Pellet Stove Test Manual

Stricter Emission Standards

Adopt stricter emission standards than the EPA.

1. Washington: 4.5 grams per hour for non-catalytic and pellet stoves; 2.5 grams per hour for catalytic and pellet stoves.
2. Montana: The tax code, Subchapter 1, 42.4.104 (2) (d) says a tax credit applies to biomass stoves and furnaces which emit less than six grams per hour.
3. Ten states require that only outdoor hydronic wood boilers qualified by an EPA voluntary program be installed: New England states, New York, Pennsylvania, Maryland and Indiana. In two states - Washington and Oregon they are banned altogether.

Forbid Sale of Exempt Stoves

1. California: Forbids sale or installation of residential indoor wood stoves that are exempt from EPA regulation.
2. Washington: Same as California, above.
3. Oregon requires all stoves sold must meet EPA standards.
4. Colorado requires all new wood stoves sold must meet EPA standards, Pellet stoves must be below 4.1, and masonry stoves must not emit more than 6 grams PM per 6 kilograms of fuel. Wood boilers and furnaces are exempt which does allow outdoor wood boilers to be installed.
5. Utah: Solid Fuel Burning Devices must be EPA certified to be installed in the following Utah counties: Box Elder, Cache, Davis, Salt Lake, Tooele, Utah, and Weber Counties.

Forbids Sale and/or Installation of Uncertified Stove

1. Washington: Since 1992, has forbidden sale and installation of wood stoves or inserts that are not certified to the stricter Washington state emission standards.
2. Oregon: Forbids sale and installation of wood stoves or inserts that are not certified. Oregon began certifying stoves in 1986 and the EPA in 1988.
3. Denver-Metro area, Colorado: Prohibits sale and installation of new or used uncertified wood burning appliances
4. Summit County, Colorado: Forbids the installation of a non-certified wood stove in a new home or as a replacement unit for an existing non-certified stove.
5. Idaho: Several counties ban selling second-hand non-certified stoves.

Forbids Installation of Fireplaces

Denver Metro area: Banned unless they are equipped with an EPA Phase II wood or pellet burning insert, or electric or gas log.

Installation

VENT TERMINATION CLEARANCES:

A —— Minimum 4-foot clearance below or beside any door or window that opens.

B —— Minimum 1-foot clearance above any door or window that opens.

C —— Minimum 3-foot clearance from any adjacent building.

D —— Minimum 7-foot clearance from any grade when adjacent to public walkways.

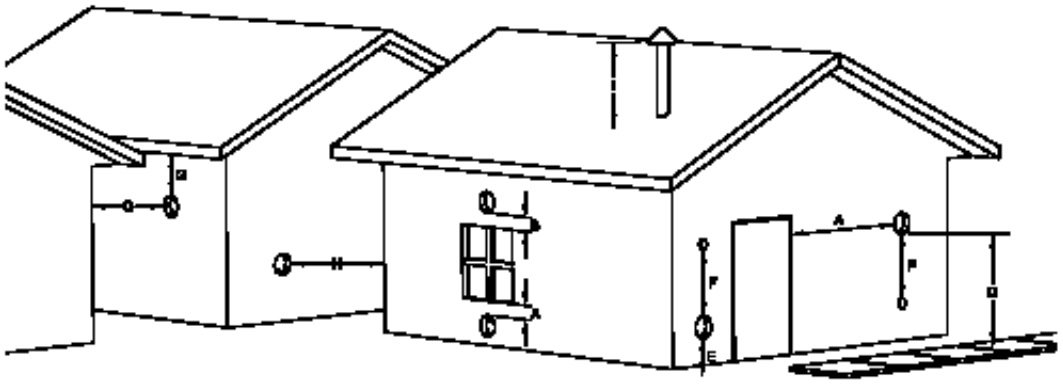
E —— Minimum 2-foot clearance above any grass, plants, or other combustible materials.

F —— Minimum 3-foot clearance from a forced air intake of any appliance.

G —— Minimum 2-foot clearance below eaves or overhang.

H —— Minimum 1-foot clearance horizontally from combustible wall.

I —— Must be a minimum of 36-inches above the roof and 24-inches above the highest point of the roof within 10-feet.



VENT TERMINATION CLEARANCES

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A wall thermostat cannot be connected to this unit

Display Indicators

Your heater utilizes a vertical auger fuel feed system that is operated by a microprocessor controlled digital circuit board. The digital circuit board allows the vertical auger fuel feed system to run in a timer-based, non-continuous cycle; this cycling allows the auger to run for a predetermined period of seconds. The auger pushes pellets up a chute located in the hopper which in turn falls through another chute into the burn pot.

