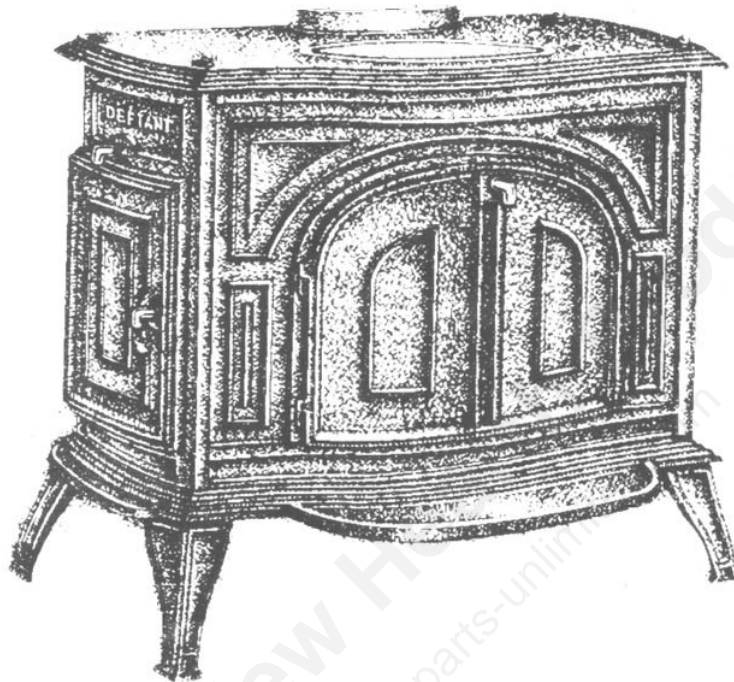


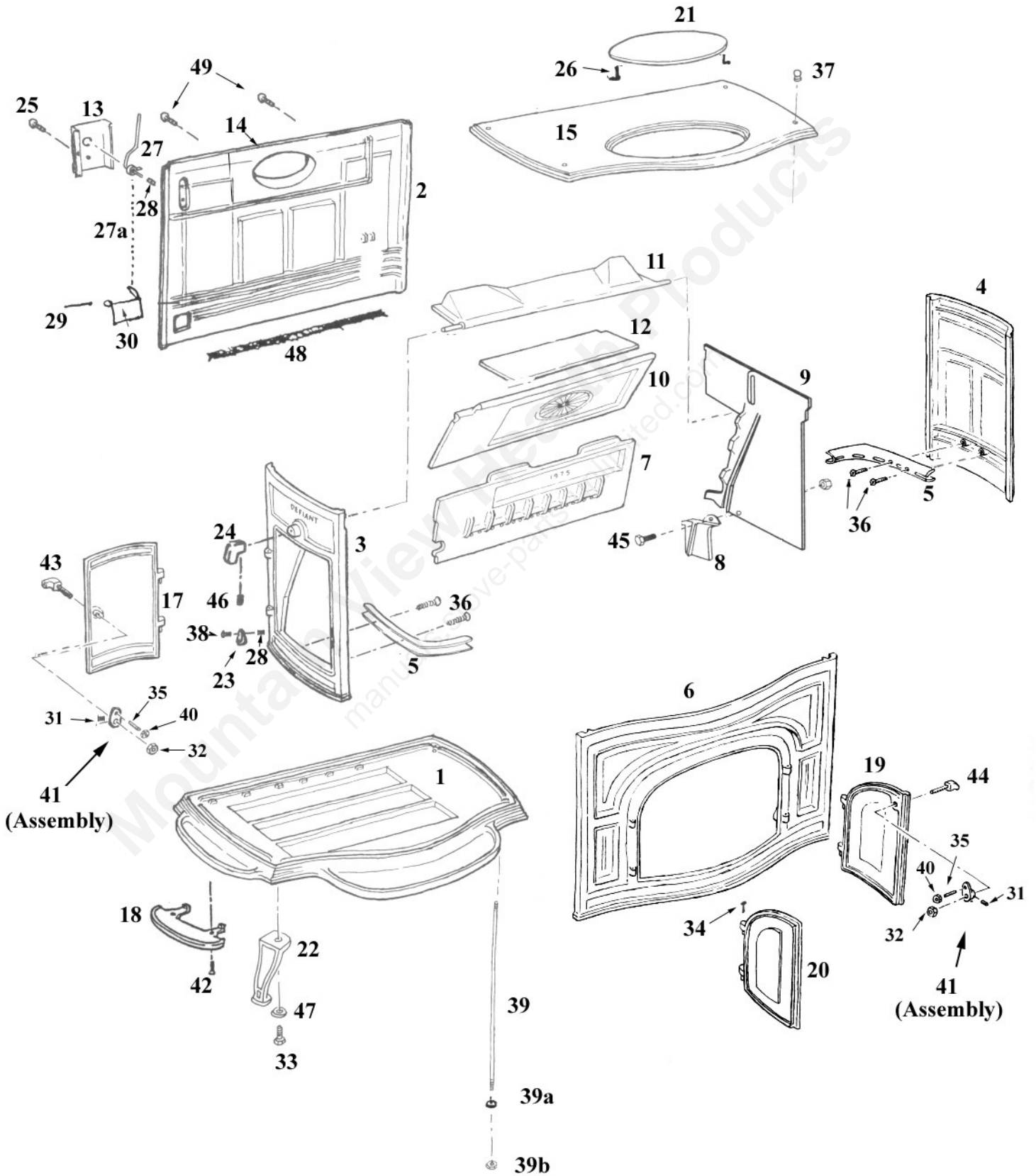
# DEFIANT IAI

## Service Manual



1. Exploded view stove parts and tap diagram
2. Parts list and tap guide
3. Directions for complete interior plate disassembly and assembly
4. Directions for complete refurbishment
5. Individual part replacement instructions:
  - a. Top Plate (same as Defiant III)
  - b. Bottom Plate (same as Defiant III)

# DEFIANT I, IA & IAI



# DEFIANT I, IA & IAI

**MODEL #:** 0019 & 0028 DEFIANT I & IA

**FEATURES:** Manufactured 1975 through 6/80, Defiant I has a one piece fireback; Defiant 1A is a Defiant I converted to a two piece fireback, sides wrap around the front; Defiant IAI is a I or IA converted to a two piece fireback & two piece baffle, sides wrap around the front.

