

FOR YOUR SAFETY

What to do if you smell gas:

1. Do not try to light any appliance.
2. Do not touch any electrical switch.
3. Do not use any phone in your building. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
4. If you cannot reach your gas supplier, call the fire department.

NOTE TO INSTALLER:

This manual should be left with the equipment user.

FOR YOUR SAFETY

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

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

MODELS 376C & 395C

Form No. OM04-1

Cancels: New

12/15/88

bryant

**day &
night**

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**USER'S INFORMATION MANUAL FOR THE OPERATION AND
MAINTENANCE OF YOUR NEW GAS-FIRED FURNACE**

FURNACE

Ordered

Record the model and serial numbers of your new furnace in the spaces provided below. This information, along with the other ready-reference facts requested below, will be needed should you ever require service.

FURNACE IDENTIFICATION

Model No. _____

Serial No. _____

Date Installed _____

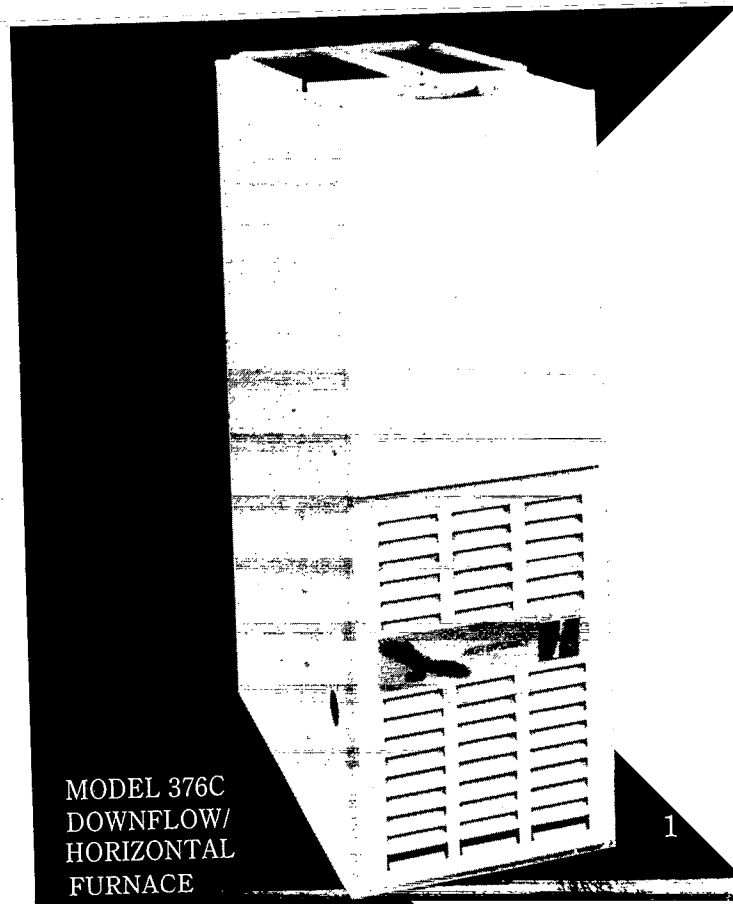
Dealer Name _____

Address _____

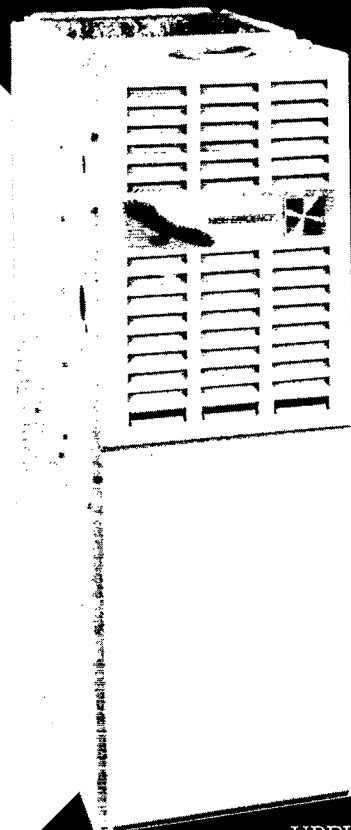
City _____

State _____ Zip _____

Telephone _____



WELCOME TO HIGH-EFFICIENCY HOME COMFORT



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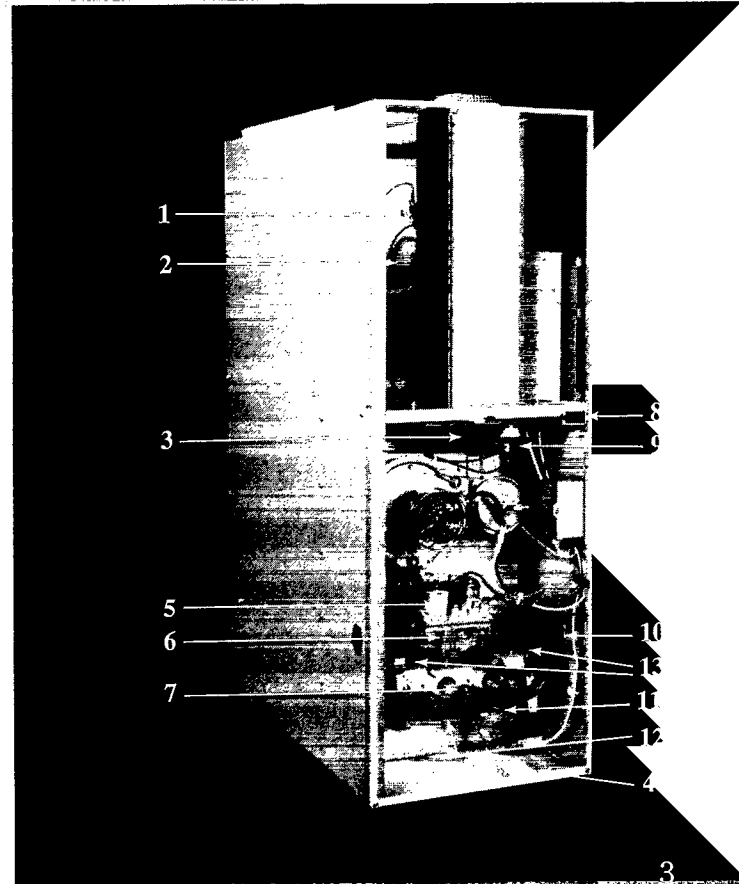
MODEL 395C
UPFLOW FURNACE

Congratulations! Your new, higher efficiency gas furnace is a sound investment which will reward you and your family with years of "warm memories" winter after winter.

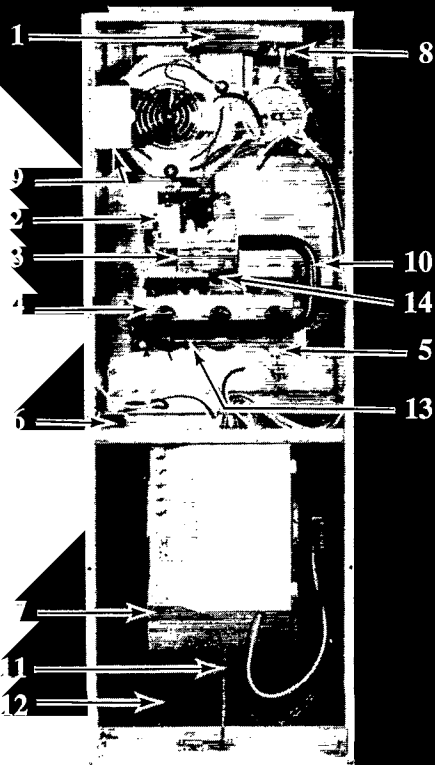
Not only is your new furnace energy-efficient, it is also one of the most reliable. Spend just a few minutes with this booklet to learn about the operation of your new furnace — and the small amount of maintenance it takes to keep it operating at peak efficiency. Years went into the development of your new furnace. Take a little time now to assure its most efficient operation for years to come.

