

Model 2727 owners manual *Wonder Coal*

THERMOSTAT CONTROLLED COAL BURNING CIRCULATOR

SAFETY NOTICE:

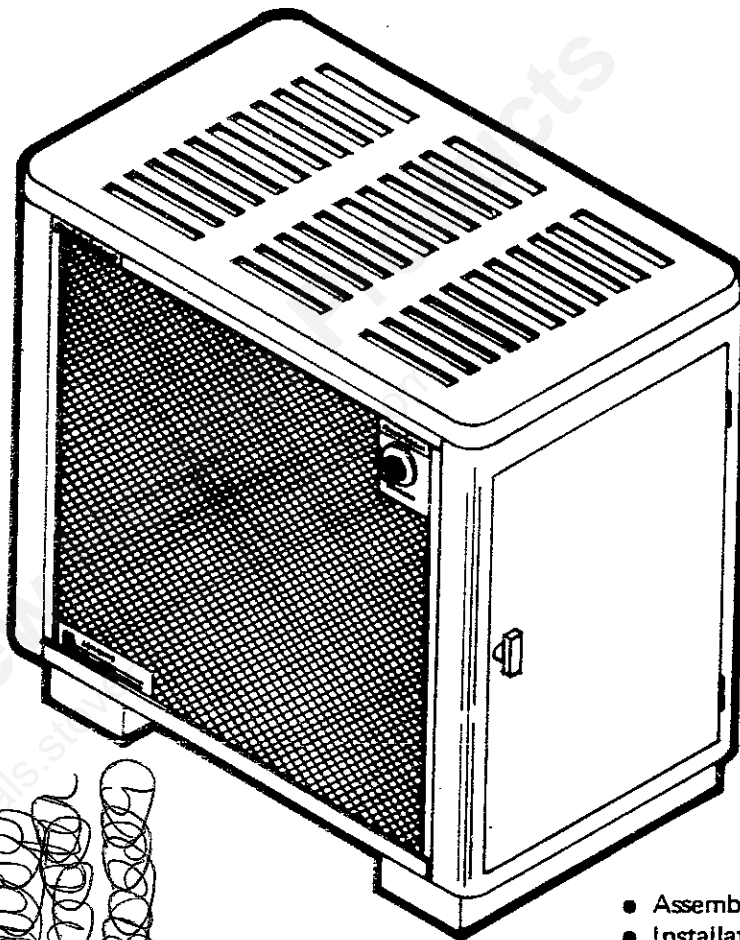
If this heater is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

CAUTION:

Read All Instructions Carefully Before Starting The Installation or Operating The Heater.

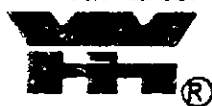
Improper Installation
Could Void Your
Warranty!

Save This Manual
For Future Reference



- Assembly
- Installation
- Operation
- Repair Parts

WARNOCK HERSEY



DO NOT USE THIS HEATER
IN A MOBILE HOME OR TRAILER



UNITED STATES STOVE COMPANY

3500 N. Hawthorne Street
Chattanooga, Tennessee 37406

FORM 85383E 12/88



LIMITED WARRANTY

WARRANTY:	The United States Stove Company warrants its solid fuel heaters against burn-out or cracking of any steel or cast iron parts.
TIME PERIOD:	The warranty period extends 3 years from date of purchase by original owner, except on electrical components of blower for which the warranty period is one year.
CLAIM PROCEDURE:	Any defects relating to the above should be reported to United States Stove Company, giving description and pertinent data. Include proof of purchase, which will be returned on request.
OUR RESPONSE:	Providing the heater has been installed and used in accordance with the owners manual supplied with the heater, The United States Stove Company will either: (1) Replace the defective part free of charge, including payment of any labor charges, or (2) Replace the heater free of charge, including payment of any labor charges.
NOT COVERED:	Smoking problems are not covered under this warranty. Inadequate draft is generally due to the design or installation of the flue system.
WARRANTOR:	United States Stove Company, P. O. Box 5349, Chattanooga, Tennessee 37406
NOTE:	This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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.
Screw Driver (Blade-Type)
Gloves
5/16" Nut Driver or
5/16" Socket w/Ratchet

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 (Manufacturer recommends:
Rutland Black-Code 78 or equivalent).

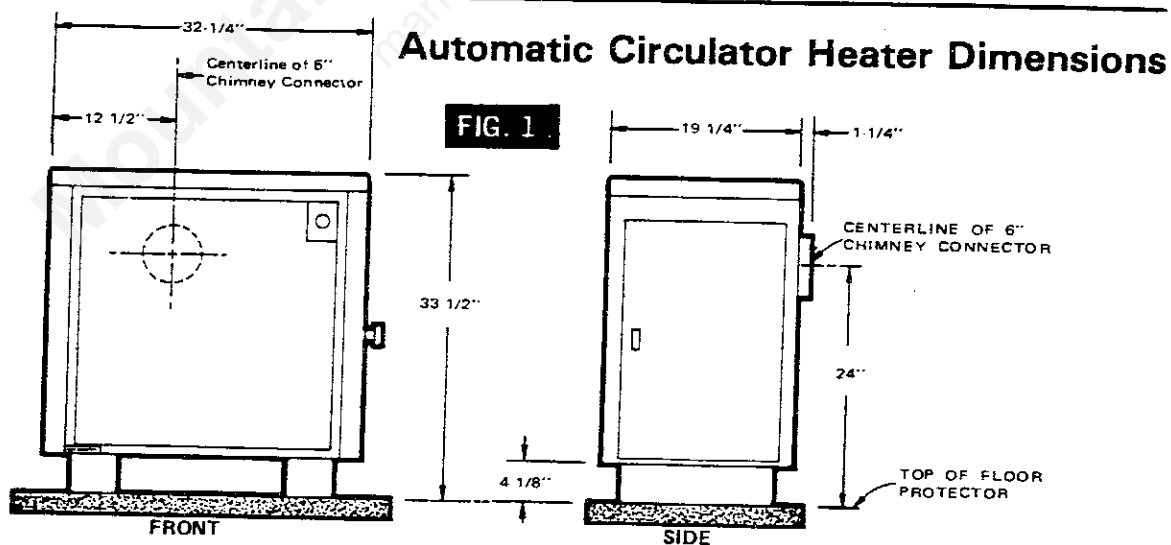
Safety Rules

SAFETY NOTICE: If this heater is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

Read these rules and the instructions carefully.

