

# Sears

## owners manual

**MODEL NUMBER**  
**143.840823**



U.L. FILE NUMBER  
MH 10475

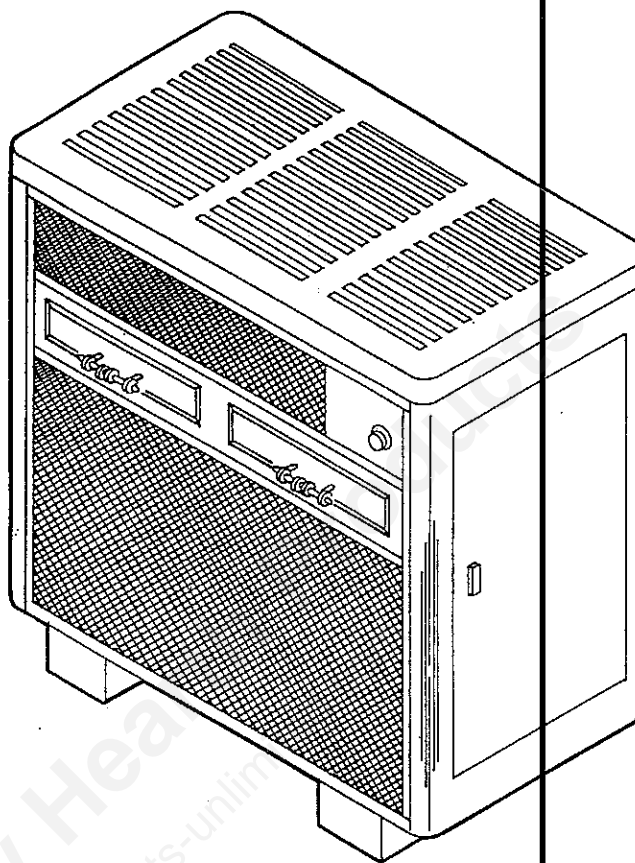


REPORT  
NO. 2073

**CAUTION:**  
Read All Instructions  
Carefully Before  
Starting the Installation  
or Operating the Heater

**DO NOT USE THIS  
HEATER IN MOBILE  
HOMES OR TRAILERS**

Save This Manual  
For Future Reference



# AUTOMATIC COAL OR WOOD BURNING CIRCULATOR HEATER

- Assembly
- Installation
- Operation
- Repair Parts

Sears, Roebuck and Co., Chicago, Ill. 60684 U.S.A.

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FORM 85337-C 11/82

# introduction!

Please read our instructions before you install and use your new Coal or Wood Burning Circulator Heater. This will help you obtain the full benefits from your heater.

If you want your heater professionally installed, contact your SEARS SALESPERSON. They will arrange for prompt, quality installation by SEARS AUTHORIZED INSTALLERS.

## ATTENTION NEW OWNER! Please Read Before Using Heater

This solid fuel room heater is designed to operate at a very high efficiency. With the incorporation of a stainless steel heat exchanger in the top of the combustion chamber, it is designed to retain a high percentage of the heat that normally goes out the chimney with other heaters. Due to this unique design when the thermostat is set on high or during "heat up" periods, in a dimly lighted or dark room,

you may see a slight glow appear on the top of the combustion chamber in the heat exchanger area. **DO NOT BE ALARMED** — this unit is designed and constructed of quality materials to withstand temperatures in excess of 1000° F; and if operated in accordance with instructions in the owner's manual, this unit will give you years of comfortable and economic service.

## SEARS INSTALLATION POLICY

All installation labor arranged by SEARS shall be performed in a neat, workman-like manner in accordance with generally accepted trade practices. Further, all installations shall comply with all local

laws, codes, regulations, and ordinances. The customer shall also be protected, during installation, by insurance relating to property damage, workmen's compensation and public liability.

## SEARS INSTALLATION WARRANTY

In addition to any warranty extended to you on the Sears merchandise involved, which warranty becomes effective the date the merchandise is installed, should the workmanship of any Sears

arranged installation prove faulty within one year, Sears will, upon notice from you, cause such faults to be corrected at no additional cost to you.

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# tools and materials needed

### TOOLS

Pencil  
6 Foot Folding Rule or Tape  
Tin Snips  
Drill, Hand or Electric  
Drill Bit (For Sheet Metal Screws)  
1/8" Dia.  
Gloves  
Screwdriver

### MATERIALS

Chimney Connector-6" dia. Black or Blued Steel (24 ga. minimum): Straight or Elbow (as required)  
1/2" Sheet metal screws  
6" Inside diameter Underwriters Laboratories (UL) Listed Residential Type and Building Heating Appliance Chimney or existing masonry chimney.  
Floor Protector Material 3'-0" x 4'-6" as specified on Page 4.  
Furnace Cement (Rutland Black Code 78 or Equivalent is recommended)

