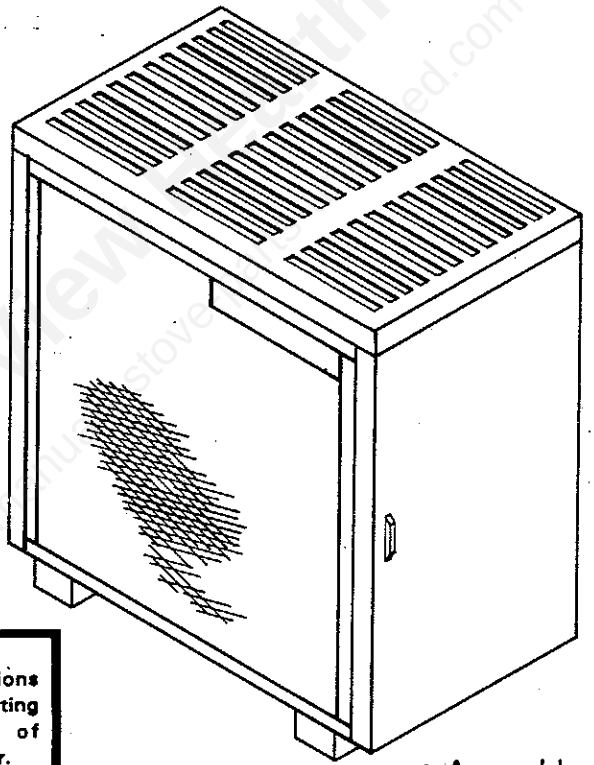
Owners Manual

Model 1721
"Thriftwood"

WOOD BURNING CIRCULATOR HEATER



CAUTION:
Read All Instructions Carefully Before Starting the Installation of Operating the Heater.

Improper Installation May Void Your Warranty.

- Assembly
- Installatior
- Operatic
- Repai

DO NOT USE THIS HEA IN A MOBILE HOME OR T

UL LISTED

Save This Manual
For Future Reference.

UNITED STATES STOVE COMPANY
3500 N. Hawthorne St., Chattanooga, Tennessee 37406
(615) 698-3435

FORM 85

CONGRATULATIONS!

You've purchased one of America's Finest Woodburning Heaters.

By heating with wood you're helping CONSERVE AMERICA'S ENERGY!

Wood is our Renewable Energy Resource. Please do your part to preserve our wood supply.

Plant at least one tree each year. Future generations will thank you.

LIMITED WARRANTY

WARRANTY:	The United States Stove Company warranties 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.
Gloves
Screwdriver (Blade-Type)
5/16" Nut Driver or
5/16" Socket w/Ratchet

MATERIALS

Chimney Connector-6" dia. Black or Blued Steel (24 ga. minimun): 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)

rules for safe installation and operation

Read these rules and the instructions carefully.

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

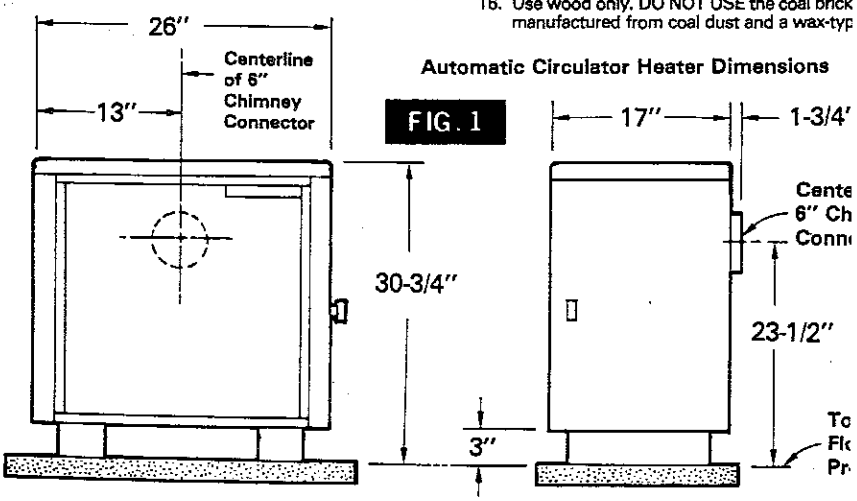
1. Check your local codes. The installation must comply with their rulings.
2. Do not install this heater in a mobile home or trailer.
3. Always connect this heater to a chimney and vent to the outside. Never vent to another room or inside a building.
4. Do not connect a wood burning heater to an aluminum 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 twice monthly 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.

