**AFOSL443-2 Fossil Fuel Kit**

The fossil fuel kit is intended to be used with the heat pump when there is a fossil fuel furnace (gas, oil) used for auxiliary heat.

The Fossil Fuel Kit can be used with a compatible indoor thermostat (2-stage type) or with the outdoor thermostat ASAAT444-1. Upon heat demand, the first stage of the indoor thermostat closes and energizes the heat pump operation. The heat pump will continue to operate until the first stage heat demand is satisfied. If the heat demand is not satisfied, the second stage of the indoor thermostat closes. The heat pump will be de-energized and the fossil fuel furnace energized. The fossil fuel furnace will continue to operate until the demand of the thermostat first stage set point is satisfied. Upon the next call for heat, the heat pump operation will resume as outlined above.

**AFOSL443-2 Fossil Fuel Kit and ASTAT444-1 Outdoor Thermostat**

The outdoor thermostat is used with the fossil fuel kit and is intended to be used with the heat pump when there is a fossil fuel furnace (gas, oil) used for auxiliary heat.

When the outdoor temperature is above the setpoint of the outdoor thermostat the system operates as described for the fossil fuel kit. When the outdoor temperature is below the setpoint of the outdoor thermostat, the outdoor thermostat turns the heat pump off and heat is supplied by the fossil fuel furnace as controlled by the primary thermostat. This system can be balanced for most efficient operation relative to local fuel cost.

**ASAAT444-1 Outdoor Thermostat-Low Ambient Control**

The outdoor thermostat-low ambient control can be used with an electric furnace or when combined with the fossil fuel kit it can be used with a fossil fuel furnace.

The outdoor thermostat can be set to deactivate the heat pump at a user selected set point and satisfy the call for heat only with electric heat at outdoor ambient temperatures below this selected set point. When combined with a fossil fuel kit, the outdoor thermostat can be used to stage heat demand when a fossil fuel furnace is used.

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**INSTALLATION INSTRUCTIONS**

**Inspect Shipment**

If any damage to the contents is found at the time of delivery, proper notation should be made on the carrier’s freight bill. Damage claims should be filed with the carrier at once. Claims of shortage should be filed with the manufacturer within 5 days.

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**Install Fossil Fuel Kit AFOSL443-2**

**NOTE:** For proper operation, do not mount this kit on the fossil fuel furnace.

1. Choose a location that will permit mounting the fossil fuel kit on a wall or panel near the fossil fuel furnace.
2. Using the fossil fuel kit as a template, mark the location of the mounting holes.
3. Install screws (provided) to within \( \frac{1}{8} \) in. of fully engaged.
4. Using the keyhole slots in the fossil fuel kit, mount the fossil fuel kit onto the screws.
5. Tighten the screws.

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**Install Outdoor Thermostat-Low Ambient Control Kit ASTAAT444-1**

**WARNING**

Electrical Shock Hazard

Disconnect all power supplies before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Disconnect all power to the heat pump.
2. Remove the heat pump control cover.
3. Place the outdoor thermostat on the bottom of the heat pump control box.
4. Using the outdoor thermostat as a template, mark and drill two \( \frac{1}{8} \) in. holes in the bottom of the heat pump control box.

**Bottom of Control Box**

5. Using the 2 sheet metal screws (provided), fasten the outdoor thermostat to the holes made in the control box above.
All field wiring must be done in accordance with the National Electrical Code ANSI/NFPA No. 70 (latest edition), or with local codes, where they prevail.

Oil furnaces with one transformer for heating and cooling (a Protectorelay with 5 thermostat terminals) should be wired as the gas/oil furnace shown on the "Connection Diagram - Fossil Fuel Accessory Kit".

1. Choose the appropriate wire diagram for the application being installed

2. Install wiring between the indoor locations and the heat pump. Use the appropriate number of wires for the application being installed.

