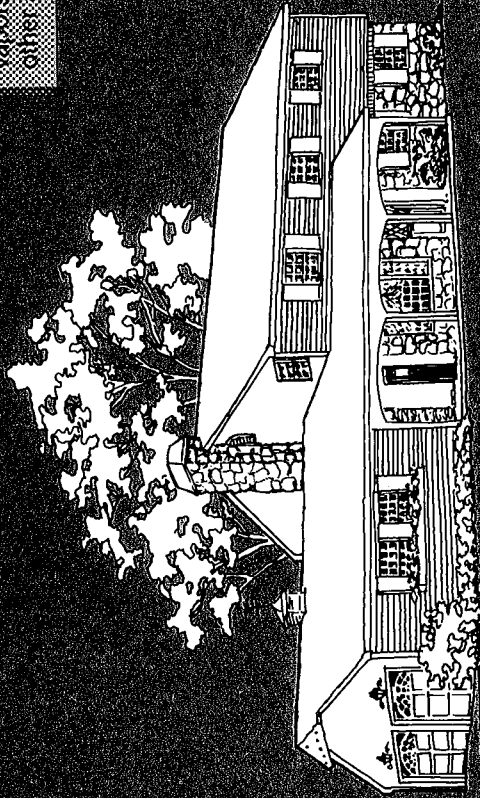


# 58DHB/SSB INDUCED-COMBUSTION GAS-FIRED FURNACES

Upflow — Downflow — Horizontal



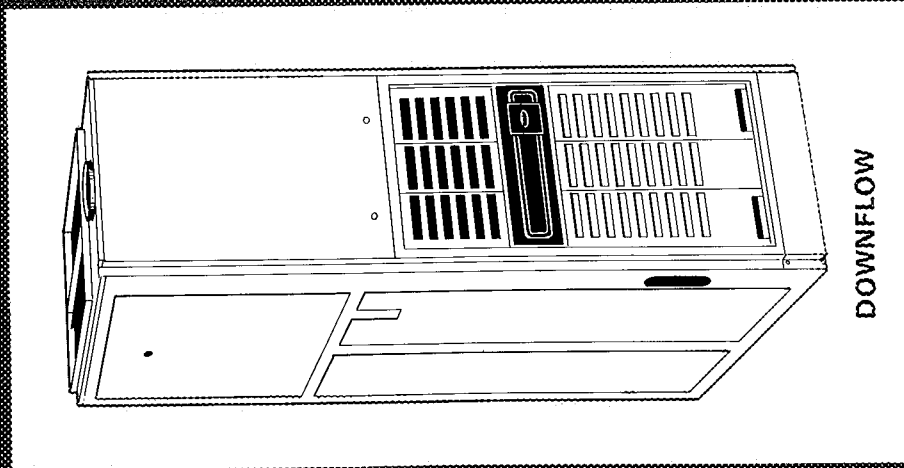
## FOR YOUR SAFETY

If you smell gas:

