

Sears

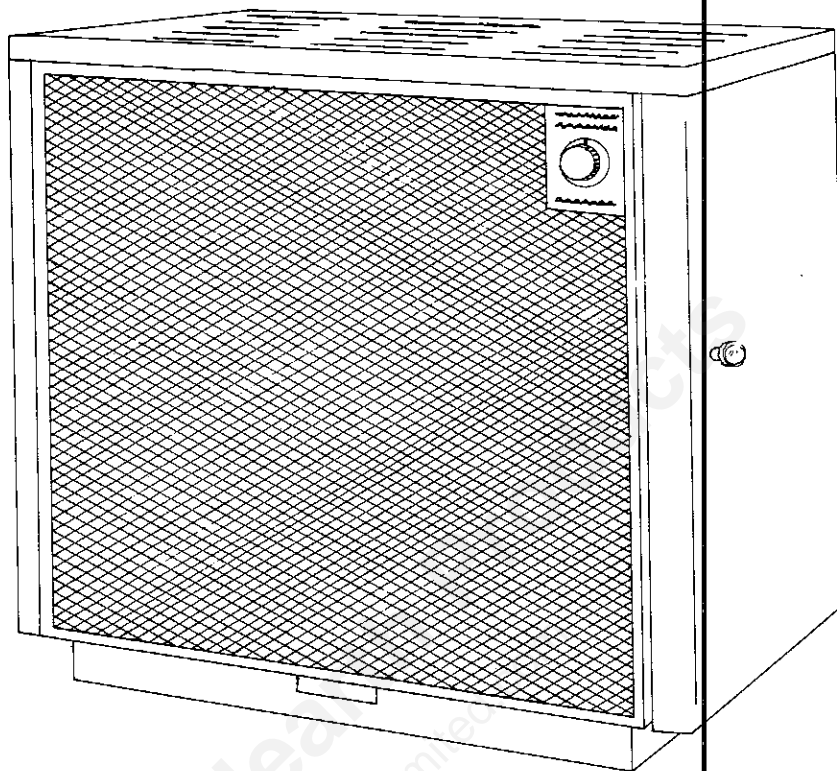
**owners
manual**

**MODEL NO.
143.840520**

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 WOOD BURNING CIRCULATOR

- Installation
- Operation
- Repair Parts

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

PRINTED IN U.S.A.

introduction

Please take a few minutes to read our instructions before you install and use your new 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 GUARANTEE

In addition to any guarantee extended to you on SEARS merchandise involved, which guarantee becomes effective the date the merchandise is installed, SEARS also guarantees all SEARS-arranged installations, as follows: Should the workmanship prove faulty within one year, SEARS will, upon notice from you, cause such defects to be corrected at no additional cost to you.

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 wood burning heater to an aluminum Type B gas vent. This is not safe and is prohibited by the National Fire Protection Association Code. Use only 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 ashpit 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" Smoke Pipe
½" Sheet Metal Screws
6" Twist Damper
6" Flue Thimble
6" Collar
6" Elbow

locating the heater

As a location is selected, keep the following in mind:

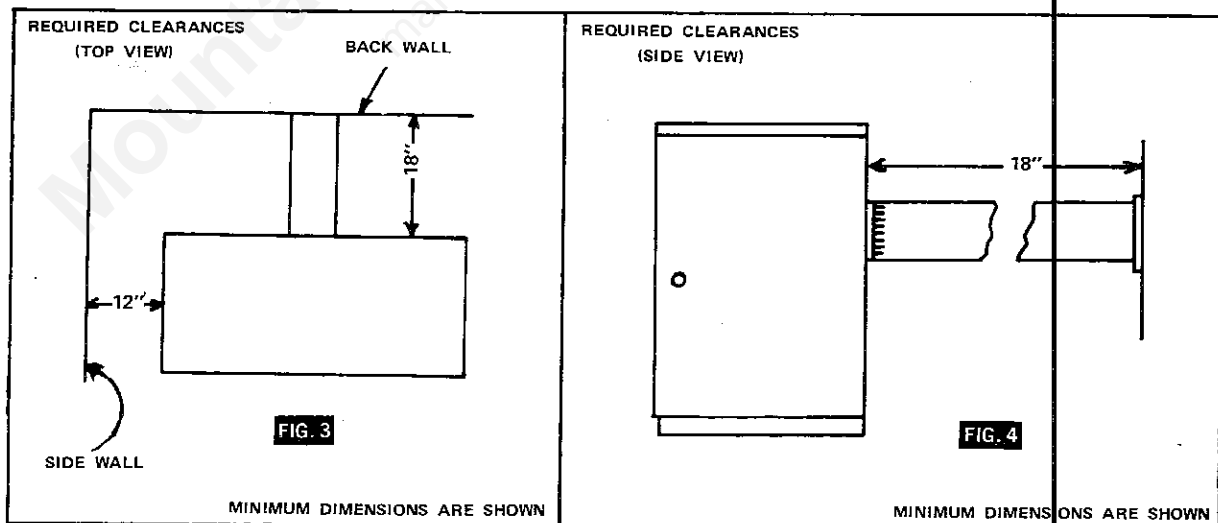
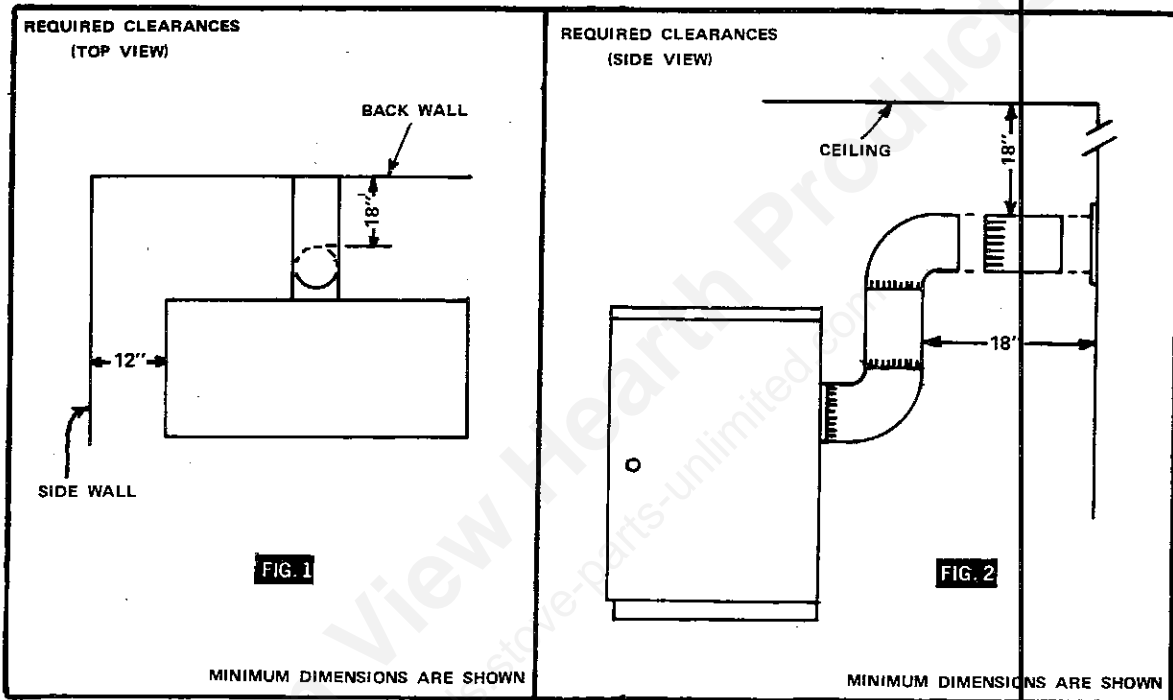
1. The chimney connection should be as short as possible. The heater must have its own chimney. Do not connect any other appliance to the same flue.