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. Make sure the chimney is high enough to give a good draft.
4. Do not connect a coal 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.
5. Inspect chimney connector and chimney twice monthly during the heating season for any deposit of creosote or soot which must be removed (see CHIMNEY MAINTENANCE, page 12).
6. 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.
7. **CAUTION** - The special paints used on your heater may give off some smoke and/or odors while they are curing during first few fires. Build small fires at first. The metal used in construction of the heater has a light coating of oil. This also could give off some smoke and/or odors when the heater is used for the first few times. This should disappear after a short period of time. Once the burn-off has occurred, it should not reoccur. Build small fires at first.
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 who is unfamiliar with the operation to use 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. **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.
12. **CARING FOR PAINTED PARTS** -This heater has a painted outside jacket. Paint baked onto the steel or iron is very 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.**
13. Keep the ashpit section free of excess ashes.

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



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. See Pg. 3 item 5.

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, and N.F.P.A. 211.

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.

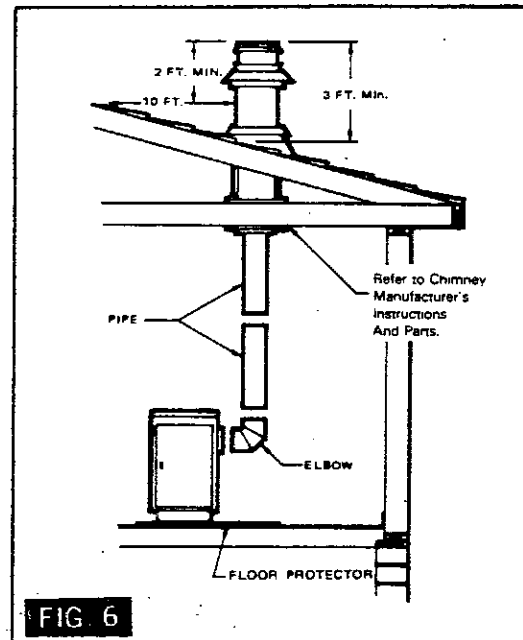
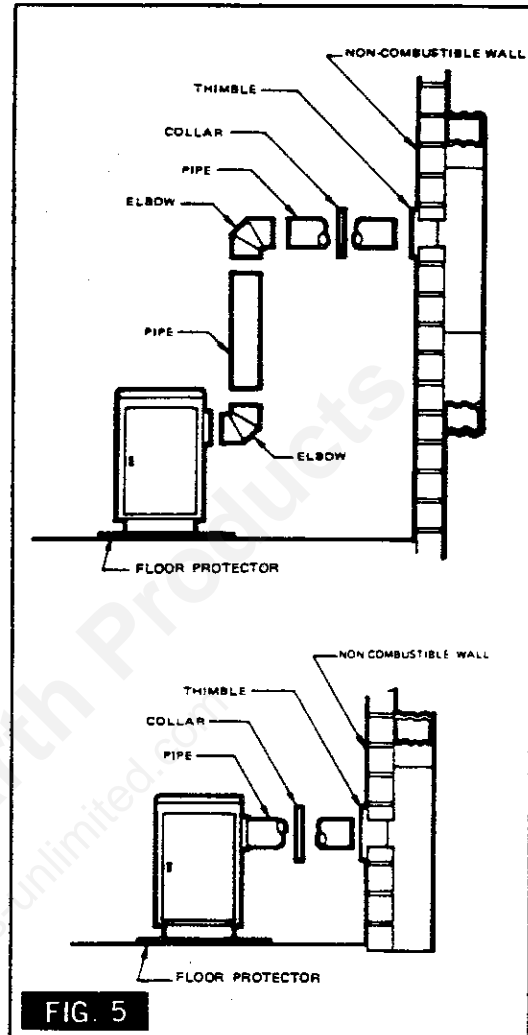
UL LISTED CHIMNEY

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.

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).

BAROMETRIC DRAFT REGULATOR (Optional)

In some installations it may be desirable to install a barometric draft regulator in the chimney connector. A barometric draft regulator should be located in the same room (Pressure zone) as the heater. When installing a barometric draft regulator, follow the manufacturer's instructions.



venting into a fireplace

Many people may wish to convert an existing fireplace to coal heater use. Usually, safe connection of stovepipe to a masonry chimney requires more effort than connection to a prefabricated chimney. There are two methods (Type A and Type B) to accomplish this. No matter which method you choose, the fireplace must be tightly closed and sealed at the damper in the flue. Good sealants are high-temperature caulking, ceramic wool, and furnace cement. Always remember to inspect the masonry chimney and fireplace. If necessary, clean the flue and smoke shelf before beginning your installation. Install the heater into the fireplace so that the system can be dismantled for cleaning and inspection.

Before deciding to convert your fireplace, keep in mind that some fireplaces and existing chimneys are unsafe. They must be structurally sound, and the flue liner must be in good condition. Clearances to combustibles are explained in the previous section on masonry chimneys. If you have any question regarding the condition of the chimney, consult a qualified engineer, competent mason, or knowledgeable inspector.

CAUTION

**NOT ALL FIREPLACES ARE
SUITABLE FOR INSTALLA-
TION OF A COAL BURNING
HEATER.**

Many prefabricated fireplaces fall into the "zero-clearance fireplace" category. This is a factory-built metal fireplace with multilayered construction. It is designed to provide enough insulation and/or air cooling so that the base, back, and sides can be safely placed in direct contact with combustible floors and walls. Although many prefabricated fireplaces have been tested by nationally recognized organizations for use as fireplaces, they have not been tested to accept airtight heaters. In fact, their use as such may void the manufacturer's warranty.

