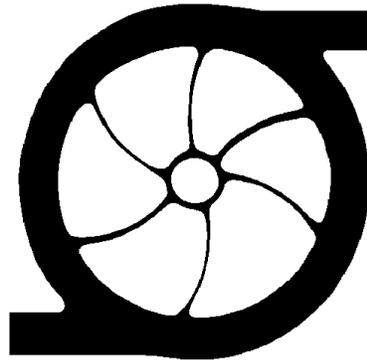


CHAPTER 39



GAS TURBINE SYSTEMS TECHNICIAN (GS)

NAVPERS 18068-39E

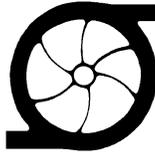
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NAVY ENLISTED OCCUPATIONAL STANDARDS
FOR
GAS TURBINE SYSTEMS TECHNICIAN (MECHANICAL) (GSM)



SCOPE OF RATING

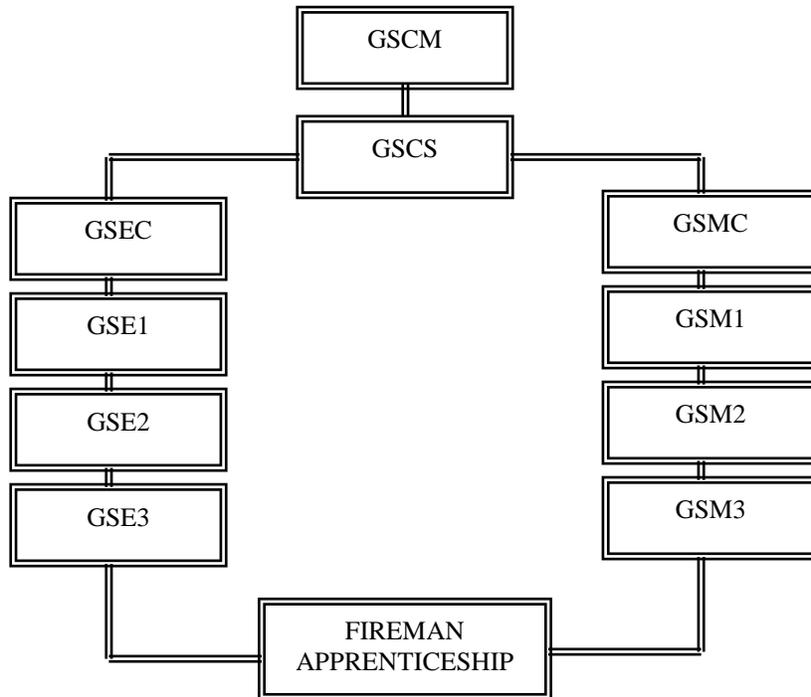
Gas Turbine Systems Technicians (GS) operate, repair, and perform organizational and intermediate maintenance on ship's propulsion Gas Turbine Engines (GTE), Ships Service Gas Turbine Generators (SSGTG), main propulsion machinery (including gears, shafting, and Controllable Pitch Propellers (CPP)), assigned auxiliary equipment (including fuel and lube oil systems), machinery control systems (including consoles and Programmed Logic Controllers (PLC)), assigned electrical and electronic equipment up to the printed circuit boards, and alarm and warning circuitry.

Gas Turbine Systems Technicians (Mechanical) (GSM) operate, repair, and perform organizational and intermediate maintenance on mechanical components of Gas Turbine Engines (GTE), main propulsion machinery (including gears, shafting, and Controllable Pitch/Reversible Propellers (CPP/CRP)), assigned auxiliary equipment, and propulsion control systems.

These Occupational Standards are to be incorporated in Volume I, Part B, of the Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards (NAVPERS 18068F) as Chapter 39.

GENERAL INFORMATION

CAREER PATTERN



Normal path of advancement to Chief Warrant Officer and Limited Duty Officer categories can be found in OPNAVINST 1420.1.

For rating entry requirements, refer to MILPERSMAN 1306-618.

SAFETY

The observance of Operational Risk Management (ORM) and proper safety precautions in all areas is an integral part of each billet and the responsibility of every Sailor; therefore, it is a universal requirement for all ratings.

Job Title**Gas Turbine Mechanical Systems Technician****Job Code****003003****Job Family**

Production

NOC

TBD

Short Title (30 Characters)

GAS TURBINE M SYSTEM TEC

Short Title (10 Characters)

GTE M TEC

Pay Plan

Enlisted

Career Field

GSM

Other Relationships and Rules

NEC 41XX series

Job Description

Gas Turbine Mechanical Systems Technicians maintain and operate Ship's Service Gas Turbine Generators (SSGTG) and support systems; maintain Controllable Reversible/Pitch Propeller (CRP/PPP) systems; operate electric plant controls and main propulsion equipment, pumps, turning gears, air compressors, oil purification systems, low pressure air dehydrators, and engineering control systems; work with blueprints, schematics, and charts to maintain and repair Gas Turbine Engines (GTE) and auxiliary equipment; perform preventive maintenance on ship's fuel systems and air systems, Sea Water Service Systems (SWSS), waste drain systems, oil purification systems, and manually operated valves; perform work area inspections, operate standard test equipment, and test lubricating oil and distillate fuels for contamination, neutralization, and precipitation; conduct engine checks to verify performance and replace and/or adjust operating tolerance of contacts, micro-switches, relay switches, pressure switches, and temperature switches; and perform all administrative procedures related to gas turbine propulsion system operation and maintenance. Technicians are expected to perform work independently and mentor Gas Turbine Mechanical Systems Maintainers with very limited supervision.

