

## **INTRODUCTION TO HITZER STOVES INSTALLATION AND OPERATION**

Welcome to our proud team of HITZER heater owners. Your HITZER heater has the finest in Swiss craftsmanship and quality material to assure you that safety is the number one priority at HITZER.

We must now depend on you, our valued customer, to continue this safety in installation and operations, at the same time obtaining the maximum heat for comfortable living. Therefore, please read the entire manual before you install and use your new Hitzer heater.

**SAFETY NOTICE: IF THIS HITZER HEATER IS NOT PROPERLY INSTALLED CARBON MONOXIDE OR A HOUSE FIRE MAY RESULT. FOR YOUR SAFETY AND TO REDUCE THE RISK OF CARBON MONOXIDE POISING OR FIRE FOLLOW THE INSTALLATION INSTRUCTIONS CAREFULLY. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR EVEN DEATH. ALWAYS USE A CARBON MONOXIDE DETECTOR AND A SMOKE DETECTOR WHEN USING THIS APPLIANCE. CONTACT YOUR LOCAL BUILDING INSPECTOR OR FIRE OFFICIALS ABOUT THE NEED FOR A PERMIT, RESTRICTIONS, OR INSTALLATION INSPECTION REQUIRED IN YOUR AREA. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.**

**CAUTION: THIS UNIT IS HOT WHEN IN OPERATION. DO NOT TOUCH. KEEP CHILDREN, CLOTHING, AND ANY COMBUSTIBLES A SAFE DISTANCE AWAY. CONTACT MAY CAUSE SKIN BURNING. SEE NAMEPLATE AND INSTRUCTION SHEET FOR SAFETY. CONTACT YOUR LOCAL BUILDING INSPECTOR, OR FIRE MARSHAL FOR SAFETY REGULATIONS IN YOUR AREA. FOLLOW THE MANUAL VERY CLOSELY. NOTE: THIS UNIT IS NOT APPROVED FOR MOBILE HOME USE IN CANADA.**

“OUR STOVES MAKE WARM FRIENDS”

Keep warm and enjoy comfortable living with your Hitzer heater.

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## INTRODUCTION

This HITZER Model 608 ENERGY MASTER I STOKER STOVE features the latest in fuel efficiency and modern technology. The stoker Model 608 ENERGY MASTER I is the latest in a line of quality stoves built by HITZER.

The Model 608 ENERGY MASTER I STOKER is tested to the standard UL 1482-00/ULC C627-00, comes with a 90 pound coal bin, and has a built-in COAL-TROL DIGITAL™ control system providing very precise and efficient control from 7,000 to 90,000 BTU/hr.

Be sure to read the coal-trol and direct vent power venter (if using one) manuals completely before installing the stoker. Follow all building and zoning ordinances. This unit burns only RICE SIZE ANTHRACITE COAL. Use of any other fuel could result in damage to your stoker, or a house fire.

## CHIMNEY INSTALLATION PROCEDURES

**CAUTION: DO NOT CONNECT THIS UNIT TO A CHIMNEY SERVING ANOTHER APPLIANCE.**

This unit must be installed in either a listed type HT (2100°F) chimney per UL 103 HT or ULC S629 or a code approved masonry chimney with flue liner. The chimney should consist of thimbles and heat shielding for penetrating walls and ceilings, insulated chimney pipe with locking bands (if applicable), roof flashing, rain cap, and spark arrestor. Each chimney manufacturer has their own components and instructions.

**CAUTION: BE SURE TO FOLLOW ALL CHIMNEY MANUFACTURE'S INSTRUCTIONS. FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN FIRE, INJURY, AND EVEN DEATH.**

The chimney size should not be less than the cross sectional area of the flue collar, or more than 3 times greater than the cross sectional area of the flue collar. Height should be a minimum of 2 feet higher than any part of the roof within a 10 foot radius and 3 feet higher than the highest point of its roof penetration.

