INSTALLATION MANUAL

Sun Dance

GAS FIREPLACE MODELS

Model I (740)  Model II (742)  Model III (760)

REV. 8/93
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAFETY REQUIREMENTS</td>
<td>3-4</td>
</tr>
<tr>
<td>POSITIONING THE UNIT</td>
<td>5</td>
</tr>
<tr>
<td>MINIMUM CLEARANCES</td>
<td>5-6</td>
</tr>
<tr>
<td>ROUGH-IN DIMENSIONS</td>
<td>6</td>
</tr>
<tr>
<td>FRONT FACE REMOVAL</td>
<td>7</td>
</tr>
<tr>
<td>GLASS REMOVAL</td>
<td>8</td>
</tr>
<tr>
<td>CHIMNEY INSTALLATION</td>
<td>9-10</td>
</tr>
<tr>
<td>FAN INSTALLATION</td>
<td>11</td>
</tr>
<tr>
<td>OUTSIDE AIR KIT INSTALLATION</td>
<td>12</td>
</tr>
<tr>
<td>MINIMUM / MAXIMUM GAS SUPPLY PRESSURE</td>
<td>12-13</td>
</tr>
<tr>
<td>REGULATOR BOARD INSTALLATION</td>
<td>14-15</td>
</tr>
<tr>
<td>BURNING EMBER/LOG INSTALLATION</td>
<td>15</td>
</tr>
<tr>
<td>WALL SWITCH - REMOTE CONTROL INSTALLATION</td>
<td>16-17</td>
</tr>
<tr>
<td>REPLACE GLASS, INSTALL TRIM</td>
<td>16-17</td>
</tr>
<tr>
<td>INSTALL GRILLS</td>
<td></td>
</tr>
<tr>
<td>LIGHTING &amp; SHUTDOWN</td>
<td>17-18</td>
</tr>
<tr>
<td>CLEANING &amp; MAINTENANCE REQUIREMENTS</td>
<td>18-19</td>
</tr>
<tr>
<td>TROUBLE SHOOTING</td>
<td>19-21</td>
</tr>
<tr>
<td>PARTS LIST</td>
<td>21</td>
</tr>
</tbody>
</table>
IMPORTANT:

READ THIS MANUAL BEFORE INSTALLING
AND USING THIS FIREPLACE

GAS FIREPLACE MODEL SUNDANCE I, II, & III
INSTALLATION INSTRUCTIONS

Installation and/or repair of this unit should only be done by a qualified installer.

This appliance has been tested to and complies with ANSI Z21.50b-1990, and CAN-2.22-M86.
Installation must conform with local building codes, or, in the absence of local building codes, with the

FOR YOUR SAFETY

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.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WARNING: 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.

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

WARNING: DO NOT REPLACE THIS BURNER UNIT WITH ANY OTHER SIZED
BURNER. REPLACEMENT WITH AN UNAUTHORIZED BURNER CAN RESULT
IN TEMPERATURES EXCEEDING THE LIMITS FOR THIS UNIT, AND VOID
YOUR WARRANTY.

IMPORTANT: DO NOT PLACE FACING MATERIAL OVER THE EXTERIOR FACE. THE FACE WILL
EXPAND WHEN HEATED AND WILL CAUSE CRACKING OF THESE MATERIALS. THIS FACE IS
DESIGNED TO REMAIN A REMOVABLE PART OF THIS UNIT. FAILURE TO FOLLOW THESE
INSTRUCTIONS WILL VOID YOUR WARRANTY.
A) POSITION THE UNIT, see Figure 1.

1. Determine the exact position of your fireplace. Determine the width and depth of the (optional) hearth.

2. The unit may be installed on either an exterior or interior wall. Figure 1 shows various installation options.

CAUTION: COLD AIR TRANSFER AREA. If your fireplace is installed on an outside wall, the surrounding wood chase must be insulated to prevent cold air from entering the room.

NOTE: Due to high temperatures, this unit should be located out of traffic areas and away from furniture and draperies.

FIG. 1

Page 3
3. Minimum clearance to combustibles, see also Figure 1:

From unit sides, back & top : 0"
To flooring: 0"
From flue vent: 1"
From heat outlet to mantel: 12"

NOTE: Even though the minimum clearance from the sides and top is 0", we recommend that you allow an expansion space of 1/4" from sides and top to prevent cracking of face materials due to expansion of the unit during heating. If expansion room is not left, the unit will make a loud "banging" noise when it heats up or cools down.

