Comfort Glow_®

UNVENTED (VENT-FREE) GAS STOVE HEATER OWNER'S OPERATION AND INSTALLATION MANUAL



MODELS CSBNT, CSBPT, CSPBNT, CSPBPT, CSPINT, CSPIPT Propane/LP and Natural Gas Thermostat Control Gas Log Heaters (Burner System For Cast Iron Stoves)

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. WHAT TO DO IF YOU SMELL GAS Do not try to light any appliance. • Do not touch any electrical switch; do not use any phone in your building. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. • If you cannot reach your gas supplier, call the fire department. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual for correct installation and operational procedures. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

WARNING: This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided. Refer to *Air for Combustion and Ventilation* section on page 5 of this manual.

This appliance may be installed in an aftermarket,* permanently located, manufactured (mobile) home, where not prohibited by local codes.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases.

* Aftermarket: Completion of sale, not for purpose of resale, from the manufacturer

State of Massachusetts: The installation must be made by a licensed plumber or gas fitter in the Commonwealth of Massachusetts.

Sellers of unvented propane or natural gas-fired supplemental room heaters shall provide to each purchaser a copy of 527 CMR 30 upon sale of the unit.

Vent-free gas products are prohibited for bedroom and bathroom installation in the Commonwealth of Massachusetts.

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SAFETY INFORMATION

WARNING: This product contains and/or generates chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.

IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate or service this fireplace. Improper use of this fireplace can cause serious injury or death from burns, fire, explosion, electrical shock and carbon monoxide poisoning.

DANGER: Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness or nausea. If you have these signs, the heater may not be working properly. Get fresh air at once! Have heater serviced. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol and those at high altitudes.

Natural and Propane/LP Gas: Natural and propane/LP gases are odorless. An odor-making agent is added to the gas. The odor helps you detect a gas leak. However, the odor added to the gas can fade. Gas may be present even though no odor exists.

Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

WARNING: Any change to this heater or its controls can be dangerous.

WARNING: Do not allow fans to blow directly into the stove. Avoid any drafts that alter burner flame patterns. Ceiling fans can create drafts that alter burner flame patterns. Altered burner patterns can cause sooting. WARNING: Do not use a blower insert, heat exchanger insert or other accessory not approved for use with this heater.

Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

Do not place clothing or other flammable material on or near the appliance. Never place any objects on the heater.

Stove becomes very hot when running heater. Keep children and adults away from hot surface to avoid burns or clothing ignition. Heater will remain hot for a time after shutdown. Allow surface to cool before touching.

Carefully supervise young children when they are in the room with heater.

Keep the appliance area clear and free from combustible materials, gasoline and other flammable vapors and liquids.

- This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases.
- Do not place propane/LP supply tank(s) inside any structure. Locate propane/LP supply tank(s) outdoors.
- 3. If you smell gas
 - shut off gas supply
 - do not try to light any appliance
 - do not touch any electrical switch; do not use any phone in your building
 - immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions
 - if you cannot reach your gas supplier, call the fire department

SAFETY INFORMATION Continued

- 4. This heater shall not be installed in a bedroom or bathroom.
- 5. Do not place stove directly on carpeting, vinyl tile or any combustible material other than wood. The stove must set on a metal or wood panel extending the full width and depth of the appliance.
- Do not use this stove as a wood burning fireplace. Use only model 111485-02/111485-01 vent-free gas log heater.
- Do not add extra logs or ornaments such as pine cones, vermiculite or rock wool. Using these added items can cause sooting.
- This log heater is designed to be smokeless. If logs ever appear to smoke, turn off heater and call a qualified service person. Note: During initial operation, slight smoking could occur due to log curing and heater burning manufacturing residues.
- 9. To prevent the creation of soot, follow the instructions in *Cleaning and Maintenance*, page 14.
- 10. Before using furniture polish, wax, carpet cleaners or similar products, turn heater off. If heated, the vapors from these products may create a white powder residue within burner box or on adjacent walls or furniture.
- 11. This heater needs fresh, outside air ventilation to run properly. This heater has an Oxygen Depletion Sensing (ODS) safety shutoff system. The ODS shuts down the heater if not enough fresh air is available. See *Air for Combustion and Ventilation*, page 5. If heater keeps shutting off, see *Troubleshooting*, page 16.
- 12. Do not run heater
 - where flammable liquids or vapors are used or stored
 - when under dusty conditions
- 13. Do not use this stove to cook food or burn paper or other objects.
- 14. Do not use heater if any part has been exposed to or under water. Immediately call a qualified service technician to inspect the room heater and to replace any part of the control system and any gas control which has been under water.
- 15. Do not operate heater if any log is broken. Do not operate heater if a log is chipped (dimesized or larger).
- Turn heater off and let cool before servicing. Only a qualified service person should service and repair heater.

- 17. Operating heater above elevations of 4,500 feet could cause pilot outage.
- For propane/LP units, do not use propane/LP tank of less than 100 lb. capacity.
- 19. Provide adequate clearances around air openings.
- 20. Screen must be completely closed before using heater. Never run heater with screen open.



Figure 1 - Typical Stove Cabinet Model with Comfort Glow Gas Log Heater

LOCAL CODES

Install and use heater with care. Follow all local codes. In the absence of local codes, use the latest edition of *The National Fuel Gas Code ANSI Z223.1/NFPA 54**.

*Available from:

American National Standards Institute, Inc. 1430 Broadway New York, NY 10018

National Fire Protection Association, Inc. Batterymarch Park Quincy, MA 02269

PRODUCT FEATURES

OPERATION

This heater is clean burning. It requires no outside venting. There is no heat loss out a vent or up a chimney. Heat is generated by realistic, dancing yellow flames. This heater is designed for vent-free operation. State and local codes in some areas prohibit the use of vent-free heaters.

