

# NOVA

## 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!**



**MF FIRE**

**ClearStak**

99 Canal Street  
Putnam, CT 06260



# Table of Contents

Table of Contents .....	1
Safety Precautions .....	3
Installation.....	3
Operation .....	3
Maintenance .....	4
Features and Specifications .....	5
Heating Specifications .....	5
Dimensions .....	6
Emissions .....	6
Stove Installation .....	7
Planning the Installation .....	7
Stove Placement Requirements.....	8
Standard Installation: Through back wall .....	9
Standard Installation: 90-degree elbow.....	10
Chimney Requirements .....	11
Chimney Connector Requirements .....	12
Chimney Termination Requirements.....	13
Special Installation: Exterior Factory-Built Chimney .....	14
Special Installation: Masonry Chimney .....	15
Special Installation: Masonry Fireplace.....	16
Installing the Brick and Ceramic Fiberboard .....	17
Catalytic Combustor .....	20
Ash Retainer.....	20
Stove Top Thermometer.....	22
Initial Curing.....	22
How Nova Works.....	23
Bypass .....	23
Controlling the Burn.....	23
Reloading.....	24
Wood Selection .....	24
Ordinary Operating Sounds.....	24
Regular Maintenance and Troubleshooting .....	25
Glass.....	25
Disposal of Ashes.....	25
Door Gaskets.....	25
Catalytic Combustor .....	26

Monthly Maintenance ..... 27

- Creosote – Formation and Need for Removal ..... 27
- Gasket ..... 27

Annual Maintenance..... 28

- Exterior Paint ..... 28
- Glass..... 28

Catalytic Combustor Replacement..... 29

**Lifetime Limited Warranty ..... 30**

- A. If warranty service is needed ..... 30
- B. Conditions and Exclusions..... 30

# Safety Precautions

## Installation

- Nova must be properly installed to prevent house fires. Please strictly adhere to the installation instructions.
- Nova must be connected to a listed high temperature chimney or approved masonry chimney with liner.
- We recommend you use smoke and CO detectors
- Do not connect this unit to a chimney flue serving another appliance.
- 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 of Nova must be shut and latched during operation.
- Do not touch Nova while hot. Young children should be supervised while Nova 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 low burn rate that must not be
- Never obstruct airflow through the inlet vents or exhaust vents
- Nova has been designed for the burning of cordwood only. Do not attempt to burn any other type of fuel in the Nova.
- Keep all flammable objects (fabrics, paper, wood, etc.) at least 1 yd (1 m) from the front of the Nova.
- Do not use chemicals or fluids to start the fire.

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.

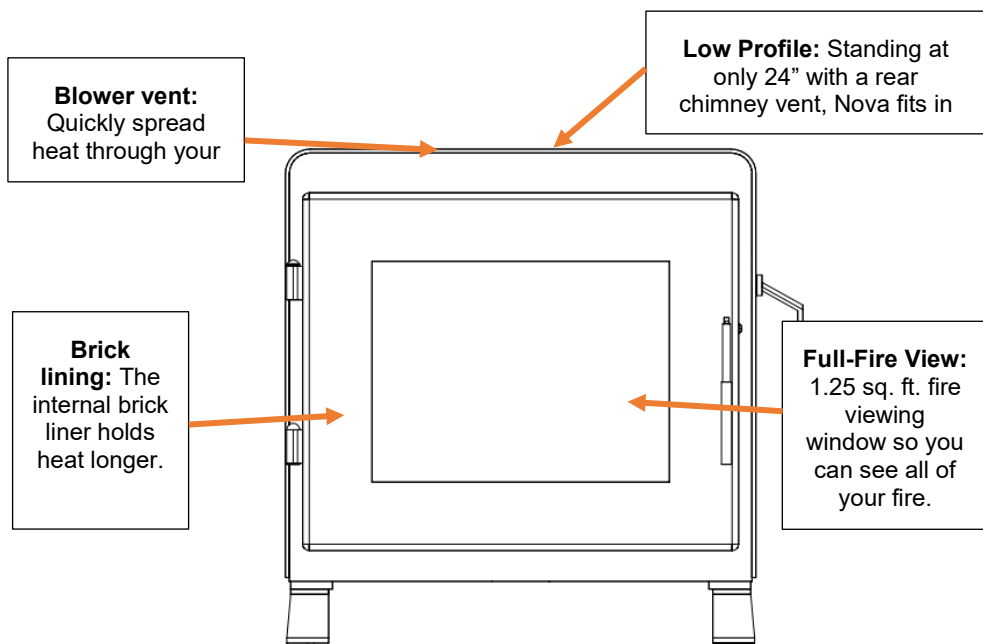
- Hot while in operation. Keep children, clothing and furniture away. Contact may cause skin burns.
- Do not use additional grates, andirons, or other means for supporting the fuel.

