# ASPEN 1920
# Tear Down & Rebuild



1. Complete Disassembly Procedure
2. Complete Gasketing Layout
3. Complete Assembly Procedure c/w Cement Layout

**Tools:**

- 1-Drop cloth, 8’ x 8’ (Minimum size)
- 1-Pair safety goggles
- 1-Respirator, dust & mist
- 1-Wire brush, 1½” x 6”, 13” overall
- 1-Combination wrench, 7/16” (Box & Open End)
- 1-Combination wrench, 9/16” (Box & Open End)
- 1-Ratchet handle, □” drive
- 1-Wrench, socket, 7/16” Deep well, □” drive
- 1-Wrench, socket, 9/16” Deep well, □” drive
- 1-Common flat blade screwdriver 6” long with rounded corners
- Phillips screwdrivers
- 1-Shop type vacuum cleaner with attachments
- 1-Ball peen hammer, 12 oz. or 16 oz.
- 1-Trouble light
- Ratcheting straps to hold panels during assembly if necessary.
- 1-Pair diagonal cutting pliers
- 1-Pair long nose electricians pliers
- 1-Allen key wrench, □”
- 1-Allen key wrench, 5/32”
- Cold chisels
- 1-Pair vice grips, 7” – 10”
- 1-Punch, Drive pin, □”
- 1-Punch, Drive pin, ¼”
- 1-Punch, Drive pin, □”
- 1-Caulking gun
- 1-Water pail, 2 gallon or larger.
- 1-Sponge or water absorbent cloth
- 1-Tape measure, 6”
- Clean rags
- 1-Kitchen knife, serrated, 6”-7” blade
- 1-Putty knife
- 1-Rubber mallet

**NOT MANDATORY BUT A GOOD IDEA**

- Portable air compressor used for cleaning cast panels
- Sand blaster gun used on portable air compressor
- Drills and hand taps for repairing ¼ -20 and 10-24 threads.

**SUGGESTIONS**

- Tearing down and rebuilding is best done in a work area away from the hearth and on a raised surface. A simple raised work surface may be constructed from cement block support legs and 2 x 6 lumber braces. The supports can be arranged so they leave access to key areas such as the legs.
- Remember to wear a mask or respirator when cleaning the cast surfaces.
- When assembly is ready to proceed, always do a “dry fit” before cementing to ensure a good fit of all the parts. Some minor filing or grinding to provide a good fit for any new parts is common.

## DISASSEMBLY

1. Remove any bottom or rear heat shields. The bottom heat shield is held on by one Phillips head bolt and may be removed with a Phillips stubby screwdriver. The rear heat shield is held on by 3 bolts into 3 spacers. Remove the bolts and spacers.
2. Open the door and pivot it while lifting up to slide the door off the hinge bosses and remove from the front.
3. Take the top off by removing the four ¼ -20 hex head bolts and ¼" washers holding the top to the sides. The top is gasketed, not cemented, so removal will be simple.
4. Remove the bricks sitting on the secondary air channels. See photo below.
5. Lift off the deflector in the front. See photo below.

*Top bricks and front deflector*

*Remove primary air manifold*

6. Take the ash lip off by removing the two ¼ -20 hex head bolts from the bottom of the stove near the front.
7. Locate the primary air manifold and the Phillips head screw just inside the door opening in the bottom of the stove. Take the primary air manifold off by removing the Phillips head screw and pry it up by inserting a screwdriver into the air slot in the back of the baffle and prying it up.
8. Peel off the three tape gaskets covering the ends of the secondary air tubes and pull the tubes out of the secondary air channels.


*Remove brick gaskets and secondary air tubes*

9. Remove the ¼-20 bolt that holds the front in place. This bolt is located in the bottom plate of the stove just in from the front/center.
10. Remove the front by gently tapping out starting with the top. Once the furnace cement seal is broken, removal should be simple.
11. Remove the wood grate by inserting a screwdriver into one of the slots and prying up or by pushing up from below.
12. Remove the six side bricks - three per side - by gently prying up from the bottom.