*\* denotes dead product - no substitute*

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	130-0072	Bottom No Ash Lip N/A - See Sub	26	000-5838	Set of Two Griddle Tabs (120-1857)
		Sub 130-3148 and drill alternate tie rod holes	27	500-5483	Thermostat Assembly
2	130-0021*	Back	27a	120-1960	Thermostat Ball Chain (per foot)
3	500-0199	Left End with Door	28	120-1846	Tension Spring for Thermostat
4	130-3024*	Right End	29	160-1555	Thermostat Flap Pin Only
5	130-3162	Primary & Secondary Air Tube	30	000-5800	Thermostat Flap w/ Eyelet
6	500-0200*	Front with Doors	31	120-0417	1/4-20 x 1/4" Socket Set Screw
7	130-3048	Lower Fireback D1A & D1A1	32	120-3290	3/8-16 Large Pawl Jam Nut
		Single Piece Fireback Not Available	33	120-1432	3/8-16 x 1" Hex Head Cap Screw
8	130-0115	Baffle Support D1A1		000-5807	Leg Bolt Set w/ Washers & Hdle Holder
9	130-0110	Baffle D1A1		120-1463	3/8-16 x 1 1/2" Special Long Leg Bolts
10	130-3040	Upper Fireback D1A & D1A1	34	160-0546	Door Pin
11	500-0323	Damper With Welded Pin	35	120-0436	Striker Bolt Only
12	130-0055*	Smoke Shelf	36	120-0889	1/4-20 x 1 1/2" Phillips Flat Head
13	160-1487	Thermostat Cover	37	160-0575	Finial Nut
14	130-3192*	Rear Exit Insert	38	120-1007	10-24 x 3/4" Phillips Trs Head
	130-3200*	Top Exit Insert	39	500-7497	Set of 4 Tie Rods (160-1617), Washers & Nuts
15	130-0088*	Rear Exit Top	39a	120-2461	Star Washer (included in 500-7497)
	130-0093*	Top Exit Top	39b	120-3226	1/4-20 Hex Head Nut (included in 500-7497)
17	130-3000	Side Load Door	40	120-3210	Striker Bolt Nut Only
18	130-3170	Side Ash Lip (later D1 models only)	41	500-4024	Pawl Assembly (no jam nut)
19	130-3008	Right Door	42	120-0865	1/4-20 x 5/8" Phillips Flat Head
20	130-3016	Left Door	43	500-4244	Side Door Handle Stub w/ Shaft
21	130-3154	Griddle	44	500-4237	Front Door Handle Stub w/ Shaft
22	130-3225	Leg (one only)	45	120-1338	1/4-20 x 1/2" Hex Head Cap Screw
	500-0360	Legs (set of 4)	46	120-0563	5/16-18 x 5/16 Socket Set Screw
23	130-0671	Secondary Air Control Cover	47	120-2488	Washer for Leg Bolts
24	500-4265	Damper Handle Stub w/ Set Screw	48	120-6382	Fireback Secondary Air Screen
25	120-1010	10-24 x 1 1/2" Truss Head Phillips	49	120-0998	10-24 x 1/2" Phillips Heat Shield Hole Screw

## ITEMS NOT SHOWN

000-4342	Fallaway Handle Complete
160-0620	Ceramic Handle Only
120-1294	Handle Screw
160-0650	Handle Stub
120-1832	Handle Stub Roll Pin

## ACCESSORIES

000-0124	Defiant Screen
000-0868	Set of 4 Short (3") Legs

## REPAIR KITS

### **000-5832 DEFIANT 1A1 FIREBACK KIT (B)**

- 000-5825 Box 2 - includes: upper fireback, lower fireback, tie rods, hardware, screen, cement & instructions
- 000-5830 Box 3 - includes: baffle, baffle support, air tube, hardware & paint instructions.

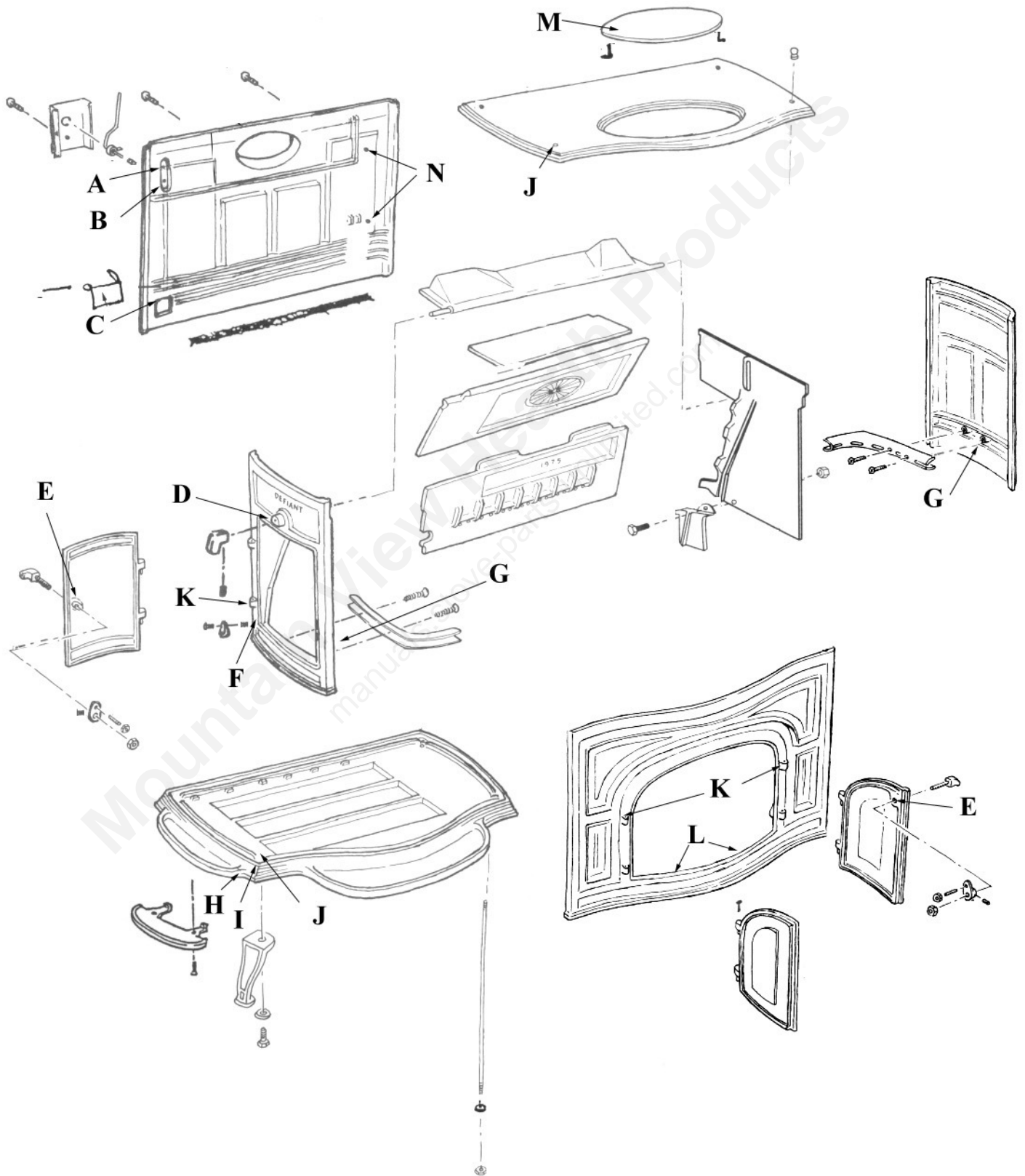
### **500-0199 LEFT END WITH DOOR**

This part is needed only on stoves with the original one-piece fireback

## GASKETS

120-3588	5/16" Medium Density 6ND Gasket	4.5'	Upper Fireback
		7'	Front Doors
		4'	Side Doors
120-3668	5/16" Gasket Wire Fiberglass with Core	4'	Top for Griddle

