



GAS FURNACE OWNERS INFORMATION 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.

BARD MANUFACTURING COMPANY
P. O. Box 607 Bryan, Ohio 43506
(419) 636-1194

—

—

TABLE OF CONTENTS

	PAGE
General.	1
Clearances.	1
Combustion and Ventilating Air	1
Lighting and Shutdown Instructions	
Intermittent Pilot	1
Standing Pilot.	1
Pilot Burner Locations.	2
Air Filters	2
Filter Locations and Replacement Procedures.	2, 3, 4
Lubrications Requirements.	4
Fan Belt Adjustment.	4
Furnace Examination.	4,5

GENERAL

The warnings shown on the cover of this manual and the information on the following pages are very important and should be fully read and understood by the operator of this equipment. Please take the few minutes necessary to completely read this booklet, and if there are any questions when you are through, ask your installer to review them with you. Please retain this booklet for future reference.

CLEARANCES

There are certain minimum installation clearances from the furnace cabinet and sheet metal plenum attached to the top of the furnace to any combustible materials. These clearances for each model of furnace are shown on the furnace rating plate (located in the burner compartment) and are the responsibility of the furnace installer during the installation of the appliance.

It is the owner's responsibility to make sure these clearances are always maintained thereafter. Additionally, a minimum of 24 inches for serviceability of furnace is required from the front side of all models.

The "G" Series Lo-Boy furnaces should also have 24 inch clearance at the rear of the furnace for access to blower compartment and air filters.

A furnace installed in an attic or other insulated space must be kept free and clear of insulating material, with instructions to examine the furnace area when the furnace or additional insulation is added and advising that insulating materials may be combustible.

BE SURE TO OBSERVE THE FOLLOWING RULES:

- DO NOT** allow any cardboard, newspapers, or any other combustible material (this includes wood, 2x4's, etc.) within the above specified minimum clearances. This includes placing any combustibles on or against the sheet metal plenum attached to the top of the furnace.
- The furnace area is to be kept clear of gasoline, solvents, painting supplies, and any other flammable vapors or liquids.

COMBUSTION AND VENTILATING AIR

Whether your furnace is installed in a closet, basement, garage or other location as dictated by the particular application, an adequate source of fresh outside air has been provided by the installer to allow proper combustion and venting of the products of combustion to the outside of the building.

It is again the responsibility of the owner to assure that this important flow of combustion and ventilating air is not obstructed from reaching the furnace.

LIGHTING AND SHUT-DOWN INSTRUCTIONS

- Intermittent Pilot** - This is an electric ignition system which lights and proves the pilot flame presence before allowing the main burner to open.
- Standing Pilot** - This system has the pilot flame burning all the time and lights the main burner on thermostat demand.

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

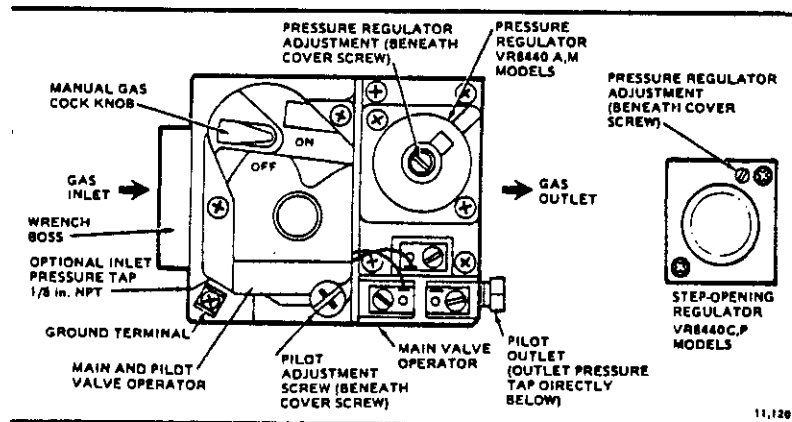
INTERMITTENT PILOT

TO SHUT DOWN FURNACE:

- Set thermostat, lowest setting.
- Turn gas valve to OFF position.
- Switch off electric supply to furnace.