4. Rough in the wall enclosure. For minimum dimensions, see Figure 2. Build the hearth to the desired size, and height.
NOTE: When the unit is installed directly on carpeting, tile, or other combustible materials other than wood flooring, it must be installed on a metal or wood panel extending the full width and depth of the unit. The minimum for the support platform under the unit is 20" (508 mm) deep by 38" (965 mm) wide. If masonry is to be used (optional), prepare the necessary foundation for the masonry load. When masonry construction is being used, a lintel must be used over the top of the unit to support the added weight.

NOTE: A hearth is not required. If a hearth is desired, combustible materials may be used.

NOTE: Provide for a minimum of 6" (152 mm) or clearance in front of the lower grill. This will provide adequate space for opening to light the fire.

Do not obstruct the upper and lower grill areas to allow proper ventilation air around the unit. Air enters the unit at the lower grill, and exits at the upper grill. Do not block this passage.

B) REMOVE THE FRONT FACE. See Figure 3 (Models 740 & 742 only).

1) Place the unit into position.
2) Loosen, but do not remove, the two 1/4" bolts (A) with a 7/16" wrench.
3) Remove the two 1/4" nuts (B) and slide the face off.
NOTE: DO NOT PLACE FACING MATERIAL OVER THE EXTERIOR FACE. THE FACE WILL EXPAND WHEN HEATED AND WILL CAUSE CRACKING OF THESE MATERIALS. THIS FACE IS DESIGNED TO REMAIN A REMOVABLE PART OF THIS UNIT. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL VOID YOUR WARRANTY. SEE FIGURE 4.

FIG. 4

C) REMOVE THE GLASS FRONT. See Figure 5.

1) Loosen, but do not remove the bottom clip.
2) Loosen, and remove the two side clips, and the top clip.
3) Place both hands around the glass, and lift up and out.
4) Place the glass aside where it will not be broken.
NOTE: Do not remove the gasket material around the glass.
5) Remove the box of logs from the unit and set aside.
NOTE: The logs from the model 760 are packaged in the box on the sides of the unit.

FIG. 5
D) INSTALL THE CHIMNEY SYSTEM. See Figure 6.

WARNING: This gas appliance must not be connected to a chimney flue serving another type of appliance.

NOTE: A draft hood is included as part of this unit. No other draft hood should be used.

Class "B" - 4" flue vent is required for this unit. Follow the vent pipe manufacturers instruction or NFPA (ANSI Z223.1-1988) for proper installation. Also, see Figure 6 for minimum clearances to roof.

FIG. 6
E) INSTALL THE FAN KIT #604 or #605 (optional). See Figure 7.

INSTALLATION OF THIS KIT SHOULD BE DONE ONLY BY A QUALIFIED INSTALLER.

NOTE: If a fan is going to be installed, the wiring must be done prior to enclosing the sides of the unit.

Your option fan kit includes:

1. Fan assembly with 2-100 CFM fans already mounted
2. Speed Control
3. Component Package •
   • Package includes: Receptacle, 2" cover, fan limit switch assembly, 2-wing nuts.

NOTE: Code approved line voltage wiring 16 gauge or better must be used when wiring this system.

The fan may be run with or without the limit switch assembly. If the limit switch is desired, simply unplug the BLUE male/female disconnect (3) and plug the matching terminals of the limit switch together.

NOTE: Place the limit switch (magnet attached) on the bottom of the unit, approximately in the middle.

1. Place fan (1) over mounting studs (2).
2. Place wing nuts on mounting studs and tighten.
3. Mount the On/Off speed control on a wall.
4. Snap the receptacle into the cover.
5. Insert 115V wiring (with ground) through the romex connector installed in the electrical box installed in the side of the unit, and wire to the receptacle.
6. Place the cover on the box and secure with the screws.
7. For model 742 plug fan cords (6) together.
8. Plug cord (5) into fan receptacle.
9. Turn on/off speed control clockwise slightly until it clicks.

NOTE: The fan will not operate unless the speed control has been turned on. If the limit switch is used the fan will not turn on until sufficient heat is applied to the thermostatic control switch (4). The fan will turn on and off automatically when the fireplace heats and cools. Adjust fan to desired speed while it is running.

NOTE: This appliance, when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70-1990, or the Canadian Electrical Code, CSA C22.1.
SUNDANCE I & III

SUNDANCE II

FIG. 7
F) OUTSIDE AIR KIT INSTALLATION. See Figure 8.

