

PERFORMING ROUTINE MAINTENANCE

With proper maintenance and care, your furnace will operate economically and dependably. Instructions for basic maintenance are found on this and the following pages. However, before beginning maintenance, follow these safety precautions:

WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Turn off electrical power supply to your furnace before removing the access doors to service or perform maintenance.

CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury. Although special care has been taken to minimize sharp edges, be extremely careful when handling parts or reaching into the furnace. Wear safety glasses, gloves, and appropriate protective clothing.

FILTERING OUT TROUBLE

CAUTION

UNIT PERFORMANCE HAZARD

Failure to follow this caution may result in product damage.

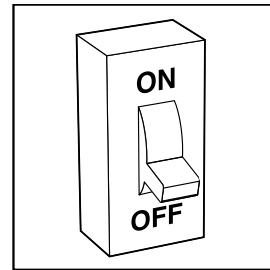
Never operate your furnace without a filter in place. Doing so may damage the furnace blower motor. An accumulation of dust and lint on internal parts of your furnace can cause a loss of efficiency.

A dirty filter will cause excessive stress on the furnace, heat exchanger, and blower motor and can cause it to overheat and automatically shut down. The furnace filter should be checked every 4 weeks and cleaned or replaced if necessary.

If installed with factory specified disposable media filter, check or replace filter before each heating and cooling season. Replace disposable media filter at least twice a year.

If your furnace filter needs replacing, be sure to use the same size and type of filter that was originally specified. The air filter for the furnace may be located in a filter cabinet attached to the side or bottom of the furnace. If air filter has been installed in another location, contact your dealer for instructions. To inspect, clean and/or replace the air filter(s), follow these steps:

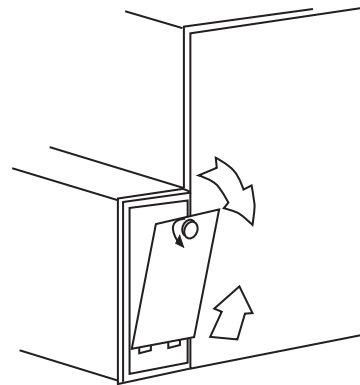
1. Turn off the electrical supply to the furnace.



