

Sears

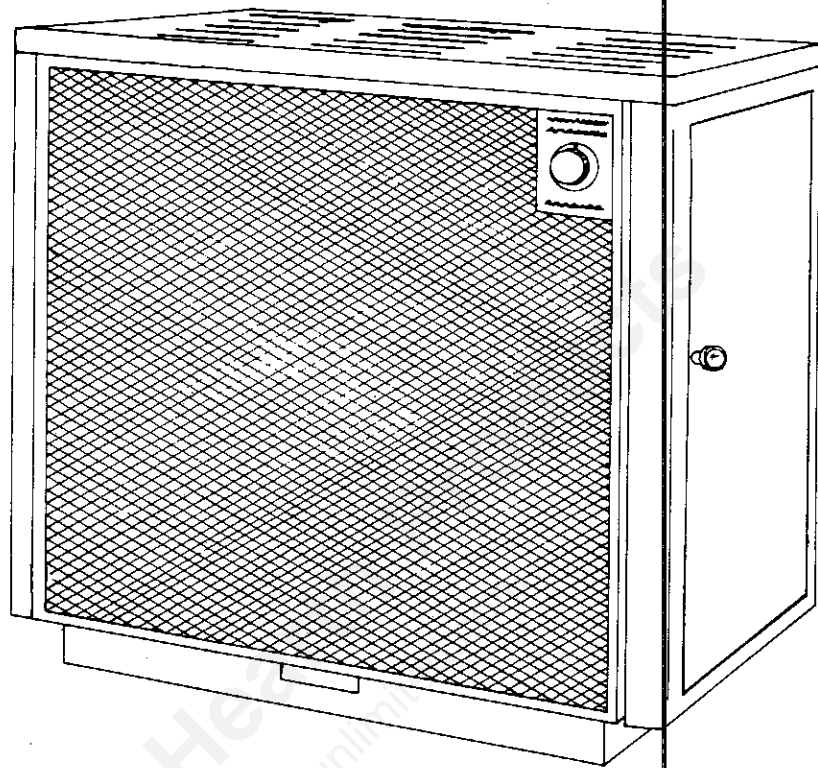
owners manual

MODEL NUMBER
143.840680

CAUTION:
Read All Instructions
Carefully Before Start-
ing The Installation.

Do Not Use This
Heater in Mobile
Homes or Trailers

Save This Manual For
Future Reference.



AUTOMATIC COAL OR WOOD BURNING CIRCULATOR

- Installation
- Operation
- Repair Parts

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

PRINTED IN U.S.A.

FORM 85203 9/77

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. This will also help you avoid any needless service costs that result from causes we cannot control.

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

SEARS INSTALLATION POLICY

All installation labor arranged by SEARS shall be performed in a neat, workmanlike 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.

For Your Building Inspector:

1. Wall Spacing—recommendations in owners manual taken from National Fire Code Volume 89 M.
2. Floor Protection—use fireproof insulation material such as patio blocks, bricks, concrete or the equivalent of 3/8 inches of asbestos.
3. Use only masonry or Class A, All-Fuel, UL listed factory built chimney.

rules for safe installation and operation

1. Read these rules and the instructions carefully. Failure to follow them could cause malfunction of the heater. This could result in death, serious bodily injury, and/or property damage.
2. Check your local codes. The installation must comply with their rulings.
3. Do not install this heater in a mobile home or trailer.
4. Always connect this heater to a chimney and vent to the outside. Never vent to another room or inside a building.
5. Do not connect a coal or 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 Class "A" masonry or All-Fuel pre-fabricated chimney. Pre-fabricated chimneys must be listed by Underwriters Laboratories (UL) Inc. The inside diameter must be at least 6 inches.
6. Make sure the chimney is high enough to give a good draft. Keep the chimney and pipe clean inside to avoid blockage. Otherwise smoking will result.
7. Provide air for combustion from the outside into the room where the heater is located. If the intake is not in the same room, the air must have free access to the room.
8. Keep the ash pan section free of excess ashes. Failure to do so will cause grate warpage and burn out.
9. CAST IRON PARTS MUST BE "SEASONED" TO AVOID CRACKING. BUILD ONLY SMALL FIRES DURING YOUR EARLY USE. Never build extremely large fires in your heater.
10. To prevent injury do not allow anyone who is unfamiliar with the operation to use the heater.