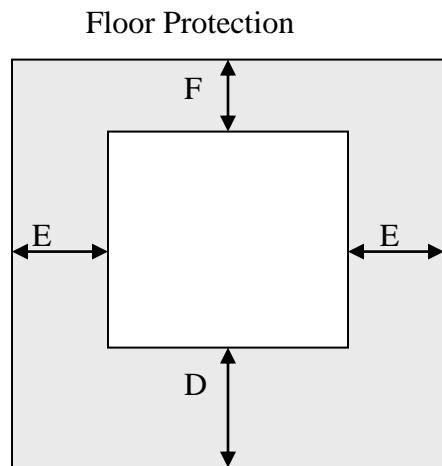
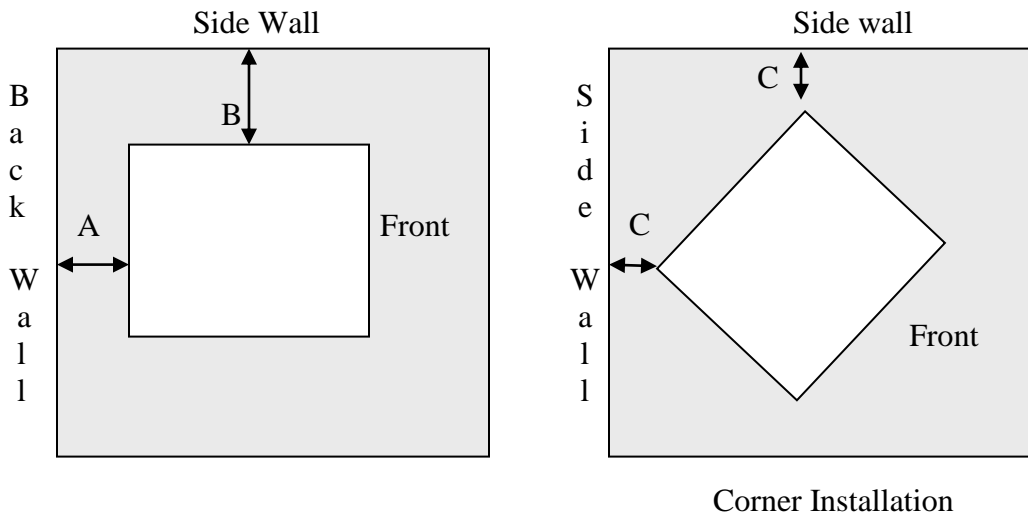
**CAUTION: BE SURE TO FOLLOW ALL CODES AND SAFETY REQUIREMENTS WHEN INSTALLING THE STOVE. ALWAYS USE A CARBON MONOXIDE DETECTOR AND A SMOKE DETECTOR WHEN USING THIS APPLIANCE.**

Inspection and cleaning are a prerequisite before installing your stoker. Your chimney system must be free of all soot and creosote. Inspect for deterioration of mortar joints and cracked liners for the safety of your unit and your home. If chimney is damaged, or if local regulations, or insurance companies require chimney lining for safety, install liner or reline the chimney following all of the liner manufacturer's instructions.

## STOKER INSTALLATION PROCEDURES

**WARNING: DO NOT INSTALL IN A SLEEPING ROOM. DO NOT CONNECT TO ANY AIR DISTRIBUTION DUCT OR SYSTEM.**

Place your Energy Master I a minimum of 2 inches (51mm) from a rear combustable wall and minimum of 4 inches (102mm) from a side combustable wall. The stove must be placed on a non-combustible floor surface at a minimum 16 inches (450mm Canada) out the front, 8 inches (200mm) either side of the fuel door, and 2 inches (50mm) out the rear.



