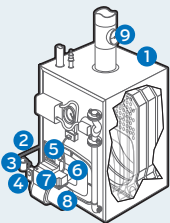


Annual Boiler Tuneup Checklist

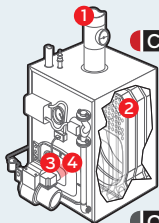
Here's what your technician should be doing when he services your boiler.

VISUAL INSPECTION



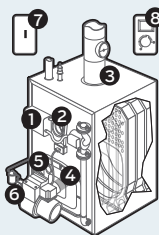
- 1 Check for significant corrosion on the boiler's outer sheetmetal, its cast-iron sections, flue, electrical controls, nearby piping and components.
- 2 Check above-ground oil tanks and lines for leakage.
- 3 The boiler should have an oil shutoff valve positioned before the fuel filter cartridge. Install one if needed, preferably one that cuts off fuel flow in the event of a fire. Replace compression fittings on oil lines with flare fittings.
- 4 Make sure the burner's air inlets and shutters are free of lint and dust.
- 5 Open the boiler top or look through the inspection port to check for cracks in the firebox or on the target wall (the fire clay box or wall that the burner fires into or against).
- 6 Remove the burner electrode assembly. Check the electrodes and their porcelains. Adjust the electrode spacing.
- 7 Check the transformer bushings, springs and ignition wiring.
- 8 Check the burner motor shaft for end play. Lubricate the burner motor and circulators if they are not permanently lubricated types.
- 9 Check the draft regulator for free movement.

CLEANING



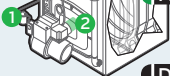
- 1 Remove the boiler flue sections. Brush and vacuum them clean.
- 2 Brush clean the surfaces of the boiler sections.
- 3 Clean the cadmium-sulfide flame sensor (the cad-cell eye), check its alignment and check its wires.
- 4 Clean the burner air tube.

OPERATION (ADJUSTMENT AND ANALYSIS)



- 1 Remove the limit control housing and check the temperature settings of the high-limit and low-limit controls.
- 2 Fire the boiler and check gauge readings for correct boiler water temperature and pressure. Adjust the boiler controls to produce correct gauge readings.
- 3 Measure flue gas temperature and use a combustion gas analyzer to read the percentage of combustion chemicals (carbon dioxide and carbon monoxide). Adjust the burner if needed.
- 4 Check the burner's flame shape. Again, adjust the burner to correct if necessary.
- 5 Check the pressure and the oxygen content of the combustion gas over the fire.
- 6 Check the oil pump for leaks and perform a pressure test.
- 7 Flip the boiler's Emergency Switch while the boiler is firing to check that it cuts off the boiler.
- 8 Adjust wall thermostat settings to check that the boiler responds to them.

PARTS REPLACEMENT



- 1 Replace the fuel filter.
- 2 Replace the burner nozzle.

DOCUMENTATION

- 1 Present the homeowner with a service sheet that lists the chemical contents of the combustion gas, temperature and pressure readings, parts replacements and the boiler's efficiency number.
- 2 Install a hang tag on the boiler with basic efficiency and operation data and date of the tuneup.