperature can be chosen by touching the screen and sliding the temperature slider circle pictured in the center of the app. If you don't do anything, Catalyst will automatically work to achieve a perfect 70°F.

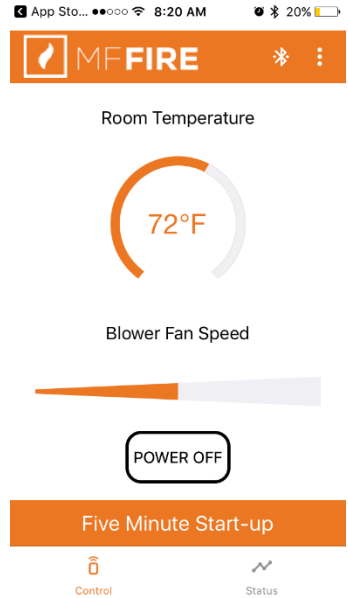
If you turn the dial all the way down Catalyst will burn as slowly as possible. If you turn it all the way up it will burn as quickly as possible.

## Controlling Your Blower

In addition to the buttons on the back of Catalyst, you can control the blower from your Catalyst Smart App. Slide the slider all the way to the left to turn the blower up, all the way to the right to turn it off, or somewhere in the middle for your own perfect airflow rate.

## Monitor Stove Status

Check in on the status of your burn on the status screen. From the main screen click the status tab. The status screen shows you the current room temperature, fire temperature, burn rate, burn status, efficiency, and even more!







Room Temperature 69°F  
Fire Temperature 608°F  
Burn Status Start-up  
Burn Rate 29764 btu/hr  
Efficiency 88%

**Temperatures:** View your current room and fire temperatures.

**Burn Status:** Check to see if you are burning well or if it is time to add more wood.

**Burn Rate:** See how much heat your stove is currently producing.

**Efficiency:** Monitor your smart efficiency to see how much money you are saving.

Five Minute Start-up

Control

Status

*Note: No status screen numbers will display if there is no fire or the fire is too small in Catalyst.*

## Notifications

Catalyst will notify you when you of a few events during your fire.

**“Five Minute Start-Up”** – When you start your Catalyst the combustion goes into high mode to rapidly deliver air to your fire.

**“Boost Mode Activated”** – If your fire is dying Catalyst will go into boost mode, speeding up your combustion fan to deliver essential air to the fire. Boost mode is commonly occurs after start-up at the beginning of a cold burn or as the wood runs out and your fire dies.

**“Over Fire Detected”** – Over firing occurs when a fire in the wood stove grows too hot. This overheating can cause damage to your wood stove and even cause chimney fires. If your stove begins to over fire, Catalyst will automatically shut down airflow to prevent damage. Do not open the stove door during over fire.

# Regular Maintenance and Troubleshooting

Woodstoves, even those as clean as Catalyst, must be cleaned frequently because soot, ash, and creosote will accumulate. Please follow a routine maintenance schedule as suggested here.

## Glass

The glass will accumulate some soot through the course of regular burning. More soot will accumulate during slow burns than during hotter burns. Sooting is worse with unseasoned or resinous woods.

To clean the glass, the unit should be allowed to cool. Use a soft cloth and a non-ammonia, non-abrasive cleaner. There are many options for wood stove glass cleaner, including on our website.

Sooting may be a result of a loose door or glass seal. If there is smoke leakage around the edges of the glass, the glass seal may be improved by tightening the various bolts and nuts securing the glass to the door, or by adjusting door tightness. Tighten with hand tools only. Machine tightening may result in glass breakage.

## Disposal of Ashes

Ashes should be placed in a steel container with a tight-fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

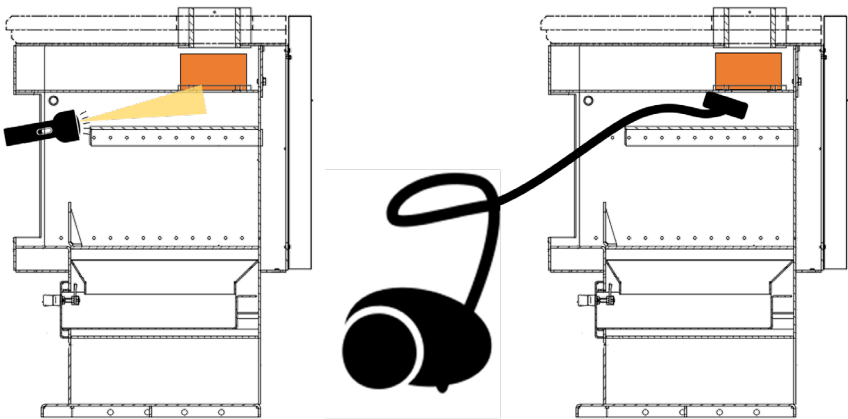
## Door Gaskets

Inspect all gaskets and door seals before each use. Catalyst should be operated with both front door and ash pan door tightly shut. The tightness of the front door may be adjusted by adjusting the position of the latch box on the stove. Moving the latch box towards the rear of the stove tightens the door seal. The ash pan may be adjusted by adjusting the position of the latch on the ash pan handle.