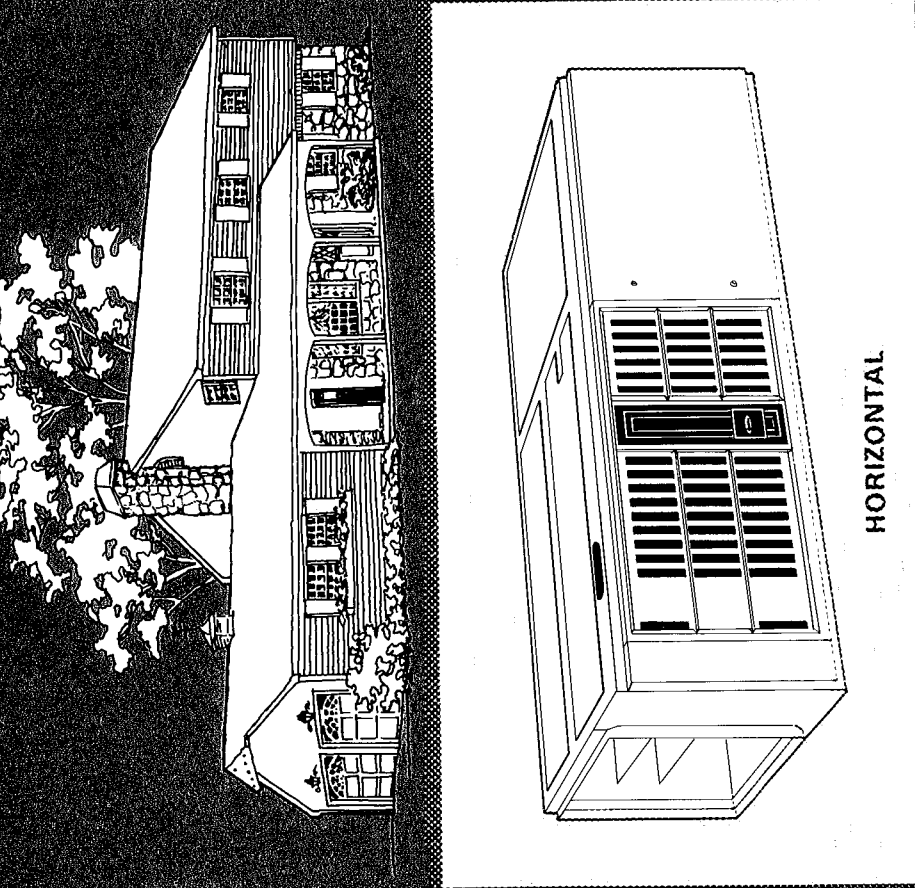
1. Open windows.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

## FOR YOUR SAFETY

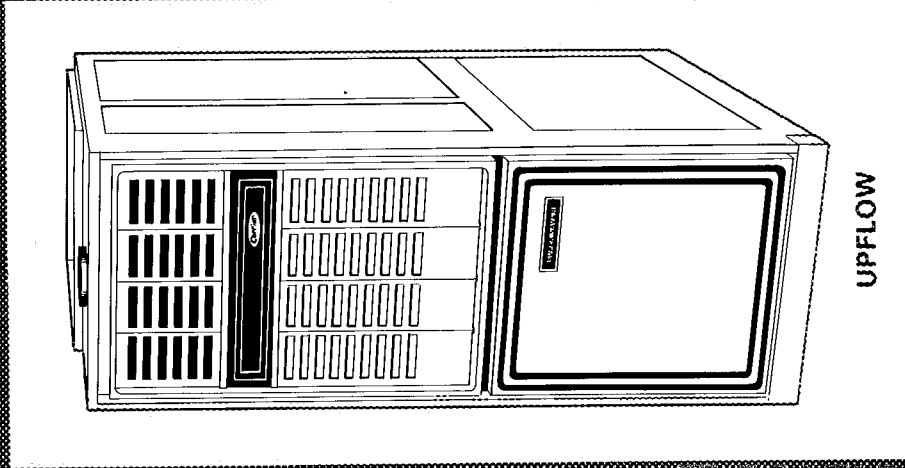
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.



DOWNFLOW



HORIZONTAL



UPFLOW

# OWNER'S INFORMATION MANUAL

**Carrier**

## Congratulations...

on your purchase of a new Carrier Induced-Combustion Gas Furnace. Your furnace has been designed and engineered to bring you the ultimate in heating efficiency and comfort in upflow, downflow or horizontal installations. Unlike traditional furnace designs, this furnace combines a unique heat-exchanger design in conjunction with a special combustion air fan that provides greater efficiency. Excess air and heat, normally lost up a chimney, are preserved and put to use. An accessory vent damper is not required or necessary. You can get better heat

return on the gas dollars you spend. In addition... your furnace features automatic intermittent pilot ignition which saves additional heating costs by eliminating a standing pilot flame. When properly installed and maintained by you (with the help of this manual) and your Carrier dealer, you can be sure this major investment for your home will reward you with many years of reliable service. Ask your dealer about the addition of cooling, air cleaning and humidification to your new heating system.

