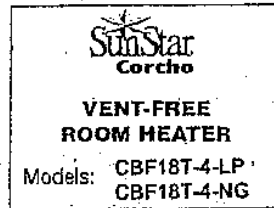


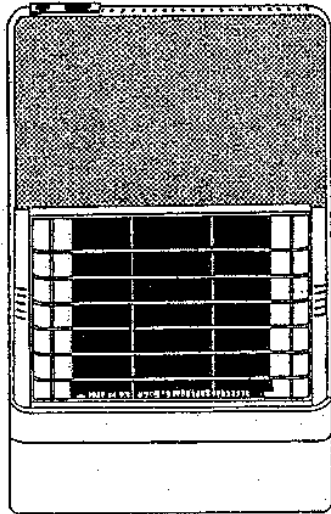


# INSTALLATION AND OWNER'S GUIDE



Effective Date: May 2004

**INSTALLER MUST LEAVE INSTRUCTIONS WITH THE OWNER AFTER INSTALLATION**  
IMPORTANT: Installer must have owner fill out and mail warranty card supplied with heater.



### General Information

This series is design certified by the American Gas Association Laboratories as a Vent-Free Room Heater, and must be installed according to these instructions.

This appliance is intended for supplemental heating.

ANY ALTERATION TO THE ORIGINAL DESIGN, INSTALLED OTHER THAN AS SHOWN IN THESE INSTRUCTIONS, OR USED WITH A TYPE OF GAS NOT SHOWN ON THE RATING PLATE IS PROHIBITED AND VOIDS THE WARRANTY.

The installation must conform to local codes. In the absence of local codes, the installation must conform with the National Fuel Gas Code, also known as NFPA 54 and ANSI Z223.1 - latest edition.

Installation and service must be performed by a qualified installer (i.e. a licensed heating contractor or gas company personnel).

THIS IS A HEATING APPLIANCE. ANY SAFETY SCREEN OR GUARD REMOVED FOR SERVICING AN APPLIANCE MUST BE REPLACED PRIOR TO OPERATING THE APPLIANCE.

- Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.
- Children and adults should be alerted to the hazard of high surface temperature and should be kept away to avoid burns or clothing ignition.
- Young children should be carefully supervised when they are in the same room with the appliance.
- Do not place clothing or other flammable material on or near the appliance.
- Installation and repair should be done by a qualified service person.
- The appliance should be inspected before use and at least annually by a qualified service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners, and circulating air passageways of the appliance be kept clean.

**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

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

For proper ventilation, provide a minimum fresh air opening of one square inch for every 1,000 BTU's of gas burned.

## ▲ WARNINGS

Read this Installation and Owners Guide carefully and completely before attempting to install, operate or service this heater. Improper use of this heater can result in serious bodily injury or death due to hazards of fire, explosion, electrical shock or carbon monoxide poisoning. When used without fresh air, this heater may give off **CARBON MONOXIDE**, an odorless, poisonous gas. **CARBON MONOXIDE POISONING MAY LEAD TO DEATH!** Early signs of carbon monoxide poisoning resemble the flu with headache, dizziness and/or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once, and have the heater serviced.** Some people such as pregnant women, persons with heart or lung disease, anemia, those under the influence of alcohol, and those at higher altitudes are more affected by carbon monoxide than others. Retain this manual for future reference. It is your guide to many years of a proper and safer operation of the heater.

1. Children and adults should be alerted to the hazard of high surface temperatures and should stay away to avoid burns or clothing ignition.
2. Young children should be carefully supervised when they are in the room with the heater.
3. Do not install this heater at altitudes above 5000 ft. because shutdown of the heater by the ODS system may occur due to reduced oxygen levels at these altitudes.
4. This appliance is only for use with the type of gas indicated on the nameplate. **THIS APPLIANCE IS NOT CONVERTIBLE FOR USE WITH OTHER GASES.** Please check the gas type shown on the heater nameplate prior to hooking the heater to the gas supply.
5. **DO NOT** install this heater in bedrooms or bathrooms. The maximum input for use in bathrooms is 6,000 Btu/hr and 10,000 Btu/hr in bedrooms where not prohibited by local codes.
6. LPG containers (Propane cylinders) must not be used or stored indoors.
7. **DO NOT** install this heater directly onto an LPG container or propane cylinder without directions from your propane company because high gas pressure can damage this heater.
8. **DO NOT** locate this heater in high traffic areas or in windy or drafty locations.
9. Keep the area near the heater free from combustible materials, gasoline, and other flammable vapors and liquids.
10. This appliance may be installed in an aftermarket\* manufactured (mobile) home, where not prohibited by state or local codes. \*Aftermarket: Completion of sale, not for purpose of resale, from the manufacturer.
11. **DO NOT** use this heater if any part has been under water. Immediately call a qualified service person to inspect the room heater and to replace any part of the control system and any gas control that has been under water.
12. This heater has a pilot light safety system that turns off the heater if enough fresh air is not available. The pilot light safety section on this unit does not sense the presence of carbon monoxide. It senses the depletion of the oxygen supply used in the combustion process. Combustion of gas with a depleted oxygen supply is one source of carbon monoxide.
13. If this heater is installed in a room having a high vertical dimension, a fan to circulate the air is recommended to improve the comfort level in the room. When a fan is used to circulate air, it should be located so that the airflow is not directed at the burner.
14. If installed in a garage, this heater must be wall mounted only. The bottom of the heater must be a minimum of 18" above the finished floor.
15. A vent-free gas heater will increase the amount of humidity in the room in which it is installed.
16. A fresh air opening for combustion and ventilation air must be provided in the room where the heater is installed. The opening must have at least one square inch of free air opening per 1,000 Btu/hr of gas consumption for the total input rating of all gas equipment in the space.
17. This heater shall not be installed in a confined space or unusually tight construction unless provisions are provided for adequate combustion and ventilation air.
18. 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 1 perm ( $6 \times 10^{-10}$  kg per pa-sec-m<sup>2</sup> or less with openings gasketed or sealed;
  - b.) Weather stripping has been added on openable windows and doors; and
  - 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 other openings.

