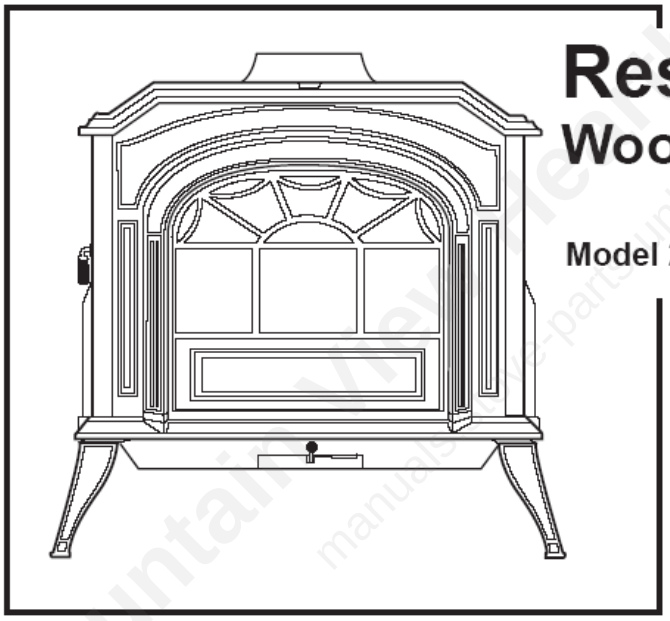
TEAR DOWN/REBUILD



Resolute Acclaim
Woodburning Stove

Model 2490

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HISTORY OF CHANGES

RESOLUTE ACCLAIM

Model 2490

In fall 1992, *Vermont Castings* deleted the sliding grate feature on the **Resolute Acclaim 0041** and replaced it with two stationary grates. The forward grate has pockets to accept the drop-in andirons. Earlier stoves can accept the stationary grates – the owner would also need to plug the hole in the stove bottom for the shaker rod. At the same time, *Vermont Castings* also added a 'start-up' setting for the air inlet; the user over-rides the normal operating range for the inlet, to allow extra air into the firebox to get the fire started and the draft established.

In spring 1994, *Vermont Castings* changed the insides of the stove, to include firebrick liners on the sides of the firebox, and a fire back assembly to replace the earlier ductile iron inserts and the cast iron lower fire back. The changes were extensive enough to require a new model number, **#2490.** Other changes include ductile iron panels in front of the secondary bum chamber, at the sides; the user removes these to clean the heat-exchange areas beside the refractory chamber.

On the #2490 series stoves, the outer sides attach to the stove bottom (on earlier units they attached through holes in the inner "core" sides), and the front door handle operated by pulling it instead of pushing it. The front door latched down instead of up.

Earlier (#0041 and 132x series) stoves can be converted to the later #2490 type by replacing the stove back, bottom, inner and outer sides, and arch/insert parts with newer types, and adding the firebrick shields in the firebox. The conversion requires a complete re-build of the stove. See the following instructions for details. The re-build also eliminates the fiberglass insulation that the earlier stoves used between the inner and outer core sides.

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DISASSEMBLY and ASSEMBLY

RESOLUTE ACCLAIM MODEL 2490

This section also applies to earlier (#0041 and 132x series) “Acclaims” which have been upgraded to include the #2490-style firebrick linings.

DISASSEMBLY

1. Lift out the griddle. Remove the ash pan and dump the ashes. The pan is a handy container for hardware.

2. Remove the front door. Open the door and pull down on the spring-loaded upper hinge pin. When the pin clears its recess, tilt the door slightly and lift it off the lower support. Remove the andirons.

3. Lift out the front and back grate sections. Remove the side firebricks; lift or pry them upward until their bottom edges clear the retaining ridges on the left and right shoulder plates, and then swing the forward edge of the firebricks toward the centre of the firebox to remove them. When both side firebricks are out of the stove, the rear firebrick assembly will fall forward into the firebox. Slide off the steel clip joining the two halves of the assembly, and lift the separate pieces out.

4. Remove the two sealing plates at the left and right rear corners of the firebox. Each has a 7/16” head hex bolt and washer holding it in place.

5. Clean out the firebox thoroughly. Vacuum out the entire firebox and ash drop area, and the heat exchange areas to the sides of the refractory.

6. Remove the flue collar and flue collar extension. These are bolted on from inside, with ¼” – 20 x ⅝” hex bolts.

7. Remove the damper handle stub with a 5/32” Allen wrench. Remove the right stove end; it bolts to the rest of the stove body with a 7/16” bolt below its bottom edge. Lift the stove end slightly, and swing the bottom edge away from the stove body. Slide it down carefully until its top edges clears the stove top, then lift the end away from the stove and set it aside. Slide the spacer and washer off the end of the damper rod.

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8. Remove the left stove end by removing the 7/16” bolt below its bottom edge. Follow the same removal procedures as for the right end. Use a rope or strap to hold the body together.