## Catalytic Combustor

This wood heater contains a catalytic combustor to help achieve a clean burn. It is important to periodically monitor the operation of the catalytic combustor to ensure it is properly functioning, and not clogged. A clogged or otherwise non-functioning combustor will result poor performance, smoke leakage, a loss of heating efficiency, and an increase in creosote and emissions.

Your catalytic combustor should be visually inspected at least monthly to check its condition. Do not attempt to inspect the catalytic combustor unless the stove is cool and not currently in use. To inspect the catalytic combustor simply open the door of your wood heater and shine a flashlight above the baffle of your wood heater on the underside of the catalytic combustor, as shown in the diagram below. If there is some ash on the catalytic combustor, use a soft bristled brush or vacuum to clean off the ash.



A properly functioning catalytic combustor maintains temperatures in excess of 500 °F. Following cleaning, the catalytic combustor does not function, it may need to be replaced. For replacement instructions refer to Catalytic Combustor Troubleshooting and Replacement section of this owner's manual.

# Monthly Maintenance

## Creosote

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire.

The chimney and chimney connector should be inspected at least once every two months during the heating season to determine if a creosote buildup has occurred. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire.

The use of unseasoned (wet, green) wood will increase the formation of creosote.

If you are not confident in performing a creosote inspection, contact a local chimney sweep to perform an inspection. Excess creosote buildup may cause a chimney fire that may result in property damage, injury, or death.

## Soapstone (Optional)

The optional soapstone top on the Catalyst can be removed of light scratches by lightly sanding the surface using a fine abrasive sandpaper or Grade 1 (medium) steel wool. Any soapstone dust created by sanding should be removed with a vacuum.

## Room Blower (Optional)

The optional room blower can be cleaned by using a vacuum to remove excessive dust.

## Gasket

There is gasket located on the front door, and on the front door glass. The gasket in these areas should be visually inspected for any signs of deterioration or smoke leakage into the room. If the gasket is deteriorating, contact MF Fire for replacement gasket.

# Annual Maintenance

## Exterior Paint

To fix areas on the exterior of the stove that have been scratched or dinged, simply use aerosol stove paint. Color match paint can be ordered directly from MF Fire. Simply email us at [info@mffire.com](mailto:info@mffire.com) and tell us the color you need, and we will ship it right out to you.

Paint should only ever be applied with the stove is cool. Allow the paint at least one hour to cool. After applying the paint, the newly painted area may appear darker than original until it is cured. When using the stove next, the curing process may give off some fumes. Windows and other ventilation means should be utilized.

## Glass

In the event of broken door glass, a new pane of glass must be installed before usage may continue. **Do not operate with broken glass!**

To avoid breaking the glass, avoid striking the glass, slamming the door shut, or building the fire too close to the glass.

To replace broken glass, carefully open the front door while the stove is cool. Remove large shards with gloves and dispose of appropriately. Then carefully unscrew the interior doorframe, taking care to keep all screws.

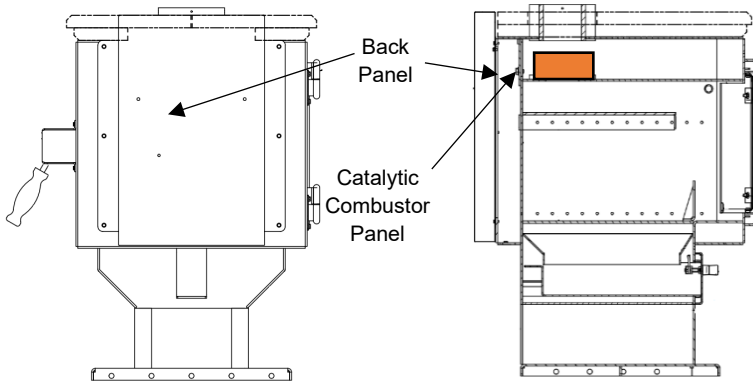
Replace the glass with official MF Fire replacement glass. The main pane is 0.1875" (5 mm) ceramic glass, 13.31" (416 mm) x 13.5" (349 mm). The left pane is 0.1875" (5 mm) ceramic glass, 13.31" (416 mm) x 4.25" (117 mm). The right pane is 0.1875" (5 mm) ceramic glass, 13.31" (416 mm) x 3.75" (117 mm). Do not use unauthorized substitute materials.

