

# Gas Turbine Systems Technician (Mechanical) (GSM)



These specially trained sailors operate, repair and perform organizational and intermediate maintenance on mechanical components of gas turbine engines, main propulsion machinery including gears, shafts and controllable pitch propellers; and assigned auxiliary equipment and propulsion control systems.

## What They Do

The duties performed by GSMs include:

- maintaining and repairing gas turbine engines and auxiliary equipment;
- working with blueprints, schematics and charts;
- performing administrative procedures related to gas turbine propulsion system operation and maintenance;
- performing work area inspections;
- testing lubricating oil and distillate fuels for contamination, neutralization and precipitation;
- operating standard test equipment;
- stopping engines and checking proper performance;
- replacing and adjusting operating tolerance of contacts, microswitches, relay switches, pressure switches and temperature switches;
- operating electric plant control and main propulsion equipment;
- operating pumps, turning gear, air compressors, oil purification system, low pressure air dehydrators and engineering control systems;
- performing preventive maintenance on ship's fuel system and air system;
- maintaining sea water service system, waste drain system, oil purification system and manually operated valves;
- using hoisting and lifting devices and maintaining special tools.
- maintaining and operating ship's service gas turbine generators and support systems;
- maintaining and controlling ship's service steam water chemistry;
- maintaining the controllable pitch propeller system.

## Credit Recommendations

The American Council on Education recommends that semester hour credits be awarded in the vocational certificate and lower-division bachelor's/associate's degree categories for courses taken in this rating on technical mathematics, applied physics, gas turbines and blueprint reading.

## Qualifications and Interests

Personnel in this rating must have mechanical ability, manual dexterity and normal color perception. They should also have experience working with machines and have taken some courses in physics.

## Working Environment

Gas turbine systems technicians usually work in engine rooms or shops that may be hot and noisy aboard many types of modern ships. At shore they may work at major repair

## Career Path After Recruit Training

Enlistees are taught the fundamentals of this rating through formal Navy schooling. Advanced technical and operational training is available in this rating during later stages of career development. Temporary assignments to general duty, sometimes aboard ship, may be required while awaiting advanced training assignments.

School	Present Location	Approximate Training Time	Subjects	Training Methods
Basic Engineering Common Core	Great Lakes, Ill.	9 Weeks	Introduction to technical documentation, basic mechanical theory, safety precautions and programs, alignment and operation of piping systems and equipment, hand tools, precision instruments, lubricants, bearings, couplings, gears, valves, pumps and the Maintenance Material Management System (3M). Introduction to technical documentation, basic watch standing procedures, alignment and operation of piping systems and equipment, hand tools, precision instruments, lubricants and lubricating systems, bearings, couplings, gears, valves, pumps, the Maintenance Material Management System (3M), gas turbine engine theory, propulsion machinery, digital logic control system, electromechanical and electrohydraulic servo devices, electrical power and generative distribution.	Self paced and Group instruction and practical application
During a 20-year period in the Navy. GSMs spend about 65 percent of their time assigned to fleet units and 35 percent to shore stations.				

facilities. Work is mainly physical and analytical (trouble shooting) for mechanical components.

## Opportunities

Opportunities for placement in this rating are excellent. About 2,800 men and women work in this rating.

## O\*Net SOC Code O\*Net SOC Title

- 17-3023.01 Electronics Engineering Technicians
- 47-4041.00 Hazardous Materials Removal Workers
- 49-1011.00 First-Line Supervisors/Managers of Mechanics, Installers, and Repairers
- 49-3042.00 Mobile Heavy Equipment Mechanics, Except Engines
- 49-9012.00 Control and Valve Installers and Repairers, Except Mechanical Door
- 49-9021.00 Heating, Air Conditioning, and Refrigeration Mechanics and Installers
- 49-9021.02 Refrigeration Mechanics
- 49-9041.00 Industrial Machinery Mechanics
- 49-9042.00 Maintenance and Repair Workers, General
- 49-9043.00 Maintenance Workers, Machinery

- 49-9098.00 Helpers - Installation, Maintenance, and Repair Workers
- 51-1011.00 First-Line Supervisors/Managers of Production and Operating Workers
- 51-2031.00 Engine and Other Machine Assemblers
- 51-8013.00 Power Plant Operators
- 51-8021.00 Stationary Engineers and Boiler Operators

Since Navy programs and courses are revised at times, the information contained on this rating card is subject to change. (Revised 01/08)