- Do not burn garbage or flammable fluids such as gasoline, naphtha or engine oil
- Never over-fire the Nova, 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 Nova to cool before conducting any maintenance.
- Inspect the chimney connector at least twice monthly.

# Features and Specifications



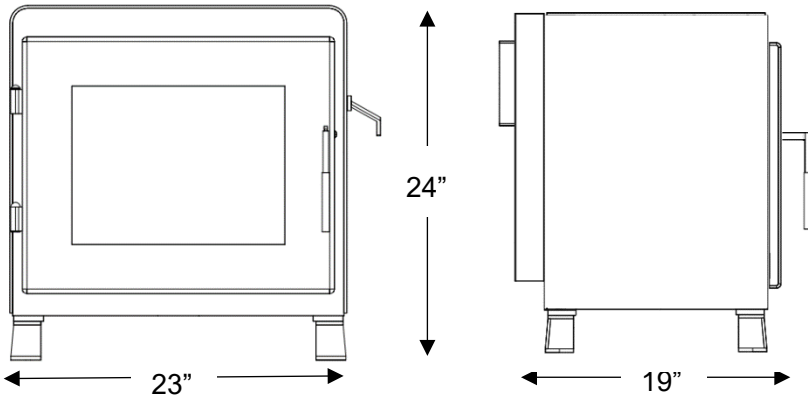
## Heating Specifications

Nova is equipped with a 1.7 cubic foot firebox and accepts logs 18" in length.

1,500 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.

23,000 BTU per hour (7 kW) EPA certified heat release rate, with actual heat release rates ranging between 9,000 and 50,000 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 Nova 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 installer locator on our website: <https://mffire.com/installers/>

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.



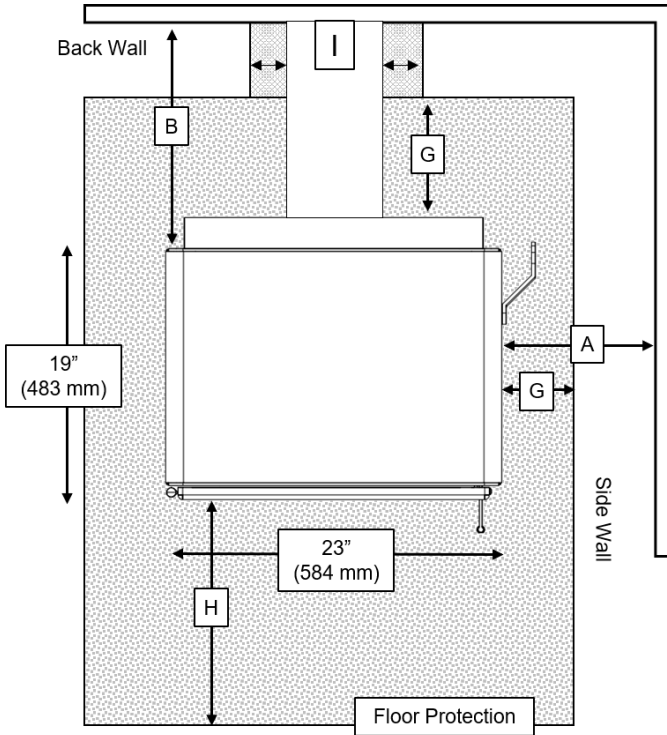
## Stove Placement Requirements

Nova 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 the minimum R-values shown in the installation specifications below.