# DEFIANT 1, 1A, 1A1 DRILL & TAP GUIDE



## **DEFIANT IAI DRILL AND TAP KEY**

<b>DIAGRAM #</b>	<b>TO ACCOMMODATE THIS HOLE</b>	<b>DRILL SIZE</b>	<b>TAP SIZE</b>
A	Thermostat hole	#22	10-24
B	Thermostat cover screw hole	#22	10-24
C	Air shutter pin holes	1/8" x 3/22" deep	N/A
D	Damper pin hole	#W (.3860")	N/A
E	Door handle holes	3/8"	N/A
F	Secondary air cover screw hole	#22	10-24
G	Air tube screw holes	5/16"	
H	Ash lip holes	13/64"	1/4-20
I	Leg bolt holes	5/16"	3/8-16
J	Top tie rod holes	5/16"	N/A
K	Door pin holes	3/16"	N/A
L	Andiron holes	#3 (.2130") x 5/8" deep	1/4-20
M	Griddle tab holes	13/64"	1/4-20
N	Heat shield holes	#22	10-24

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manuals.stove-parts-unlimited.com

## DISASSEMBLING THE DEFIANT IAI INTERIOR CASTINGS

Directions for entire internal plate disassembly and assembly

### Step 1 - Preparation

Remove the griddle, front and load doors, and damper handle.

### Step 2 - Remove the primary and secondary air tubes

Unscrew the primary and secondary air tube screws with a phillips head screwdriver and remove the air tubes. If the screws are frozen, using an impact wrench, or shocking the threads by tapping the screwdriver with a hammer, may be helpful.

If the screw head is stripped, drill it off with a 1/4" drill bit, pull the air tube out, and remove the remaining shaft by using a vise grips.

### Step 3 - Remove the Support Leg from the Baffle

- With a 7/16" socket wrench remove the 1/4-20 hex head bolt and hex nut. The hex nut, on the rear side of the baffle, rests in a slot so a wrench should not be required on both sides.

- Once the bolt is removed, pull the support leg out from under the baffle. When the support leg is removed, the baffle should slide straight down about 1 inch into position for removal.

#### Step 4 - Remove the Baffle

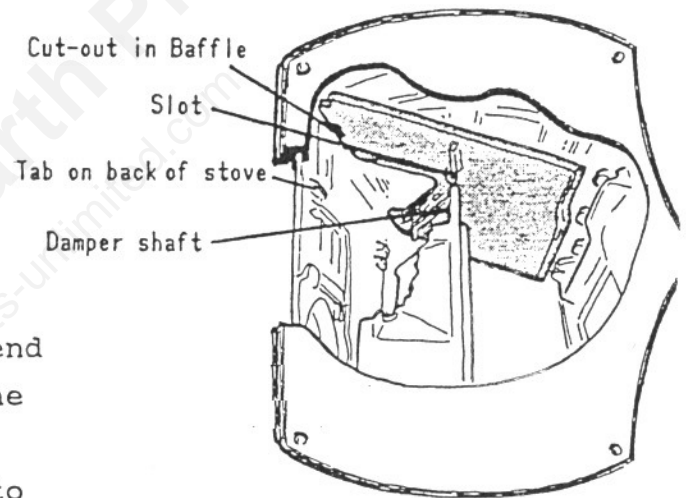
- Once the baffle has slid down about 1", swing the back edge toward the right end. The cut out section on the upper rear of the baffle must clear the corresponding tab on the back plate to disengage the two pieces. Once disengaged, swing the baffle so that the back edge is completely in the rear corner of the stove. This will disengage the front edge of the baffle from the tabs on the front plate of the stove.

#### Step 5 - Remove the Damper

- Reach in through the griddle and slide the damper toward the right end to disengage the handle pin from the load door end. Bring the damper forward and down into the firebox to be removed.

#### Step 6 - Remove the Smokeshelf

- Reach in through the flue collar and lift the front of the smokeshelf upwards. Slide it toward the load door end to disengage it from the tabs on the back plate and rotate the other end out the flue collar or out through the front doors.



### Step 7 - Remove the Upper Fireback

- Reach in through the front doors and hold the upper fireback along its top edge. Slide it towards the right end with a lifting motion to disengage it from the load door end. Let it fall forward slightly, lift it off the lower fireback, and remove.

### Step 8 - Remove the Lower Fireback

- Reaching in through the front doors, hold the top edge of the lower fireback and slide it toward the right end to disengage it from the load door end. Tip it forward and remove it. Since this piece is cemented, it may be necessary to pry it away from the back plate.

### Step 9 - Clean the stove and stove parts

- Clean and vacuum the grooves that the lower fireback fits in. Also, clean the cast ridges on the back plate and lower fireback of all dried furnace cement and soot.

- Clean the areas where the air tubes attach to the left and right ends and also the grooves that hold the firebacks on the left end.

You have now completed the disassembly of the Interior Castings

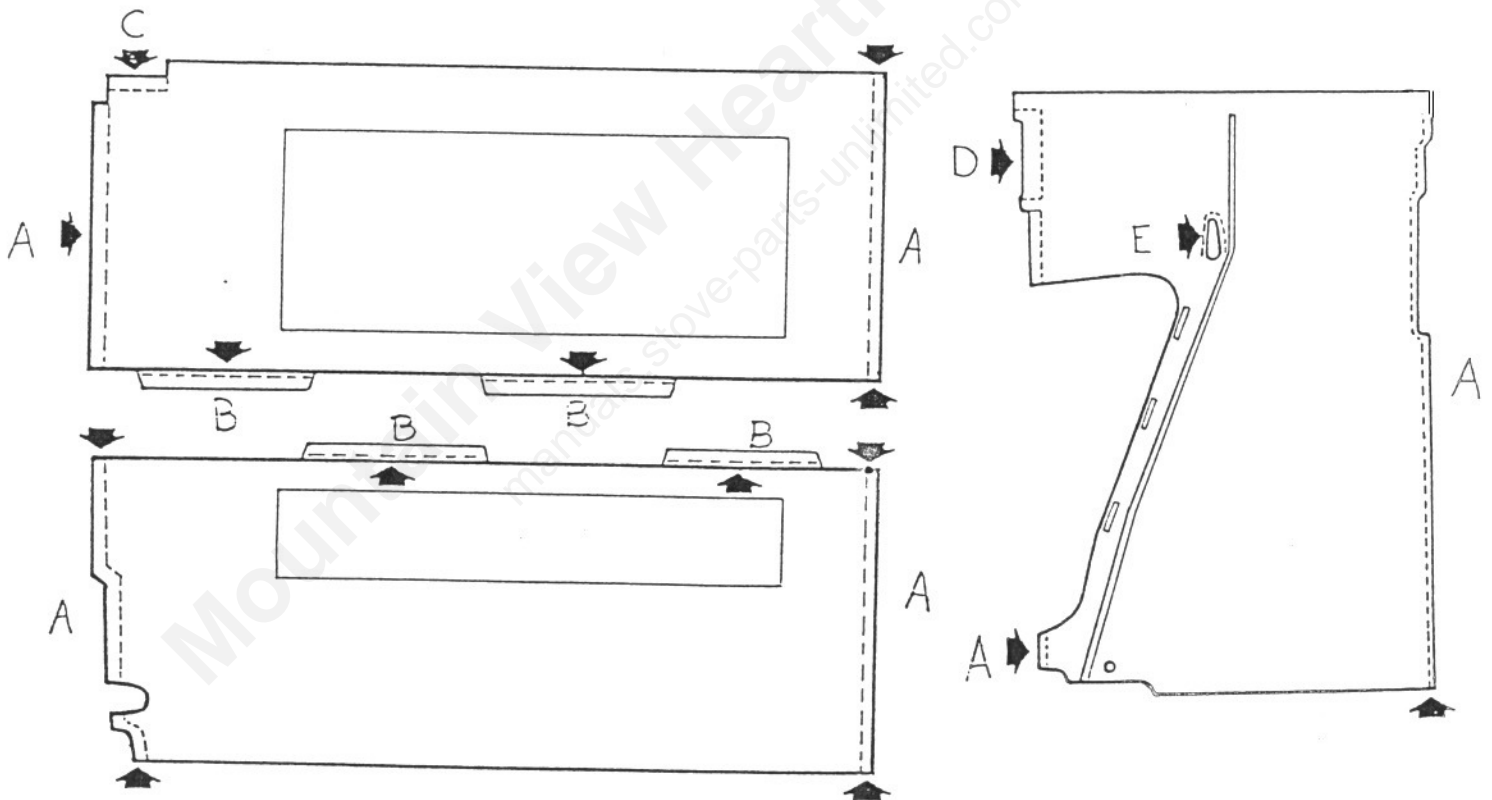
## ASSEMBLING THE DEFIANT IAI INTERIOR CASTINGS

