



Gasket Kit #4322

Installation Instructions

for use on the

Defiant Stove

Vermont Castings' stoves use a rope-type gasket to make a seal between some parts. With use, this gasket can become compressed and begin to lose its effectiveness. It should then be replaced.

This kit includes materials to re-gasket a Model #1910 or #1945 Defiant stove. This stove model has glass panels in the front doors. This kit is not appropriate for the 1975-1988 model Defiant stoves which do not have glass panels in the front doors.

Contents

- 3.5' of 5/16" Glass Fiber Gasket for the damper
- 7' of 3/16" Glass Fiber Gasket (Glass)
- 4½' of 5/16" Wire Reinforced Glass Fiber "Armaseal" for the griddle
- 10.9' of 3/8" Glass Fiber Gasket for the ash door and main doors
- 3 oz. Tube of Gasket Cement

Tools Required

Phillips screwdriver
Utility knife or scissors
Wire brush
Small cold chisel
Rubber mallet, or hammer and wood block
Flashlight or droplight

Installation Precautions

Be sure the fire is out and the stove has cooled before replacing the gasket, and be sure to follow the standard safety procedure for working with dusty materials: Wear safety goggles and a dust mask.

Installation Instructions

Gaskets provide a tight seal between moving parts. Eventually these gaskets will become compressed and will no longer seal properly. Replacing the gaskets will improve performance. For a guide to each gasketed area, refer to the following sections and illustrations.

Regardless of its location, replacing a gasket involves these steps:

1. Remove the existing gasket by scraping it out of its channel with an old screwdriver.
2. Clean the gasketing channel with a wire brush. Be careful with adjacent surfaces, especially if they are enamelled. Remove any stubborn deposits with a small cold chisel. Clean both mating surfaces thoroughly to bare metal.
3. Cut the appropriate size gasket to length, allowing an extra inch.
4. Knead the tube of cement before opening, to mix the contents thoroughly.
5. Place an unbroken 1/8" bead of gasket cement in the channel. Do not use too much cement as it may saturate the gasket; the gasket must remain soft and resilient. One tube of cement will produce a 1/8" bead sufficient for all the gasket in this kit.
6. Starting with one end, press the gasket into the cemented channel. If the gasket goes around and meets itself, ensure that you have a good joint before trimming the excess gasket. Do not overlap or leave ragged edges.
7. Seat the gasket by placing it firmly against its normal mating surface. A slip of waxed paper between the gasket and its mating surface will help keep the cement from traveling through the gasket and sticking to the mating surface. Clean away any excess cement.
8. With enamel stoves, be careful to keep cement off the enamel finish. If cement does accidentally get on the enamel, wash it off immediately with warm water.
9. Allow to dry. Be sure to remove the waxed paper!
10. If you have questions, refer to the Defiant Owner's Manual, or a Vermont Castings Dealer.

Griddle

Remove the griddle. Pull off the old gasket and clean the channel with the wire brush. Set the steel reinforced 5/16" gasket in the griddle channel and mark the correct length. Place the gasket on a wood cutting surface and trim with a utility knife or scissors. Twist the ends slightly to prevent unraveling. Place a continuous 1/8" bead of gasket cement in the channel and press the gasket into place. Replace the griddle and compress against the gasket by striking around the edges with the rubber mallet or hammer and block of wood. Do not strike the stove top.

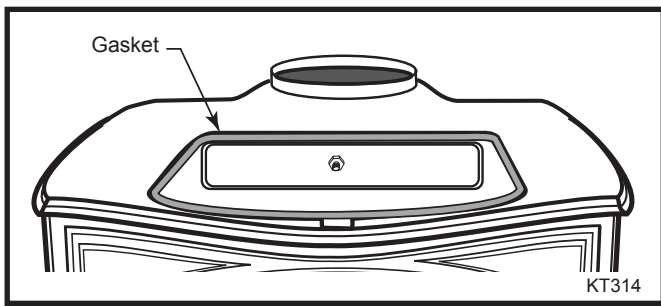


Fig. 1 Griddle gasket.