## PUT SAFETY FIRST

- Be sure you know where furnace gas and electric shutoff controls are. Tag them so you can find them quickly.
- Keep furnace area clear of flammable liquids and vapors, such as: gasoline, kerosene, paints, thinners, lighter fluids, etc.
- Keep area clear of combustible materials such as aerosols, cleaning aids, soaps and detergents, debris, old clothing and papers, plastic materials, anything that can be hazardous.
- Your furnace must have a supply of fresh air circulating around it during heating operation for proper gas combustion and ventilation.
- Should you ever smell gas, open windows. DO NOT activate any electrical switches. Extinguish all household flames, and call your gas company at once.
- A furnace installed in an attic or other insulated space must be kept free and clear of insulating material. Examine the furnace area when the furnace or additional insulation is added. Some insulating materials may be combustible.

## TIPS FOR OPERATING EFFICIENCY

- Save this manual for handy reference. Keep it near your furnace.
- Your furnace needs ample circulating air in order to function safely and efficiently. Do not clutter this area with items that will impede free air circulation. Keep area clear of tools, appliances, boxes, stacks of papers, toys, etc.
- Proper installation is essential and can save you service expense. Your Carrier dealer is an expert at installing your new furnace. Put his expertise to work for your personal comfort and safety.

## YOUR FURNACE RECORD

Model No. 58\*— \_\_\_\_\_  
Furnace Size (Btuh capacity) \_\_\_\_\_  
Serial No.\* \_\_\_\_\_  
Purchase Date \_\_\_\_\_  
Purchased Where? \_\_\_\_\_  
Installed By \_\_\_\_\_ Date \_\_\_\_\_  
(Phone) \_\_\_\_\_  
Service Dates/Notes \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*Locate Model and Serial Numbers on furnace rating plate — see photos, page 7.

# YOUR THERMOSTAT

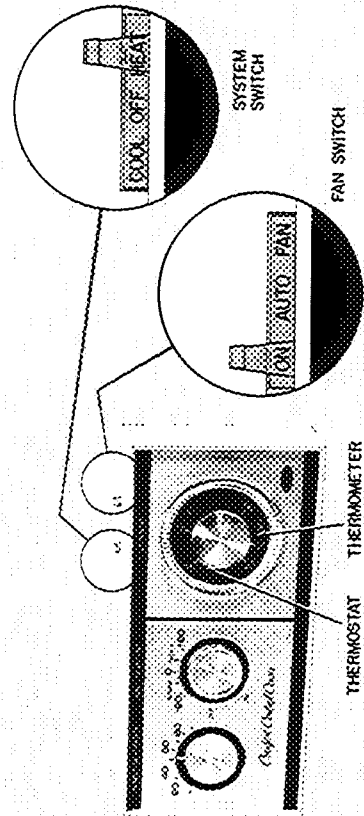
Even the highly efficient Carrier Induced-Combustion Gas Furnace cannot be expected to operate properly without a good quality, correctly installed and maintained thermostat. Discuss your thermostat and its placement with your Carrier dealer. Many homes have been found to have improperly located (in warm or drafty areas for example) or malfunctioning thermostats. Your thermostat should be kept free of dust, both inside and outside.

There are many thermostat models. Be sure you are familiar with yours. Some thermostats simply start or stop the furnace as the indoor temperature rises and falls. Others have a FAN switch with AUTO, and ON set points. On AUTO, the furnace blower operates only when the thermostat starts the furnace. On ON, the blower runs continually whether or not the thermostat has started the furnace.

There also are night set-back thermostats that automatically lower your furnace heat output at the end of the day when you may not need as much heat. Consult your Carrier dealer about the best thermostat model for your needs.

**For heating:** Set thermostat selector switch for heating. Set thermostat dial at desired temperature. Set fan switch at AUTO, or ON. At AUTO setting, burner and fan start-up and shutoff are automatic. At ON setting, fan runs continually.

