

# **AAON, Inc.**

## **HEATING COOLING AND COMBINATION ROOFTOP UNITS**

### **USER'S INFORMATION MANUAL**

#### **FOR YOUR SAFETY**

*DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.*

#### **WARNING**

*IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.*

#### **FOR YOUR SAFETY**

##### **WHAT TO DO IF YOU SMELL GAS**

- *EXTINGUISH ANY OPEN FLAME.*
- *DO NOT TOUCH ANY ELECTRICAL SWITCH.*
- *DO NOT TRY TO LIGHT ANY APPLIANCE.*
- *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.*



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Owner should pay particular attention to the words: **NOTE, CAUTION AND WARNING**. **Notes** are intended to clarify or make the installation easier. **Cautions** are given to prevent equipment damage. **Warnings** are given to alert owner that personal injury and/or equipment damage may result if installation procedure is not handled properly.

# **OWNER'S INFORMATION**

## **WARNING**

Failure to observe the following instructions will result in premature failure of your system, and possible voiding of the warranty.

1. Never cut off the main power supply to the unit, except for complete shutdown. When power is cut off from the unit, the compressor crankcase heaters cannot prevent refrigerant migration. This means the compressor will cool down, and **liquid refrigerant** will accumulate in the compressor. Since the compressor is designed to pump refrigerant **gas**, it will damage its valves when power is turned on again.

If power must be cut off from more than an hour, turn the thermostat system switch to "off", and leave it off until the main power switch has been turned on again for at least two hours. This will give the crankcase heater time to clear any liquid accumulation out of the compressor before it is required to run.

Always control the system from the thermostat, or control panel, never at the main power supply (except for an emergency or for complete shutdown of the system).

2. Your system is designed to cool or heat a given amount of air each minute it operates. If this amount of air is greatly reduced (approx. 1/3 during the heating season), the heat exchanger will overheat, and may cut the burner off entirely by action of the safety high temperature limit device which is incorporated in the exchanger.

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the furnace before shutting off the electrical supply.

### **Prolonged overheating of the exchanger will shorten its life.**

During the cooling season, if the air flow is reduced, the cooling coils will get too cold, resulting in freeze-up, and will cause excessive liquid to return to the compressor. As the liquid concentration builds up, oil is washed out of the compressor, leaving it starved for lubrication.

### **The compressor life will be seriously shortened by this reduced lubrication, and the pumping of excessive amounts of liquid oil and refrigerant.**

3. **Keep filters, coils and blower clean!**
4. Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to installation instructions provided with the furnace and this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier, (gas units only).

## **General Lubricating Instructions:**

All original motors and blower, bearings require no lubrication.

## **CAUTION**

While the following incorrect operations may not cause damage to the system, they will impair the performance, and may cause the built-in safety devices to cut the system off completely.

1. **LOW AMBIENT OPERATION**

The cooling section of the unit will not operate properly when the outdoor temperature is below 20 degrees, outside air intake options are recommended if operation below 60 degrees is expected.

2. **MULTIPLE UNIT OPERATION**

When several units are used in conditioning a space, and part or all of them are combination heating-cooling units, all systems thermostat switches must be set at either heating or cooling (or set at "off"). Do not leave part of the systems switched to cooling. All cooling only units should be switched to "off" at the thermostat during the heating season.

# NORMAL OPERATION

## HEATING

Set the thermostat system switch to "heat".  
Set the thermostat fan switch to "auto" or "on".  
Set the thermostat temperature at the desired point.

## COOLING

Set the thermostat system switch to "cool".  
Set the thermostat fan switch to "auto" or "on".  
Set the thermostat temperature at the desired point.

## AIR CIRCULATION

Set the thermostat system switch to "off".  
Set the thermostat fan system switch to "on".  
Do not change temperature setting.  
With these settings, the air circulating blower will run continuously but the air will not be heated or cooled.

## SYSTEM OFF

Set the thermostat system switch to "off".  
Set the thermostat fan switch to "auto".  
Do not change temperature setting.  
With these settings, the system is shut down, with the exception of the control power (24 volts), and the crankcase heater of the compressor (about 60 watts). **DO NOT TURN OFF THE MAIN POWER SWITCH.**

## RECOMMENDED NIGHT AND VACANT WEEKEND OPERATION

If it is desired to reduce the operating time during the night, and during periods when the space is unused, it is recommended that the temperature setting be raised about five degrees during these periods of the cooling season, and lowered about 10 degrees during the heating season. This prevents the accumulation of dampness in the space (reduces the relative humidity), during both the heating and cooling season. It also provides a faster return to daytime setting.