SAFETY PILOT

This heater has a pilot with an Oxygen Depletion Sensing (ODS) safety shutoff system. The ODS/pilot is a required feature for vent-free room heaters. The ODS/pilot shuts off the heater if there is not enough fresh air.

PIEZO IGNITION SYSTEM

This heater has a piezo ignitor. This system requires no matches, batteries or other sources to light heater.

AIR FOR COMBUSTION AND VENTILATION

WARNING: This heater shall not be installed in a confined space or unusually tight construction unless provisions are provided for adequate combustion and ventilation air. Read the following instructions to insure proper fresh air for this and other fuel-burning appliances in your home.

Today's homes are built more energy efficient than ever. New materials, increased insulation and new construction methods help reduce heat loss in homes. Home owners weather strip and caulk around windows and doors to keep the cold air out and the warm air in. During heating months, home owners want their homes as airtight as possible.

While it is good to make your home energy efficient, your home needs to breathe. Fresh air must enter your home. All fuel-burning appliances need fresh air for proper combustion and ventilation.

Exhaust fans, fireplaces, clothes dryers and fuel burning appliances draw air from the house to operate. You must provide adequate fresh air for these appliances. This will insure proper venting of vented fuel-burning appliances.

PROVIDING ADEQUATE VENTILATION

The following are excerpts from *National Fuel Gas Code*, *ANSI Z223.1/NFPA 54*, *Section 5.3*, *Air for Combustion and Ventilation*.

All spaces in homes fall into one of the three following ventilation classifications:

- 1. Unusually Tight Construction
- 2. Unconfined Space
- 3. Confined Space

The information on pages 5 through 7 will help you classify your space and provide adequate ventilation.

Unusually Tight Construction

The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in buildings of unusually tight construction, you must provide additional fresh air.

Unusually tight construction is defined as construction where:

- a. walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm (6 x 10-11 kg per pa-sec-m2) or less with openings gasketed or sealed <u>and</u>
- b. weather stripping has been added on openable windows and doors <u>and</u>
- c. caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines and at other openings.

If your home meets all of the three criteria above, you must provide additional fresh air. See Ventilation Air From Outdoors, page 7. If your home does not meet all of the three criteria above, proceed to Determining Fresh-Air Flow For Heater Location, page 6.

Confined and Unconfined Space

The National Fuel Gas Code ANSI Z223.1/NFPA 54 defines a confined space as a space whose volume is less than 50 cubic feet per 1,000 Btu per hour (4.8 m³ per kw) of the aggregate input rating of all appliances installed in that space and an unconfined space as a space whose volume is not less than 50 cubic feet per 1,000 Btu per hour (4.8 m³ per kw) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed^{*}, through openings not furnished with doors, are considered a part of the unconfined space.

* Adjoining rooms are communicating only if there are doorless passageways or ventilation grills between them.

AIR FOR COMBUSTION AND VENTILATION Continued

DETERMINING FRESH-AIR FLOW FOR HEATER LOCATION

Determining if You Have a Confined or Unconfined Space

Use this work sheet to determine if you have a confined or unconfined space.

Space: Includes the room in which you will install heater plus any adjoining rooms with doorless passageways or ventilation grills between the rooms.

1. Determine the volume of the space (length x width x height).

Length x Width x Height = _____cu. ft. (volume of space)

Example: Space size 20 ft. (length) x 16 ft. (width) x 8 ft. (ceiling height) = 2560 cu. ft. (volume of space)

If additional ventilation to adjoining room is supplied with grills or openings, add the volume of these rooms to the total volume of the space.

 Multiply the space volume by 20 to determine the maximum Btu/Hr the space can support. (volume of space) x 20 = (maximum Btu/Hr the space can support)

Example: 2560 cu. ft. (volume of space) x 20 = 51,200 (maximum Btu/Hr the space can support)

3. Add the Btu/Hr of all fuel burning appliances in the space.

Vent-free heater	Btu/Hr
Gas water heater*	Btu/Hr
Gas furnace	Btu/Hr
Vented gas heater	Btu/Hr
Gas fireplace logs	Btu/Hr
Other gas appliances*	+ Btu/Hr
Total	= Btu/Hr

* Do not include direct-vent gas appliances. Direct-vent draws combustion air from the outdoors and vents to the outdoors.

Example:

Gas water heater	40,000	Btu/Hr
Vent-free heater	+ <u>30,000</u>	Btu/Hr
Total	= 70,000	Btu/Hr

- Compare the maximum Btu/Hr the space can support with the actual amount of Btu/Hr used.
 - _____Btu/Hr (maximum the space can support)
 - _____ Btu/Hr (actual amount of Btu/Hr used)

Example: 51,200 Btu/Hr (maximum the space can support) 70,000 Btu/Hr (actual amount of Btu/Hr used)

The space in the above example is a confined space because the actual Btu/Hr used is more than the maximum Btu/Hr the space can support. You must provide additional fresh air. Your options are as follows:

- A. Rework worksheet, adding the space of an adjoining room. If the extra space provides an unconfined space, remove door to adjoining room or add ventilation grills between rooms. See Ventilation Air From Inside Building.
- B. Vent room directly to the outdoors. See Ventilation Air From Outdoors, page 7.
- C. Install a lower Btu/Hr heater, if lower Btu/Hr size makes room unconfined.

If the actual Btu/Hr used is less than the maximum Btu/Hr the space can support, the space is an unconfined space. You will need no additional fresh air ventilation.