**For cooling:** Set thermostat selector switch at COOL. Set thermostat dial at desired temperature. Set fan switch at AUTO, or ON. At AUTO setting, furnace fan shuts off when compressor shuts off. At ON setting, fan runs continually.



NOTE: Thermostat shown is available as an optional accessory. Your thermostat may vary in appearance, but its function is similar.

# STARTING YOUR FURNACE

## ▲ CAUTION

1. Before starting your furnace, thoroughly read this information manual and understand all procedures. Be sure your furnace filter is clean and in place. See Air Filter section of this manual.
2. Never attempt to manually light the pilot with any flame. Your furnace is equipped with automatic intermittent ignition that does not have a continuously burning pilot flame. If pilot fails to light, the main burners fail to light or the blower fails to come on, shut down furnace (see Shutting Down Your Furnace section in this manual) and call your dealer for service.
3. Read and follow lighting instructions on panel behind gas valve for Model 58DHB furnace, and on the furnace rating plate for Model 58SSB furnace.
4. Should the furnace overheat for any reason, the limit control will open and shut off the gas valve.

## ▲ WARNING

Should overheating occur, or gas valve fail to shut off gas supply, turn off manual gas valve to furnace first — then turn off electrical supply.

## Start-Up Steps

1. Set room thermostat to lowest setting.
2. Close external manual gas valve on supply line.
3. Turn off electrical supply to furnace at circuit breaker or wall switch.
4. Model 58DHB — Remove both furnace access doors (to remove blower access door, first remove 2 screws). Model 58SSB — Remove only the control access door.
5. Turn control dial on gas valve inside furnace to OFF position and wait 5 minutes.
6. After waiting 5 minutes, turn control dial on gas valve to ON position.
7. Replace access door(s).
8. Turn on electrical supply to furnace at circuit breaker or wall switch.
9. Open external manual gas valve on supply line.
10. Set room thermostat temperature selector slightly above room temperature to start furnace.
11. Pilot ignition system now begins sparking and pilot flame lights. After 40- to 70-second time delay while system is automatically verifying that pilot flame has lit, gas valve permits gas to flow to main burners and pilot lights the burners. After another time delay of approximately 60 seconds, furnace blower starts.
12. Set temperature selector on room thermostat to your personal comfort setting.

# SHUTTING DOWN YOUR FURNACE

1. Set room thermostat to lowest setting.
2. Close external manual gas valve on supply line.
3. Turn off electrical power to furnace at circuit breaker or wall switch.
4. Model 58DHB — Remove both furnace access doors (to remove blower access door, first remove 2 screws). Model 58SSB — Remove only the control access door.
5. Turn control dial on gas valve inside furnace to OFF position.
6. Replace access door(s).
7. If shutting down furnace because of a malfunction, call your dealer as soon as possible.

## MAINTENANCE BY SERVICE TECHNICIAN

At least every 2 years, your furnace should be inspected and serviced by a properly trained service technician. The technician should:

1. Inspect all flue product passages, including gas burners, pilot, heat exchanger, relief box and vent pipe.
2. Inspect all combustion and ventilation air passages and openings.
3. Check gas pipes leading to and inside of furnace for leaks.
4. Inspect, clean and lubricate blower and blower motor as required.
5. Inspect and change or clean air filter if necessary.
6. Inspect all supply and return air ducts for obstruction, air leaks and proper insulation.
7. Inspect electrical wiring and component connections.
8. Perform operational checkout to be sure furnace is working properly.

## BY OWNER

Before performing any maintenance yourself, carefully consider the following:

The ability to perform maintenance on this furnace requires certain mechanical skills and tools. Personal injury may result if you are not properly trained. If you are at all uncertain, contact your Carrier dealer.

### **A WARNING**

Turn off electrical supply to furnace before removing access doors for maintenance, to avoid possible electrical shock. Be aware of sharp metal parts inside unit to avoid possible injury.