Ash Door

You may find it helpful to remove the ashpan bracket from the inside ashdoor; use a 7/16" wrench for this. Remove the old gasket and clean the gasket channel thoroughly. Clean the ash door and mating edges of the ash drop. Cut the required length of 3/8" diameter gasket plus one inch. Place a continuous 1/8" bead of gasket cement in the channel and press the gasket into place, trimming the excess carefully. Replace the ashpan bracket if you removed it. Close and latch the ash door to seat the new gasket.

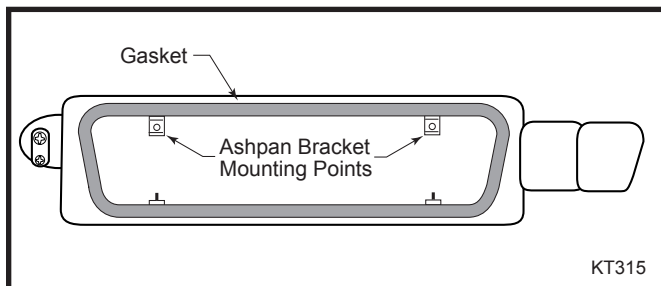


Fig. 2 Inside view of ashdoor (ashpan bracket removed).

Front Doors

Carefully remove the doors and place them face down on a padded surface. Note where the gasket ends are trimmed so you can make an exact replacement.

1. Pull out the old gasket and clean each gasket channel with the wire brush.
2. Lay the new 3/8" diameter fiberglass in place and trim it to length.
3. Place a continuous 1/8" bead of gasket cement in the gasket channel and press the trimmed gasket into place. Remove any excess cement that may have squeezed out around the gasket.
4. If you are also replacing the glass gasket, go on to the next section. If you are not dealing with the glass gasket, replace the doors on the stove and latch the doors to seat the gasket.

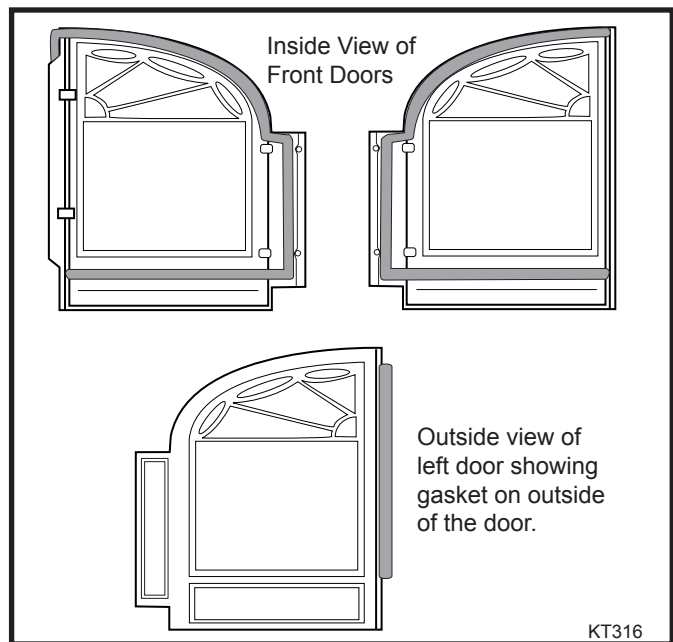


Fig. 3 Door perimeter gasket.

Glass

The Defiant stoves use glass panels with an infrared reflective coating. Since the coating goes on the room side of the door, there is a "left" and a "right" pane. Be sure to mark which is which. In manufacturing, the Defiant has a flat die-cut gasket between the glass and the door. You will replace this with a 3/16" diameter round gasket.