3. Make electrical connections at the heat pump if the outdoor thermostat is used.

4. Remove the cover from the Fossil Fuel Kit box, if used.

5. Make electrical connections at the fossil fuel kit terminals based on application chosen.

6. Replace fossil fuel kit cover

7. Replace heat pump control cover

8. Reconnect power.

**Outlook Thermostat as a Low Ambient Control only**

**Fossil Fuel Kit with outdoor Thermostat used as a Low Ambient Control**

**Fossil Fuel Kit with Outdoor Thermostat as a Control to Stage Gas/Oil Heat**
ADJUSTING OUTDOOR THERMOSTAT
BALANCE FOR MOST COST EFFECTIVE
OPERATION

1. Disconnect power to heat pump.
2. Remove heat pump control cover.
3. Adjust outdoor thermostat dial to desired temperature setting.
4. Replace heat pump control cover.
5. Reconnect power to heat pump.

**Sequence of Operation**
(without outdoor thermostat)

**Indoor Thermostat Satisfied**

1. Thermostat calls for heat, first stage heating.
2. Fossil fuel furnace blower and heat pump operation start.
3. Heat pump continues to operate until thermostat is satisfied.

**Indoor Thermostat Not Satisfied**

1. Thermostat calls for heat, first stage heating.
2. Fossil fuel furnace blower and heat pump operation start.
3. Heat pump continues to operate—cannot satisfy thermostat—temperature in living space continues to drop 2° – 3°F below setting.
4. Second stage heating contacts on the thermostat close.
5. Coil on relay energizes, closes fossil fuel furnace heat contacts, and opens heat pump contacts.
6. Fossil fuel furnace turns on, continues to operate until first stage of thermostat is satisfied.

**Sequence of Operation**
(with outdoor thermostat)

**Outdoor Temperature Above Outdoor Thermostat Set Point**

1. Indoor thermostat calls for heat, first stage heating.
2. Heat pump continues to operate until indoor thermostat is satisfied.

**Outdoor Temperature Below Outdoor Thermostat Set Point**

1. Indoor thermostat calls for heat, first stage heating.
2. Alternate heat starts.
   - Electric Strip heat if no Fossil Fuel Kit Installed
   - Fossil Fuel Furnace if Fossil Fuel Kit installed

**WARNING**

Electrical Shock Hazard
Disconnect all power supplies before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Disconnect power to heat pump.
2. Remove heat pump control cover.
3. Adjust outdoor thermostat dial to desired temperature setting.
4. Replace heat pump control cover.
5. Reconnect power to heat pump.
FOSSIL FUEL KIT/OUTDOOR THERMOSTAT-LOW AMBIENT CONTROL ACCESSORY INSTALLATION INSTRUCTIONS

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FOSSIL FUEL KIT/OUTDOOR THERMOSTAT-LOW AMBIENT CONTROL ACCESSORY SAFETY

Your safety and the safety of others are very important.
We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

! This is the safety alert symbol.
This symbol alerts you to potential hazards that can kill or hurt you and others.
All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

⚠️ DANGER
   You can be killed or seriously injured if you don’t immediately follow instructions.

⚠️ WARNING
   You can be killed or seriously injured if you don’t follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

INSTALLATION REQUIREMENTS

The Fossil Fuel Kit/Outdoor Thermostat-Low Ambient Control kit is recommended for use with heat pumps in combination with a fossil fuel furnace. A Fossil Fuel Kit/Outdoor Thermostat-Low Ambient Control kit can be used to switch from heat pump to fossil fuel furnace operation. The Fossil Fuel Kit/Outdoor Thermostat-Low Ambient Control can be used to control the switching point at which the heat pump operation will be switched to fossil fuel furnace operation.

Tools and Parts

Check that you have everything necessary for correct installation. Proper installation is your responsibility.

Tools Needed:
- Electric drill
- ¼ in. Drill bit

Parts Supplied:
- #8 x 3/8" sheet metal screws(2)