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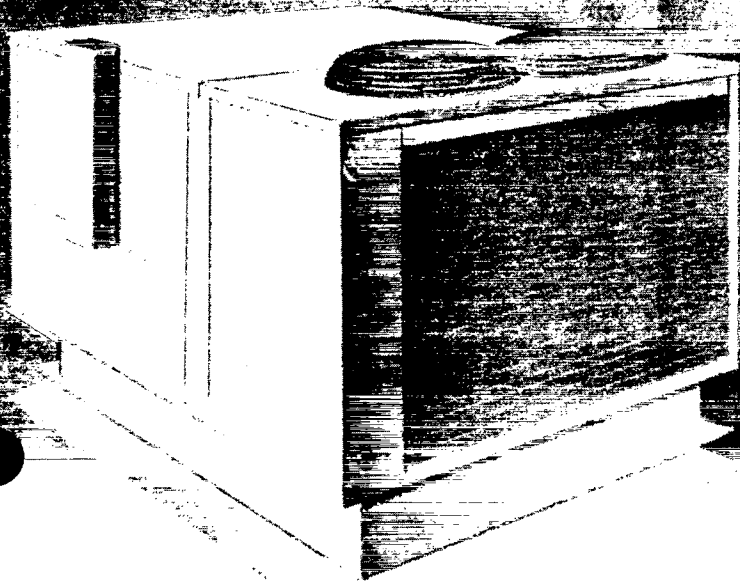
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Commercial Outdoor Combination Gas Heating/ Electric Cooling Units

OWNER'S MANUAL



FOR YOUR SAFETY

If you smell gas:

1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

FOR YOUR SAFETY

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

OPERATION MAINTENANCE SERVICE

Congratulations on your wise investment in a modern, quality, Model 579C Combination Gas Heating/Electric Cooling Unit. Your heating/cooling unit has been designed and developed to provide safe, reliable, and economic operation when properly installed and maintained.

Your year-round air conditioner is a major investment; therefore, you will expect it to perform at its best. By reading this manual, you can learn how to operate it, do recommended routine maintenance, and what to do if a problem should arise. Your new unit should perform at the efficiency level built into it if you will contribute a little of your time and attention.

NOTE TO INSTALLER: This manual should be left with equipment owner.

Special Instructions to Equipment Owner

NOTE: Retain this manual for future reference.

Your heating/cooling unit must have a supply of fresh outdoor air circulating around it during both heating and cooling operation. When the gas heating section is operating, the unit needs fresh air for proper gas combustion and proper ventilation. When the cooling section is operating, the unit needs fresh air for proper airflow through the outdoor (condenser) coil.

WARNING: Improper installation, adjustment, alteration, service, maintenance, or use can cause carbon monoxide poisoning, explosion, fire, electric shock, or other occurrences which may injure you or damage your property. Consult a qualified installer, service agency, or the gas supplier for information or assistance.

WARNING: To minimize the possibility of serious personal injury, fire, damage to your heating/cooling unit, or improper unit operation, never violate the following safety rules:

1. Always keep the area around your unit free of combustible materials, gasoline, and other flammable liquids and vapors.
2. Never cover your unit, lean anything against it, store trash or debris near it, stand on it, or in any way block the flow of fresh outdoor air to your unit.
3. Never plant trees, shrubbery, or flowers near your unit; and be sure to prevent weeds and/or other vegetation from growing up around your unit. (See recommended operational and service clearances in the unit Installation Instructions.)

Your Comfort System

Your efficient new gas/electric unit not only represents the very latest in modern engineering development and design — it is a result of over 70 years of experience in gas-fired heating systems.

