

# HD Cast Iron Burner Replacement Instructions (Five-tube Units)

This kit will enable the replacement of screen-equipped HD burners with the new cast iron HD burners. Follow the instructions below to replace the burners.

1. Remove components located in front of the frypot. This may include the gas valve, pilot, heat shield, and/or filter pan lid, as needed. Remove the burners along with the burner manifold. Remove the heat shields and insulation located between tubes 1 and 2 and between tubes 3 and 4 by bending the tab and prying the heat shield out of position (Figures 1-3).

**NOTE:** On Thermatron units, remove the control panel/cover. Drop the Thermatron switch box down (held with 2 machine screws), but DO NOT disconnect it.

In This Kit (826-2556)		
Part No.	Description	Qty.
106-9622	T-bolt	2
220-5150	Burner Manifold Support Bracket (Right)	1
220-5151	Burner Manifold Support Bracket (Left)	1
220-5152	Burner Brace	1
809-0361	Screw, Drill #8 x 1/2 Hex Head	4
809-0412	Screw, #10-1/2 Hex Head Washer	2
809-0417	Nut, Flange 1/4-20 Serrated	4
809-0805	Screw, 1/4-20 x 1/2 Hex Head	3
809-0428	Bolt, 1/4-20x2 Hex Head Tap	4
809-0437	Screw, #10-3/8 Hex Head Washer	2
809-0459	Bolt, 5/16-18 x 3/4 Hex Head Washer	12
809-0931	Screw, #8 x 2-1/2 Hex Head Washer Slotted	6
810-0811	Pilot Orifice, Natural	1
810-2400	Pilot Orifice, Propane/LP	1
108-2612	Cast Iron Burner	5
220-4626	Air Shutter	5

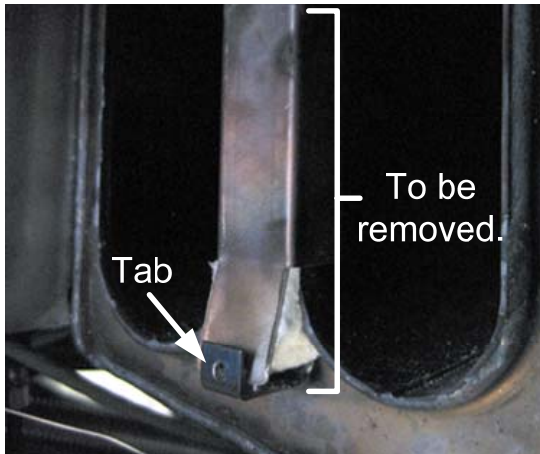


Figure 1: Bend down the tab holding the heat shield and insulation in place.

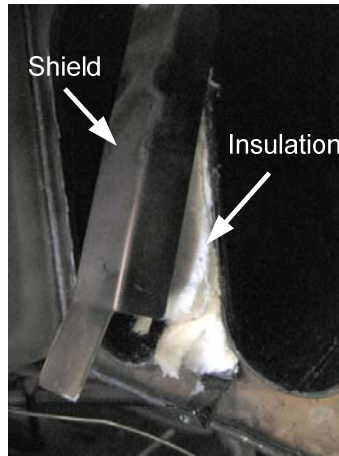


Figure 2: Remove the metal heat shield and the white insulation.

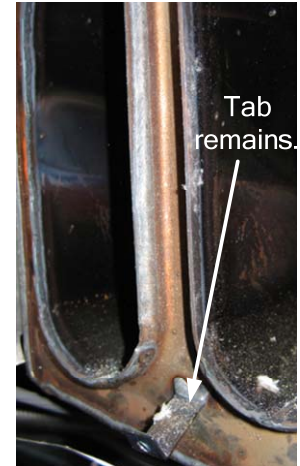


Figure 3: When the insulation is removed, only the tab will remain.

2. Installation of the burner brace involves inserting one end of the brace into the fryer interior and then rotating the brace in order to pass the other end through the inner hardware. Below are the steps to complete this process. Figure 4 shows the brace in its final position, as it will look inside of the fryer.



Figure 4: The brace in its final position, as it will look inside of the fryer.

- A. Angle the brace (as shown in Figure 5) and slide one end into the space in front of the frypot.