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

10. For further information on using your heat obtain a copy of the National Fire P Association (NFPA) publication "Ch Fireplaces, Vents and Solid Fuel Appliances" NFPA No. 211. The addres NFPA is Batterymarch Park, MA 02269.
11. Keep the ashpit section free of excess ashe allow ashes to stack higher than the sides o pan.
12. **DISPOSAL OF ASHES**- Ashes should be a metal container with a tight fitting lid. I closed container on a noncombustible floor ground, well away from all combustible r Keep the ashes in the closed container cinders have thoroughly cooled. The ashes buried in the ground or picked up by collector.
13. CAUTION- **The special paints used heater may give off some smoke while curing during first few fires. Build smal first.** The metals used in construction of t has a light coating of oil. This could give o and/or odors when heater is used for the fir of times. This should disappear after a shc of time. Once this burn-off has occurred, not reoccur.
14. CARING FOR PAINTED PARTS - This hea painted outside jacket, which is durable but stand rough handling or abuse. When instal heater, use care in handling. Clean with s warm water when heater is not hot. DO NO acids or scouring soap, as these wear anc finish. PAINT DISCOLORATION WILL O THE HEATER IS OVERFIRED. F OPERATING INSTRUCTIONS CAREFULLY
15. Keep the feed door, ash door, cabinet door all times except while tending the heater.
16. Use wood only. DO NOT USE the coal brick manufactured from coal dust and a wax-typ

Automatic Circulator Heater Dimensions

FIG. 1



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 this unit to a chimney flue, serving another appliance.
   If there is no chimney near where you wish to place the heater, you can use a UL Listed Residential Type and Building Heating Appliance Chimney (Fig. 6).
2. Place the heater on solid masonry or solid concrete. When the heater is used on a combustible floor, use a non-combustible floor protector of one layer of 3/8" millboard having a thermal conductivity of K=0.84 BTU in./ft.^{2} hr. deg. F with 28-gauge sheet metal or a U.L. Listed Floor protector. Have the floor protector extend 16" beyond the door side of the heater and under the connector pipe in the back (Fig. 2, 3, and 4).
3. Check Figures 2, 3 and 4. Be sure you have the clearances shown from the heater and the connector pipe to combustible surfaces. If you have a solid brick or stone wall behind your heater, you can place the heater as close as you wish to the wall. If the wall is only faced with brick or stone, treat it as a combustible wall.