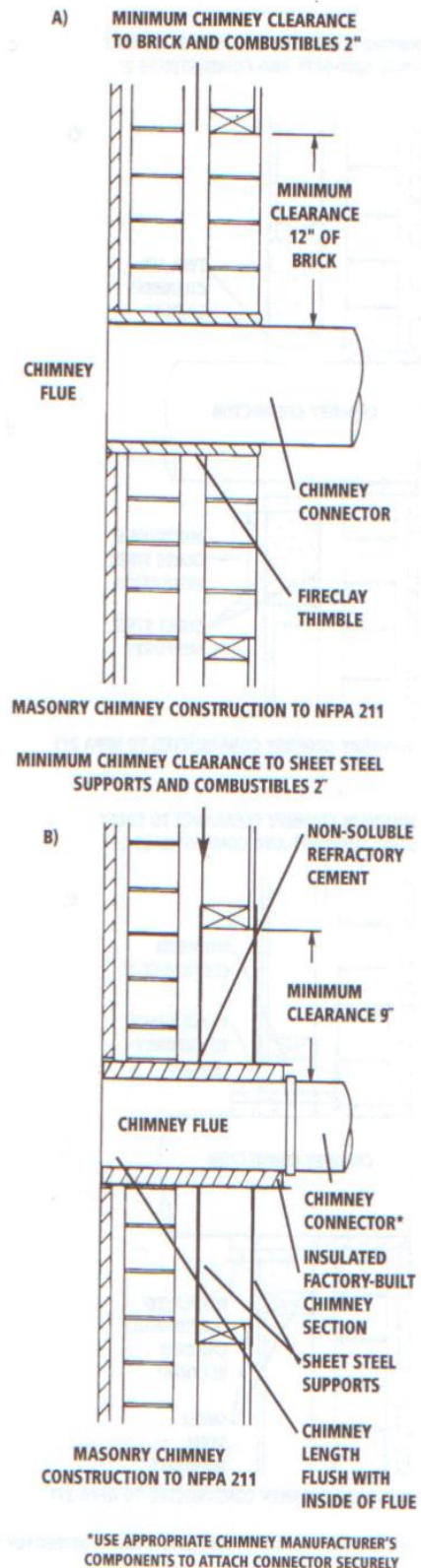
Minimum Clearances To Combustible Materials		
<b>A</b>	Back of Unit to Combustibles	2 Inches (51mm)
<b>B</b>	Side of Unit to Combustibles	4 Inches (102mm)
<b>C</b>	Corner of Unit to Combustibles	3 Inches (77mm)
<b>D</b>	Floor Protection – Unit to Front	16 Inches (450mm)
<b>E</b>	Floor Protection – Edge of Fuel Door to Side	8 Inches (200mm)
<b>F</b>	Floor Protection – Unit to Back	2 Inches (51mm)

Install a 6 inch stove pipe from the flue opening to an approved chimney using a barometric damper.

The chimney connector shall not pass through an attic, roof space, closet, floor, ceiling, or similar concealed space. Where passage through a wall or partition of combustible construction is desired, the installation must use either a commercially produced wall pass-through that is tested and listed to UL 103 Type HT and conform to CAN/CSA-B365, or one of these four site constructed wall pass through systems.

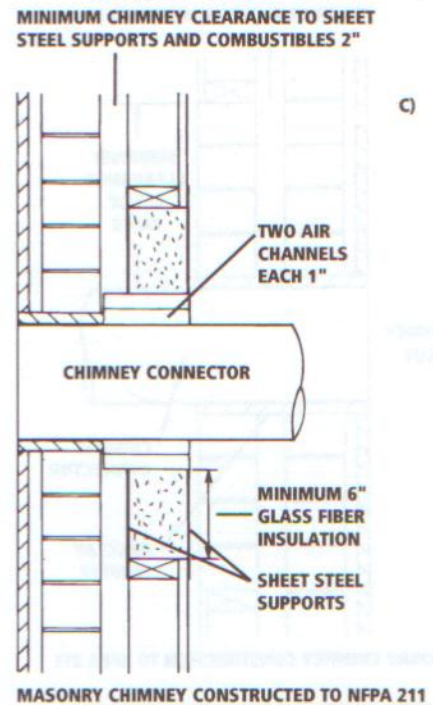
A. A fireclay tile thimble with a minimum 5/8-inch wall thickness framed into a combustible wall with a minimum of 12 inches of brick masonry separating the clay tile liner from combustibles. The fireclay thimble must be firmly mounted in place, and neither the thimble may extend beyond the inner flue wall. The concealed connector must be stainless steel or an equivalent.