NOTE: The Defiant I was originally designed with a removable smoke deflector plate (located immediately behind the side load door) to allow access to the baffle chamber for cleaning purposes. The design of the Defiant IAI wearplate system denies access through the smoke deflector area. Access with this system is gained through the flue collar after removing the smokesheff. The smokesheff, however, was originally designed to be locked in place by two tabs that extend from the back plate over its top surface (Fig. 10). If this has not been already accomplished, these tabs should be broken off before interior plate assembly to facilitate removal of the smokesheff with the stove fully assembled. The tabs can be easily broken off with a hammer and chisel, and any jagged edges cleaned with a disk grinder. In some cases, the smokesheff itself will need grinding along its longer edges to allow a fit loose enough for removal through the flue collar.

NOTE: To insure a proper fit when installing new cast iron plates, it is usually necessary to first grind or file down certain areas. The illustrations below show which areas to grind on the upper and lower fireback and on the upper baffle of the Defiant IAI Kit:

- Edges noted with the letter "A" should be bevelled up to 1/2" back from the edge.
- Tabs noted with the letter "B" should be ground on both sides to insure that they are not too thick to seat properly.

- Area "C" is pitched so that it is higher in the rear than in the front. It is necessary to grind the higher edge down so that it is level (flush) with the lower area. This will facilitate free action of the damper pin and prevent it from possibly binding in use.
- Area "D". This notch should be enlarged so that it easily clears the corresponding tab on the back plate: If this is not done the upper baffle cannot be removed one the outside plates are re-assembled.
- Area "E". This hole should be large enough so that the damper pin freely rotates through it. If it is not adequately reamed out, a binding damper may result, especially when the stove heats up and the plates expand.



Step 1 - Install the lower fireback and secondary air channel screens.

- On the inside of the back plate, there are two ribs which make up half of the secondary air channel.

- Cement along the top of the upper and lower ribs on the back plate. (Fig. 5)\*

- Cement along the top of the upper and lower ribs on the lower fireback. (Fig. 6).

- Press the two 24" secondary screens into the cement on the back plate ribs (Fig. 7).

- Place the lower fireback into the appropriate bottom plate channel and lean it back toward the back plate. Rest the front edge of the secondary screens into the cement on the top of the lower fireback ribs. (Fig. 7) Tap the lower fireback to the left, into the appropriate channel in the left end. (Fig. 8)

- To insure that the lower screen is positioned properly and to press the screen into the cement, use a tie rod inserted through the secondary air hole on the left end plate.

-Run an extra bead of cement along the top of the upper screen and smooth with a putty knife.

Step 2 - Install the Upper Fireback

- Set the upper fireback in place making sure all tabs overlap those on the lower fireback. Do not cement between the upper and lower firebacks. Tap the upper fireback into place against the left end. (Fig. 9).

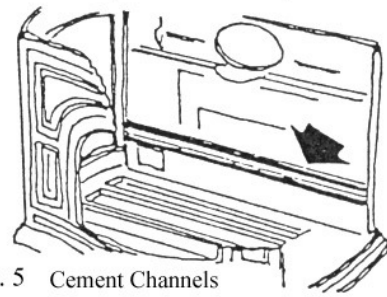


FIG. 5 Cement Channels in Back Plate

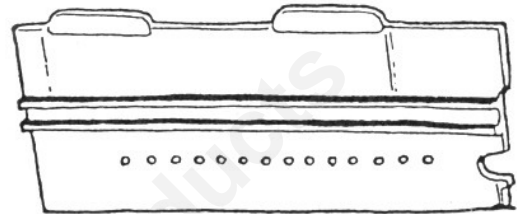


FIG. 6 Back of Fireback

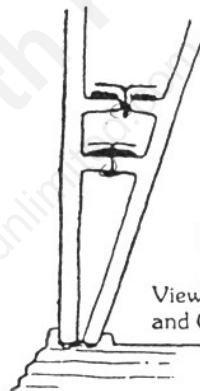


FIG. 7

View From Left End - Placement of Screening and Cement in Secondary Air Tube

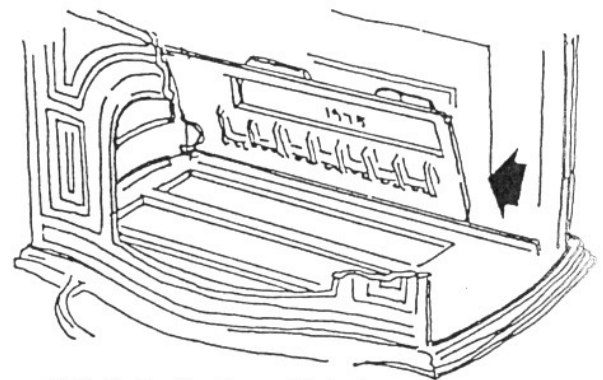


FIG. 8 Position Lower Fireback

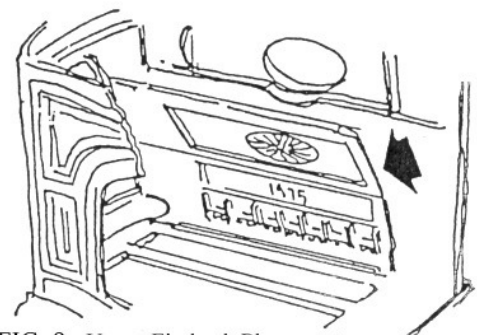


FIG. 9 Upper Fireback Placement

### Step 3 - Install the Smokeshelf & Damper

- Position the smokeshelf so that it rests on the ridges on the back plate and upper fireback with the cut-out corner located where the baffle meets the back plate. (Fig. 10).

- Place the damper in position resting on the smokeshelf with the damper pin on the left end of the damper passing through the left end of the Defiant.