## Air Filter

The filter should be inspected at least every 3 or 4 weeks and changed or cleaned if dirty. Filter size varies, depending on furnace model and size. When replacing filter, use same size and type as original. Refer to furnace filter tables in this manual for filter size and type. Cleanable filters may be available only from your dealer.

**Model 58SSB Filter Table**

Furnace Size	Filter Size* (in.)	Filter Type
040, 060	(1) 12 $\frac{1}{16}$ x 27 $\frac{3}{4}$	Cleanable
080BC, 095BC	(1) 15 $\frac{1}{8}$ x 27 $\frac{3}{4}$	Cleanable
080CC, 095CC, 120BC	(1) 19 $\frac{3}{8}$ x 27 $\frac{3}{4}$	Cleanable
095DC, 120CC, 130	(1) 22 $\frac{1}{8}$ x 27 $\frac{3}{4}$	Cleanable

\*Furnaces with side return-air inlet may have different filter size. Measure the filter for exact size.

**Model 58DHB Filter Table**

Furnace Size	Filter Size (in.)	Filter Type
040,055,075,095,115	(2) 16 x 20 x 1	Cleanable

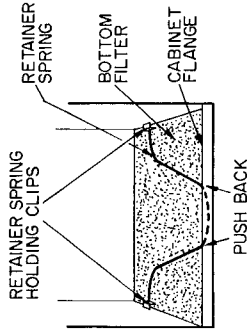
### **A WARNING**

NEVER OPERATE YOUR FURNACE WITHOUT A FILTER IN PLACE OR WITH FILTER ACCESS DOOR REMOVED. Failure to heed this warning may result in damage to furnace blower motor. Accumulation of dust and lint on internal parts of furnace can cause a loss of efficiency and, in some cases, fire.

When inspecting, cleaning or replacing air filter in your furnace, refer to appropriate procedures for your particular model.

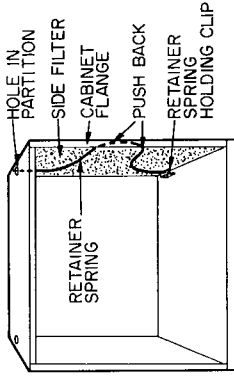
## Filter for Model 58SSB, Upflow

Filter for this model is normally located in furnace blower compartment. Filter may be bottom-installed or side-installed. See diagrams below.



### Bottom-installed filter

Ends of retainer spring are held in place by 2 retainer spring holding clips in bottom rear corners of blower compartment. This permits looped part of spring to swing upward for filter removal.



### Side-installed filter

One end of retainer spring is held in place by retainer spring holding clip in bottom rear of blower compartment. The other end is inserted in a small hole in the top partition of blower compartment to permit looped part of spring to swing out sideways for filter removal.

1. Turn off electrical power to furnace at circuit breaker or wall switch. **Never check filter with power on.**
2. Remove furnace blower access door.
3. Check to see if blower has a bottom-installed filter or a side-installed filter (may be on right or left side).

**NOTE: For installations where filter is not located in blower compartment, contact dealer for proper instructions.**

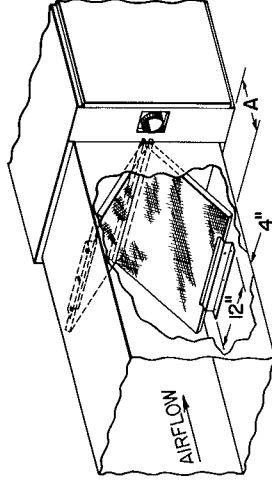
4. Use both hands to push looped portion of retainer spring back so that looped portion pops free from underneath furnace cabinet flange. **NOTE: Do not forcefully pull retainer spring, as it may come loose from holding clips or hole.**

5. Swing retainer spring away from filter.
6. Gently slide filter out of furnace, being careful not to dislodge any dirt.
7. Inspect filter. If dirty, wash with cool water and mild liquid detergent. Shake off excess water and allow to dry.
8. Reinstall filter beneath retainer spring. **NOTE: Cross-hatched side of filter should face blower compartment interior. Be sure forward filter edge is installed under cabinet flange.**
9. Swing retainer spring back to original position. Gently push looped portion of spring back and down into place beneath cabinet flange.
10. Replace blower compartment access door. Be sure it is tightly closed.
11. Turn on electrical power to furnace at circuit breaker or wall switch.