Your heater is equipped with an automatic ignition system that should ignite the fuel within 3 - 5 minutes from pressing the ON  button. As pellets enter the burn pot and ignite, outside air is drawn across the fuel and heated during the combustion process which is then pulled through the heat exchanger by the exhaust motor or draft fan. As the heater heats up, room air is circulated around the heat exchanger by means of a room air blower, distributing warm air into the room.

The amount of heat produced by the heater is proportional to the rate of the fuel that is burned, and this rate is controlled by the Fuel Control button ↔. In order to maintain combustion of the fuel at a desired rate, the air provided to the burn chamber by the exhaust or draft fan must be maintained precisely. Too little air will result in a flame that is no energetic or lazy. If the fuel continues to flow with too little air for long enough, the burn pot will fill with too much fuel and the fire will smother out. Too much air will result in a flame that is overactive or aggressive. The flame in this situation is typically very blue at the bottom and resembles a blow torch. If this situation continues, the fuel in the burn pot will be consumed and the fire will go out.

Matching the amount of air required for proper combustion to the fuel rate is the primary objective in effectively burning pellets of various brands and qualities in your heater. The air to fuel ratio can be adjusted to allow almost any fuel quality to burn effectively by following the procedures detailed in the remainder of this manual.

Because a forced draft pressure is required for the combustion process inside your heater, it is extremely important that the exhaust system be properly installed and maintained. And, that when operating your heater, you make sure that the viewing door is properly sealed.

If there is a thumbs up sign light up on the board that means the unit is in startup.

If there is a caution sign light up on the stove this means there is an error detected.

Caution Light Error Issues with this Unit

PROBLEM CAUSE: Lack of combustion air intake.
Orange / lazy flame, excessive fuel build-up in the burn pot

- Clean out the burn pot.
- Make sure that the viewing door is closed and sealed properly. If not, check or replace door gaskets.
- Check that all outside connections are clear of any obstructions.
- Check the exhaust system; clean as needed.

PROBLEM CAUSE: Burn pot burns out of fuel. Fire goes out or heater shuts down.

- Three lights are bright and flashing.
- Three lights are bright but not flashing
- The RED light is bright and flashing, but the other are not.
- Three lights are not bright.
- Auger system is jammed or there is a "bridging" of the fuel in the hopper, preventing fuel from flowing into the auger feed system. Check that the Auger motor is functioning. Check wiring from the harness to the auger motor and all connections.
- Hopper is empty, refill the hopper.
- The high temperature thermodisc has tripped. Check the wiring connections. Possibly replace thermodisc.
- Loss of power.

Other possible causes/solutions:

- Loss of draft pressure. Make sure that the viewing door is closed and sealed properly. If not, check and/or replace door gaskets. Check that all outside connections are clear of any obstructions. Check the exhaust system; clean as needed.
- Check that the pressure switch connection to the firebox is free of ash or clear of obstructions.

PROBLEM CAUSE: No power or Auto-Start Igniter fails to ignite the fuel in the burn pot.
Heater does not start a fire when the power button is pushed.

- Make sure power is supplied to heater.
- Turn the heater OFF. Clear the unburnt fuel from the burn pot and try again.
- Check the pellet quality. Replace if moist, wet, or dirty.
- Loss of draft pressure. Make sure that the viewing door is closed and sealed properly. If not, check and/or replace door gaskets. Check that all outside connections are clear of any obstructions. Check the exhaust system; clean as needed.
- Check that the pressure switch connection to the firebox is free of ash or clear of obstructions.
- Check that the auto-start igniter is not blocked with ash or soot.
- The auto-start igniter gets "red hot" during start-up. If you cannot visibly see the igniter glowing during start-up, then the igniter may need to be replaced or there is a problem with

the electrical control system.

PROBLEM CAUSE: Heater is overheating. The heater has been working too long or room temp. is too high
Two lights are bright, the feeding light is off, and meanwhile the orange light is bright

- Allow heater to shutdown automatically, then restart

PROBLEM CAUSE: The burn pot is positioned incorrectly.

- Heater does not start when the power button is pressed.
- Prolonged ignition time with excess smoke.
- Burning is not active.
  • Put burn pot in correct position, as indicated by the slot on the burn pot.