CAUTION: Do not touch the heater until it has cooled.

tools and materials needed

TOOLS

Pencil
6 Foot Folding Rule or Tape
Tin Snips
Drill, Hand or Electric
Drill Bit (For Sheet Metal Screws)

MATERIALS

6" Vent Pipe, 6" Elbow, Collar, Thimble; as required
1/2" Sheet metal screws
6" inside diameter Class 'A' All-Fuel U. L. listed
factory built chimney or existing masonry chimney.

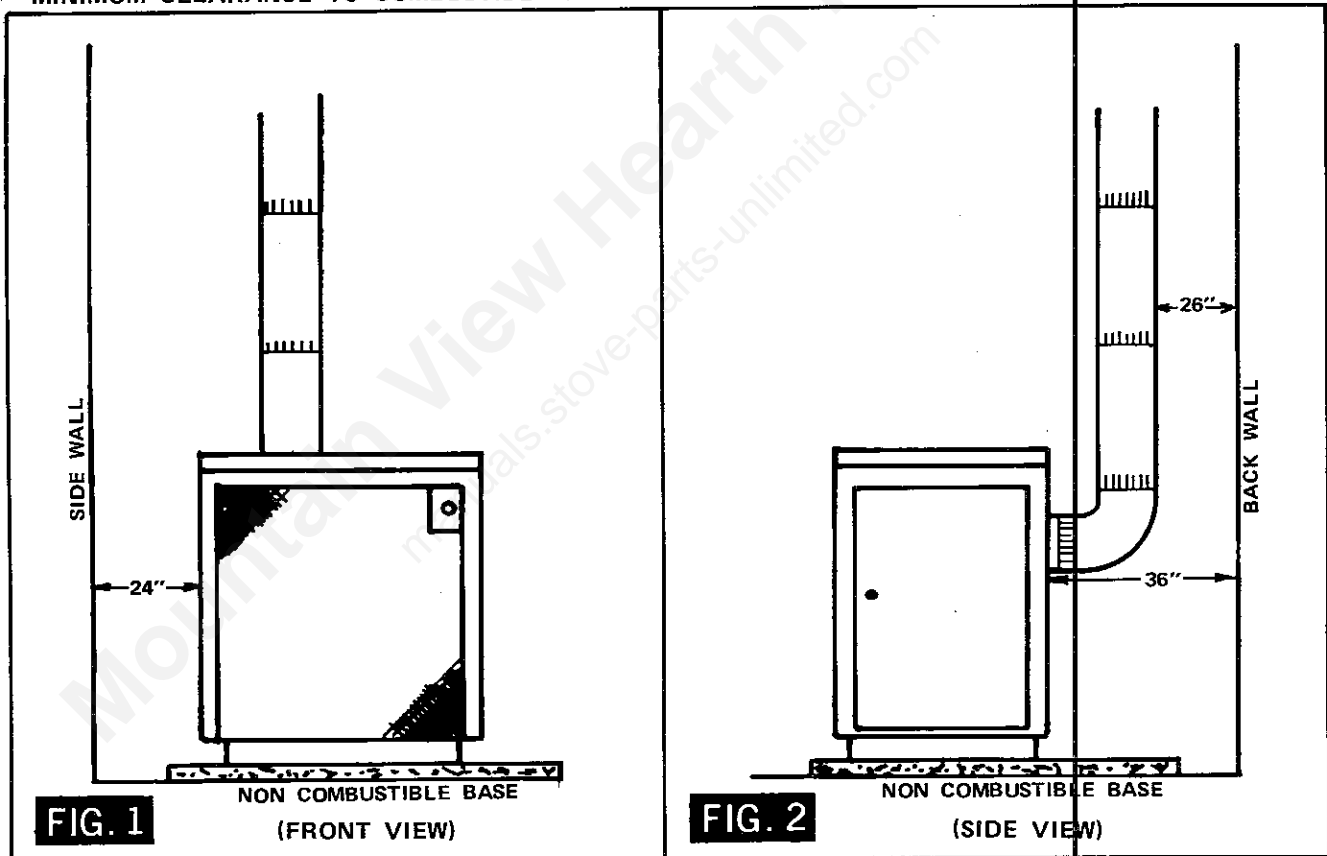
Fireproof base material, 3 ft. x 5 ft.