**Ensure the side with keyholes is facing down.**

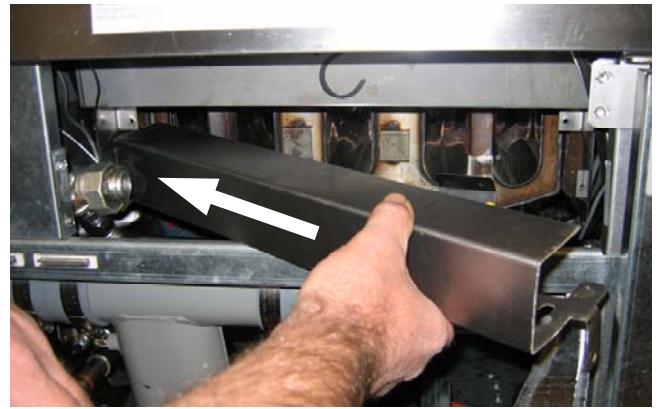


Figure 5: Start by inserting one end into the cabinet.

When inserting the brace, be sure to avoid obstructions, such as gas and drain lines, wires, and fittings. Ensure the end of the brace is behind all possible obstructions (Figure 6) before continuing.

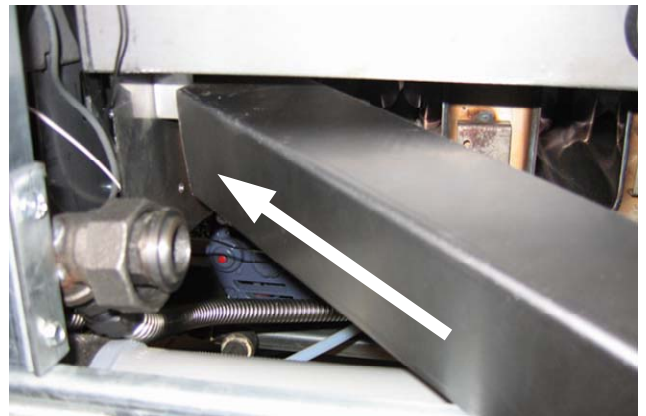


Figure 6: Brace must be behind all obstructions and clear of wires, drain lines, and fittings.

- B. Maneuver the other end over the oil return handle into the cabinet. Ensure the tab on the brace passes under the front lower tab on the fryer (Figure 7).

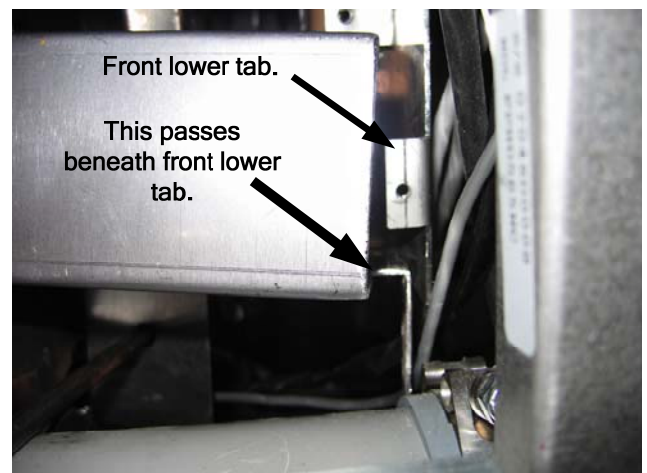


Figure 7: Pass the tab on the brace beneath the front lower tab on the fryer.

C. The brace should be positioned similar to Figure 8.



Figure 8: The brace should be positioned similar to this.

D. Rotate the brace away from the frypot (toward the front of the fryer). Move it up until the top edge is over the top/back tab (Figure 9). Rotate the brace back toward the frypot until the keyholes point down again.

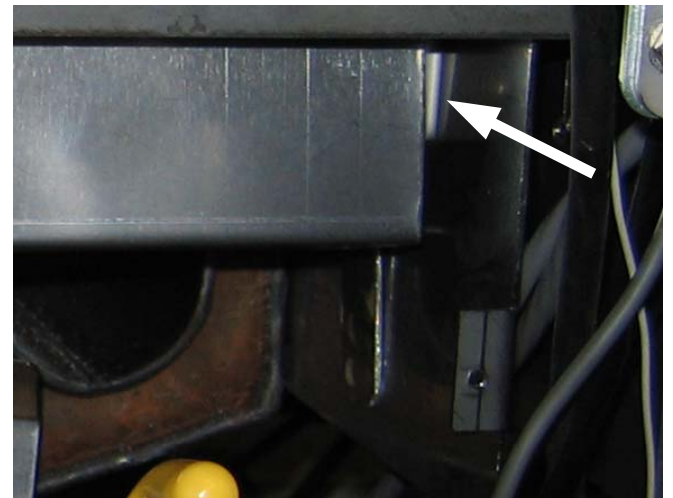


Figure 9: Rotate and lift the brace to clear the upper tab.