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 the next page for a worksheet to determine whether the proposed installation site is defined as confined or unconfined.

19. The National Fuel Gas Code defines a confined space as a space whose volume is less than 50 ft<sup>3</sup> per 1,000 Btu/hr (4.8 m<sup>3</sup>/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 ft<sup>3</sup> per 1,000 BTU/Hr (4.8 m<sup>3</sup>/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 space.
20. **▲ 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 unusually tight construction, provide adequate combustion and ventilation air by one of the methods described in the National Fuel Gas Code, ANSI Z223.1 or applicable local codes - latest edition.
21. Always operate the heater at the locked positions. Never operate the heater at any setting between these locked positions, as this may result in improper combustion.

## COMBUSTION AND VENTILATION AIR REQUIREMENT WORKSHEET

The purpose of this worksheet is to help you determine if you are planning to install this heater in an "unconfined" or a "confined" space. An "unconfined" space is one that is large enough to meet all the combustion and ventilation air requirements of all the fuel burning appliances to be in operation in this space. No additional air requirements are needed. A "confined" space is one that is not large enough to meet the combustion and ventilation air requirements for all the fuel burning appliances in that space. As a result, additional air is required in this space to meet the appliance needs. Check with your installer on ways to accomplish this, or use a smaller Btu/hr input heater.

**STEP 1:** Determine the volume of the space in which the heater is to be installed. Include adjoining rooms with doorless passageways. Example: 24' (long) x 16' (wide) x 8' (high) = 3072 ft<sup>3</sup>.

LENGTH x WIDTH x HEIGHT = \_\_\_\_\_ Ft<sup>3</sup>

**STEP 2:** Multiply the volume of the space (calculated in Step 1) by 20 BTU/Hr to determine the maximum BTU/Hr that the space can support without additional combustion and ventilation air provided.

Result from Step 1 \_\_\_\_\_ x 20 Btu/hr = \_\_\_\_\_ Btu/hr

**STEP 3:** Add the Btu/hr inputs of all fuel burning appliances in this space. **NOTE: DO NOT include Direct-Vent gas appliances because these have sealed combustion systems that draw combustion air from outdoors.** Examples of appliances to consider include: gas ranges, gas water heaters, gas logs, kerosene heaters, etc.

Proposed Vent-Free Heater \_\_\_\_\_ Btu/hr

Fuel Burning Appliance #1 \_\_\_\_\_ Btu/hr

Fuel Burning Appliance #2 \_\_\_\_\_ Btu/hr

TOTAL \_\_\_\_\_ Btu/hr

**STEP 4:** Compare the results from Step 2 and Step 3.

If the result from Step 2 is greater than the result from Step 3, the area where the heater is to be installed can be classified as an "unconfined space." This means that the space is capable of handling the combustion and ventilation air requirements of the existing fuel burning appliance(s) and the proposed heater.

If the result from Step 2 is less than the result from Step 3, the area where the heater is to be installed is classified as a "confined space." This means that either additional combustion and ventilation air must be provided into this space (use the methods described in the National Fuel Gas Code, ANSI Z223.1-latest edition or the size of the proposed heater must be reduced so that the above calculations show the space to be an "unconfined space."

## SAFETY INFORMATION FOR USERS OF LP-GAS

Propane (LP-Gas) is a flammable gas which can cause fires and explosions. In its natural state, propane is odorless and colorless. You may not know all the following safety precautions which can protect both you and your family from an accident. Read them carefully now, then review them point

by point with the members of your household. Someday when there may not be a minute to lose, everyone's safety will depend on knowing exactly what to do. If, after reading the following information, you feel you still need more information, please contact your gas supplier.

### LP-GAS WARNING ODOR

If a gas leak happens, you should be able to smell the gas because of the odorant put in the LP-Gas. That's your signal to go into immediate action!

- Do not operate electric switches, light matches, use your phone. Do not do anything that could ignite the gas.
- Get everyone out of the building, vehicle, trailer, or area. Do that IMMEDIATELY.
- Close all gas tank or cylinder supply valves.
- LP Gas is heavier than air and may settle in low areas such as basements. When you have reason to suspect a gas leak, keep out of basements and other low areas. Stay out until firefighters declare them to be safe.
- Use your neighbor's phone and call a trained LP-Gas service person and the fire department. Even though you may not continue to smell gas, do not turn on the gas again. Do not re-enter the building, vehicle, trailer, or area.
- Finally, let the service man and firefighters check for escaped gas. Have them air out the area before you return. Properly trained LP-Gas service people should repair the leak, then check and relight the gas appliance for you.

### NO ODOR DETECTED - ODOR FADE

Some people cannot smell well. Some people cannot smell the odor of the chemical stench put into the gas. You must find out if you can smell the odorant in propane. Smoking can decrease your ability to smell. Being around an odor for a time can affect your sensitivity or ability to detect that odor. Sometimes other odors in the area mask the gas odor. People may not smell the gas odor or their minds are on something else. Thinking about smelling a gas odor can make it easier to smell.

The odorant in LP-Gas is colorless, and it can fade under some circumstances. For example, if there is an underground leak, the movement of the gas through soil can filter the odorant. Odorants in LP-Gas also are subject to

oxidation. This fading can occur if there is rust inside the storage tank or in iron gas pipes.

The odorant in escaped gas can adsorb or absorb onto or into walls, masonry and other materials and fabrics in a room. That will take some of the odorant out of the gas, reducing its odor intensity.