# Standard Installation: Through back wall

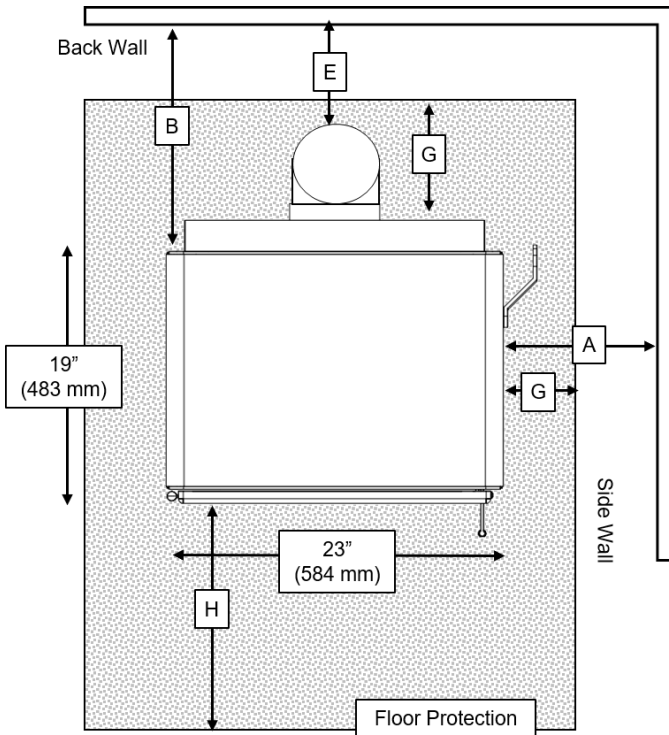


## Minimum Clearance Requirements

A	Side wall to unit	20" (508 mm)
B	Back wall to unit	18.5" (305 mm)
G	Floor protection, side and back	8" (200 mm)
H	Floor protection, front	16" (407 mm)
I	Floor protection, chimney connector	2" (51 mm)

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 0.9 ft<sup>2</sup>•hr•°F/Btu/in of minimum dimensions 54" x 38.5". NOTE: This is a different R-value than the through 90-degree elbow installation.

# Standard Installation: 90-degree elbow



## Minimum Clearance Requirements

A	Side wall to unit	20" (508 mm)
B	Back wall to unit	25.5" (305 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)

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 1.35 ft<sup>2</sup>•hr•°F/Btu/in of minimum dimensions 54" x 38.5". NOTE: This is a different R-value than the through back wall installation.

# Chimney Requirements

Do not connect Nova 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:

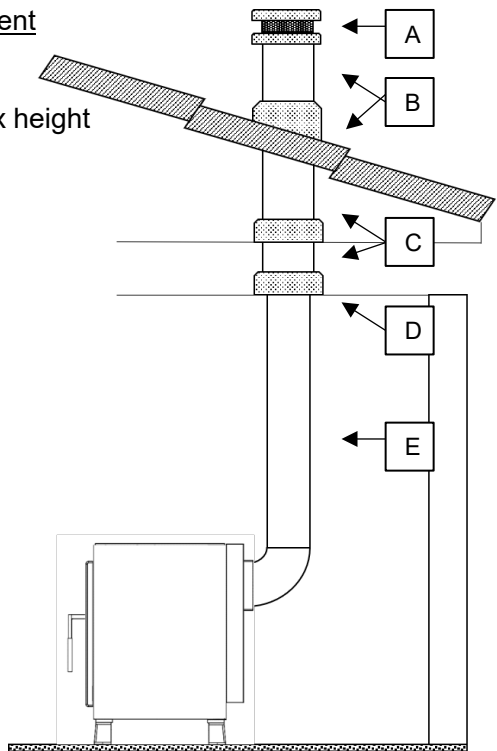
1. A 6" (150 mm) diameter, UL 103 HT chimney, from a single manufacturer

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). 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.