OPERATING INSTRUCTIONS:

- Set the thermostat to lowest setting, electric supply and gas valve to OFF position and wait five minutes.
- If furnace has a vent damper, check damper position to assure it is open for the five minute shut off period.
- Turn gas valve ON, restore electric power and set room thermostat. Setting must be above room temperature to start burner operation.
- DO NOT attempt to manually light the pilot, it will light automatically.
- If the burner fails to ignite, repeat steps 1 through 4 of the operating instructions.
- If the burner again fails to ignite, shut down the furnace and have qualified service personnel investigate the problem.



TOP VIEW OF VR8440 GAS CONTROL.

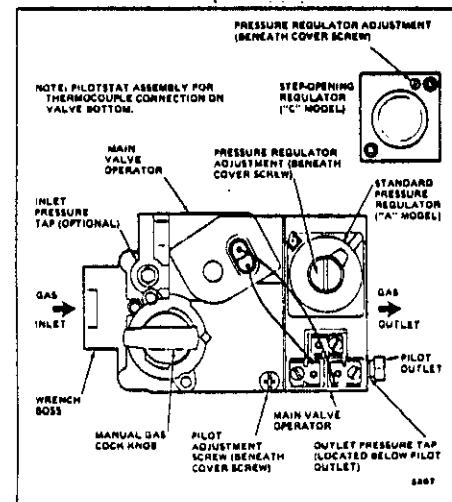
STANDING PILOT

TO SHUT DOWN FURNACE:

- With control knob at the ON position, push down slightly and turn the knob to the OFF position.
- Switch off electric supply to furnace.

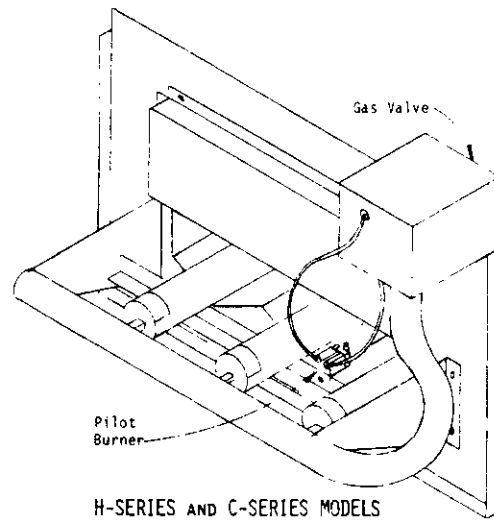
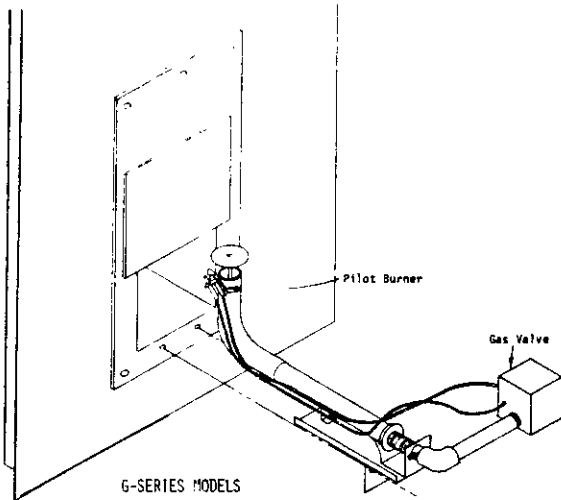
TO START FURNACE:

- Make sure that the electric switch is OFF and that the main gas valve and pilot valve have been closed at least five minutes before proceeding. Set thermostat at lowest setting.
- Depress control knob slightly and turn to pilot position, then depress fully and light pilot with match or taper.
- The control knob must be held down about one minute and then released. If pilot flame does not continue to burn, repeat steps 1, 2 and 3.
- Turn the control knob to ON position, turn the electric switch ON and set the thermostat at the desired temperature.



Top view of VR800 gas control.

PILOT BURNER LOCATIONS



AIR FILTERS

It is the owner's responsibility to check the condition of the air filters on at least a monthly basis when the furnace is in use and to clean or replace whenever it is necessary.