E. The brace should be positioned similar to Figure 10.



Figure 10: The brace should be positioned similar to this.

- F. Rotate the top of the brace toward the frypot, bringing the side with the keyholes around to face you. Ensure that the front edge of the brace is in front of the upper back tab and behind the lower front tab. (Figure 11)

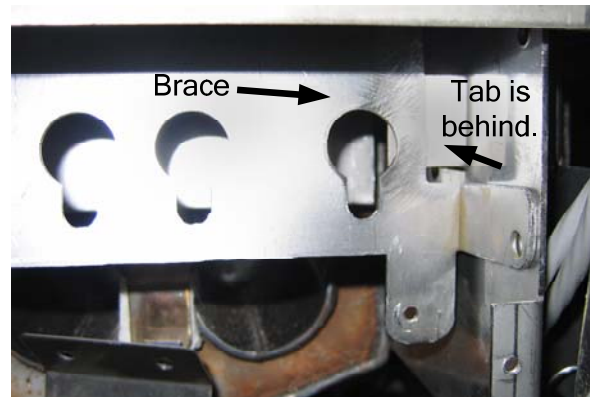


Figure 11: Rotate the brace into the frypot.

- G. Slide the brace up so that it is flush with the frypot (Figure 12). Ensure the holes on the tabs at each end of the brace are aligned with the matching holes on the fryer. Secure the brace to the fryer at both ends by using a 1/4-20 self-tapping screw on the upper hole and a #8 sheet metal screw on the lower hole.

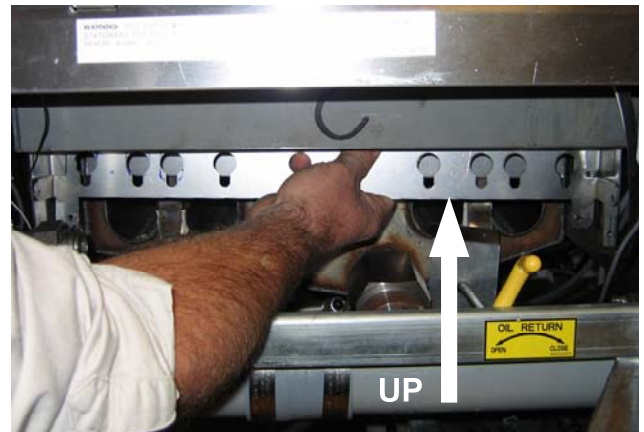


Figure 12: Slide the brace up, flush with the frypot.

3. Before installing the burner manifold support brackets, ensure the notch on each bracket is facing the front of fryer (away from the frypot), as shown in Figure 13. Note the position of the bends in the brackets.

Loosely secure each manifold bracket to the fryer using two self-tapping screws in the holes located just behind the front edge of the brace installed in Step 2.

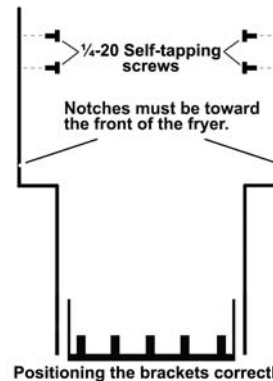


Figure 13: Install the gas manifold brackets. Ensure the notches are facing away from frypot.

4. Reinstall the burner manifold support brackets inside the fryer, attaching it to the brackets installed in the previous step. The photograph in Figure 14 is for reference.

**NOTE: Hex head bolts and special T-bolts provided in the kit are required to secure the burner manifold to the bottom half of each bracket. The T-bolts are shown in Figure 15.**

5. Tighten all bolts on the manifold bracket.

6. Change the trailer pilot orifice. This kit includes an LP orifice and a natural orifice. Use the orifice that matches the current pilot assembly.

7. Mount the pilot assemblies to the frypot (Figure 16).

8. Place two screws in each burner, as shown in Figure 17. Leave a gap between the head of the screw and the burner surface to ease their insertion into the key holes.

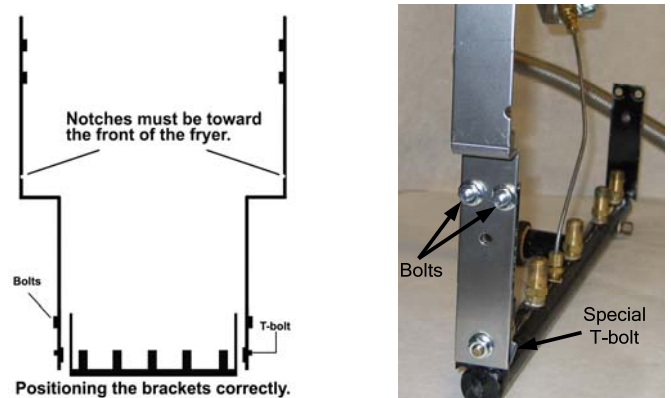


Figure 14: Install the gas manifold.