376C FURNACE COMPONENTS

- 1 Manual-Reset Auxiliary Limit Switch
- 2 Blower & Blower Motor
- 3 Relief Box
- 4 Rating Plate
- 5 Gas Valve Control Knob (On/Off)
- 6 Gas Valve
- 7 Gas Burner
- 8 Blower Safety Switch
- 9 Draft Safeguard Tube & Switch
- 10 Gas Manifold
- 11 Hot Surface Ignitor
- 12 Flame Sensor
- 13 Manual Reset Limit Switch (2)



395C FURNACE COMPONENTS



- 1 Relief Box
- 2 Gas Valve Control Knob (On/Off)
- 3 Gas Valve
- 4 Gas Burner
- 5 Hot Surface Ignitor
- 6 Blower Safety Switch
- 7 Blower and Blower Motor
- 8 Draft Safeguard Tube & Switch
- 9 Rating Plate
- 10 Gas Manifold
- 11 Filter Retainer
- 12 Air Filter
- 13 Flame Sensor
- 14 Manual Reset Limit Switch

6 IMPORTANT FACTS

Your furnace must have adequate airflow for efficient combustion and safe ventilation. Do not enclose it in an airtight room or “seal” it behind solid doors.

To minimize the possibility of personal injury, fire, furnace damage, or improper operation — follow these safety rules:

1. Keep the area around your furnace free of combustible materials, gasoline, and other flammable liquids and vapors.
2. Do not cover the furnace, store trash or debris near it, or block the flow of fresh air to it.
3. Combustion air must be clean and uncontaminated with chlorine or fluorine. These compounds are present in many products around the home, such as: water softener salts, laundry bleaches, detergents, adhesives, paints, varnishes, paint strippers, waxes, and plastics.

Make sure the combustion air for your furnace does not contain any of these compounds. During remodeling be sure the combustion air is fresh and uncontaminated. If these compounds are burned in your furnace, the heat exchangers and metal vent system may deteriorate.

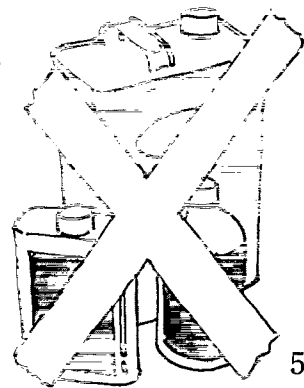
4. If your furnace is installed in the attic or within any other insulated space, it must be kept free of the

insulating material. Examine the furnace area when installing — or when adding more insulation. Some of these materials may be combustible.

5. Do not use this furnace if any part has been under water. Immediately call a qualified service technician to inspect the furnace and to replace any part of the control system and any gas control which has been under water.

NOTE: The qualified installer or agency must use only factory authorized kits or accessories when modifying this product.

This furnace contains SAFETY DEVICES which must be MANUALLY RESET. If the furnace is left unattended for an extended period of time, have it checked periodically for proper operation. This precaution will prevent problems associated with NO HEAT, such as frozen water pipes, etc. See Section Before You Request a “Service Call” in this booklet.



STARTING YOUR FURNACE

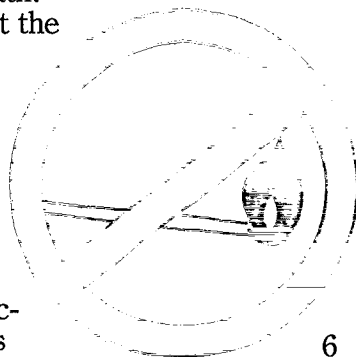
When operating your furnace, follow these important instructions. A failure to adhere to these instructions can result in a fire or explosion and physical injury or death.

1. Never attempt to light the burners with a match or other source of flame. The furnace is equipped with a hot surface ignitor.