1. Remove the cover from the 4" hole on the outside shroud of the unit.
2. Note the four tabs (1) on the air vent.
3. Place the air vent into the bottom grill opening, top end in first, with the pipe (2) pointing toward the left side. (towards the back on Sun Dance III’s).
4. Place the 4" pipe through the 4" hole of the outer shroud.
5. Swivel the air vent up until the square lines up the inlet hole in the unit.
6. Bend the four tabs into the unit until it is tightly secured.
7. Connect a 4" vent tube from connector (2) to the outside.
8. The push pull rod (3) opens the air intake for outside air when pulled, and inside air when pushed.

![Diagram of outside air kit installation]

G) RUN THE GAS LINE. See Figure 9.

CAUTION: Installation of the gas line must only be done by a qualified person in accordance with local building codes.

NOTE: The gas line should be run to the point of connection where the regulator board fittings will attach.

1. Run the gas line. An accessible shut off valve must be installed upstream from the regulator.

NOTE: Do not run the incoming gas line in a manner that would obstruct the operation or removal of the fan.
NOTE:

NATURAL GAS ONLY:
The minimum inlet gas supply pressure is 4.5 inches W.C. (1.12 kPa)
The maximum inlet gas supply pressure is 10.5 inches W.C. (2.61 kPa)

SUN DANCE I & III
Orifice size (0-1370 M): 36
Input 28,000 BTU's

SUN DANCE II
Orifice size (0-1370 M): 36
Input 34,000 BTU's

LP GAS ONLY:
The minimum inlet gas supply pressure is 10.0 inches W.C. (2.53 kPa)
The maximum inlet gas supply pressure is 13.0 inches W.C. (3.23 kPa)

SUN DANCE I & III
Orifice size (0-1370 M): 52
Input 28,000 BTU'S

SUN DANCE II
Orifice size (0-1370 M): 50
Input 34,000 BTU'S

NOTE: For high altitude installations consult the local gas distributor or the authority having jurisdiction for proper rating methods.

2. This unit is designed to accept either a 3/8" or 1/2" gas line approved for gas appliances. Consult local building codes to properly size the gas supply line leading to a 3/8" reduction. Also, see the chart below for proper supply line sizing.

3. A gas line knockout is positioned on either side of the unit for gas line connection.

4. Attach the proper fittings to the inlet of the regulator for easier installation.

5. Complete installation of the gas line.

Tubing size Maximum run
3/8" 10'
1/2" 70'
5/8" 100'
3/4" 125'

SOLUTION TO EXAMPLE:

(1) Maximum demand for outlet "A" 30 CFH
   " " " " " " " " " B" 25 CFH
   " " " " " " " " " C" 75 CFH
   " " " " " " " " " D" 136 CFH
Total Demand 266 CFH

(2) The length of pipe from the gas meter to the most remote outlet (outlet "A") is 60'.
   THIS IS THE ONLY DISTANCE USED.

(3) Using horizontal line marked 60'. Outlet "A" supplying 30 cubic feet an hour requires 1/2 inch pipe.
   Outlet "B" supplying 25 cubic feet an hour requires 1/2 inch pipe. Section 1 supplying outlets "A" and "B", 55 cubic feet an hour requires 1/2 inch pipe.

FIG. 9

H) REGULATOR BOARD INSTALLATION. See Figure 10.

NOTE: The unit is fitted with a gasket to seal the millivolt board. Make certain this gasket is properly placed around the opening before installing the regulator board.
1. Grasp the burner with both hands and place into the unit, lining up the six 1/4" holes.

**CAUTION:** Before securing the board into place make sure that all of the wires (attached under the board) are clear and unobstructed.

2. Attach the 1/4" nuts (included with the board assembly).

3. Connect the regulator board to the gas line.
H) BURNING EMBER/LOG INSTALLATION. See Figure 11.

1. Slide one edge of the tray directly under the front leg of the burner, and place the other edge against the inside front of the fireplace.

2. Lay the front log in place. Place close to the front burner, but not over the ports.

3. Place the back log into place.

4. Place the "burning embers" along and directly over the burner ports.

5. Sprinkle the vermiculite over the embers, and onto the tray. If vermiculite plugs the burner ports, use a sharp object to remove.

**NOTE:** The "burning embers" are made of rockwool insulation, gloves should be used when applying the embers. The smaller and thinner you make the embers, the better they will glow. The bags contain approximately three times more of the rockwool, and twice as much insulation than is necessary. Store for future use if burner removal becomes necessary.