DoD Relationship**Group Title**

Auxiliaries

DoD Code

165200

O*NET Relationship**Occupation Title**

Power Plant Operators

SOC Code

51-8013.00

Job Family

Production

Skills*Equipment Maintenance**Quality Control Analysis**Coordination**Operation and Control**Active Learning**Operation Monitoring**Reading Comprehension**Equipment Selection**Management of Material Resources**Writing***Abilities***Written Comprehension**Problem Sensitivity**Deductive Reasoning**Information Ordering**Manual Dexterity**Control Precision**Time Sharing**Written Expression**Inductive Reasoning**Mathematical Reasoning***AUXILIARY EQUIPMENT****Paygrade****Task Type****Task Statements**

E4

CORE

Align Low Pressure Air Compressors (LPAC)

E4

CORE

Align oil tanks

E4

CORE

Align waste oil systems

E4

CORE

Analyze Fuel Oil (FO) samples

E4

CORE

Inspect fluid samples

E4

CORE

Inventory oil spill recovery kits

E4

CORE

Maintain bleed air systems

E4

CORE

Maintain Main Reduction Gear (MRG) Lube Oil (LO) strainers

GAS TURBINE**Paygrade****Task Type****Task Statements**

E4

CORE

Maintain blow-in doors

E5

CORE

Maintain Gas Turbine (GT) assembly components

E5

CORE

Maintain Gas Turbine (GT) combustion chamber components

E4

CORE

Maintain Gas Turbine (GT) inlet and exhaust systems

E5

CORE

Maintain Gas Turbine (GT) power turbine brakes

E5

CORE

Maintain Gas Turbine (GT) power turbine components

MAIN PROPULSION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Calculate fuel requirements
E4	CORE	Calculate Lube Oil (LO) requirements
E5	CORE	Calibrate fuel pump logics
E5	CORE	Calibrate Lube Oil (LO) pump logics

PROPULSION CONTROL SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Conduct Propulsion and Auxiliary Control Console (PACC) operations
E4	CORE	Conduct Propulsion Local Control Console (PLCC)
E5	CORE	Conduct Shaft Control Unit (SCU) operations
E4	CORE	Maintain Controllable Pitch Propeller (CPP) or Controllable Reversible Pitch (CRP) systems

TECHNICAL ADMINISTRATION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E7	CORE	Approve Quality Assurance (QA) repair forms
E7	CORE	Maintain Marine Gas Turbine Service Records (MGTSR)
E6	CORE	Prepare full power and economy trial reports
E5	CORE	Prepare Quality Assurance (QA) packages
E5	CORE	Prepare Quality Assurance (QA) repair forms
E6	CORE	Review Quality Assurance (QA) packages
E5	CORE	Update Engineering Operational Sequencing System (EOSS) publications
E6	CORE	Verify engineering bulletins and changes
E7	CORE	Verify fuel and water reports
E7	CORE	Verify fuel logs
E7	CORE	Verify Lube Oil (LO) logs

Job Title**Gas Turbine Mechanical Systems Maintainer****Job Code****003698****Job Family**

Production

NOC

TBD

Short Title (30 Characters)

GAS TURBINE M SYSTEM MAINT

Short Title (10 Characters)

GTE M MAN

Pay Plan

Enlisted

Career Field

GSM

Other Relationships and Rules

NEC 41XX series

Job Description

Gas Turbine Mechanical Systems Maintainers maintain and operate Ship's Service Gas Turbine Generators (SSGTG) and support systems; maintain Controllable Reversible/Pitch Propeller (CRP/CP) systems; operate electric plant controls and main propulsion equipment, pumps, turning gears, air compressors, oil purification systems, low pressure air dehydrators, and engineering control systems; work with blueprints, schematics, and charts to maintain and repair Gas Turbine Engines (GTE) and auxiliary equipment; perform preventive maintenance on ship's fuel systems and air systems, Sea Water Service Systems (SWSS), waste drain systems, oil purification systems, and manually operated valves; perform work area inspections; operate standard test equipment; test lubricating oil and distillate fuels for contamination, neutralization, and precipitation; conduct engine checks to verify performance and replace and/or adjust operating tolerance of contacts, micro-switches, relay switches, pressure switches and temperature switches; and perform all administrative procedures related to gas turbine propulsion system operation and maintenance. Maintainers work under the supervision of a mentor while learning the trade or skill.