WARNING: If the area in which the heater may be operated is smaller than that defined as an unconfined space or if the building is of unusually tight construction, provide adequate combustion and ventilation air by one of the methods described in the National Fuel Gas Code, ANSI Z223.1/NFPA 54, Section 5.3 or applicable local codes.

VENTILATION AIR

Ventilation Air From Inside Building

This fresh air would come from an adjoining unconfined space. When ventilating to an adjoining unconfined space, you must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor on the wall connecting the two spaces (see options 1 and 2, Figure 2, page 7). You can also remove door into adjoining room (see option 3, Figure 2, page 7). Follow the *National Fuel Gas Code, ANSI Z223.1/NFPA 54, Section 5.3, Air for Combustion and Ventilation* for required size of ventilation grills or ducts.

AIR FOR COMBUSTION AND VENTILATION Continued



Figure 2 - Ventilation Air from Inside Building

Ventilation Air From Outdoors

Provide extra fresh air by using ventilation grills or ducts. You must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor. Connect these items directly to the outdoors or spaces open to the outdoors. These spaces include attics and crawl spaces. Follow the *National Fuel Gas Code, ANSI Z223.1/NFPA 54, Section 5.3, Air for Combustion and Ventilation* for required size of ventilation grills or ducts.

IMPORTANT: Do not provide openings for inlet or outlet air into attic if attic has a thermostatcontrolled power vent. Heated air entering the attic will activate the power vent.



Figure 3 - Ventilation Air from Outdoors

UNPACKING

- 1. Lift off corrugated box enclosing stove body crating.
- 2. Remove screws fastening back and top of wood frame enclosure. Two or more people must carefully lift stove up and out of wooden crate.
- 3. Remove plastic bag from stove body.
- Remove back panel from stove (see Figure 4). Use an adjustable wrench or a 10 mm socket. Remove four (4) bolts and washers. Keep bolts and washers to reattach back panel later.
- Remove bubble-wrapped log set, rod and screen from stove. Remove all protective packaging applied for shipment.
- Check all items for any shipping damage. If damaged, promptly inform dealer where you bought heater. Some fiber flakes may fall from logs. This is acceptable.
- 7. Place freestanding stove near desired location in room.



Figure 4 - Unpacking Stove from Wooden Shipping Enclosure

INSTALLATION

NOTICE: This heater is intended for use as supplemental heat. Use this heater along with your primary heating system. Do not install this heater as your primary heat source. If you have a central heating system, you may run system's circulating blower while using heater. This will help circulate the heat throughout the house. In the event of a power outage, you can use this heater as your primary heat source.

WARNING: A qualified service person must install heater. Follow all local codes.

WARNING: Never install the heater

- in a bedroom or bathroom
- in a recreational vehicle
- where curtains, furniture, clothing or other flammable objects are less than 42 inches from the front, top or sides of the heater
- · in high traffic areas
- · in windy or drafty areas

A CAUTION: This heater creates warm air currents. These currents move heat to wall surfaces next to heater. Installing heater next to vinyl or cloth wall coverings or operating heater where impurities (such as, but not limited to, tobacco smoke, aromatic candles, cleaning fluids, oil or kerosene lamps, etc.) in the air exist, may discolor walls or cause odors. *IMPORTANT:* Vent-free heaters add moisture to the air. Although this is beneficial, installing heater in rooms without enough ventilation air may cause mildew to form from too much moisture. See *Air for Combustion and Ventilation*, page 5.

CHECK GAS TYPE

Use the correct gas type (natural or propane/LP) for your unit. If your stove heater gas type is different from your house gas type, do not install heater. Call dealer where you bought heater for proper type heater.

WARNING: This appliance is equipped for (natural or propane/LP) gas. Field conversion is not permitted.

CLEARANCES TO COMBUSTIBLES (Vent-Free Operation Only)

WARNING: Maintain the minimum clearances. If you can, provide greater clearances from floor, ceiling and adjoining side and back walls.

Carefully follow the instructions below. This stove is a freestanding unit designed to set directly on the floor. DO NOT place stove directly on carpeting, vinyl tile or any combustible material other than wood. The stove must be set on a metal or wood panel extending the full width and depth of the stove for these floor coverings. Important: You must maintain minimum wall and ceiling clearances during installation. The minimum clearances are shown in Figure 5, page 9. Measure from outermost point of stove top.

Minimum Wall and Ceiling Clearances (see Figure 5, page 9)

- A. Clearances from outermost point of stove top to any combustible side wall should not be less than 12 inches.
- B. Clearances from outermost point of stove top to any combustible back wall should not be less than 6 inches (includes corner installations).
- C. Clearances from the stove top to the ceiling should not be less than 48 inches.



Side View



CONNECTING TO GAS SUPPLY

WARNING: This appliance requires a 1/2" NPT (National Pipe Thread) inlet connection to the pressure regulator.

WARNING: A qualified service person must connect heater to gas supply. Follow all local codes.

CAUTION: Never connect propane/LP heater directly to the propane/LP supply. This heater requires an external regulator (not supplied). Install the external regulator between the heater and propane/LP supply.

WARNING: Never connect natural gas heater to private (nonutility) gas wells. This gas is commonly known as wellhead gas.

Installation Items Needed

Before installing heater, make sure you have the items listed below.

- external regulator [propane/LP only] (supplied by installer)
- piping to stove location (check local codes)
- sealant (resistant to propane/LP gas)
- equipment shutoff valve *
- test gauge connection *
- sediment trap
- tee joint
- pipe wrench

* A CSA design-certified equipment shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the optional CSA design-certified equipment shutoff valve from your dealer. See *Accessories*, page 19.