If there is no chimney near where you wish to place the heater, you can use a Sears Type "A" Prefabricated All-Fuel Chimney. See your Sears Salesman.

2. The heater can be placed on any type of floor. The floor should be level.

If you wish you can place the heater on a fireproof base of concrete patio blocks. They are available at your local building supply dealer.

3. Check Figs. 1, 2, 3, and 4. You should have at least the clearances shown from the heater and the smoke pipe to combustible surfaces.



installation

Look at Fig. 5. The smoke pipe and fittings you will need to connect to a masonry chimney or a Sears ALL-FUEL CHIMNEY on the outside wall are shown.

If your Sears ALL-FUEL CHIMNEY starts at the ceiling (Fig. 6) you will need an elbow, a pipe reducer (6" x 8") enough pipe to reach the ceiling and a finishing collar.

Connect the heater to the chimney. The crimped end of the vent pipe fits inside the heater flue collar. Additional pipe and elbow should be installed crimped end toward the heater.

Install a twist damper to control the fire. It should be placed in the pipe section as near as possible to the heater. The damper can be purchased at your local hardware store.

These rules apply to the vent pipe installation.

1. Avoid using more than 2 elbows.
2. Any horizontal pipe should be pitched upward toward the chimney at least $\frac{1}{4}$ inch for each foot of horizontal run.
3. Be sure that you have at least 18" of clearance between the horizontal piping and the ceiling.
4. Be sure the pipe does not extend into the chimney flue (Fig. 7.)

For better performance seal each vent pipe joint with furnace cement. Also seal the pipe at the chimney. Finally use 3 sheet metal screws at each joint to make the piping rigid.