When replacing glass, ensure that the glass is properly surrounded by graphene impregnated wood stove gasket (1" rope gasket on the exterior, 1"x1/8" flat gasket on the interior), and centered over window openings.

# Catalytic Combustor Replacement

If you suspect that your catalytic combustor is not working, the catalytic combustor should be removed and inspected to identify the source of the problem.

**CAUTION: DO NOT OPERATE THE CATALYST WOOD HEATER WITH CATALYTIC COMBUSTOR REMOVED!**



To access the catalytic combustor, first remove the back panel of the stove, then remove the catalytic combustor panel. The catalytic combustor (orange) may then be lifted up and removed from its ring holder. If any cracking or peeling is observed, the catalytic combustor must be immediately replaced. Please contact MF Fire for a replacement catalytic combustor.

To replace the catalytic combustor, simply insert the new catalytic combustor inside the ring holder pictured. Replace and tightly secure the catalytic combustor panel and the back panel before operating the heater again.

**Safety Notice: Burn untreated wood only. Burning materials such as treated wood, metal foil, coal, plastic, garbage, Sulphur, or oil may damage the catalytic combustor. Excessive smoking indicated the combustor has failed and requires replacement.**

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# Lifetime Limited Warranty

Your Catalyst is automatically registered for MF Fire's lifetime limited warranty with purchase. All portions of the stove are subject to the warranty, excluding paint, gasket, glass, fasteners, catalytic combustor, fans, and electronic control board and housing. The catalytic combustor, fans and electronic control board and housing are subject to a 5-year limited warranty also subject to sections A. and B. below. Mileage and service charges, if necessary, are not covered by this warranty.

## A. If warranty service is needed

1. If you discover a problem that you believe is covered by this warranty, you must report it to MF Fire WITHIN 30 DAYS, indicating model name and serial number.
2. MF Fire has the option of either repairing or replacing the defective component.
3. Any appliance or part thereof that is repaired or replaced during the limited warranty period will be warranted under the terms of the original limited warranty for a period not to exceed the remaining term of the original limited warranty.

## B. Conditions and Exclusions

1. This device must be installed, operated, and maintained at all times in accordance with the instructions in the Owner's Manual. Any alteration, willful abuse, accident, neglect, or misuse of the product shall nullify this warranty.
2. This warranty only applies to the initial owner and residence as registered. Catalysts that have been resold or relocated are not covered under warranty.
3. Discoloration and some minor expansion, contraction, or movement of certain parts and resulting noise, is normal and not a defect and, therefore, not covered under warranty.
4. This warranty does not cover misuse of the stove. Misuse includes over-firing or use of any fuel not recommended by the manual. Misuse of Catalyst can cause serious damage and will void the warranty.



5. Damage to the appliance while it is in transit is not covered by this warranty, but is subject to a claim against the carrier.
6. The warranty, as outlined within this document, does not apply to the chimney components or other accessories used in conjunction with the installation or use of the stove.
7. MF Fire is not responsible for inadequate performance caused by environmental conditions.
8. Exclusions to this lifetime limited warranty include: injury, loss of use, damage, failure to function due to accident, negligence, misuse, improper installation, alteration or adjustment of the manufacturer's settings of components, lack of proper and regular maintenance, damage incurred while the appliance is in transit, alteration, or act of God.
9. Damage to surfaces caused by fingerprints, scratches, melted items, or other external sources left on the surfaces from the use of abrasive cleaners is not covered in this warranty.
10. Damage to the surfaces from over-firing (operation where the steel may glow red) is not covered in this warranty.
11. MF Fire is free of liability for any damages caused by the appliance, as well as inconvenience expenses and materials. Incidental or consequential damages are not covered by this warranty.
12. This warranty does not cover any loss or damage incurred by the use or removal of any component or apparatus to or from the Catalyst.
13. Any statement or representation of products and their performance contained in MF Fire advertising, packaging literature, or printed material is not part of this limited lifetime warranty.
14. MF Fire will not cover the cost of the removal or re-installation of hearths, facing, mantels, venting or other components.
15. This lifetime warranty is the only warranty supplied by MF Fire, the manufacturer of the appliance. All other warranties, whether express or implied, are hereby expressly disclaimed and purchaser's recourse is expressly limited to the warranties set forth herein.