B. A solid insulated, listed factory-built chimney length having 1 inch or more of insulation, with a minimum 9-inch airspace between the outer wall of the chimney section and the combustibles, and having the same diameter as the diameter of the chimney connector. The downstream end of the chimney length must be flush with the inside of the masonry chimney flue and must be sealed to the flue and the brick masonry penetration with non-water soluble refractory cement. The upstream end must extend into the room at least the minimum distance required by the chimney manufacturer's instructions. Note: No alterations to this method should be made, but the durability of the factory-built chimney section may be affected due to the lack of ventilating air space and heat dissipation in the part that is sealed in mortar. It should be inspected periodically for deterioration. The opening must be covered, and the chimney section supported on both sides of the combustible wall with steel supports at least 24 gauge in thickness. The supports must be securely fastened to the wall surfaces on all sides and must be sized to fit and hold the chimney section. Fasteners used to secure the chimney section to the support must not penetrate the chimney liner.

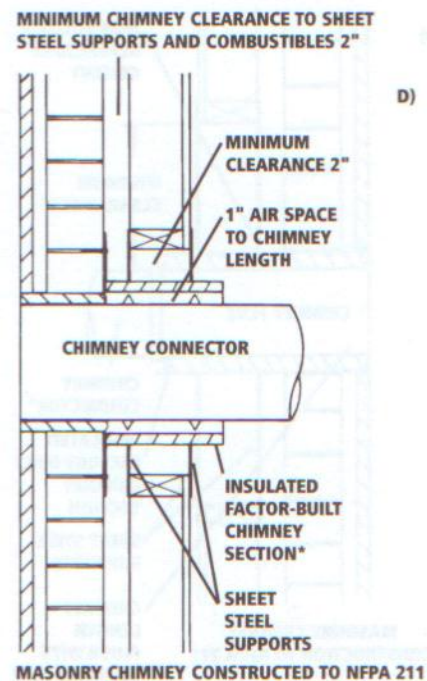


C. A 24 gauge sheet steel chimney connector

Inside a ventilated thimble; the thimble must be constructed of 24 gauge or thicker sheet steel, and have two ventilated 1-inch air channels. The thimble must be separated from combustibles by a minimum of 6-inches of glass fiber insulation. The opening must be covered, and the thimble supported, with a sheet metal support at least 24 gauge in thickness. The supports must be securely fastened to the wall surface on all sides and must be sized to fit and hold the thimble. Fasteners used to secure the thimble must not penetrate the inner wall of the thimble.



D. A solid insulated, listed factory-built chimney length having 1 inch or more of insulation, having an inside diameter 2 inches larger than the chimney connector, and serving as a pass-through for a minimum 24 gauge single wall stainless steel chimney connector. There must be a 2-inch air space between the outer wall of the chimney section and combustibles. The minimum length of the chimney section is 12 inches. The connector must be concentric with, and spaced 1 inch away from the interior walls of the chimney by means of sheet steel support plates on both ends of the chimney section. The chimney section does not penetrate the masonry chimney wall, but the chimney connector extends through a thimble to the inner wall of the flue. The opening must be covered, and the chimney section supported on both sides of the combustible wall with steel supports at least 24 gauge in thickness. The supports must be securely fastened to the wall surfaces on all sides and must be sized to fit and hold the chimney section. Fasteners used to secure the chimney section to the support must not penetrate the chimney liner. Note: Sheet steel that will be exposed to flue gases, and that are concealed, must be stainless steel or an equivalent corrosion resistant material that will resist softening at temperatures up to 1,800° F. Methods A, C, and D therefore call for stainless steel or equivalent connector (a continuous section) through the wall and thimble.



You need to make certain that the pipe joints are tight together and screwed with a minimum of three sheet metal screws per joint.

Install the wall heating control system according to the COAL-TROL DIGITAL™ instruction manual which is supplied in the thermostat box.

### **POWER VENTER INSTALLATION**

A direct power vent may be used in place of a chimney. **BE SURE TO READ YOUR POWER VENTER INSTALLATION AND OPERATION INSTRUCTION MANUAL BEFORE USING THE POWER VENTER.** Connect your Energy Master I to the power vent using a 6 inch stove pipe and a barometric damper. You need to make certain that the pipe joints are tight together and screwed with a minimum of three sheet metal screws per joint. Once you have the vent system installed you can then install the wall control thermostat system according to the COAL-TROL DIGITAL™ instruction manual which is supplied in the thermostat box.