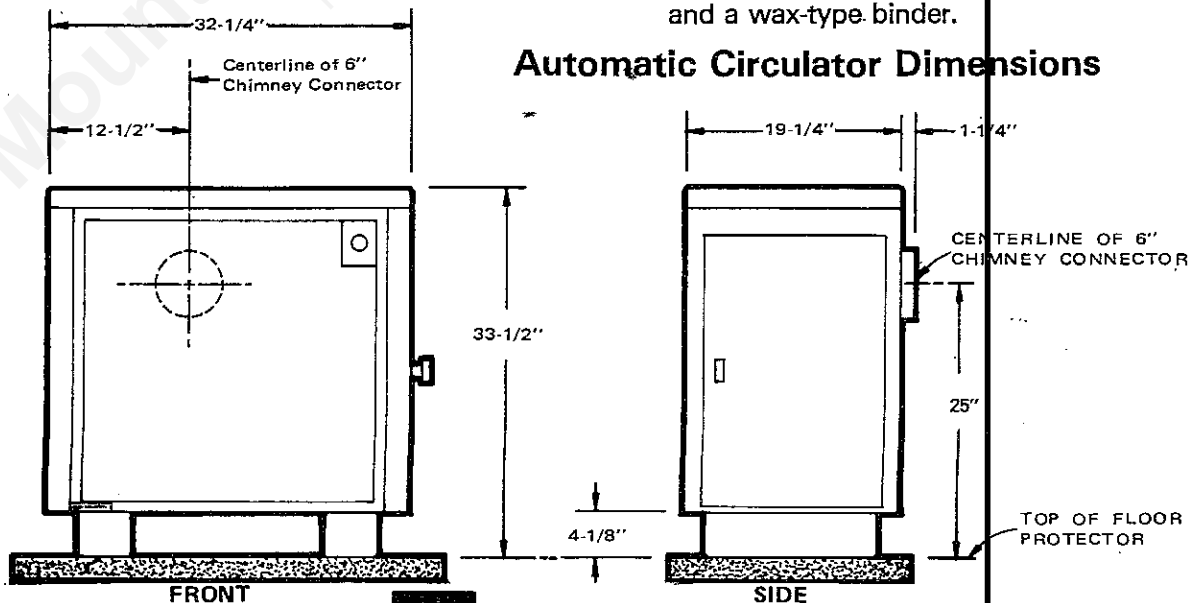
# rules for safe installation and operation

Read these rules and the instructions carefully. Failure to follow them will cause a hazard that could result in death, serious bodily injury, and/or property damage.

1. Check your local codes. The installation must comply with their rulings.
2. Do not install this heater in a mobile home or trailer.
3. Always connect this heater to a chimney and vent to the outside. Never vent to another room or inside a building.
4. Do not connect a wood burning heater to an aluminum Type B gas vent. This is not safe and is prohibited by the National Fire Protection Association Code. This heater requires a masonry or a UL Listed Residential Type and Building Heating Appliance Chimney. Use a 6" diameter Chimney or larger, that is high enough to give a good draft.
5. Be sure that your Chimney is safely constructed and in good repair. Have the chimney inspected by the Fire Department or a qualified inspector. Your insurance company may be able to recommend a qualified inspector.
6. Inspect chimney connector and chimney before and frequently during the heating season for any deposit of creosote or soot which must be removed (see Chimney Maintenance, page 11).
7. Provide air for combustion from outside the house into the room where the heater is located. If the intake is not in the same room, air must have free access to the room.
8. CAST IRON PARTS MUST BE "SEASONED" TO AVOID CRACKING. BUILD ONLY SMALL FIRES ON FIRST USE.
9. To prevent injury, do not allow anyone to use this heater who is unfamiliar with the correct operation of the heater.
10. For further information on using your heater safely, obtain a copy of the National Fire Protection Association (NFPA) publication "Using Coal and Wood Stoves Safely" NFPA No. HS-10-1978. The address of the NFPA is Batterymarch Park, Quincy, MA 02269.
11. Keep the ashpit section free of excess ashes. Do not allow ashes to stack higher than the sides of the ash pan.
12. **DISPOSAL OF ASHES**- Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.
13. **CAUTION**- The special paints used on your heater may give off some smoke while they are curing during first few fires. Build small fires at first.
14. **CARING FOR PAINTED PARTS** - This heater has a painted outside jacket, which is durable but it will not stand rough handling or abuse. When installing your heater, use care in handling. Clean with soap and warm water when heater is not hot. DO NOT use any acids or scouring soap, as these wear and dull the finish. PAINT DISCOLORATION WILL OCCUR IF THE HEATER IS OVERFIRED. FOLLOW OPERATING INSTRUCTIONS CAREFULLY.
15. Keep the feed door, ash door, cabinet door closed at all times except while tending the heater.
16. Use wood or coal only. DO NOT USE the coal bricks that are manufactured from coal dust and a wax-type binder.

## CAUTION:

Do not touch the heater until it has cooled.



### Automatic Circulator Dimensions



# chimney connection

## MASONRY CHIMNEY

Before using an existing masonry chimney, clean the chimney and inspect the flue liner to be sure it is safe to use. Make repairs before attaching the heater.

Look at Fig. 5. The connector pipe and fittings you will need to connect directly to a masonry chimney are shown.

If the connector pipe must go through a combustible wall before entering the masonry chimney, consult a qualified mason or chimney dealer. The installation must conform to local fire codes.

Do not connect this heater into the same chimney flue as the fireplace or flue from another heater.

The chimney used for a heater must not be used to ventilate the cellar or basement. If there is a cleanout opening at the base of the chimney, close it tightly.

