



# SERVICE MANUAL

## FA211CL ROCKY MOUNTAIN HEATER





# STOVE TEAR DOWN 211CL

## **Griddle and Probe Thermometer Removal**

Using a thin bladed screwdriver, lift up the cook top (700-0711) with the probe thermometer (700-0TH3) in place and set aside. Use some caution to protect the probe stem. Also, remove the griddle frame.

## **Combustor, Chamber, Baffle and Air Tubes**

If necessary, remove the catalytic combustor (700-B566) with Interam gasketing (120-3539). Remove four ¼ - 20 x 1" bolts (120-1326) – one in each corner of the combustion chamber (700-0274). Hold the baffle (700-0276) from underneath while removing the 4<sup>th</sup> bolt. Remove baffle and air tubes (700-G200) and lift out the combustor chamber.

## **By-pass Gate and Components**

All parts pertaining to the by-pass gate (700-0877) can be removed through the flue collar or cook top openings. However, if a total tear down is necessary, removal of the top will make the job easier. The flue collar (700-0780) should be removed first. This is done by removing the four bolts (120-0289) in the flue collar. There is no gasketing in the flue collar, but it is cemented. It might be necessary to gently tap the base of the collar with a rubber dead blow hammer, or a block of wood and a hammer.

1. Remove the ¼ - 20 x ½" bolt (120-1326) holding the by-pass clip (160-1036) to the by-pass gate (700-0877).
2. Remove two ¼" bolts on each by-pass gate side support (700-0514). The by-pass gate can now be lifted up, turned 90 degrees and removed.

**\*\*NOTE:** Use a 7/16" wrench or socket on the ¼" bolts.\*

3. To remove the by-pass connector (700-0523), you will need at least (1) and possibly (2) 9/16" wrenches. Place the 1<sup>st</sup> 9/16" wrench on the 1<sup>st</sup> nut and remove. If the bolt also turns, place the 2<sup>nd</sup> wrench on the bolt head to prevent its movement. Continue to remove the 1<sup>st</sup> nut and repeat the procedure with the 2<sup>nd</sup> nut. With both nuts removed, the bolt can be pushed out and the connector can be removed.

4. To remove the gate crank (700-0521), try working the pin (120-1836) out with vise-grips. Additional leverage can be gained by wedging the screwdriver between the vise-grips and the crank. If the pin cannot be removed this way, disconnect the by-pass clip. Rotate the operating rod until the bottom of the pin can be pushed out with a punch and hammer through the flue collar opening. Once the pin is removed, the gate rod (700-G129) can be threaded out of the side of the stove. The crank can then be removed for replacement or modification.

### **Internal Parts (Grates)**

First, remove the coal burning parts or the three grate covers (700-0710). Remove the two side half walls (700-0256). Each is held by two  $\frac{1}{4}$  - 20 x  $\frac{3}{4}$  hex head cap screws (120-1374). Lift the grate frame (700-0783) out. The two fixed centre grates (700-0356) will lift out. To remove the three shaker grates (700-0377) back off the set screw on the shaker grate cap (700-00G2) using the 3 mm Allen wrench. Thread the cap off the shaker grate shaft. The grates can now be pulled through the side and lifted out of the stove. Repeat for the other grates.

### **Breaking down the Case**

The stove is broken down in the following order: top, front, left side, inner top, inner bottom, right side, back and bottom. Remove all doors before proceeding.

#### **Top**

To remove the top (700-0791): remove the four  $\frac{1}{4}$  - 20 x 2" screws (120-0545), washers (120-2469) and nuts (120-3210) on the top. They are located on the inside of the top at the corners. Break the cement seam with a dead blow mallet or a block of wood and a hammer.

#### **Front**

To remove the front (700-0789), take the nuts (120-3210) and washers (120-2470) from the  $\frac{1}{4}$  - 20 x  $1\frac{1}{2}$ " studs (120-4214) on the inside corners of the stove below the inner top, and inside the ash pan cavity. Break the cement seams loose from the sides and the bottom. The grate frame can be removed at this point.

#### **Left side**

Remove the two  $\frac{1}{4}$  - 20 x  $1\frac{1}{2}$ " hex head bolts (120-4214) with washer (120-2470) and nut (120-3210) located at the bottom connecting the left side to the back and remove the two  $\frac{1}{4}$  - 20 x  $1\frac{1}{2}$ " bolts at the corner above the inner top. Also, remove two additional  $\frac{1}{4}$  - 20 x  $\frac{1}{2}$ " bolts which attach the side to the bottom. Loosen the cement seals and remove the side.

#### **Inner Top and Inner Bottom**

The inner top and inner bottom can be removed by breaking the cement seal with your hammer or wood block.

## **Right Side**

Remove the bolts in the upper and lower corners and the bottom of the side as described in the left side section and then remove the right side.