Permanent Type Filter (usually foam type) are washable. Use a solution of soapy water, followed by a rinse in clear water and then dried by tapping the frame against a solid object.

Throwaway Type Filter (usually fiberglass) can be vacuumed off once to extend filter life if they are not allowed to get too dirty or clogged. Otherwise, replace with another of the same size.

NEVER OPERATE A FURNACE WITHOUT A FILTER
NEVER SUBSTITUTE A THROWAWAY (FIBERGLASS)
FOR A PERMANENT (FOAM) TYPE

FILTER LOCATIONS — REMOVAL AND REPLACEMENT PROCEDURES

ALL H-SERIES HI-BOY FURNACES

To remove filters from ALL sectional hi-boys, first remove the upper burner door and then the lower blower compartment door by grasping top of door and pull up and away from the furnace. Then, remove the "S" clip and spring by pulling the clip towards the front of the furnace.

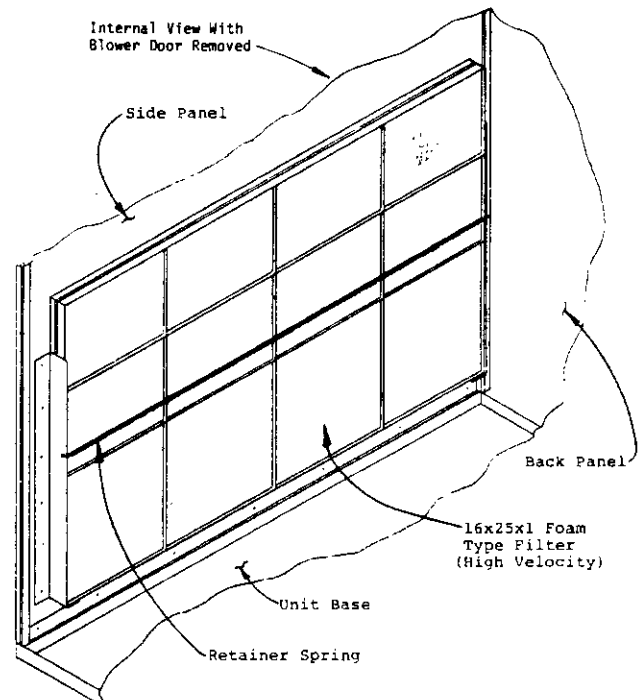
The filter may now be removed simply by pulling it towards the center of the furnace and outward.

The location may vary, depending on which side the installer located the return air duct.

This filter is the permanent high velocity type foam filter which may be washed and used over and over. Do not replace it with a fiberglass filter of the same size.

To replace filter, reverse the above process.

FILTER SIZES FOR GAS FURNACES	
MODEL	SIZE
H600A, H600B, EH600A, EH600B, H800A, H800B, EH800A, EH800B, H80036A, H80036B, EH80036A, EH80036B, H105A, H105B, EH105A, EH105B, H105DA, H105DB, EH105DA, EH105DB, H105D48A, H105D48B, EH105D48A, EH105D48B, H120A, H120B, EH120A, EH120B, H120D48A, H120D48B, EH120D48A, EH120D48B, H140A, EH140A, H140D48A, EH140D48A, H160A, EH160A, H160D48A, EH160D48A, H200A, EH200A	(1) 16x25x1 P
H200A, EH200A	(2) 16x25x1 P
C800A, EC800A C800A, EC800A C80036A, EC80036A	(1) 15x20 P
C105A, EC105A, EC105DA, C105D42A, EC105D42A, C140A, EC140A, C140D48A, EC140D48A, C160A, EC160A, C160D48A, EC160D48A	(1) 15x20 (1) 10x20 P
G101, G101E G125A, EG125A G152, G152E	(1) 20x20x1 (1) 20x25x1 (2) 16x25x1
P = Permanent, otherwise are throwaway type.	