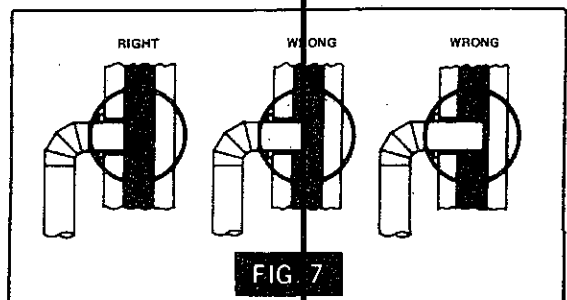
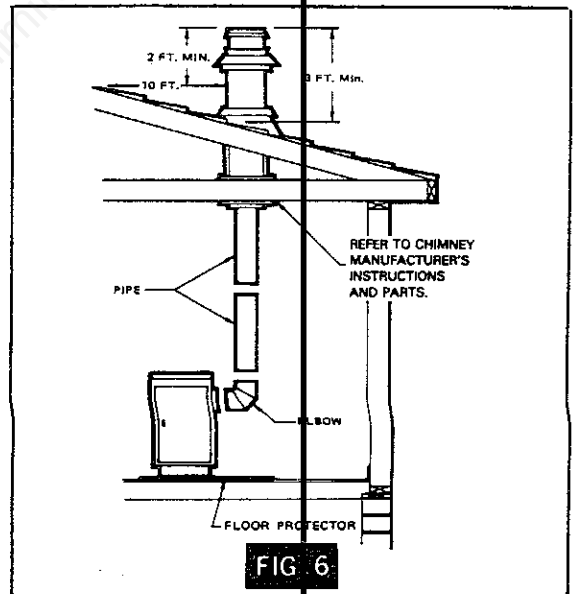
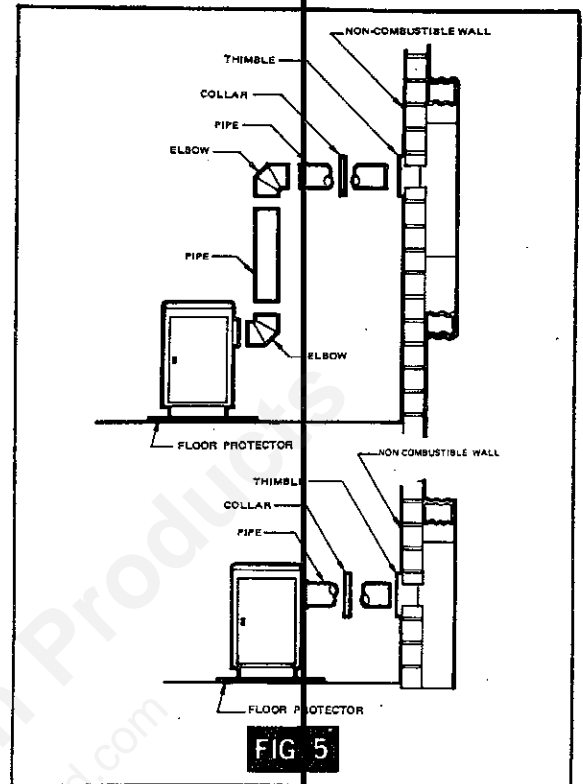
## UL LISTED CHIMNEY

Carefully follow chimney manufacturer's instructions. Use only a UL Listed Residential Type and Building Heating Appliance Chimney. If your chimney starts at the ceiling (Fig. 6), you will need a 6" elbow and enough 6" pipe to reach the ceiling. You will also need the connector adapter Sears Stock No. 42-99185.

The top of the chimney must be at least 3 feet above the roof and be at least 2 feet higher than any point of the roof within 10 feet (Fig. 6).

## RULES FOR CONNECTOR PIPE INSTALLATION

1. The crimped end of the stovepipe fits inside the heater flue collar. Install additional pipe and elbow **CRIMPED END TOWARD THE HEATER**. This will allow any condensation in the flue to run back into the heater.
2. Slope any horizontal pipe upward toward the chimney at least  $\frac{1}{4}$  inch for each foot of horizontal run.
3. You must have at least 18 inches of clearance between any horizontal piping and the ceiling.
4. The pipe cannot extend into the chimney flue (Fig. 7).
5. Seal each connector pipe joint with furnace cement. Also seal the pipe at the chimney.
6. Use 3 sheet metal screws at each joint to make the piping rigid.
7. Do not put a damper in a connector pipe.
8. It is recommended that no more than two 90° bends be used in the stovepipe installation as more than two may decrease the amount of draw and possibly cause smoke spillage.



# Installation: Cabinet Door Latch Assembly

Remove handle assembly from ash pan. Items in bag should include: (SEE FIG. 8).

- (1) Latch
- (1) Spring
- (1) Set Screw (Slotted)
- (1) Knob

Install the latch assembly using the steps shown below.