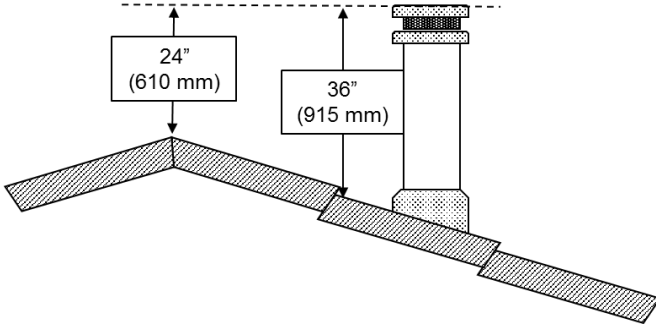
Each joint in the chimney connector must be hermetically sealed to prevent smoke leakage using furnace cement, high temperature silicone sealant or other suitable sealing medium. Smoke leakage from the chimney pipe is a sign of improper sealing.

# 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)

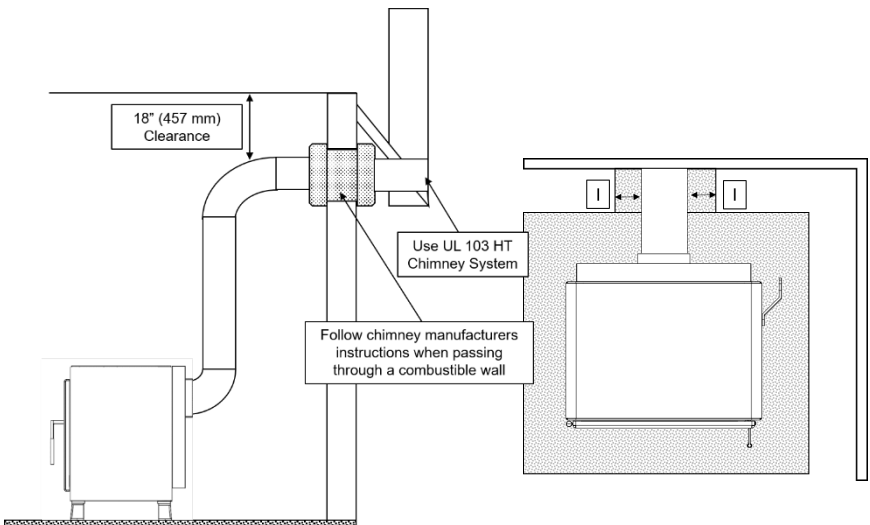


# Special Installation: Exterior Factory-Built Chimney

Nova 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 combustible 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.

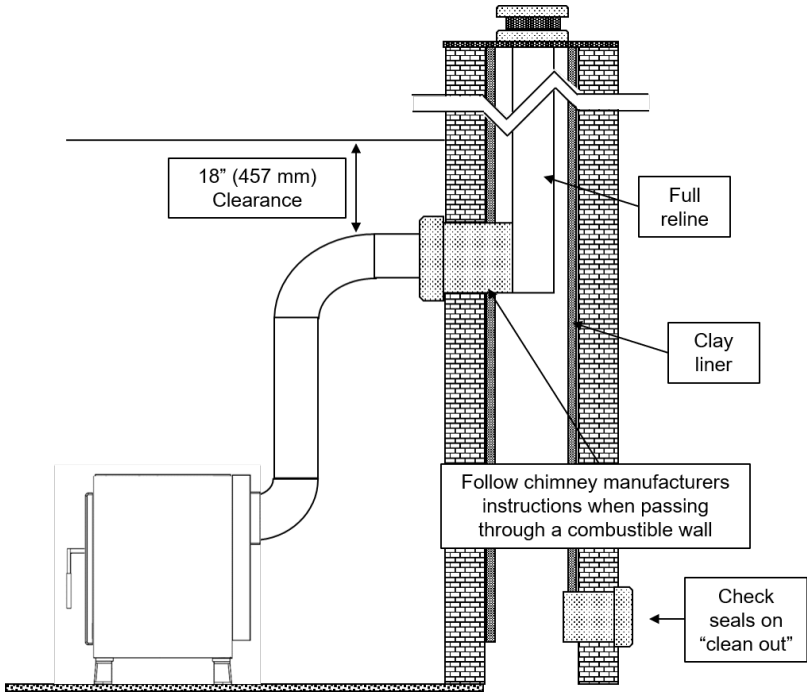


Minimum Clearance Requirements	
I Floor protection, connector side	2" (51 mm)

## Special Installation: Masonry Chimney

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

We strongly recommend a full reline when installing the Nova 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.