Figure 15: T-bolts for lower hole on brackets.

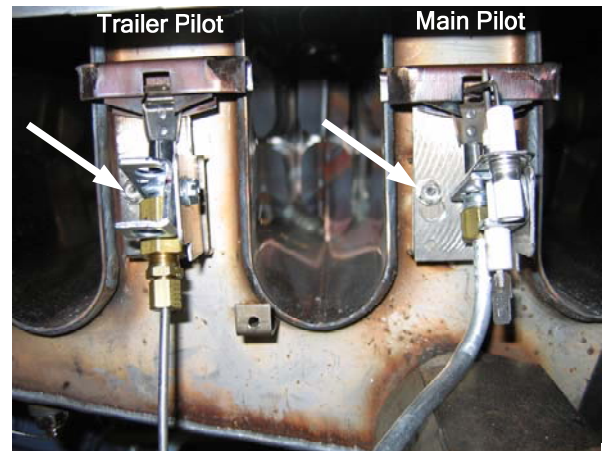


Figure 16: Install the pilot assemblies.



Figure 17: Leave a gap between the screw and the burner surface.

9. On high-altitude and LP units, air shutters should be installed. They are normally set approximately ¼" (.65 cm) from the bottom of the burner, as shown in Figure 18.

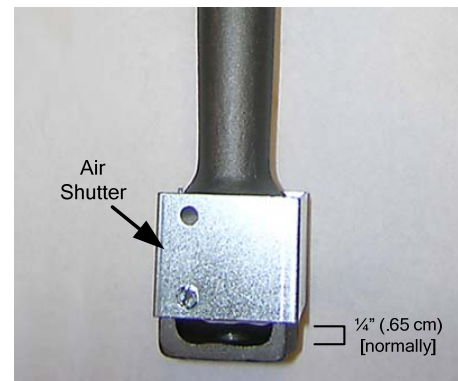


Figure 18: Install air shutters (high altitude and LP units).

10. Starting at the left, reinstall the burners in the following order (Figure 19):

1, 2, 3, **5**, 4.

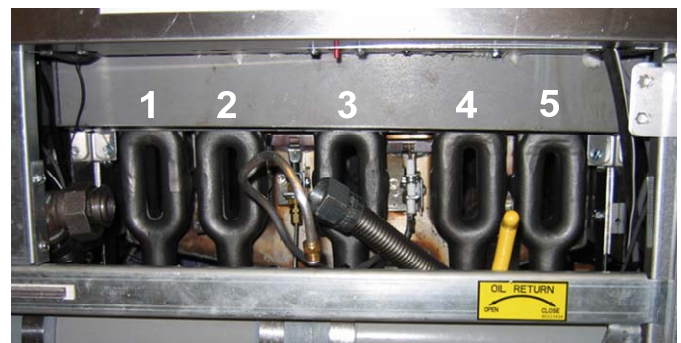


Figure 19: Reinstall the burners in the following order: 1, 2, 3, **5**, 4.

11. Once all burners are installed, tighten the screws at the top of each burner.

12. Reinstall any remaining components that, except the heat shields and insulation removed from between frypot tubes in Step 1. Ensure all lines and wires are properly reconnected.

13. Bring the unit up to operating temperature. Ensure it is working properly and that the burners light off smoothly.

**NOTE: If the fryer produces excess noise other than the normal sounds of operation after the installation of this kit, check the following:**

- Manifold gas pressure is low when noise is heard.
- Burners are not square with pot:
  - a. Manifold brackets are installed incorrectly. Ensure that the notch on each of the burner manifold support brackets is facing outward, away from the fryer.
  - b. Burner mounting bolts are not tight.
- Orifices are burred or clogged. Check for external and internal burrs.
- Baffles are not secured properly.
- Pilot hood is not centered.
- Tube heat shields not removed.

**If the unit makes a low frequency rumble when all of the vats are calling for heat with the doors closed, install shutters on all burners on the unit and adjust them to  $\frac{3}{8}$ " open.**

**If the rumble continues, slightly open or close the shutters, adjusting until the rumble is gone.**