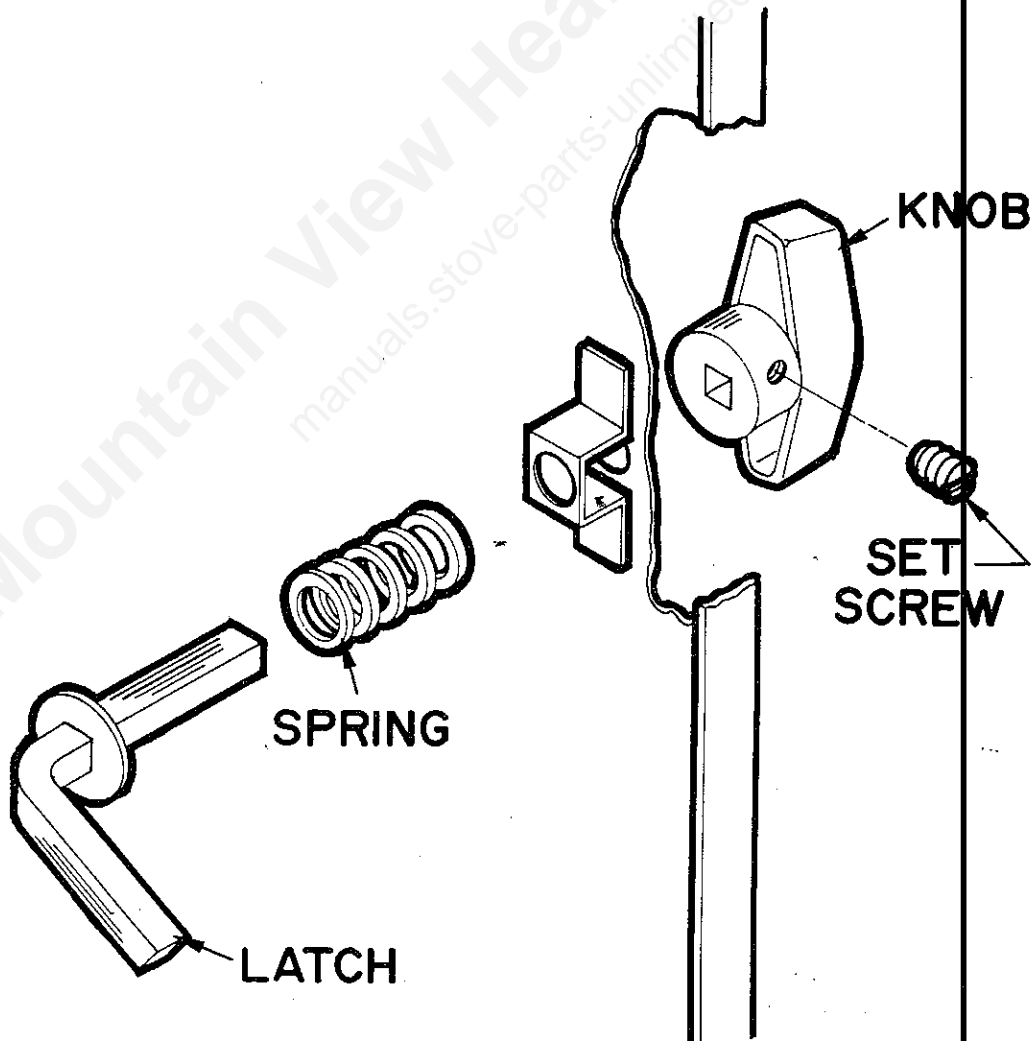
STEP 1: Open cabinet door.

STEP 2: Put spring on latch.

STEP 3: Put latch through bracket on the inside of the cabinet door.

STEP 4: Slide handle on latch.

STEP 5: Insert and tighten set screw in handle with screwdriver.



# How To Use Your Heater

## FUEL

Egg size (1-3/16 or larger) coal for residential furnaces. Coal with a low ash content (2% to 6%) is recommended. Do not use Cannel Coal. Hardwood, 18" to 22" should be split and air dried (seasoned) for 6 months.

**NOTE:** Store coal in a dry, well ventilated area.

## LIGHTING

1. Set the thermostat on "HIGH" for maximum draft.
2. Open the feed door and place paper and kindling on the grate for starting the fire.
3. Light fire and close feed door.
4. Add wood or about 15 lbs. of coal after fire is burning briskly. Be careful not to smother the kindling fire.
5. Set thermostat for desired temperature. "MEDIUM" setting is normally satisfactory. Set higher or lower for your comfort.

## ADDING FUEL

When possible, add small amounts of fuel each hour or so instead of adding large quantities of fresh fuel over long periods of time. This will give more complete combustion and less build-up of tars or soot in the chimney.

1. Set thermostat to HIGH before opening feed door.
  2. Wood Fire - Do not add fuel above firebox liners.
  3. Coal Fire - Never smother the fire when adding coal (see CAUTION below). Gas accumulation and a mild smoky explosion will occur.
- a. Add fresh kindling if the bed of coals has cooled.  
b. Add up to 20 lbs. of coal. Never add coal above top of fire brick.

### CAUTION

**GASES THAT ARE DRIVEN FROM FRESH COAL MUST BE BURNED OR THEY WILL ACCUMULATE AND EXPLODE. NEVER SMOTHER A FIRE WHEN ADDING FRESH COAL.**

### CAUTION

**BUILD FIRE ON INTEGRAL GRATE PROVIDED WITH THE HEATER.**

- c. Stir the coal and watch the fire. Be sure the new coal is burning briskly before you close the doors and turn the thermostat down.
  - d. Adjust air shutter on feed door damper from closed to open position for better burning. (See Fig. 9).
4. Shake grates vigorously 1/2" towards and away from the ash door opening to dump ashes into the ash pan. Do this at least once every 12 hours of operation. Empty ash pan regularly. Do not allow ashes to build up to grate as grate will warp and burnout, and you might spill the ashes when removing the pan. Dispose of hot ashes properly (see Note 12 on Page 3).

### CAUTION

**DO NOT OPERATE THIS HEATER WITH FEED OR ASH DOOR OPEN. THIS HEATER IS DESIGNED FOR THERMOSTATIC OPERATION. OPERATION WITH EITHER DOOR OPEN WILL OVERHEAT AND DAMAGE THE HEATER.**

### WARNING

**NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL, LIGHTER FLUID, OR SIMILAR LIQUIDS TO START OR "FRESHEN UP" A FIRE IN THE HEATER.**

### WARNING

**NEVER STORE FLAMMABLE LIQUIDS, ESPECIALLY GASOLINE, IN THE VICINITY OF THE HEATER.**

### WARNING

**NEVER USE THE MANUFACTURED COAL BRICKS THAT ARE MADE FROM COAL DUST AND A WAX-TYPE BINDER.**

## SUGGESTIONS FOR BURNING ANTHRACITE COAL

1. Anthracite coal may be burned in the Model 143.840823. Always follow instructions that are shown in the Owners Manual.
2. With coal, as with wood, it is important to maintain a clean chimney. The chimney connector and chimney should be inspected at least twice monthly during heating season.
3. Keep the grate clear of ash and cinders. Use the shaker grate to keep the ashes from building up in the firebox.
4. Do not operate the unit with the ash door, feed door, or cabinet door open.
5. Anthracite coal burns with a short, blue flame with the coals having a glowing, red color. Before adding coal, when starting the fire, have a good hot log fire burning.
6. After having a log fire burning, add small amounts of coal until a bed of coal is built up.
7. Adjust air shutter on feed door damper from closed to open position for better burning. (See Fig. 9).
8. A draft reading of  $-.05$  to  $-.06$  in w.c. is required for anthracite to burn.