locating the heater

AS A LOCATION IS SELECTED, KEEP THE FOLLOWING IN MIND:

1. The chimney connection should be as short as possible. The heater must have its own chimney. Do not connect any other appliance to the same flue.
If there is no chimney near where you wish to place the heater, you can use a UL Listed 6" Type "A" Prefabricated All-Fuel Chimney. (Fig. 4). See your Sears Salesman.
2. Place the heater on a base of brick, patio stone or other non-combustible material. The base should extend at least 18" beyond the door side of the heater and should extend under the flue pipe in the back.
3. Check Figs. 1 and 2. You should have at least the clearances shown from the heater and the vent pipe to combustible surfaces.

MINIMUM CLEARANCE TO COMBUSTIBLE WALLS



NOTE: BEFORE FIRING HEATER

1. Remove plastic knob from inside of main door and install on outside.
2. Slide firebricks toward the rear so no gaps remain between them.

chimney connection

MASONRY CHIMNEY

Look at Fig. 3. The vent pipe and fittings you will need to connect to a masonry chimney are shown.

Do not connect two heaters into the same chimney flue.

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, it must be closed tightly.

ALL-FUEL CHIMNEY

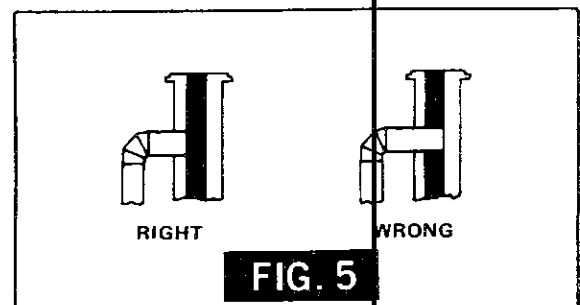
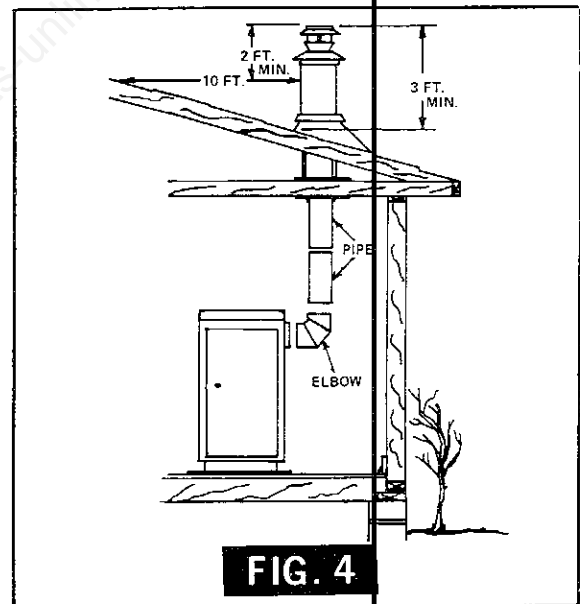
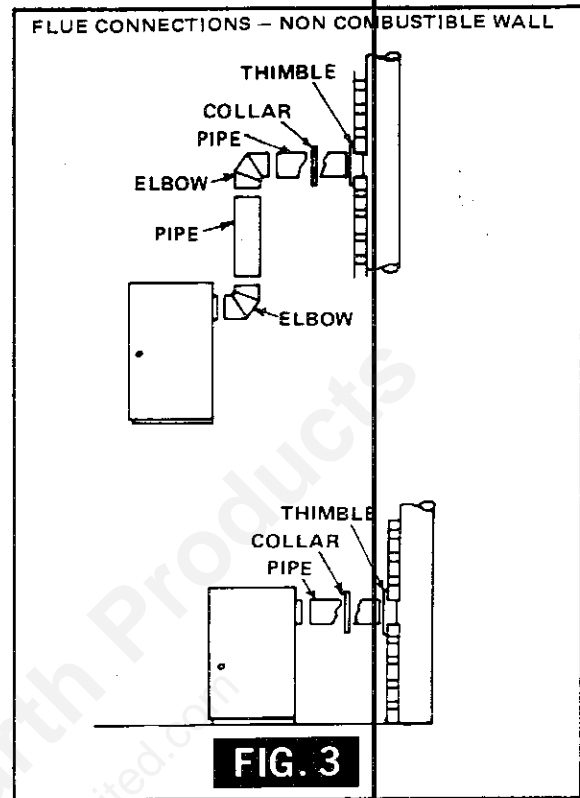
Carefully follow chimney manufacturer's instructions. Use only TYPE "A" ALL-FUEL CHIMNEY.