For your convenience, you or your installer should, or should have, recorded (printed) the following information that is applicable to your system:

Heating/Cooling Unit Identification

MODEL NO. _____

PRODUCT NO. _____

SERIAL NO. _____

DATE INSTALLED _____

Dealer

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____

PHONE _____

Operating Your Heating/Cooling Unit

The key to operating your comfort system is the *conditioned space thermostat*. A wide variety of thermostats is used, but all have one main function — to automatically maintain the temperature in your building at a level required for your personal comfort, or for a particular application e.g. computer rooms. The thermostat maintains the indoor temperature by controlling the operation of the unit. During the heating season, whenever the temperature around your thermostat drops below the thermostat temperature setting, the thermostat automatically starts the heating section. During the cooling season, whenever the temperature around your thermostat rises above the thermostat temperature setting, the thermostat automatically starts the cooling section.

Your conditioned space thermostat has a temperature control selector for selecting the desired indoor temperature. It also has a FAN switch with two selections available: AUTO or ON. When set to AUTO, the blower will operate only when the thermostat starts the unit. When set to ON, the

blower will run continuously, regardless of whether the heating or cooling section is operating.

The SYSTEM switch on your thermostat has the following selections: HEAT, OFF, and COOL. Some thermostats may also have a fourth selection — AUTO. The unit will remain off regardless of the conditioned space temperature when the SYSTEM switch is set to the OFF position. When set to the HEAT position, the heating section will operate as required. With the SYSTEM switch set to the COOL position, the cooling section will operate as required.

The SYSTEM switch AUTO selection on some thermostats provides for automatic changeover between heating and cooling operation. With the switch set in AUTO position, the heating section will operate when the conditioned space temperature drops below the thermostat heating temperature setting, or the cooling section will operate when the conditioned space temperature rises above the thermostat cooling temperature setting.

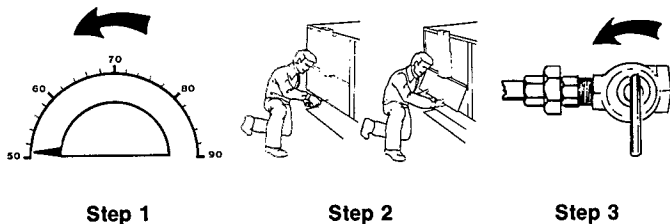
Gas Heating Section Startup and Shutdown

The gas heating section of your combination heating/cooling unit is equipped with automatic intermittent ignition devices that do not have continuously burning pilot flames. The pilots are automatically lit by electric sparking devices each time your conditioned space thermostat "calls for heat." See Figure 3.

- WARNING:** 1. Never attempt to manually light the pilots on this unit with a match or any other open flame. If the electric sparking devices fail to light the pilots, refer to the following shutdown procedures, and call your dealer for service.
2. Follow the instructions on the unit rating plate when starting the heating section. See Figure 1.
3. If a suspected malfunction occurs, refer to the following shutdown procedure, then call your dealer for service as soon as possible.

Shutting Down Your Gas Heating Section

You may be required to, or want to, turn off your gas heating section for one of two reasons: a suspected malfunction has occurred, or the heating season has ended.



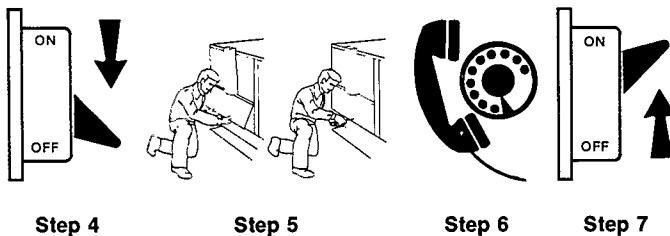
Step 1

Step 2

Step 3

Proceed as follows to shut down the gas heating section:

- Step 1— Set your conditioned space thermostat to the lowest temperature setting and set SYSTEM switch to OFF.
- Step 2— Remove lower heating section access panel to your unit. See Figure 1.
- Step 3— Turn manual gas shutoff to OFF position by placing shut-off lever at right angle to gas line. See Figure 3.