1. Remove the door assemblies and place on a padded surface, inner side up.
2. Remove the screws and retainer clips from both doors. Pull off the old glass fiber gasket and clean the support ledge thoroughly.
3. Cut the required replacement gaskets, allowing a little excess. Place a continuous 1/8" bead of cement on each support ledge and press the gaskets into place, trimming the excess carefully and removing any excess cement.
4. Clean only the inside of the panes.
5. Center the glass on the gasket. Be sure to place the pane with its coated side facing out into the room.
6. Replace the retainer clips and snug down the screws. Do not overtighten the screws, since the glass must move a little under heat.
7. Replace the doors on the stove.

Damper

The Defiant's damper mechanism includes an adjusting screw visible on the face of the damper when the griddle is open. Be sure the damper is adjusted properly before you decide to replace the gasket. Test the gasket by closing the damper on a group of narrow slips of

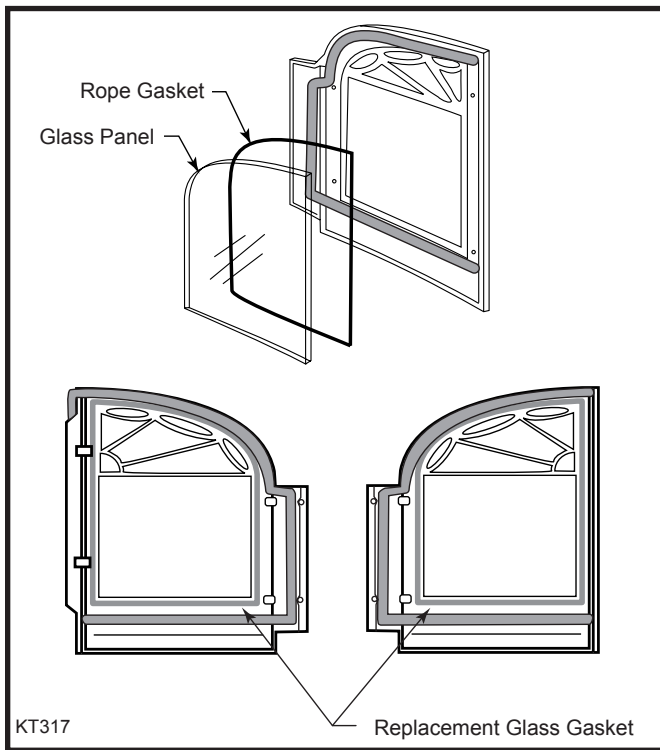


Fig. 4 Glass gasket.

paper all around the perimeter of the damper opening. With the damper closed and locked, it should not be possible to pull the papers out without resistance. The more easily the paper pulls out, the less secure the seal is at that spot.

1. To adjust the damper seal, loosen the locking hex nut on the adjusting allen screw. (Fig. 5) Turn the screw clockwise with a hex wrench, in half-turn increments, until the damper grips the paper slips securely when you test the damper's operation. When you have achieved a snug seal, fasten the locking nut against the face of the damper. The seal should not be tight since the metal parts will expand slightly under heat.

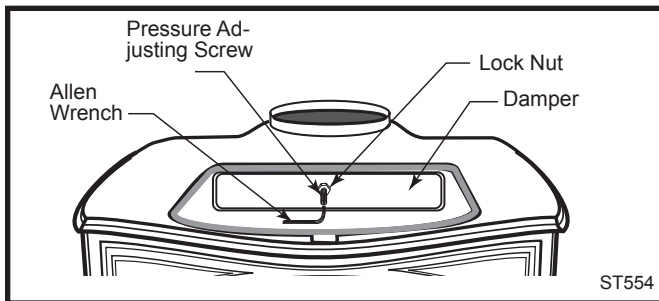


Fig. 5 Damper adjustment.

2. It is possible, but awkward, to replace the damper gasket without removing the upper fireback panel which locates and supports the damper. To remove the upper fireback assembly, open the damper. Use an allen wrench to remove the damper handle from the damper rod on the left side of the stove.

