

Shipmate Stove Company Inc.

Po Box 399
Bedminster, Pa. 18910

“Always Reliable...Fair Weather or Foul”

General Boat Stove Installation and Safety Information

- **IMPORTANT!!!** Not following these Safety guidelines could result in a dangerous fire onboard, injury, loss of property or loss of life. If unsure about installation, contact your local Marine Surveyor, Coast Guard or local Wood Stove Installation Specialist for assistance before installing the stove.
- Solid fuel stoves should **never** be installed on gasoline powered boats due to the risk of explosion. Potentially deadly!!!
- Carbon monoxide monitoring/detecting device should be installed with all solid fuel burning stoves and heaters and maintained according to the manufacturer’s specifications. Very Important!!!!
- An outside source of fresh air for combustion should be located within 3’-4’ of the stove and kept open during the stove’s operation. Failure to provide fresh combustion air could result asphyxiation or death.
- Do not hang clothes or wet fabric over or near the stove.
- Never over fire your stove. Over firing is present when any part of the stove or flue pipe or chimney is glowing bronze yellow or red color. Immediately close the air intake controls if you suspect that the stove is over fired.

- A charged and current marine fire extinguisher rated for Class A and Class B fires should be located near the stove and the stove's operator should be familiar with its use before its needed.
- Keep flammable and combustible fluids and materials away from the stove at all times. Gasoline, lighter fluid or other flammable fluids should never be used to start the fire.
- Fabrics located above and within 39 inches of a galley stove top, used for decorative or other purposes, shall be flame resistant in accordance with NFPA 701, *Standard Method of Fire Tests for Flame-Resistant textiles and Films*.
- Never operate the stove when paint, varnish, oil, alcohol or other combustible vapors are present in the boat. Solid fuel stoves are a source or ignition for any vapors present. If unsure if vapors are present, thoroughly ventilate the cabin area where the stove is before operating the stove. *If in doubt, thoroughly ventilate again.*
- Never let any person unfamiliar with the operation of the stove operate the stove without being directly supervised by someone familiar and experienced with the operation of the stove.
- Exhaust fans should not be used while the stove is in operation to avoid a possible low pressure or reverse draft situation where exhaust gases from the stove are being drawn into the cabin instead of escaping up the chimney. If smoke is seen escaping from the stove at anytime, make sure that the flu pipe damper is open, the smoke hood is not blocked and that there is a obvious source of fresh combustion air within 3-4 feet of the stove. During start up, a small amount of smoke may be present for 15-30 seconds while the stove's heat creates a draft up the flue pipe. Once the draft is established the smoke should all be drawn up the chimney.
- Children should be taught that the stove and stove pipe are dangerously hot and should not be approached without supervision. Pets should also be kept away from the stove.
- Do not operate a broken or damaged stove. Periodic inspections should be made to the stove to ensure that the stove is in good condition.

- Do not modify or alter the stove. Doing so could be very dangerous and will void the stove's or heater's warranty.
- The stoves door knobs and air intake controls become very hot during normal use and the use of fireproof insulated gloves is recommended when operating the stoves knobs and controls or adding fuel to the stove.
- Use of the stove or heater while underway is not recommended unless the stove can be frequently monitored by someone experienced and familiar with its operation. Operation of the stove or heater in stormy seas is not recommended.
- Only burn non treated wood and charcoal in your stove. Properly air dried hardwoods will burn cleaner and more efficiently than newly cut softwoods.
- The burning of anything other than dried wood or charcoal not only risks the release of potentially deadly toxic and noxious fumes but also voids the stove's warranty.
- Never leave the stove unattended while it's hot.

Boat Stove & Heater Installation

IMPORTANT!!! Not following these installation guidelines could result in a dangerous fire onboard, injury, loss of property or loss of life possible. If unsure about installation, contact your local Marine Surveyor, Coast Guard or Local Wood Stove Specialist for assistance before installing the stove.

Unpacking your Shipmate Stove or Heater

Extreme care should be taken when removing your Shipmate solid fuel Stove or Heater from its box/crate. By no means should the stove or heater be lifted by its sea rail. Once the securing transport screws have been removed along with the shipping padding, the stove should only be

lifted by the underside lip of the stoves cast iron top. Care should be made to place porcelain stoves on a padded surface until installed.

Installation Design

Shipmate Stove Company Inc. strongly recommends that your solid fuel stove is installed by a professional shipwright familiar with shipboard solid fuel stoves and deck irons.