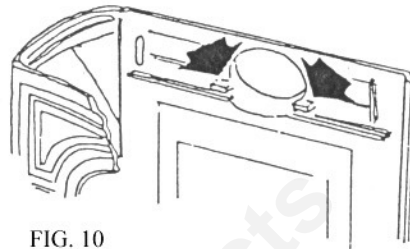


FIG. 10

### Step 4 - Install the Baffle

- Position the baffle in the stove with the front edge in the vertical groove in the front plate and the rear edge against the side of the stove. (Fig. 11).

- As you swing the rear edge of the baffle toward the center of the stove, position the damper so the shaft on the right end of the damper passes through the slot at the top of the baffle.

- The tab to the rear of the bottom of the baffle slides along the secondary air passage on the back of the stove.

- The cut out section at the rear of the top of the baffle clears the tab on the back of the stove. It may be necessary to pull the top right hand end of the upper fireback forward so that it will seat properly against the baffle.

- Lift the baffle straight up about 1". The top rear corner of the Baffle will slide into a groove on the back of the stove. If you have difficulty lifting the baffle up, check to be sure the slot in the back of the stove is clear of any soot or creosote, and make sure the top of the baffle lines up with the slot. (Fig. 12).

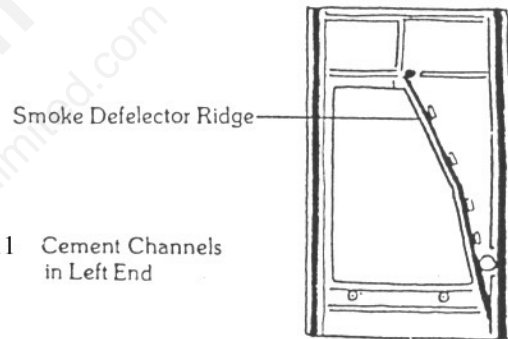


FIG. 11 Cement Channels in Left End

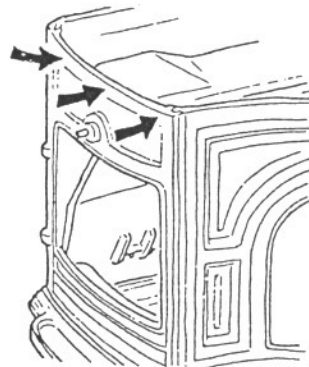


FIG. 12 Install Left End

### Step 5 - Install the Support Leg

- Position the support leg under the rear of the baffle, against the lower fireback. Secure it to the baffle with a 1/4-20x1" hex head bolt and hex nut. (fig. 13).

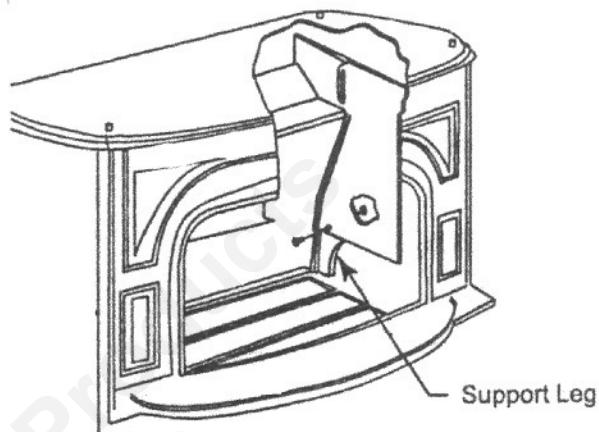


FIG. 13 Install Baffle Support Leg

### Step 6 - Install the Secondary Air Tube

- To install the secondary air tube extension, place the back end of the tube in position against the support leg and baffle, and then swing the front of the tube against the side of the stove. Screw the secondary air tube extension to the right end with two 1/4"-20x1 1/2" flathead screws. (Fig. 14).

**NOTE:** The secondary air tube extension designed for the Defiant I AI wearplate system is approximately 3/4" shorter, in overall length, than its counterparts designed for the Defiant I and Defiant IA systems. The shorter air tube is key in removing the internal components with the external shell assembled. It is important, if refurbishing a stove, not to mistakenly install a longer air tube attached to the right end.

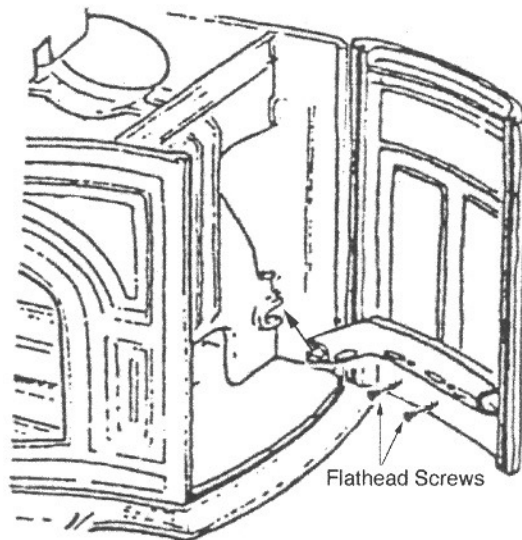


FIG. 14 Install Secondary Air Tube

### Step 7 - Finishing

- Reattach the damper handle.  
Install the front and load doors if they were removed.  
- Repaint the stove.

## **DIRECTIONS FOR COMPLETE REFURBISHMENT**

All instructions given are looking at the front of the stove.

It is important to assemble the stove without cement first to make sure all the parts fit. You may notice minor design changes between some of your stove parts, the exploded view stove parts, and some replacement parts. No functions have been altered with these changes, but you may need to grind new parts slightly to fit your stove. Be sure to wear protective eye glasses and a particle mask for safety.

It may be helpful to have someone assist you as the cast iron stove parts are quite heavy. If you are disassembling and rebuilding your Defiant alone, an adjustable pipe clamp or a wooden bridge cut to the dimensions diagrammed on Fig. 1 will stabilize the front and back plates during the disassembly and assembly procedures.

Be sure to set aside a good block of time to reassemble the stove with cement. The furnace cement can lose its pliability if exposed to the air for a long period of time.

### TOOLS NEEDED:

Old Clothes	Work Gloves
Pipe Clamp	Wire Brush
Chisel	Putty Knife
Caulking Gun	Protective Eyewear
Vise Grips	Large Screwdriver
Penetrating Oil	Particle Mask
	Grinder or File

### MATERIALS NEEDED:

3	11 oz. Caulking Tubes of Furnace Cement
4	Defiant Tie Rods with caps and nuts
1	Touch-Up Paint
1	Metal Screen, 1 $\frac{1}{4}$ " x 24"
2	$\frac{1}{4}$ -20x1 $\frac{3}{4}$ " Self-Tapping Screws for Primary Air Tube

5/32" Allen Wrench for Damper Handle  
1/8" Allen Wrench for Loading Door Handle  
9/16" Socket or Open End Wrench  
7/16" Socket or Open End Wrench  
Large Phillips Screwdriver  
1/2" x 1" x 36" Board  
10 ft. 1/2" Rope  
Industrial or old Vacuum Cleaner  
Blocks of wood or cement to support stove off floor  
\*Dead Blow Hammer or Hammer and Block of Wood  
Smoke Deflector Tool and Instructions if not replacing  
Left End.

\*Cast iron should never be struck directly with a metal hammer.