9. Reach under the four corners of the stove bottom and remove the four ¼ - 20 hex nuts from the ends of the tie rods, with a 7/16” wrench.

10. Tap the edges of the top plate upward with a rubber mallet until you can lift the top off the stove. Remove the tie rods from the stove top.

11. Remove the damper rod by sliding it out of the right inner side of the stove body.

12. Remove the upper fire back assembly, which is held in place with two 7/16” hex bolts.

13. Remove the secondary combustion package and set it aside in a protected area.

14. Use a wooden bridge as sketched in **Figure A-5** to support the front and back of the stove. Remove the left and right inner sides. Tap each panel outward with a rubber mallet, to break the cement seal between the panels and stove’s front and back.

15. Remove the stove back and front plates; rock them to break the cement seals, and lift them off the stove bottom.

16. Remove the ash pit plate from the stove bottom. It mounts with two Phillips head bolts. You may need to insert the tip of the screwdriver and give its handle a few sharp raps with a hammer to loosen the hardware. Pry the plate up with a flat screwdriver.

17. Remove the air manifold from the stove front. Remove the two ¼ - 20 hex bolts with a 7/16” wrench. Break the cement seal between the front and the manifold by driving a cold chisel into the joint.

18. Remove the secondary combustion package support plate from inside the back plate. Two bolts hold it in. Tap the support plate loose with a rubber mallet.

19. Disassemble the upper fire back assembly. Two bolts hold damper tabs which trap the damper’s pivot points.

20. Disassemble the front door. Remove the glass clips securing the glass with Phillips screws. Remove the glass and set aside in a sheltered spot.

21. Disassemble the primary air valve. Loosen and remove the hex lock nut from inside the stove bottom. Turn the bottom over and remove the hex head bolt which secures the air valve, spring, washer and shaft to the stove bottom.

22. Remove the ash lip by removing the two bolts holding it on.

23. Remove the stove legs; each has a 9/16” hex bolt. One leg also has a handle holder.

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24. Examine the secondary combustion package carefully. Check the chamber for breaks, chips, separations, or general deterioration. If the chamber is in good shape, clean it with low-pressure air from a vacuum cleaner. If the chamber is in bad shape, replace it.

25. Check all castings for cracks, warpage, or other damage. Remove old gasket from the channels and mating surfaces. Use a cold chisel to remove old stove cement. Clean the channels with a wire brush.

26. Check all mechanical parts for distortion, wear, burrs, etc. Replace any parts that are worn enough to affect operation.

27. Place the door face down on a padded surface. Remove the gaskets from the door. Remove all old gasket cement with a cold chisel; clean the channel with a wire brush until bare metal is exposed. If the stove is a painted one, re-paint the door. Mask the gasket channels on the inside of the door to prevent paint from getting in them. Gasket cement does not adhere well to a painted surface.

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ASSEMBLY

Gasketing

If new parts need to be gasketed, or old parts re-gasketed, **do all of the gasketing before starting to assemble the stove.**

Instructions and illustrations for gasketing are given at the end of this section of the manual.

Parts which need to be gasketed include:

- Door (including glass opening)
- Top (top and bottom)
- Back (inside and outside)
- Upper fire back (inside and outside)
- Flue Collar Extension

Cementing

Prepare parts which will need to be cemented before starting to assemble the stove, but **do not apply cement until just before installing the parts**.

It is imperative that a **dry fit** is done before cementing multiple parts together so final adjustments (cleaning or grinding) may be done prior to applying cement.

Cementing instructions are given below. Illustrations showing where to apply cement are given as needed in the assembly instructions.

Prepare parts carefully so that new cement makes a tight seal between the parts to be joined. The channels and edges to be cemented must be free of old cement and dust.

Use high quality stove cement (Vermont part number 30000534).

New cement hardens quickly when exposed to air

· Clean and prepare parts ahead of time including a trial fit if applicable.

· Apply cement just before putting the parts in place.

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Work in an area where there is plenty of light, and a level work surface. Wear gloves and protective eye wear.

If the parts to be cemented are new, start with step 2. If old parts are to be re-cemented, they will need to be cleaned. Start with step 1.

1. Clean old cement from the channels and edges to be joined. Use a hammer and cold chisel, or screwdriver to remove old cement. Use a wire brush to finish cleaning the channels and edges. Vacuum the channels to remove dust.

2. Wipe the surfaces to be cemented with a damp cloth. Apply a generous bead of cement in the channel. Excess cement may squeeze out of the joint.

Excess cement which shows on the outside of the unit may be removed with a damp sponge. Clean up the excess promptly.

Excess cement on the inside of the unit will not usually be a problem. If clean-up is necessary, instructions will be given.

3. Join the two parts. Move the parts as little as possible after they have been put together.

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Assembly

General: Clean and inspect all parts to be re-used. Replace damaged or worn parts with new ones. Cut the tips of the cement tubes so that you can lay a continuous bead of cement to the channels and mating surfaces. Pay close attention to the type, size, and number of fasteners called for.