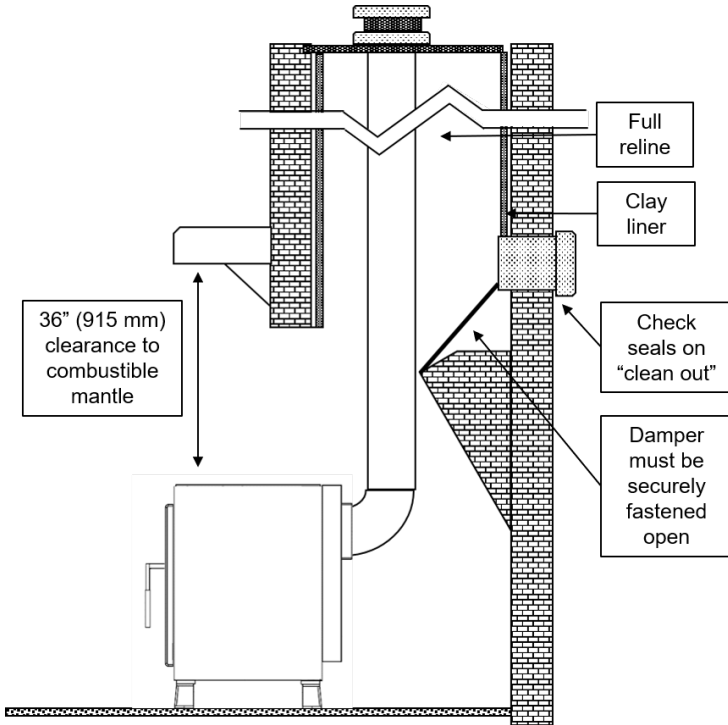
Special care must be taken regarding the wall thimble, or penetration from the chimney connector pipe to the masonry chimney, if the wall thimble must pass through an exterior wall. Here all chimney manufacturer's instructions must be followed, including guidance on spacing to combustible surfaces, piping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



## Special Installation: Masonry Fireplace

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

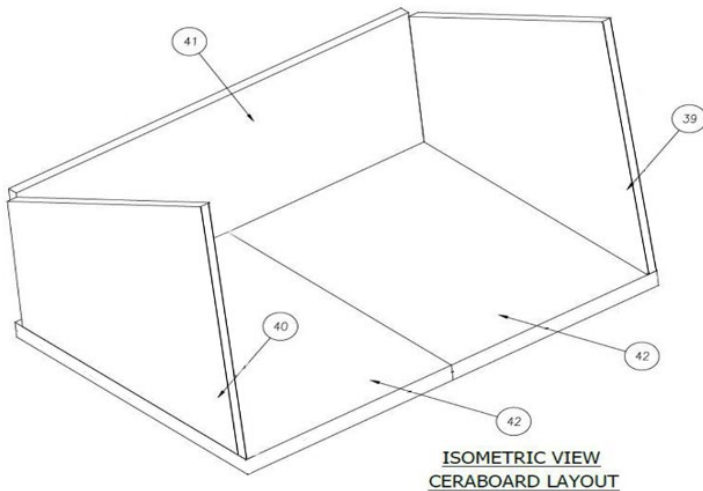
The entire fireplace must be clean, undamaged, and meet all local building codes. This installation requires a full reline. The liner must be stainless steel chimney connector or flexible vent pipe. Follow the liner manufacturer's instructions for installation and support.