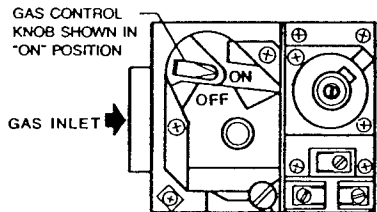
## LIGHTING INSTRUCTIONS FOR YOUR SAFETY READ BEFORE OPERATING

**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 is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance.
  - Do not touch any electric switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. 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.

### OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the pilot. Do not try to light the pilot by hand.

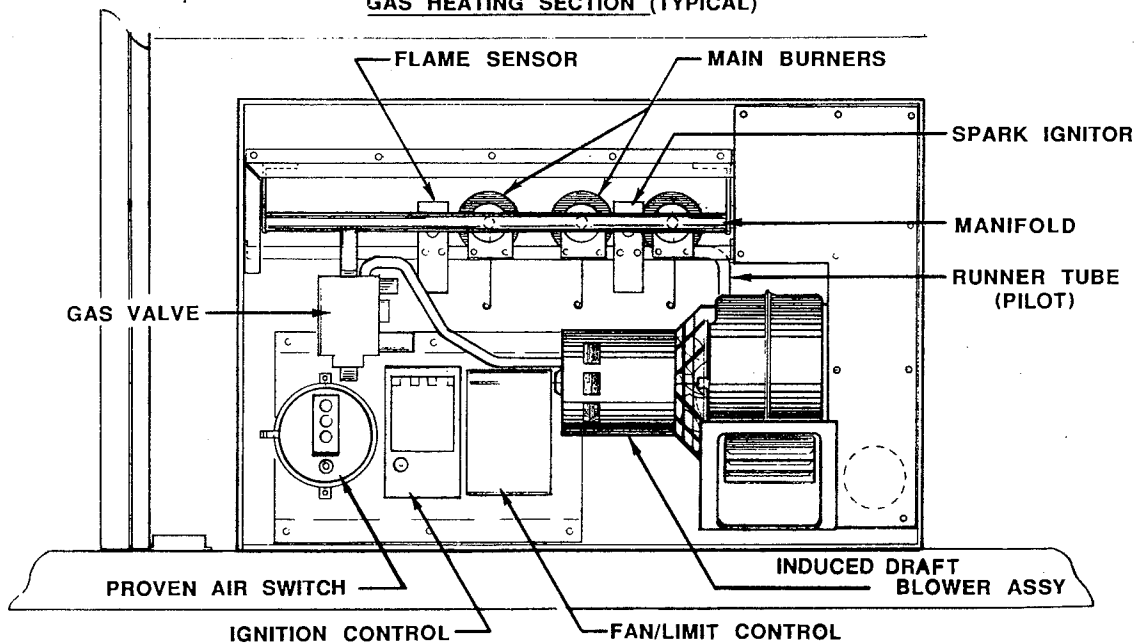


5. Remove control access panel.
  6. Push in gas control knob slightly and turn clockwise to "OFF".
- NOTE: Knob cannot be turned to "OFF" unless knob is pushed in slightly. Do not force.
7. WAIT five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
  8. Turn gas control knob counterclockwise to "ON".
  9. Replace control access panel.
  10. Turn on all electric power to the appliance.
  11. Set thermostat to desired setting.
  12. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.

### TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove control access panel.
4. Push in gas control knob slightly and turn clockwise to "OFF". Do not force.
5. Replace control access panel.