If your ALL-FUEL CHIMNEY starts at the ceiling (Fig. 4) you will need a 6" elbow, and enough 6" pipe to reach the ceiling.

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. 4).

RULES FOR STOVEPIPE INSTALLATION

1. The crimped end of the stovepipe fits inside the heater flue collar. Additional pipe and elbow should be installed **CRIMPED END TOWARD THE HEATER**. This will allow any condensation in the flue to run back into the heater.
2. Any horizontal pipe should be pitched upward toward the chimney at least 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. 5)
5. Seal each vent 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.



operating instructions

FUEL

Egg size Bituminous coal for residential furnaces, or any of the specially packaged fireplace coals can be used. Coal with a low ash content (2% to 6%) is recommended.

Hardwood, 18" to 22" should be split and air dried (seasoned) for 6 months to obtain maximum burning efficiency.

LIGHTING

1. Set thermostat on HIGH for maximum draft.
2. Open feed door and lay the fire. Use ample kindling to ensure a quick start.
3. Light kindling fire and close feed door.
4. Add approximately 15 lbs. of coal after fire is burning briskly. Use care not to smother the kindling fire.
5. Set thermostat to maintain desired rate of burning. MEDIUM setting is normally satisfactory to maintain desired room temperature.

ADDING FUEL

When possible, small amounts of fuel should be added each hour or so instead of adding large quantities of fresh fuel every 12 to 18 hours. 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** — Logs may be added in any quantity, up to the top of the firebrick.
3. **Coal Fire** — Never smother the fire when adding coal (see CAUTION below). Gas accumulation and a mild smokey explosion will occur.
 - a. Add fresh kindling if the bed of coals has cooled.
 - b. Add up to 20 lbs. of coal. Never accumulate a charge of more than 50 lbs. in the combustion chamber.
 - c. Stir the charge and observe the new coal burning briskly before closing doors and turning thermostat down.
4. Shake grates vigorously fore and aft 1/2" to dump ashes into ash pan at least once every 12 hours of operation.
5. Empty ash pan regularly. Do not allow ashes to build up to grate as grate warpage and burnout will occur, and spillage may result when handling.

DISPOSE OF HOT ASHES SAFELY.

LOW FIRE OPERATION

The rate of burning coal or wood at the LOW setting can be further adjusted by opening or closing the air shutter (Fig. 6) on the draft control door.