LP-Gas may stratify in a closed area, and the odor intensity could vary at different levels. Since it is heavier than air, there may be more odor at lower levels. Always be sensitive to the slightest gas odor. If you detect any odor, treat it as a serious leak. Immediately go into action as instructed earlier.

### SOME POINTS TO REMEMBER

- Learn to recognize the odor of LP-Gas. Your local LP-Gas Dealer can give you a "Scratch and Sniff" pamphlet. Use it to find out what the propane odor smells like. If you suspect that your LP-Gas has a weak or abnormal odor, call your LP-Gas Dealer.
- If you are not qualified, do not light pilot lights, perform service, or make adjustments to appliances on the LP-Gas system. If you are qualified, consciously think about the odor of LP-Gas prior to and while lighting pilot lights or performing service or making adjustments.
- Sometimes a basement or a closed-up house has a musty smell that can cover up the LP-Gas odor. Do not try to light pilot lights, perform service, or make adjustments in an area where the conditions are such that you may not detect the odor if there has been a leak of LP-Gas.
- Odor fade, due to oxidation by rust or adsorption on walls of new cylinders and tanks, is possible. Therefore, people should be particularly alert and careful when new tanks or cylinders are placed in service. Odor fade can occur in new tanks, or reinstalled old tanks, if they are filled and allowed to set too long before refilling. Cylinders and tanks which have been out of service for a time may develop internal rust which will cause odor fade. If such conditions are suspected to exist, a periodic sniff test of the gas is advisable. If you have any question about the gas odor, call your LP-Gas dealer. A periodic sniff test of the LP-Gas is a good safety measure under any condition.
- If, at any time, you do not smell the LP-Gas odorant and you think you should, assume you have a leak. Then take the same immediate action recommended above for the occasion when you do detect the odorized LP-Gas.
- If you experience a complete "gas out" (the container is under no vapor pressure), turn the tank valve off immediately. If the container valve is left on, the container may draw in some air through openings such as pilot light orifices. If this occurs, some new internal rusting could occur. If the valve is left open, then treat the container as a new tank. Always be sure your container is under vapor pressure by turning it off at the container before it is completely empty.

## SPECIFICATION

|                    | Model CBF18T-4-NG           | Model CBF18T-4-LP           |
|--------------------|-----------------------------|-----------------------------|
| BTU/Hr Input       | 18,000                      | 18,000                      |
| Type Gas           | Natural Gas                 | LP Gas                      |
| Ignition Type      | Piezo Igniter               | Piezo Igniter               |
| Temp. Control      | Thermostatic                | Thermostatic                |
| Weight             |                             |                             |
| Heater             | 18 lbs.                     | 18 lbs.                     |
| Shipping           | 21 lbs.                     | 21 lbs.                     |
| Inlet Gas Pressure |                             |                             |
| Maximum            | 14.0" W.C.                  | 14.0" W.C.                  |
| Minimum            | 7.0" W.C.                   | 7.0" W.C.                   |
| Regulator Setting  | 6.0" W.C.                   | 10.0" W.C.                  |
| Dimensions         |                             |                             |
| Heater (H x W x D) | 26-1/4" x 16-1/2" x 6-3/16" | 26-1/4" x 16-1/2" x 6-3/16" |
| Carton             | 28-1/2" x 18-1/2" x 8-1/4"  | 28-1/2" x 18-1/2" x 8-1/4"  |

## CLEARANCES

You must provide adequate clearance around to the heater. You also must provide for an adequate combustion and ventilation air supply to the space to be heated. The heater must be easily accessible for servicing. The opening for combustion air located at the bottom of the heater must not be obstructed.

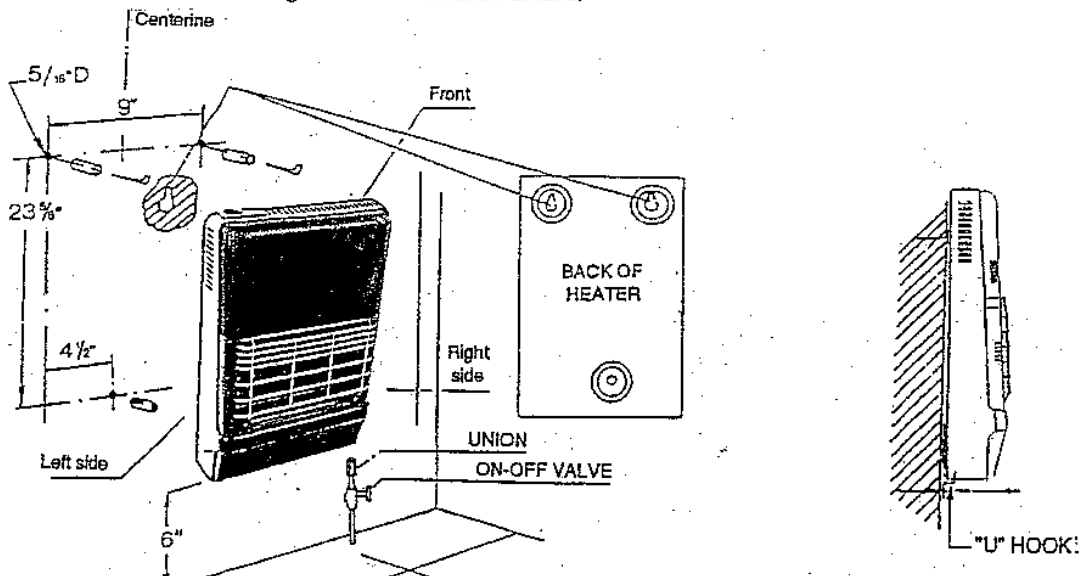
The heater must be installed no less than 6" above the top surface of carpeting, tile, or other floor covering. When facing the front of the heater, clearance from combustibles must be a minimum of 13" from the left, 13" from the right, and 36" from the top. Never install the heater in front of any flammable object, especially do not place curtains, furniture, clothing or other flammable objects less than 36" from the front of the heater.