1. Invert the bottom and put it on your re-build stand. Install 6 hex head cap screws, #10 – 24 x ½". See **Figure A-1**.

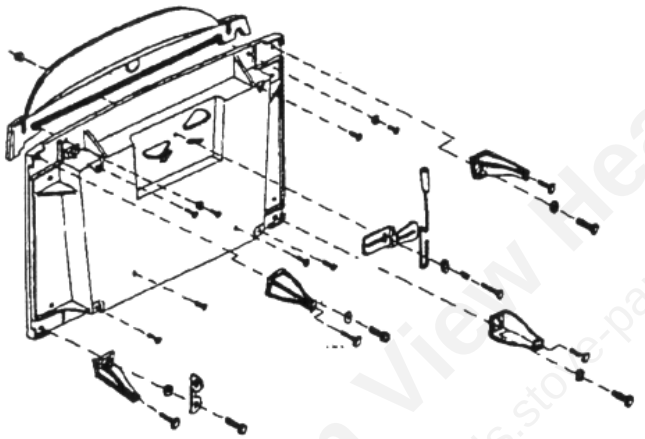

Figure A-1 Stove Bottom

2. Install leveler bolts in the legs.
3. Install the legs, using (4) 3/8 – 16 x 1" bolts and (3) washers, and one handle holder.
4. lift the front of the inverted bottom and slide the ash lip into position, align the holes in the stove bottom with the two bosses on the ash lip, and attach the ash lip with two ¼" – 20 x 5/8" bolts, and two washers.
5. Assemble the primary air valve. Put the "U" portion of the air valve shaft between and around the up stands on the air valve castings, with the up stand on the valve shaft toward the underside of the ash lip. Put the compression spring on the ¼ - 20 x 1¼" hex head bolt. Place the ¼" x 1" washer on the bolt. Insert the bolt, spring, and washer through the air valve shaft and air valve, and thread the bolt into the stove bottom until the spring is almost fully compressed.

   Thread a ¼ - 20 hex nut onto the air valve bolt from inside the stove bottom and tighten the bolt against the stove bottom. The air valve is properly adjusted when you feel resistance to movement of the air valve shaft but the shaft moves from stop to stop easily.

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6. Turn the stove bottom right side up. Cement the stove front and air manifold as shown in **Figure C-2 and C-4**, and place the air manifold in its proper position on the inside of the stove front, with the drilled and tapped bosses on the inside of the stove aligned with the holed in the manifold. Attach it with (2) ¼" – 20 x 2" bolts.