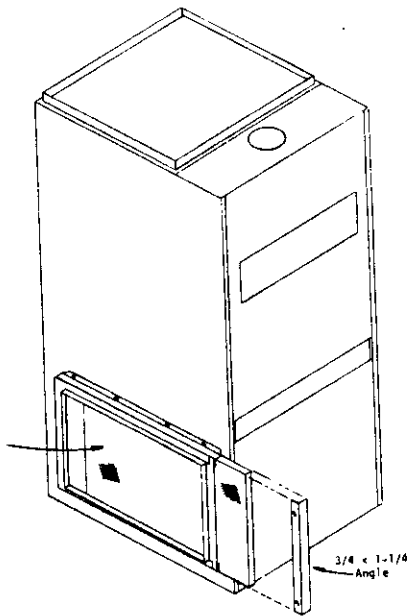
H-SERIES WITH STANDARD BUILT-IN
FILTER ARRANGEMENT

To remove filter from the optional external filter rack, pull forward on the 3/4 x 1-1/4 angle and disengage from the tension piece holding it in place. The filter may now be pulled from the filter rack.

The location may vary, depending on which side the installer located the return air duct.

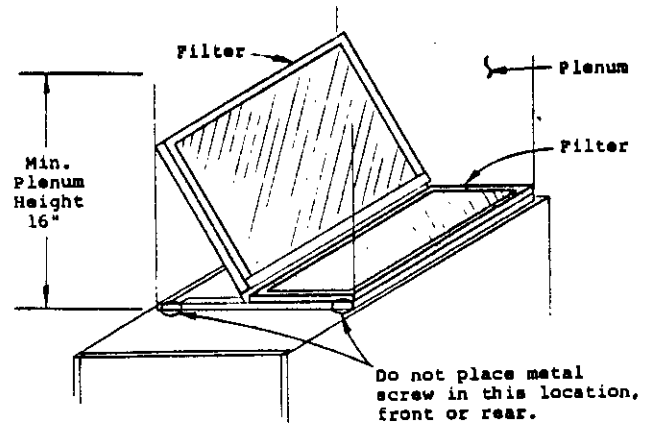
This filter is the permanent high velocity type foam filter which may be washed and used over and over. Do not replace it with a fiberglass filter of the same size.

To replace filter, reverse the above process.



C-SERIES COUNTERFLOW FURNACE FILTER REPLACEMENT
 MODELS C105A, EC105A, C105D42A, EC105D42A, C120A, EC120A, C120D42A, EC120D42A, C140A, EC140A, C140D48A, EC140D48A, C160A, EC160A, C160D48A, EC160D48A

Filters may be installed as shown or be reversed to place the upper sloping filter to the opposite side of the return air plenum. Attach filter support with sheet metal screws to the furnace plenum as shown. The filters can be installed and removed through the blower compartment door located on right or left side of furnace.



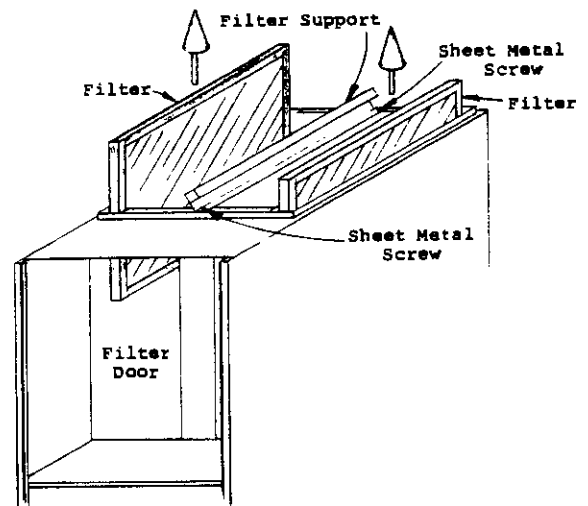
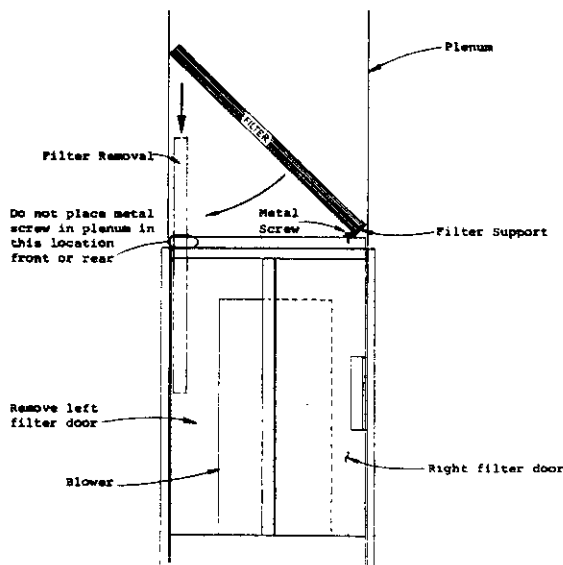
C-SERIES COUNTERFLOW FURNACE FILTER REPLACEMENT
 MODELS C60DA, EC60DA, C80DA, EC80DA, C80D36A, EC80D36A

