

Stationary Engineers and Boiler Operators

SOC: 51-8021 • Career Profile Report

■ Key Facts

\$75,190

Median Salary

33,300

Employment

+2.0%

Growth Rate

■ Requirements & Salary Range

Education: High school diploma

■ Automation Risk Assessment

Medium Risk - 38.0% probability of being automated in the next 10-20 years.

This job has some routine elements but still requires human judgment and interaction.

■■ Work-Life Balance

7.1/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.4/10	Investigative	5.0/10
Artistic	3.8/10	Social	4.6/10
Enterprising	4.0/10	Conventional	8.0/10

■ Top Skills Required

Detail oriented, Dexterity, Mechanical skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Stationary Engineers and Boiler Operators typically perform the following tasks:

- Operate or tend stationary engines, boilers, and auxiliary equipment, such as pumps, compressors, or air-conditioning equipment, to supply and maintain steam or heat for buildings, marine vessels, or pneumatic tools.
- Activate valves to maintain required amounts of water in boilers, to adjust supplies of combustion air, and to control the flow of fuel into burners.
- Monitor boiler water, chemical, and fuel levels, and make adjustments to maintain required levels.
- Analyze problems and take appropriate action to ensure continuous and reliable operation of equipment and systems.
- Observe and interpret readings on gauges, meters, and charts registering various aspects of boiler operation to ensure that boilers are operating properly.
- Maintain daily logs of operation, maintenance, and safety activities, including test results, instrument readings, and details of equipment malfunctions and maintenance work.
- Test boiler water quality or arrange for testing and take necessary corrective action, such as adding chemicals to prevent corrosion and harmful deposits.
- Monitor and inspect equipment, computer terminals, switches, valves, gauges, alarms, safety devices, and meters to detect leaks or malfunctions and to ensure that equipment is operating efficiently and safely.
- Switch from automatic to manual controls and isolate equipment mechanically and electrically to allow for safe inspection and repair work.
- Perform or arrange for repairs, such as complete overhauls, replacement of defective valves, gaskets, or bearings, or fabrication of new parts.
- Adjust controls and/or valves on equipment to provide power, and to regulate and set operations of system or industrial processes.
- Clean and lubricate boilers and auxiliary equipment and make minor adjustments as needed, using hand tools.
- Develop operation, safety, and maintenance procedures or assist in their development.
- Test electrical systems to determine voltages, using voltage meters.
- Contact equipment manufacturers or appropriate specialists when necessary to resolve equipment problems.
- Weigh, measure, and record fuel used.
- Receive instructions from steam engineers regarding steam plant and air compressor operations.
- Install burners and auxiliary equipment, using hand tools.
- Check the air quality of ventilation systems and make adjustments to ensure compliance with mandated safety codes.
- Provide assistance to plumbers in repairing or replacing water, sewer, or waste lines, and in daily maintenance activities.

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Source: <https://www.bls.gov/ooh/production/stationary-engineers-and-boiler-operators.htm>