

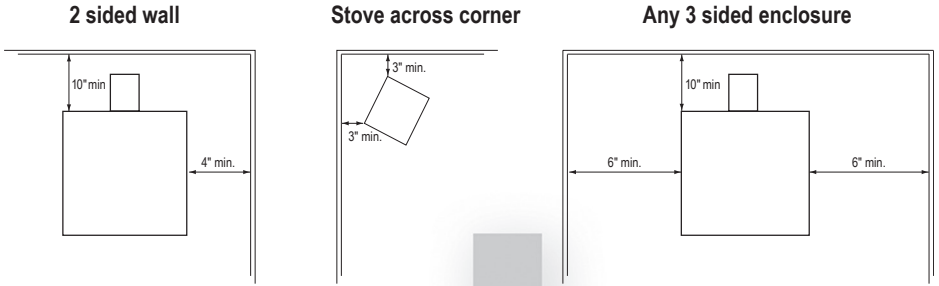
Owner's Manual for...

SUNRISE
ROOM HEATERS



WARNING: Please read carefully before operating your SUNRISE ROOM HEATER.

Installing your Sunrise gas stove



Notes: Stove pipe 6" minimum from any wall. Always use an approved stove board unless installing on a concrete floor.

CAUTION! KEEP COMBUSTIBLE MATERIALS AWAY FROM HEATER.

Tested +0 ANSI Z21.86-08 standards for propane natural gas

Installation

PILOT CONNECTION: 1/4" tubing

PRESSURE: 1/2" PSI maximum

AMBIENT RATING: -40°F to 250°F operating temperature

ROOM HEATER PLACEMENT: Keep min. of 10" from back wall; 4" from side wall. Use 4" stovepipe with liner in chimney. **Never put anything under the unit.** Non-combustible floor or UL stove board.

MAIN PIPE CONNECTION instruction as follows:

1. Be sure the main gas supply is shut off before starting the installation. The gas valve may be installed in any position, but it should be located so that the gas control knob is easily accessible.
2. If a vise or open-end wrench is used to hold the control while installing piping, do not tighten excessively as this may damage the control.
3. Check for gas leaks with a soap solution after completing installation.

PILOT GAS CONNECTION: Install the fitting into the pilot gas tapping, turning until finger-tight. Insert clean, debarred tubing all the way through the fitting. Holding the tubing securely, slowly tighten the fitting until a slight "give" is felt. Then tighten an additional 1-1/2 turns.

THERMOCOUPLE: The thermocouple connector should be clean for good electrical contact. Run the thermocouple nut into the thermocouple connection as far as possible by hand. Then set the nut with 1/4 to 1/2 additional turns using a small wrench. Do not overtighten.

Always install a gas shut-off valve at the main line.

Hydraulic Thermostat heaters models lighting procedures

Model 3020 H/M, 2618-H/M, 2016 H, Model 3020 H, 2618 H

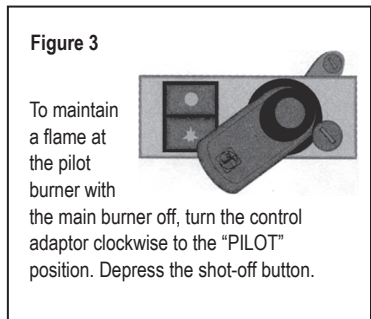
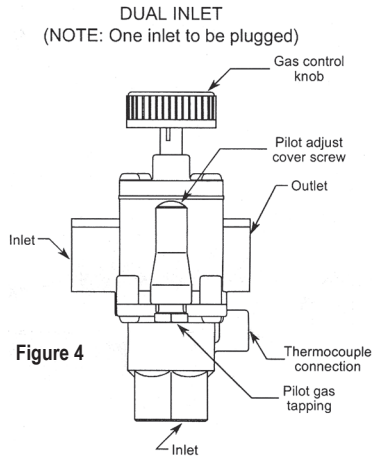
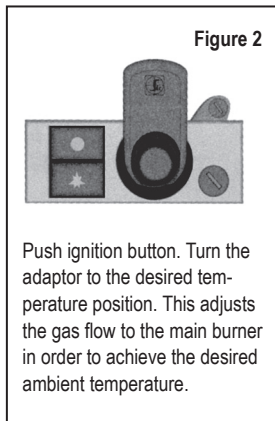
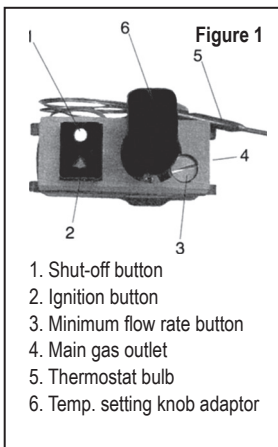
2010 or later models, lighting and relighting procedures for all hydraulic Thermostat systems