3. Open the front doors of the stove and remove the ashes. If necessary, empty the ashpan, and rake the ashes left and right in the firebox till they fall through the slots in the grate, and into the ashpan.
4. Lift the baffle off its support brackets. Remove it from the stove and set it down on a protected surface. (Fig. 6)

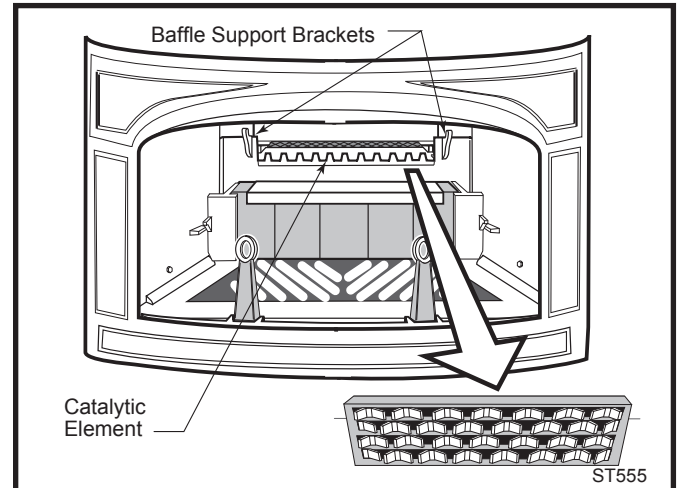


Fig. 6 Remove the baffle.

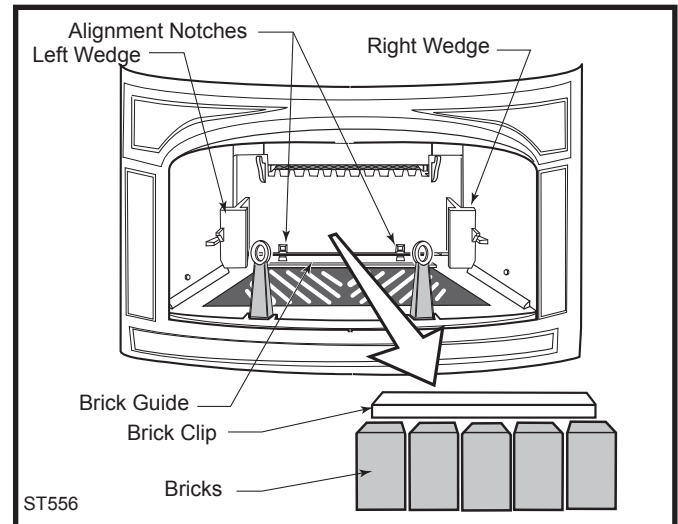


Fig. 7 Remove the bricks and brick retainer.

5. Remove the firebricks. Lift off the steel clip and remove the firebricks individually. (Fig. 7)
6. Tap the left and right wedges upward with a rubber mallet or a hammer and block of wood to protect the cast iron. (Fig. 7) Remove the wedges and remove the lower fireback by pulling its top edge toward yourself. (Fig. 8) Lift the lower fireback out of the firebox and set it on a shielded surface.
7. Four hex head bolts pass through the stove's outer back to fasten the upper fireback in place. Remove these bolts. If the stove has a rear heat shield in place, you may find it easier to remove the shield first, and then the upper fireback bolts. You can leave the heat shield spacers in place.

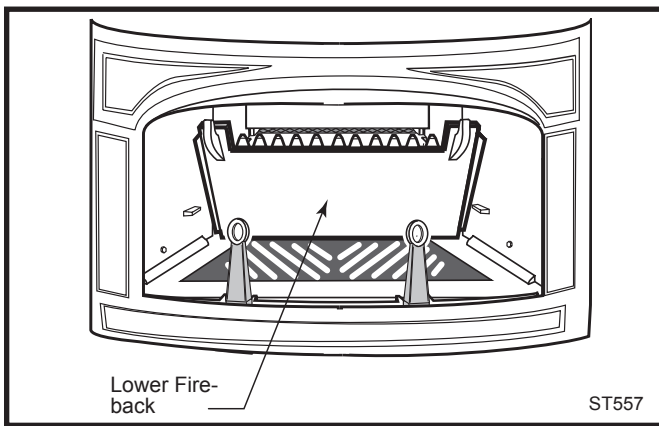


Fig. 8 Remove the lower fireback.