A proper and safe solid fuel stove or heater installation involves four components or considerations:

1. Stove base mounting.
2. Clearance to combustibles and heat shielding.
3. Chimney Pipe, Flue Damper and Deck Iron
4. Smoke Hood

1. Stove Base Mounting

The stove should be mounted using stainless steel mounting bolts only after all clearances to combustibles have been established and checked. Quality bolts, washers and nuts should be used to bolt the stove down so that it remains in place even during times of severe pitching and rolling of the boat. Additional tie down rings are located on either side of the Shipmate Model 211 if sailing in heavy seas is a possibility. These rings can be secured by turnbuckles connected to the structural base that the stove is bolted to. *These turnbuckles should be secured when installing the stove, not when seas get rough and it becomes difficult to secure the stove.*

Coal, charcoal, and wood burning stoves shall be either securely mounted on a noncombustible base or mounted on legs providing a clearance of at least 5" between the stove bottom and the deck, and

the deck shall be insulated with a non combustible material or sheathing. This non combustible base material should extend beyond the stove far enough to catch any hot ashes that could fall or pop out of the stove during opening and closing of the stove door. Ceramic tile should not be used as the sole source of heat protection under the stove as ceramic tile often conducts heat instead of reflecting it. A Mineral fiber board under the tile offers both a good underlayment for the tile and tile thinset/adhesive as well as a good thermal break.

2. Clearance to Combustibles (*Extremely Important*)

Sides, Front and Back

The sides and backs and front of un-insulated stoves shall have a minimum clearance of 10" from exposed materials and finishes, which shall meet the requirements of NFPA 6-2.19

NFPA 6-2.19 States: Exposed materials and finishes within 24 inches (61 cm) of heat generating surfaces of appliances shall have a flame spread index of not more than 75 as determined in accordance with NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*. *Some common boat building materials and their associated Flame Spread Indices:*

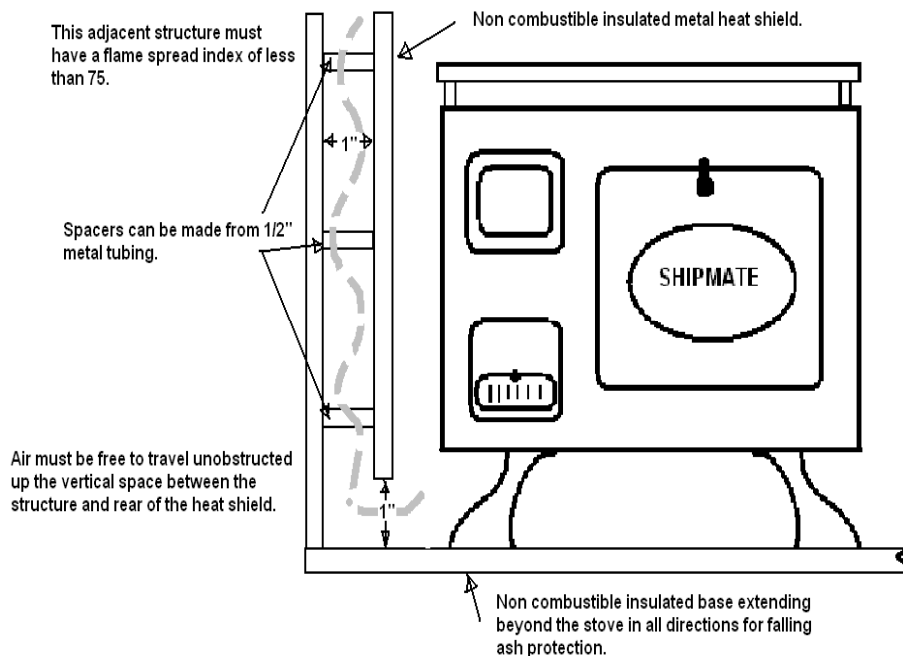
Cedar, Alaska Yellow	50
Cedar, Pacific Coast Yellow	78
Cedar, Port Orford	60
Cedar, Western Red	73
Fir, Douglas	83-100
Hemlock	60-75
Larch, Western	45

Oak, Red or White	100
Eastern White Pine	85
Spruce, Sitka	74
Spruce, Western	100
Walnut	130-140
Douglas Fir Plywood	130-150
Birch Plywood	114-173
½" Particle Board	156
5/8" MDF	120
½" Lauan	150
3/8" FRP(fiberglass reinforced plastic)	200

For more Flame Spread indices see:

<http://www.awc.org/Publications/dca/dca1/DCA1.pdf>

An engineered wall or ceiling shielding and insulating system could and should also be designed by the authority having jurisdiction in order to reduce the temperature of adjacent combustible materials by separating them from the heat of the stove through the use of an insulated metal heat shield. The desired effect of this heat shield is to reduce the temperature of the adjacent combustible material by 50 degrees Fahrenheit. The insulated heat shield shall be separated from the combustible material (with a flame spread index of less than 75) by no less than a 1" air space. This insulated heat shield should have a 1" gap at its base to allow for air to pass underneath it and up within the void between the back of the insulated metal shield and the front of the surface adjacent to it. Fasteners used to hold the heat shield to the adjacent combustible material should be fastened only along the outer perimeter to minimize the transfer of heat from the stove body through the fastener and into the adjacent combustible material.