2. Read and follow the lighting instructions on the furnace.

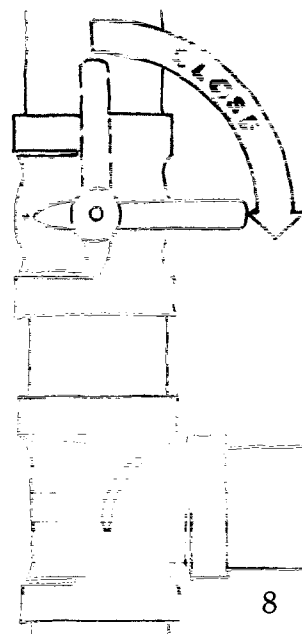
3. If a suspected malfunction occurs with your gas control system, such as the burners do not light when they should, refer to the shutdown procedures in the next section to turn off your system, then call your dealer as soon as possible.

WARNING: Should overheating occur, or the gas valve fail to shut off the gas supply, turn off the external manual gas valve (see Figure 8) to the furnace BEFORE turning off the electrical supply. A failure to adhere to this warning can result in a fire or explosion and physical injury or death.

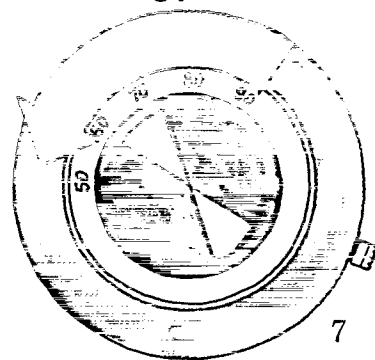


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CHECK AIR FILTER Before starting your furnace, be sure the filter is clean and in place. See page 11 of this booklet for the proper maintenance procedure.



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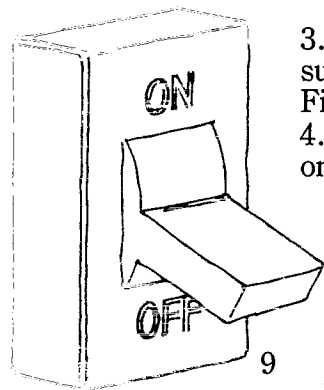
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STEPS FOR STARTING

1. Set your room thermostat to the lowest temperature setting.

See Figure 7.

2. Close the external manual gas valve. See Figure 8.



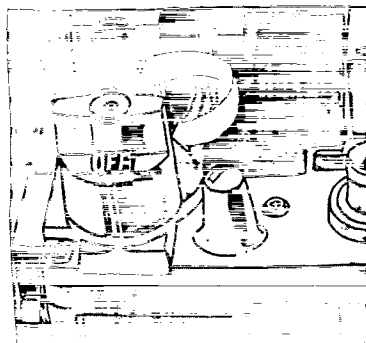
3. Turn OFF the electrical supply to your furnace. See Figure 9.

4. Remove the access doors on your furnace. See Figures 10 and 11.

NOTE: On Model 395C Furnaces, do *not* remove the blower access door.

5. Turn the gas valve control knob to OFF. Wait 5 minutes. See Figure 12.

6. After waiting 5 minutes, turn the gas valve control knob to ON. See Figure 13.



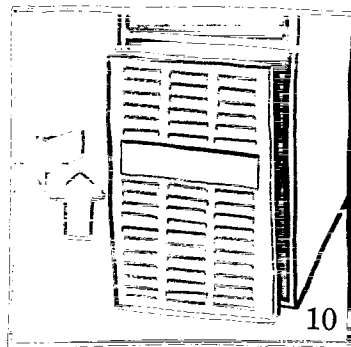
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7. Replace the access doors. See Figures 14 and 15.

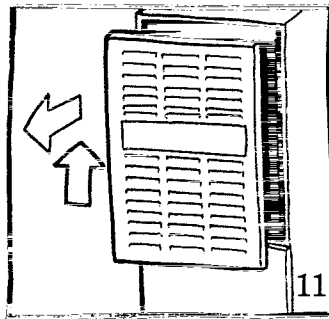
8. Turn on the electrical supply to the furnace. See Figure 16.