8. From inside the firebox, pull the right-hand end of the upper fireback toward yourself. Carefully maneuver the left end of the fireback assembly to let the damper rod clear its hole in the left side of the stove. Be sure to capture the spacer on the left end of the damper rod. Remove the assembly from the stove and set it on a shielded working surface.

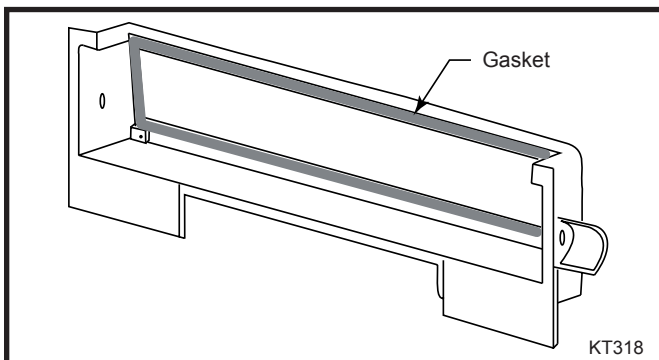


Fig. 9 Back view of upper fireback (damper and rod removed).

9. Pull the damper rod out of the upper fireback. Release the bolts holding the steel tabs in place, and remove the damper. Pull off the old gasket and clean off the old cement. Thoroughly clean the damper plate and around the damper opening in the upper fireback. Cut a piece of the 5/16" gasket material to length, allowing a one inch excess. Place a continuous 1/8" bead of gasket cement in the damper gasket channel. Press the new gasket in place, trimming off the excess length. (Fig. 9) Remove any excess cement. Replace the damper, the steel tabs and bolts, and the damper rod. Close and lock the damper to seat the gasket. Use waxed paper between the damper and the upper fireback to keep the cement from traveling through the gasket and sticking to the fireback.
10. This is a fine opportunity to inspect the catalyst. Follow the directions in the Defiant Owner's Manual

on access, inspection, evaluation and replacement if needed.

11. Work in reverse order to replace parts once the gasket cement has dried on the upper fireback assembly. Be sure to install the spacer on the left end of the damper rod before installing the upper fireback assembly.
12. Install the upper fireback assembly, left end first; pass the damper rod through the hole in the left side of the stove, then lift the right end of the assembly into place. Loosely install all four bolts before you tighten any of them. These bolts should be snug but not tight, to allow some expansion and movement under heat.
13. Test the damper operation and the gasket's snugness, as described at the start of this section. Continue after you are sure the damper operates properly.
14. Install the lower fireback. Note that there are two notches in the bottom edge; these must align behind two mating nubs on the firebox floor.
15. Stand the five firebricks on end in front of the lower fireback. Note that these stand behind a raised rib on the firebox floor. (Fig. 7) Join the firebricks by slipping the steel clip onto their top ends. The clip's longer edge should go behind the firebricks, for easier installation.
16. Replace the left and right wedges. Note that their rear vertical edges bear against the outermost left and right edges of the lower fireback. Gently tap the wedges downward with a rubber mallet or a hammer and a block of wood to cushion the impact. The wedges should be snug but not overly tight.
17. Replace the baffle by placing its ends on the support brackets which are part of the lower fireback. The baffle shields the catalytic combustor from direct flame impingement and must be in place during operation.

Testing the Gasket Seals

After the cement has had several hours to dry, test the new door seal by closing and latching the door on slips of paper placed at approximately 6" intervals along the top and bottom of the door opening. Be sure to include the area where the right front door overlaps the left door. It should not be possible to slide the papers, and they should be pulled straight out only with considerable resistance. If the paper pulls out easily, readjust the doors as needed till the doors hold the paper tightly. Do not apply this test to the glass gasketing - it is not accessible and does not get the repeated impacts that other seals receive.

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