MINIMUM CLEARANCE TO COMBUSTIBLE WALLS

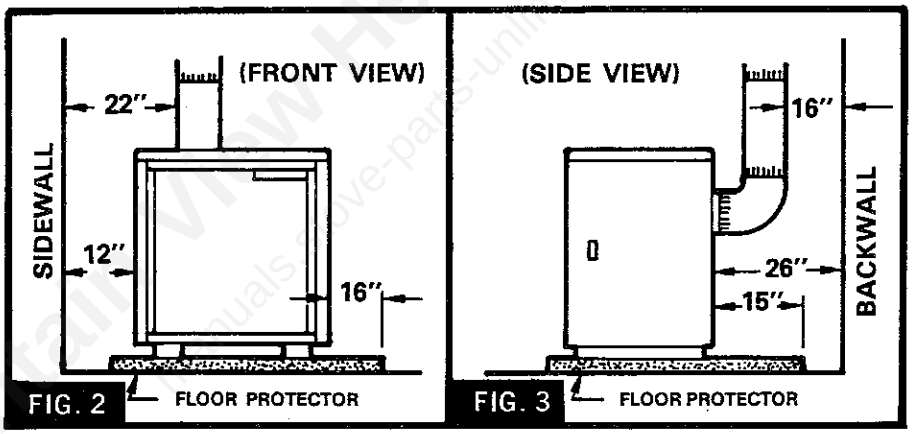


FIG. 2 FIG. 3

HEATER/FLOOR PROTECTOR LOCATION

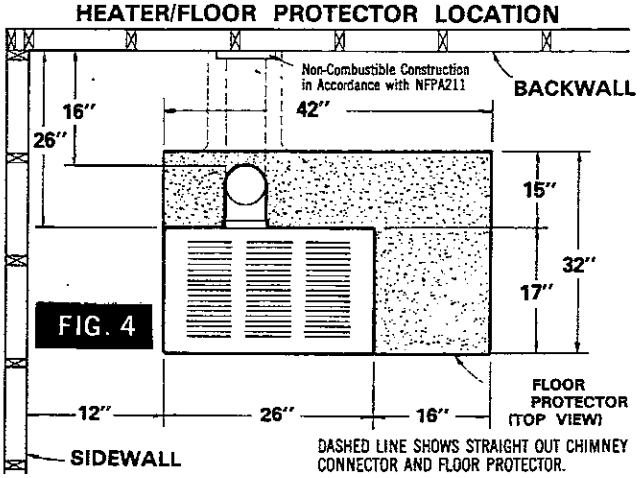


FIG. 4

NOTE:
BEFORE FIRING HEATER
Slide firebricks toward the rear so no gaps remain between them.

CAUTION
Keep furnishings and other combustible materials away from the heater.

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

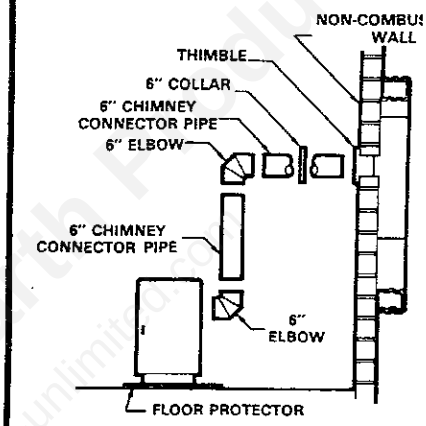
Carefully follow chimney manufacturer's instructions. Use only a UL Listed Residential Type and Building Heating Appliance Chimney. If your chimney starts at the ceiling (Fig. 6), you will need a 6" elbow and enough 6" pipe to reach the ceiling.

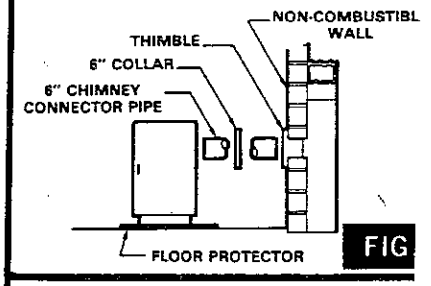
The top of the chimney must be at least 3 feet above the roof and be at least 2 feet higher than any point of the roof within 10 feet (Fig. 6).

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.

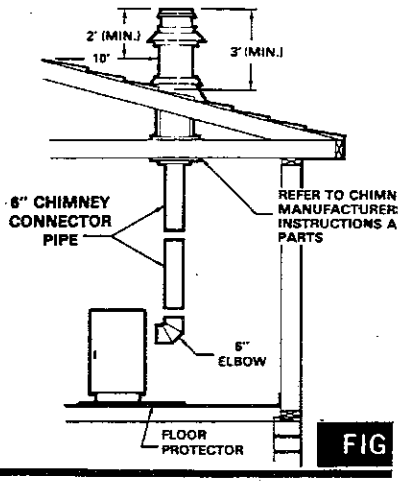
HEATER/MASONRY CHIMNE CONNECTIONS





FIG

HEATER/U.L. LISTED CHIMNE CONNECTIONS/CLEARANCE



FIG

venting into a fireplace

Many people may wish to convert an existing fireplace to wood 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 wood 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 INSTALLATION OF A WOOD 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 wood 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 wood 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 wood heater into them.