1. Light the left hand burner first. See figures 1–3. Turn the temperature control knob to high (counter clockwise). Hold the red button down and push the piezo ignitor repeatedly until the pilot light stays lit. (approximately 30 seconds) If the pilot light goes out, repeat step 1 until it stays lit.
2. The right hand burner is the secondary (see figure 4) burner on all two control units. You must turn the knob to the pilot position, push down and hold for 30 seconds. Release, then turn on high for extra heat.

Specifications

This gas pilot safety valve provides 100% shut-off of both pilot & main burner gas supply in the event of pilot flame failure. This valve is equipped with a 3-position gas control knob to provide for pilot lighting. This control also allows pilot flame adjustment.

If the pilot flame goes out during normal operation, or if there is insufficient pilot flame to provide proper thermocouple output, the safety valve will close, stopping the flow of all gas.



Millivolt model heaters

Lighting the pilot and burners

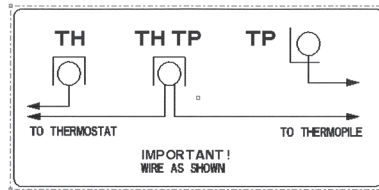
Model 3020-M, 2618-M, 2016-M, 3020-M/M, 2618-M/M

Lighting and relighting procedures for all 2010 and later models

1. Light the left hand burner first (facing the heater). Turn the knob to pilot, and push down. Push the piezo igniter repeatedly till the pilot lights. Hold the control knob down till the pilot stays lit approximately 1 minute. If it goes out, repeat till it stays on. Note: before lighting the pilot, turn the wall thermostat to 80°F.
2. The right hand burner is a secondary burner on all two control units. You must turn the knob to pilot, push down and hold for 30 seconds. Release and turn on high (for extra heat).

CAUTION: Keep combustible material away from gas appliance. Keep burner area clean and free of dust and lint.

WIRING CONFIGURATION



MILLIVOLT SYSTEM

The millivolt system and individual components may be checked with a millivolt meter having a 0-1000 MV range (900-040). Before checking system, be certain wall thermostat lead wire does not exceed length (as recommended in the WIRING section table), and all connections are clean and tight.

Conduct each check, shown in the chart shown at right, by connecting the meter test leads to the terminals, as indicated. All the readings are closed circuit.

| COMPONENT CHECK | CONNECT METER TEST LEADS TO TERMINALS | WALL THERMOSTAT CONTACTS SHOULD BE | METER READING SHOULD BE | CHECK RESULT ON PAGE 4 |
|-----------------------|---------------------------------------|------------------------------------|-------------------------|------------------------|
| Valve Operator System | 2 & 3 | Closed | Greater Than 100 MV | A |
| Wall Thermostat | 1 & 3 | Closed | Less Than 80 MV | C |
| Thermopile and Magnet | 1 & 2 | Open | Greater Than 325 MV | B |

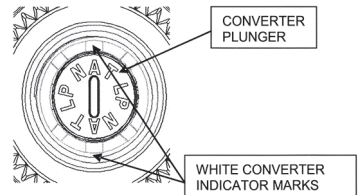


Pilot Burner Adjustment

1. Remove Pilot Adjustment Cap & Gasket
2. Adjust pilot key to provide properly sized flame.
3. Replace Pilot Adjustment Cap & Gasket. Leak test per item No. 13

To operate RB Dial (HI-LO Regulator)

1. Rotate dial clockwise towards HI setting for faster heating and counterclockwise towards LO setting for slower heating rate.
2. Recommended: Use HI heating rate for midwinter and LO heating rate for spring and fall.