Step 4

Step 5

Step 6

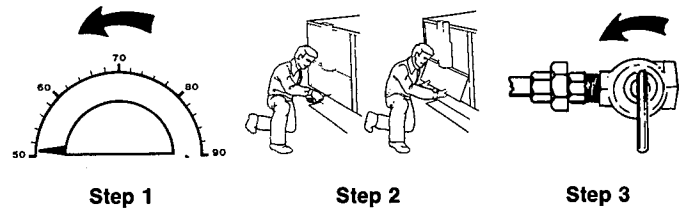
Step 7

- Step 4— Turn OFF the electrical power to your unit.
- Step 5— Replace lower heating section access panel.
- Step 6— If the unit is being shut down because of a malfunction, call your dealer for service as soon as possible.
- Step 7— If your unit is being shut down because the heating season has ended, restore electrical power to the unit to ensure operation of the cooling system during the cooling season.

Starting Your Gas Heating Section

NOTE: Be sure air filters are clean and in place. (See Figure 2 and maintenance section of this manual.)

WARNING: Before attempting to start the gas heating section, familiarize yourself with all the procedures that must be followed.



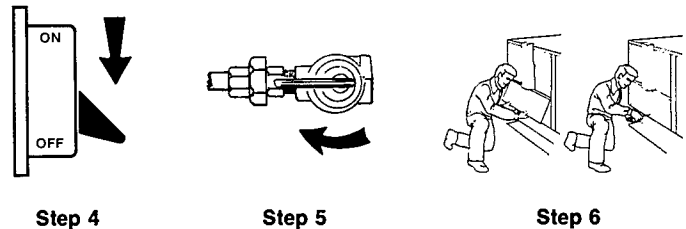
Step 1

Step 2

Step 3

Proceed as follows to start your gas heating section:

- Step 1— Set your conditioned space thermostat to the lowest temperature setting and set SYSTEM switch to HEAT.
- Step 2— Remove lower heating section access panel. See Figure 1.
- Step 3— Turn manual gas shutoff to OFF position and wait 5 minutes. See Figure 3.

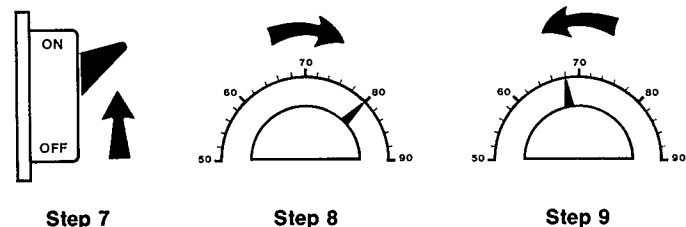


Step 4

Step 5

Step 6

- Step 4— Turn OFF the electrical supply to your unit.
- Step 5— After waiting 5 minutes, turn the manual gas shutoff to the ON position.
- Step 6— Replace the lower heating section access panel.



Step 7

Step 8

Step 9

- Step 7— Turn ON the electrical supply to your unit.
- Step 8— Set the conditioned space thermostat slightly above the space temperature to start your unit. The pilot ignition systems now begin sparking and light the pilots. After a 40- to 70-second time-delay, the secondary gas valve and main gas valve-regulator open. Gas now flows to the burners at a regulated rate and the ignited pilots light the burners. After approximately 2 minutes, the blower motor starts.
- Step 9— Set the temperature selector on your conditioned space thermostat to the desired temperature setting.

WARNING: If the pilots fail to ignite, the main burners fail to light, or the blower fails to come on, shut down the gas heating section (see procedure in this section) and call your dealer for service.