### NOTE

Adjust air shutter on feed door damper from closed to open position for better burning. This air shutter should be in the open position only when burning coal.

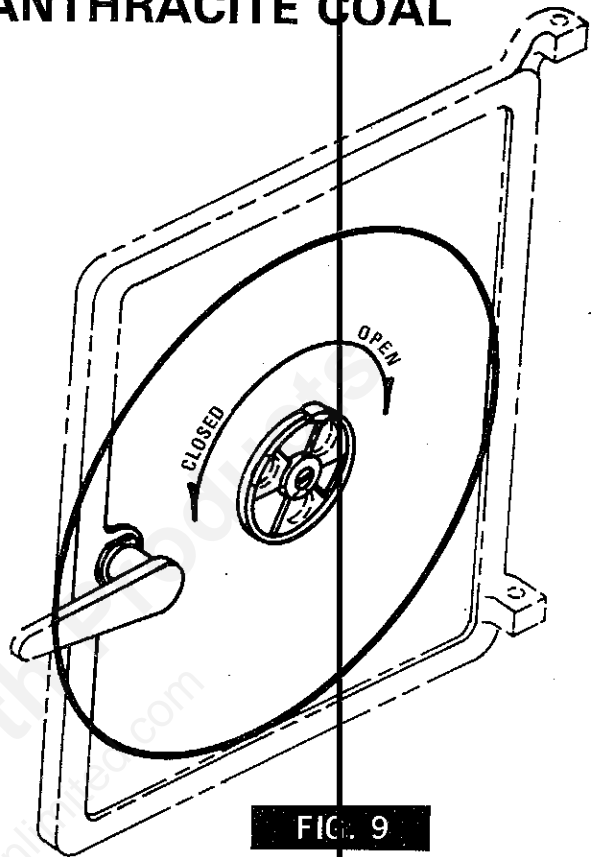


FIG. 9

## Instructions for Two-Step Latch Operation

1. Follow these instructions to operate your unit safely when operating the feed door.
2. Turn handle clockwise to the 12 o'clock position, pull the door open until you engage the second step. (Fig. 10).
3. Hold the door in that position for approximately 10 seconds.
4. Then to open door, turn the handle counter clockwise to the 9 o'clock position and then continue to pull the door open. (Fig. 11).
5. To close and latch the door, reverse steps 4 thru 2.

### NOTE

**THIS NEW LATCHING MECHANISM MEETS CODES AND REGULATIONS AND PROVIDES MORE SAFETY FOR THE USER OF THIS STOVE.**

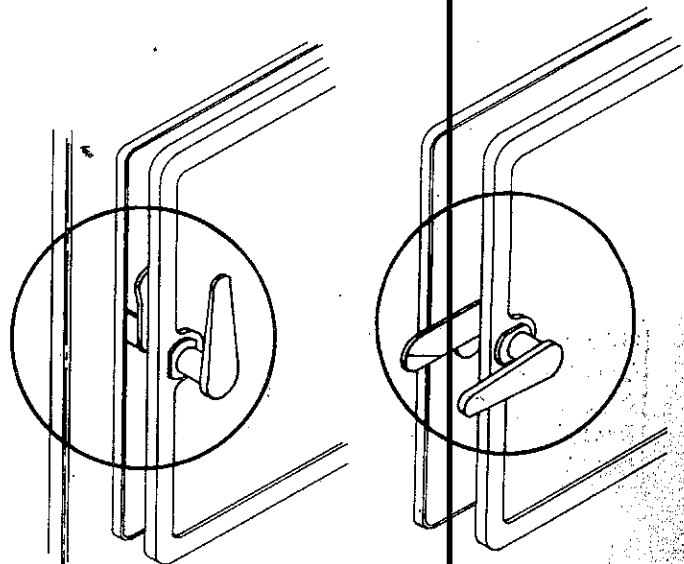
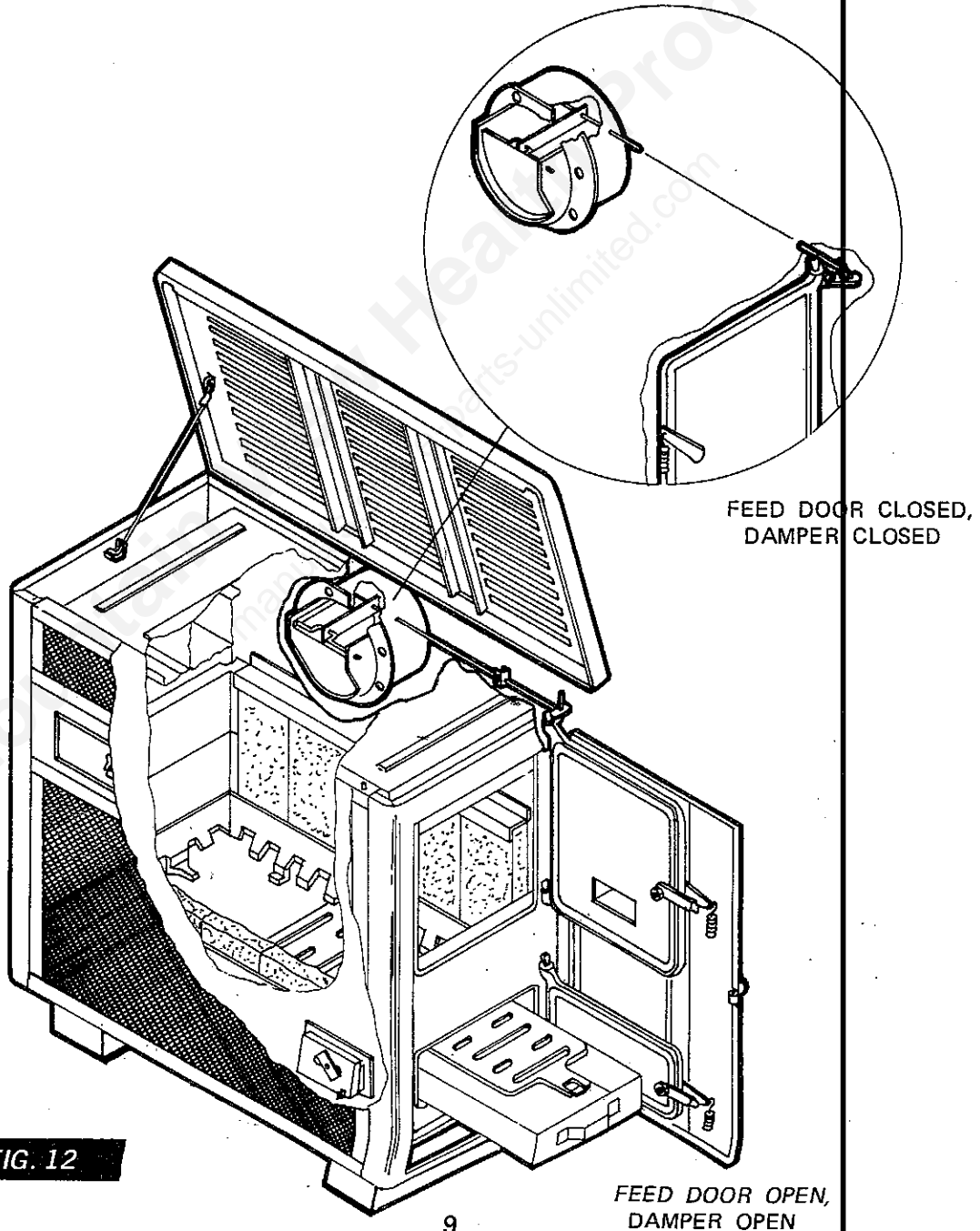