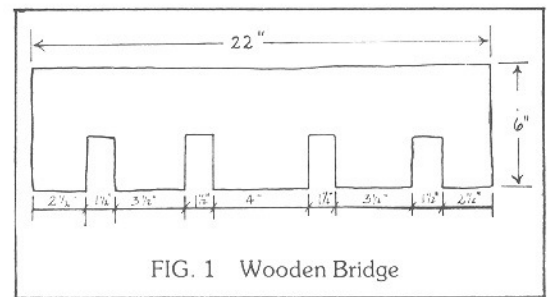


FIG. 1 Wooden Bridge

# DEFIANT DISASSEMBLY

## STEP 1 PREPARATION

Remove all insulating sand or ashes in the bottom of the stove.

Remove the griddle, front and loading doors, damper handle, thermostat assembly, and all accessories from the stove.

Remove the damper handle using the Allen wrench.

Disconnect the stove from the chimney.

Transfer the stove to a suitable working space.

Lift or raise the stove onto a stand of wood or cement blocks with legs just off the floor.

Remove the legs using 9/16" socket or open end wrench.

Tie a rope securely around the middle of the stove.

---

## STEP 2 LOOSEN EXTERIOR CASTINGS

**NOTE: WHEN REMOVING PLATES THAT ARE CEMENTED TOGETHER, ALWAYS USE A RUBBER Mallet OR BLOCK OF WOOD AND HAMMER. DO NOT HAMMER ON ANY CASTING WITH A METAL HAMMER.**

Break Tie Rods by gripping the finial nuts on the Top Plate with the vice grips in a vertical position and rocking them back and forth. Tie Rods will fall through the bottom of the stove; you will have to bend them to remove them from the stove.

Hammer upwards on the corners and edges of the Top Plate until it loosens. Remove Top Plate.

Remove the nickel plated Loading Door Handle and Secondary Air Tube Cover, which will be installed on the New Left End provided.

Remove the Primary Air Tube on the Left End using penetrating oil and Phillips Screwdriver. Rap the Phillips Screwdriver with a hammer to loosen the screws. (New bolts are supplied with the materials, so you can break the old bolts if necessary.)

Loosen the Left End by hammering outward along the top edge.

Lift Damper out.

Lift Smokeshelf out.

**NOTE: For Fireback replacement, remove only Left End. Go to Step 3.**

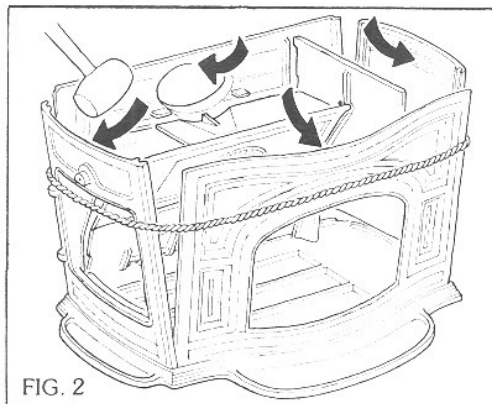


FIG. 2

Loosen Front, Back and Right End castings by hammering outward along the top edges of the castings. (FIG. 2)

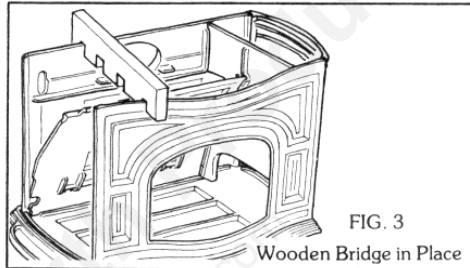
### STEP 3 REMOVE EXTERIOR CASTINGS

Remove Left End. The Smoke Deflector will fall out.

Use wooden bridge to hold the Front and Back castings in place (FIG. 3)

The Fireback can be loosened by inserting a large screwdriver under the lower left corner and prying upward.

Lift out the Fireback. If it seems stuck in place, you may insert the screwdriver into one of the center air ports and tap the screwdriver to the left to slide the Fireback out the open



NOTE: The following steps are **not necessary** for Fireback replacement. All other castings may be left in place.

Remove Right End Plate. The Air Tube may be left in place.

Lift out Baffle.

Remove wooden bridge and rope.

Remove Front Plate

Remove Back Plate

### YOU HAVE NOW COMPLETE THE DISASSEMBLY OF YOUR DEFIANT

**CLEANING** At this time, cast plates must be thoroughly cleaned of all furnace cement and ash. Pay particular attention to the channels, using a hammer and chisel or rounded off screwdriver. Wire brush all channels to remove pieces of cement. If you are replacing the Fireback and have left the Right End, Front, Back and Right Baffle in place, it is helpful to use a vacuum cleaner to remove dust and particles from the castings and stove bottom.

## DEFIANT ASSEMBLY

Lay all the parts out on the floor in sequence. We recommend that you assemble the stove once **without cement** (dry fit) to make sure all the parts fit. New parts may have to be ground or filed.

At this time, regasket the front and load doors. Replace the door pins if necessary. Be careful when knocking the door pins out not to fracture the cast hinge bosses.

Check the movement of the door handles. If the handles are stiff, remove and clean the shaft and the handle hole. The door handle hole may be cleaned with a 3/8" drill bit.

*All instructions in italics concern cementing or steps for permanent assembly.* Follow non-italicized instructions for the dry fit assembly.

### STEP 4 ASSEMBLE EXTERIOR CASTINGS

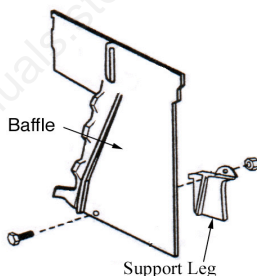
*On the inside of the Bottom Plate, place pieces of masking tape over the leg bolt holes to prevent them from filling with furnace cement during assembly.*

*Cement all four channels in the Bottom Plate (FIG. 4).*

Position the Front Plate in the channel on the bottom plate. The curvature of this plate will allow it to stand on its own.

Set the back Plate in the back channel of the Bottom Plate. Hold in place with the wooden bridge.

If using a new baffle with support leg, attach the support leg with a 1/4-20 x 1" Hex bolt and nut.