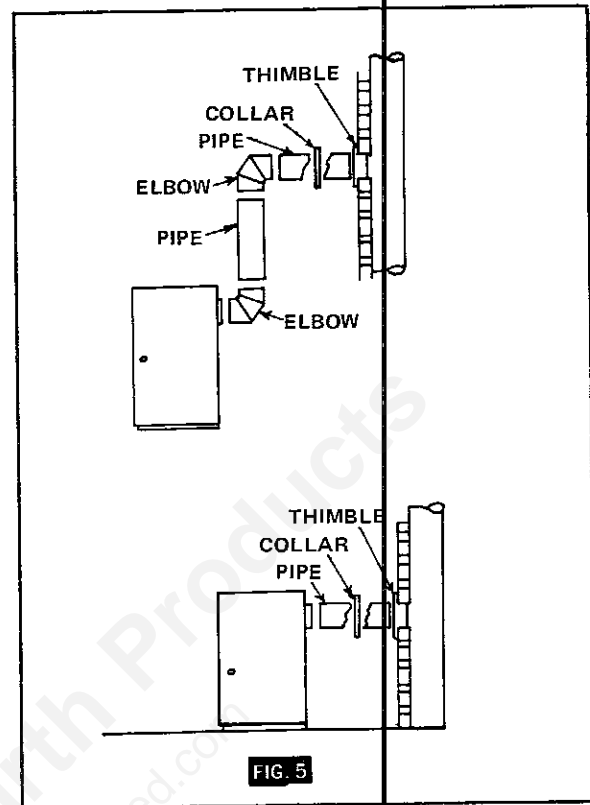


FIG. 5

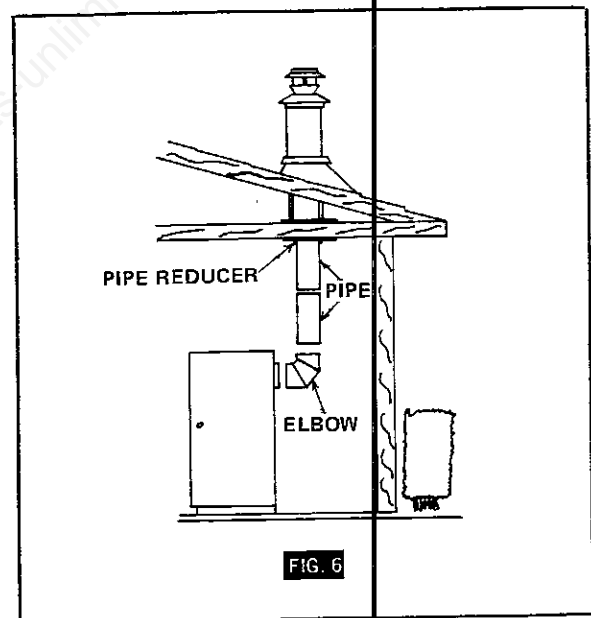


FIG. 6

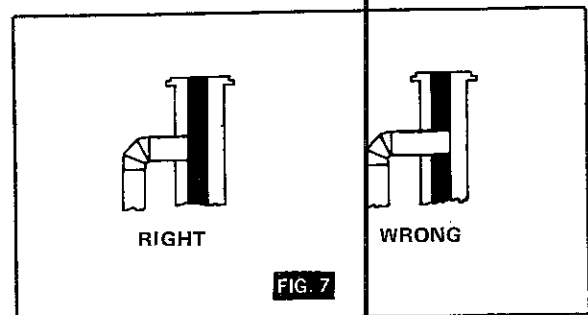


FIG. 7

operation

1. Set thermostat on High to provide maximum draft.
2. Open feed door and lay the fire. Use ample kindling to insure a quick start.
3. Light fire and close feed door.
4. Open ash door if more rapid start desired.
5. Close ash door after fire is burning briskly.

CAUTION

DO NOT OPERATE THIS HEATER CONTINUOUSLY WITH ASH DOOR OPEN. THIS HEATER IS DESIGNED FOR THERMOSTATIC OPERATION. CONTINUOUS OPERATION WITH THE ASH DOOR OPEN WILL OVERHEAT UNIT.

6. Set thermostat to maintain desired temperature in room. Medium setting is normally satisfactory. Set higher or lower for maximum comfort.

Hardwood cut to 24" maximum length and split 3" to 6" cross section is recommended for best operation efficiency.

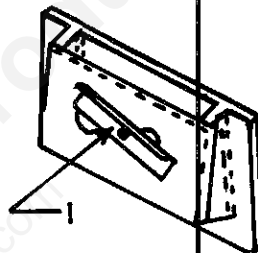
MINIMUM FIRE

When wood is burned very slowly for a long time, tars and distillates are formed. They are deposited on the inside of the smoke pipe. These tars will ignite and burn.

The tar forming can be reduced. Adjust the "minimum fire" air shutter on the draft control. To reduce the tars-turn air shutter (No. 1,) so that a larger opening is exposed.

Caution: Increase the minimum fire only as needed. Increasing the minimum fire may cause over heating on warm days.

FIG. 8



adjusting

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

1. Operate heater as received. Follow the operating instructions.
2. If room temperature is not satisfactory, change the thermostat operating range.

A. Room too Cold at High Setting:

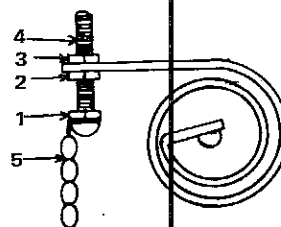
1. Loosen lock nut on under side of bi-metal (No. 1, Fig. 9) 1/4 inch.
2. Tighten nut on top of bi-metal (No. 2)

B. Room Temperature too High at Low Setting:

1. Check fire and ash doors to be sure that they are closed tightly.
2. Check the smoke pipe to see that it is sealed in flue collar.
3. If no air leaks are found:
 - a) Loosen lock nut on top of bi-metal (No. 2, Fig. 9).
 - b) Tighten lock nut under bi-metal (No. 1)