Steel-lined fireplaces, on the other hand, can be used with airtight heaters. These units use a 1/4-inch firebox liner and an air chamber in connection with 8 inches of masonry to meet code. They contain all the essential parts of a fireplace; firebox; damper, throat, smoke shelf, and smoke chamber. Many of them look exactly like a masonry fireplace and must be checked closely for above requirements before installing a heater into them.

Another method frequently used by some people is to vent the heater directly into the fireplace. This does not meet code since the heater is being vented into another appliance — the fireplace. This method should not be attempted because combustion products will deposit and build up in the firebox or fireplace. Be certain not to install a hazard in your house.

Type A Installation

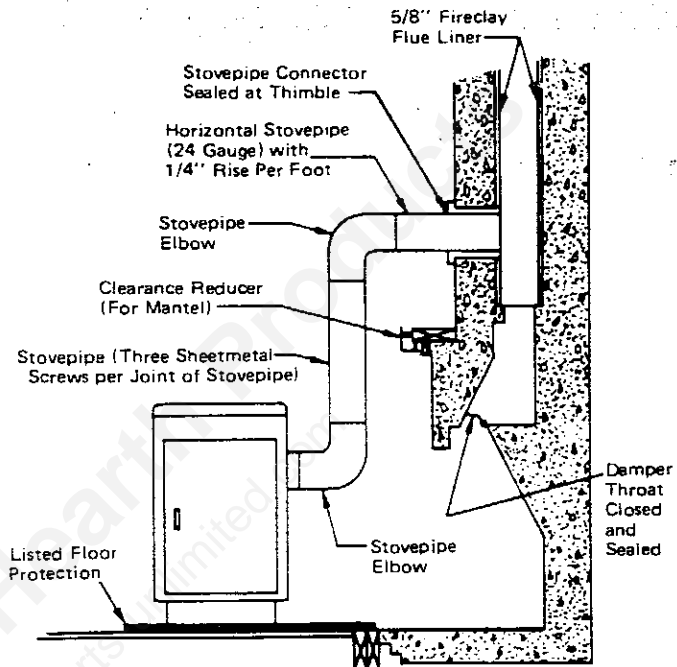
Connection of the stovepipe directly into the existing masonry chimney over the fireplace opening is the most desirable method. This installation performs better, yielding more heat and better draft; it is also easy to clean and inspect for creosote. Before beginning this type of installation plan carefully; a high degree of skill is required to insure safety.

An entry port for the stovepipe must be cut through the chimney with minimum damage to the fireclay liner. Some involved measurements may be required to locate the flue liner exactly. Before cutting, take time to mark the size and position of the entry port. Position the entry port so that at least 8 inches of the flue liner remain below the port.

Keep in mind that wood mantels and combustible trim around the fireplace must have adequate clearances from the heater and stovepipe or must be protected in an approved manner. Also, be sure to leave at least an 18-inch clearance between the top of the stovepipe and the combustible ceiling or other combustibles. Placing the center of the entry port 2 feet below the ceiling will insure proper clearance for 6-inch, 8-inch, and 10-inch stovepipes.

Next, install a fireclay (at least 5/8 inch thick) or metal thimble, being sure that the thimble is flush with the inner flue lining; secure the thimble in place with refractory mortar. The thimble should be surrounded on all sides with 8 inches of brickwork (solid masonry units) or 24 inches of stone.

Install the stovepipe as far as possible into the thimble, but not past the inside of the flue lining. There should be a small airspace (approximately 1/2 inch) between the stovepipe and thimble, allowing for expansion of the stovepipe. Seal this airspace with high-temperature caulking or ceramic wool. Finally, be sure to wire the damper closed and apply the same sealant you used at the stovepipe and thimble junction.

