OIL FURNACE CLEAN AND TUNE

I. HEAT EXCHANGER

1. Visually check the heat exchanger for any cracks or holes and provide written or photographic documentation of any cracks or holes. Check for evidence of soot in ductwork.
2. If the heat exchanger is cracked **stop all work and immediately contact the weatherization provider.**

II. CLEAN

A. Combustion Area

1. Brush down all dirt, soot, and rust from heat exchanger sections.
2. Brush down and vacuum all flue passageways within the furnace.
3. Remove draw assembly. Clean and align ignition electrodes.
4. Clean blast tube and flame head.
5. Adjust electrodes.
6. Replace nozzle with appropriate size nozzle.
7. Brush down and vacuum remainder of combustion chamber so that it is free of dirt, soot, and loose rust.
8. Replace oil line filter cartridge.
9. Clean and check barometric damper for proper operation.

B. Air Handling

1. Clean and vacuum heat exchanger.
2. Clean and vacuum blower, return cabinet, and filter rack so that they are free of dirt, grease and any foreign matter. (In most cases removal of the blower fan assembly is required for effective cleaning.)
3. Terminate any combustion air duct in a j-trap or in a fixed receptacle.
4. Inspect filter. If permanent type, clean as per manufacturer's recommendations. If disposable type, replace with new pleated filter.
5. Mark air flow and filter size on ductwork.

III. TUNE

A. Combustion

1. Inspect the fuel line for leaks and fix any leaks that are present.
2. Seal all joints, cracks, and openings that would allow air to infiltrate into the combustion area of the furnace.
3. Adjust barometric damper to obtain a reading of .02 - .09 inches of water column at the breech.
4. Adjust primary air shutter to obtain highest CO_2 in the flue (before barometric damper) with a smoke test number of 0 to 2 while still maintaining a steady flame (0 to 1 on flame retention burners).
5. Adjust the burner so there is no flame impingement.
6. Adjust combustion as needed to meet BPI 1200 standard of <400 PPM air free for carbon monoxide or local code, whichever is more stringent.

B. Air Handling

1. If stack temperature is above 550° F, increase the blower speed to deliver more heat and lower the stack temperature. NOTE: This may not completely solve this issue on all furnaces.
2. Set fan switch (if possible) so that blower comes on at 120° F and goes off at 100° F. Set limit at no higher than 240 degrees, if limit is adjustable.
3. Test heat rise and make sure it is within manufacturer's specifications.
4. Test fan and limit control for proper operation.
5. Balance supply distribution for individual homeowner's comfort.