#### GAS HEATING SECTION (TYPICAL)

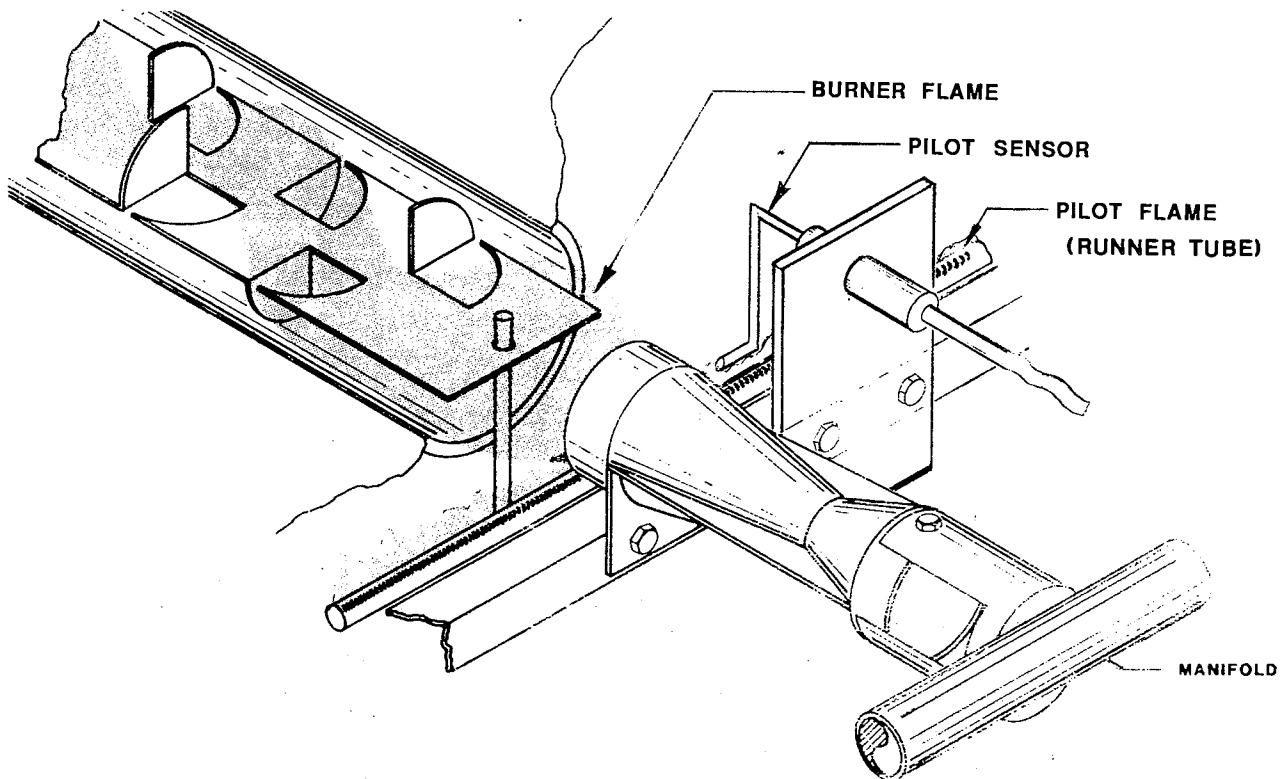


## PERIODIC INSPECTION PROCEDURES

1. The flow of combustion and ventilating air shall not be blocked or otherwise obstructed in any way. This shall include blockage due to accumulation of debris or snow. Indoor blower, evaporator coil and filters should be inspected monthly, (See Item A of Service Section of installation instructions provided with this furnace and this manual.)
2. Once each year, before the unit is turned on for the heating season, a qualified serviceman must inspect all flue product carrying areas of the furnace, its vent system, main and pilot burners for continued safe operation, with particular attention given to corrosion of the vent system.

**WARNING:** At least once each year, a qualified serviceman should check out all of the items listed under the servicing and trouble shooting and maintenance section of this manual.

3. At least every 90 days during the heating season, observe the burner runner tube and pilot flame by removal of heat exchanger access panel. (See sketch below for proper burner and pilot flame.) The pilot flame should encompass the pilot sensor as shown. Poor flame characteristics may indicate a need to clean the heat exchanger.
4. **SEE INSTALLATION INSTRUCTIONS PAGE 10 SECTION 6.**