To convert regulator from natural gas operation to L.P. Gas operation or L.P. Gas Operation to natural gas operation:

1. Turn off gas and electricity (if so equipped) before starting conversion.
2. This control has a gas converter feature. The control usually comes set in the natural gas position.
3. When changing system from natural to L.P. (or L>P> to natural gas), the pilot and burner orifices must also be changed. (See page 10 for orifice sizes)
4. Remove RB Dial Cap with appropriate screwdriver.
5. Insert a small screwdriver blade in Converter Plunger; depress plunger fully, and rotate it 90°(direction immaterial) to change to L.P. or natural gas operation as desired.
6. Replace cap and tighten.
7. Check outlet pressure with pressure gage at outlet pressure tap to determine if the gas valve is functioning within manufacturer's specifications.
8. After conversion has been completed, leak test per item no. 13.

| Technical Specifications | | |
|--------------------------|---|--|
| A | Ambient Temperature Operating Range | 0°F to 185°F |
| B | Mounting Position | MULTIPOISE |
| C | Rated Inlet Pressure | 1/2 psig |
| D | 1.0" P.D. Capacity | 71 CF/hr (3/8 x 3/8) 79 CF/hr (1/2 x 1/2) |
| E | Range of Regulation (3/8 x 3/8) (1/2 x 1/2) | 6,000 – 150,000 BTU / hr (Nat. Gas) 12,000 – 200,000 BTU / hr (LP Gas) 8,500 – 162,000 BTU / hr (Nat. Gas) 12,000 – 226,000 BTU / hr (LP Gas) |
| F | Outlet Pressure Range | 3.0" W.C to 5.0" W.C (suffix R) 8.0" W.C to 12.0" W.C (suffix R-LP) 0.5 to W.C to 6.0" W.C (suffix RB) 2.0" W.C to 12.0" W.C (suffix RB-LP) 2.0" W.C to 6.0" and 9.0" W.C to 12.0"W.C (suffix RC, RBC) |
| G | Vent Limiter | .0135" diameter |
| H | Automatic Valve: Pull-In Voltage Drop-Out Voltage Resistance | Millivolt operator 110V to 200mV 25 mV to 50 mV 1.6 – 1.7 Ohms |
| I | Safety Magnet Hold-in Current Drop-out Current Resistance | Manual rest Type 150 to 475 mA 70–140 mA (Other drop-out ranges are available) 18–22 mOhms. |
| J | Closing Time | ≤ 1 second |
| K | Ambient Temperature Range | 0° F to 185F |

Troubleshooting

Always call the service technician who installed your Sunrise heater for assistance.

Q. The heater doesn't stay lit.

- A. 1. Try relighting the unit after it has cooled down
 2. The pilot may need to be cleaned. Does it burn yellow?
 3. Thermocouple or theropile may need to be replaced
 4. 2010 or later units — check high limit switch and connectors. Is the chimney blocked?
 5. High limit switch may need to be replaced
 6. Check terminals for corrosion and re-tighten if necessary.
 7. High limit switch is located inside the diffuser box

Q. The burner burns high and yellow.

- A. Open door and use a stiff wire brush to clean sleeves and blow out all the portholes in the burner and air mixer. Adjust air intake. Call your service technician for assistance.

Q The thermostat doesn't light.

- A. See proper section on how to light the heater. Hydraulic thermostat, page 3. Millivolt, page 4

Q. Burner popping

- A. 1. Some popping is normal
 2. Adjust air mixer
 3. Tighten door

Q. Burner doesn't burn all around and or lifts of ports

- A. 1. Adjust air mixer
 2. Check venting system — are other appliances hooked to it?