9. Open the external manual gas valve. See Figure 17.

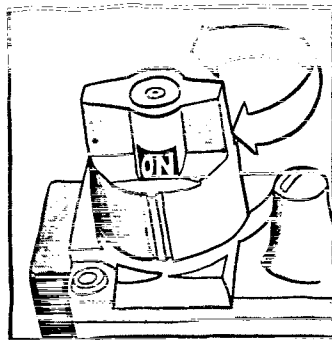
10. Set the room thermostat to a temperature slightly above the room temperature. This will automatically signal the



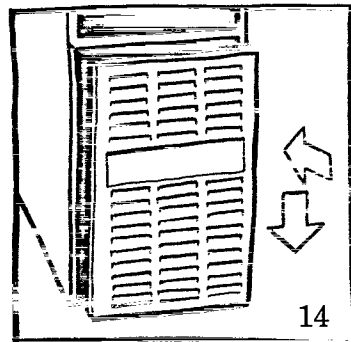
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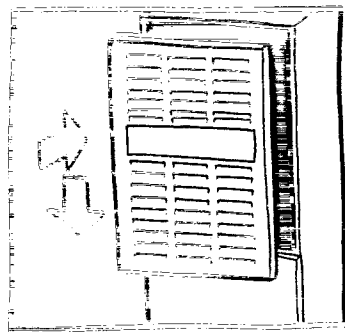
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furnace to start. The inducer motor will start, and the hot surface ignitor will energize. When hot, the ignitor will have an orange glow.

11. After 15 to 70 seconds, the gas valve permits gas to flow to the main burners where it is ignited. Hot flames begin to warm the furnace's heat exchanger. After a built-in

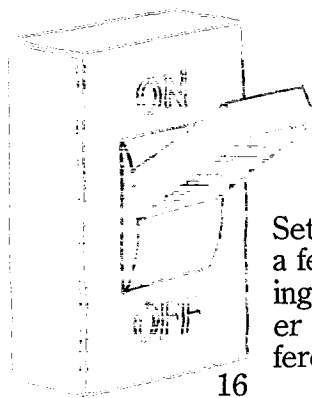


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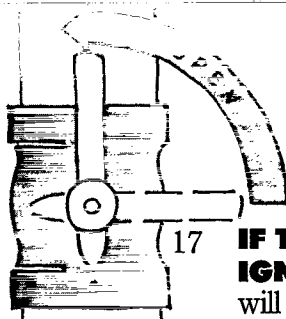
time delay of approximately 60 seconds, the furnace blower is switched on.

12. Set your thermostat to the temperature that satisfies your comfort requirements. SUGGESTION:

Setting the thermostat back a few degrees —and compensating for the difference with warmer clothing — can make a big difference in your fuel consumption



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17

on extremely cold days. The few degrees at the top of your thermostat "comfort level" are the most costly degrees to obtain.

IF THE MAIN BURNERS FAIL TO IGNITE, the furnace control system will go thru three more ignition

cycles. Then if burners fail to ignite the system will lockout. If lockout occurs, or the blower doesn't come on — shut down your furnace and call your dealer for service.

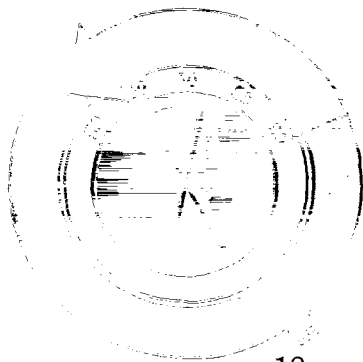
When the room temperature drops below the temperature selected on the thermostat, the furnace will be switched on automatically. When the room temperature reaches the degree selected on the thermostat, the furnace will be automatically switched off.

Some thermostats have a "fan" switch with two selections: AUTO or ON. When set on AUTO, the furnace blower cycles on and off controlled by the thermostat. In the ON position, the furnace blower runs continuously except for a 60 seconds delay at the "call for heat." This keeps the temperature level in your home more evenly balanced. It also continuously filters the indoor air.