6. Place the remaining logs into place as per Figure 11.

**NOTE:** The Sundance III model has five logs.

**NOTE:** This is the only method of log set up that should be used. Alternate methods may cause excessive "sooting" of the logs, and an irregular fire pattern.

![Diagram of Sundance I & III](image)

**FIG. 11**
I) WALL SWITCH - REMOTE INSTALLATION (optional). See Figure 12.

CAUTION: DO NOT connect high voltage wire to the switch.

1. If desired, a wall switch, or remote control unit may be used to turn the unit off and on.

NOTE: Installation of a wall switch should be only be done by a qualified installer.

2. Run low-voltage (thermostat) wire from the on/off switch, to the desired location of the wall switch. Do not run wire more than 30'.

NOTE: If using a remote control, a 9-volt battery is required in the receiver as well as the sender. No high voltage is required.
J) COMPLETE THE INSTALLATION

1. Complete the fireplace walls, and the unit facing.

CAUTION: The surrounding wood chase of the outside wall MUST be insulated to prevent cold air from entering the room.

2. Replace the glass. Refer also to Figure 5.
   a) Place the glass on the lower clip.
   b) Replace the top clip. Do not screw the clip down tight at this time.
   c) Replace the two side clips. Do not screw the clips down tightly at this time.
   d) Make certain the glass is in a level position.
   e) Tighten all clip screws.

3. Replace the face.
   a) Slide the face onto the unit and replace the 2-1/4" nuts.
   b) Adjust to level.
   c) Tighten the bolts with a 7/16" wrench.

4. Install the grills.

Upper grill
   a) Line the rods of the grill up with the upper holes.
   b) Place the rods in the holes and push up until the bottoms of the rods clear the face.
   c) Place the bottom of the rod into the lower hole and release. The grill will set down into place.

Lower grill - See Figure 13
   a) The lower grill is attached to the hinges (A) located at the bottom of your unit.
   b) Remove the 1/4" nuts (B) from the lower grill assembly.

NOTE: Do not remove the 1/4" spacer (C).
   c) Slip the bolt through the hinge (A).
   d) Re-attach the 1/4" nuts (B).
   e) Repeat "a" through "d" for the remaining hinge.

The grill is now in place. The grill may be lowered for lighting purposes, etc.
5) **Install the decorative glass trim.**

   a) The trim has already been assembled with magnetic strips. Simply place the trim over the outer perimeter of the glass.

**K) LIGHTING AND SHUTDOWN.** See Figure 14.

**NOTE:** Prior to lighting, check all fittings for leakage. This is accomplished by applying soapy water on all connections made. If there is any leakage bubbles will appear at the point of connection. If bubbles occur, tighten the fittings until the bubbles no longer appear. All connections made at the factory have been previously tested.

**NOTE:** The appliance must be isolated from the gas supply piping system by closing its individual manual shut off valve during any pressure testing of the gas line at test pressures equal to or less than 1/2 psig (3.5 kPa).

An 1/8 inch N.P.T. plugged tap is located on the right side of the regulator, (see Figure 12) immediately upstream of the gas supply connection to the appliance. This is used for test gauge connection.

**NOTE:** Read 1-7 before lighting the unit for the first time.

1. Open the lower grill by grasping the center of the top louver, and pull out and down.
2. Turn off all electric power to the appliance.
3. Push in control knob slightly and turn clockwise to "OFF"  
   ![Gas control knob shown in "on" position]

**NOTE:** Knob cannot be turned from "PILOT" to "Off" unless knob is pushed in slightly. Do not force.

4. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow the safety information on page 2 of this installation manual. If you don't smell gas, go to the next step.

5. Find the pilot - follow metal tube from gas control. The pilot is behind the burner tube.
6. Turn knob on gas control counterclockwise to "PILOT".
7. Push in control knob all the way and hold in. Press the RED igniter button. The pilot will generally light with two or three pushes on the igniter. Hold for about one (1) minute after the pilot is lit. Release knob and it will pop back up. Pilot should remain lit. If it goes out, repeat steps 3 through 7.
   - If knob does not pop up when released, stop and immediately call your service technician or gas supplier.
   - If the pilot will not stay lit after several tries, turn the gas control knob to "OFF" and call your service technician or gas supplier.

8. Turn gas control knob counterclockwise to "ON".
9. Flip the on/off switch (B) to the "on" position, the red is exposed.