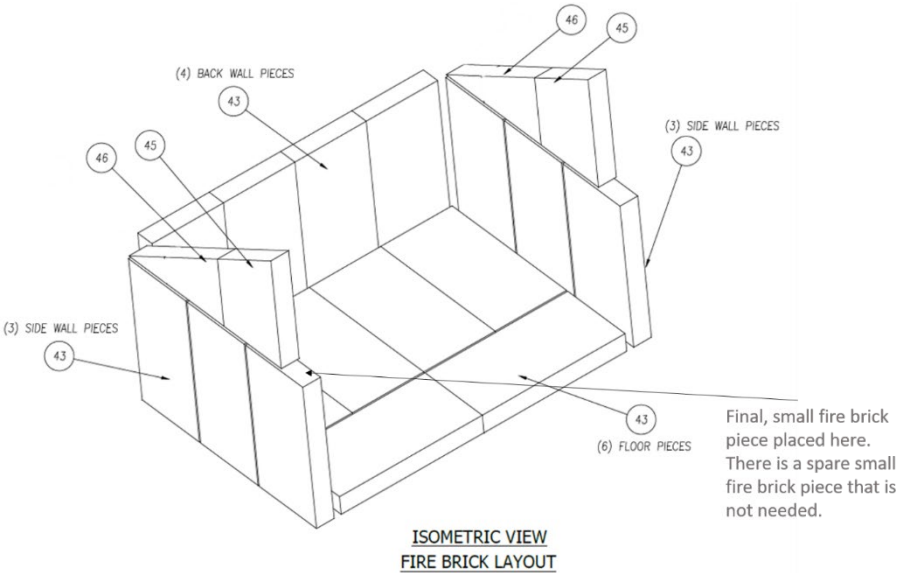
## Installing the Brick and Ceramic Fiberboard

After installing your Nova and before burning your first fire, there are a few final steps. Nova has internal bricks designed to maintain a smooth even heating. The bricks are a great insulator that absorb heat from the fire, hold the heat, and slowly release it. Unpack the bricks and ceramic fiberboard that accompany your Nova. The ceramic fiberboard and bricks received with your stove may not have the corresponding numbers in steps below. Gloves and safety glasses should be worn.

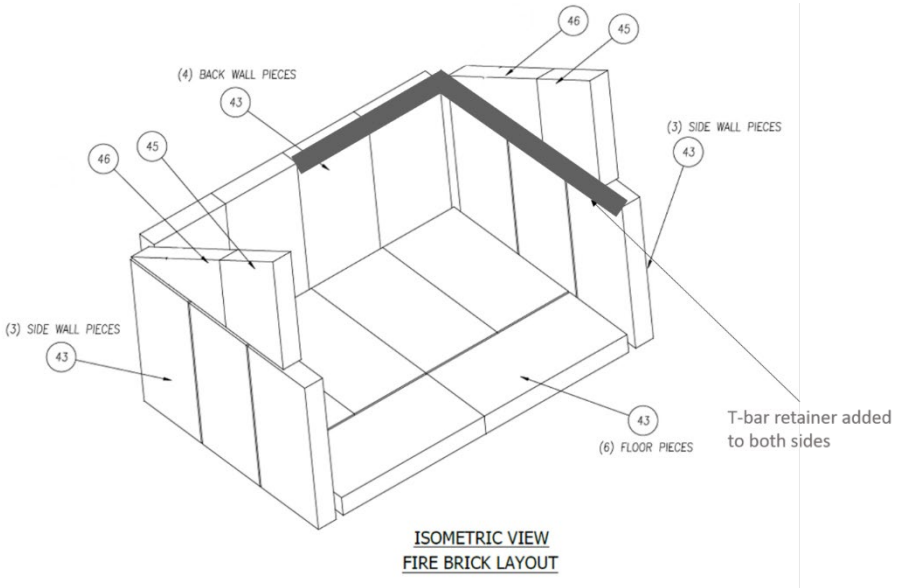
1. The firebox of your Nova is lined with ceramic fiberboard and bricks for insulation. The first step is to install the ceramic fiberboard as shown below. Please note that pieces 39 and 40 are identical, and there are two piece 42 and should be installed first.



2. Next, the bricks should be installed on the interior of the ceramic fiberboard as illustrated below. Step 3 below shows the bricks retainer pieces. It may be easiest to install the brick retainer pieces in Step 3 prior to the second row of bricks.