****Because of the small boat spaces in which these stoves typically are installed, Shipmate strongly encourages the use of insulated heat shields and can supply custom fabricated insulated stainless steel heat shields designed to fit your boat's specific installation situation. Please contact us for more information and pricing details****

Ceiling Clearance

Clearance from the top of the stove surface to a combustible ceiling surface shall be no less than 36" unless an insulated heat shield has been approved by the authority having jurisdiction and installed according to the approved design. Again, the desired effect of this heat shield is to reduce the temperature of the adjacent combustible material by 50 degrees Fahrenheit. Extra care should be taken with designing the overhead area above the stove as it will most likely be

hotter due to the additional heat from the stove's chimney flu pipe as well as rising heat from the stove.

3. Chimney Pipe, Damper and Deck Iron

Chimney Pipe

The chimney pipe will connect the top of the stove to the underside of the deck iron. The chimney pipe system is comprised of several 4" diameter stainless steel seamed or welded stove pipe sections joined together with stainless sheet metal screws. The stove pipe may also have a crimped end and if so, the crimped ends should be placed down so that any dripping creosote within the pipe ends up within the stove and not leaking out at the seams on the outside of the chimney pipe. The first piece of stove pipe connects to the outside of the stoves chimney pipe collar and is sealed around the collar with stove cement or high temperature silicone sealant rated for at least 1200 degrees Fahrenheit. Up to two 45 degree elbow pieces can be used in the chimney pipe design but horizontal pipe runs should be avoided. Instead, there should be a slight rise in the horizontal runs to allow the smoke to continue to rise. Chimney pipe shall not be concealed with closets, bulkheads or walls. Galvanized pipe should not be used.

Single-wall smoke pipes and stacks shall have a minimum clearance of 12 inches from combustible materials included painted or oiled surfaces, or shall be separated by fire-resistant thermal insulation. Listed and labeled double- or triple-wall smoke stacks shall be installed with a minimum clearance specified by the manufacturer.
NFPA Standards #302 6-3.3

*Exception: At decks equipped with water deck irons.

Permanently installed solid-fuel burning appliances shall be equipped with a double- or triple-wall smoke pipe or stack that shall terminate above deck, with smoke heads designed to minimize water entry, spark emission, and backdraft. *NFPA Standards #302 6-3.4*

Flue Damper

In conjunction with the air intake, the flue damper acts as the stoves gas pedal. The more air that is allowed to enter the air intake and the flue damper, the quicker and hotter the burn. Turning down either the air intake or flue damper will slow the fire down or even extinguish the fire. The flue damper is a butterfly style cast iron vent located within the chimney pipe. Typically it is located no more than 24 inches from the top of the stove surface. A flue damper should be installed on all solid fuel boat stoves.

Traditional Deck Iron

A bronze deck iron serves to both accept the chimney pipe from the stove below and allow it to safely pass through the boats cabin top. Cooling is provided by a water filled moat that is in contact with the hot chimney pipe as it passes through the boat's cabin top. This water reduces and dissipates the heat before it reaches the deck iron's mounting flange. A smoke hood is placed on the *upper* deck iron which minimizes rain from entering the chimney pipe and also helps in promoting a good draft.

This design has served solid fuel boat stoves for over a hundred years and will no doubt continue to serve them into the future but Shipmate has taken the deck iron to the next level with its Shipmate Shellback.

Shellback Deck Iron (Patent Pending)

The Shellback Deck Iron is the first adjustable angle heat dissipating deck iron available for solid fuel stove equipped boats. Cabin top

cambers(Curves) up to 30 degrees can be easily accommodated by simply pivoting the Shellbacks upper shell to the plumb position and then tightening the two set screws from within the interior cabin.

No water is needed for cooling because the heat is dissipated by integral bronze cooling fins on the upper shell of the Shellback.

Testing has shown that the Shellback's deck mounting flange will reach less than half the temperature of the traditional deck iron when the stove is operating.

During warmer seasons, The Shellback is also designed to accept a cowl style ventilating funnel once the smoke hood is removed.