13. Gently tap the rear brick in the rear fireback to free it from the furnace cement holding it to the back. Slide a screwdriver under the front lip and pry up and out.
14. Remove the bolt at the front top of both left and right secondary air channels and pry them out by inserting a screwdriver into the front edge and prying into the center.
15. On the bottom of the right side facing down there are two bolts holding the right side onto the bottom. Remove or back off the bolts and gently pry the right side off.
16. Do the same for the left side.
17. On the bottom of the back cast panel in the center facing down is one hex head bolt. Remove or back off he bolt and pull the panel back off the bottom and inner bottom leaving the thermostat assembly, fireback and flue cover or flue collar in place.
18. Tap the inner bottom up and off the outer bottom if required leaving the outer bottom standing on the four legs.
19. Turn the outer bottom over and remove the legs if necessary.


*Remove right secondary air channel*

## GASKETING

1. Remove the old gasketing paying particular attention to the place where a continuous gasket meets itself.
2. Clean all gasket channels and grooves with a wire brush (hand or power). Remove any stubborn deposits of gasket cement with the appropriate size punch/drive pin or cold chisel.
3. Clean all parts to be gasketed with your shop vacuum. Place clean parts on a clean level surface.
4. Select the appropriate type and size gasket. Cut to the recommended length allowing yourself an inch or two excess.
5. Using the 3 oz. tube of gasket cement (part number 120-6122), place an unbroken 1/8" bead of gasket cement in the channel or groove to be gasketed. Door gaskets may use high temperature black silicone in place of gasket cement.
6. Starting with one end, press the gasket into the cemented channel or groove. If the gasket meets itself, ensure that you have a good joint before trimming excess gasket with shears or side cutters. Do not overlap gasket ends or leave ragged edges.
7. If possible, place the gasketed part firmly against its normal mating surface in order to seat the gasket evenly in its cemented channel or groove. Use a 1" x 4" x 18" long, wooden straight edge where required. Remove gasketed part and clean off any excess gasket cement that has squeezed out around the gasket before placing aside to dry.

# ASPEN GASKET REQUIREMENTS

**Door**

Door to stove face seal

4.5' of 7⁄16" fiber glass round gasket
part number *7000910*

Installed in 2 pieces: perimeter seal and ash dump seal side to side.

**Door**

Glass to door frame seal

Vertical formed gasket on glass sides - 2 used - part number 30000383

Horizontal formed gasket on glass bottom - 1 used - part number 30000382

**Secondary Air Channels/Fireback**

Brick to secondary air channel/fireback seal

4' of ¾" flat gasket (tape) cut to fit the top of left secondary air channel; right secondary air channel and fireback


**Flue Collar/Flue Cover**

Flue collar & flue cover to back and rear

4' of 5⁄16" self adhesive round gasket part number 1203591. 2' is used for back opening and 2' for top opening. Collar & cover are reversible.

## ASPEN GASKET REQUIREMENTS

### Top

Underside of top to sides, back & front

5’ of 7⁄16” fiber glass round gasket
part number *7000910*

# ASSEMBLY

General

All parts should have been carefully inspected and cleaned to bare metal or replaced during the disassembly process. Parts and/or assemblies requiring gaskets should have been re-gasketed.

Remember, before starting the final assembly, do a trial dry fit to ensure the parts all fit together. This is the time to do minor filing or grinding to fit any new parts to the old.

Assembly may now begin. To achieve a properly functioning, air tight stove, at least three 11 oz. tubes of thermocement, part no. 30000524 are required. Cut the thermocement tube tips so that a ¼" – ⅜" unbroken bead of thermocement may be applied to the cement channels and/or flat mating surfaces.

Check the Aspen Parts List for identification of parts and hardware part numbers.