3. Finally, the T-bar retainer pieces (2) should be installed on both sides in order to keep the bricks in place.



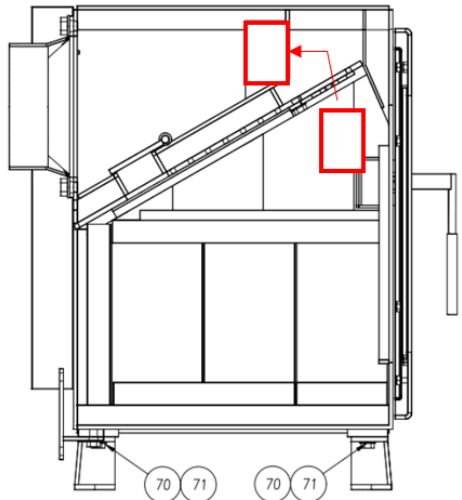
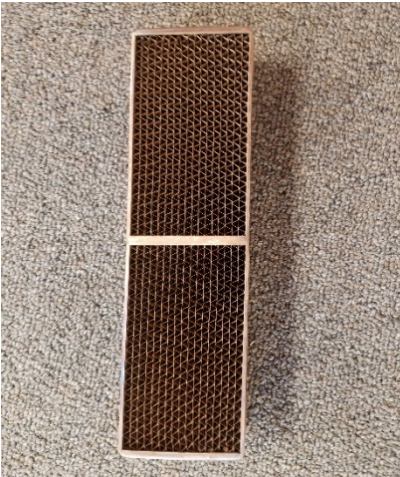
4. It is normal to have small gaps between the bricks upon completion. The bricks can be shifted towards the rear of the fire box.

## Catalytic Combustor

The Nova catalytic combustor is a long rectangular piece with a honeycomb like structure. It can easily be installed as a final step prior to using the. Nova can not be operated without the catalytic combustor properly installed.

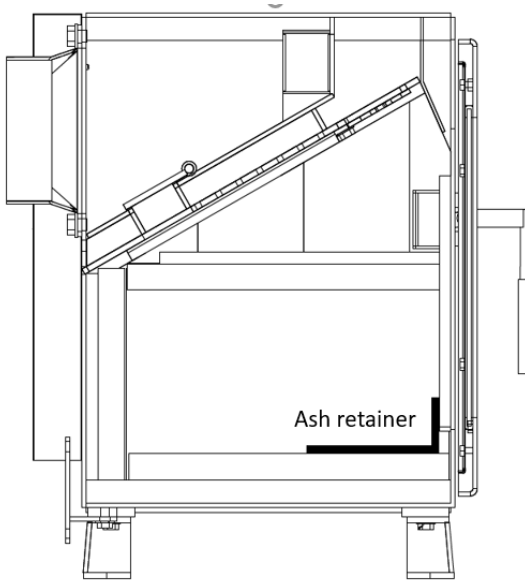
To install the catalytic combustor follow the steps below. There are additional pictures below the following steps:

1. Remove the packaging surrounding the catalytic combustor.
2. Unscrew the bolts holding in the shield. Set flame shield to the side.
3. Slide the catalytic combustor through the rectangular opening.
4. Slide the catalytic combustor into the holding box and slide all the way back until it reaches the rear of the holding box. The mesh sides should be facing the front and rear of the stove as shown in the pictures on the back of this page. The combustor may be a snug fit, which is normal.
5. Reinstall the shield.



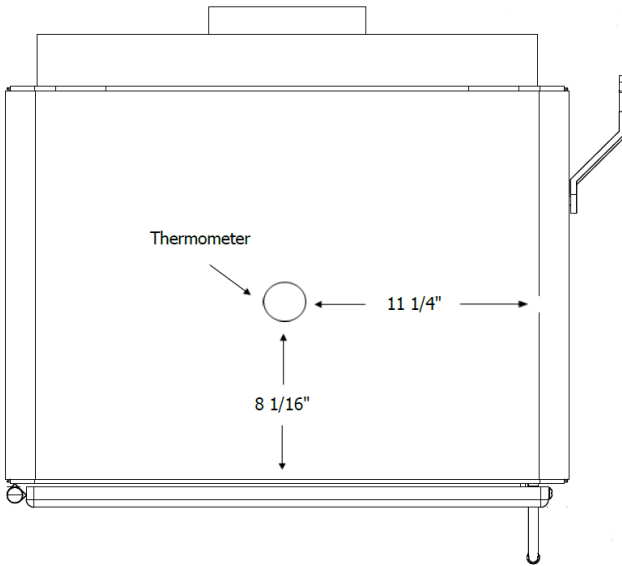
## Ash Retainer

Your Nova comes standard with an ash retainer that can be used to extend the number of burns between emptying the ash, if desired. The 6" leg L-shaped ash retainer is placed directly on the brick on the firebox floor. This allows for a lip in front of the glass to retain ash. The ash retainer placement is pictured below.