## **Back**

With the right side removed, the back (700-0788) must be supported. Now the back can be removed. The boot plate (700-0784) is attached to the back plate with two  $\frac{1}{4}$ " - 20 x  $\frac{3}{4}$ " hex head cap screws (120-1374) and two washers (120-2474)

# **ASSEMBLY INSTRUCTIONS 211 CL**

1. Lay the bottom on your workbench and cement.
2. Set the back on your workbench and apply the four  $1\frac{1}{2}$ " studs. Cement the area for the boot plate and apply the boot plate. Secure it with the  $\frac{1}{4}$ " bolts ( $\frac{3}{4}$ " 1g) and washers ( $\frac{3}{4}$ " OD).
3. Cement the remainder of the back and over the base of the boot plate.
4. Lay the right end on your workbench and apply the cement.
5. Set the back onto the bottom, and hold it with one hand and put the right end into position. Hold it in place by finger tightening the  $\frac{1}{4}$ " nut and washer ( $\frac{7}{8}$ " OD) onto studs on the back. Now finger tighten two  $\frac{1}{4}$ " bolts ( $1\frac{1}{4}$ " 1g) with washers ( $\frac{3}{4}$ " OD) attaching the right end to the bottom.
6. Put the inner bottom into the stove.
7. Cement the left end and put it into position. Loosely attach it to the back studs with  $\frac{1}{4}$ " nuts and washers ( $\frac{7}{8}$ " OD). Finger tighten the  $\frac{1}{4}$ " bolts ( $1\frac{1}{4}$ " 1g) and washers ( $\frac{3}{4}$ " OD).
8. Slide the inner top into the stove and tighten all fasteners. Now run a bead of cement over the seams of the inner top where they meet the ends.
9. Cement the inner top channel, and apply it to the stove, by securing with  $\frac{1}{4}$ " bolts (2" 1g). Cement both sides of the air tube and position it in the inner top.

10. Cement the area for the combustion chamber and place the chamber in position. Hold the baffle, from the other side, with small holes towards the air tubes, under the chamber and start the four  $\frac{1}{4}$ " bolts (1" 1g) with washers ( $\frac{3}{4}$ " OD) and thread into the baffle. Make sure the bolts go through the chamber, inner top and air tube. Once all are started, tighten all.
11. Now cement the gasket groove for the by-pass gate and apply the  $\frac{5}{16}$ " gasket all around.
12. Put the rocker grates into the stove through the left end. Apply the shaker caps in the ends and secure them with an Allen wrench. Now seat the grates into the stove. Make sure they operate freely and that the caps seal to the stove body.
13. Now set the fixed grate into position.
14. Tip the grate frame into position and wedge it into place over the fixed and rocker grates. Apply the half walls (two each) and secure them in place with  $\frac{1}{4}$ " bolts ( $\frac{5}{8}$ " 1g).
15. Re-check the operation of the rocker grates and adjust the caps if necessary.
16. Set the covers over the grate. Put the  $\frac{1}{4}$ " Phillips screw (1 $\frac{1}{2}$ " 1g) through the cover and the grate. Secure them, by hand, with a  $\frac{1}{4}$ " washer (1 $\frac{1}{4}$ " OD) and wing nut.
17. Attach the door panel on the front door and secure it with  $\frac{1}{4}$ " bolts ( $\frac{1}{2}$ " 1g).
18. Apply two  $\frac{1}{4}$ " studs (1 $\frac{1}{2}$ " 1g) in the upper two holes on the front. Now cement the front and apply it to the stove. Use your mallet to seat if necessary.
19. Now apply the other two studs (1 $\frac{1}{2}$ " 1g) from inside the stove to the lower holes on the front.
20. Secure the front with  $\frac{1}{4}$ " nuts and washers ( $\frac{7}{8}$ " OD).
21. Apply to the back, four  $\frac{1}{4}$ " bolts ( $\frac{5}{8}$ " 1g).
22. Cement all gasket grooves in the front and the ash doors. Apply the gasket to both of these doors.
23. Apply the clip to the by-pass gate with a  $\frac{1}{4}$ " bolt ( $\frac{1}{2}$ " 1g). Set the by-pass gate into position.

24. Apply the by-pass supports over the gate and start the  $\frac{1}{4}$ " bolts ( $\frac{3}{4}$ " 1g).
25. Fit the by-pass crank into the stove over the by-pass gate.
26. Insert the by-pass rod through the load end and thread it through the inner top to enter the hollow end of the by-pass crank. Thread it in so that the pin hole aligns in the rod and the crank, then drive the hinge pin all of the way.
27. Align the connector on the crank to position on the by-pass gate. Swing the clip over the connector and tighten the bolt.
28. Tighten the support bolts ( $\frac{3}{4}$ " 1g).
29. Check operation of the gate for ease of lock over and non-binding.
30. Set the top on your workbench and cement.
31. Position the top on the stove and apply four  $\frac{1}{4}$ " Phillips screws (2" 1g) down through the top and apply washer ( $\frac{3}{4}$ " OD) and  $\frac{1}{4}$ " nuts to the screws.
32. Align the top and tighten all screws.
33. Cement the cook top opening, apply the gasket and set the cook top into place on the top of the stove.