## INSTALLATION ON CARPETING AND TILE (When using the optional Model CBF18T floor stand)

If this appliance is to be installed directly on carpeting, tile or other combustible material other than wood flooring, the heater shall be installed on a metal or wood panel extending the full width and depth of the heater. All other clearances combustible materials stated above must be maintained. Floor protection panels (P/N 44058010) are available as accessory.

## WALL MOUNT INSTALLATION

1. Drill three (3) 5/16" diameter holes, located as shown in Figure 1, in the wall where the heater is to be mounted.
2. Position the three (3) plastic expansion anchors, furnished in the installation kit with the heater, into the holes and tap them flush with the wall.
3. Install the two (2) hooks provided in the installation kit into the two (2) upper anchors as shown in Figure 1.
4. Attach the heater to the wall using these two (2) hooks and the keyholes located on the back of the heater at the top.
5. Secure the bottom of the heater to the wall using the "U" hook and screw furnished in the installation kit. Refer to Figure 2 for installation details.



## THERMOSTAT OPERATION

To ignite main burner, rotate gas control knob counterclockwise toward HI setting. To shut down burner, rotate gas control knob counterclockwise toward LO setting.

The gas control modulates from a minimum input of 9,000 Btu/hr. (2.6 KW) (LO setting) to a maximum input of 18,000 Btu/hr. (5.3 KW) (HI setting). The hydraulic thermostat bulb, which is located at the casing assembly bottom, adjusts the main burner flame between minimum input and maximum input. NOTE: When the hydraulic thermostat bulb is "satisfied" the main burner flame will shut "OFF" with the pilot flame remaining "ON". The LO and HI setting has a temperature range of approximately 55°F (13°C) to 100°F (38°C) respectively.

This is the temperature at the hydraulic thermostat bulb, not the room temperature. The owner is advised to determine the particular heat setting that is desired for comfort, as heating requirements are different for every owner.

**ATTENTION:** If the owner does not want the main burner to ignite and turns the gas control knob to the LO setting, the main burner will still ignite if the temperature at the hydraulic thermostat bulb drops to 55°F (13°C).

If no heat is desired, turn the gas control knob to the PILOT position.

## INSTALLATION TO GAS SUPPLY

1. The gas supply must comply with local codes, or in their absence, the installation must be in accordance with American National Standard (National Fuel Gas Code) NFPA 54, also known as ANSI Z223, 1-latest edition, available from the American Institute, Inc., 1434 Broadway, New York, New York, 10018, or the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
2. **WARNING!** When using LP gas, this heater requires an external regulator (not supplied) located between the heater and LP Supply Tank. This regulator must be supplied by the installer to reduce incoming LP Gas pressure to a maximum of 14 inches of water column. Under no circumstances should this heater ever be hooked directly to an LP supply tank. **IMPORTANT:** Pressure Regulator must be held with wrench when connection gas piping and/or fittings to Pressure Regulator.
3. Use only new, black iron or rust resistant steel pipe. Copper tubing may be acceptable in certain areas. **CHECK LOCAL CODES TO DETERMINE ACCEPTABLE TYPES OF GAS PIPING.**
4. The gas supply line shall be sized and installed to provide a sufficient supply of gas to meet the minimum demand of the heater without undue loss of pressure.

| Typical Installation | Supply Line      |
|----------------------|------------------|
| Up to 20,000 BTU/hr. | 3/8" or greater  |
| Up to 30,000 BTU/hr. | 1/2" or greater. |

5. The sealant used on the threaded pipe joints of the gas pipe must be the specific type resistant to the action of Liquid Petroleum Gas. Apply sealant lightly to male threads to ensure excess sealant does not enter lines. Any excess sealant could be forced into the pipe and result in clogged gas valves.
6. The supply system must include a manual shut-off valve, a union in the line, and a plugged 1/8" NPT tap. The tap should be accessible for test gauge connections upstream of the gas supply connection to heater.

include a drip leg (trap) in the supply line. The purpose of the drip leg is to prevent moisture and contaminants in gas supply from entering heater controls. The drip leg should be readily accessible to permit cleaning or emptying. A drip leg should not be located where the condensate is likely to freeze. Failure to use drip leg can result in operational difficulties in heater.

## GAS SUPPLY CHECK

A union must be provided directly at the gas inlet to the heater. A manual gas valve must be provided upstream of the union. This will allow you to shut off the gas supply to the heater if it is necessary to remove it for service purposes.

The appliance and its appliance main gas valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig. (3.45kPa).

The appliance must be isolated from the gas supply piping system by closing its equipment shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig. (3.45kPa).

The connectors must be checked and cleaned before assembling and then wrenched up tight for a gas tight connection. Apply a soap and water solution to all joints and watch for bubbles to check for gas leaks. **NEVER USE ANY OPEN FLAME TO CHECK FOR GAS LEAKS.**

## BURNER

There will be a short blue inner flame with a much larger, lighter blue secondary flame. The burner flame may have a small yellow tip when hot. See the main burner drawing showing the approximate heights of each flame. Dust in the combustion air will produce an orange or red flame. Do not mistake the orange or red flame for an improper yellow flame.

| GAS     | Dimension A                | Dimension B                |
|---------|----------------------------|----------------------------|
| PROPANE | ½" - 1"<br>(13mm - 25 mm)  | 3" - 4"<br>(76mm - 102 mm) |
| NATURAL | 1" - 1 ½"<br>(25mm - 38mm) | 4" - 5"<br>(102mm - 127mm) |

## HEATER MAINTENANCE - PERIODIC VISUAL CHECK

Ensure that the heating elements are kept free from dust. When not in use, the heater should be covered and stored in a dry, dust-free place. Do not use abrasive materials for cleaning the casing. Refer any major maintenance to your Dealer. Any maintenance SHOULD only be carried out by authorized personnel such as your Dealer, or a nominated manufacturer's Service Agent. It is recommended that the

## OXYGEN DEPLETION SENSOR (ODS) SERVICING

Dust and dirt may effect heater performance.