To remove filters from counterflow models, you must first remove top front outer panel. This will expose the blower compartment in which the lefthand filter door is located. The filter door itself is held in place by friction. To remove, grasp door and pull outward.

To remove filter, push filter straight up and toward the left side of the furnace. Then pull filter down into opening. The filter size is 15x20 permanent.

To remove filters from these models, first remove top front panel. This will expose the filter doors. Remove these doors and reach up and lift filter off the filter support bracket. Then slide filters down and out through the filter door openings to the right and left of the blower.

The size of the filters for these models are: (1) 10x20 and (1) 15x20. They are of the permanent type which may be washed and used again.



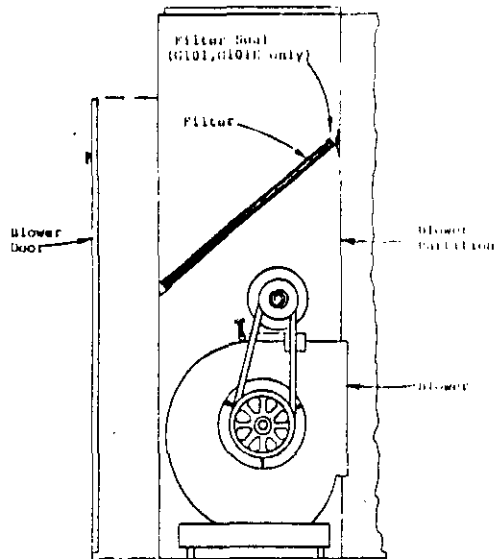
GAS LO-BOY FURNACE FILTER REPLACEMENT

MODELS G101, G101E, G125A, HG125A

On Lo-Boy models G101, G101E, G125A and HG125A, the filters are accessible through the rear blower compartment door. Remove door and lift filter from its frame.

The filters used on these models are disposable (fiberglass) filters and the sizes are:

G101 - 20x20x1 G125A - 20x27x1
G101E - 20x20x1 HG125A - 20x27x1

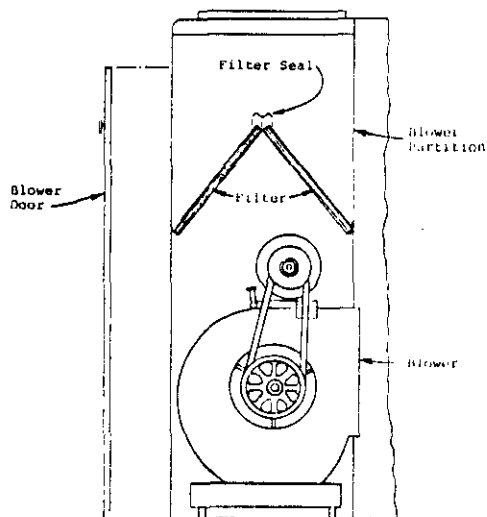


MODELS G152, G152E

On Lo-Boy models G152 and G152E, the filters are accessible through the rear blower compartment door. Remove door and lift filter seal up from the filters, then remove filters.

CAUTION: When replacing filter note which direction air flow is passing through. Air flow is down through the filters.

The filters used on this model are disposable (fiberglass) filters and the size is: (2) 16x25x1.