The gas inlet connection for the stove heater is located on the lower right-hand side of the stove when viewed from the front of the unit. The gas connection can be made either through the bottom right side or through the lower back opening as illustrated in Figure 6, page 10. Make sure gas log heater is secured to the stove cavity assembly.

INSTALLATION Continued

For propane/LP units, the installer must supply an external regulator. The external regulator will reduce incoming gas pressure. You must reduce incoming gas pressure to between 11 and 14 inches of water. If you do not reduce incoming gas pressure, heater regulator damage could occur. Install external regulator with the vent pointing down as shown in Figure 7. Pointing the vent down protects it from freezing rain or sleet.

CAUTION: For propane/LP units, use only new, black iron or steel pipe. Internally-tinned copper tubing may be used in certain areas. Check your local codes. Use pipe of 1/2" diameter or greater to allow proper gas volume to heater. If pipe is too small, undue loss of volume will occur.

Installation must include an equipment shutoff valve, union and plugged 1/8" NPT tap. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from heater (see Figure 8). *IMPORTANT*: Install equipment shutoff valve in an

accessible location. The equipment shutoff valve in an accessible location. The equipment shutoff valve is for turning on or shutting off the gas to the appliance.

Check your building codes for any special requirements for locating equipment shutoff valve to fireplaces.

Apply pipe joint sealant lightly to male NPT threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged heater valves.





WARNING: Use pipe joint sealant that is resistant to liquid petroleum (LP) gas.

We recommend that you install a sediment trap in supply line as shown in Figure 8. Locate sediment trap where it is within reach for cleaning. Install in piping system between fuel supply and heater. Locate sediment trap where trapped matter is not likely to freeze. A sediment trap traps moisture and contaminants. This keeps them from going into heater controls. If sediment trap is not installed or is installed wrong, heater may not run properly.

CAUTION: Avoid damage to regulator. Hold gas regulator with wrench when connecting it to gas piping and/or fittings.



Figure 7 - External Regulator For Propane/LP Gas With Vent Pointing Down



- Figure 8 Gas Connection
- * Purchase the optional CSA design-certified equipment shutoff valve from your dealer. See *Accessories*, page 19.
- ** Minimum inlet pressure for purpose of input adjustment.

INSTALLATION

Continued

CHECKING GAS CONNECTIONS

WARNING: Test all gas piping and connections, internal and external to unit, for leaks after installing or servicing. Correct all leaks at once.

WARNING: Never use an open flame to check for a leak. Apply a noncorrosive leak detection fluid to all joints. Bubbles forming show a leak. Correct all leaks at once.

A CAUTION: Make sure external regulator has been installed between propane/LP supply and propane/LP heater. See guidelines under *Connecting to Gas Supply*, page 9.

PRESSURE TESTING GAS SUPPLY PIPING SYSTEM

Test Pressures In Excess Of 1/2 PSIG (3.5 kPa)

- Disconnect appliance with its appliance main gas valve (control valve) and equipment shutoff valve from gas supply piping system. Pressures in excess of 1/2 psig will damage heater regulator.
- 2. Cap open end of gas pipe where equipment shutoff valve was connected.
- Pressurize supply piping system by either opening propane/LP supply tank valve for propane/LP gas or opening main gas valve located on or near gas meter for natural gas or using compressed air.
- Check all joints of gas supply piping system. Apply noncorrosive leak detection fluid to gas joints. Bubbles forming show a leak.
- 5. Correct all leaks at once.
- Reconnect heater and equipment shutoff valve to gas supply. Check reconnected fittings for leaks.

Test Pressures Equal To or Less Than 1/2 PSIG (3.5 kPa)

- 1. Close equipment shutoff valve (see Figure 9).
- Pressurize supply piping system by either opening propane/LP supply tank valve for propane/LP gas or opening main gas valve located on or near gas meter for natural gas or using compressed air.
- Check all joints from gas meter for natural or propane/LP supply to equipment shutoff valve (see Figure 10 or Figure 11, page 10). Apply noncorrosive leak detection fluid to gas joints. Bubbles forming show a leak.
- 4. Correct all leaks at once.



Figure 9 - Equipment Shutoff Valve PRESSURE TESTING HEATER GAS CONNECTIONS

- 1. Open equipment shutoff valve (see Figure 9).
- Open main gas valve located on or near gas meter for natural gas or open propane/LP supply tank valve.
- 3. Make sure control knob of heater is in the OFF position.
- Check all joints from equipment shutoff valve to control valve (see Figure 10 or Figure 11, page 12). Apply noncorrosive leak detection fluid to gas joints. Bubbles forming show a leak.
- 5. Correct all leaks at once.
- 6. Light heater (see *Operating Heater*, page 13). Check all other internal joints for leaks.
- Turn off heater (see *To Turn Off Gas to Appliance*, page 14).
 Equipment

Shutoff Valve



INSTALLATION Continued

Figure 11 - Checking Gas Joints on Natural Gas Unit

INSTALLING ROD AND SCREEN

- 1. Insert rod through small rings located at top of screen (see Figure 12).
- From back of stove, insert rod into hole located inside right front of stove as shown in Figure 13.
- Slip left side of rod down into slot on inside left front of stove (see Figure 13).



Figure 12 - Assembling Rod and Screen



Figure 13 - Installing Screen Into Stove (View From Back of Stove)

INSTALLING LOG SET

- Set one-piece log on heater base as shown in Figure 14. Make sure middle section at bottom of log is seated into "U" shaped cutout in center of heater base. Log will fit securely on base. *IMPORTANT:* Make sure log does not cover any burner ports and does not touch the stove cavity (see Figure 14).
- 2. Fasten back panel to stove with four (4) bolts and washers removed in step 4 of *Unpacking*, page 7. Make sure product identification label is located on the outside lower left-hand corner.
- Place freestanding stove in desired position being careful not to damage gas connections. Be sure to maintain clearances to combustibles and wall clearances as outlined on page 8.