1. Place the Aspen bottom up side down on your raised work surface. Attach all the bolts and washers as shown in the photo to the right. You will need eight 1/4" washers ; six ¼" -20 x 1" hex head bolts for side, front and rear attachment; two ¼" -20 x 5/8" for ash lip taps; four 3/8 -16 x 1/2" bolts for the leg taps; one ¼" -20 x 3/8" Phillips head bolt for bottom heat shield tap.
2. Turn the bottom over on your raised work surface.
3. Put cement in the bottom groove as per the photo to the right. Ensure you put generous cement in the four corners over the leg taps.
4. Put cement in the underside of the inner bottom as shown in the photo below.

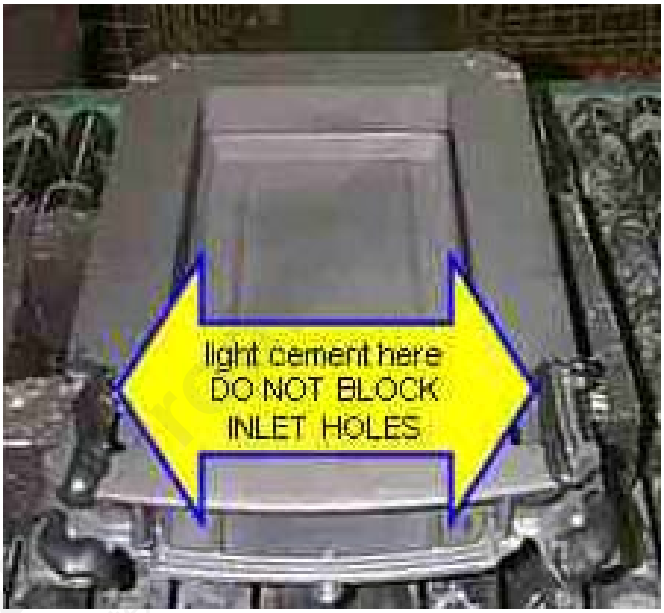
Critical areas – cement all the way to ends of grooves & ribs.

Cement vertically along full length of rib intersection (both sides)

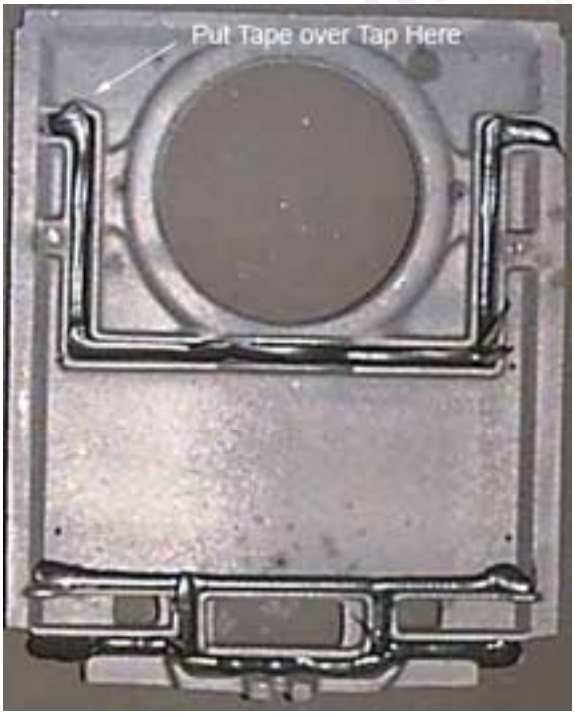
## ASSEMBLY

***Note: sequence for assembly is bottom, back, left end, right end then deflector Rib.***

5. Turn the inner bottom over and place in the groove and rib on the bottom and press down to produce a cement seal. Put cement in the two front locations for the air manifold seal.
6. Place the back rear down. Install the flue cover (or flue collar if rear vented) using two ¼" -20 x 3/4" Phillips flat head screws. Install the three rear heat shield spacers or 10-24 screws (10-24 x ¼") if not using the heat shield. Install the primary air flap using the glass clips and two 10-24 x ¼" Phillips screw.
7. Flip the back over and apply cement as per the photo below left. Place some tape over the thermostat assembly tap to keep any excess cement out of that hole.
8. Bolt the fireback to the back using two ¼ -20 x 1/2" Phillips round head screws. See Photo below right.