LUBRICATION REQUIREMENTS

- A. DIRECT DRIVE MODELS (All model numbers that have "D" after the number. Motors are permanently lubricated, no maintenance required.)
- B. BELT DRIVE MODELS - Oil the blower and motor bearings twice per heating season (every two months if CAC, constant air circulation, is used) with 5-6 drops of SAE20 motor oil. **DO NOT USE** a light lubricating oil such as 3-in-1 oil or sewing machine oil.

FAN BELT ADJUSTMENT

On belt drive models, check the fan belt for cracks or breaks each time the motor and bearings are lubricated, and replace with same type and length if necessary.

Belt tension is adjusted by loosening locking nut on adjuster bolt and turning bolt in or out as required. Proper tension will allow approximately one inch deflection with light finger pressure.

FURNACE EXAMINATION

The furnace and the vent system (commonly called flue pipe, smoke pipe, chimney, etc.) should be inspected yearly by a qualified service agency, generally prior to the heating season. Detailed procedures for this inspection are contained in the instructions booklet and should be handled by the qualified service agency only.

Periodic examinations of the combustion area and vent system should also be conducted by the owner on a regular basis, preferably every month but at least every two months, during the heating season.

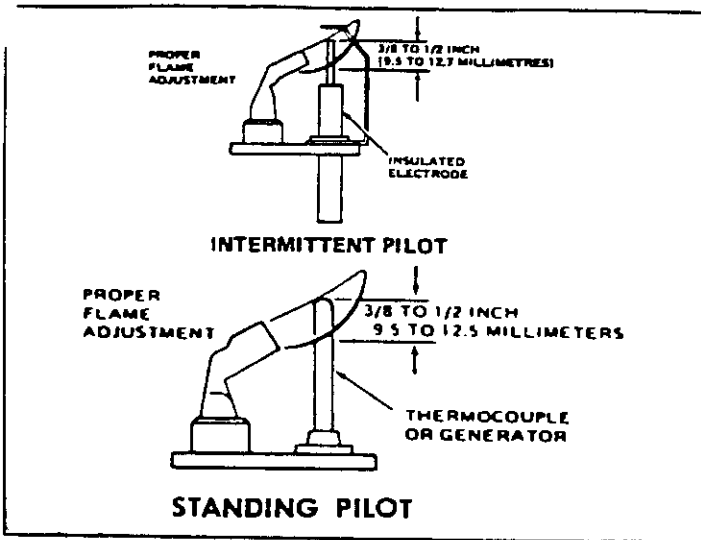
The following procedure should be followed for the periodic inspection as conducted by the owner:

1. Set the wall thermostat to the "OFF" position or lower the set point lever to a temperature well below the existing room temperature. Shut off electric power to the furnace. A switch should be mounted either on the outside of the furnace or adjacent to the furnace for this purpose.
2. Remove the furnace door exposing the burner compartment. This is accomplished on the H-Series and C-Series by sliding door upwards to unhook the top and disengaging the bottom offset.

On the G-Series, models that have a door pull only are removed by sliding the door upwards, disengaging clips at bottom and back top of door, then pulling forward. Models with door pull and handle latches at the bottom are removed by turning the bottom latches 1/4 turn, pulling up on door pull disengaging top hook, and then pulling forward.

3. Using a flashlight or trouble light, observe the burner compartment and where the burner(s) extend into the heat exchanger. There should be very minimal scaling or sooting in this area. Some loose debris may have fallen down on to the floor of the heat exchanger from the upper flue passageways, and this may be vacuumed out. Also observe the sides of the heat exchanger for "hot spots" due to improper burner alignment or overfiring and give particular attention to any area where it looks like there may be any deterioration from corrosion or rusting. On the C-Series and H-Series multiple burners, observe for any corrosion on the burners themselves. Should anything appear questionable, contact your service agency.

- If your furnace is a standing pilot model (burns all the time), observe the pilot flame. The pilot flame should be a "soft blue flame" enveloping or covering approximately 1/2 inch of the tip of the thermocouple.