**NOTE:** When the unit is initially lit, condensation will appear on the glass, this is normal in all gas fireplaces, and will disappear in one to three minutes.
10. If you wish to turn the burner off, flip the on/off switch. If a wall switch has been installed, simply turn it off.

NOTE: The pilot will stay lit.

11. To turn off the pilot, push in and turn the valve to the off position.

**FIG. 14**

NOTE: A paint smell will occur during the first few hours of burning, it is recommended to leave the fan off during this period as this will speed up the paint curing process.

NOTE: Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition. Young children should be carefully supervised when they are in the same room as the appliance.

Clothing or other flammable material should not be placed on or near the appliance.

L) MAINTENANCE REQUIREMENTS

1. The appliance should be inspected at least once a year by a professional service person.

NOTE: INSTALLATION AND REPAIR SHOULD BE DONE ONLY 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 ETC. IT IS IMPERATIVE THAT CONTROL COMPARTMENTS, BURNERS AND CIRCULATION AIR PASSAGEWAYS OF THE APPLIANCE BE KEPT CLEAN.

2. The compartment below the firebox (behind the lower grill) must be cleaned at least once a year, more frequent cleaning may be required due to excessive lint from carpeting, or other fibrous materials. It is imperative that the burner be cleaned once a year.
3. The fan should be disconnected from electrical current, removed, and cleaned every six months. The bearings are sealed and require no oiling.

4. Yearly examination of the venting system by a qualified agency is required. First, remove the glass on the front of the unit. The burner should be covered or removed.

5. Annual cleaning of the burner is required. The burner may be removed for easier access. See Figure 10.

6. Visually check the pilot light and burner when they are burning. See Figure 15. The flames should be steady, not lifting or floating.

7. Clean glass only when cool and only with non-abrasive cleansers.

CAUTION: Do not operate this appliance without the glass enclosure in place. Replace glass only with tempered pyrex (5mm). DO NOT OPERATE THIS APPLIANCE WITH BROKEN GLASS.

CAUTION: Keep the appliance area clear of combustible materials, such as gasoline and other flammable vapors and liquids.

M) TROUBLESHOOTING GUIDE

NOTE: The regulator board includes the following items: Regulator, generator, pilot, piezo, electrode, rocker switch, burner, orifice and orifice holder. If any of these items are defective, replacement of the entire board is easier and would not void the warranty. Please contact your dealer if this becomes necessary.

WARNING: DO NOT ATTEMPT TO SERVICE THIS UNIT IF YOU ARE NOT A QUALIFIED INSTALLER OR REPAIRMAN.

1. If the unit fails to ignite a qualified service person should check the unit installation.

2. It is imperative that the control compartment, burner and circulation air passageways of the unit be kept clean. This is necessary to provide adequate combustion and ventilation air.

3. All of the working parts of this unit can be removed at one time. Before removing regulator board, check for loose wires.
PROBLEM

Pilot won't light

"Not at all sensitive"

Pilot won't stay lit

"Are you sure it's on?"

CAUSE

Gas shut off
Gas line not bled out
Not holding regulator valve in long enough
Not holding pilot button in long enough
Generator wires loose at regulator terminals
Generator wire grounded out due to pinching of wires

SOLUTION

Turn Gas On
Hold valve knob in long enough to bleed out line
Hold in longer
Hold button in longer to heat generator
Reposition wire and tighten screws. See Figure 16 for wiring instructions.
Wing nut on regulator board may need loosening to remove pinched wire.

FIG. 16

WARNING! DO NOT CONNECT HIGH VOLTAGE TO THIS SYSTEM

No spark when piezo button is depressed

The nut which holds the piezo in place is loose
Wire on back of piezo button is loose or off
Wire from piezo to electrode is loose at electrode
Electrode moved out of position

Tighten nut.
Put wire back into place.
Reconnect wire.
Realign electrode with 1/8" space between it and pilot.
**PROBLEM**
Bumer won't light

**CAUSE**
Pilot not lit
Regulator valve not turned on
Rocker switch not turned
Rocker switch wire not connected

**SOLUTION**
Relight pilot
Turn valve to "on"
Press bottom of switch exposing the "Red" or "on" indicator.
Check wiring diagram Figure 14 and ensure that all wires are secure

Replacement parts are available through your local Sun Dance dealer or may be purchased from Hussong Mfg Co Inc., PO Box 577, Lakefield, MN 56150, upon request.

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