MORE THAN ONE RECALIBRATION MAY BE NECESSARY

FIG 9 RECALIBRATING THERMOSTAT



service hints

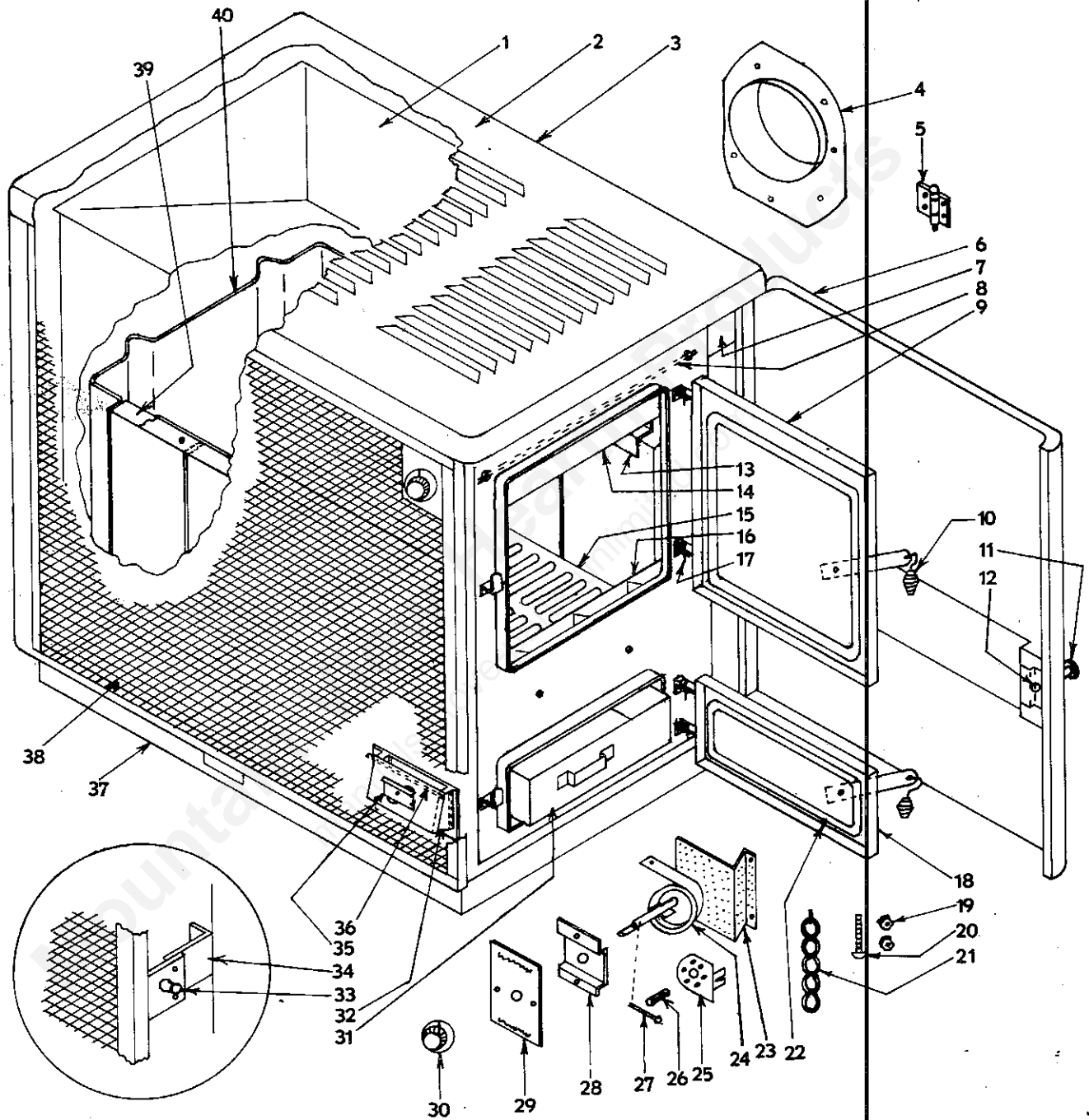
1. Do not expect a heater to draw. It is the chimney that creates the draft.
2. The smoke pipe may be pushed into the chimney too far, stopping the draft.
3. Do not connect two heaters into the same chimney flue. If it cannot be avoided, be sure that one pipe is higher than the other so that the two openings will not be opposite each other.
4. 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.
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. Increase the chimney or flue height so that it extends 2 feet above the roof peak.