Figure 14 - Installing One-Piece Stove Log Set



Figure 15 - Top View of One-Piece Log Set on Gas Log Heater

OPERATING HEATER

FOR YOUR SAFETY READ BEFORE LIGHTING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.
- B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician or gas supplier. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

LIGHTING INSTRUCTIONS

NOTICE: During initial operation of new heater, burning logs will give off a paper-burning smell. Orange flame will also be present. Open a window to vent smell. This will only last a few hours.

- 1. STOP! Read the safety information, abovc.
- 2. Make sure equipment shutoff valve is fully open.

- 4. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information, column 1. If you don't smell gas, go to the next step.
- Turn control knob counterclockwise to the PILOT position. Press in control knob for five (5) seconds (see Figure 16).

Note: You may be running this heater for the first time after hooking up to gas supply. If so, the control knob may need to be pressed in for 30 seconds or more. This will allow air to bleed from the gas system.

6. With control knob pressed in, press and release ignitor button. This will light pilot. The pilot is attached to the front burner. If needed, keep pressing ignitor button until pilot lights.

Note: If pilot does not stay lit, contact a qualified service person or gas supplier for repairs. Until repairs are made, light pilot with match. To light pilot with match, see *Manual Lighting Procedure*, page 14.

- 7. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
 - If control knob does not pop out when released, contact a qualified service person or gas supplier for repairs.

Note: If pilot goes out, repeat steps 3 through 7. This heater has a safety interlock system. Wait one (1) minute for system to reset before lighting pilot again.

8. Turn control knob counterclockwise to desired heating level. The burners should light. Set control knob to any heat level between HI and LO.

CAUTION: Do not try to adjust heating levels by using the equipment shutoff valve.



Figure 17 - Pilot

OPERATING HEATER

Continued





Turn control knob clockwise 🔨 🔪 to the OFF position.

Shutting Off Burners Only (pilot stays lit)

Turn control knob clockwise \(\) to the PILOT position.

THERMOSTAT CONTROL OPERATION

The thermostat control knob can be set to any comfort level between HI and LO. The thermostat will gradually modulate the heat output and flame height from higher to lower settings or pilot, in order to maintain the comfort level you select. The ideal comfort setting will vary by household depending upon the amount of space to be heated, the output of the central heating system, etc.

Note: Selecting the HI setting with the control knob will cause the burner to remain fully on, without modulating down in most cases.

MANUAL LIGHTING PROCEDURE

- 1. Follow steps 1 through 5 under *Lighting Instructions*, page 13.
- 2. Depress control knob and light pilot with match.
- 3. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob. Now follow step 8 in *Lighting Instructions*, page 13.

INSPECTING BURNERS

Check pilot flame pattern and burner flame patterns often.

PILOT FLAME PATTERN

Figure 18 shows a correct pilot flame pattern. Figure 19 shows an incorrect pilot flame pattern. The incorrect pilot flame is not touching the thermocouple. This will cause the thermocouple to cool. When the thermocouple cools, the heater will shut down.

If pilot flame pattern is incorrect, as shown in Figure 19

- turn heater off (see To Turn Off Gas to Appliance)
- see Troubleshooting, page 16

Note: The correct pilot flame on natural gas units will have a slight curve, but flame should be blue and have no yellow or orange color.



Figure 18 - Correct Pilot Flame Pattern (Propane/LP Shown)



Figure 19 - Incorrect Pilot Flame Pattern (Propane/LP Shown)

MAIN BURNER

Periodically inspect all burner flame holes with the heater running. All slotted burner flame holes should be open with yellow flame present. All round burner flame holes should be open with a small blue flame present. Some burner flame holes may become blocked by debris or rust, with no flame present. If so, turn off heater and let cool. Remove blockage. Blocked burner flame holes will create soot.

CLEANING AND MAINTENANCE

WARNING: Turn off heater and let cool before cleaning.

A CAUTION: You must keep control areas, burner and circulating air passageways of heater clean. Inspect these areas of heater before each use. Have heater inspected yearly by a qualified service person. Heater may need more frequent cleaning due to excessive lint from carpeting, pet hair, bedding material, etc.

WARNING: Failure to keep the primary air opening(s) of the burner(s) clear may result in sooting and property damage.

CLEANING AND MAINTENANCE Continued

BURNER INJECTOR HOLDER AND PILOT AIR INLET HOLE

The primary air inlet holes allow the proper amount of air to mix with the gas. This provides a clean burning flame. Keep these holes clear of dust, dirt, lint and pet hair. Clean these air inlet holes prior to each heating season. Blocked air holes will create soot. We recommend that you clean the unit every three months during operation and have heater inspected yearly by a qualified service person.

We also recommend that you keep the burner tube and pilot assembly clean and free of dust and dirt. To clean these parts we recommend using compressed air no greater than 30 PSI. Your local computer store, hardware store or home center may carry compressed air in a can. You can use a vacuum cleaner in the blow position. If using compressed air in a can, please follow the directions on the can. If you don't follow directions on the can, you could damage the pilot assembly. *Note:* Removing the rear panel and top grates of your stove will make cleaning easier.

- 1. Shut off the unit, including the pilot. Allow the unit to cool for at least thirty minutes.
- Inspect burner, pilot and primary air inlet holes on injector holder for dust and dirt (see Figure 20).
- 3. Blow air through the ports/slots and holes in the burner.
- 4. Check the injector holder located at the end of the burner tube again. Remove any large particles of dust, dirt, lint or pet hair with a soft cloth or vacuum cleaner nozzle.
- 5. Blow air into the primary air holes on the injector holder.
- In case any large clumps of dust have now been pushed into the burner repeat steps 3 and 4.