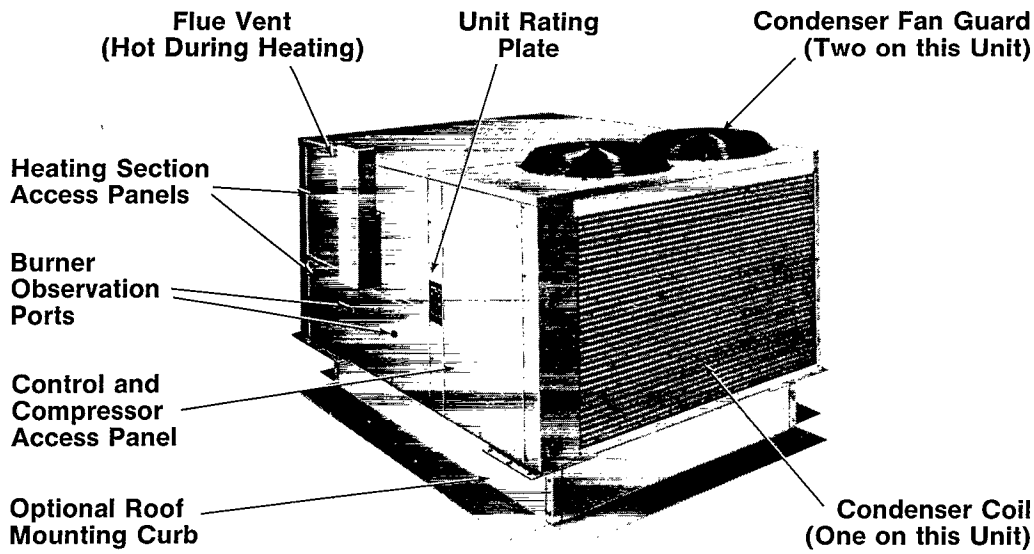


Figure 1 — Model 579C

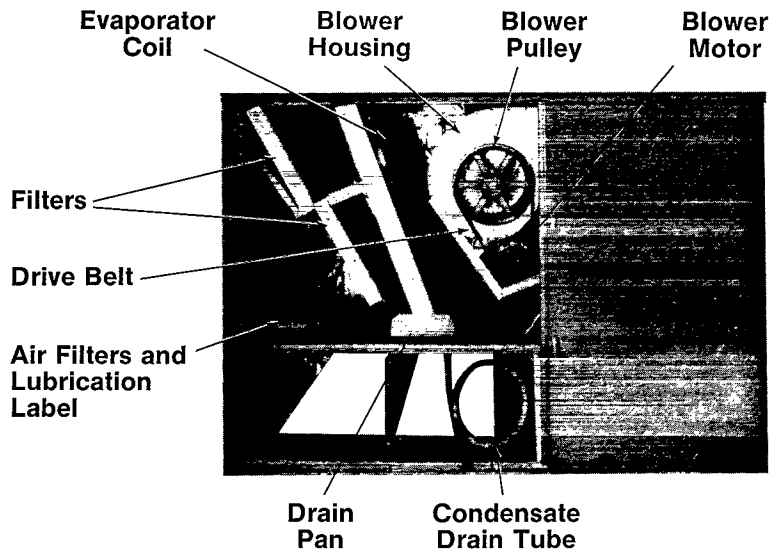


Figure 2 — Blower & Filter Access Panel Removed

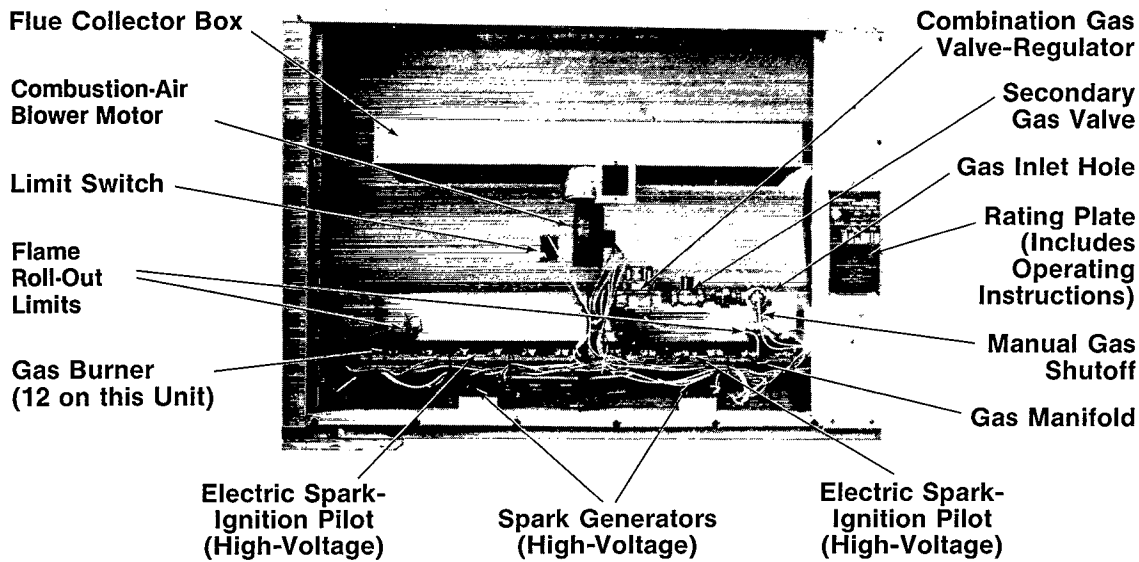


Figure 3 — Heating Section Access Panels Removed

Maintenance by Qualified Service Personnel

Your heating/cooling unit should be inspected by a trained and equipped service person at least once each year. During this inspection, the qualified service person should perform the following minimum maintenance:

1. Inspect all flue product passages, the flue venting system, the pilots, and the burners.
2. Inspect all combustion and ventilation air passages and openings.
3. Check gas pipes leading to and inside your unit for leaks.
4. Readjust the gas/air mixture if the burner flames are not bright blue.
5. Check, and when necessary, clean the condenser and evaporator coils.

6. Check, and when necessary, clean the evaporator drain pan and drain lines.
7. Inspect and clean the blower wheel and housing. Also, lubricate the blower motor as required.
8. Inspect and change air filters if necessary.
9. Inspect all supply- and return-air ducts for obstructions, air leaks, and insulation. Remedy any problem when necessary.
10. Inspect electrical wiring and components for loose connections.
11. Check all safety devices for proper operation.
12. Perform an operational checkout to determine whether the unit is working properly, and if it requires adjustments.

Maintenance and Care for the Equipment Owner

Before proceeding with those things you may want to maintain yourself, please carefully consider the following:

- WARNING:** 1. TURN OFF GAS SUPPLY AND ELECTRICAL POWER TO YOUR UNIT BEFORE SERVICING OR PERFORMING MAINTENANCE.
2. When removing access doors or performing maintenance functions inside your unit, be aware of sharp sheet metal parts and screws. Although special care has been taken to reduce sharp edges to a minimum, be extremely careful when handling parts or reaching into the unit.