*Inner bottom installed*



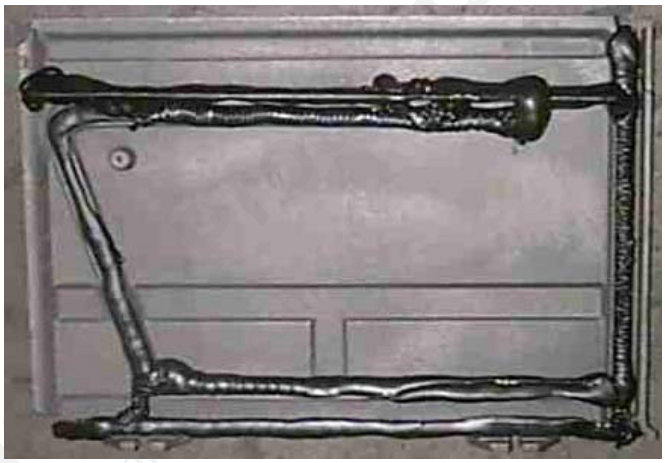

*Cement layout for back*

*Fireback in place*

## ASSEMBLY

9. Lift the back into position holding it vertical and engaging the inner bottom and bottom cement channels and engaging the bottom clevis in the 3/8” bolt and washer on the bottom. Hold or prop it vertical waiting for the sides. See below left.
10. Put cement in the left and right side as per the photo below right. Lift the back into position holding it vertical and engaging the inner bottom and bottom cement channels on the back. Hold or prop it vertical waiting for the sides. See below left.

*Install back assembly*



*Cement layout for left side*

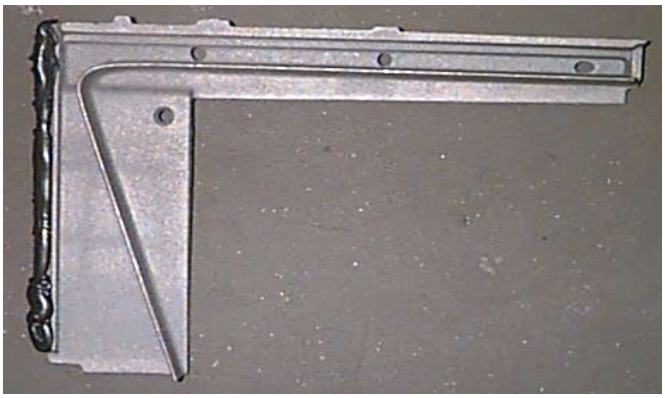
11. Holding the rear stable, install the left side by sliding clevises on the bottom of the left side into the two loosened bolts/washers on the bottom while engaging the two lower cement seams in the bottom and inner bottom. Tighten the two bolts on the bottom. Ensure there is good cement coverage in the top rear corner. Hold stable. See photo below left.
12. Do the same for the right side. Strap the sides and back together to hold in place while continuing with the assembly. See photo below right.


*Install left side*

*Sides installed with rear brick*

## ASSEMBLY

13. Place cement on the left and right secondary air channels as per the layout below.
14. Install the secondary air channels using a ¼ -20 x 1" hex head cap screw for each channel. Ensure a good cement seal.
15. Clean off any excess furnace cement on the inside of the stove.



*Cement layout for right secondary air channel*

*Right secondary air channel ready for bolt*

16. Install the six side and one rear firebrick slim bricks (9" x 4.5" x 1.25"). The side bricks slide under the lip on the secondary air channels and under the motif in the fireback. Place a small amount of cement on the rear of the back brick.
17. Install the three air tubes making sure the notches in the tubes engage the cast guides in the air channels.
18. Install the flat gasket tape on top of the two air channels and across the top of the fireback. You will need to cut about 4' of 3/4" flat adhesive gasket tape into three pieces to fit.