Set the (assembled) Right Inside Baffle to fit in place between the Front and Back Plates. The bridge may need to be adjusted (FIG. 5)

*Cement the channels of the Right End Plate (FIG. 6)*

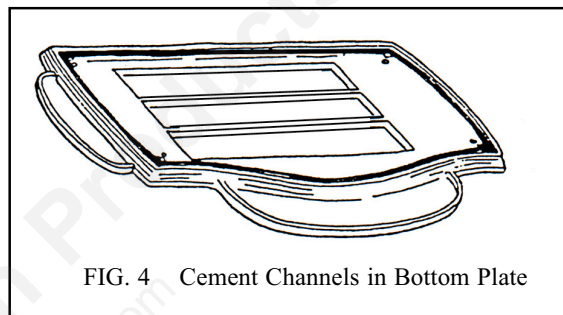


FIG. 4 Cement Channels in Bottom Plate

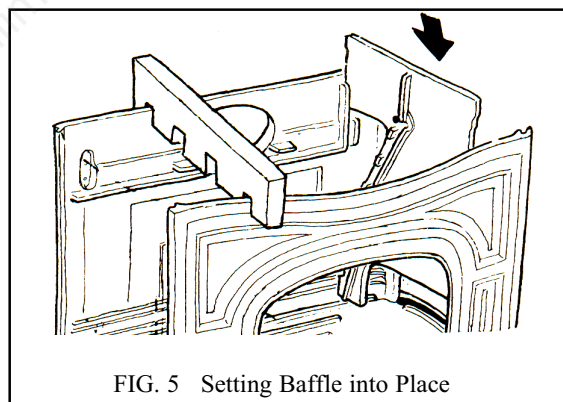


FIG. 5 Setting Baffle into Place

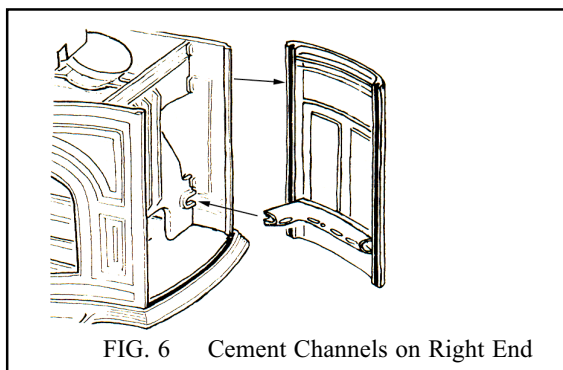


FIG. 6 Cement Channels on Right End

## STEP 4 ASSEMBLE EXTERIOR CASTINGS CONTINUED

Set Right End with air tube attached in place, sliding the channels in the End over the edges of the Front and Back Plate (FIG. 7). Move the wooden brace so the two center slots fit over the Baffle and Right End. The channels in the Right End hold the Front and Back Plates in place.

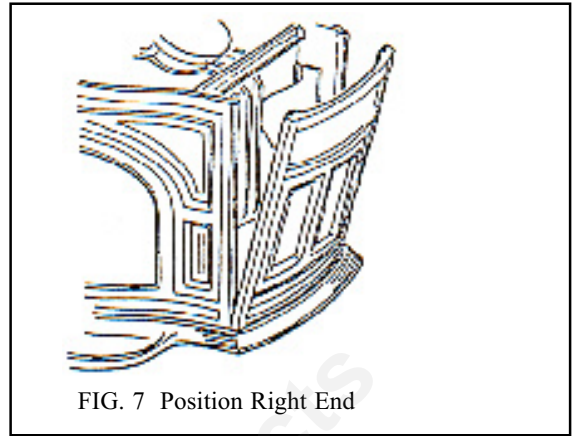


FIG. 7 Position Right End

## STEP 5 FIREBACK AND SECONDARY AIR TUBE INSTALLATION

On the inside of the Back Plate, there are two ribs which make up half of the Secondary Air Tube (See FIG. 11 below).  
Tube (See FIG. 11 below).

*Cement along the top of the upper rib and the front of the lower rib on the Back Plate (FIG. 8)*

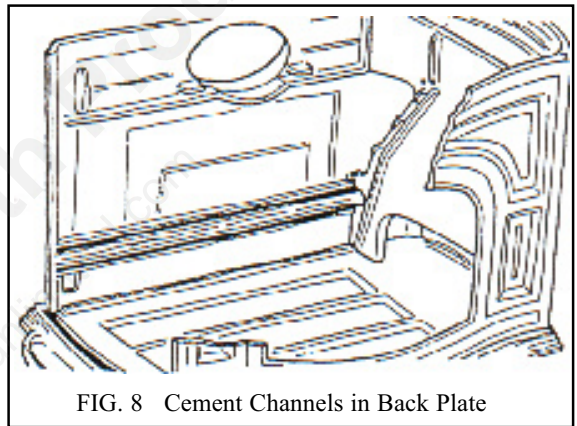


FIG. 8 Cement Channels in Back Plate

*Cement the edges of the two ribs on the Lower Fireback (FIG. 9).*

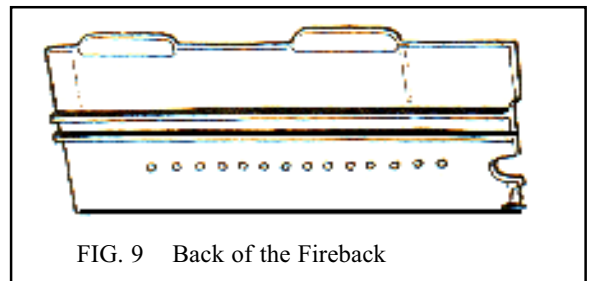


FIG. 9 Back of the Fireback

Place the Lower Fireback into the appropriate bottom channel and lean it back towards the back plate (FIG. 10). Tap the Lower Fireback to the right into the appropriate channel in the Baffle. *Make sure that all the cement on the Lower Fireback comes in contact with cement on the ribs of the Back Plate. The cement will seal the upper and lower ribs, forming the Secondary Air Tube.*

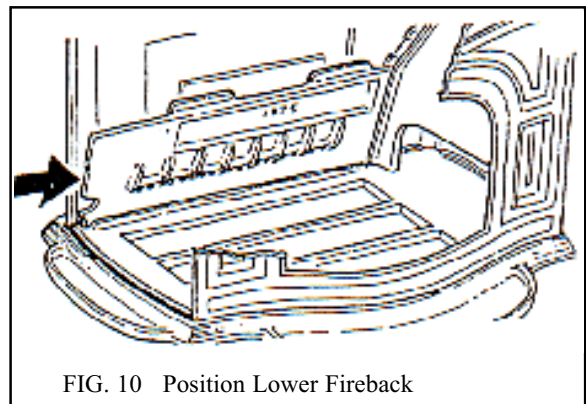


FIG. 10 Position Lower Fireback

## STEP 5 FIREBACK & SECONDARY AIR TUBE INSTALLATION CONTINUED

Lay 24" screen, supplied with materials, on the top rib as pictured (FIG. 11). Press the screen into the cement so the extension of the "T" fits between the top ribs of the Back Plate and the Fireback. Add more cement to make a tight seal. You may use a putty knife to smooth the cement along the top of the Secondary Air Tube. Run the end of a broom handle or a 1/2" x 1" x 36" piece of wood into the secondary air channel to smooth the layer of cement and clear the channel.



FIG. 11 View From Left End - Placement of Screening & cement in Secondary Air Tube

Set the Upper Fireback in place, making sure all the tabs overlap those on the Lower Fireback (FIG. 12). You do not need to cement between the upper and lower fireback.

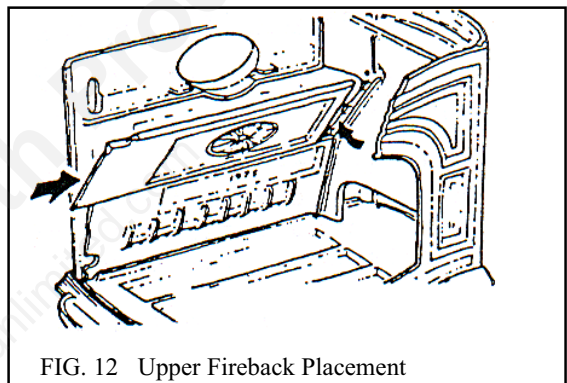


FIG. 12 Upper Fireback Placement

Tap the lower right corner of the Upper Fireback to persuade it into the channel on the Baffle.