Air Filters

Air filters should be checked every 3 or 4 weeks and changed when they become dirty.

The size and number of filters varies. Always use the same size and type of filters that were originally supplied. See "Filter Table." Make sure that arrows on edge of filter point in direction of airflow (toward blower).

FILTER TABLE

Model	Filter (No. & Size)	Filter Type
579C090250	(4) 16 x 25 x 2	Disposable
579C120300		
579C150300		
579C180400	(2) 16 x 20 x 2, (4) 16 x 25 x 2	Disposable
579C240450	(6) 20 x 20 x 2, (2) 20 x 25 x 2	Disposable
579C300600	(6) 25 x 25 x 2, (2) 20 x 25 x 2	Disposable
579C360600		

Heat Exchanger

This checkout should not be attempted by anyone not having the required expertise and equipment to do the job properly. Checking and/or cleaning the heat exchanger involves removing the flue collector box and fuel baffles. Contact your dealer for the required periodic maintenance.

Lubrication

The combustion-air blower motor and condenser fan motors are prelubricated and do not require lubrication.

If the indoor-air blower motor is equipped with oil cups, oil motor bearings with SAE10-20 nondetergent oil at beginning of each heating and cooling season. Use approximately six drops for each bearing.

Some blower motors are equipped with bearings of a pre-lubricated type.

Blower bearings are the prelubricated type.

Evaporator and Condenser Coils.

Evaporator coils should be cleaned by a qualified service person only.

Condenser coil(s) can be cleaned with a garden hose by spraying the coil with water from the inside of the unit toward the outside.

WARNING: Extreme caution must be used when spraying the coil, to avoid getting water in the compressor terminal box or unit control box. It may be desirable to cover these with plastic before spraying.