## Filter for Model 58DHB, Downflow/Horizontal

Two factory-supplied filters are shipped in blower compartment. After return-air duct has been connected to furnace, install filters in a V-formation inside return-air plenum. See figure and table for horizontal applications, and separate figure for downflow applications.

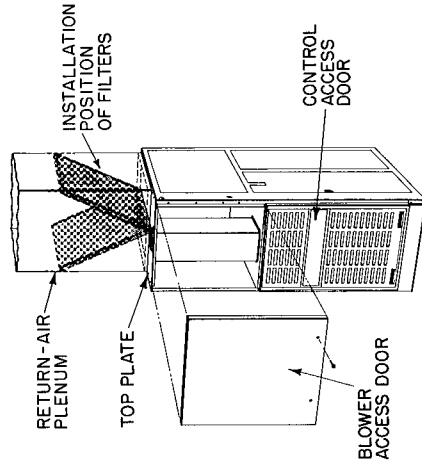
**NOTE:** A field-supplied filter retainer is required for filter installation on horizontal application.



### HORIZONTAL FILTER ARRANGEMENT

FIELD-SUPPLIED FILTER RETAINER (in.)

FURNACE SIZE	DIM.
040,055	15 $\frac{1}{8}$
075	14 $\frac{1}{2}$
095	13 $\frac{3}{8}$
115	12 $\frac{1}{4}$



### DOWNFLOW FILTER ARRANGEMENT

## To clean or replace filters:

1. Turn off electrical power to furnace at circuit breaker or wall switch before removing access panel.
2. Remove 2 screws from blower access door and remove door.
3. Reach behind top plate, tilt filters toward center of return-air plenum. Keep dirty side facing in to avoid dislodging dirt. Slide filters from plenum and replace or clean them.
4. Furnaces are equipped with permanent, washable filters. Clean with tap water. Rinse and allow to dry. No oiling or coating of filters is required. Reinstall filters with cross-hatched binding facing blower.

## Combustion Area and Vent System

Combustion area and vent system should be visually inspected before each heating season. An accumulation of dirt, soot or rust can result in loss of efficiency and improper performance. Accumulations on the main gas burners can result in poor burner performance.

### ▲ CAUTION

If your furnace makes an especially loud noise when main gas burners are ignited by pilot, shut down furnace and call dealer.

1. Turn off electrical supply to furnace at circuit breaker or wall switch. Remove access doors.
2. Use a flashlight to carefully inspect gas burner and pilot areas for dirt, rust or scale. Inspect relief box, flue connection area and flue pipe for rust.

### ▲ CAUTION

If dirt, rust, soot or scale accumulations are found, call dealer. DO NOT OPERATE FURNACE.

3. Inspect flue pipe for sagging, holes and disconnected joints.

### ▲ WARNING

If holes are found in flue pipe, or if it is disconnected, toxic fumes can escape into your home. DO NOT OPERATE FURNACE. Call dealer for service.

4. Replace access doors and restore electrical power at circuit breaker or wall switch to furnace.
5. Start furnace and observe operation. Check burner flames to be sure they are bright blue. If you observe a suspected malfunction, or if burner flames are not bright blue, call dealer.

## BEFORE CALLING FOR SERVICE

If furnace is not operating properly, you may save the cost of a service call if you check the following:

### Airflow

After a while, you should become familiar with the sound and feel of the airflow circulating from your room supply registers. If you sense a change in airflow, the problem is probably a dirty filter. See Air Filter section in this manual.