Another method frequently used by some people is to vent the wood 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 combustible ceiling or other com Placing the center of the entry port 2 f the ceiling will insure proper clearance 8-inch, and 10-inch stovepipes.

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

Install the stovepipe as far as possible thimble, but not past the inside of the f There should be a small airspace (appr 1/2 inch) between the stovepipe and allowing for expansion of the stovepipe airspace with high-temperature cat ceramic wool. Finally, be sure to wire th closed and apply the same sealant yo the stovepipe and thimble junction.

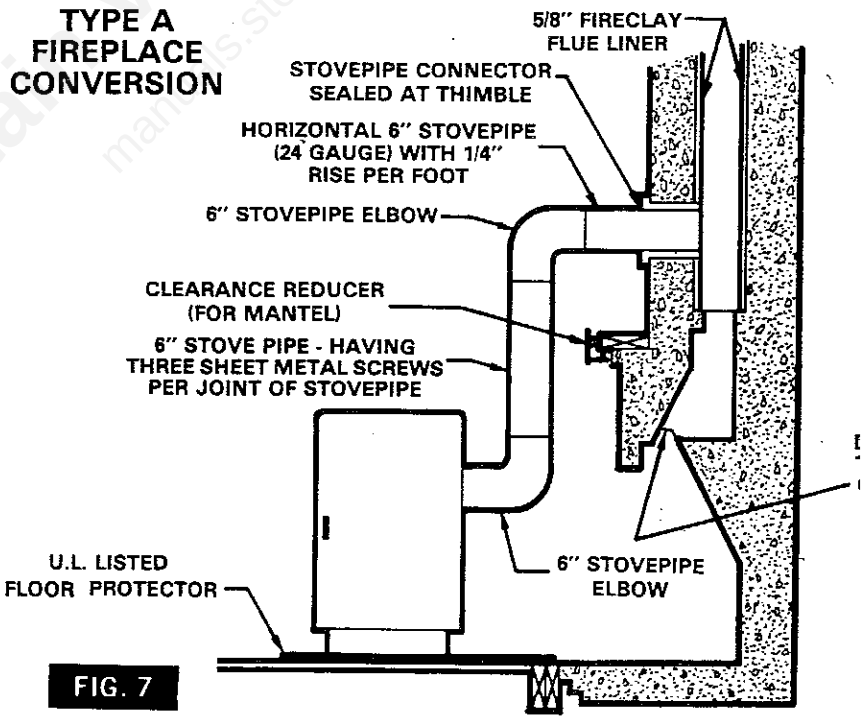


FIG. 7

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 piece of 24 gauge 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.