If the firebacks are separated, grind down the interlocking tabs so the Upper Fireback sits down completely on the top of the Lower Fireback.

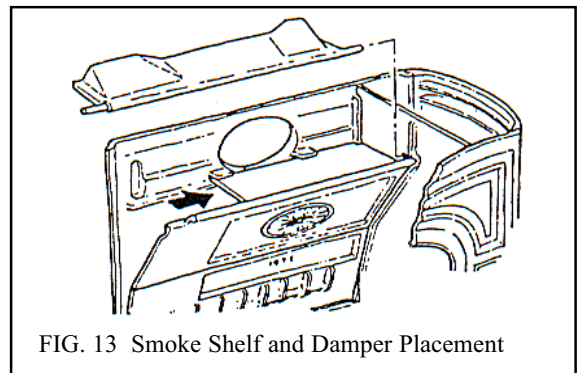


FIG. 13 Smoke Shelf and Damper Placement

Set the Smokeshelf in place on the Back Plate and along the Upper Fireback. The cutout corner of the Smokeshelf should be placed in the back right corner, where the Right Baffle meets the Back Plate (FIG. 13). Do not use cement.

Install the damper so that the Right Damper Pin is in the hole in the Baffle (FIG. 13).

## STEP 6 INSTALL THE LEFT END

Cement the channels on the Left End Plate as indicated (FIG. 14).

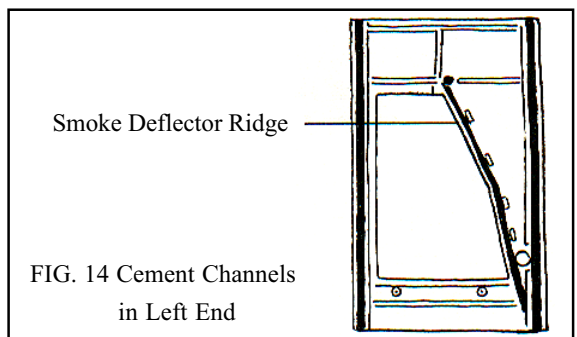
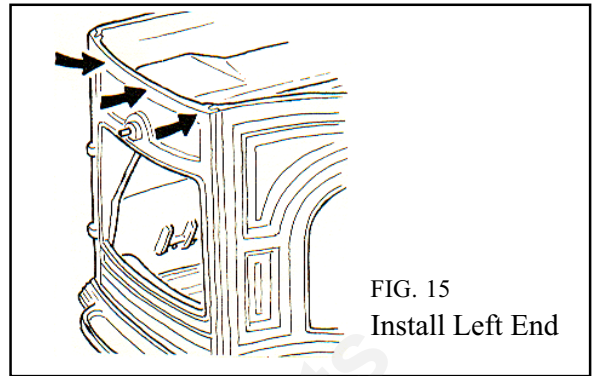


FIG. 14 Cement Channels in Left End

## STEP 6 INSTALL THE LEFT END CONTINUED

Install the Left End Plate, allowing the left damper pin of the Damper to go through the hole above the Side Loading Door opening.

Make sure the Firebacks are behind the Smoke Deflector Ridge (see FIG. 15). Also, check that there are no burrs or cast iron behind that ridge. In older stoves, the new Firebacks may be slightly too long. Grind, if necessary, along the left edge of the Upper and Lower Firebacks.

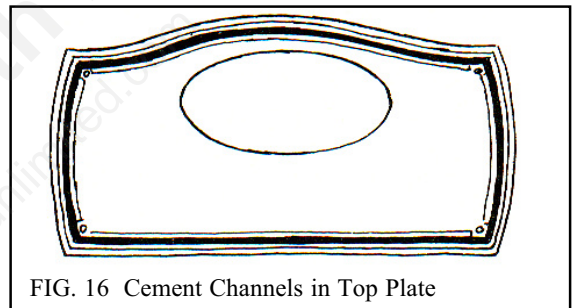


Hammer along the top edge of the Left End Plate until it is set in place. Check that the Damper opens and closes smoothly and easily. You may have to grind the recess in the upper left corner of the Upper Fireback, which allows for the rotation of the Damper. If you are rebuilding your stove using the original Left End, you will now have to replace the Smoke Deflector.

## STEP 7 INSTALL TOP PLATE

*Place cement in the four channels of the Top Plate (FIG. 16)*

Install the Top Plate. Hammer the upper side and corners of the exterior plates until the Top Plate sets down over them.



### **THIS COMPLETES THE DRY ASSEMBLY.**

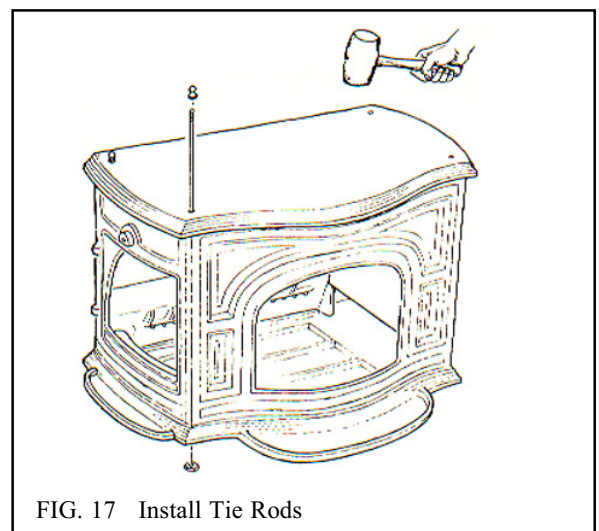
You may now break down the stove and return to STEP 4 for the permanent assembly with cement.

## STEP 8 INSTALL THE TIE RODS

Screw the Finial Nuts on the four Tie Rods.

To install the Left Rear Tie Rod, you may have to bend it very slightly at a point about a third of the way up from the bottom of the rod. Guide the rod down from the Top Plate through the Bottom Plate. You can see it through the Primary Air Tube hole in the lower hand corner of the Lower Fireback. Rotate the Tie Rod to line it up with the hole in the Bottom Plate and it will slide through.

Install the other three Tie Rods by dropping them through each hole in the Top Plate and by reaching inside to line rod up with the hole in the Bottom Plate. (FIG. 17)



## STEP 9 FINISHING

Screw the Primary Air Tube on the new Left End Plate using the new 1/4-20 x 1" screws provided.

Smooth furnace cement in outside seams of the stove with your finger or a putty knife.

Remove all excess furnace cement from the outside of the stove with warm water and sponge.

Repaint the stove with paint provided.

Reattach hardware: Load Door Handle, Secondary Air Tube Cover, Damper Handle, Thermostat Assembly.

Replace Legs, Doors and Griddle.

Reline the bottom with a 1 1/2" layer of sand or ash to the top of the ribs to insulate it from excess heat.

**REMEMBER: YOU MUST BUILD EIGHT TO TEN SMALL BREAK-IN FIRES WITH THE DAMPER OPEN TO TEMPER ANY NEW CAST IRON REPLACEMENT PARTS IN YOUR REBUILT WOODSTOVE.**