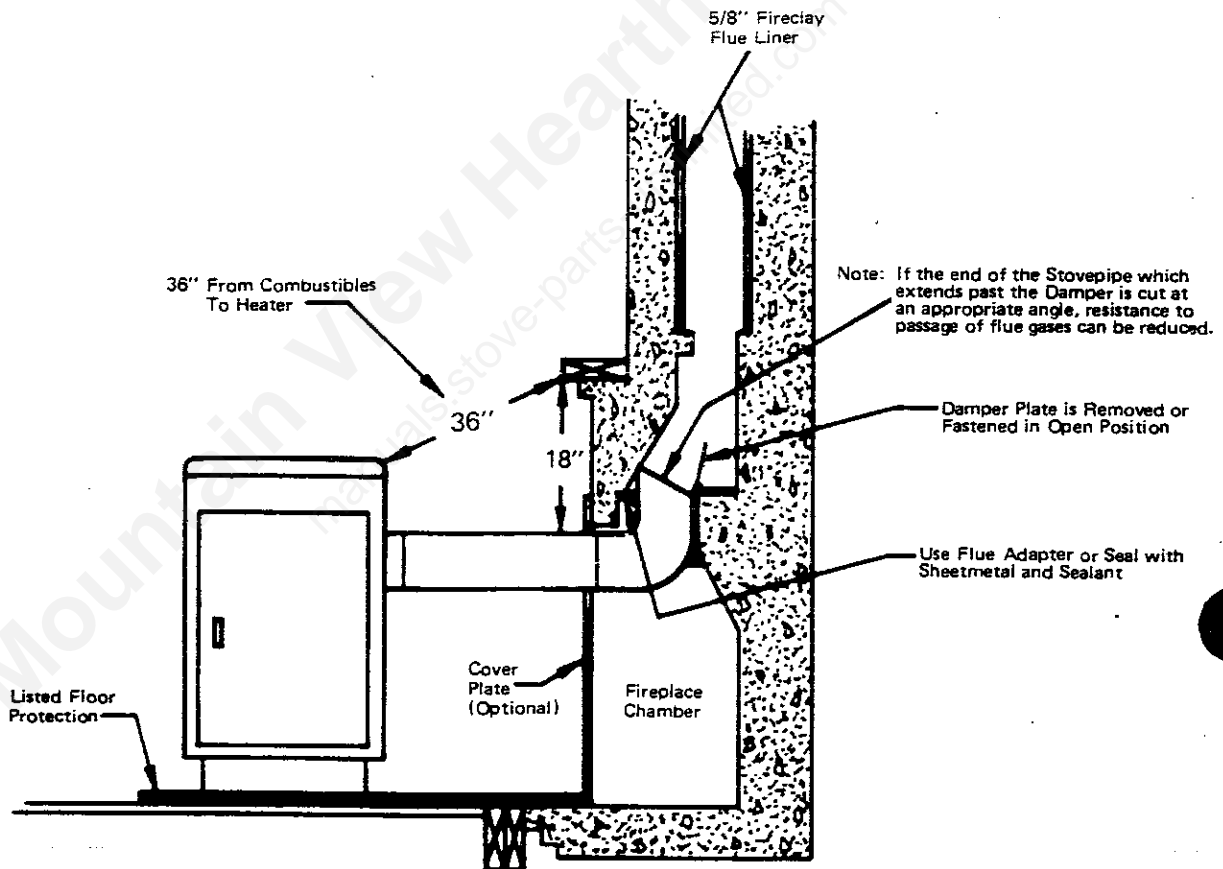


TYPE A **FIG. 7**
FIREPLACE CONVERSION

Type B Installation

The next method, Type B, is acceptable but is more difficult to operate and maintain than Type A. Remove the damper and cut a hole in the sheet metal to rest on the damper frame. Cut a hole in the sheet metal to accept the stovepipe. Insert the stovepipe as far as possible into the flue past the throat or damper plate. (If the end of the stovepipe which protrudes past the damper is cut at an appropriate angle, resistance to passage of flue gases can be minimized.) Finally, fasten all junctions

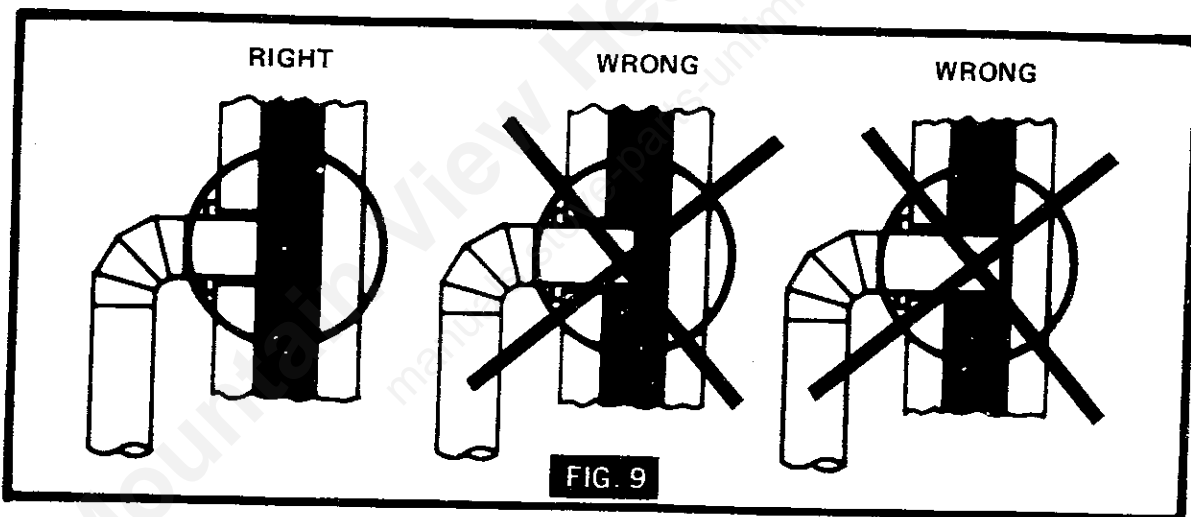
between the sheet metal and damper frame and between the sheet metal and stovepipe. For an airtight system, be sure to seal these junctions with high-temperature caulking, ceramic wool, or furnace cement. Instead of a sheet metal closure at the damper, a prefabricated flue adapter of 12 gauge, low-carbon steel or stainless steel may be sealed into place to accept the stovepipe. Be sure to fasten and seal the stovepipe to the flue adapter.



TYPE B **FIG. 8**
FIREPLACE CONVERSION

Rules For Connector Pipe Installation

1. The crimped end of the stovepipe fits inside the heater flue collar. Install additional pipe and elbow with the **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. 9).
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.



Adjusting the thermostat

The thermostat control was calibrated at the factory. The amount of heat the heater may require a change in thermostat calibration adjustments should be made at room temperature.

If the room temperature 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. 10).
 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 in the flue collar and at all joints.
 3. If no air leaks are found, adjust linkage as above except turn "B" counterclockwise about 3 turns.
- C. Adjusting the Minimum Air Shutter:

The minimum air shutter has an infinite number of settings. Several adjustments may be necessary for the unit to work most effectively for your particular installation.

 1. The minimum air shutter may be adjusted to the closed position in installations where the draft is "above normal". Generally, .06 w.c. or above would be considered "above normal".
 2. In installations where the draft is "below normal", the minimum air shutter would be adjusted toward the open position.

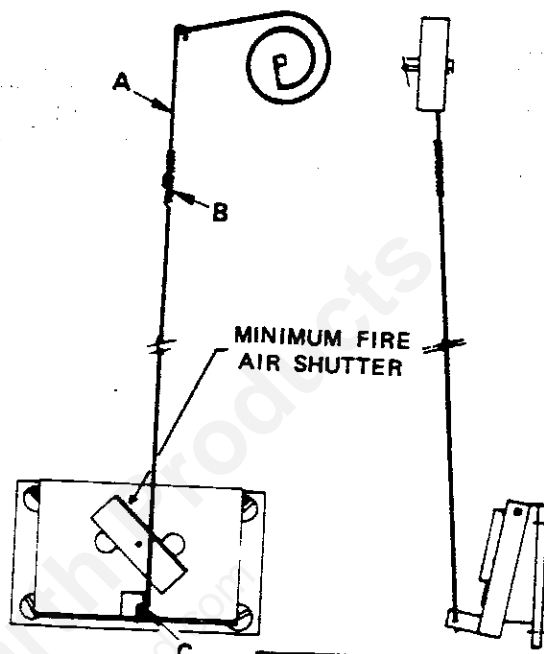


FIG. 10

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

How to Lift the Top

CAUTION - DO NOT OPEN OR CLOSE TOP WHEN HEATER IS HOT!