Clean the pilot assembly also. A yellow tip on the pilot flame indicates dust and dirt in the pilot assembly. There is a small pilot air inlet hole about two inches from where the pilot flame comes out of the pilot assembly (see Figure 21). With the unit off, lightly blow air through the air inlet hole. You may blow through a drinking straw if compressed air is not available.



Figure 20 - Injector Holder On Outlet Burner Tube



Figure 21 - Pilot Inlet Air Hole

LOGS

- If you remove logs for cleaning, refer to *Install*ing Log Set, page 12, to properly replace logs.
- Replace log(s) if broken or chipped (dime-sized or larger).

TROUBLESHOOTING

WARNING: Turn off heater and let cool before servicing. Only a qualified service person should service and repair heater.

A CAUTION: Never use a wire, needle or similar object to clean ODS/pilot. This can damage ODS/pilot unit.

Note: All troubleshooting items are listed in order of operation.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
When ignitor button is pressed, there is no spark at ODS/pilot	 Ignitor electrode not con- nected to ignitor cable Ignitor cable pinched or 	 Reconnect ignitor cable Free ignitor cable if pinched
	wet	by any metal or tubing. Keep ignitor cable dry
	 Broken ignitor cable Bad piezo ignitor 	 Replace ignitor cable Replace piezo ignitor
	5. Ignitor electrode broken	5. Replace pilot assembly
	6. Ignitor electrode positioned wrong	6. Replace pilot assembly
When ignitor button is pressed,	1. Gas supply turned off or equip-	1. Turn on gas supply or open
there is spark at ODS/pilot but no ignition	ment shutoff valve closed 2. Control knob not in PILOT	equipment shutoff valve 2. Turn control knob to PILOT
	position 3. Control knob not pressed in	position 3. Press in control knob while in
	while in PILOT position	PILOT position
	4. Air in gas lines when installed	 Continue holding down con- trol knob. Repeat igniting op- eration until air is removed
	5. ODS/pilot is clogged	 Clean ODS/pilot (see <i>Cleaning</i> and <i>Maintenance</i>, page 14) or
	6. Gas regulator setting is not	replace ODS/pilot assembly 6. Replace gas control
	correct7. Depleted gas supply (propane/LP only)	 Contact local propane/LP gas company
ODS/pilot lights but flame goes out when control knob is re-	1. Control knob not fully pressed in	1. Press in control knob fully
leased	2. Control knob not pressed in	2. After ODS/pilot lights, keep con-
	long enough 3. Equipment shutoff valve not	trol knob pressed in 30 seconds 3. Fully open equipment shutoff
	fully open 4. Pilot flame not touching	valve 4. A) Contact local natural or
	thermocouple, which allows thermocouple to cool, caus-	propane/LP gas company
	ing pilot flame to go out. This problem could be caused by one or both of the following: A) Low gas pressure B) Dirty or partially clogged	B) Clean ODS/pilot (see <i>Cleaning and Maintenance</i> , page 14) or replace ODS/pilot assembly
	ODS/pilot	
	5. Thermocouple connection	5. Hand tighten until snug, then
	loose at control valve 6. Thermocouple damaged	tighten 1/4 turn more 6. Replace pilot assembly
	7. Control valve damaged	7. Replace control valve

TROUBLESHOOTING

Continued

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Burner does not light after ODS/ pilot is lit	1. Burner orifice clogged	1. Clean burner (see <i>Cleaning</i> and Maintenance, page 14) or replace burner orifice
	2. Inlet gas pressure is too low	2. Contact local natural or pro- pane/LP gas company
Delayed ignition burner	1. Manifold pressure is too low	1. Contact local natural or pro- pane/LP gas company
	2. Burner orifice clogged	2. Clean burner (see <i>Cleaning</i> <i>and Maintenance</i> , page 14) or replace burner orifice
Burner backfiring during com- bustion	1. Burner orifice is clogged or damaged	1. Clean burner (see <i>Cleaning</i> and Maintenance, page 14) or replace burner orifice
	 Damaged burner Gas regulator defective 	 Replace damaged burner Replace gas control
Slight smoke or odor during initial operation	1. Not enough air	 Check burner for dirt and debris. If found, clean burner (see <i>Cleaning and Mainte- nance</i>, page 14)
	 Gas regulator defective Residues from manufacturing processes and logs curing 	 Replace gas control Problem will stop after a few hours of operation
Moisture/condensation noticed on windows	1. Not enough combustion/ven- tilation air	1. Refer to Air for Combustion and Ventilation requirements (page 5)
Heater produces a whistling noise when burner is lit	 Turning control knob to HI position when burner is cold Air in gas line 	 Turn control knob to LO position and let warm up for a minute Operate burner until air is removed from line. Have gas line checked by local natural
	 Air passageways on heater blocked Dirty or partially clogged burner orifice 	or propane/LP gas company 3. Observe minimum installation clearances (see page 8) 4. Clean burner (see <i>Cleaning</i> <i>and Maintenance</i> , page 14) or replace burner orifice
Dark residue on logs or inside of fireplace	1. Improper log placement	1. Properly locate logs (see <i>Installing Log Set</i> , page 12)
1	 Drafts or other air currents affecting flame pattern Air holes at burner inlet blocked 	 Eliminate source of drafts around heater Clean out air holes at burner inlet. Periodically repeat as needed
	4. Burner flame holes blocked	4. Remove blockage
White powder residue forming within burner box or on adjacent walls or furniture	1. When heated, vapors from furniture polish, wax, carpet cleaners, etc. may turn into white powder residue	1. Turn heater off when using furniture polish, wax, carpet cleaners or similar products

TROUBLESHOOTING

Continued

WARNING: If you smell gas

- Shut off gas supply.
- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

IMPORTANT: Operating heater where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors. These odors will disappear over time.