FIG. 10

FIG. 11

**CAUTION**

THIS HEATER IS DESIGNED WITH A FLUE COLLAR DAMPER WHICH OPERATES AUTOMATICALLY WHEN THE FEED DOOR IS OPENED AND CLOSED. IF THE UNIT SMOKES WHEN THE FEED DOOR IS OPEN, CHECK THE FLUE COLLAR DAMPER TO SEE THAT IT IS OPEN ALSO. FAILURE OF THE DAMPER TO OPERATE PROPERLY MAY CAUSE SMOKE AND FLAME TO ESCAPE THROUGH THE FEED DOOR IN THE OPEN POSITION.  
(FIG. 12)



**FIG. 12**

# adjusting the thermostat

The thermostat control was adjusted at the factory. The operation of the heater may require a change in calibration. Calibration adjustments should be made at room temperature.

If the thermostat adjustment is not satisfactory, the thermostat operating range may be changed as follows:

- A. To increase the amount of heat at a "HIGH" setting, adjust the wire linkage to increase the draft damper opening (Fig. 13).
1. Unhook linkage wire at Point "C".
  2. Take Point "A" in left hand and "B" in right hand, then turn "B" clockwise about 3 turns.
  3. Then hook linkage wire back to draft control damper door at Point "C".
- B. To decrease the amount of heat at "LOW" setting:
1. Check feed and ash doors to be sure that they are closed tightly.
  2. Check the connector pipe to see that it is sealed at all connecting points.
  3. If no air leaks are found, adjust linkage as above except turn "B" counterclockwise about 3 turns.

*NOTE: More than one readjustment may be necessary. At room temperature (72° F) and "LOW" setting, the draft damper door should be closed.*

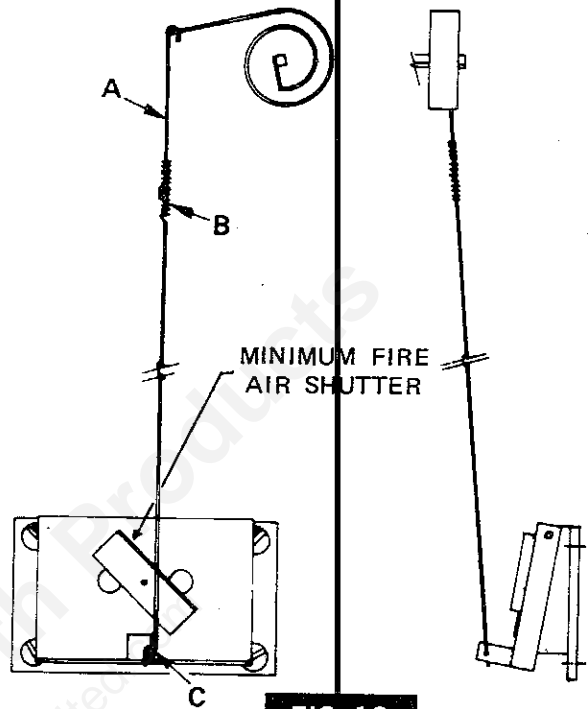


FIG. 13

# How To Lift The Top

**CAUTION - DO NOT OPEN OR CLOSE TOP WHEN HEATER IS HOT!** To open, lift the front edge of the cabinet top to the full open position. Then gently lower the TOP until the TOP SUPPORT ROD latches in the Top Support seat, to hold the top. (Fig. a) -To close, lift TOP until the TOP SUPPORT ROD is unlatched. Pull the ROD forward and lower the TOP (Fig. b).