*Install firebrick slim bricks*

*Install secondary air tubes and gasket tape*

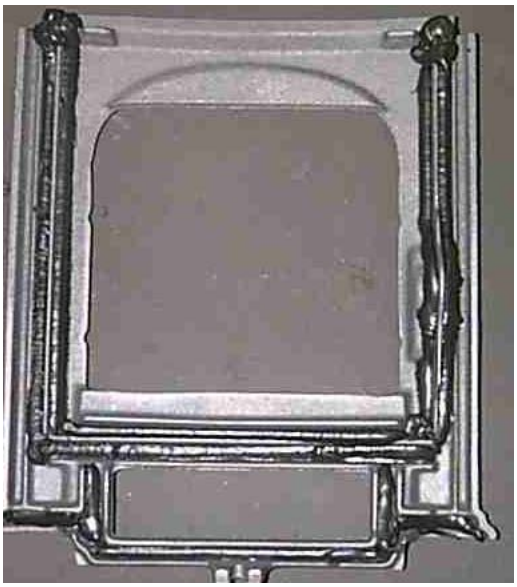
## ASSEMBLY

19. Install the primary air plate and the grate. *Do not tighten the bolt on the air plate until after the front is installed.* Make sure there is no cement blocking the two air inlet openings on either side. Use the ¼ -20 x 1-1/4" Phillips flat head bolt.
20. Install the bottom grate.
21. Install the deflector rib in the grooves in the front of both secondary air channels.
22. Install the primary air latch to the front using two ¼ -20 x 1/2" Phillips round head bolts and two 1/4" washers per bolt on the inside of the latch. See photo below showing the back of the latch.

Assembly with bricks, air manifold, grate and deflector installed

Door latch rear view

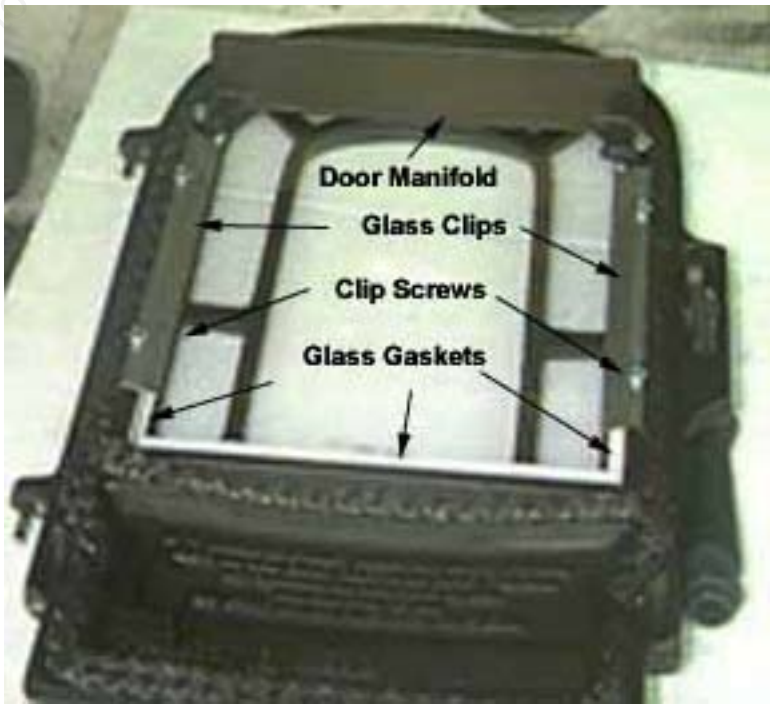
23. Put furnace cement in the front casting as per the layout photo to the right.
24. Slide the clevis in the bottom of the front onto the bolt and washer in the stove bottom and raise the front up pushing it into the sides to make a good cement seal. Tighten the bolt on the bottom to hold the front on. Strap the body to hold tight before attaching the top. See photo on the next page.
25. Tighten the flat head bolt on the primary air plate.