To open, grasp TOP at front and lift all the way, then gently lower the TOP until the TOP SUPPORT ROD latches 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).

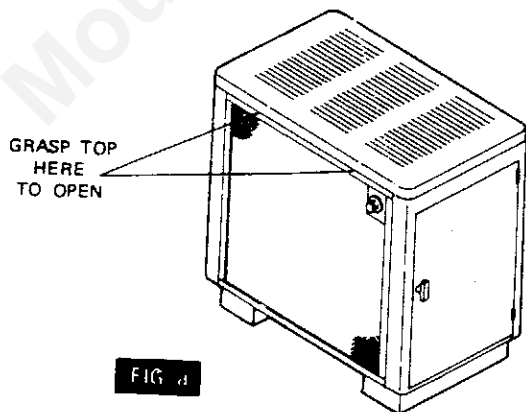


FIG. a

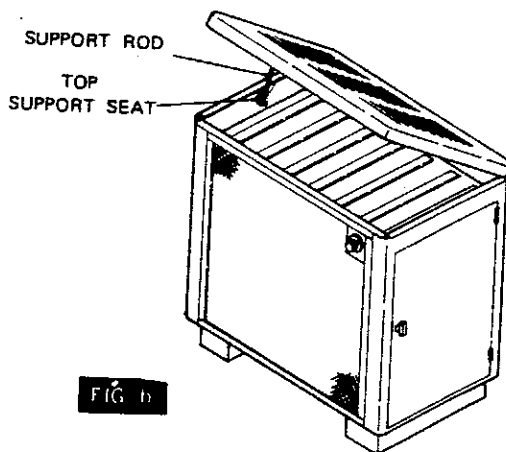


FIG. b

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 functioning 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. 9).
2. Do not connect two heaters into the same chimney flue.
3. 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.
4. If the chimney is too cool, water will condense the chimney and run back into the stove. Creosote formation will be rapid and may block the chimney. Operate the heater at a high enough fire to keep the chimney warm preventing this 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).

NOTE

A draft reading of .05 to .06 w.c. is suggested for proper burning of this unit when using bituminous coal as fuel. When using anthracite coal, this draft reading is a minimum reading.

chimney maintenance

CREOSOTE AND SOOT – FORMATION AND NEED FOR REMOVAL

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 buildup has occurred.

If creosote or soot has accumulated, it should be removed. Failure to remove creosote or soot may cause a house fire. Creosote may be removed by using a chimney brush or other commonly available materials.

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.

SUGGESTIONS FOR BURNING ANTHRACITE COAL

- Anthracite coal may be burned in the Model 2727 Wonder Coal. 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. A draft reading of - .05 to - .06 in w.c. is required for anthracite to burn.

The draft wheel located on the feed door should be opened when burning coal. The draft wheel provides a source of secondary air that is needed when burning coal. Secondary air is needed because when coal burns it gives off large quantities of volatile gases that need additional air before complete combustion can occur. This draft wheel may be adjusted to give the best performance depending on the particular needs of the user.

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.

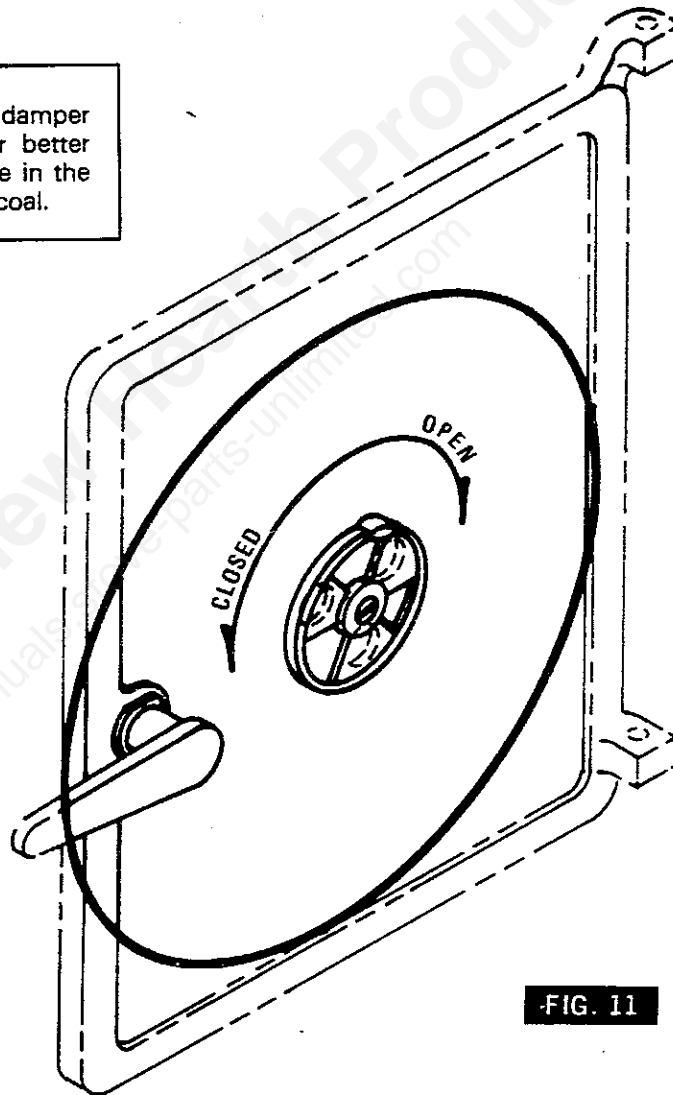


FIG. 11

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. 12).
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. 13).
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.