### **NEED FOR OUTSIDE COMBUSTION AIR**

Outside combustion air is required for installation in a mobile home. It may also be required if your house is in an air starved condition. This condition is when the house is of very tight construction and there is not enough air infiltration to make up the air being drawn out for combustion. Indications of this condition are, fire will not burn or is very sluggish, smoke and byproducts of combustion leaking into room. This can be made much worse by anything else in the house that exhausts air out of the house. Things that do that are, bathroom vents, range hoods, water heaters and furnaces that burn any fuel and vent it out unless they have their own makeup air supply, and anything else that vents air out of the house. A very good way to determine if you have this condition is if you have any of the above conditions and you open a window and it clears up.

Outside combustion air makes any installation more efficient. It does this by not exhausting air out of the house that has to be made up.

### **OUTSIDE COMBUSTION AIR INSTALLATION**

Outside air should terminate in the shortest possible distance and below the exhaust outlet. Termination must also be located above maximum snow depth. Termination should include a hood for wind and weather protection, and an open mesh screen no smaller than ¼" x ¼" (6mm x 6 mm) to prevent birds, rodents, or insects from entering. You may order part # OAK-TERM from your dealer to accomplish this.

1. Determine location on wall for outside air installation. Use caution not to cut into electrical wires, pipes, wall studs, or any other obstacles.
2. Drill or cut a hole in the wall slightly larger than the pipe to facilitate ease of installation.
3. Push pipe through wall and attach to outside air hood with clamp and fasten hood to outside wall. Slip trim ring over pipe and secure to wall on the inside of the house.
4. Attach and seal flex pipe to air intake connection on rear of stoker and also outside air termination. PVC pipe may also be used.
5. Seal around outside air hood with silicone to establish an effective moisture and vapor barrier.

## **MOBILE HOME INSTALLATION**

**THIS STOKER IS NOT APPROVED FOR INSTALLATION IN A MOBILE HOME IN CANADA.**

### **WARNING: DO NOT INSTALL IN A SLEEPING ROOM**

This stoker may be installed in a permanently located, manufactured or mobile home where not prohibited by local code. This unit must be installed in either a listed type HT (2100°F) chimney per UL 103 HT or ULC S629 or a code approved masonry chimney with flue liner. The chimney size should not be less than the cross sectional area of the flue collar, or more than 3 times greater than the cross sectional area of the flue collar. Height should be 2 feet higher than any part of the roof within a 10 foot radius and 3 feet higher than the highest point of its roof penetration .

The chimney should consist of thimbles and heat shielding for penetrating walls and ceilings, insulated chimney pipe with locking bands (if applicable), roof flashing, rain cap, and spark arrestor. Each chimney manufacturer has their own components and instructions. Remove chimney pipe, cap and any supporting structures above roof penetration up before attempting to move mobile home.

**BE SURE TO FOLLOW ALL CHIMNEY MANUFACTURE'S INSTRUCTIONS. FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN FIRE, INJURY, AND EVEN DEATH.**

When the stoker is installed in a mobile home the above instructions must be followed along with the following:

- Outside combustion air is required for all installations.
- Permanently bolt stove to floor. Floor protection requirements must be followed.
- Electrically ground stove to metal chassis of the home with number 8 gauge or higher copper wire.
- Maintain an effective vapor barrier at location where chimney, outside air kit, or other components penetrates the exterior of the structure.
- Check local codes for additional requirements / restrictions concerning mobile home installations
- Installation must comply with Manufactured Home and Safety Standard ( HUD) CFR 3280, Part 24
- Chimney above roof must be dismantled and removed before mobile home is moved.

**CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED**

## **OPERATION**

Once the stove is installed according to all regulations, you are now ready to start the fire. Pour a bag of RICE SIZE ANTHRACITE COAL into the coal bin. Plug in the power cord into a 120 volt receptacle. Use care when running power cord. Cord should not run under stoker where heat could be an issue.