This heater draws air into the bottom of it during normal operation. In the process, dust and dirt will also be drawn into the heater. The frequency of needed cleaning will depend on how and where the heaters is used. At a minimum, you should clean the heater at least once a year, at the beginning of the heating season.

If your pilot will not stay lit, try cleaning it. Use a can of compressed air, such as is used to clean a computer, to blow dust out of the pilot assembly. Sometimes just blowing air back through the pilot will get rid of the dirt.

If that fails to solve the problem, remove the wire clip that holds the metal strip onto the pilot assembly. Remove the cover and blow any dust out. Reassemble and check for proper operation.

If that fails, the pilot assembly should be removed and air blown through the assembly and gas line as shown in Figure 4. To prevent damage to this assembly, follow the instructions below for disassembly and assembly of the

**WARNING!** Do not allow fans to blow directly into the fireplace. Avoid any drafts that alter burner patterns.

**WARNING!** Failure to keep the primary air opening (s) of the burner clean may result in shooting and property damage

If the burner is dirty, see the periodic heater maintenance.

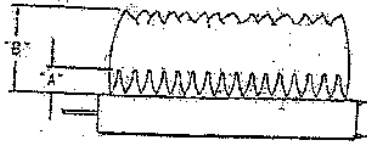


Figure 3

appliances is regularly serviced, at least every second year, by authorized personnel.

Periodic cleaning of the unit is required, dust the surface of the unit and vacuum clean burner surfaces and the control compartment.

ODS for cleaning.

**WARNING!** Never use needles, wires, or similar cylindrical objects to clean the pilot orifice. This will only damage the calibrated ruby orifice (about the size of the head of a pin) which controls the pilot gas flow.

Grab nut A with an open-end wrench and loosen nut B from the pilot tubing. Blow air pressure through the holes as indicated in Figure 4. This should blow out any foreign materials. To reassemble, tighten nut B by grabbing nut A with the open-end wrench. NOTE: When the heater is reassembled, always check for gas leaks as outlined in the Gas Supply section of these instructions.

**WARNING!** This vent-free heater is approved for use only with the type of gas indicated on the heater nameplate. It is not designed for use with other gases and it is not convertible to use with other gases.

**WARNING!** Do not use a blower insert, heat exchanger insert or other accessory not approved for use with this heater.

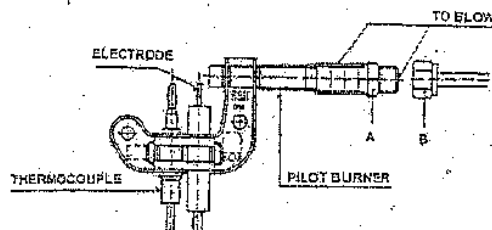


Figure 4


## FOR YOUR SAFETY READ BEFORE LIGHTING

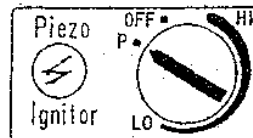
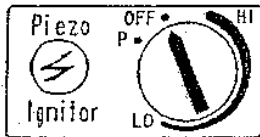
**WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- 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 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 turn by hand, don't try to repair it; call a qualified service technician. 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.

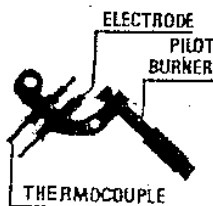
## LIGHTING INSTRUCTIONS


Be sure gas supply to heater is on. The control knob and piezo igniter button are located on top of the heater.  
If this heater is equipped with a blower, disconnect the blower by turning off the electrical switch.

1. Stop! Read the safety information above.
2. Set the thermostat (gas control knob) clockwise to OFF position. (  )




3. Wait ten (10) minutes to clear out any gas. Then smell for gas near the heater and at the floor beneath the heater. If you smell gas, STOP!. Follow "B" in the safety information above. If you do not smell gas, go to next step.




4. Turn knob on gas control counterclockwise (  ) to "P" PILOT. Push in control knob to stop and hold.

5. Repeatedly push the piezo igniter button until pilot burner is lit (a match can also be used to light pilot burner). Continue to hold the control knob in for about 10 to 15 seconds after the pilot is lit. Release knob and it should pop back up. Pilot burner should remain lit. If it goes out, repeat procedure 5.

- If knob does NOT pop up when released, stop turn off gas supply and immediately call your service technician or gas supplier.


- If the pilot will not stay lit after several tries, turn the gas control knob clockwise (  ) to "OFF" and call your service technician or gas supplier.

6. When the pilot burner remains lit turn the gas control knob counterclockwise (  ) to HI (high) position.

7. Thermostat (gas control knob) can be set to desired setting from HI to LO.

8. **ATTENTION:** Gas Control has an interlock latching device. When the pilot burner remains lit a safety magnet is energized and the interlock latching device becomes operative. If the gas control is turned to the "OFF" position or gas flow to the appliance is shut off **DO NOT RELIGHT THE PILOT BURNER** until the safety magnet is de-energized (approximately 60 seconds). There will be an audible click when the safety magnet in the control is de-energized. Pilot burner can now be relit by repeating steps 3 thru 5 above.