1. Partially close the shutter to make the fuel burn longer.
2. Open the shutter to reduce the formation of tar or soot. When coal is burned very slowly for a long time, a thick layer of soot is deposited in the combustion chamber and in the flue pipe. When wood is burned very slowly for a long time, tars and distillates are formed. They are deposited on the inside of the flue pipe. All of these deposits may ignite and burn causing a chimney fire.
3. Brief periods of HIGH fire operation each day will further reduce tar or soot build-up in the heater or flue.

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 UNIT.

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

DISPOSE OF ASHES IN A SEALED CONTAINER OR A WET DISPOSAL PIT. COALS REMAIN HOT IN A BED OF ASHES FOR A LONG TIME.

CHIMNEY MAINTENANCE

1. If the fire does not burn well and the heater smokes, the flue passage is probably reduced in size by thick layers of soot or tar deposits, or an accumulation of residue in an elbow or horizontal section of flue pipe. The flue pipes must be kept clean and free of deposits.
2. Inspect the flue each year. If tar, creosote or soot has accumulated, have the chimney cleaned before placing your heater in operation.
3. Chimney fires burn very hot — Call the fire department immediately if a fire occurs. Pour a large quantity of coarse salt or baking soda into the firebox, close the feed door and turn the thermostat to LOW. The salt will help control the fire until the fire fighters arrive.
4. Inspect stovepipe and elbows regularly.

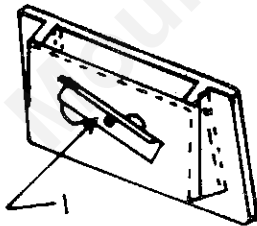
adjusting the thermostat

The thermostat control was adjusted at the factory. The location of the heater may require a change in calibration.

The thermostat control is designed to hold the draft damper open $3/4$ " with the thermostat knob set at "medium" heat in a 72° room before lighting the heater (Fig. 7).

1. Follow operating instructions and operate the heater as received from factory.
2. If the room temperature is not maintained satisfactorily using the thermostat settings from LO to HI, then the thermostat operating range may be adjusted as follows:
 - A. To increase the amount of heat, adjust the chain suspension bolt (No. 1) to increase the draft damper opening.
 - 1) Loosen lock nut (No. 2) $1/4$ " on bottom side of thermostat coil.
 - 2) Tighten lock nut (No. 3) on top side of thermostat coil to raise the chain suspension bolt.
 - B. To decrease the amount of heat, adjust the chain suspension bolt (No. 1) to decrease the draft damper opening.
 - 1) Loosen lock nut (No. 3) $1/4$ " on top side of thermostat coil.
 - 2) Tighten lock nut (No. 2) on bottom side of thermostat coil.
3. If the amount of heat is too much on mild days with the thermostat set on LO:
 - A. Check the adjustment of the air shutter (see Low Fire Operation instructions).
 - B. Check the feed and ash doors to be sure they are closed tightly and the gaskets are sealing.
 - C. Check the vent pipe to see that it is sealed in the flue collar.

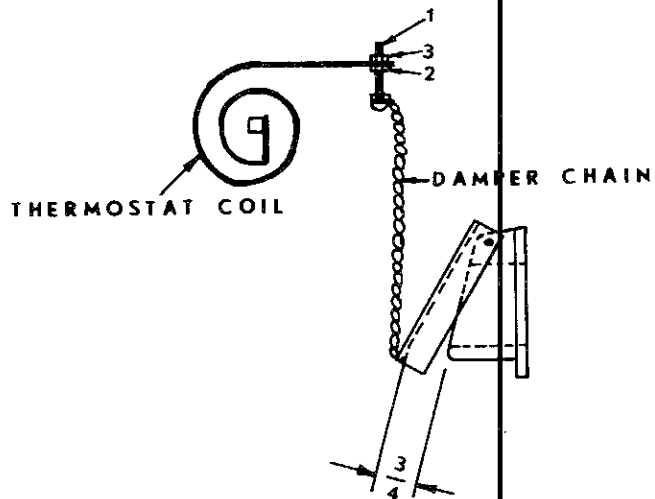
FIG. 6



**AIR SHUTTER
ON DRAFT CONTROL DOOR**

MORE THAN ONE RECALIBRATION MAY BE NECESSARY.