Q. Burner has a roaring sound and emits bad odor.

- A. 1. Check millivolt valve to correct voltage (see page 5)
 2. Control may have a slow leak
 3. Burner may need to be cleaned

Q. Wall Mount thermostat doesn't hold temperature

- A. 1. Replace the batteries once a year
 2. Press the hold button on the lower left corner

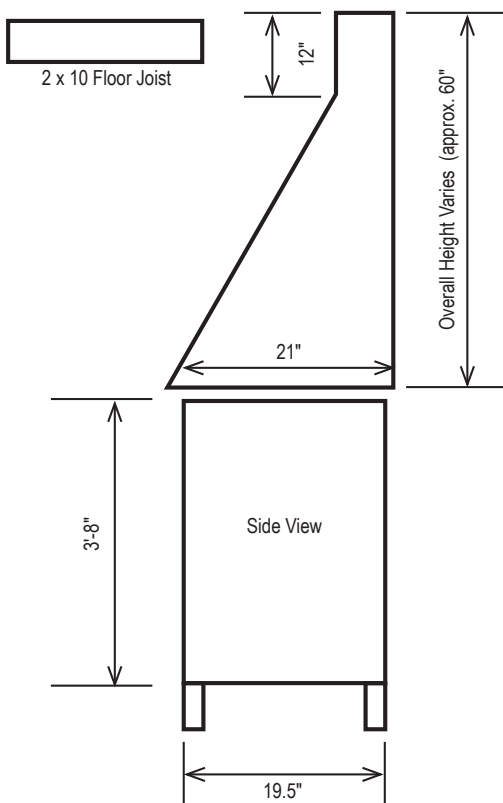
Notes:

1. We recommend having your Sunrise heater cleaned and serviced by a qualified service technician every fall before lighting your heater.
2. The wall mount Thermostat is compatible with any millivolt system.

Replacement parts are available through your local dealer.

Hood Recommendations for Basement Application

12" x 14" Main Register



Note: Remove top grill before measuring hood. Hood should be $\frac{3}{4}$ " higher than the heater. Hood should be $\frac{1}{2}$ "– $\frac{3}{4}$ " wider than heater on all four sides. See diagram

Basement applications

Heater needs fresh air to work properly

Hood needs to be installed properly so heater can breathe

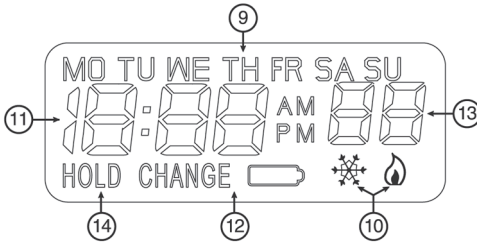
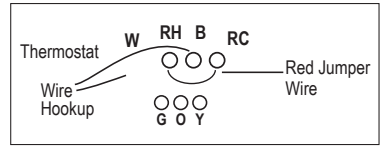


Figure 8. Thermostat display, buttons and switches



The Display

- ⑨ Indicates day of the week.
- ⑩ is displayed when the SYSTEM switch is in the HEAT position. is displayed (non-flashing) when the SYSTEM switch is in the COOL position. is displayed (flashing) when the compressor is in lockout mode.
- ⑪ Alternately displays current time and temperature.
- ⑫ **CHANGE** is displayed when the 2 “AAA” batteries are low and should be replaced. Nothing else will be displayed. Earlier models display “LO BATTERY”. Refer to 37-7006.
- ⑬ Displays currently programmed set temperature (this is blank when SYSTEM switch is in the OFF position).
- ⑭ “HOLD” is displayed when the thermostat is in the HOLD mode.

Operating Features

Now that you are familiar with the thermostat buttons and display, read the following information to learn about the many features of the thermostat.

- **SIMULTANEOUS HEATING/COOLING PROGRAM STORAGE** — When programming, you can enter both your heating and cooling programs at the same time. There is no need to reprogram the thermostat at the beginning of each season.
- **TEMPERATURE OVERRIDE** — Press or until the display shows the temperature you want. The thermostat will override current programming and keep the room temperature at the selected temperature until the next program period begins. Then the thermostat will automatically revert to the program.
- **HOLD TEMPERATURE** — **The thermostat can hold any temperature within its range for an indefinite period, without reverting to the programmed temperature. Press HOLD button. “HOLD” will be displayed. Then choose the desired temperature by pressing or . The thermostat will hold the room temperature at the selected setting until you press the RUN button to start program operation again.**
- **ENERGY MANAGEMENT RECOVERY** — Energy Management Recovery (EMR) causes the thermostat to start heating or cooling early to make the building temperature reach the program setpoint at the time you specify. Heating will start 5 minutes early for every 1° of temperature required to reach setpoint. Cooling will start approximately 15 minutes early for every 1° because it takes longer to reach temperature. Clipping W903 jumper will disable EMR.