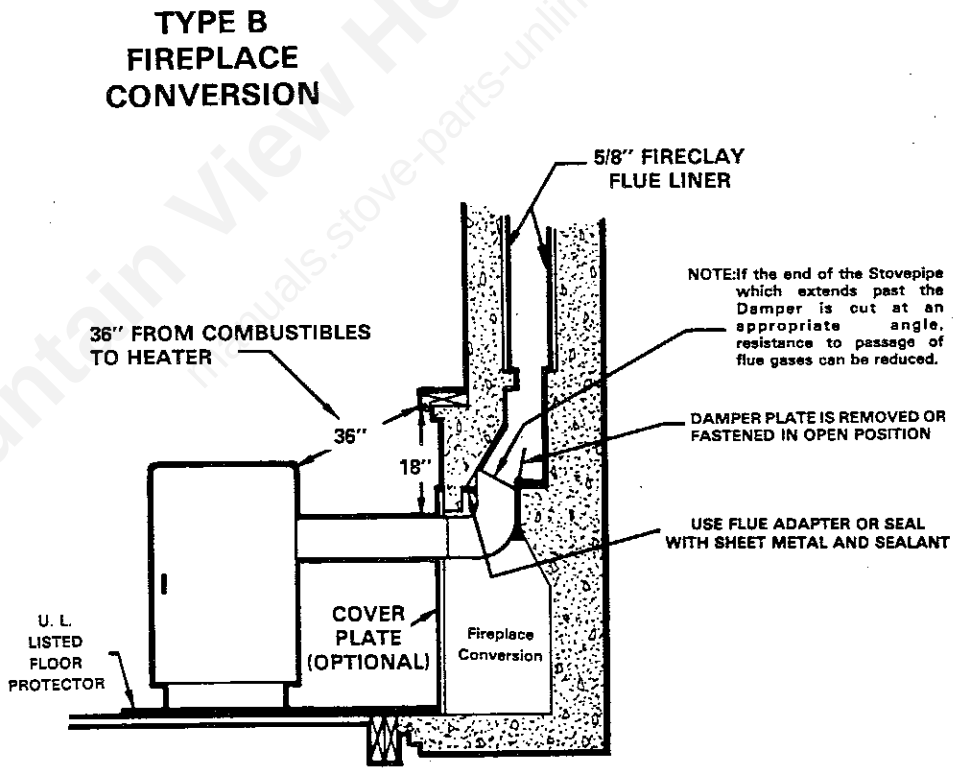


FIG. 8

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 ¼ inch for each foot of horizontal run.

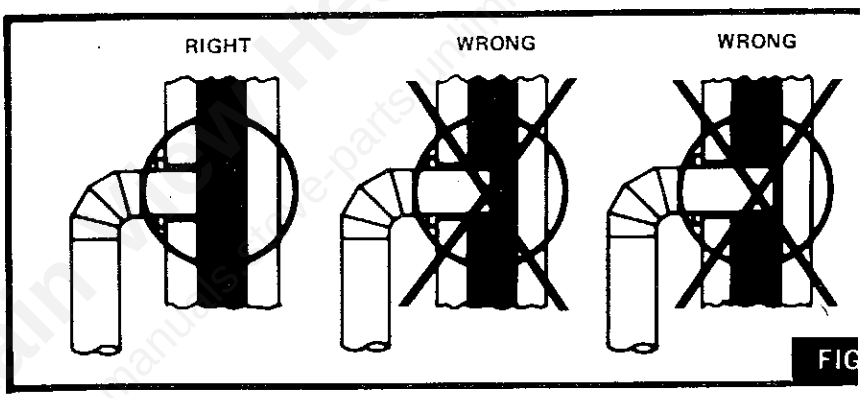
3. You must have at least 18 inches of clearance between any horizontal piping and the ceiling.

4. The pipe cannot extend into the chim (Fig. 9).

5. Seal each connector pipe joint with cement. Also seal the pipe at the chir

6. Use 3 sheet metal screws at each joint the piping rigid.

7. It is recommended that no more than bends be used in the stove pipe install more than two may decrease the an draw and possibly cause smoke spill

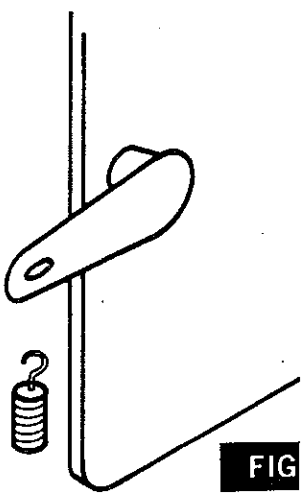


FIG

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. 10).
3. Using pliers close the metal hook so the wooden handle cannot be removed.



FIG

operating instructions for 1721

WOOD BURNING CIRCULATOR HEATER ONLY!

FUEL

Hardwood, 14" to 16" should be split and air dried (seasoned) for 6 months to obtain maximum burning efficiency.

Use wood materials only. Do not use coal. Coal or charcoal will destroy the Grates or Fire Box.

LIGHTING

1. Set the draft control on "HIGH" for maximum draft. (Draft Control Knob completely open.)
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 after fire is burning briskly. Be careful not to smother the kindling fire.
5. Set draft control to maintain desired temperature. "MEDIUM" setting is normally satisfactory. Set higher or lower for your comfort.

ADDING WOOD

When possible, add small amounts of wood 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 draft control to HIGH before opening feed door.
2. 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

OVERFIRING THE HEATER MAY CAUSE A HOUSE FIRE. IF HEATER OR CHIMNEY CONNECTOR GLOWS, YOU MAY BE OVERFIRING.