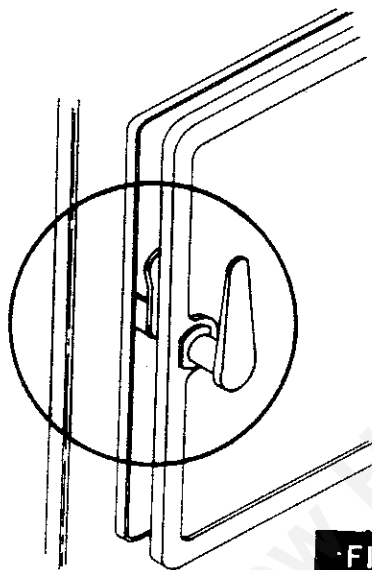


FIG. 12

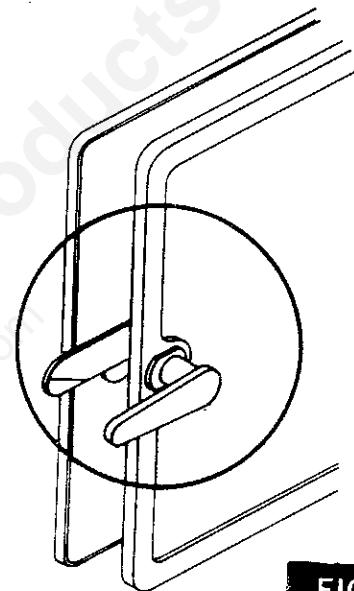


FIG. 13

NOTE
During opening and closing of the feed and ash doors of this heater, it may seem that the fit of the doors are "too tight". As the heater is fired, the gasketing "settles" or "seats" itself in the doors. The tight fit at the factory and before the heater's initial firing is to insure a good seal after the gasketing "settles".

FEED/ASH DOOR HANDLE ASSEMBLY

Read and Complete Before Firing Unit

1. Remove wooden handle from inside of the ash pan.
2. Place the metal hook of the wooden handle through the hole in the end of the cast iron door handle. (Fig. 14).
3. Using pliers close the metal hook so the wooden handle cannot be removed.

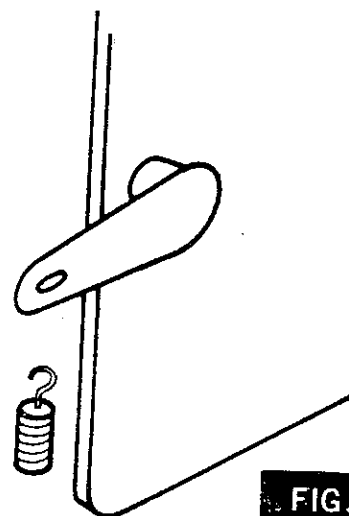
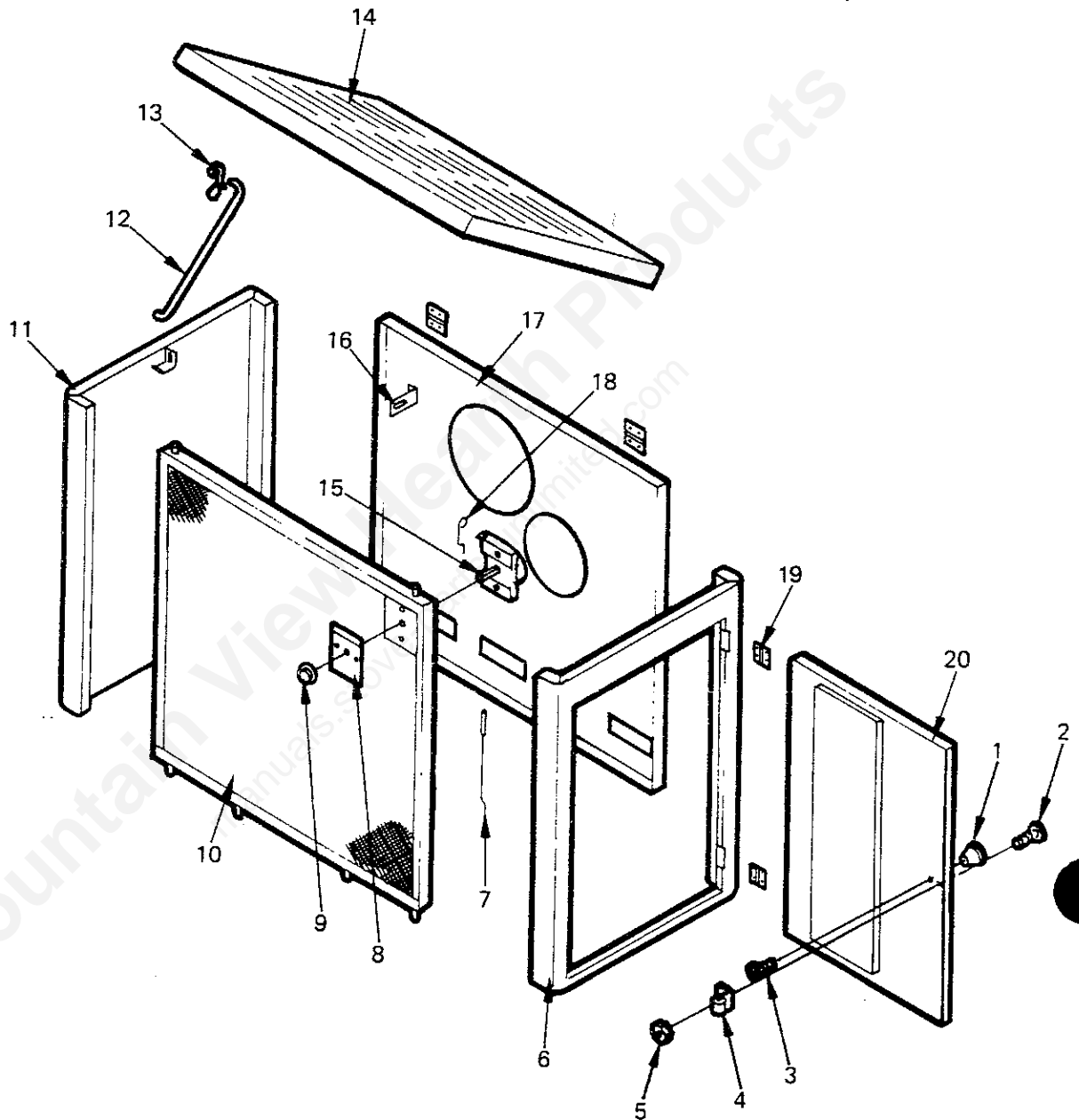