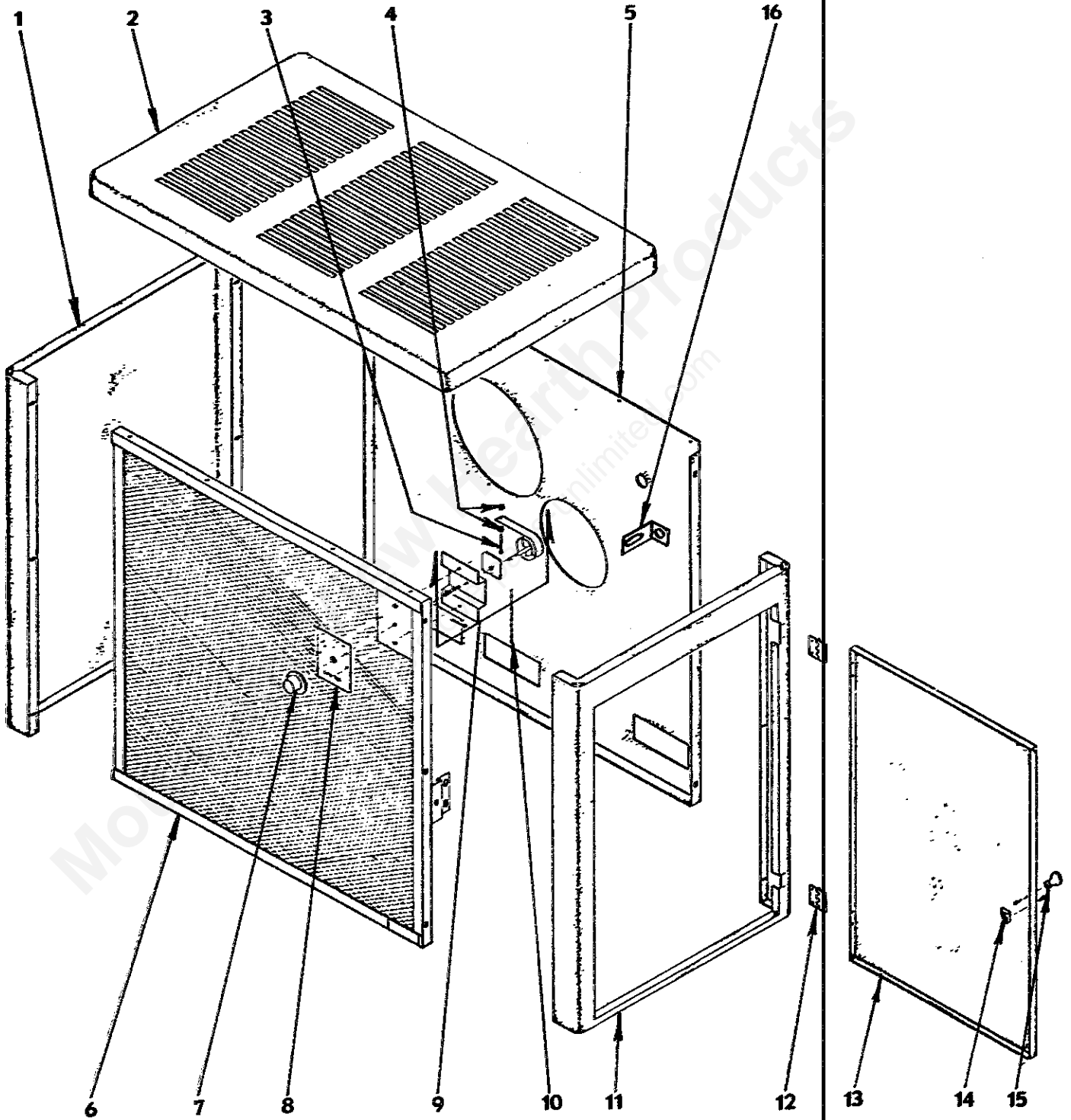
FIG. 7 RECALIBRATING THERMOSTAT



NOTE: At room temperature and "medium" setting, the draft door should be open approximately halfway, ($3/4$ ").