On intermittent pilot models, the pilot lights only when the thermostat calls for heat and the main burner lights within a few seconds thereafter. It is recommended that any observation of pilot or main burner operation be done only with the burner compartment door in place and viewing through the combustion air slots. Any adjustments to the pilot flame should be done by competent service agency.

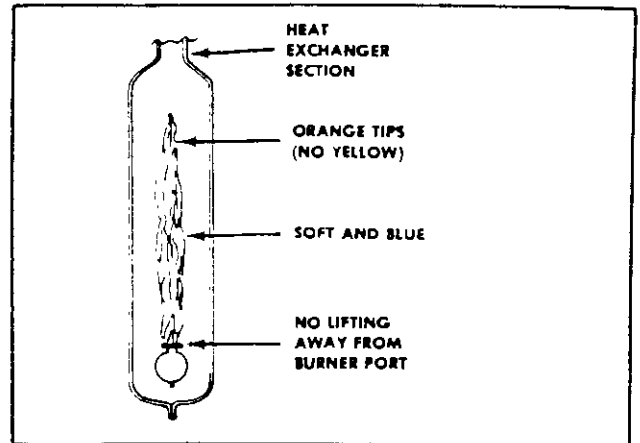
- With the use of flashlight and possibly with the aid of a small mirror, look into the upper flue passageways and outlet of the heat exchanger, viewing through what is called the "draft diverter." This is the upper air opening on the furnace, not too far below the point where the external flue pipe connects on to the furnace. Proper main burner adjustment should result in no soot accumulation in this area, but there may be some scaling due to oxidation. It is not uncommon to experience some loose scale laying in the bottom area of the draft diverter opening. This usually comes from the flue pipe above the furnace and can be easily wiped out. Sooting of any degree in this area will require the attention of the service agency for evaluation.
- Inspect the flue pipe the full distance from furnace to chimney or to exit point from the building, observing for corrosion and possible leakage that might result in products of combustion entering the living area.

WARNING: LEAKAGE OF PRODUCTS OF COMBUSTION INTO THE LIVING AREA MAY RESULT IN ASPHYXIATION.

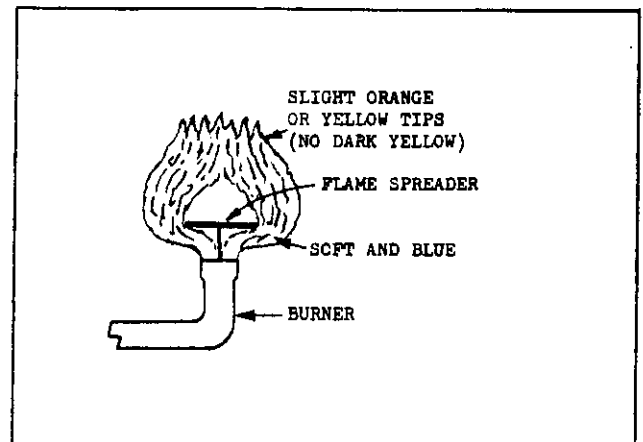
Any questionable flue pipe should be replaced. Considering its importance, it is relatively cheap insurance to protect your family. Consult your service agency.

- Replace the burner compartment access doors by reversing the procedure as outlined under step 2 above.
- Restore the electrical power to the furnace by turning the switch back on. Adjust the thermostat to call for heating operation.

- Observe the main burners in operation viewing through the combustion air slots. The flame should be mostly "blue" with possibly a little "yellow" at the tips of the flames. The flames should be in the center of the heat exchanger compartments and not impinging on the heat exchanger surfaces themselves.



H-SERIES and C-SERIES
(Multiple Section Type)



G-SERIES
(Single Port Burner)

- Observe the fire until the blower starts (there is a normal delay period until the heat exchanger warms up). There should be no change in the size or shape of the flame. If there is any wavering or blowing of the flame on blower start-up, it is an indication of a possible leak in the heat exchanger. Turn off the main electrical switch to the furnace and the gas valve in the gas line leading to the furnace, and call your service agency.