## TO TURN OFF GAS TO APPLIANCE

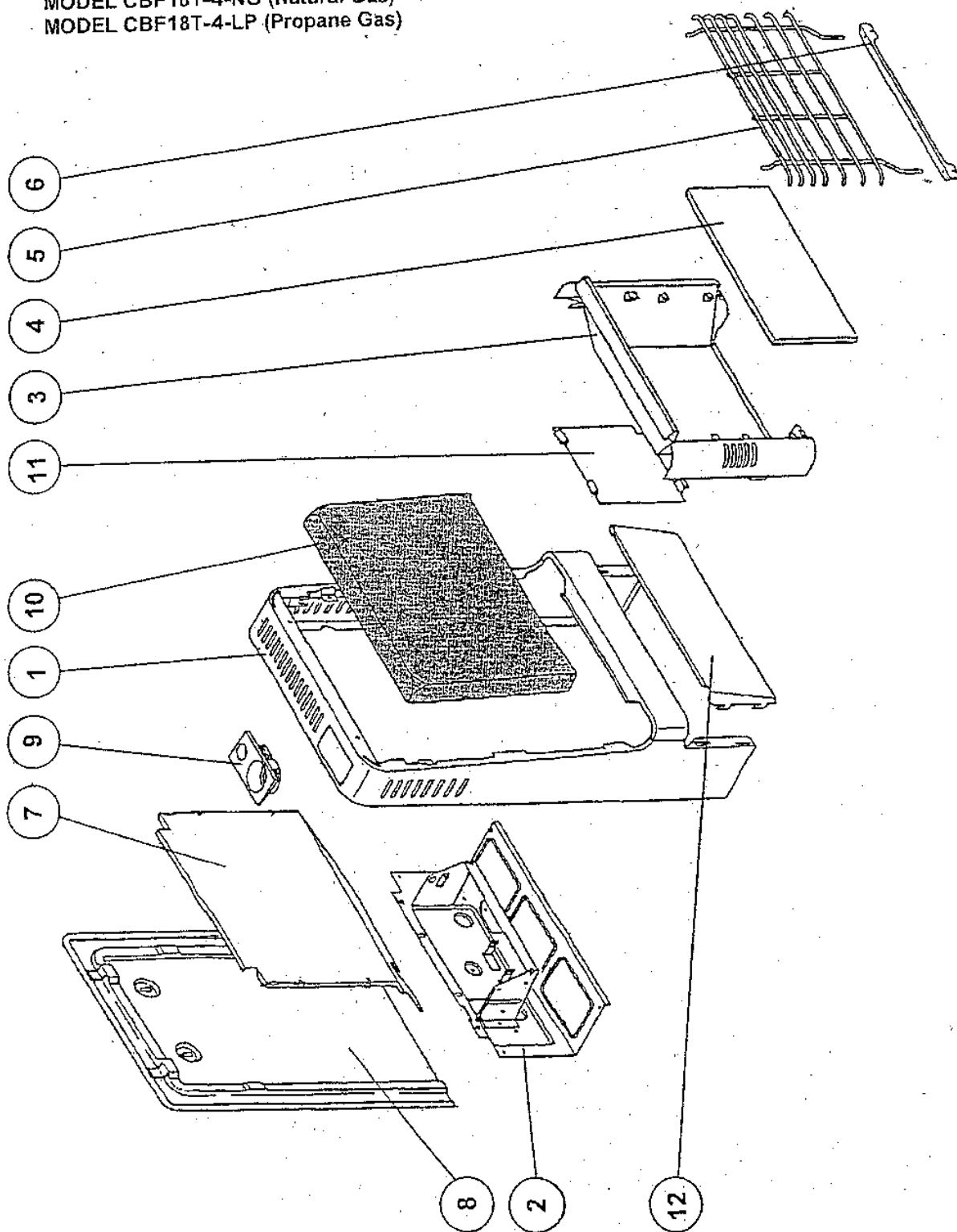
Turn the thermostat (gas control knob) clockwise (  ) to the "OFF" position. Do not use excessive force when turning knob.