Example: You select EMR and have your heating programmed to 65° at night and 70° at 7 AM. If the building temperature is 65°, the difference between 65° and 70° is 5°. Allowing 5 minutes per degree the thermostat setpoint will change to 70° at 6:35 AM.



Entering Your Program

Follow these steps to enter the heating and cooling programs you have selected.





Set Current Time and Day

1. Press TIME button once. The display will show the hour only.

EXAMPLE: 


2. Press and hold either  or  until you reach the correct hour and AM/PM designation (AM begins at midnight; PM begins at noon).
3. Press TIME once. The display window will show the minutes only.

EXAMPLE: 





4. Press and hold either  or  until you reach the correct minutes.
5. Press TIME once. The display will show the day of the week.
6. Press  or  until you reach the current day of the week.
7. Press RUN once. The display will show the correct time and room temperature alternately.

Enter Heating Program

1. Move the SYSTEM switch to **HEAT**.
2. Press PRGM once. "A" (indicating weekday program) will appear in the display. Also displayed are the currently programmed start time for the **1st heating period** and the currently programmed temperature (flashing).

EXAMPLE: 

This display window shows that for the 1st heating program period. The start time is 6:00 AM, and 70° is the programmed temperature (this example reflects factory pre-programming)

3. Press  or  to change the displayed temperature to your selected temperature for the 1st heating program period.
4. Press TIME once (the programmed time will flash). Press  or  until your selected time appears. The time will change in 15 minute increments. When your selected time is displayed, press TIME again to return to the change temperature mode.
5. Press PRGM once. The currently programmed start time and set point temperature for the **2nd heating** program period will appear.
6. Repeat steps 4 and 5 to select the start time and heating temperature for the second heating program period.
7. Repeat steps 4 through 6 for the 3rd and 4th heating program periods. Weekday heating programs are now complete.
8. Press PRGM once. "SA SU" (indicating weekend program) will appear in the display, along with the start time for the 1st heating period and the currently programmed temperature.
9. Repeat steps 4 through 8 to complete weekend heating programming.
10. When you have completed entering your heating program, press RUN.

Parts List

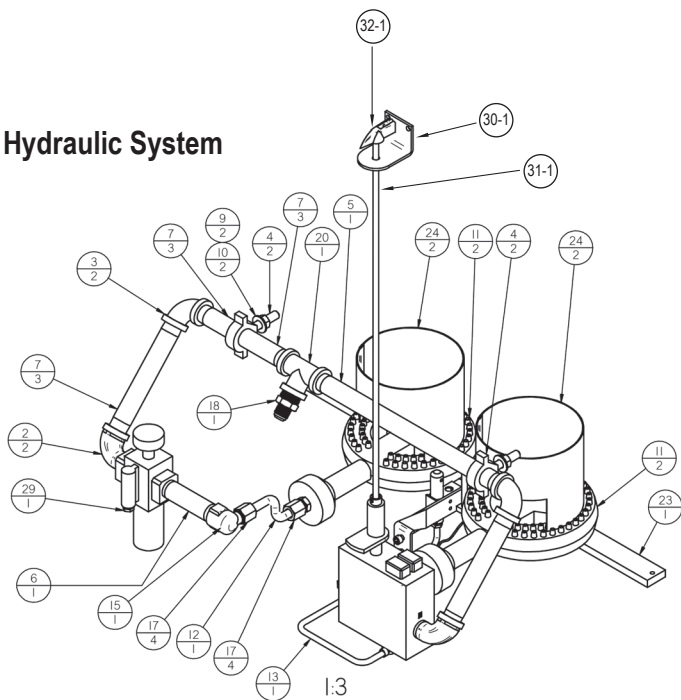
Use only replacement parts certified by Blu-Flame

All parts ordered must include model and serial number, LP-NG and part needed, so we can send the right parts. Call your local dealer and/or installer for the proper replacement parts.