## Stove Top Thermometer

The stove top thermometer is an accessory that can be used to help determine when to close the catalytic combustor bypass on your Nova. The thermometer should be placed on the stove top, 8" from the front of the stove and 11.25" from the side of the stove. For most uses, when the thermometer reads "ENGAGE CATALYST", the catalytic combustor bypass can be swung closed (to the rear of the stove).



## 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 Nova Works

Nova is a whole lot easier to use than any wood stove you have ever used. Gone are the days of using dampers. Gone is keeping the door open forever in order to start the stove, spilling smoke into the room. Instead, Nova is a simple and easy to use wood stove that provides great heat and a beautiful view of your fire through a massive front glass. Just build a fire and sit back and enjoy your beautiful fire.

On top of the beauty of Nova, it is a clean burning and highly efficient stove that gets the most heat out of every piece of wood.

### Bypass

Nova is equipped with a bypass lever for the catalytic combustor. The bypass handle is located on the right side of the stove and should be operated with the included fall-away handle. When not used, the fall-away handle can be stored on the rear of the unit. The bypass should always be opened prior to opening the front-loading door. After loading or reloading your stove with wood, the bypass should remain open until the thermometer provided reads “ENGAGE CATALYST”. The normal closed position is when the bypass lever is to the rear of the stove.

### Controlling the Burn

Your Nova has only one burn mode – perfect. If you would like more or less heat out of your Nova, simply load more or less wood into your stove.



## 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, open the bypass, wait 10-15 seconds for the exhaust gases to re-stabilize, and slowly open the front door. 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. Close the bypass when the provided thermometer reads “ENGAGE CATALYST”.

## Wood Selection

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

When choosing wood, you should 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 Nova. Do not dispose of ashes 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. Refer to our website blog posts for additional information regarding non-resinous, seasoned hardwoods.

## Ordinary Operating Sounds

During the typical operation of your Nova, 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 optional room blower fan will create slight noise as it moves air throughout the room. The room blower fan can be added on to your stove if not selected during initial purchase.

# Regular Maintenance and Troubleshooting

Woodstoves, even those as clean as Nova, must be cleaned frequently because soot, ash, and creosote may 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 the MF Fire 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. Tighten with hand tools only. Machine tightening may result in glass breakage. Do not over tighten.

## 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. Nova should be operated with both front door tightly shut.

## 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 in 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 remove the bolts holding the flame shield in place. 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, if 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 – Formation and Need for Removal

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) and/or resinous 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.

## 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 while 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. Do not use unauthorized substitute materials. Contact MF Fire if replacement glass is needed.

When replacing glass, ensure the glass is properly surrounded by graphene impregnated wood stove gasket, and centered over the window opening.

# 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 NOVA WOOD HEATER WITH CATALYTIC COMBUSTOR REMOVED!**

To access the catalytic combustor, first remove the chimney connector pipe from the stove. The catalytic combustor may then be removed from its holder by reaching into the back of the stove. If any cracking or peeling is observed, the catalytic combustor must be immediately replaced. Please contact MF Fire for a replacement catalytic combustor. NOTE: it may be easier to remove the flue collar as well to more easily access your catalytic combustor.

To replace the catalytic combustor, simply insert the new catalytic combustor inside the horizontal rectangular holder. Replace and tightly secure the flue collar (if removed) and the chimney connector pipe 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.**

This page intentionally left blank.

# Lifetime Limited Warranty

Your Nova 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, and room blower fan. The room blower fan is subject to a 1-year limited warranty and the catalytic combustor is 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 the place of purchase 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. Novas 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 Nova 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 Nova.
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.