## TROUBLESHOOTING

| TROUBLE  | CAUSE   | SOLUTION  |
|--|---|---|
| <b>PILOT TROUBLE</b><br>No spark.  | <ul style="list-style-type: none"> <li>✦ Not pushing piezo all the way down until "click"</li> <li>✦ Lead wire loose at piezo ignitor</li> <li>✦ Lead wire loose at electrode</li> <li>✦ Lead wire broken</li> <li>✦ Piezo ignitor not properly grounded</li> <li>✦ Electrode gap to ODS pilot not correct</li> <li>✦ Piezo ignitor is defective</li> </ul> | <ul style="list-style-type: none"> <li>✦ Review Lighting instructions</li> <li>✦ Tighten connection</li> <li>✦ Tighten connection</li> <li>✦ Replace lead wire</li> <li>✦ Tighten lock nut</li> <li>✦ Adjust gap to 3 mm (.118")</li> <li>✦ Replace piezo ignitor</li> </ul>  |
| Spark, but no pilot ignition.  | <ul style="list-style-type: none"> <li>✦ Pilot (ODS) clogged</li> <li>✦ Main gas supply not on</li> <li>✦ Knob not in "PILOT" position</li> <li>✦ Knob not depressed enough when turning from "OFF" to "PILOT"</li> <li>✦ Air in gas line when installed</li> <li>✦ Defective pilot regulator (NG only)</li> <li>✦ Pilot (ODS) clogged</li> </ul>           | <ul style="list-style-type: none"> <li>✦ Clean pilot assembly and replace if necessary</li> <li>✦ Turn on gas</li> <li>✦ Make sure knob is in correct position</li> <li>✦ Retry pressing knob all the way down</li> <li>✦ Repeat ignition operation until air is eliminated</li> <li>✦ Replace regulator</li> <li>✦ Replace pilot assembly</li> </ul> |
| Pilot goes out when knob is released.  | <ul style="list-style-type: none"> <li>✦ Knob is not depressed long enough</li> <li>✦ Pilot flame does not touch thermocouple</li> <li>✦ Thermocouple connection at valve may be loose</li> <li>✦ Thermocouple is damaged</li> <li>✦ Gas valve is damaged</li> </ul>  | <ul style="list-style-type: none"> <li>✦ After pilot is lit, hold down for 30 sec.</li> <li>✦ Replace pilot if manifold gas pressure checks o.k.</li> <li>✦ Tighten connection firmly</li> <li>✦ Replace thermocouple</li> <li>✦ Replace gas valve</li> </ul>   |
| <b>BURNER DOES NOT LIGHT</b><br>Pilot stays lit.                                 | <ul style="list-style-type: none"> <li>✦ Burner orifice clogged</li> <li>✦ Burner orifices not correct size</li> <li>✦ Extremely low inlet gas pressure</li> <li>✦ Gas valve is defective</li> </ul>  | <ul style="list-style-type: none"> <li>✦ Clean or replace orifices</li> <li>✦ Replace with correct size</li> <li>✦ Contact gas supplier</li> <li>✦ Replace gas valve</li> </ul>   |
| <b>IMPROPER BURNER PATTERN</b><br>Slight smoke or odor during initial operation. | <ul style="list-style-type: none"> <li>✦ Residues from manufacturing process or dust</li> </ul>   | <ul style="list-style-type: none"> <li>✦ Problem will be eliminated after a few hours of operation</li> </ul>   |
| Whistling noise during ignition or operation and backfiring                      | <ul style="list-style-type: none"> <li>✦ Burner orifices) restricted/damaged orifices</li> <li>✦ Burner damaged or cracked</li> <li>✦ Gas regulator malfunction</li> </ul>  | <ul style="list-style-type: none"> <li>✦ Clean/replace burner</li> <li>✦ Replace burner</li> <li>✦ Replace regulator</li> </ul>   |
| Not all burners lighting or burning properly.                                    | <ul style="list-style-type: none"> <li>✦ Burner orifices are dirty</li> <li>✦ Low gas pressure</li> <li>✦ Knob adjusted between settings</li> </ul>   | <ul style="list-style-type: none"> <li>✦ Clean or replace orifices</li> <li>✦ Contact gas supplier</li> <li>✦ Turn knob until it locks at desired setting</li> </ul>  |
| Heater produces unwanted   | <ul style="list-style-type: none"> <li>✦ Odors can be caused by odors in room such as paint, hair spray, new carpet, etc.</li> <li>✦ Low fuel supply in LP tanks</li> </ul>   | <ul style="list-style-type: none"> <li>✦ Ventilate room &amp; discontinue use of odor producing products while heater is operating. If problem persists, contact gas supplier.</li> <li>✦ Refill supply tank</li> </ul>   |
| <b>HEATER SHUTS OFF IN USE</b><br>ODS operates properly.                         | <ul style="list-style-type: none"> <li>✦ Enough fresh air is not available</li> </ul>   | <ul style="list-style-type: none"> <li>✦ Open window for ventilation</li> </ul>   |
| Even if well ventilated, ODS operates.   | <ul style="list-style-type: none"> <li>✦ ODS malfunction</li> </ul>   | <ul style="list-style-type: none"> <li>✦ Replace ODS assembly</li> </ul>  |
| <b>HEATER HAS BEEN UNDER WATER</b>   | <ul style="list-style-type: none"> <li>✦ Water in control section of heater</li> </ul>  | <ul style="list-style-type: none"> <li>✦ DO NOT use, consult your gas supplier</li> </ul>   |

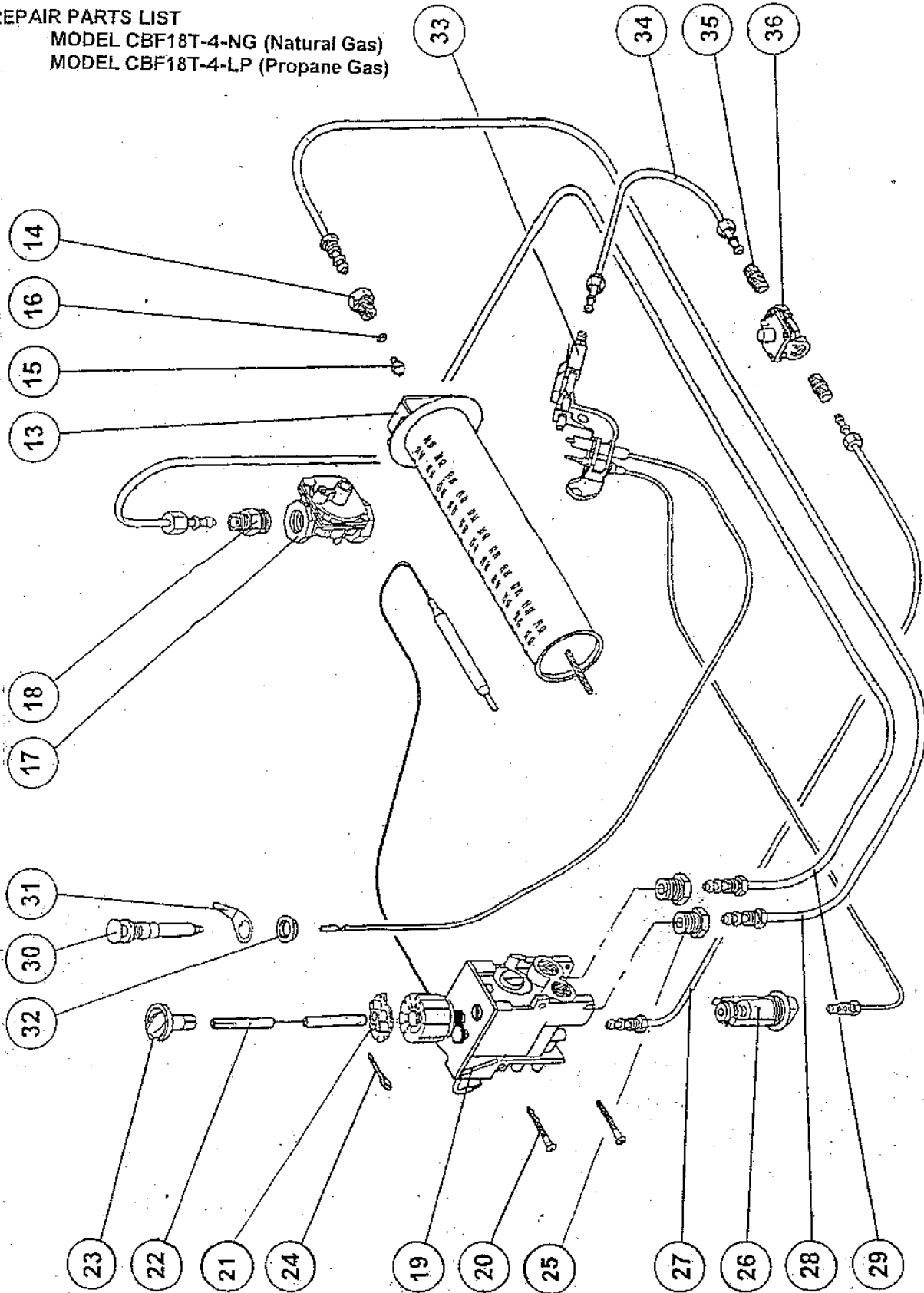
REPAIR PARTS LIST  
MODEL CBF18T-4-NG (Natural Gas)  
MODEL CBF18T-4-LP (Propane Gas)