repair parts

**THERMOSTAT CONTROLLED
COAL OR WOOD BURNING CIRCULATOR MODEL NO. 143.840680**



repair parts

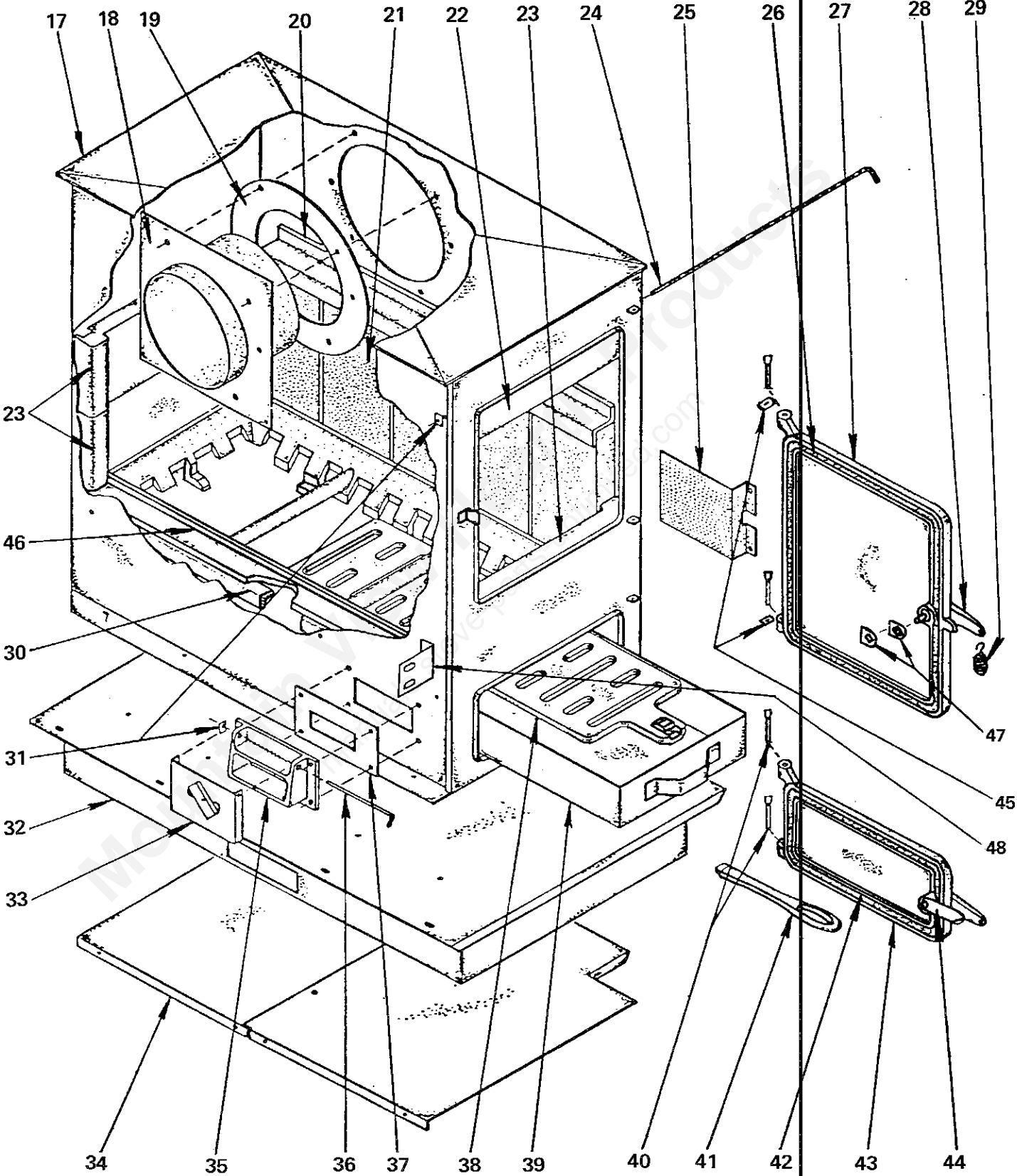
THERMOSTAT CONTROLLED COAL OR WOOD BURNING CIRCULATOR MODEL NO. 143.840680

Key No.	Part No.	Description
1	66000	Cabinet Left Side
2	65930	Cabinet Top
3	83080	*Screw, Round Head No. 6 - 32 x 1-1/2"
4	83081	*Nut, Hex No. 6 - 32 (2 Required)
5	66440	Cabinet Back
6	65950	Cabinet Front
7	89130	Thermostat Knob
8	85079	Thermostat Dial Indicator
9	67187	Thermostat Assembly
10	89064	Chain
11	67194	Cabinet Door Frame
12	89065	Door Hinge (2 required)
13	67243	Cabinet Door
14	83093	Stove Spring Latch
15	89062	Door Knob
16	21063	Back Brace

* Standard Hardware Item – May Be Purchased Locally

repair parts

THERMOSTAT CONTROLLED
COAL OR WOOD BURNING CIRCULATOR MODEL NO. 143.840680



repair parts

**THERMOSTAT CONTROLLED
COAL OR WOOD BURNING CIRCULATOR MODEL NO. 143.840680**

Key No.	Part No.	Description
17	67169	Heat Jacket
18	66960	Flue Collar
19	88032	Flue Collar Gasket
20	40132	Top Brick Retainer (Cast Iron)(2 required)
21	89066	Fire Brick (10 required)
22	21548	Smoke Curtain
23	40100	Liner (Cast Iron)(3 required)
24	17210	Hinge Pin (Smoke Curtain)
25	17060	Thermostat Baffle
26	88042	Rope Gasket (44")