CAUTION

BUILD A FIRE ON INTEGRAL GRATE THAT IS PROVIDED WITH THE HEATER.

CAUTION

DO NOT OPERATE WITH FEED, ASH, OR CABINET DOOR OPEN. OPERATION WITH ANY OF THESE DOORS OPEN WILL OVERHEAT AND DAMAGE THE HEATER.

CAUTION

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

CAUTION

KEEP ALL FLAMMABLE LIQUIDS, ESPECIALLY GASOLINE, FROM THE VICINITY OF THE HEATER WHETHER IN USE OR IN STORAGE.

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 c in the chimney and run back into tl Creosote formation will be rapid a block the chimney. Operate the he high enough fire to keep the chimn preventing this condensation.

5. If the fire burns well but sometimes sı burns slowly, it may be caused by the top being lower than another part of t or a nearby tree. The wind blowin house or a tree falls on top of the chir water over a dam, beating down the The top of the chimney should be a feet above the roof and be at leas higher than any point of the roof withi (Fig. 6).

chimney maintenance

Creosote and Soot — 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.

The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if a creosote buildup has occurred.

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

Chimney fires burn very hot. If the connector should glow red, immediately fire department, then reduce the fire by the inlet air control and pour a large qu coarse salt, baking soda or cool ashes o the fire in the firebox.

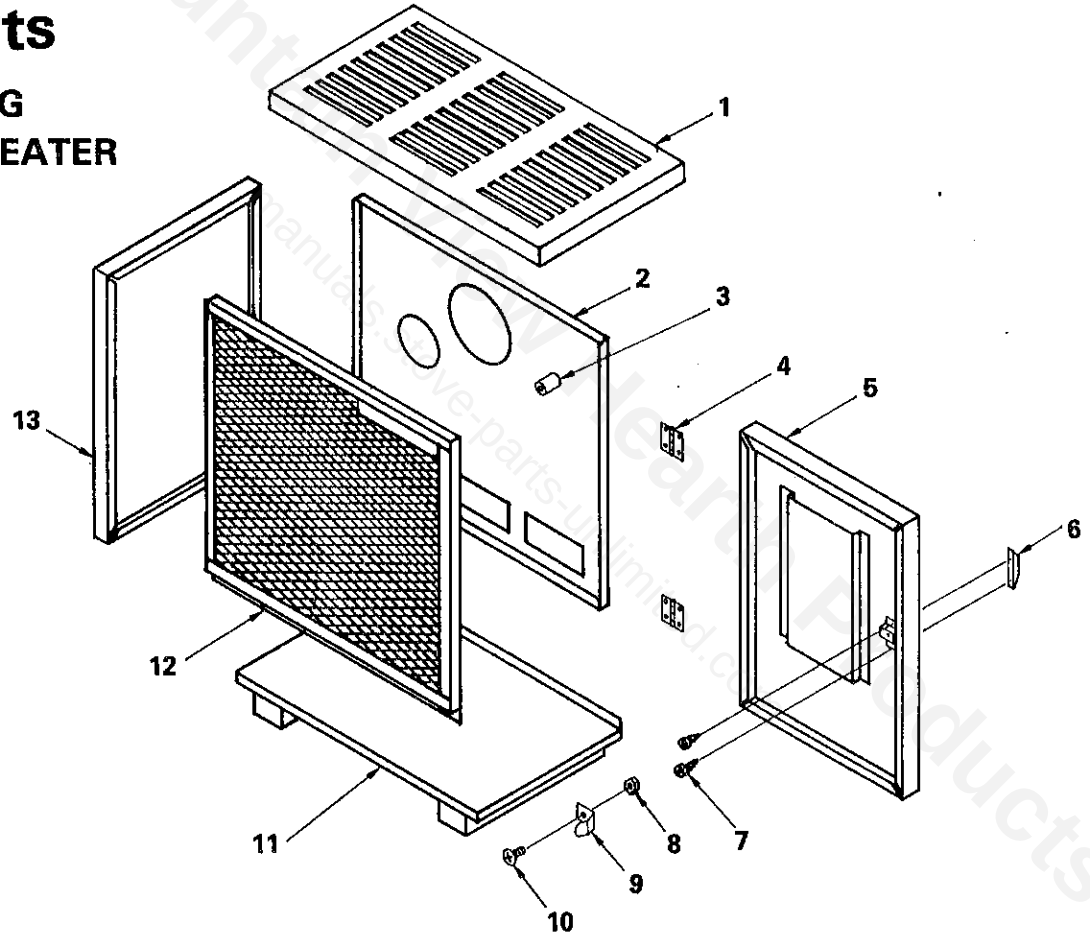
CAUTION:

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

repair parts

WOOD BURNING CIRCULATOR HEATER

Model Number 1721



repair parts

WOOD BURNING CIRCULATOR HEATER

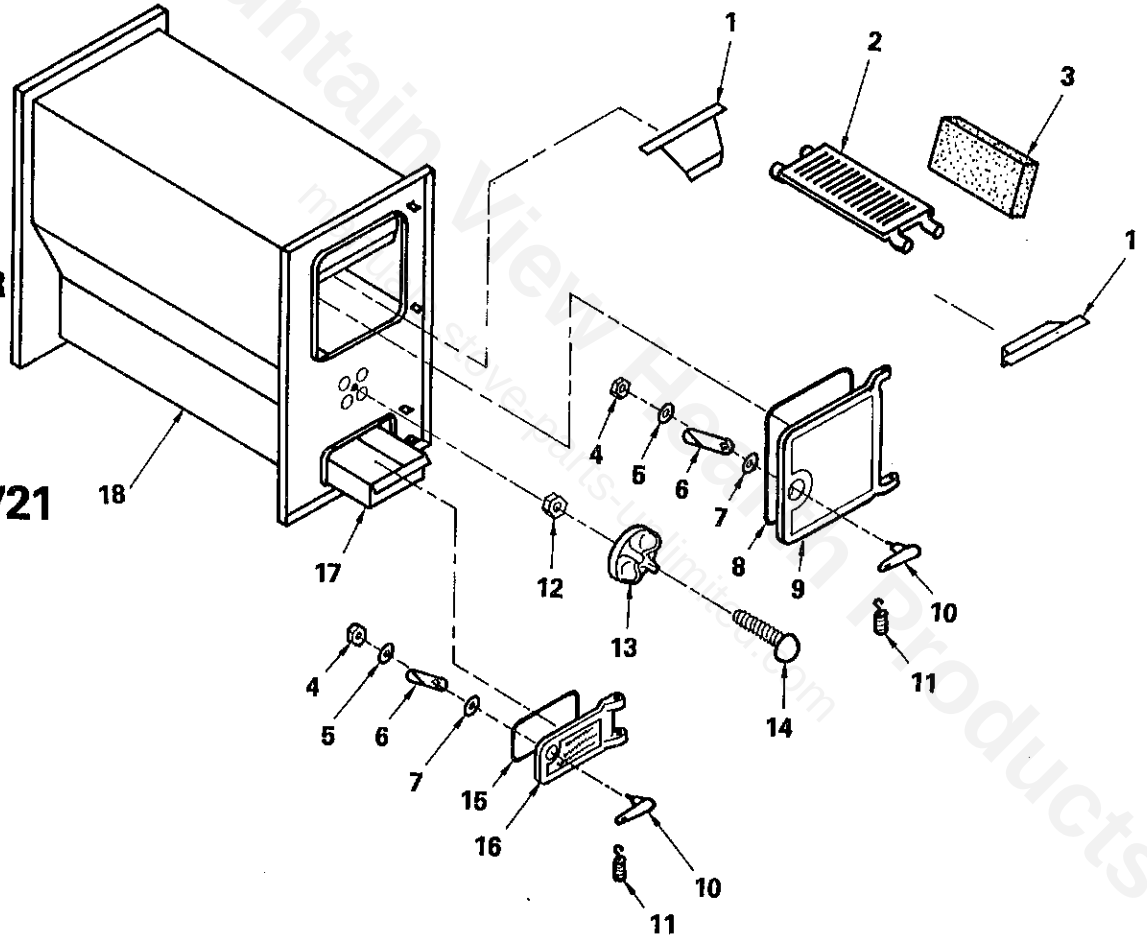
MODEL NUMBER 1721

Key No.	Part No.	Description
1	68103	Cabinet Top
2	22462	Cabinet Back
3	83855	Cabinet Back Spacer
4	89065	Hinge, Door (2 Req'd)
5	68106	Cabinet Right End
6	89211	Handle, Cabinet Door
7	83264	Screw, Plastic Tapping (2 Req'd)
8	83244	Nut, Keps
9	83283	Latch, Spring
10	83005	Screw, Machine
11	68102	Base
12	68104	Cabinet Front
13	68105	Cabinet Left End

repair parts

WOOD BURNING CIRCULATOR HEATER

Model Number 1721



repair parts

WOOD BURNING CIRCULATOR HEATER

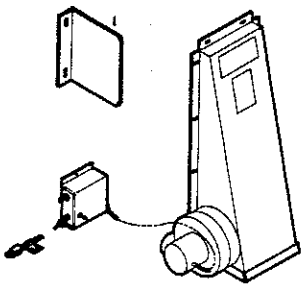
MODEL NUMBER 1721

Key No.	Part No.	Description
1	40237	Liner, Firebox End (2-Req'd)
2	40201	Grate, Wood
3	89066	Firebrick (4 Req'd)
4	83261	Locknut 1/4-20 (2-Req'd)
5	83273	Washer, Flat (2-Req'd)
6	21047	Latch, Door
7	83045	Washer, Flat
8	21804	Gasket, Feed Door
9	40186	Door, Feed
10	40091	Handle, Feed and Ash Door
11	67567	Handle, Wood
12	83178	Nut, Jam 3/8-16
13	40152	Knob, Draft Control