FIG. 14

repair parts

THERMOSTAT CONTROLLED COAL BURNING CIRCULATOR, MODEL 2727



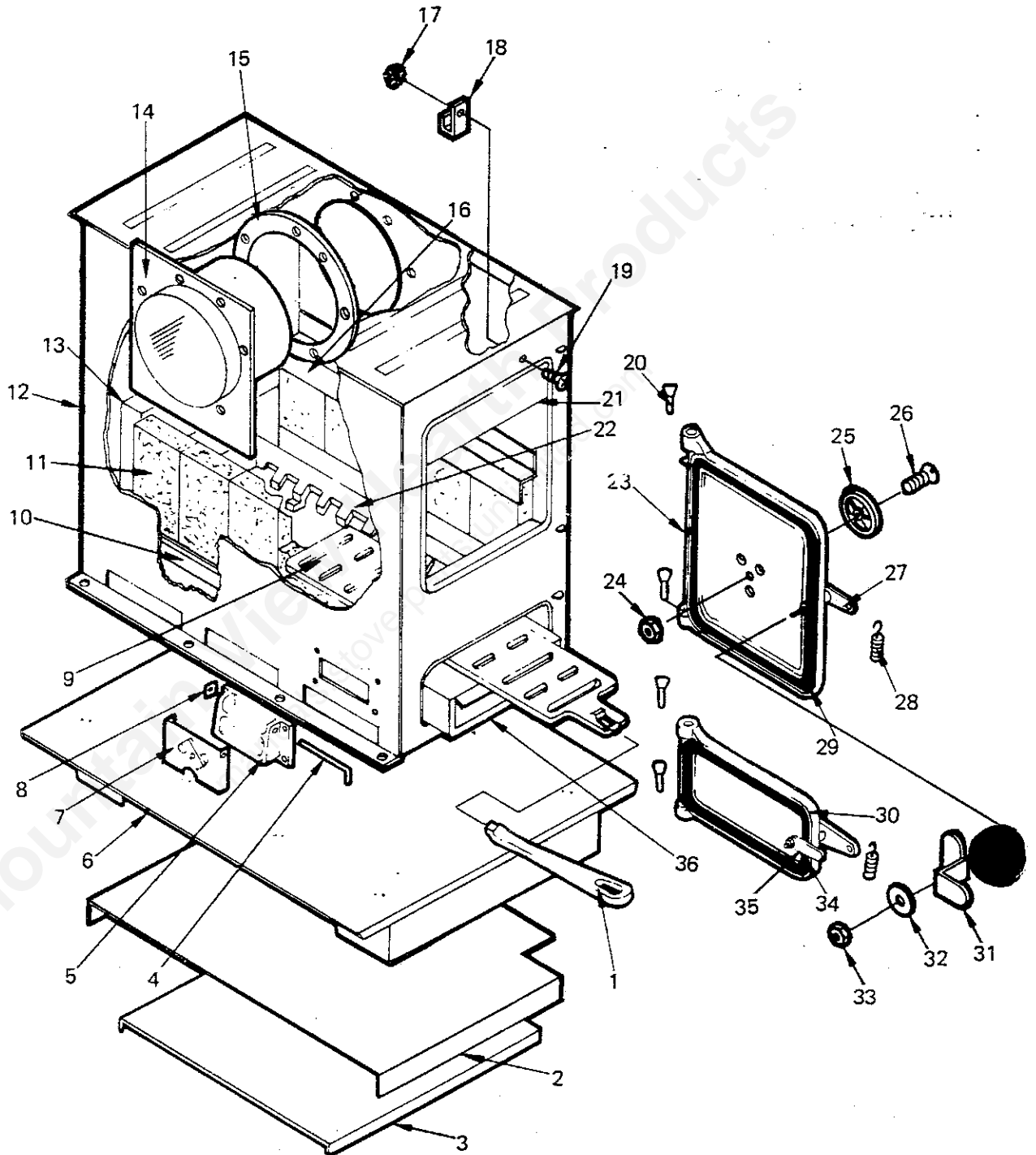
THERMOSTAT CONTROLLED COAL BURNING CIRCULATOR - MODEL 2827

EXH A

KEY NO.	PART NO.	DESCRIPTION	QTY.	RETAIL PRICE	DLR. PRICE	DIST. PRICE
1	89062	DOOR KNOB	1	\$ 1.40	\$.96	\$.79
2	83033	MACH. SCREW (8/32X1/4)	1	.05	.04	.03
3	83005	MACH. SCREW (10-24X1/2)	1	.05	.04	.03
4	83093	SPRING LATCH	1	2.14	1.79	1.48
5	83224	NUT (KEPS, 10-24 PLAIN)	1	.10	.08	.06
6	67968	CABINET DOOR FRAME	1	28.00	24.00	19.92
7	86191	THERMOSTAT LINKAGE ADJ.	1	1.64	1.37	1.13
8	85381	CONTROL PANEL PLATE	1	15.58	12.98	10.76
9	89142	THERMOSTAT KNOB	1	4.54	3.79	3.14
10	67725	CABINET FRONT	1	49.47	41.23	34.22
11	67967	CABINET LEFT SIDE	1	27.10	22.59	18.74
12	21593	HINGE SUPPORT	1	1.35	1.12	.93
13	83833	HINGE CLIP	1	.64	.54	.45
14	67966	CABINET TOP	1	33.00	27.50	22.02
15	67743	THERMOSTAT	1	9.04	7.53	6.24
16	21063	BACK BRACE	2	1.14	.96	.79
17	67514	CABINET BACK	1	20.72	17.26	14.32
18	89065	DOOR HINGE	4	.35	.29	.24
19	67969	CABINET DOOR	1	27.06	22.55	18.71