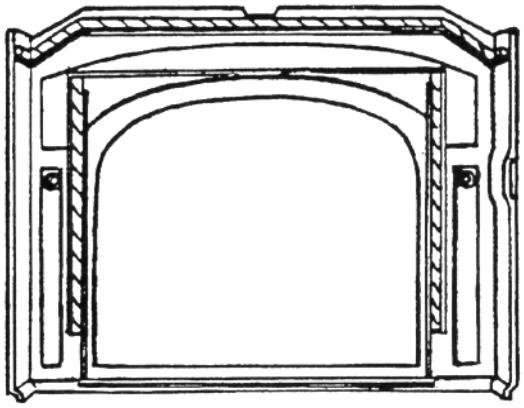

Figure C-2 Front Plate

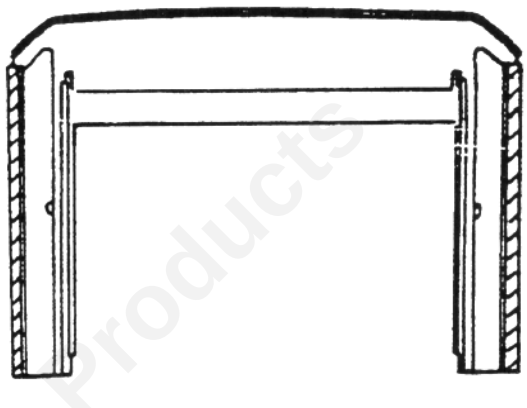

Figure C-4 Air Manifold

7. Install the hex jam nut on the threaded lower hinge pin and thread it up to the flange **(See Figure A-3)**.

8. Attach the door latch tab **(see Figure A-4)**.

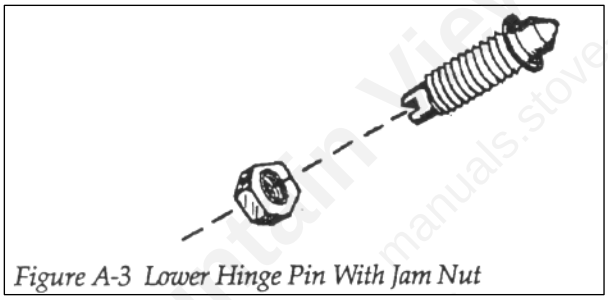

Figure A-3 Lower Hinge Pin With Jam Nut

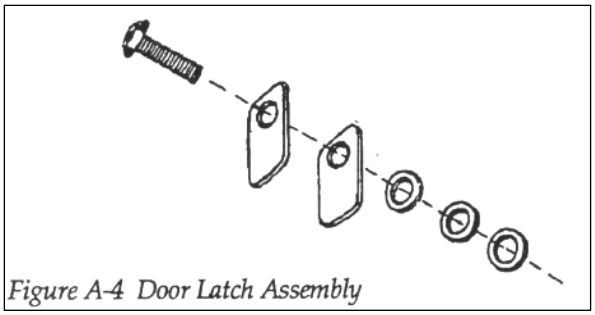

Figure A-4 Door Latch Assembly

9. Cement the bottom of the stove back as shown in **Figure C-3** and place the package support plate into position on the stove back. Align the holes in the two parts and secure them with (2) ¼" – 20 x ½" bolts. Cement the front corners of the installed package support plate and press the two gasket tails on the bottom of the stove back into the wet cement.

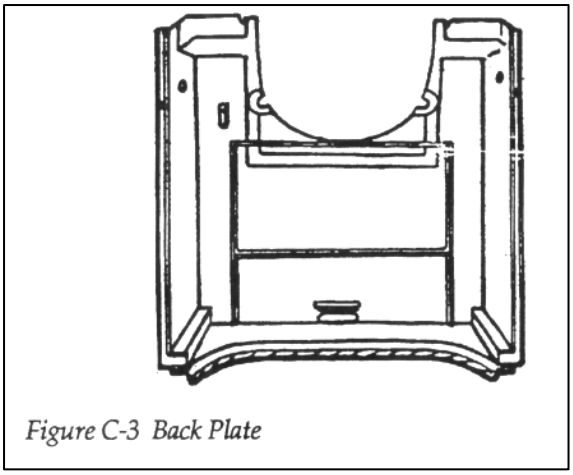

Figure C-3 Back Plate

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10. Put a 1” dab of stove cement at the back of the two vertical ribs on the stove back. Center the secondary combustion package in the middle of the stove back, and press it down into the cement.

11. Put the damper rod ramp in its position between the raised ribs on the reverse side of the damper and secure it to the damper with a Phillips head bolt and a hex nut. Thread the socket set screw, ¼ x 20 x 1” into the front side of the damper until it contacts the damper rod ram. Thread a hex nut onto the socket set screw until it contacts the damper. Do not tighten either the set screw of the jam nut yet.

12. Put the damper into position in the upper fire back and secure it with (2) damper tabs and (2) ¼ - 20 x ½” hex bolts.

13. Put the stove back on its back and put the upper fire back/damper assembly in position on the front gasketed flanges of the stove back. Align the cutouts on the sides of the upper fire back with the tapped holed on the front flanges of the stove back ad secure it loosely with (2) hex bolts, ¼ - 20 x ¾” and (2) washers. Leave the bolts loose for now.

14. Cement the channels in the stove bottom as shown in **Figure C-1** at the right.

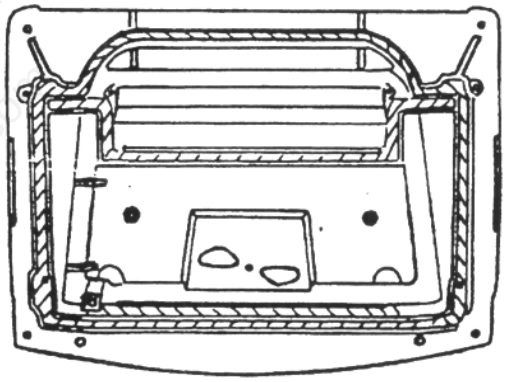

Figure C-1 Bottom Plate

15. Cement the two inner sides shown in **Figure C-5 and C-6** below.

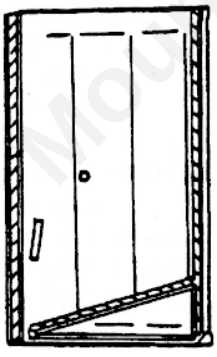

Figure C-6 Right Inner Side (inside view)

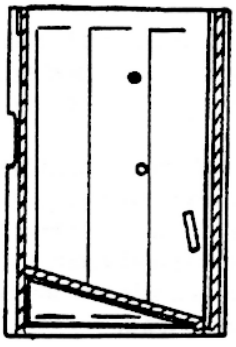

Figure C-5 Left Inner Side (inside view)