**FOLLOW ALL DIRECTIONS LISTED IN THE COAL-TROL DIGITAL™  
INSTRUCTION MANUAL LOCATED IN THE THERMOSTAT BOX FOR  
SETTING YOUR STOKER**

**LIGHTING YOUR ENERGY MASTER I STOKER**

First make sure you have coal in the hopper and the power vent on if applicable. In the center of the grate build a fire with broken up self lighting charcoal, a big hand full of wood pellets, a coal stoker igniting block (coal mouse), or kindling wood. Once the fire is started sprinkle a very thin layer of coal over it and turn the power on to the COAL-TROL DIGITAL™ control. This starts the combustion blower and also the feed motor. As you see the coal start to glow sprinkle another layer of coal on. As this coal starts to glow the feed motor should now be feeding coal far enough onto the grate that it will start. Now you can adjust the thermostat to the desired temperature and the automatic system will take over from here.

**CAUTION: DO NOT USE CHEMICALS OR FLUIDS TO START FIRE. NEVER USE GASOLINE OR KEROSENE OR ANY OTHER FLAMMABLE FLUID WHEN STARTING OR REFRESHING YOUR FIRE. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE HEATER WHILE IT IS IN USE. DO NOT BURN GARBAGE, FLAMMABLE FLUIDS, OR ANY OTHER FUELS EXCEPT RICE SIZE ANTHRACITE COAL.**

With the stove burning and stabilized, adjust the barometric damper to .03 to .06 (inches of water column) following the instructions provided with the damper. Do not run at a draft above .06 (inches of water column) as this could cause your stoker to over fire. Over firing can cause a dangerous fire hazard. It would be best to set it with a manometer if available. The settings on the barometric damper are close but not completely accurate.

Always burn your stoker with the ash door, glass door, and hopper lid closed. Failure to keep these doors closed can result in smoke and carbon monoxide coming into your house creating a very dangerous situation.

**CAUTION: ALWAYS HAVE A WORKING  
CARBON MONOXIDE, AND SMOKE DETECTOR  
INSTALLED WHENEVER USING THIS  
APPLIANCE**

**CARBON MONOXIDE**

**Actuation of your CO alarm indicated the presence of Carbon Monoxide. Turn off your coal stove immediately and increase ventilation by opening windows and doors to help move the fresh air throughout the house. Exit the area at once. Contact your installer or other local authorities to determine the source of the carbon monoxide and solve the problem.**



### **What is Carbon Monoxide?**

Carbon Monoxide (CO) is an odorless, colorless, poisonous gas created when any fuel is burned, such as, gasoline, propane, natural gas, oil, wood, coal, and even tobacco. When combustion air is limited, more CO is produced. Serious problems can develop when combustion by-products are not properly vented outside the house. **CO fumes are toxic and can be fatal.** CO is heavier than air. This causes accumulation to occur at the floor first. Therefore CO detectors should be installed low in the house rather than high like a smoke detector.

### **What are the effects of CO exposure?**

When you breathe CO, it enters your bloodstream through your lungs and attaches to the red blood cells. The early symptoms of carbon monoxide poisoning are often mistaken for the flu – headache, dizziness, weakness, nausea, vomiting, sleepiness, and confusion.

### **Treatment of CO poisoning.**

Any person who is suspected to have CO poisoning should leave the potentially dangerous environment, get fresh air immediately and contact a physician. Acute CO poisoning is usually treated by breathing in oxygen. When CO poisoning is severe, high pressure oxygen therapy in a special “hyperbaric chamber” may be used.

**NOTE:** When you first fire your heater, the exterior paint will go through a curing process. This may emit some smoke or odor. The first few fires should be small and slow, this allows the paint to cure and the steel to temper. Adequate room ventilation should be used in case of smoking. See hang tag from the paint company on stove for more details.

## **MAINTENANCE**

**NOTE:** Failure to maintain or properly use this appliance may cause a house fire. At the beginning of each heating season this appliance, the connector pipe, and chimney should be inspected to see that it is in good working condition.

### **Daily:**

- Check ash pan and remove and dump if full. Failure to remove ashes will result in ashes blocking up your grate and your fire will not burn correctly. Ash pan will fill from 1 to several days depending on the burn rate. Ashes should be placed in a metal 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. The ashes should be retained in the closed container until all cinders are out and have thoroughly cooled before final disposal.
- Clean glass. Brush fly ash off as it will etch into glass if left on.