repair parts

THERMOSTAT CONTROLLED COAL BURNING CIRCULATOR, MODEL 2727



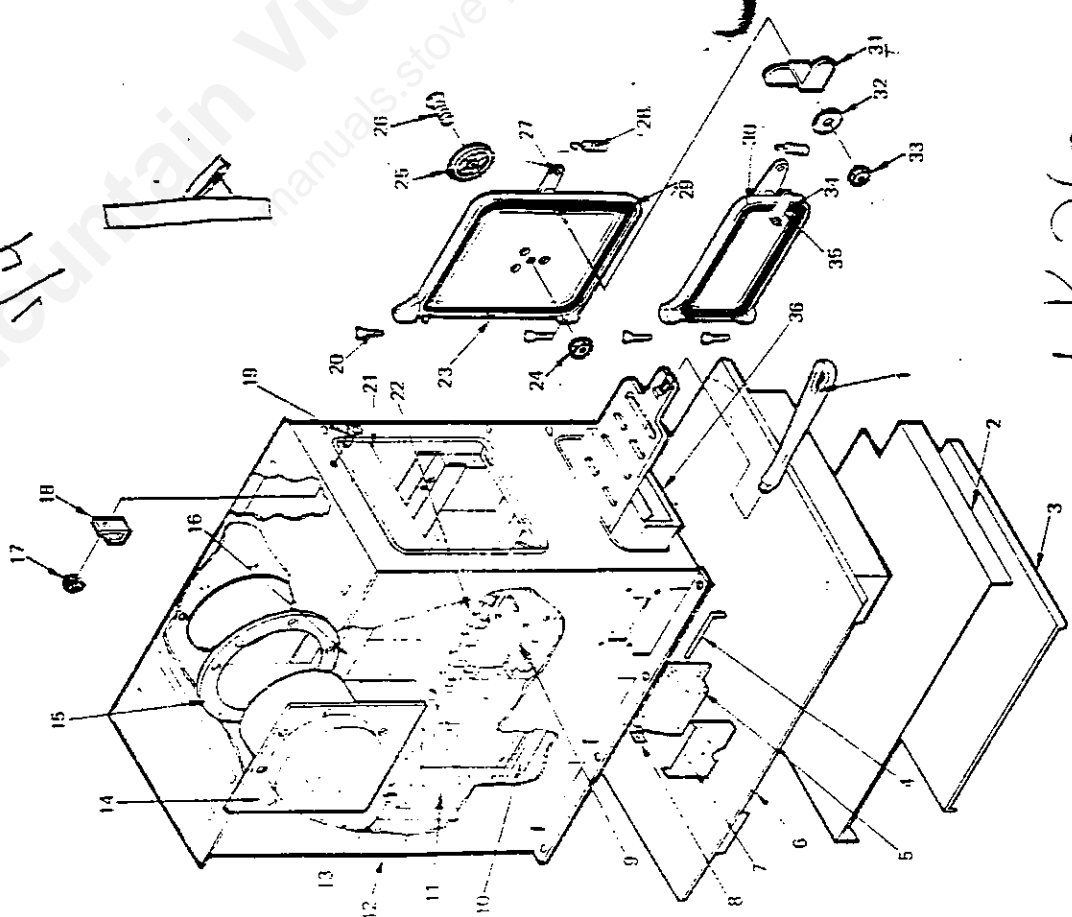
FEED DOOR 68605
 LIMIT CONTROL 80146
 D6K2

LK 26
 w/ 1/2" dia. screws
 p/1. Front's

repair parts
 THERMOSTAT CONTROLLED COAL
 BURNING CIRCULATOR, MODEL 2727

repair parts
 THERMOSTAT CONTROLLED COAL
 BURNING CIRCULATOR, MODEL 2727

D6K-2



Key No.	Part No.	Description
1	40045	Shaker
2	67806	Second Heat Shield/Assembly
3	22110	Heat Shield
4	17200	Draft Damper Hinge Pin
5	40075	Draft Damper Frame
6	67859	Base
7	67132	Draft Control Damper
8	83818	Clip (2 Req'd)
9	40101	Coal Grate
10	40130	Grate Support (6 Req'd)
11	89066	Fire Brick (10 Req'd)
12	67858	Fire Box
13	40100	Liner (3 Req'd)
14	40246	Flue Collar
15	88032	Flue Gasket
16	40132	Fire Brick Retainer (2 Req'd)
17	83250	Kaps Nut (1/4" - 20) (2 Req'd)
18	22171	Machine Screw (1/4 - 20 x 1/2 PH) (2 Req'd)
19	83035	Hinge Pin (4 Req'd)
20	83114	Smoke Curtain
21	22090	Coal Grate Frame
22	40102	Feed Door
23	40199	Nut 1/4 - 20
24	83109	Draft Wiper
25	40056	Machine Screw, 1/4-20 x 1-1/2 SL FH
26	83105	Handle, Door (2 Req'd)
27	40091	Handle, Wood (2 Req'd)
28	67667	Feed Door Hops Gasket
29	21804	Ash Door
30	40187	Two-Step Latch
31	22434	Washer, Flat
32	83045	Locknut (1/4 - 20 Jam Top) (2 Req'd)
33	83261	Ash Door Gasket
34	21803	Latch
35	22108	Ash Pan
36	67444	Owner's Manual
*	85383C	

Not Shown
 Complete Door
 22103SV
 17 year
 LK 26
 all included
 duct with char. the

Washers
 Caps Nuts
 Hinges