



# Boiler & Water Heater Inspection

PROPERTY STEWARD

## Have You Inspected Your Boiler or Water Heater Lately?

Every year, several thousand boilers and water heaters begin a journey which will eventually take them to the boiler/water heater graveyard.

Do you have boiler insurance? You should. It is a small premium to pay considering the cost of a problem. Do you inspect the water heaters within your buildings? You should.

## Boilers

The leading cause of boiler failures is low water. Trouble often starts with a leak which does not appear dramatic—it could be a damp spot or small puddle on the floor. If the boiler/water heater safety devices are working properly, a small leak will cause problems over time which will require repair. If the safety devices are not working properly, serious problems are imminent because “low water” in a boiler/water heater is like an engine without oil. A failure will undoubtedly occur; it is only a matter of time.

The results of boiler/water heater failures are costly repairs, replacement and possible new construction if an old building must be adapted to accommodate new equipment.

The following tips from our boiler inspectors will help you avoid the most common boiler/water heater problems by means of strategic maintenance.

- Have a competent service firm disassemble the low water cutoff (LWCO) and make-up water feeding devices. All parts should be thoroughly cleaned and reconditioned as required, then tested before the boiler or water heater is put into regular service. While in service, the LWCO should be tested once a month for hot water boilers. Hot water heaters should be drained twice a year.
- Burner equipment should be cleaned and adjusted to give maximum efficiency. This

can save fuel dollars throughout the life of the equipment.

- The boiler heating surfaces, firebox, ash pit, casing and ducts should be cleaned of all deposits. Dirty internal surfaces not only waste fuel and dollars, but also can lead to the burning, bulging, cracking, corrosion and even explosion of the boiler.
- The safety and safety relief valve should be tested for freedom of operation. This is of primary importance. The boiler or water heater must not be fired if the safety and safety relief valves are inoperative or otherwise defective. These valves should be tested once a month while in service.
- All pressure and temperature controls and gauge should be checked for satisfactory operation and adjusted or replaced as necessary.
- The water level gauge glass must be cleaned to indicate the proper water level at all times.
- Any leaking pipes or fittings located on the boiler/water heater or anywhere throughout the heating system should be repaired or replaced to prevent a loss of water.
- Water lines exposed to freezing temperatures should be insulated to prevent freeze-up. Steam and condensate return lines should be insulated to prevent unnecessary heat loss. Such action will reduce fuel bills and eventually more than pay for itself.
- All mechanical equipment, such as fans and pumps, should be checked for smooth operation and proper lubrication.
- A suitable record of boiler operation should be established and maintained throughout the season.
- The boiler room should be kept dry and clean.

These tips should prove helpful in prolonging the life of your boiler or water heater, as well as provide a safe environment. Although you will follow a preventative maintenance routine, you are bound to have a boiler or water heater problem.

## ★ Ministry Protection Memo

“MPM” is a series on various topics relative to Church and safety. Send your comments and interests to AME Zion’s Director of Ministry Protection.

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“It is important to complete a regular self-inspection of the area where the boiler or water heater is located.”



Most homes have domestic hot water that is heated by electric, gas or oil water heaters. As a hot water faucet is opened, heated water is drawn from the top of the water heater's tank. The heated water is replaced by cold water that flows into the bottom of the tank. When the water temperature drops below a preset minimum, a

thermostat activates electric heating elements or a gas or oil burner.

A temperature-pressure relief valve guards against excessive temperatures and pressures. This safety valve should be located near the top of the tank. A discharge pipe should be attached to the relief valve and run down the side of the tank to just above the floor. This discharge pipe prevents burns and other damage from discharged water. There must be no valves, caps or other obstructions preventing discharged water from draining rapidly.

If the temperature-pressure relief valve ever discharges steam or boiling water, shut off the water heater and call a plumber immediately.

Sediment can accumulate at the bottom of your water heater's tank. This reduces the unit's efficiency and can cause serious damage. Unusual noises from the tank such as "whistling and sizzling" or "rumbling and cracking" can be a sign of sediment buildup. A drain valve near the bottom of the water heater can be used to prevent sediment accumulation. Once a month, place a bucket under the valve and drain water and sediment from the bottom of the tank (five gallons or so) until the water runs clear.

You should also inspect your water heater once every six months. During the inspection, check to see whether there are any signs that water has leaked or been discharged from the temperature-pressure relief valve. If so, call a plumber immediately. The relief valve may be faulty or there may be a problem with the water heater.

Test the relief valve by lifting or pressing down on its handle. Water should flow through the valve and down the discharge pipe. If water does not flow through the valve or if water continues to drip from the valve after the handle is released, call a plumber immediately to replace the defective valve.

Inspect the cold-water supply pipe, the hot-water outlet pipe, the water heater's metal housing and along the unit's base for rust, corrosion and signs of leaks. If you find a moist area, wipe it with a towel to determine whether the moisture is from a leak or from condensation. Repair all leaks or have the tank replaced if necessary.