A92185

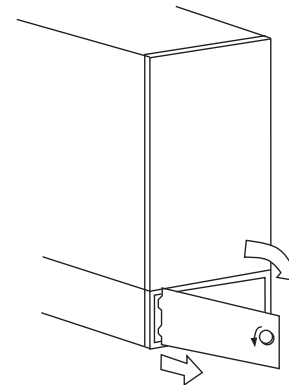
Fig. 13 - Turn Off Electrical Supply

2. Remove filter cabinet door (See Fig. 14 and 15.)
NOTE: It may be necessary to remove 1 thumbscrew.



A06190

Fig. 14 - Removing Side Filter Cabinet Door



A06191

Fig. 15 - Removing Bottom Filter Cabinet Door

3. Slide air filter out of filter cabinet. Keep dirty side up (if dirty) to avoid spilling dirt. (See Fig. 16 and 17.)

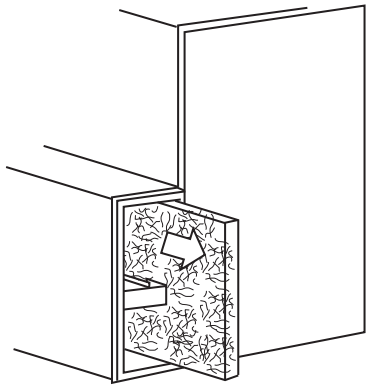


Fig. 16 - Slide Side Filter Out of Furnace

A00227

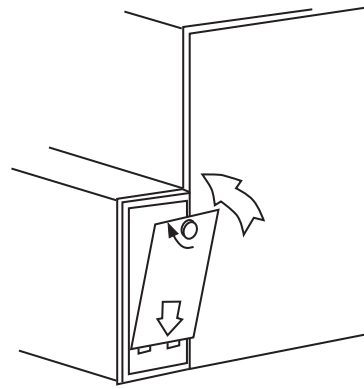


Fig. 18 - Replace Side Filter Cabinet Door

A06192

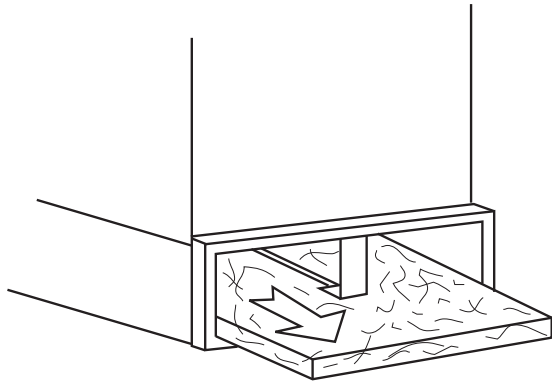


Fig. 17 - Slide Bottom Filter Out of Furnace

A00228

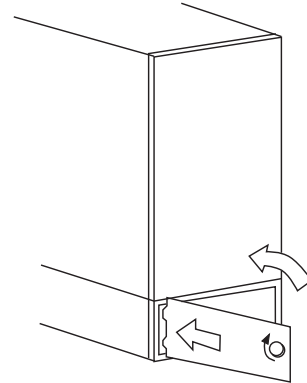


Fig. 19 - Replace Bottom Filter Cabinet Door

A06193

4. Inspect the filter. If torn, replace it.

NOTE: If a washable filter has been replaced with:

- a. Factory specified disposable media filter — Do not clean. If dirty, replace only with media filter having the same part number and size. Install with airflow direction arrow pointing towards blower.
- b. Electronic Air Cleaner (EAC) — Refer to EAC Owner's Manual for maintenance information.

5. Wash filter (if dirty) in sink, bathtub, or outside with a garden hose. Always use cold tap water. A mild liquid detergent may be used if necessary. Spray water through filter in the opposite direction of airflow. Allow filter to dry.

6. Reinstall clean air filter.

7. Replace filter cabinet door. (See Fig. 18 and 19.)

8. Turn on electrical supply to furnace (See Fig. 11).

NOTE: If side return ducts are used, 2 filters may be required in some models. The procedure listed above may be used to remove side filters.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

Use care when cutting support rods in filters to protect against flying pieces and sharp rod ends. Wear safety glasses, gloves, and appropriate protective clothing.

Filters may be field modified by cutting filter material and support rods (3) in filters. Alternate sizes and additional filters may be ordered from your dealer.

FURNACE CASING WIDTH IN (MM)	FILTER QUANTITY AND SIZE *		FILTER TYPE*
	SIDE RETURN IN (MM)	BOTTOM RETURN IN (MM)	
14-1/2 (368)	(1) 16 x 25 (406 x 635)	(1) 14 x 25 (356 x 635)	3/4" (19 mm) thick washable or 4-5/16" (110 mm) thick media-type
17-1/2 (445)	(1) 16 x 25 (406 x 635)	(1) 16 x 25 (406 x 635)	3/4" (19 mm) thick washable or 4-5/16" (110 mm) thick media-type
21 (533)	(1) 16 x 25 (406 x 635)	(1) 20 x 25 (508 x 635)	3/4" (19 mm) thick washable or 4-5/16" (100 mm) thick media-type
24 (610)	(1) 16 x 25 (406 x 635)	(1) 24 x 25 (610 x 635)	3/4" (19 mm) thick washable or 4-5/16" (100 mm) thick media-type

*Recommended

**Some furnaces may have 2 filters

COMBUSTION AREA AND VENT SYSTEM

⚠ WARNING

UNIT OPERATION HAZARD

Failure to follow this warning could result in personal injury or death.

For proper and safe operation the furnace needs air for combustion and ventilation. Do not block or obstruct air openings on the furnace, air opening to the area in which the furnace is installed, and the space around the furnace.

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury or death.

If holes are found or if the vent pipe is obstructed or is not connected, toxic fumes can escape into your home. **DO NOT OPERATE YOUR FURNACE.** Call your dealer for service.

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.

