



Heating System Pre-Season Maintenance and Inspection



In order to have a safe and reliable heating system, pre-season maintenance and inspection should be completed every year by trained and licensed professionals. (If using a contractor, verify that the business is properly insured.) The lack or improper maintenance of heating systems can lead to frozen pipes, fire, boiler explosions, carbon monoxide poisoning and, in extreme cases, death.

Heating systems come in many designs. Maintenance and testing requirements vary. Following the manufacturer's recommended maintenance scope and schedule is mandatory in many jurisdictions.

While preparing your boiler for the heating season, check the carbon monoxide detector, smoke detector, fire detection systems and extinguishers for proper operation and fitness for service.

Remember to keep a clear zone around all boilers and hot water heaters, and to maintain emergency lighting. Avoid using the boiler room as a storage space, and don't keep combustible or flammable materials there.

In addition, your technician should:

- Test and log the operation of all controls and safety devices, including all relief valves.
- Clean applicable heat exchange surfaces.
- Change system filters, including air or fuel system filters.
- Lubricate where required.
- Verify proper combustion. Flue gas analysis requires a trained technician with specialized equipment.
- Inspect all flue gas-containing components, including the chimney.
- Inspect the electrical service for the equipment, including equipment grounding. Amperage draw should be noted for motors and/or heaters where applicable.
- Inspect fuel storage and delivery systems. If you store fuel oil, it should be tested for water contamination.
- Inspect boiler feed system piping, tanks and pumps where applicable.
- Inspect humidification systems.
- Check fresh air intakes or louvers for general condition, especially blockage.

Air louvers, designed to introduce fresh air into the building, are often overlooked when preparing for the heating season. With this design, fresh air passes over heating coils just inboard of the louvers. In order to protect the coils from freeze damage, the correct operation of the louvers must be verified, including full closure. In extreme cold conditions, louvers that do not fully shut can result in frozen and burst heating coils. Lack of building heat can disrupt the workforce, leading to additional costs.

Finally, have your heating system checked weekly. Logs are required in many jurisdictions. Any testing or inspection work should be documented and a history maintained. A sample log is attached for reference.

Sample Boiler Log

Manufacturer					Boiler Number					Year Built																				
Month	Safety/Relief Valve Tested					Water Column Gage Drained					Low Water Fuel Cut-Off Tested					Circulating Pump/Return Pump and System Checked					Burner Operation Checked									
	Week					Week					Week					Week					Week									
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
January																														
February																														
March																														
April																														
May																														
June																														
July																														
August																														
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Safety/Relief Valve

Pull try-lever to full open position with pressure on the boiler. Release try-lever to allow the valve to snap shut.

Water Column or Gage Glass (Steam Systems Only)

Open the drain valve quickly to void a small quantity of water. Water level should quickly return when the drain valve is closed.

Low Water Fuel Cut-Off/Reset

Drain the float chamber while the boiler is running. This should interrupt the circuit and stop the burner. Press reset to start. If unit fails to lock out on reset, call for service at once.

Service Dates:

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Low Water Fuel Cut-Off

Competent personnel should dismantle the low water fuel cut-off for complete overhaul at least annually. The internal and external mechanism, including linkage switches, floats and wiring should be carefully checked for defects. See the manufacturer’s instructions. Record the service dates above.

Note: Repairs should be made immediately if any check or test indicates that the device being tested or observed is not in good operating condition. Record all repairs in a boiler log book so that a complete record will be available for review.

Pump and System

Check pump for proper operation and leaky packing. Examine traps, check valves, make-up float valves, expansion or condensate tank, and other parts of the system (e.g., piping).

Burner Operation

If the burner starts with a puff or operates roughly, call your service personnel at once.

Caution: All discharges must be piped to a safe place.

Stoker, Oil or Gas Burner and Controls

The stoker, oil or gas burner and all operating and protective controls should be thoroughly checked at least every three months by a competent service organization. See the manufacturer’s instructions. Record the service dates above.

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