



Tech Notes: Plugged Heat Exchanger

WARNING

Rural Energy Enterprises, Inc. does not accept liability for the improper use of this information. Installation, service, and maintenance of heating equipment should be performed by a qualified technician. Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life.

How to tell if the heat exchanger on the BS36UFF, OM-148, or OM-180 is plugged up and needs to be cleaned (brushed) out.

Does the appliance exhibit any of the following?

1. Smell of raw fuel and exhaust inside the mechanical room.
2. Exhaust smell inside the unit on fire up.
3. Exhaust outside smells of incomplete combustion. High static pressure in the heat exchanger.
4. Heavy soot in the side wall termination kit, laying on ground or on the roof around chimney.
5. Rumbling when the burner is running.
6. Fuel puddling under the burner on the bottom plate of the unit.
7. Oil inside the burner top and burner throat.

A smoke test should always be done; it should have a reading of 0 smoke. A reading of trace or higher means that the unit could develop or has an issue. Here are a few things to think about.

1. Is the sidewall vent kit properly put together? (Wall mounting plate outside must say up and be to the outside, wall thickness within manufacturer's specification)
2. Is the flue termination obstructed? (Alcove, fuel tank in front of flue, too close to the ground, snow drifting over termination)
3. Is the combustion air adequate? (Combustion air flex tube kinked, screen for combustion air hood plugged up)

4. Combustion blower wheels plugged? (Insulation, cotton wood dander, weeds and grasses)
5. Has the customer been running on the bottom ¼ of the fuel tank and continually running out of fuel? (Dirty main filter, sludge in fuel pipe, contaminated fuel strainer)
6. Fuel nozzle plugged? (Water in the brass desiccant will stop fuel flowing thru the nozzle or change the way it atomizes)
7. Has the fuel pump run dry several times? (Will quickly ruin the pump)
8. Are we having fuel related issues? (Contaminated fuel, Bio-fuel, fuel tank too high, leaking fittings)

When brushing out the heat exchanger be careful that you do not push the brush all the way to the bottom. I measure the brush at 13 inches and put a piece of tape or some marking on the rod. At 13 inches the brush is poking out of the baffle hole but not into the bottom insulation pad. Insulation pad on the bottom of the heat exchanger is not replaceable. You will need to replace the heat exchanger gasket part# 20476393, inspect the baffles and replace if required.