CARING FOR ENAMELED PARTS

This heater has enameled outside jacket. Enamel baked onto the steel or iron and is very serviceable, but it will not stand rough handling or abuse. When setting up 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 glass-like finish.

repair parts

SEARS AUTOMATIC WOODBURNING CIRCULATOR
MODEL NUMBER 143.840520



repair parts

SEARS AUTOMATIC WOOD BURNING CIRCULATOR

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Key No.	Part No.	Description
1	6597	Heat Jacket
2	6593	Cabinet Top
3	1701	Cabinet Back
4	6696	Flue Collar
5	9853	Door Hinge
6	6594	Cabinet Door
7	1726	Back Brace
8	1721	Smoke Curtain Hinge Pin
9	4009-S	Feed Door
10	1925	Door Handles (2)
11	9876	Door Knob
12	9825	Spring Catch
13	1735	Brick Top Clamp
14	0080	Smoke Curtain
15	4323	Cast Grate (2)
16	1712	Metal Liner Front
17	9874	Door Pin
18	4008-S	Ash Pit Door
19	5419	* Nut Hex No. 6-32
20	5420	* Screw Round Head No. 6-32-1½
21	9122	Chain
22	9871	Asbestos Rope
23	1706	Thermostat Shield
24	9129	Thermostat Coil & Shaft
25	1864	Lock Plate
26	9869	Spring
27	5421	Cotter Key
28	1723	Thermostat Bracket
29	9123	Thermostat Dial Indicator
30	9121	Thermostat Knob
31	6598	Ash Pan
32	4322	Draft Manifold
33	4147	Door Catch
34	1727	Front Catch Brace
35	1719	Control Damper
36	1720	Draft Control Hinge Pin
37	6596	Base
38	6595	Front Frame Mesh
39	9880	Fire Brick (10) Required
40	1713	Metal Liner Back
41	1694	Cabinet Left End
+	1777	Grate Support
+	F642-19873	Owners Manual