## ASSEMBLY

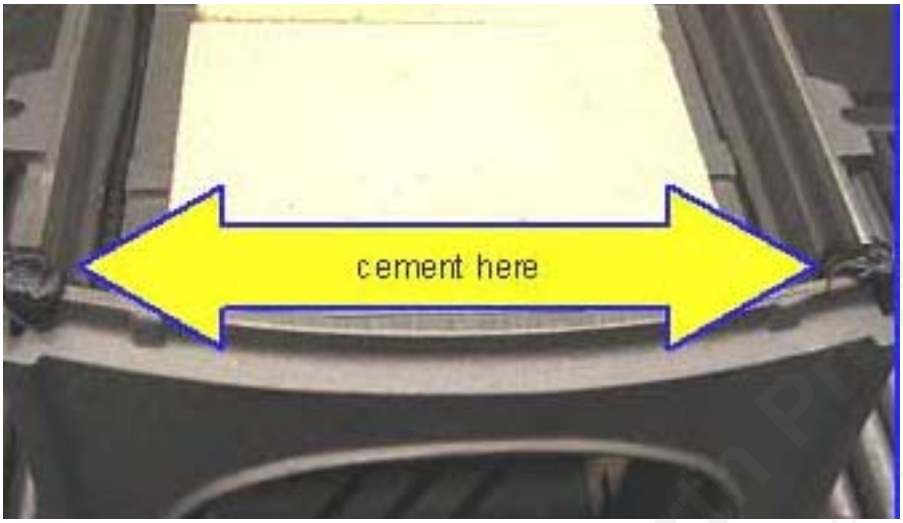
Assemble stove front panel

26. Ensure the door assembly is completely assembled with the following: door gasket as per the layout on page 6; handle assembly roll pinned to the door before the gasket was installed; glass gasket as per page 6; two glass clips using four 10-24 x 3/8” Phillips screws; door manifold using two 10-24 x 1/2” Phillips screws; glass panel with IR coating on the outside (IR coating produces continuity); two hinge pins. See the photo to the right.



## ASSEMBLY

27. Before installing the top, make sure the two top corners where the sides meet the front are sealed with furnace cement. See below. Do the same for the rear corners.




Front to side seal. Do the same in the rear.

28. Prepare the top for installation. Gasket as per pages 5 & 6 and install either the flue collar if venting vertically or the flue cover if venting horizontal using the two ¼ -20 x 3/4" Phillips flat head screws.
29. Using the four ¼ -20 x 5/8" hex head cap screws and four 1/4" washers, install the top. Make sure the top sits true before tightening. If possible, clamp the top in the center on both sides to the body to hold steady while tightening. See below.
30. Install the thermostat assembly on the back. Put a .218 i.d. washer on the thermostat threads and then the friction spring. Put anti-seize on the threads. See below.

Install the top

Install washer, spring and anti-seize

## ASSEMBLY

31. Screw the thermostat assembly all the way in until it stops. Back off one full turn to allow the coil to turn. Make sure the handle looks like the photo below and the wire form is as shown. If installing a new thermostat assembly, ensure when bending the handle to use two pliers or a vice so the weld is not damaged when forming. See first photo below for the proper bent assembly.
32. Install the thermostat cover. Remove the heat shield spacer if installed and screw the cover to the back or use a 10-24 x 1/4" Phillips screw after sliding the tab on the right into the joint in the side panel. See below.
33. Install the ball chain onto the fitting on the primary air flap. Install so the air flap is open flush to the raised channels when the thermostat is adjusted to the fully closed position. Use a shim to hold the flap in the correct position while attaching the ball chain to the fitting. This will leave the flap slightly open when the thermostat is cold. See below.

Thermostat assembly installed open position

Thermostat cover installed

Ball chain installed using a shim

34. Install the door assembly and ensure it latches properly. Adding or removing washers in the bracket will adjust the tightness of the seal.
35. Slide the ash pan into the opening.
36. Install the legs using four 3/8-18 x 1" hex head cap screws and four 3/8" washers.
37. Install the ash lip using the two ¼ -20 x 5/8" hex head cap screws with washers.
38. Install the bottom and/or rear heat shields if used.
39. Clean off any excess furnace cement on the exrterior panels using a damp cloth and wiping with a clean dry cloth. It is important to remove any cement residue as it will turn grey when the cast heats up.