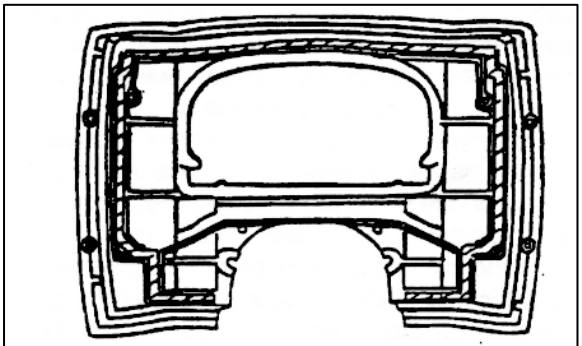

Figure C-7 Top Plate (under side)

16. Cement the channels on the underside of the top as shown in **Figure C-7** above.

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17. Put the assembled stove back into its cemented channel on the stove bottom. Install the damper rod into its holes in each side of the stove back; the longer stepped end of the rod should protrude from the right side of the stove back as you face the front of the stove.

18. Put the assembled stove front into its cemented channel in the stove bottom, and hold it and the back vertical with a wooden bridge as shown in **Figure A-5** below.

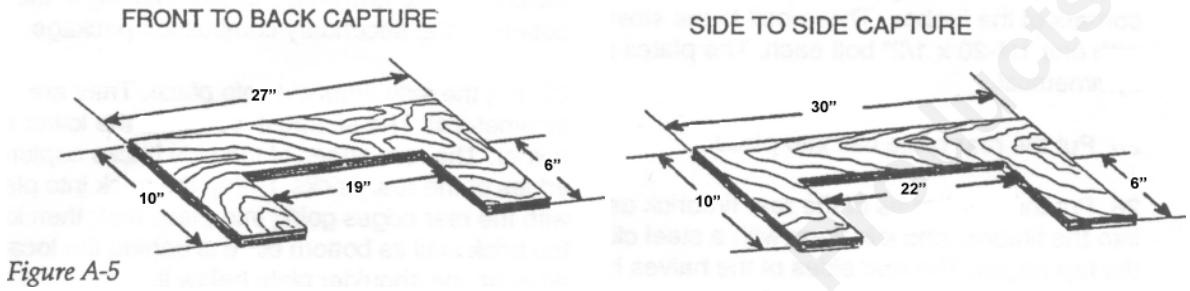

Figure A-5

19. Put the bottom of each inner side into its cement channel in the stove bottom at 45° angle and swing the top against the edges of the stove back and front, ensuring that the cement channels in the inner sides encompass the ribs of the stove back and front. Put a wood bridge across the upper front, capturing the tops of the inner sides.

20. Put the cemented top into position, ensuring that the top edges of the front, back, and inner sides are properly seated in their cement channels on the underside of the stove top.

21. Thread hex nuts about ½" up on the longer threaded ends of the tie rods.

22. Insert the tie rod up through their drilled holes in the stove bottom, and thread then into their tapped holed in the underside of the stove top. Thread the rods into the stove top as far as you can by hand. Use pliers to continue to turn the tie rods at their threaded ends below the hex nuts. When the pliers start to slip on the rods, tighten the hex nuts against the stove bottom with a 7/16" wrench.

23. Cement the edges of the shoulder plates, and put them into place. You may need to tap them with a rubber mallet to position them properly.

24. Install the sealing plates at the left and right rear corners of the firebox. These bolt to the stove back with one ¼ - 20 x ½" bolt each. The plates are symmetrical.

25. Put the rear grate half into place.

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26. Put the two halves of the rear firebrick assembly into the firebox, and join them with a steel clip over the top edges. The rear sides of the halves have shallow pockets to accommodate the bolt heads for the sealing plates. The size and shape of the opening at the bottom of the rear firebrick assembly must match the size and shape of the opening at the bottom of the secondary combustion package.

27. Put the side firebricks into place. They are symmetrical. The sharpest corner if the lower rear corner. The rear edges of the side bricks capture the edges of the rear bricks. Swing the brick into place, with the rear edges going into place first; then lower the brick until its bottom edge is behind the locating ridge on the shoulder plate below it.

28. Put the spacer back on the damper rod. Put the 3/8" flat washer on the rod and push it against the spacer.

29. Install the right outer side. Slip it over the damper rod, and slide its upper edge up below the outer edge of the stove top. Swing its bottom edge into position, and secure it in place with a ¼ - 20 bolt and nut passing through the tab below its bottom. Install the left outer side the same way.

30. Working from the back of the stove, push or tap the left end of the damper rd as far to the right side of the stove as it will go. Install the damper handle stub onto the rod as far as it will go and secure it with an Allen bolt. Adjust the damper ramp (attached to the damper) so that when the damper is closed it achieves a snug locked position. Tighten the lock nut on the damper ramp adjusting set screw.

31. Install the ash pit plate; apply cement to the shoulders of the bottom which support it, position the plate, and secure it with two Phillips flat head bolts, ¼ - 20 x 1".