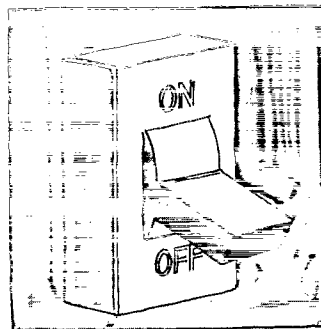
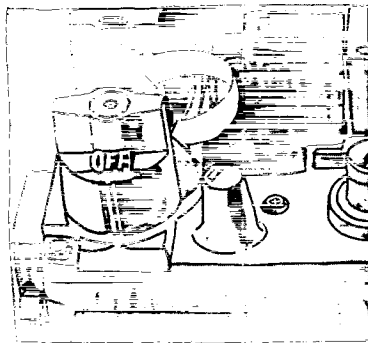
10 SHUTTING DOWN YOUR FURNACE

If you suspect a malfunction in your furnace, you'll need to shut it off. Follow these simple steps:

1. Set your room thermostat to the lowest temperature setting. See Figure 18.



2. Close the external manual gas valve. See Figure 8.



3. Turn OFF the electrical supply to your furnace. See Figure 20.

4. Remove the access door(s) on your furnace. See Figures 10 and 11.

NOTE: On Model 395C Furnaces, do not remove the blower access door.

5. Turn the gas valve control knob to OFF. See Figure 19.

6. Replace the access doors. See Figures 14 and 15.

7. If the furnace is being shut down because of a suspected malfunction, call your servicing dealer as soon as possible.

PERFORMING ROUTINE MAINTENANCE

With the proper maintenance and care, your furnace will operate economically and dependably. Maintenance can easily be accomplished by anyone who follows the directions found on this and the next few pages. However, before beginning maintenance, follow these safety precautions:

1. **TURN OFF ELECTRICAL POWER SUPPLY TO YOUR FURNACE BEFORE REMOVING THE ACCESS DOORS TO SERVICE OR PERFORM MAINTENANCE.**

2. **ALTHOUGH SPECIAL CARE HAS BEEN TAKEN TO MINIMIZE SHARP EDGES, BE EXTREMELY CAREFUL WHEN HANDLING PARTS OR REACHING INTO THE FURNACE.**

CHECK THE AIR FILTER A dirty filter will cause excessive stress on the furnace blower motor. This can cause the motor to overheat and automatically shut down. Check the filter every month. Change or clean it when necessary.

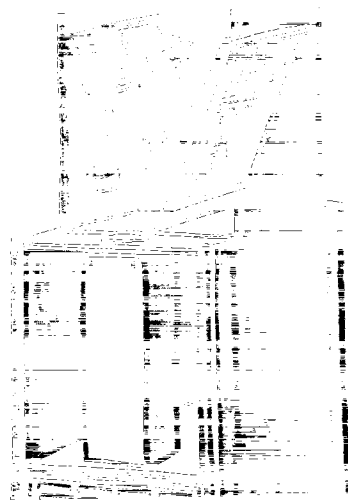
Measure the existing filter for an exact fit before replacing it.

The air filter for Model 395C Furnaces is normally located in the furnace blower compartment. See page 5. Filters for the Model 376C Furnace are normally located in the return-air plenum near the blower. If the filters have been installed in another location, contact your dealer for instructions.

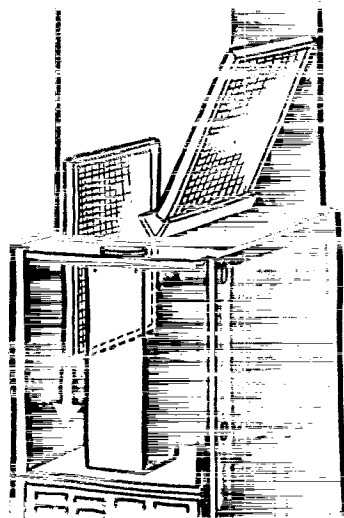
To change or clean your filter, follow these steps:

1. Turn OFF the electrical supply to the furnace. Remove the blower access door on the 376C; the control and blower access doors on the 395C.
2. **MODEL 376C ONLY** — See Downflow Furnace Filter Table on page 13 for filter size. Two filters are located above the return-air plenum (above line-of-sight). *Look up* inside left side of access area to locate first filter. Remove by tipping the filter toward center — raising it from the “V-shaped” channel in which it rests. See Figures 21 and 22. To remove second filter, reach to the right of where the first had been; pull to center and remove in the same way.

