

Commercial heating boiler annual maintenance checklist

The annual heating boiler service is the deep pass: the measurements, cleanings and tests a quarterly round doesn't reach. This checklist keeps the full service on record with the photos that make it defensible later. Work is commonly verified against ASME guidance, manufacturer maintenance schedule. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The boiler service lead, typically scheduled during the off-season shutdown. When: Once a year, during the off-season when the boiler can be taken fully offline for teardown and inspection.

Shutdown and isolation

- ☐ **Lock and tag applied on power and fuel before teardown**
Disconnect and fuel shutoff locked and tagged by each worker before teardown; firing checks wait until the boiler is closed up, refilled and vented, run under the procedure's temporary release, then re-lock. 1 photo required
- ☐ **Boiler isolated and pressure relieved before opening**
Supply and return isolation valves closed and tagged, and the boiler gauge reading zero before a handhole or manway is opened. 1 photo required

Fire-side and water-side

- ☐ **Fire-side surfaces opened, brushed and inspected**
Tubes and passages cleaned to bare metal where possible; soot or scale thickness noted before cleaning. 3 photos required
- ☐ **Water-side surfaces inspected for scale and corrosion**
Handhole or manway opened, scale deposits and pitting documented, water treatment adequacy assessed. No photo required
- ☐ **Refractory and combustion chamber inspected**
No cracking, spalling or gaps at burner mounting; damage measured and tracked against prior inspection. 2 photos required

Burner and venting

- ☐ **Burner disassembled, cleaned and serviced**
Nozzles, electrodes or pilot assembly cleaned or replaced per manufacturer schedule; flame pattern re-verified. 2 photos required
- ☐ **Flue and venting system inspected**
No blockage, corrosion or separation in the venting; draft measured and within spec. 1 photo required
- ☐ **Fuel safety shutoff valves checked for tight closure**
Seat tightness tested by the service tech to the manufacturer's procedure and the reading recorded; a leaking valve is tagged and reported. 1 photo required
- ☐ **Combustion tuned and final readings taken across the firing range**
After burner service, analyzer readings at low and high fire land within the manufacturer's range and are printed or photographed. 1 photo required

Safeties and limits

- ☐ **All operating and high-limit controls tested**
Each control trips the burner at its setpoint and requires manual or automatic reset as designed. 1 photo required

- ☐ **Full shutdown sequence proven end to end**
Simulated fault (e.g. flame failure) shuts the burner down and locks out correctly, not just alarms. 1 photo required
- ☐ **Low-water cutoff probe pulled, cleaned and trip re-proven**
Probe pulled and cleaned of scale and sludge, then with the boiler full and firing the cutoff shown to stop the burner by the manufacturer's test method. 1 photo required

Closeout

- ☐ **Boiler returned to service and run through a full cycle**
Isolation valves open, air vented and gauge at fill pressure, locks removed by the people who hung them, and the boiler firing in automatic through a full cycle. 1 photo required
- ☐ **Jurisdictional inspection certificate posted where required**
Where the jurisdiction requires one, the boiler inspector's current certificate is posted at the boiler; a lapsed one is reported to the owner. No photo required
- ☐ **Annual service report filed with the owner**
Report lists combustion readings, control trip points and deficiencies found, and is on file with the owner before the heating season. No photo required