OBSERVED PROBLEM	POSSIBLE CAUSE	REMEDY
Heater produces a clicking/tick- ing noise just after burner is lit or shut off	1. Metal expanding while heating or contracting while cooling	1. This is common with most heat- ers. If noise is excessive, contact qualified service person
Heater produces unwanted odors	 Heater burning vapors from paint, hair spray, glues, cleaners, chemicals, new carpet, etc. (See <i>IMPOR-TANT</i> statement above) Gas leak. See Warning statement at top of page 	 Open window and ventilate room. Stop using odor caus- ing products while heater is running Locate and correct all leaks (see <i>Checking Gas Connec-</i> <i>tions</i>, page 11)
Heater shuts off in use (ODS operates)	 Not enough fresh air is available Low line pressure ODS/pilot is partially clogged 	 Open window and/or door for ventilation Contact local natural or pro- pane/LP gas company Clean ODS/pilot (see <i>Cleaning</i> <i>and Maintenance</i>, page 14)
Gas odor even when control knob is in OFF position	 Gas leak. See Warning statement at top of page Control valve defective 	 Locate and correct all leaks (see <i>Checking Gas Connec-</i> <i>tions</i>, page 11) Replace control valve
Gas odor during combustion	 Foreign matter between con- trol valve and burner Gas leak. See Warning statement at top of page 	 Take apart gas tubing and remove foreign matter Locate and correct all leaks (see <i>Checking Gas Connec-</i> <i>tions</i>, page 11)

SPECIFICATIONS

CSBPT, CSPBPT, CSPIPT (Includes 111485-01 Burner Chassis)

Btu (Variable)	16,000/30,000
Type Gas	Propane/LP Only
Ignition	Piezo
Pressure Manifold	8" W.C.
Inlet Gas Pressure (in. of	water)
Maximum	14"
Minimum*	11"
Shipping Weight	265 lbs.
* For input adjustment	

CSBNT, CSPBNT, CSPINT (Includes 111485-02 Burner Chassis)

Btu (Variable)	16,000/30,000
Type Gas	Natural Gas Only
Ignition	Piezo
Pressure Manifold	3.5" W.C.
Inlet Gas Pressure (in. of wa	ter)
Maximum	10.5"
Minimum*	5"
Shipping Weight	265 lbs.

* For input adjustment

SERVICE HINTS

When Gas Pressure Is Too Low

- pilot will not stay lit
- burners will have delayed ignition
- · heater will not produce specified heat
- propane/LP gas supply may be low

You may feel your gas pressure is too low. If so, contact your local propane/LP gas supplier.

TECHNICAL SERVICE

You may have further questions about installation, operation or troubleshooting. If so, contact DESA Heating Products' Technical Service Department at 1-866-672-6040. When calling, please have your model and serial numbers of your heater ready.

You can also visit DESA Heating Products' technical service web site at **www.desatech.com**.

REPLACEMENT PARTS

Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

PARTS UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s), call DESA Heating Products' Technical Service Department at 1-866-672-6040.

When calling DESA Heating Products, have ready

- your name
- your address
- model and serial numbers of your heater
- · how heater was malfunctioning
- type of gas used (propane/LP or natural gas)
- · purchase date

Usually, we will ask you to return the part to the factory.

PARTS NOT UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s), either contact your nearest Parts Central (see page 23) or call DESA Heating Products at 1-866-672-6040 for referral information.

When calling DESA Heating Products, have ready

- model number of your heater
- the replacement part number

ACCESSORIES

Purchase these heater accessories from your local dealer. If they can not supply these accessories, call DESA Heating Products at 1-866-672-6040 for referral information. You can also write to the address listed on the back page of this manual.



EQUIPMENT SHUTOFF VALVE GA5010

For all models. Equipment shutoff valve with 1/8" NPT tap. Fits 1/2" NPT pipe.

CLEANING KIT - CCK (Not Shown)

For all models. Your vent-free gas appliance requires regular cleaning and maintenance to prevent performance problems. This kit gives you the tools and instructions to make it easy to clean all critical areas of your appliance.

INFORMATION VIDEO - 108917-01

For all models. A care and maintenance video is available by calling 1-866-672-6040. You may also email your request to **productsupport@desaint.com**.

ILLUSTRATED PARTS BREAKDOWN

MODELS 111485-01 AND 111485-02



PARTS LIST

This list contains replaceable parts used in your stove. For replacement parts see *Replacement Parts* on page 19 of this manual.

KEY	PART NUMBER			
NO.	111485-01 111485-02		DESCRIPTION	QTY
1	104026-01	104026-01	Stove Log	1
2	098249-01	098249-01	Nut, M5	2
3	**	**	Painted Base Assembly	1
4	104454-01	104454-01	Bracket, Regulator	1
5	098867-10	098867-14	Gas Regulator	1
6	104425-01	104425-01	Inlet Tube	1
7	104424-03	104424-03	Outlet Burner Tube	1
8	099056-19	099056-26	Burner Orifice Injector	1
9	111124-01	111124-01	Burner Retainer Spring	1
10	102980-01	102980-01	Burner	1
11	101329-22	101329-21	Control Valve	1
12	104472-01	104472-01	Bracket	1
13	099211-01	099211-01	Screw	2
14	102445-01	102445-01	Piezo Ignitor	1
15	099387-09	099387-09	Pilot Tube	1
16	098271-10	098271-10	Ignitor Cable	1
17	104286-01	104285-01	ODS Pilot	1
18	M11084-38	M11084-38	Screw, Hex Head (#8-18 x .38)	7
PARTS AVAILABLE - NOT SHOWN				
	100563-01	100563-01	Warning Plate	1
	101054-01	101054-01	Lighting Instructions Plate	1
	100565-01	100565-01	Warning Plate Fastener	1
	101137-04	101137-04	Hardware Kit	1

** Not a field replaceable part.

ILLUSTRATED PARTS BREAKDOWN

STOVE BODY MODELS CSB SERIES, CSPB SERIES AND CSPI SERIES



PARTS LIST

This list contains replaceable parts used in your stove. For replacement parts see *Replacement Parts* on page 19 of this manual.