32. Install the front grate section. It simply drops into place. Install the ash pan and the andirons.

33. Gasket the flue collar and the flue collar extension opening at the back of the stove top with 52" of ¼" gasketing. Install the flue collar and extension by bolting them in place with ¼ - 20 x 5/8" hex head bolts and washers.

34. if the stove is a 'classic' unit (painted black), prepare it for painting by cleaning away any excess cement from the outside of exterior joints with a putty knife, and then wire brushing and vacuuming its exterior. Mask the damper handle and the plate on the stove back with masking tape.

35. Paint the stove, including the unassembled front door. Use high-temperature stove paint; it is better to apply two coats of paint than to apply a single heavy coat.

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36. Assemble the front door. Place it face down on a soft surface. Start the long end of the L-shaped upper hinge pin into the lower hole of the two upper hinge pin bosses. Put the coil spring between the upper and lower bosses and push the hinge pin up through the coil spring and upper hinge boss. Compress the spring against the lower hinge boss until the C-clip groove in the hinge pin is accessible. Hold the C-clip at the centre of the "C" with needle-nose pliers and push the clip into its groove on the upper hinge pin until it is fully seated. Release the spring and pull down on the hinge pin and release it to check its operation **(see Figure A-10 for details)**.

37. Put the door latch leaf spring into its groove in the spring boss and secure it with a Phillips truss head bolt, #10 – 24 x ¼". Thread the wooden handle onto the door handle shaft until it's tight. Put the door hook into position with the open part of the hook facing upward, and the threaded hole in the hook aligned with the drilled hole in the door flange **(see Figure A-11)**. Thread the door handle shaft through the door and into the door hook until the flat of the threaded part of the handle shaft is aligned with the set screw hole in the hook, and the hook is against the inside flange of the door. Secure the hook to the handle shaft with a socket head set screw, ¼ - 20 x ¼". Check the handle operation to be sure it works freely and without binding. If the hook binds, loosen the set screw and turn the handle shaft 360-degrees counter-clockwise and re-tighten the set screw.

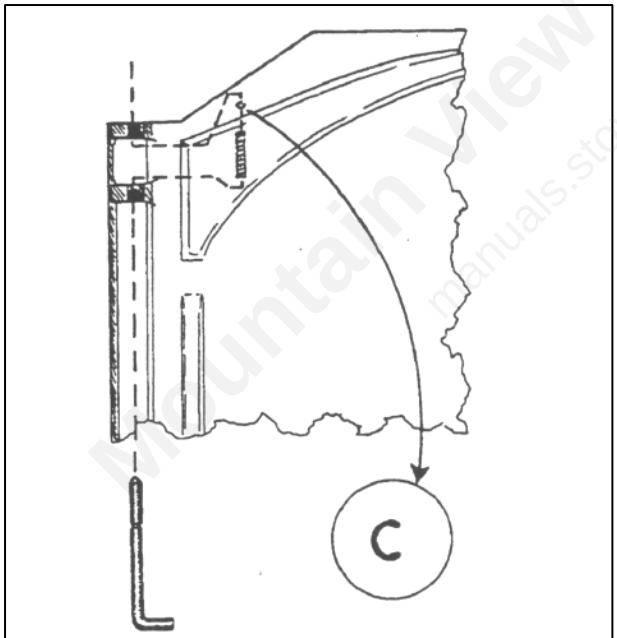

Figure A-10 Detail of Upper Left Corner of Load Door (inside view)

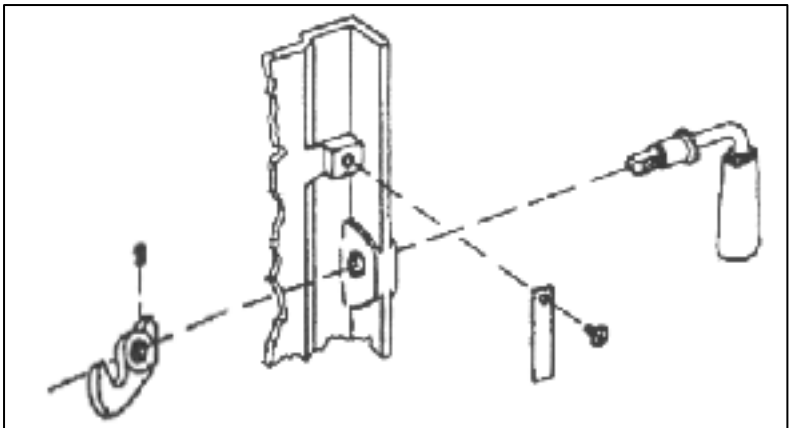

Figure A-11 Detail of Center Portion of Front Door

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38. Examine the door glass. Hold it vertically, upside down. Locate a series of letters and/or symbols along the straight edge; these are on the coated side of the glass. The coated side of the glass is the outer side of the glass. Put the glass in its frame, and secure it in place with two retaining clips and (4) Phillips pan head bolts, 10 – 24 x ¼". These bolts should be snug but not tight, as the glass will expand and contract in response to heat.