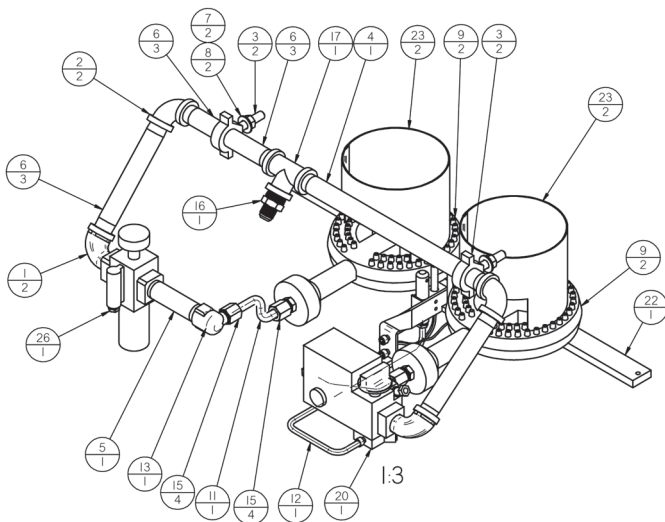
| Part Number | Part Description | 3020 | | | 2618 | | | 2016 | |
|-------------|------------------------------------|---------------|----|----|------|----|----|------|---|
| | | MM | MD | MH | MM | MD | MH | M | H |
| G01A-332 | Thermopile 32" | x | x | | x | x | | x | |
| 1970-024 | Thermocouple 24" | x | | x | x | | x | | x |
| 9A8A38A9A | Millivolt Gas Valve | x | x | | x | x | | x | |
| 764-742 | Manual Gas Valve | x | | x | x | | x | | |
| 1F78-151 | Wall Thermostat | x | x | | x | x | | x | |
| 3L11-350 | H Limit Switch | x | x | x | | | | | |
| 3L11-180 | H Limit Switch | | | | x | x | x | | |
| Bur-OR-25 | 1/4" Burner Orifice NG#43 LP#54 | | | | x | x | | | |
| BUR-OR-12 | 1/8" Burner Orifice NG#37 LP#51 | x | x | | | | | x | x |
| J999MDW | Pilot Single | | x | | | x | | x | x |
| J998-MDW | Pilot Double | x | | x | x | | x | | |
| PI-OR4212 | Pilot Orifice-LP | | | | | | | | |
| PI-OR 7211 | Pilot Orifice NG | | | | | | | | |
| O710-502 | Hydraulic Gas Valve LP | | | x | | | x | | x |
| O710-501 | Hydraulic Gas Valve NG | | | | x | x | x | | |
| IMBU 6 | 6" Burner Import | | | | | | | | |
| USBU 6 | 6" Burner US | x | x | x | | | | x | x |
| BU-Sleeve | Burner Sleeves | | | | x | x | x | | |
| PI-Tube | Pilot Tubing 22" | | | | | | | | |
| Flex-3 | 3/8-3-Flex Connector | x | x | x | x | x | x | x | x |
| Flex-8 | 3/8-8-Flex Connector | | x | | | x | | | |
| BUR-BR | Burner Bracket | Specify Model | | | | | | | |
| PIL-PI | Pilot Plug | x | | x | x | | x | | |
| PIL-BR | Pilot Bracket | | | | x | x | x | | |
| MA020676R | Piezo Ignitor | x | x | x | x | x | x | x | x |
| H06F-24 | Junction Block Thermocouple | | | x | | | x | | x |
| Con-KN | Control Knob | | | x | | | x | | x |

NG=Natural Gas
LP=Propane

Hydraulic System



Millivolt System



Blu Flame Heaters Limited Warranty

The unit must work properly. All burners and controls have a 1-year guarantee (after installation) in which we will replace or repair parts free-of-charge. Warranty work does not include labor; parts only. The heater owner is responsible for shipping costs.

The manufacturer is not responsible for malfunctioning components if unit was misused or abused.

The manufacturer and/or its sales personnel are not responsible for accidents caused by misuse or abuse. Strict adherence to the instructions in the manual is mandatory. NOT following instructions, as outlined in this booklet, or tampering with unit controls VOIDS ANY WARRANTY.

MAINTENANCE & SERVICE RECORD

DATE

SIGNATURE

___ / ___ / 20__

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Dealer Address

Blu Flame Heaters, LLC
1634 Valley Road • Christiana, PA 17509
(610) 593-0337

Ask about our full-service SUNRISE ROOM HEATER cleaning.