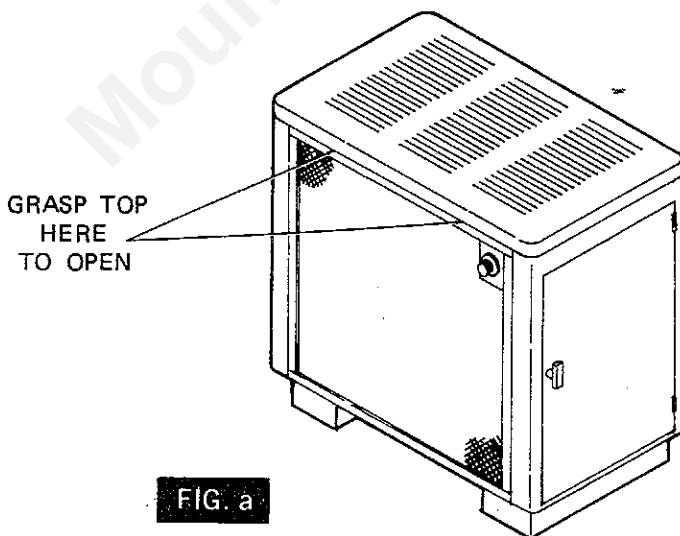


FIG. a

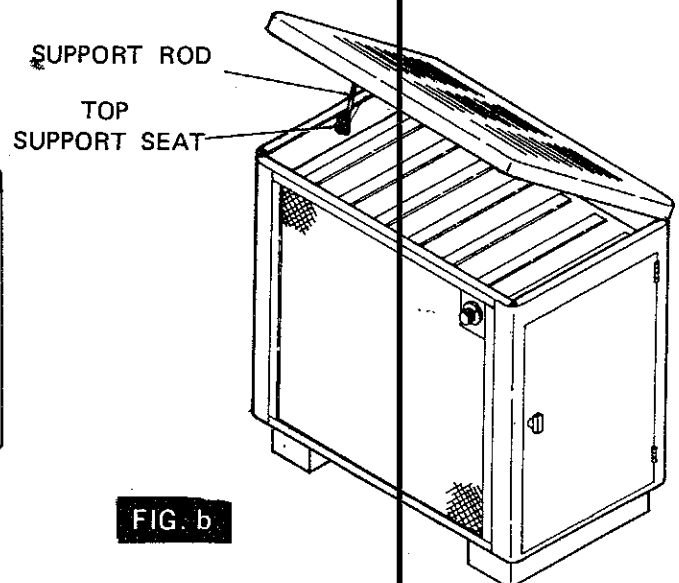


FIG. b

# minimum fire

The burning rate at the low setting can be further adjusted by opening or closing the minimum fire air shutter (Fig. 13) on the draft control door.

1. Partially close the shutter to make the fuel burn longer.
2. Open the shutter, exposing a large opening, to reduce the formation of creosote or soot (see notes on Chimney Maintenance).
3. Do not operate the heater with the minimum fire air shutter completely closed.

# service hints

Do not expect a heater to draw. It is the chimney that creates the draft. Smoke spillage into the house or excessive build-up of water or creosote in the chimney are warnings that the chimney is not drawing properly. Correct the problem before using heater. Possible causes are:

1. The connector pipe may be pushed into the chimney too far, stopping the draft (Fig. 7).
2. Do not connect two heaters into the same chimney flue.
3. Do not use the chimney to ventilate the cellar or basement. If there is a cleanout opening at the base of the chimney, close it tightly.
4. If the chimney is too cool, moisture will condense in the chimney and run back into the heater. Creosote formation will be rapid and may block the chimney. Build your heater fire large enough to keep the chimney warm to prevent condensation.
5. If the fire burns well but sometimes smokes or burns slowly, it may be caused by the chimney top being lower than another part of the house or a nearby tree. The wind blowing over a house or a tree falls on top of the chimney like water over a dam, beating down the smoke. The top of the chimney should be at least 3 feet above the roof and be at least 2 feet higher than any point of the roof within 10 feet (Fig. 6).

# chimney maintenance

## Creosote - Formation and Need for Removal

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

When coal is burned, the products of combustion combine with moisture to form a soot residue which accumulates on the flue lining. When ignited, this soot makes an extremely hot fire.

The chimney should be inspected at least twice monthly during the heating season to determine if a creosote or soot build up has occurred.

If creosote or soot has accumulated, it should be removed to reduce the risk of a chimney fire.