39. Install the door. Hold the door vertically, and put the lower hinge hole onto the adjustable bottom hinge pin. Pull down on the top hinge and move the top of the door so that the spring-loaded top hinge pin enters the upper hinge pin hole in the stove top. Check the door's operation. The door should swing freely, close securely, and open easily. If you hear metal-to-metal contact, or if there is a wide gap at the top of the door, remove the door. Loosen the lock nut on the lower hinge pin and turn the pin one turn counter-clockwise. This will raise the door about 1/16". Tighten the hinge pin and re-install the door. Check the door's operation and position again, and re-adjust as needed to achieve smooth operation.

40. Re-install the griddle.

41. if the stove now includes major pieces of new cast iron, advise the customer to re-cure the stove with a series of small fires, each hotter and longer than the previous one, to acclimate the iron to the stresses of heat.

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Gasketing

If you are replacing gaskets as part of standard maintenance, refer to the **Maintenance Section** of the Owner's Guide.

If you are replacing all gaskets while re-building a firebox, follow the instructions given below.

Prepare parts carefully. Channels must be free of old gasketing, cement and paint, and free of dust. Use *Vermont Castings* Gasket Cement. Work in an area where there is plenty of light and a level work surface. Wear gloves and protective eye wear.

If you will install gaskets on clean, new parts, start with step 3. If you are going to re-gasket old parts, they will need to be cleaned--start with step 1.

1. Remove old gaskets. If the ends of the gasket meet, note where the joint is.

2. Clean the channels. Use a hammer and cold chisel or screwdriver to remove old cement. Use a wire brush to finish cleaning the channel. Vacuum the channel to remove dust.

3. Choose the correct size gasket. Cut it to the right length, allowing an inch extra for trimming.

4. Wipe the channel to be gasketed with a damp cloth. Place an unbroken 1/8" bead of cement in the channel. Avoid using too much cement. The cement should not saturate the gasket, just hold it in place.

5. Starting with one end, lightly press the gasket into the cemented channel. Trim excess with shears or side cutting pliers. Do not leave any ragged ends. If the ends of the gasket meet, there should be no gaps or overlaps. Do not stretch the gasket as this will make it too thin. A thin gasket may not make a good seal.

6. If possible, place the gasketed part against the surface it will meet. This will seat the gasket evenly.

7. Clean any excess cement that has squeezed out around the gasket.

8. After installing new gaskets, it may be necessary to make adjustments on the damper or load door. Refer to your Owner's Guide.
9. See illustrations for gasketing starting on the next page.

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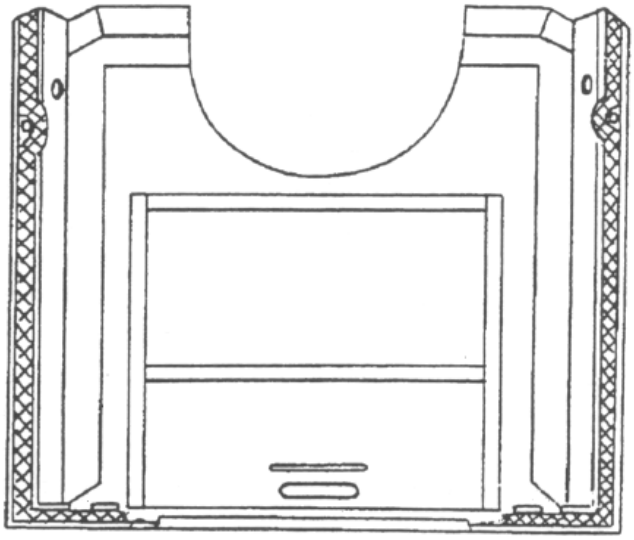