Another cause of insufficient airflow is blocked return-air supply-air grille. Be sure all grilles in your home are open and free of obstructions.

If you determine that a dirty filter or blocked grille is not causing the airflow problem, call dealer for service.

## Possible Operating Malfunctions

Sometimes a furnace stops operating because of an actual malfunction. However, sometimes the apparent malfunction can be easily fixed. If furnace stops operating, follow these steps in order. Proceed to next step only if furnace does not start.

1. Check thermostat setting. It should be above room temperature. System switch should be in HEAT position (on heating/cooling thermostat).
2. Check electrical power supply to furnace. Be sure either circuit breaker or wall switch is in ON position. Be sure blower access door is securely in place, a fuse is not blown, or a circuit breaker is not tripped.
3. Be sure manual shutoff valve on gas pipeline leading to furnace is in open position. The valve is open if lever points in same direction that pipe runs. It is closed if lever is at a right angle to pipe. If valve is closed (check to be sure it was not closed for a safety reason), follow start-up procedures in this manual.  
NOTE: Before proceeding, turn off power supply to furnace at circuit breaker or wall switch and remove access doors.
4. Check control dial on gas valve inside furnace to be sure it is in ON position (if it is OFF, be sure it was not turned off for a safety reason). If valve is OFF, follow start-up procedures in this manual.
5. Your induced-combustion furnace has a draft safeguard switch installed in upper right-hand corner of control compartment. If venting system becomes obstructed, draft safeguard switch shuts off furnace. Reset switch by pushing button on switch.

If switch trips a second time, TURN FURNACE OFF and call dealer for service.

6. Model 58DHB furnaces are equipped with a manual reset auxiliary limit switch located on blower housing. In case of blower motor failure, switch shuts off furnace. Reset switch by pushing button on switch.

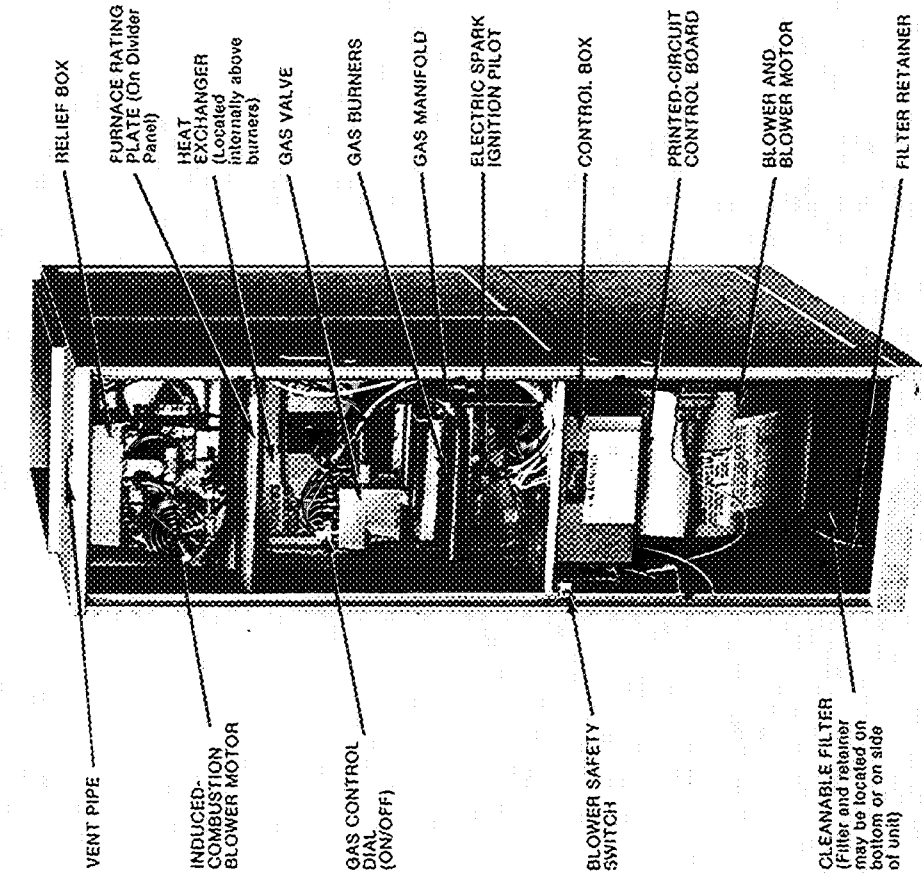
If switch trips a second time, TURN FURNACE OFF and call dealer for service.

