

## Model 209 Combustor Plate and Hood Replacement

Please read all the instructions before you begin the procedure. Confirm that you have all the necessary tools and materials. If you have any questions, technical support is available toll free at 1-800-866-4344, Monday-Saturday 9:00 – 5:00 ET

### Tools Needed:

- 1/2", 7/16" socket or open wrench
- 1/8", 5/32" Allen wrench
- Large flat blade screwdriver
- Putty knife
- Caulk gun

### Materials Needed:

- .312 gasket, .250 gasket, .500 gasket
- Gasket glue
- Furnace cement

Note: You will need plenty of working space around the stove. It will be helpful to soften the furnace cement by soaking it in hot water for 15-20 minutes prior to use.

1. Tie a piece of rope around the stove so as to hold all the components together when the top frame is removed. The rope should be located about 1/3 of the way down from the top of the stove. If you are top vented, remove the pipe from the flue collar.
2. Use a 1/8" allen wrench to back out the set screws at the top of each cast corner.



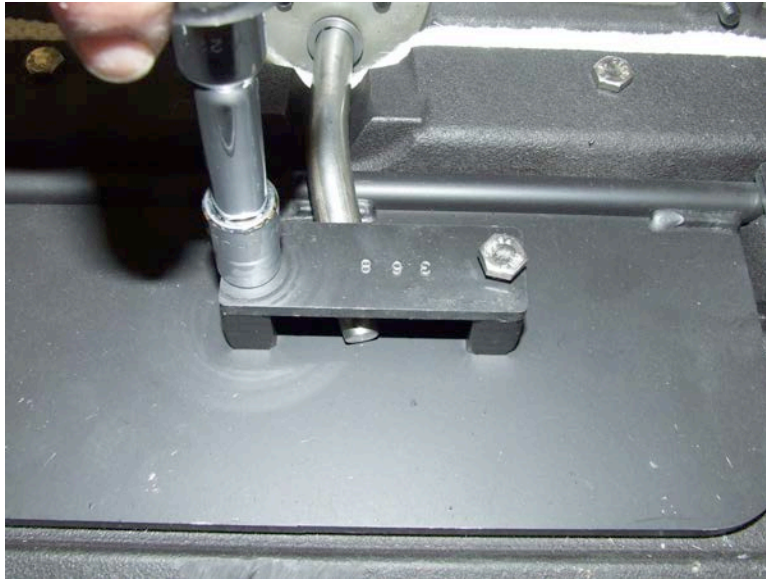
3. Locate the ends of the four draw rods on the bottom side of the stove base. They are located near the corners and are fastened with hex nuts. Looking from the front of the stove each nut will be to the back side of the leg bolts. Remove all four nuts. (leg removed in photo to show location of draw rod nut)
4. The draw rods pass through the body of the stove and are threaded into the top cast iron frame. Turn them clockwise to release them. Let the draw rods hang loose once they are removed from the top.



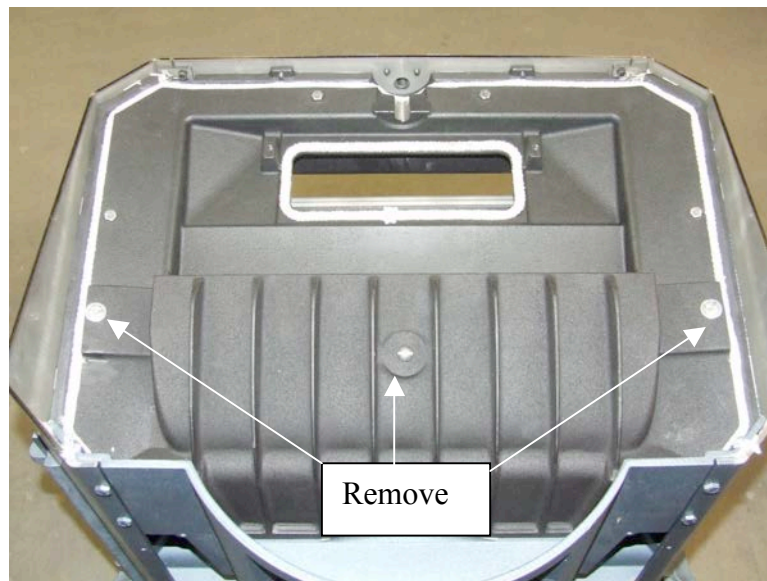
5. The top is very heavy. It will be helpful if two people lift it off of the stove body.