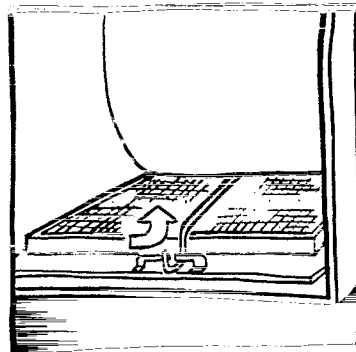
PERFORMING ROUTINE MAINTENANCE



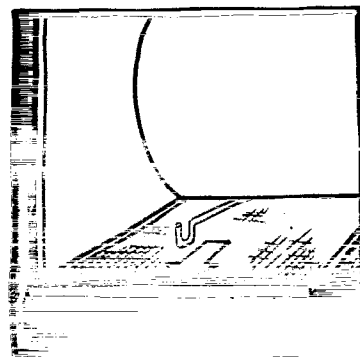
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23



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3. MODEL 395C ONLY — Move the filter retainer toward the bracket opening to release the filter. See Figure 23.

4. Gently remove the filter and carefully turn the dirty side up (if dirty) to avoid “spilling” dirt from the filter. See Figure 24.

5. Inspect the filter.

6. If you have a dirty filter, wash it in a sink or tub. Or use an outside garden hose to clean it. Always use cold water — and a mild liquid detergent if necessary. Then allow the filter to air dry.

7. Reinstall the filter with its cross-hatch binding side facing the furnace blower. **MODEL 395C ONLY** — Place the filter retainer back in the bracket and lock in.

8. Replace the blower and control access doors. Be sure bottom door flange is inside of the furnace casing. Restore electrical power to the furnace. See Figures 14, 16, and 25.

CAUTION: Never operate your furnace without a filter. An accumulation of dust or lint on internal parts can cause a loss of efficiency and the blower motor might be damaged.

DOWNFLOW FURNACE FILTER TABLE

Furnace Casing Width	Filter Size	Filter Type
14-3/16	(2) 14 x 20 x 1	Cleanable
17-1/2	(2) 14 x 20 x 1	Cleanable
21	(2) 16 x 20 x 1	Cleanable
24-1/2	(2) 16 x 20 x 1	Cleanable

UPFLOW FURNACE FILTER TABLE

Furnace Casing Width	Filter Size		Filter Type
	Side Return	Bottom Return	
14-3/16	(1) 16 x 25 x 1	(1) 14 x 25 x 1	Cleanable
17-1/2	(1) 16 x 25 x 1	(1) 16 x 25 x 1	Cleanable
21	(1) 16 x 25 x 1	(1) 20 x 25 x 1	Cleanable
24-1/2	(2) 16 x 25 x 1	(2) 12 x 25 x 1	Cleanable

14 PERFORMING ROUTINE MAINTENANCE

INSPECT COMBUSTION AREA AND VENT SYSTEM

Inspect the combustion area and vent system before each heating season. An accumulation of dirt, soot, or rust can mean a loss of efficiency and improper performance. Buildups on the main burners can cause faulty firing. This "delayed ignition" is characterized by an alarmingly loud sound. If your furnace makes a loud noise when the main burners are ignited, shut down the furnace — and call your servicing dealer.

Use your flashlight and follow these steps for inspecting the combustion area and vent system of your furnace:

1. Turn off the electrical supply to the furnace and remove the access doors. See Figure 9, 10, and 11.
2. Carefully inspect the gas burner (see Figure 26) for dirt, rust, or scale. Then, inspect the relief box, flue connection area, and the vent pipe for rust.

NOTE: If dirt, rust, soot, or scale accumulations are found, call your servicing dealer. **DO NOT OPERATE THE FURNACE.**

3. Inspect the vent pipe for a sag, holes, or a disconnection. A horizontal vent pipe must slope upward. If rusty joints or seams, or signs of water leakages are found call your dealer for service.