Condensate Drain

The drain pan and condensate drain line should be checked and cleaned at the same time the cooling coils are checked by your dealer.

Condenser Fans

WARNING: Do not poke sticks, screwdrivers, or any other objects into the revolving fan blades — severe bodily injury may result.

The fan must be kept free of all obstructions to ensure proper cooling. Contact your dealer for any required service.

Electrical Controls and Wiring

Electrical controls are difficult to check without proper instrumentation; therefore, if there are any discrepancies in the operating cycle, contact your dealer for service.

Refrigerant Circuit

The refrigerant circuit is difficult to check for leaks without proper equipment; therefore, if inadequate cooling is suspected, contact your local dealer for service.

Combustion Area and Vent System

The combustion area and vent system should be visually inspected before each heating season. The normal accumulation of dirt, soot, rust, or scale can result in loss of efficiency and improper performance if allowed to build up. Accumulation on the main burners can result in the burners firing out of normal time sequence. This delayed ignition is characterized by an extra loud ignition that can be quite alarming.

CAUTION: If your unit makes an especially loud noise when the main burners are ignited by the pilots, shut down the heating section and call your dealer.

Refer to Figures 1 and 3. Using a flashlight, proceed as follows to inspect the combustion area and vent system of your unit.

1. Turn off gas supply and electrical power to your unit.
2. Remove heating section access panels.
3. Carefully inspect gas burners and pilot areas for dirt, soot, rust, or scale.

CAUTION: If dirt, soot, rust, or scale accumulations are found, call your dealer and do not operate your heating section.

4. When you have completed your inspection, follow the startup procedures in this manual to restore your unit to operation.
5. Replace heating section access panels.
6. Observe unit heating operation, and watch the burner flames through the observation ports (see Figure 1) to see if they are bright blue. If you observe a suspected malfunction, or that the burner flames are not bright blue, call your dealer.

NOTE: Burner flames that have a mixture of yellow, orange, or red flames together with the blue may not be burning gas efficiently. Your dealer may have to adjust the air/gas mixture and/or clean the burners.

Before Calling for Service

If your combination gas heating/electric cooling unit does not appear to be performing properly, or does not operate at all, you may save the cost of an unscheduled service call if you check a few things yourself before calling for service.

Insufficient Airflow

After your equipment has been in operation for a short period, you should become familiar with the "feel" of the air circulation. If you sense a change in the airflow, your problem is probably dirty air filters. Inspect the filters.

If you determine that dirty filters are not causing the problem, call your dealer for service.

Unit Fails to Operate

Sometimes a unit will stop operating because of an actual malfunction; however, it is common for a unit to appear to have stopped operating because an easily remedied situation has taken place. If your unit fails to operate, follow these step-by-step procedures, and proceed only to the next step if the unit fails to start.

1. Check to be sure that the conditioned space thermostat is above the space temperature during heating season, or below the space temperature during the cooling season. Also, make sure that SYSTEM switch is in the proper HEAT or COOL position — and not in the OFF position.

2. Check to be sure that the electrical power supply to your unit is ON, that a fuse has not blown, or that a circuit breaker has not tripped.
3. During the heating season, check to be sure that the manual shut-off valve in the gas supply pipe leading to your unit is in the open position. The valve is open if the lever points in the same direction the pipe runs, and it is closed if the lever is at a right angle to the pipe. If the valve is closed, open it and then follow the startup procedures in this manual.
4. During the heating season, check the manual gas shutoff to be sure that it is in the ON position.
5. If your unit still fails to operate, call your dealer for service.

When Calling for Service

The product, model, and serial numbers for your unit, together with the date installed (recorded in the space provided at the front of this manual), will be helpful for your dealer. If the dealer knows exactly what you have, he may be able to offer some suggestions over the phone to remedy the problem. This could save you needless expense and the dealer a needless visit.

NOTE: If you do not have a dealer, refer to your telephone directory or yellow pages for the nearest dealer for the brand name of your unit.