Limited Warranty

WHAT THIS WARRANTY COVERS

We warrant to the original purchaser only that all Bard products will be free from defects in materials and workmanship in normal use for the periods shown below. We will either repair or replace a defective part at our Bryan, Ohio factory and return it to your dealer. We make no express warranties, other than this one.

DURATION OF WARRANTY

Our warranty and all implied warranties are limited to defects arising during the periods shown in the following table. The start of the periods is the date of installation shown on your warranty registration card. You must return this card to get the full term of the warranty. If you do not return the card, the periods will start when your Bard product was shipped from our factory.

ITEMS COVERED	LENGTH OF WARRANTY
1. All Bard products	One year
2. Hermetic Compressors	Five years
3. Steel heat exchangers for Hi-Boy, Lo-Boy and Counterflow furnaces	Twenty years You pay 1/10 of latest list price for each year after ten years
4. Steel heat exchangers for all horizontal oil furnaces	Ten years You pay 1/10 of latest list price for each year
5. Steel heat exchangers for all horizontal gas furnaces	Ten years

Warranty repairs and replacement will not extend the periods. The warranty for the repaired or replacement part will last only for the remainder of the warranty period for the original part or product.

All implied warranties are limited to the periods in the table. We make no other implied warranties, including implied warranties of merchantability and fitness for a particular purpose. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

WHAT THIS WARRANTY DOES NOT COVER

This warranty does not cover defects caused by

1. Alterations not approved by us, improper or negligent installation, application, repairs or servicing, or parts not supplied by us.
2. Failure to follow the limitations on the product's rating plate or in our instructions or failure to do required preventative maintenance.
3. Unusual, negligent, or improper use.
4. Improper fuel or electrical supply (Examples of improper electrical supply are low voltage, voltage transients, power interruption, improper frequency, blown fuses, and open circuit breakers).
5. Accidents or other events beyond Bard's control (Examples of these include damage in transportation, storm damage, damage caused by workmen, fire, flooding, lightning, etc.).

6. Defects that happen after

- (a) Anyone has tampered with the product,
- (b) The product has been improperly serviced by anyone not authorized by us (See also No. 1 above),
- (c) The product has been moved from its original place of installation, or,
- (d) The product has been damaged by an event beyond Bard's control (See also No. 5 above).

Our warranty does not cover normal preventative maintenance or repair or replacement of consumable parts, such as cleaning or replacement of filters. Please see your manual for normal maintenance requirements.

This warranty applies only to our products that are installed in the United States except Alaska and Hawaii. Products installed in Canada also are not covered.

WHAT WE WILL DO ABOUT A DEFECT

We will repair or replace defective parts only. We will repair or replace the heat exchangers indicated in the tables showing the length of warranty if you pay the applicable portion of the latest list price. Replacement parts may be reconditioned parts. We will not pay or be responsible for the following.

1. Labor or transportation costs.
2. Delays in repairing or failures to complete repairs caused by events beyond our control (Common examples of such events are strikes, floods, unavailability of materials, and governmental restrictions).
3. Any incidental, consequential, or other damages or other costs arising out of the defect (An example would be living expenses or increased utilities expenses while the product needs repair or is out of operation).

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

WHAT YOU MUST DO

1. Tell your dealer as soon as you discover a problem and ask your dealer to fix the problem. You should do this in writing for serious problems.
2. Pay all costs for transporting the defective part and the repaired or replacement part.
3. Pay all removal, installation, and service charges.
4. For defective heat exchangers, pay the prorated portion of the list price applicable to the heat exchangers.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

FOR SERVICE OR REPAIR, FOLLOW THESE STEPS IN ORDER:

FIRST: Contact the installer. You may find his name on the product in your Owner's Packet. If his name is not known, call your builder if yours is a new residence.

SECOND: Contact the nearest distributor. (See telephone pages).

THIRD: Contact:

BARD MANUFACTURING COMPANY
P.O. Box 607
Bryan, Ohio 43506
Phone: (419) 636-1194

* * * * *

FOR OWNERS INFORMATION

Product Model No. _____

Unit Serial No. _____

Installation Date _____

Installed by (dealer) _____