Fig. G-1 Back (inside view)
2 @ 5/16" x 20" fiberglass

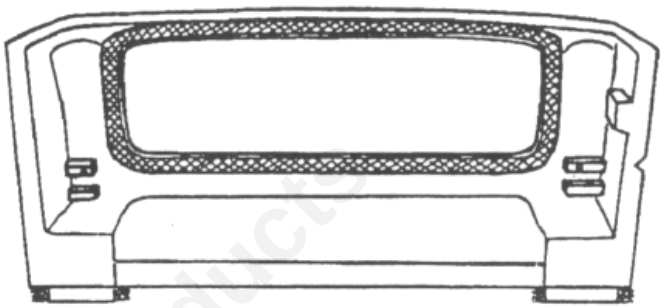

Fig. G-2 Upper Fireback (rear view)
5/16" x 36" fiberglass

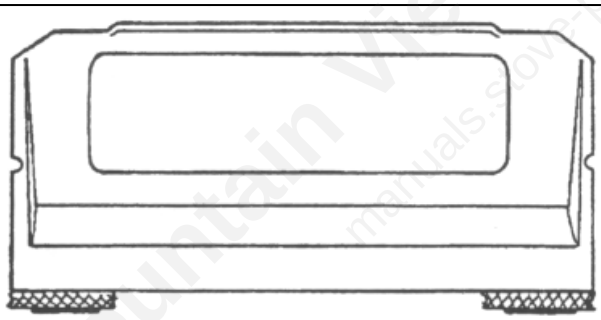

Fig. 3 Upper Fireback (front view)
2 @ 5/16" x 3" fiberglass

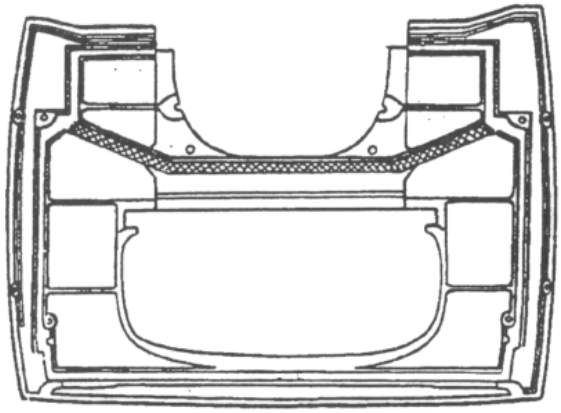

Fig. G-4 Top Plate (bottom view)
5/16" x 20" fiberglass

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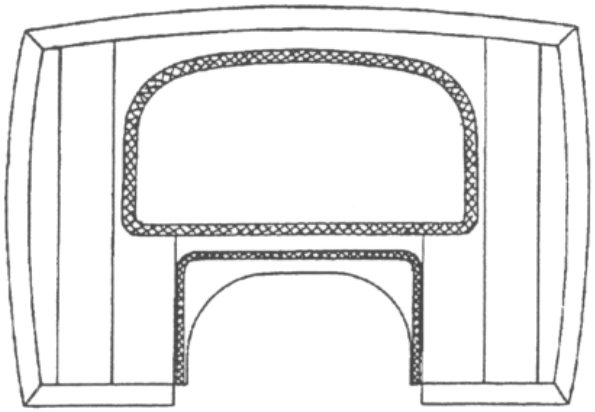

Fig. G-5 Top Plate (top view)
5/16" x 42" wire w/fiberglass core for Griddle.
3/8" x 36" adhesive backed fiberglass for Flue Collar. This gasket continues on back plate. See Fig. G-6.

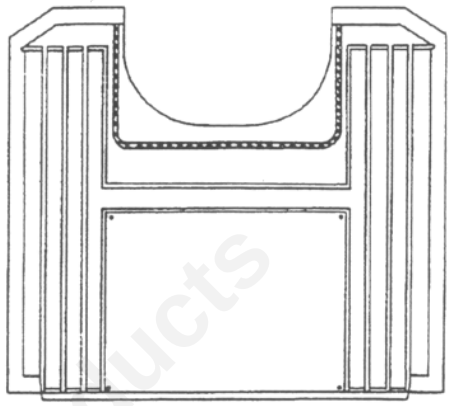

Fig. G-6 Back (rear view)
3/8" x 36" adhesive backed fiberglass gasket for Flue Collar. This gasket continues on Top Plate. See Fig. G-5

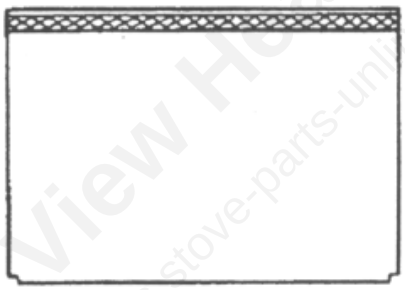

Fig. G-7 Flue Collar Extension
3/8" x 12" adhesive backed fiberglass

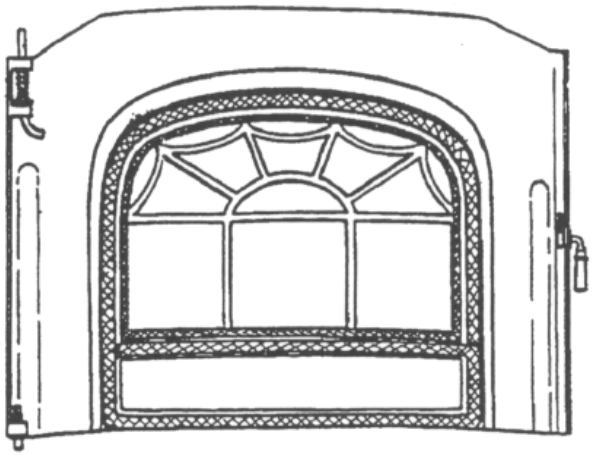

Fig. G-8 Front (rear view)
1/2" x 69" fiberglass Seals door to stove front.
3/16" x 44" fiberglass Seals glass to door.

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