REPAIR PARTS LIST

MODEL CBF18T-4-NG (Natural Gas)

MODEL CBF18T-4-LP (Propane Gas)



**HOW TO ORDER REPAIR PARTS...**

All parts listed in the Parts List have a part No. When ordering parts, first obtain the Model No. from the name plate on your equipment. Then determine the Part No. (not the Index No.) and the Description of each part from the following appropriate illustration and list. Be sure to give all this information.

Heater Model Number \_\_\_\_\_ Part Description \_\_\_\_\_

Heater Serial Number \_\_\_\_\_ Kind of Gas (Propane or Natural) \_\_\_\_\_

Part Number \_\_\_\_\_

Do not order bolts, screws, washers, or nuts. They are standard hardware items and can be purchased at any local hardware store. Order parts from your local dealer or through SunStar Heating Products, Inc., 306 W. Tremont Avenue, Charlotte, NC 28236-4946 • (704) 372-3486

Shipments of parts are contingent upon strikes, fires, and all other causes beyond our control.

**REPAIR PARTS**

| INDEX NUMBER | PROPANE GAS<br>MODEL CBF18T-4-NG<br>PART NUMBERS | NATURAL GAS<br>MODEL CBF18T-4-LP<br>PART NUMBERS | DESCRIPTION                  |
|--------------|--|--|------------------------------|
| 1            | 4375902  | 4375902  | Frontal frame                |
| 2            | 4376102  | 4376102  | Support burner               |
| 3            | 4357920  | 4357920  | Frontal reflector            |
| 4            | 7375500  | 4375500  | Glass                        |
| 5            | 4358108  | 4358108  | Safety guard                 |
| 6            | 4377600  | 4377600  | Safety guard lock            |
| 7            | 4357814  | 4357814  | Top heat shield              |
| 8            | 4376002  | 4376002  | Top back                     |
| 9            | 4371005  | 4371005  | Control enclosure            |
| 10           | 4374801  | 4374801  | Grille                       |
| 11           | 4376301  | 4376301  | Bottom heat shield           |
| 12           | 4376202  | 4376202  | Embellishment                |
| 13           | 4377500  | 4377500  | Burner                       |
| 14           | 4357511  | 4357511  | Drive orifice                |
| 15           | 4357513  | 4357512  | Orifice                      |
| 16           | 4371201  | 4371201  | Washer                       |
| 17           | 4356708  | 4356709  | Regulator                    |
| 18           | 4359005  | 4359005  | Regulator inlet adaptor      |
| 19           | 4359605  | 4359604  | Control tap (valve)          |
| 20           | 4359710  | 4359710  | Screw                        |
| 21           | 4358606  | 4358606  | Disc adaptor                 |
| 22           | 4358703  | 4358703  | Control rod                  |
| 23           | 4358604  | 4358604  | Control knob                 |
| 24           | 4358801  | 4358801  | Cotter pin                   |
| 25           | 4359009  | 4359009  | Hose tap                     |
| 26           | 4359606  | 4359606  | Electrovalve                 |
| 27           | 4358550  | 4358549  | Tubing toward ODS            |
| 28           | 4358547  | 4358547  | Tubing control tap-burner    |
| 29           | 4358548  | 4358548  | Tubing regulator-control tap |
| 30           | 4357303  | 4357303  | Piezo ignitor                |
| 31           | 4370900  | 4370900  | Ground                       |
| 32           | 4359802  | 4359802  | Nut M-18                     |
| 33           | 4358414  | 4358413  | ODS System                   |
| 34           | 4358551  | -  | Tubing regulator-ODS         |
| 35           | 4359006  | -  | Regulator inlet adaptor      |
| 36           | 4357601  | -  | Pilot regulator              |

Manufactured for:  
SunStar Heating Products, Inc.  
306 West Tremont Avenue  
Charlotte, NC 28236 - 4946  
(704) 372-3486