+ - NOT ILLUSTRATED

* - STANDARD HARDWARE ITEM - MAY BE PURCHASED LOCALLY

accessories

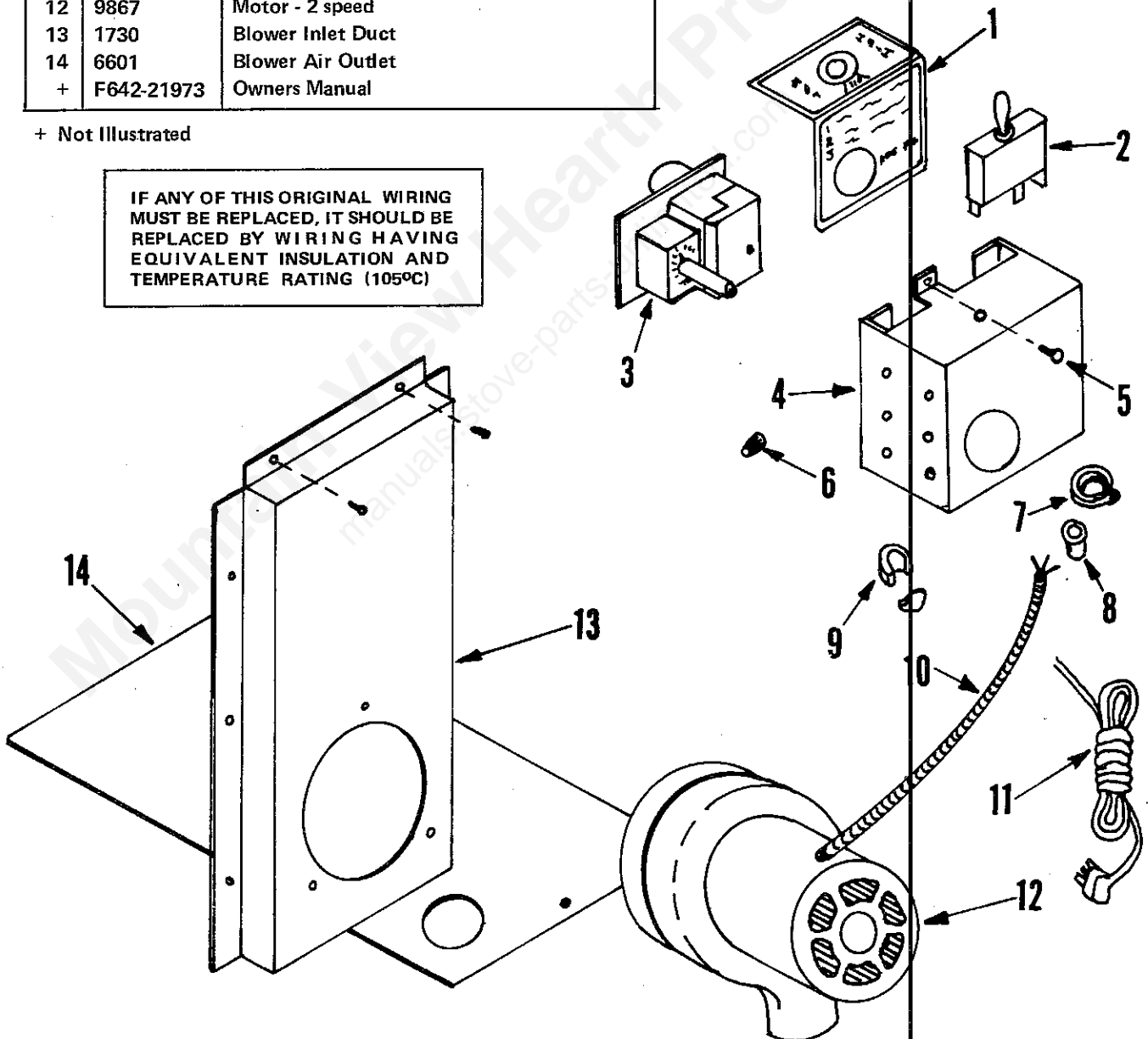
SEARS AUTOMATIC WOOD BURNING CIRCULATOR

MODEL NUMBER 143.840520

Item	Part No.	Name
-	42-84053	Blower Kit - Complete
1	9858	Decal-Switch Instructions
2	9890	Switch - 3 Position
3	9178	Thermostat - Adjustable
4	1077	Switch Box
5	9424	Screws No. 10 x 1/2 Hex Head (2 Req.)
6	9859	Wire Nut (3 Req.)
7	9863	Connector
8	9865	Bushing Anti-Short
9	9866	Bushing-Strain Relief
10	9862	Conduit 5/16 Flexible
11	9354	Supply Cord (6 ft.)
12	9867	Motor - 2 speed
13	1730	Blower Inlet Duct
14	6601	Blower Air Outlet
+	F642-21973	Owners Manual

+ Not Illustrated

IF ANY OF THIS ORIGINAL WIRING MUST BE REPLACED, IT SHOULD BE REPLACED BY WIRING HAVING EQUIVALENT INSULATION AND TEMPERATURE RATING (105°C)



Sears

owners
manual

MODEL NO.
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HOW TO ORDER
REPAIR PARTS

SEARS SERVICE
IS AT YOUR SERVICE
WHEREVER YOU LIVE
OR MOVE IN THE U.S.A.

AUTOMATIC WOOD BURNING CIRCULATOR

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.

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO., c/o Repair Parts Department 98. When ordering parts by mail, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

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

Your Sears merchandise takes on added value when you discover that Sears has over 2,000 Service Units throughout the country. Each is staffed by Sears-trained, professional technicians using Sears approved parts and methods.

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