4. Smoke Hood

The smoke hood is the final element of the boats solid fuel chimney system. The smoke hood is designed to minimize entry of water into the chimney, assist in creating a draft and arresting any sparks which may make their way up the chimney. When not in use, the smoke hood should be stowed (Only when completely cooled to the touch) and the rubber bung installed. Great care should be taken to locate the deck iron and smoke hood. The smoke hood should be positioned at least 24" from any fuel deck fills, air intakes, or flammable canvas, sails or combustibles. Exhaust gases coming from the smoke hood can reach more than 400 degrees Fahrenheit so extreme care should be taken in planning the location of the smoke hood.

The Shipmate Liverpool deck iron was first introduced in the mid 19th century and has repeatedly proved reliable and safe when installed wisely and used correctly.

Operation & Maintenance of your Shipmate Boat Stove

Approved Fuel

This stove is designed to burn natural wood and charcoal only. Coal can be burned with the addition of refractory added to the firebox. Do not burn:

1. Garbage
2. Cardboard
3. Treated or painted wood or wood solvents
4. Chemical chimney cleaners
5. Colored paper
6. Any synthetic fuel or logs that have not been approved for woodstoves.

Burning of any of these non approved items may release in the release of toxic fumes.

Warning!!!! Never use gasoline, lantern fuel or kerosene, charcoal lighter fluid to help light the fire or “freshen it up”

Dried seasoned or dry hardwood is recommended. Wet or green wood or softwoods should be avoided as they cause the rapid formation of creosote. Softwoods can be burned but the chimney should be checked and cleaned of creosote much more frequently.

Wood and Charcoal Storage

Wood should be stored off the wet ground and in a well ventilated area away from the heat of the stove. Charcoal should be stored in a dry, closed metal container since spontaneous combustion of charcoal can happen under the right conditions.

Breaking in your Stove.....Very Important

A cast iron stove should be broken in gradually. Five (5) consecutive small fires should be made in the stove before operating the stove at its full potential. Each of these fires should be slightly bigger than the previous fire until you have a full load of wood on the fifth fire. Each small break in fire should be allowed to burn out before the next is started. This allows the cast iron and furnace cement to fully cure slowly instead of rapidly curing which may result in cracked castings. It is normal for painted stoves to smoke or smell slightly on the outside when they are fired for the first few fires as the paint cures. Open a window or hatch to air the space out.

Starting your Stove fire

A properly built and maintained fire will utilize the wood in the most efficient manner, and minimize creosote buildup and emissions.

Steps to start the stove fire:

1. Ensure that all combustibles are away from the exterior of the stove, chimney, deck iron and smoke hood.
2. Make sure that the rubber weather bung is removed and the smoke hood is installed.
3. Open the air intake sliding lever until the air intake is fully open.
4. Open the stove pipe flue damper all the way.
5. Ensure that there is a source of outside air.
6. Remove the stove plate/s to access the fire chamber.

7. Build a small bed of tightly crumpled newspaper topped with criss-crossed layers of small dry thin kindling wood on top of the stove grate. On top of that kindling layer another 2 or 3 layers of small 1" thick by 6"-8" long pieces of dry firewood. Use a match to light the newspaper and put the stove plate/s back on. Let the firewood catch.
8. Remove the stove plate/s to add more dry wood as needed.
9. Once a bed of coals has been established, partially close the air intake and flue damper to slow the burn rate of the fire.

Both model Shipmate Solid Fuel Stoves may burn for up to an hour without adding fuel if the flue damper and air intake are properly adjusted. Fuel type and other factors may increase or decrease that burn time.

A properly tended and refueled Shipmate Stove can be burned for many hours if adjusted correctly. No Stove should be left unattended while operating or hot.

Warning!!

Never operate your Shipmate Stove with either the stove plate/s or fire chamber door open accept for removing ash or loading fuel. An open fire chamber door or removed stove plate may result in a dangerous over-firing where the stove reaches a dangerously high temperature.

Refueling your Stove

Wood can be added to your stove when it is burning but extreme care should be taken to not let hot embers fall from the stove when new wood is added.

Refueling your stove should only happen after a good hot bed of coals has been established.

Steps to Refuel the Stove:

1. Always wear fireplace gloves when tending or operating the stove.
2. Move the air intake control to the full open position.
3. Make sure that the damper is in the fully open position.
4. Wait a couple of seconds and open the door or remove the stove plate/s with the lid lifter.
5. Carefully, use a small stove shovel to break up the larger lumps of coals.
6. Load the new wood in the fire chamber.
7. Close the door.
8. Wait 5-7 minutes and adjust the air intake control and flue damper to the desired settings. Remember:

Wide open on both the air intake control and the flue damper will result in a fast burning and hot fire. The more that both the Air intake control and damper are closed, the slower and cooler the burn.