6. Use a 7/16" socket or wrench to remove the two bolts fastening the steel lift guide plate from the bypass cover. This is the plate that keeps the bypass shaft linked to the bypass cover.



7. Slide the catalytic combustor forward and remove it from the stove.
8. Remove the three hex head bolts (one located at the bottom rear of the housing) and single slotted bolt that hold the top half of the combustor housing in place. Remove the top half of the housing.



9. Remove the four hex head bolts that hold the lower catalytic combustor plate in place. There are two bolts along the front side and one on the left and right. Remove the plate.

10. Lay a line of stove cement on top of the left air channel (P-320), the right air channel (P-321), and the front air manifold/wash (P-322). **NOTE: Disregard the screen shot in this image. We stopped using the screens in production. If you still have the screen assembly in your stove, we recommend removing it.**



11. Lower a catalyst base/bypass plate (P-325) into place on the stove cement as shown below and secure with (4)  $\frac{1}{4}$ -20 x  $\frac{3}{4}$  HHCS in the front 4 bolt holes, loosely for now.

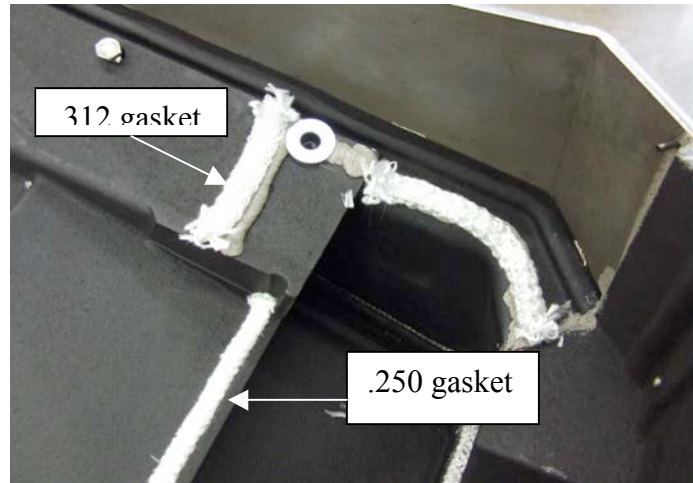


12. Place .312" gasket on top of the stove cement that the catalyst top will sit on.



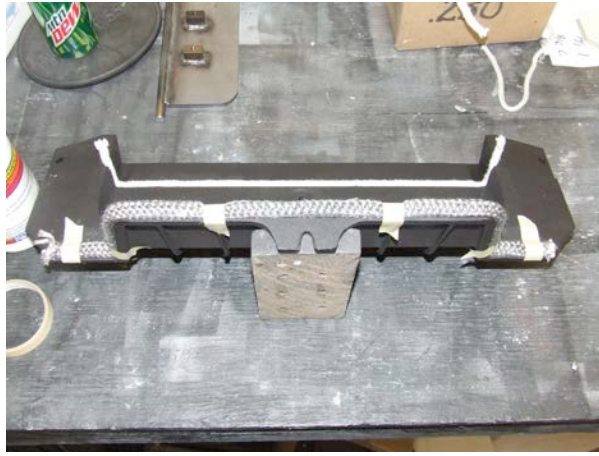


13. Run a line of gasket glue in the combustor gasket channel of the catalyst base.  
Only put the glue on the horizontal channel, not the vertical yet. Run .250" gasket in the horizontal part of the channel only.
14. Put a line of stove cement and a .312" gasket on each wing in front of the 5/16" washer, and from the washer to the .312" gasket as shown here.