14	83177	Bolt, Carriage 3/8-16 x 2-1/4
15	21803	Gasket, Ash Door
16	40236	Door, Ash
17	68100	Ash Pan
18	68098	Firebox Body
*	88032	Flue Collar Gasket
*	40246	Flue Collar
*	85485	Owner's Manual (1721)

* Not Shown

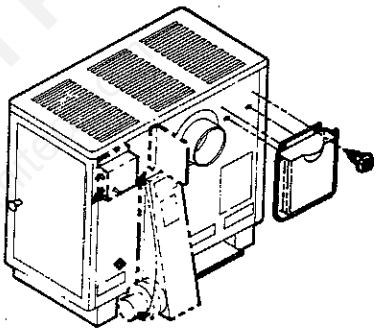
owners manual

OPTIONAL KITS FOR MODEL 1721



BLOWER KIT FOR 1721
F56 / F36 200CFM / 100CFM

HU26 HUMIDIFIER KIT
FOR 1721



HOW TO ORDER REPAIR PARTS

THIS MANUAL WILL HELP YOU TO OBTAIN EFFICIENT, DEPENDABLE SERVICE FROM THE HEATER, AND ENABLE YOU TO ORDER REPAIR PARTS CORRECTLY.

KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

WHEN WRITING, ALWAYS GIVE THE FULL MODEL NUMBER WHICH IS ON THE NAMEPLATE ATTACHED TO THE INSIDE OF THE CABINET DOOR OF THE HEATER.

WHEN ORDERING REPAIR PARTS OR OPTIONAL KITS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

1. The PART NUMBER
2. The PART DESCRIPTION
3. The MODEL NUMBER: 1721
4. The SERIAL NUMBER:_____

BEFORE INSTALLING YOUR HEATER, CHECK THE APPROPRIATE BOX AND FILL IN THE SERIAL NUMBER OF YOUR HEATER IN THE SPACES PROVIDED ABOVE.

UNITED STATES STOVE COMPANY
P. O. Box 5349
Chattanooga, Tennessee 37406
(615) 698-3435