		PART NUMBER			
KEY NO.	CSB Series (Black)	CSPB Series (Porcelain Black)	CSPI Series (Porcelain Ivory)	DESCRIPTION	QTY.
1	111698-07	111698-08	111698-09	Top Grate - Center	1
2	111698-11	111698-12	111698-13	Bottom Door	1
3	111531-01CK	111531-01CK	111531-01CK	Stove Dropped Pan (Black Only)	1
4	111698-14	111698-15	111698-16	Left Stove Door	1
5	111698-17	111698-18	111698-19	Right Stove Door	1
6	111698-20	111698-21	111698-22	Stove Leg	4
7	111764-01	111764-01	111764-01	Hardware Kit	1
8	111533-01	111533-01	111533-01	Screen Rod	1
9	111532-01CK	111532-01CK	111532-01CK	Stove Back Panel (Black Only)	1
10	111698-23	111698-23	111698-23	Door Knob	1
11	103297-04	103297-04	103297-04	Screen	1
	PARTS AVAILABLE — NOT SHOWN				
	104108-08			Touch-up Spray Paint	
				12 oz Can, Black	1

* Included In Hardware Kit

PARTS CENTRALS

These Parts Centrals are privately owned businesses. They have agreed to support our customer's needs by providing original replacement parts and accessories

Tool & Equipment Company

5 Manila Ave. Hamden, CT 06514-0322 1-800-397-7553 203-248-7553

Portable Heater Parts

342 N. County Rd. 400 East Valparaiso, IN 46383-9704 All States 219-462-7441 1-888-619-7060 www.portableheaterparts.com sales@portableheaterparts.com techservice@portableheaterparts.com

FBD

1349 Adams Street Bowling Green, KY 42103-3414 270-846-1199 1-800-654-8534 Fax: 1-800-846-0090 franktalk@aol.com

Master Parts Dist.

1251 Mound Ave NW Grand Rapids, MI 49504-2672 616-791-0505 1-800-446-1446 Fax: 616-791-8270 www.nbmc.com

Washer Equipment Co.

1715 Main Street Kansas City, MO 64108-2195 KS, MO, AR 816-842-3911 www.washerparts.com

East Coast Energy Products

707 Broadway W. Long Branch, NJ 07764-1542 732-870-8809 1-800-755-8809 www.njplaza.com/ecep

21st Century

2950 Fretz Valley Road Perkasie, PA 18944-4034 215-795-0400 800-325-4828

Laporte's Parts & Service

2444 N. 5th Street Hartsville, SC 29550-7704 843-332-0191 Parts Department

Cans Unlimited, Inc.

P.O. Box 645 Taylor, SC 29687-0013 All States 803-879-3009 1-800-845-5301 cuisales@aol.com

WARRANTY INFORMATION

KEEP THIS WARRANTY

Model
Serial No
Date Purchased

Always specify model and serial numbers when communicating with the factory.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We make no other warranty, expressed or implied.

LIMITED WARRANTY VENT-FREE PROPANE/LP GAS OR NATURAL GAS LOG HEATERS AND CAST IRON STOVE CHASSIS

DESA Heating Products warrants this product to be free from defects in materials and components for two (2) years from the date of first purchase, provided that the product has been properly installed, operated and maintained in accordance with all applicable instructions. To make a claim under this warranty the Bill of Sale or cancelled check must be presented.

This warranty is extended only to the original retail purchaser. This warranty covers only the cost of part(s) required to restore this heater to proper operating condition. Warranty part(s) MUST be obtained through authorized dealers of this product and/or DESA Heating Products who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty. The heater MUST be installed by a qualified installer in accordance with all local codes and instructions furnished with the unit.

This warranty does not apply to parts that are not in original condition because of normal wear and tear or parts that fail or become damaged as a result of misuse, accidents, lack of proper maintenance or defects caused by improper installation. Travel, diagnostic cost, labor, transportation and any and all such other costs related to repairing a defective heater will be the responsibility of the owner.

TO THE FULL EXTENT ALLOWED BY THE LAW OF THE JURISDICTION THAT GOVERNS THE SALE OF THE PRODUCT; THIS EXPRESS WARRANTY EXCLUDES ANY AND ALL OTHER EXPRESSED WARRANTIES AND LIMITS THE DURATION OF ANY AND ALL IMPLIED WARRANTIES, INCLUD-ING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO TWO (2) YEARS FROM THE DATE OF FIRST PURCHASE; AND DESA HEATING PRODUCTS' LIABILITY IS HEREBY LIMITED TO THE PURCHASE PRICE OF THE PRODUCT AND DESA HEATING PRODUCTS SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES WHATSOEVER INCLUDING INDIRECT, INCI-DENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow a limitation on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitation on implied warranties or exclusion or limitation on damages may not apply to you.

This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

For information about this warranty write:



2701 Industrial Drive P.O. Box 90004 Bowling Green, KY 42102-9004 www.desatech.com



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