7. If furnace still fails to operate, call dealer for service.

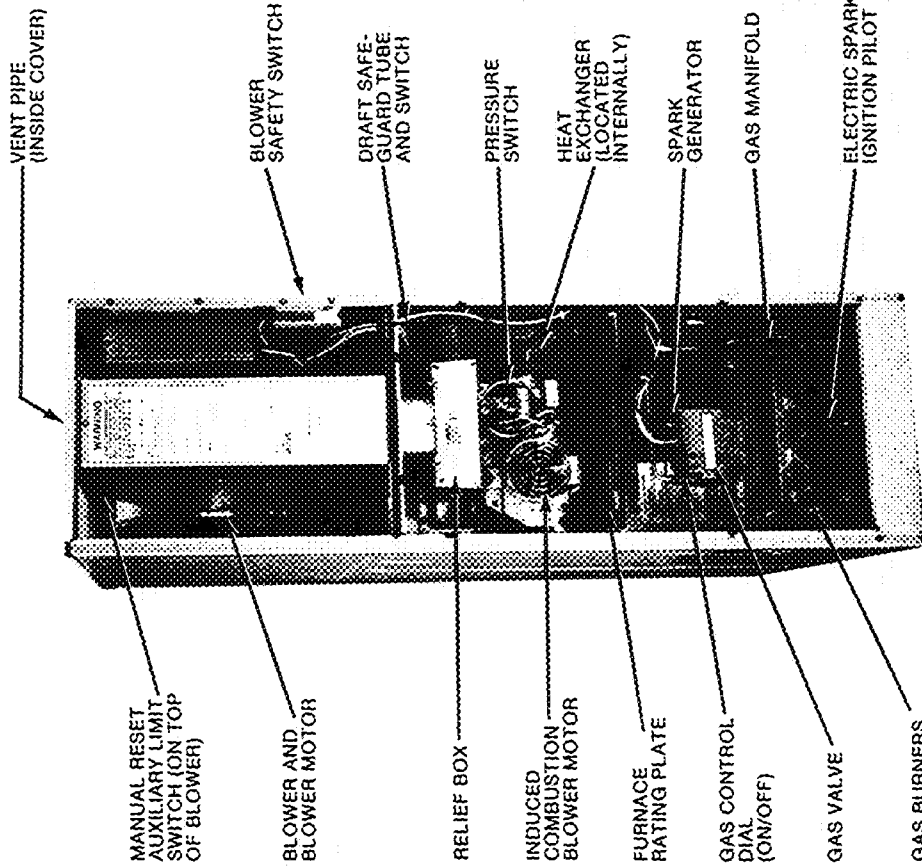
# CALLING FOR SERVICE

The model and serial numbers for your furnace and the date installed should be recorded on page 2 of this manual. If dealer knows your exact product designation, he may be able to offer some suggestions by telephone for fixing the apparent problem. This could save you expense and time.

NOTE: If you do not have a dealer, refer to your telephone yellow pages for the nearest Carrier furnace dealer.



56SSB UPFLOW



56DHB DOWNFLOW/HORIZONTAL

**TO OBTAIN INFORMATION ON PARTS:** Consult your installing dealer or classified section of your local telephone directory under the "Heating-Equipment" or "Air Conditioning Contractors & Systems" headings for dealer listing by brand name.  
Have available the Model No., Series Letter, & Serial No. of your equipment to insure correct replacement part.

**Carrier Corporation • Syracuse, New York 13221**

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