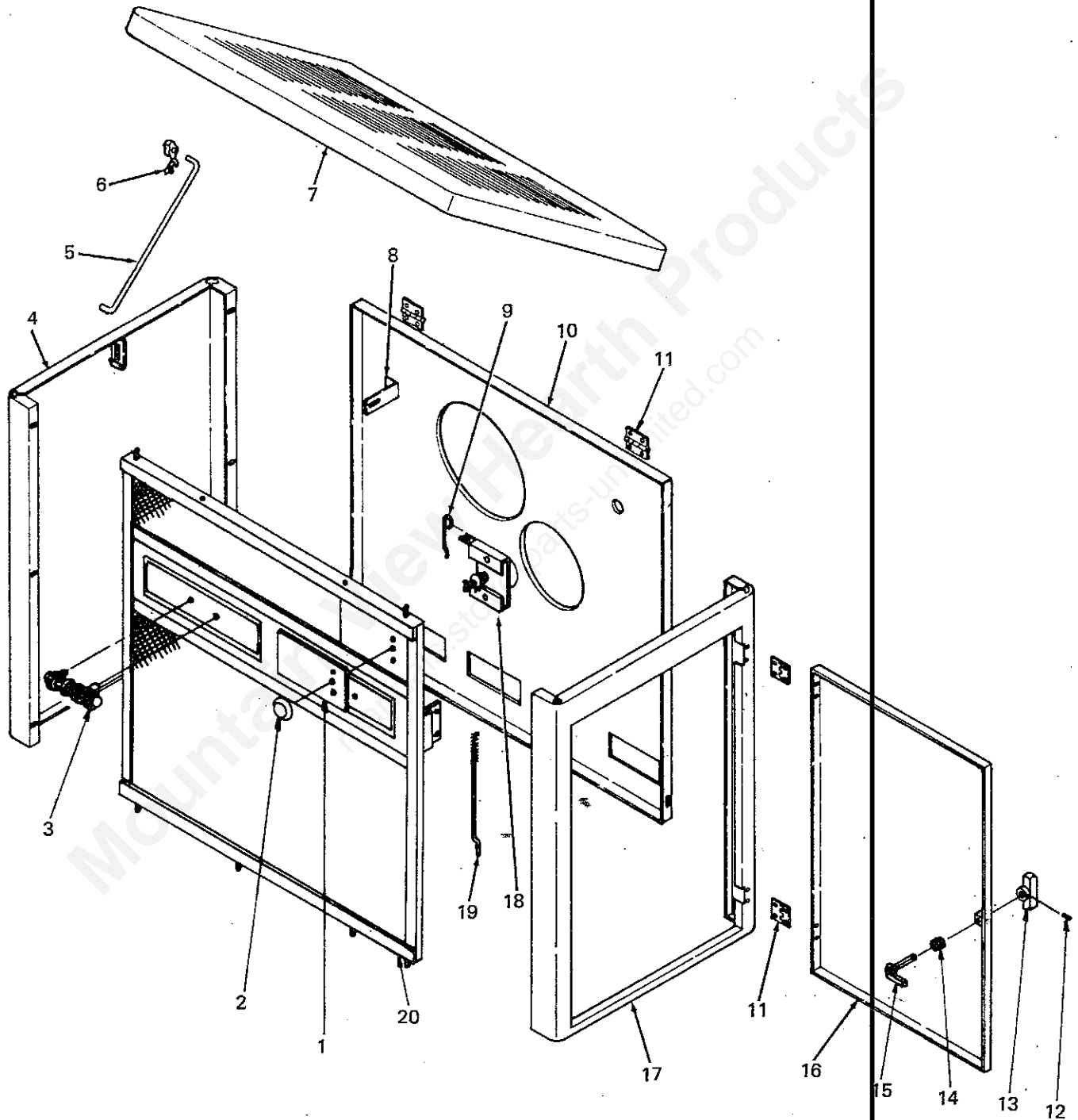
Chimney fires burn very hot. If the chimney catches fire, immediately call the fire department, then reduce the fire by closing the inlet air control. Pour a large quantity of coarse salt, baking soda or cool ashes on top of the fire in the firebox.

### CAUTION

A chimney fire may cause ignition of wall studs or rafters which you thought were a safe distance from the chimney. If you have a chimney fire, have your chimney inspected by a qualified person before using again.

# repair parts

SEARS AUTOMATIC COAL OR WOOD BURNING  
CIRCULATOR MODEL NO. 143.840823



# repair parts

SEARS AUTOMATIC COAL OR WOOD BURNING  
CIRCULATOR MODEL NO. 143.840823

Key No.	Part No.	Description
1	85339	Label, Cabinet Panel
2	89175	Knob, Thermostat
3	89176	Handle, Cabinet Front (2 Req'd.)
4	67758	Cabinet Left End
5	21593	Hinge Support
6	83833	Hinge Clip
7	67757	Cabinet Top
8	21063	Back Brace
9	86246	Thermostat Linkage Wire
10	67514	Cabinet Back
11	89065	Hinge (4 Req'd.)
12	83242	Set Screw 1/4"-20x1/4" long (slotted)
13	89173	Handle, Door
14	89041	Spring
15	67724	Door Latch
16	67760	Door, Cabinet
17	67759	Door Frame
18	67743	Thermostat
19	86191	Thermostat Linkage
20	67753	Cabinet Front

Sears

owners  
manual  
service

MODEL NUMBER  
143.840823

HOW TO ORDER  
REPAIR PARTS

TELL SEARS YOU  
WANT IT INSTALLED —  
THEN RELAX

# AUTOMATIC COAL OR WOOD BURNING CIRCULATOR HEATER

Now that you have purchased your Automatic Coal or Wood Circulator Heater should a need ever exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. stores. Be sure to provide all pertinent facts when you call or visit.

The Model Number will be found on a plate mounted on the back of the heater. Always mention the Model Number when requesting service or repair parts for your Heater.

WHEN ORDERING REPAIR PARTS, ALWAYS  
GIVE THE FOLLOWING INFORMATION AS  
SHOWN IN THIS LIST.

1. The PART NUMBER
2. The PART DESCRIPTION
3. The MODEL NUMBER: 143.840823
4. The NAME OF ITEM: \_\_\_\_\_

If the part you need is not stocked locally, your order will be transmitted to a Sears Repair Parts Distribution Center for quick handling.

When Sears arranges the installation, you can be sure the job is done right. We will arrange for professional workmanship. . . and we'll take care of the entire project. What's more, during installation you get insured protection . . . against property damage and also against accidents to workmen. All you have to do is talk to your Sears salesperson or call your nearest Sears store today for detailed information.