DoD Relationship**O*NET Relationship****Group Title**

Auxiliaries

DoD Code

165200

Occupation Title

Power Plant Operators

SOC Code

51-8013.00

Job Family

Production

Skills*Quality Control Analysis**Equipment Maintenance**Operation Monitoring**Operation and Control**Reading Comprehension**Coordination**Equipment Selection**Management of Material Resources**Writing**Active Learning***Abilities***Written Comprehension**Problem Sensitivity**Deductive Reasoning**Manual Dexterity**Written Expression**Information Ordering**Arm-Hand Steadiness**Control Precision**Finger Dexterity**Mathematical Reasoning***AUXILIARY EQUIPMENT****Paygrade****Task Type****Task Statements**

E4

CORE

Align bleed air systems

E4

CORE

Align Low Pressure Air Compressors (LPAC)

E4

CORE

Align oil tanks

E4

CORE

Align waste oil systems

E4

CORE

Analyze Fuel Oil (FO) samples

E4

CORE

Inspect fluid samples

E4

CORE

Inventory oil spill recovery kits

E4

CORE

Maintain auxiliary lube oil filters

E4

CORE

Maintain bleed air systems

E4

CORE

Maintain demister pads or filter agglomerators

E4

CORE

Maintain Fuel Oil (FO) coalescers

E4

CORE

Maintain Fuel Oil (FO) pre-filter components

E4

CORE

Maintain Fuel Oil (FO) systems

E4

CORE

Maintain heat exchangers

E4

CORE

Maintain hydraulic systems

E4

CORE

Maintain intake louvers

E4

CORE

Maintain Low Pressure Air Compressors (LPAC)

E4	CORE	Maintain Main Reduction Gear (MRG) Lube Oil (LO) strainers
E4	CORE	Maintain moisture separators
E4	CORE	Maintain Seawater Systems (SWS)
E4	CORE	Maintain start air systems
E4	CORE	Maintain stern tube seal systems
E4	CORE	Maintain systems pumps
E4	CORE	Maintain systems valves
E4	CORE	Maintain temperature regulating valves
E4	CORE	Measure fuel tank levels
E4	CORE	Sample fluids

GAS TURBINE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align Gas Turbine (GT) generator support systems
E4	CORE	Align Gas Turbine (GT) generators
E4	CORE	Align Gas Turbine (GT) Lube Oil (LO) systems
E4	CORE	Align Gas Turbine Engines (GTE) locally and remotely
E4	CORE	Conduct Gas Turbine Engine (GTE) pre-operational checks
E4	CORE	Conduct Gas Turbine Engine (GTE) support system alignment checks
E4	CORE	Inspect Gas Turbine (GT) shock mounts
E4	CORE	Maintain Foreign Object Damage (FOD) screens
E5	CORE	Maintain Gas Turbine (GT) combustion chamber components
E4	CORE	Maintain Gas Turbine (GT) fuel systems
E4	CORE	Maintain Gas Turbine (GT) generators
E4	CORE	Maintain Gas Turbine (GT) inlet and exhaust systems
E4	CORE	Maintain Gas Turbine (GT) Lube Oil (LO) system components
E4	CORE	Maintain Gas Turbine (GT) mechanical linkages
E4	CORE	Maintain Gas Turbine (GT) modules
E5	CORE	Maintain Gas Turbine (GT) power turbine brakes
E4	CORE	Maintain Gas Turbine (GT) water wash systems

MAIN PROPULSION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align Fuel Oil (FO) coalescer components
E4	CORE	Align Fuel Oil (FO) purifiers
E4	CORE	Align Lube Oil (LO) purifiers
E4	CORE	Align main Lube Oil (LO) service systems
E4	CORE	Align Main Reduction Gear (MRG) Lube Oil (LO) pumps
E4	CORE	Align start air systems
E4	CORE	Calculate fuel requirements
E4	CORE	Calculate Lube Oil (LO) requirements
E4	CORE	Fabricate sealing gaskets
E4	CORE	Maintain Gas Turbine Engine (GTE)
E4	CORE	Maintain jacking or turning gears

PROPULSION CONTROL SYSTEMS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align Controllable Pitch Propeller (CPP) or Controllable Reversible Pitch (CRP) systems
E4	CORE	Conduct inlet preservations
E4	CORE	Maintain Gas Turbine (GT) auxiliary control consoles

TECHNICAL ADMINISTRATION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Prepare fuel and water reports
E4	CORE	Record dry bulb temperature readings
E4	CORE	Record meter readings
E6	CORE	Review automated alarm data logs
E4	CORE	Update automated alarm data logs
E4	CORE	Update fuel logs
E4	CORE	Update Lube Oil (LO) logs