27	67447	Feed Door Assembly (Cast Iron)(includes Key Nos. 26,28,29,47)
28	40092	Feed Door Handle (Cast Iron)
29	89001	Handle Wire Coil
30	40131	Grate Support -- Sides (Cast Iron)(2 required)
31	83818	Clip (2 required)
32	65960	Base
33	67132	Draft Control Damper
34	67266	Floor Shield
35	40075	Draft Damper Frame
36	17200	Hinge Pin (Draft Damper)
37	21552	Throttle Plate
38	40101	Coal Grate (Cast Iron)
39	67444	Ash Pan
40	24430	Hinge Pin (4 required)
41	40045	Shaker (Cast Iron)
42	88042	Rope Gasket (29")
43	67368	Ash Door Assembly (includes Key Nos. 42,44)
44	LK-26	Latch
45	83819	Clip (4 required)
46	40102	Coal Grate Frame (Cast Iron)
47	21467	Latch Spacer (2 required)
48	17270	Front Catch Brace
*	40130	Grate Support -- Rear (Cast Iron)
*	85203	Owners Manual (F642-9177)

* Not Illustrated

Sears

owners
manual
service

MODEL NUMBER
143.840680

HOW TO ORDER
REPAIR PARTS

TELL SEARS YOU
WANT IT INSTALLED—
THEN RELAX

AUTOMATIC COAL OR WOOD BURNING CIRCULATOR

Now that you have purchased your Automatic Coal or Wood Circulator should a need ever exist for repair parts or service, simply contact any Sears Service Center or most Sears, Roebuck and Company 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
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.

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