Cleaning Air Delivery Passages for the Empyre Elite 100

Combustion air is provided by the blower on the back of the furnace, which pushes air through the flapper valve into a tube that brings the air to the front of the unit. The air takes a turn at the front and divides. Some of the air goes down a passage to deliver air to the side of the nozzles in the bottom of the load chamber. The rest of the air is forced into the diverter box above the loading door frame.

Inside the diverter box, there is an air gate that moves back and forth when the LOAD/RUN lever is moved. In the LOAD position, air is sent towards the door and the exaust curtain deflects the air to create an air curtain preventing smoke from exiting the load chamber. When in the run position, the air gate is moved to send air away from the top of the door frame towards the back of the load chamber.

You can see this air gate move by removing the smoke curtain (Photo 1) and looking up through the frame that the exhaust curtain hangs on.

With the smoke gate removed and the lever in the LOAD position, turn on the blower. Using a screw driver or something similar, clean out any material that is in the frame (Photo 2).

There should be air coming out the frame the exhaust curtain hangs from. If you do not feel this air, insert either the handle of the cleaning rod or, as in Photos 3-4, a barbeque Venturi tube cleaning brush. ($5 at hardware store). Push the brush or handle in about 9." That should be enough to move any material that has accumulated to hamper air flow. Keep fan running while doing this so any loose material will be blown out of the way.

Using a 5/16 nut driver, remove the two screws holding the air spreader bar from the inside top of the door frame (Photo 5).

Next take a scew driver or wood chisel and insert it into the back of the diverter box as in Photos 6 and 7 and rattle it around it loosens any material. Again, the fan will blow it out.

Reinstall air spreader bar and exhaust curtain, and you are done.

Note: It is important to allow the the wood in the upper chamber to burn down regularly. When the box is full of wood, the loading chamber is the coldest; when it has burnt down to just coals, it is the hotest. When the firebox is hot, it dries the creosote that has built up from when the box was full, and burns it off. If you fill the furnace with wood all the time and don't allow it to burn away the creosote it will build up. When creosote burns it expands similar to popcorn.