**CAUTION: THE ASH PAN AND PARTS OF YOUR STOKER WILL BE HOT. ALWAYS WEAR GLOVES AND PROTECTIVE CLOTHING WHEN EMPTYING ASH PAN OR WORKING ON A HOT OR BURNING STOVE.**

Weekly:

- Pull small handle on the back of the flue collar out and push back in several times. This will knock the fly ash off of the heat exchanger plates inside your stoker and down to the bottom of the stoker.
- Clean all ash and fly ash from floor inside of the stoker around ash pan.

Two months or approximately 2 tons of coal: This cleaning time line will differ from other Energy Master I owners depending on amount of coal burned, ash content of the coal, and the burn rate.

- Allow stoker to run out of coal, go out, and cool down.
- Remove chimney connector pipes and check and remove any fly ash accumulation. This will mainly be at the bottom of elbows and horizontal runs.
- Remove all fly ash from heat exchanger plates inside flue collar and on the floor of the stoker around the ash pan.
- Remove cast iron grate and vacuum coal fines and fly ash from under the grate.
- Clean coal fines and dust from under feeder shovel
- Clean glass thoroughly

End of season maintenance:

Moisture is your enemy. Summertime moisture and high humidity can be absorbed by dust and fly ash and cause rust and corrosion. A clean stoker helps reduce this.

- Do all the 2 month items plus the following.
- At the end of your heating season remove all coal from hopper. Letting hopper run out of coal while burning is best as it will also remove any moisture left in stoker from damp coal.
- Remove all ash and dust from inside stoker with vacuum and paint brush.
- Carefully raise cast iron grate and vacuum ash and dust from under it.
- Disconnect stove pipes from stoker. Thoroughly clean all fly ash and dust out of pipe. Especially elbows and horizontal runs.
- Check and clean chimney if necessary.
- Clean all fly ash and dust from heat exchanger plates through flue collar.
- Remove hopper and clean all dust, and coal fines from feeder and under feeder plate. If rust or corrosion is observed on feeder sand lightly and coat with spray paint or a rust inhibitor like WD-40.

Soot - Formation and Need for Removal - When coal is burned, the products of combustion combine with moisture to form a soot residue, which accumulates on the flue lining. When ignited, this soot makes an extremely hot fire. When burning coal, the chimney connector and chimney should be inspected at least once every two months during the heating season to determine if a soot buildup has occurred.

Care and replacement of glass:

For best results brush fly ash from glass daily. Never strike the glass or slam door shut as such abuse can damage the glass and cause it to fail. Never operate your appliance

with broken glass. Never attempt to clean glass when hot. Never clean glass with harsh abrasives.

**CAUTION: REPLACE GLASS ONLY WITH ROBAX CERAMIC GLASS (5MM X 7 ½" X 13 ½") AVAILABLE FROM YOUR HITZER DEALER. USE OF ANY OTHER TYPE OF GLASS CAN CAUSE GLASS TO FAIL CREATING A FIRE HAZARD.**

Should you be required to replace the glass first remove door from your stove and lay face down on a smooth solid surface. You will want to pad the surface especially if you have the optional gold or pewter plating so as not to scratch the finish. Remove and save the glass retainers and screws. Carefully remove all broken glass and sealing gasket material. Install new glass using new sealing gasket material and reinstall all glass retainers and screws.

Optional gold and pewter plating:

The gold plating option is real gold. Gold is very soft. Any abrasive type cleaner or polish will destroy the finish. It is best to use a clean, soft, damp cloth or a clean, soft cloth and window cleaner. There is also a gold polish used for gold plated plumbing fixtures available at some plumbing stores.

The pewter plating can be polished with any metal polish.

Fuel storage:

Coal does not absorb moisture as much as wood so coal can be easily stored outside. It is a good idea to build a bin, in your garage, basement, shed, or even outside if you are getting your coal in bulk. This will keep coal contained and not spread out all over the floor. If stored outside it is a good idea to cover your bin with a tarp to keep out a lot of snow. Bagged coal can be stored anywhere inside or out. It will not attract insects or rodents.

### **POWER OUTAGES**

In event of a power outage a small generator or 12 volt battery and an inverter with a capacity of at least 550 watts may be used. The length of the burn time using the back-up system will be determined by the capacity and condition of the battery and the amount of heat needed. A battery backup system is available through Hitzer.

Other information needed may be received by contacting your Hitzer dealer or Hitzer Inc.

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