Removing the Stove Ash

Ash removal will be necessary every day or two depending on the length of time the stove is used. It is most easily accomplished when the fire has burned down to just coals.

Steps to remove the Ash:

1. Always wear fireplace gloves when removing the ash.
2. Open the stove plate/s or fire chamber door and use the shovel to move the hot coals to one side.

3. Use the shovel to then remove the ash and place in a metal lidded container used exclusively for the storage and transportation of ashes. This metal container should be kept outside away from all combustible materials until it can be properly disposed of when they are entirely cool to the touch.
4. Add new wood if continuing the fire and close the stove plates/s or fire chamber door.

Taking Care of your Shipmate Stove

Stove Inspection

The stove must be inspected periodically to ensure safety. The frequency of this inspection will depend on the amount of use of the stove but should be done no less than once for every 10 times the stove is used.

This routine inspection should include the following:

1. Stove pipe clean of creosote build up. Creosote buildup greater than 1/4" is hazardous and should be removed prior to burning in the stove again.
2. Check to ensure that all stove pipe joints are good.
3. Inspect all sides, top and bottom of the stove for cracks. A flashlight can be used to shine inside the stove while inspecting the outside for any light leaking through cracks. The stove should not be used if any cracks are found.

Cleaning the Stove

The stove should be cleaned only when it is completely cool to the touch. A moist paper towel is all that's needed to clean the fireglass or porcelain finish. A Stove Black Polish should be frequently used on non porcelain stoves in order to protect the stove from moisture and rust formation. If rust begins to form, a gentle wire brushing will remove the rust prior to the application of the Stove Black Polish.

Limited Warranty

Shipmate Stove Company Inc. offers the original retail purchaser of a solid fuel burning Shipmate Stove or heater a limited 5-year warranty.

The following outlines the Shipmate Warranty program:

Shipmate Stove Company Inc. warrants to the original retail purchaser, that this stove will be free of defects in material and workmanship for a period of five years from the date of original purchase. Shipmate will replace or repair, parts or labor, at its option, any part or stove found to be defective.

The buyer will at their expense, return the stove or part to Shipmate or a Shipmate authorized representative for repair. The buyer shall also make arrangements for the repaired stove or part to be delivered back to them at their own expense.

This warranty is not transferable, and is only extended to, the original retail purchaser of the stove. Proof of original retail purchase by the original purchaser will be required when filing a warranty claim.

Exclusions and Limitations

The warranty does not cover the following:

1. Repair or replacement of any parts, which are subject to normal wear and tear during the warranty period or to parts that may require replacement in connection with normal maintenance. These parts may include hinges or gaskets.
2. Damage due to improper use or installation of the stove contrary to the installation and operating instructions provided with the stove at the time of purchase. It is the responsibility of the installer to ensure proper installation at the time of installation.
3. Damage caused by overfiring, which would cause the stove to glow red. Overfiring can be identified by warped stove pieces, rust colored cast iron or bubbling, cracking or discoloration of the porcelain finish.
4. Damage caused by any unauthorized modification, use or repair.
5. Damage made when the stove was in transit. A transit damage claim may be made against the carrier.
6. Travel time or other expenses are not covered by this warranty.

Notice

In no event shall the Shipmate Stove Company Inc. be liable for Special, incidental, or consequential damages. All implied warranties, including the implied warranties of merchantability and fitness for a purpose, or otherwise, are limited in duration to the length of this written warranty. No oral or other written warranty is enforceable.

Notice

This warranty is void if the installation is done not in accordance with the installation guidelines included at the time of original retail purchase.

Notice

This warranty is void if not installed in accordance with the authority having jurisdiction.

If you believe that your stove is defective, contact Shipmate Stove Company Inc. at:

Shipmate Stove Company Inc.
PO Box 399
Bedminster, Pa 18910
Or **1-888-835-4722**

**** Shipmate strongly encourages you to check with your local marine surveyor and insurance carrier to see if they have any special requirements or exclusions regarding the use of a solid fuel stove onboard your boat.**

Your new Shipmate Stove should last generations if properly taken care of, frequently inspected and maintained. Improper use and lack of care may significantly reduce the life of your stove and increase the risk of fire, loss of property or life.

If unsure how to operate or care for your stove, please contact us before operating your stove.

Info@Shipmatestove.com

Or 1-888-835-4722