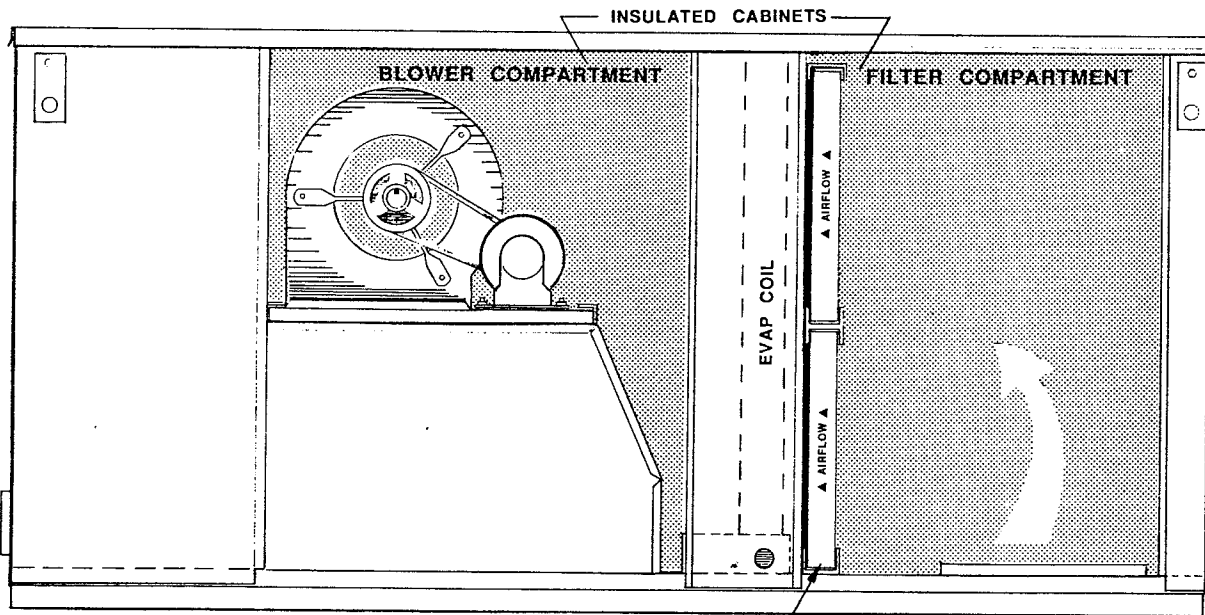
# FILTERS

## FILTER INSTALLATION / REPLACEMENT:

Open filter access door. Slide filters towards you and inspect. Replace old filters with size indicated on filters or as shown in filter chart below. Be sure arrow points towards the blower. See illustration below. (Filters should be checked every 30 days and replaced or cleaned as necessary.)

**NOTE:**

*IT IS IMPORTANT TO KEEP COILS, BLOWER, AND FILTERS CLEAN!*



\*SEE FILTER CHART FOR SIZE AND QUANTITY

## FILTERS

FILTER SIZE (TYPE)	- UNIT SIZE -						
	2-3-4-5	6-7	8-10	13-15	16-20-24	26-32-40	50-56-63
16" x 20" THROWAWAY - (QTY)	4		6				
16" x 20" PLEATED - (QTY)		4		6			
16" x 25" PLEATED - (QTY)					2		
20" x 25" PLEATED - (QTY)					4	10	12
20" x 32" REPLACEABLE MEDIA	2	2					
24" x 40" REPLACEABLE MEDIA			2				
17" x 47" REPLACEABLE MEDIA				3			

\* FILTERS SHOULD BE REPLACED EVERY 30 DAYS OR AS REQUIRED.



## **COIL INFORMATION**

**Coils**, both the outside (condenser) and the inside (evaporator) **must be kept clean** to reduce electrical use, maintain capacity and reduce stress on the unit. Shut unit "off" on the thermostat, shut off the power to the unit and clean the coils. The condenser coil can be brushed on the outside by a broom, if dirt is into the fins a serviceman who specializes in coil cleaning should be hired. The condenser coil can be thoroughly cleaned by removing the square sheet metal on the condenser end and washing from the inside out with water and a coil cleaner **DO NOT BEND OR DAMAGE FINS**. The inside (evaporator) coil can be inspected by removing the filters and observing the cleanliness of the coil from the filter side. If dirty, have an experienced serviceman clean by washing from the blower side toward the filter side. Turn on the unit power, if it has been shut off for over an hour, wait two hours before turning the thermostat on.

## **BLOWER INFORMATION**

**Clean blower wheels** are necessary to reduce electrical use, maintain capacity and reduce stress on the unit. To inspect and clean turn the thermostat and the power to the "off" position. Remove the screws on the end of the blower deck near the door and slide out the blower assembly. The wire to the motor is long enough to remove the blower assembly from the cabinet if support of about equal height is provided outside of the unit to set the blower assembly on. Clean the assembly, check the bearings for looseness, inspect the belt condition and tightness, check screws for tightness, rotate blower wheel while listening close to each bearing and with a finger on the bearing to check for noise or roughness in the bearing, which indicates a failing bearing. Replace blower deck, turn on the unit power, if the unit has been off over one hour do not turn the thermostat on for two more hours after turning on disconnect.

# **AAON ROOFTOP UNITS**



# **USER'S INFORMATION MANUAL**

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