15. Lay the catalyst top upside down on your workbench. Lay a line of gasket glue in the catalyst gasket track and put .250" gasket in the track with an extra 2" of gasket on each end. **NOTE: It is helpful to use a few strips of masking tape to hold the gasket to the glue. Allow the glue to set for 30 minutes before turning the catalyst top over.**

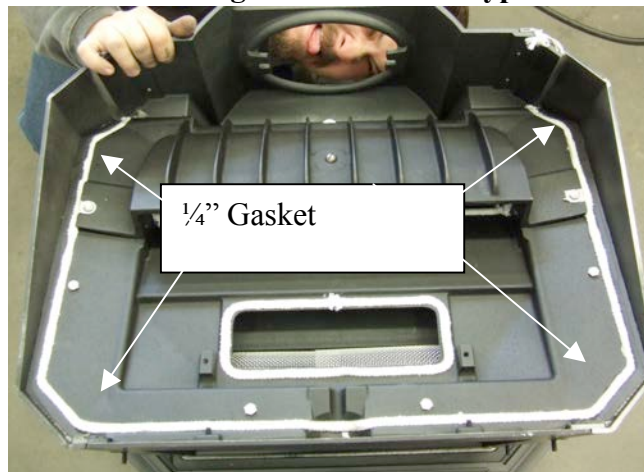




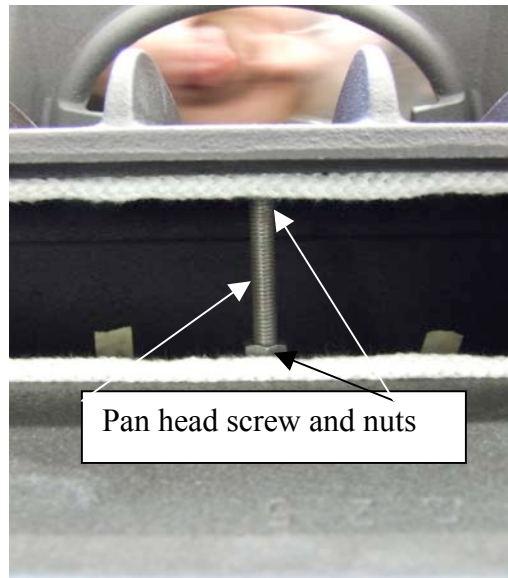
16. Lay a line of gasket glue on the rear gasket channel of the catalyst top. Put .500" LD gasket in this track.
17. Lower the catalyst top (P-326) into place and secure the wings with (2)  $\frac{1}{4}$ -20 x 1" HHCS and a  $\frac{1}{4}$ " washer. Make sure the tab at the rear of the catalyst top is inside the lip of the rear wall as shown.



18. Tighten all the  $\frac{1}{4}$ -20 HHCS in the catalyst base and top.
19. Run a line of stove cement around the perimeter of the under and over cat start and stop as shown below. Put .250" gasket in this groove. **Note: There will be a break in the gasket at the front of the stove, where the bypass rod is installed, as a continuous piece of gasket does not fit under the bypass rod. Simply push the cut ends together under the bypass rod.**



20. Take a 5/16"-18 x 3 1/2" PHMS and slide it through the hole in the catalyst top. Put (2) 5/16"-18 nuts on the screw. Put anti-seize on the bottom of the thread and screw it into the catalyst base. Make contact on the catalyst top with the screw head and tighten only 1/4 turn.
21. Tighten the lower nut down onto the catalyst base. Tighten the upper nut against the catalyst top.



22. Trim the extra .250 gasket mentioned in step #16 to length, and glue the gasket to the sides of the inner hood/catalyst base chamber.
23. Carefully place the top cast onto the stove body. Be sure the draw rod bosses clear the exterior stones.



24. Insert each draw rod into the top frame and turn it about 4 full turns. It may be helpful to make a mark on the rods and count the revolutions.
25. Push down on the top cast to compress the gasket a little. Confirm it is seated evenly on the stove body.
26. Start the nut on each draw rod by hand.
27. Alternate between the four rods as you tighten the nuts. Make (5) half revolutions with a ratchet to start. Finish with 4-5 more half revolutions.
28. Tighten the set screws at the top of each cast corner.
29. Remove the rope.