NOTE: 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 electrical supply to the furnace and remove the access door. (See Fig. 6 and 7.)
2. Carefully inspect the gas burner for dirt, rust, or scale. Inspect the elbow, flue connection area, and the vent pipe for rust.

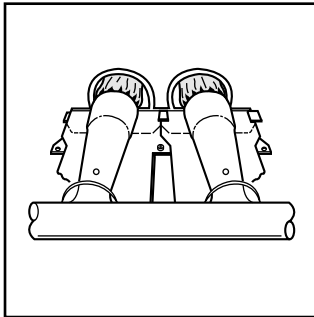


Fig. 20 - Burner Flame

A92330

⚠ WARNING

CARBON MONOXIDE POISONING HAZARD

Failure to follow this warning could result in personal injury or death.

If dirt, rust, soot, or scale accumulations are found, call your dealer. Do not operate your furnace.

3. Inspect the vent pipe for a sag, holes, or a disconnection. A horizontal vent pipe must slope upward away from furnace.

If rusty joints or seams, or signs of water leakages are found, call your dealer for service.

4. Restore electrical power to the furnace. (See Fig. 11.)
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.
6. Replace the access door. (See Fig. 10.)

BEFORE YOU REQUEST A “SERVICE CALL”

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 of the problem, call your servicing dealer. If your furnace isn't operating at all, check the following list for easily solved problems:
 - Is your thermostat set above room temperature? Is the HEAT mode selected?
 - Is the electrical power supply switch on? Is the blower access door firmly in place? Are any fuses blown? (There is a fuse on the furnace control.) 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 a right angle to the pipe (closed)?
- NOTE:** Before proceeding with the next checks, turn off the electrical power supply to the furnace. Remove access door.
- Is the switch 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 wrong, follow the start-up procedures found on pages 4 and 5 of this booklet.

⚠ CAUTION

PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

If for some reason the vent is blocked, the draft safeguard switch will shut off the furnace. (See Page 2 for switch location.) The switch will automatically reset after the furnace cools off. If the furnace fails to operate, contact a qualified service agency.

- Check the manual reset limit switches located on the ends of the burner enclosure (see Fig. 1 and 2). If the furnace has experienced a high-temperature condition due to inadequate combustion air, these switches will shut off the furnace. Reset the switches by pushing the button on the switch. If the switch trips 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 your dealer the model and serial numbers for your furnace. (You should have them recorded on page 10 of this booklet.) By knowing exactly which furnace you have, the dealer may be able to offer suggestions over the phone or save valuable time through knowledgeable preparation for the service call.

In addition to the type of routine maintenance you might be willing to perform, your furnace should be inspected regularly by a properly trained service technician. You should work with your dealer or service technician to assure your inspection includes the following at a minimum.

MAINTENANCE CHECKLIST

DESCRIPTION		INSPECTION INTERVAL		
		Monthly	Bi-annually	Annually
Furnace specific, external items:				
	Clean or replace air filters.	X		
	Inspect cabinet for signs of damage.	X		
	Inspect and clean door louvers if needed.		X	
	Inspect electrical disconnect for proper function. Repair or replace as necessary.		X	
	Inspect external wiring for damage.		X	
	Inspect gas supply line and manual shut-off for leaks.			X
Furnace specific, internal items:				
	Inspect and clean blower assembly (includes blower housing, blower wheel and motor).		X	
	Inspect gas valve and check for proper manifold gas pressure Adjust as needed.			X
	Inspect ignition system and safety controls. Clean and adjust as needed.			X
	Inspect control box, associated controls, wiring and connections.			X
	Check combustion blower housing for lint and debris and clean as necessary.			X
	Inspect burner assembly - clean as needed.			X
	Inspect heat exchanger - clean as needed.			X
	Inspect flue system—check for proper attachment to the furnace, any dislocated sections, and for signs of corrosion. Replace if necessary.			X
System:				
	Inspect airflow system (ductwork)—check for leaks and repair as needed.		X	
	Inspect evaporator coil, drain pan and condensate drain lines as applicable. Clean as needed.		X	

This list may not include all maintenance items, and inspection interval times may vary depending on operational conditions of the furnace. Ask your servicing dealer for further details about an economical service contract that covers seasonal inspections.