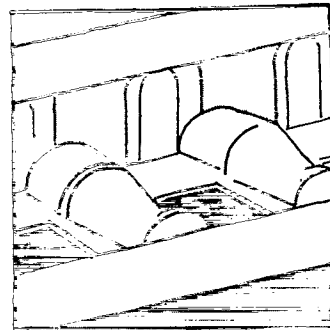
WARNING: If holes are found — or if the vent pipe is not connected — toxic fumes can escape into your home. **DO NOT OPERATE**

YOUR FURNACE. Call your dealer for service.

4. Replace the access doors and restore electrical power to the furnace. Be sure bottom door flange is inside of the furnace casing. See Figures 14, 15, and 25.

5. Start the furnace and observe its operation. If possible, watch the burner flames. Are they burning bright blue? If not (or if you suspect some other malfunction), call your servicing dealer.

NOTE: Refer to the unit Service Procedures for blower motor oiling information. The motor must be oiled by a qualified service technician.



BEFORE YOU CALL FOR SERVICE, CHECK FOR SEVERAL EASILY SOLVED PROBLEMS:

- ☐ Check for sufficient airflow. Check the air filter for dirt. Check for blocked return-air or supply-air grilles. Be sure they are open and unobstructed. If this isn't the cause, call your servicing dealer.

If your furnace isn't operating at all, check the following list for easy solutions:

- ☐ Is your thermostat set above room temperature? Is the switch in the HEAT position?
- ☐ Is the electrical power supply switch ON? Is the blower access door firmly in place? Are any fuses blown — or has a circuit breaker tripped?
- ☐ Is the manual shut-off valve in the gas supply pipe leading to the furnace open? Does the lever point in the same direction that the pipe runs (open)? Or is it at right angles (closed)?

NOTE: Before proceeding with the next check, turn OFF the electrical power supply to the furnace. Remove the access doors.

- ☐ Is the control knob on the gas valve turned to the ON position? If this or the preceding check shows an interruption in the gas supply, make sure the gas has not been shut off for safety reasons. If nothing else seems to be amiss, follow the startup procedures found on pages 7, 8, and 9 of this booklet.
- ☐ If the vent for some reason is obstructed, the draft safeguard switch will shut off the furnace. Reset the switch by pushing the button located on top of the switch (upper right-hand corner of control compartment). If the switch trips for a second time, turn off the furnace and call for service.
- ☐ MODEL 376C ONLY — Check the manual-reset auxiliary limit switch located on the blower housing. If the blower motor fails, this switch will shut off the furnace. Reset it by pushing the button on the switch. If it trips again, turn off the furnace and call for service.
- ☐ Check the manual-reset limit switch(es) located near the burners. If the furnace has experienced a high-temperature condition, due to

inadequate combustion air, these switches will shut off the furnace. Reset the switch(es) by pushing the button on the switch. If the switch trips for a second time, turn off the furnace and call for service.

- ☐ If your furnace still fails to operate, call your servicing dealer for troubleshooting and repairs. Tell him the model and serial numbers for your furnace. (You should have them recorded on page 2 of this booklet.) If the dealer knows exactly which furnace you have, he may be able to offer suggestions over the phone, or save valuable time through knowledgeable preparation for the service call.

REGULAR DEALER MAINTENANCE

In addition to the type of routine maintenance you might be willing to do, your furnace should be inspected regularly by a properly trained service technician. An annual inspection (or semiannual inspection, at least) should include the following:

1. Inspection of all flue product passages — including the burners, heat exchanger, relief box, and vent pipe.
 2. Inspection of all combustion and ventilation air passages and openings.
 3. Close check of all gas pipes leading to (and inside of) your furnace.
 4. Inspection, cleaning, and lubrication of the blower, blower motor, and wheel.
 5. Routine inspection and cleaning/replacement of the air filter.
 6. Inspection of all supply- and return-air ducts for obstructions, air leaks, and insulation. Any problems found should be resolved at this time.
 7. A check for loose connections attaching individual components. Inspection of all electrical wiring and their connections.
 8. Operational check of the furnace itself to determine working condition. Repair or adjustment should be made at this time.
- Your servicing dealer offers an economical service contract that covers seasonal inspections. Ask him for further details.

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