CHAPTER 42

HULL MAINTENANCE TECHNICIAN (HT)

NAVPERS 18068F-42E
Change 81

Updated: January 2020

TABLE OF CONTENTS
HULL MAINTENANCE TECHNICIAN (HT)

NAVY ENLISTED OCCUPATIONAL STANDARD

FOR

HULL MAINTENANCE TECHNICIAN (HT)

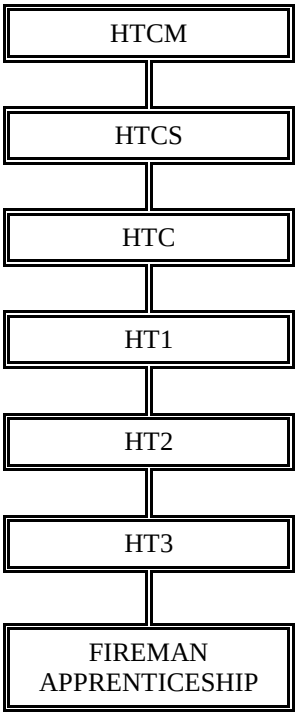
SCOPE OF RATING

Hull Maintenance Technicians (HT) plan, supervise, and perform tasks necessary for fabrication, installation, maintenance, repair, and inspection of shipboard structures, plumbing, sewage, and piping systems; organize and supervise personnel in maintenance and hull repairs; instruct personnel; enforce safety and security procedures; and prepare records and reports.

This Occupational Standard is to be incorporated in Volume I, Part B, of the Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards (NAVPERS 18068F) in Chapter 42.

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
HULL SYSTEMS MAINTAINER

Job Code
003004

Job Family	NOC	Short Title (30 Characters)	Short Title (14 Characters)
Installation, Maintenance, and Repair	TBD	HULL SYSTEMS MAINTAINER	HULL SYS MAINT

Pay Plan	Career Field	Other Relationships and Rules
ENLISTED	HT	NEC Uxxx series or other NECs as assigned

Job Description
Hull Systems Maintainers perform the work necessary to keep shipboard structures and surfaces in good condition; maintain and operate shipboard plumbing systems, marine sanitation systems, and ballast control systems; fabricate structures from light and heavy gauge metal such as aluminum, stainless steel, copper, brass, steel, and corrugated iron; inspect and test various shipboard structures and systems using radiological, ultrasonic, and magnetic particle testing equipment; conduct repairs to marine sanitation systems, decks, structures, and hulls by welding, brazing, and riveting; install, maintain, and repair valves, piping and plumbing system fittings and fixtures, perform pipe cutting, threading and assembly, repair ventilation ducting, and install and repair insulation and lagging; and repair metal, wood, and fiberglass boats. Maintainers utilize the Quality Assurance Program and work under the supervision of a Hull System Technician.

DoD Relationship

Group Title	*DoD Code*
Other Craftsworkers, N.E.C., General	179000

O*NET Relationship

Occupation Title	*SOC Code*	*Job Family*
Maintenance and Repair Workers, General	49-9042.00	Installation, Maintenance, and Repair

Skills	Abilities
Equipment Selection	*Arm-Hand Steadiness*
Operation and Control	*Memorization*
Management of Material Resources	*Control Precision*
Quality Control Analysis	*Manual Dexterity*
Equipment Maintenance	*Information Ordering*
Reading Comprehension	*Finger Dexterity*
Installation	*Visualization*
Monitoring	*Written Comprehension*
Mathematics	*Multi-limb Coordination*
Coordination	*Extent Flexibility*

GENERAL SHOP OPERATIONS

Paygrade	Task Type	Task Statements
E4	CORE	Bend material using brake press
E4	CORE	Bend material using sheet metal brake
E4	CORE	Don proper personal protective equipment (PPE) (e.g., cutting, welding, and oxyacytelene operations)
E4	CORE	Dress grinding wheels
E4	CORE	Drill holes in material (e.g., drill press, electric hand trill, portable drill)
E4	CORE	Grind material using pedestal grinder
E4	NON-CORE	Identify tools requiring calibration
E4	CORE	Maintain hand tools
E4	CORE	Punch material using turret punch
E4	CORE	Replace saw blades, belts, bits, and disks
E4	CORE	Set up ventilation equipment
E4	CORE	Verify proper ventilation

METAL LAYOUT, FABRICATION, AND INSTALLATION

Paygrade	Task Type	Task Statements
E4	CORE	Cut ferrous and non-ferrous metals
E4	CORE	Cut material using bandsaw
E4	CORE	Cut material using plasma cutting equipment
E4	CORE	Cut material using power hack saw
E4	CORE	Cut material using threading and cutting machine
E4	CORE	Cut materials using shear
E4	CORE	Cut sheet metal using beverly shear

METAL LAYOUT, FABRICATION, AND INSTALLATION (CONT'D)

Paygrade	Task Type	Task Statements
E4	CORE	Fabricate sheet metal products
E4	CORE	Form material using notching, punching shearing machine
E4	CORE	Form material using slip roll
E4	CORE	Install sheet metal products
E4	CORE	Layout sheet metal products
E4	CORE	Manufacture equipment templates
E4	CORE	Manufacture metal and non-metal deck plates
E4	CORE	Perform carbon-arc cutting
E4	CORE	Perform shop mathematics
E4	CORE	Replace equipment flanges
E4	CORE	Set up carbon-arc cutting
E4	CORE	Tap material
E4	CORE	Thread material
E4	CORE	Verify piping fitups
E4	CORE	Verify structural metal fitups

OXYACYTELENE OPERATIONS

Paygrade	Task Type	Task Statements
E4	CORE	Clean braze joints
E4	CORE	Inspect compressed gas cylinders for proper storage
E4	CORE	Perform oxyacytelene brazing operations
E4	CORE	Perform oxyacytelene cutting operations
E4	CORE	Perform oxyacytelene welding operations
E4	CORE	Set up brazing equipment
E4	CORE	Set up oxyacytelene cutting equipment

PLUMBING AND PIPING SYSTEMS REPAIR

Paygrade	Task Type	Task Statements
E4	CORE	Bend metal piping
E4	CORE	Clear clogged piping
E4	CORE	Fabricate blank flanges
E4	CORE	Fabricate sealing gaskets
E4	CORE	Fabricate templates to aid in the repair and replacement of piping
E4	CORE	Identify piping systems material and fittings by markings
E4	CORE	Install Mechanical Attached Fittings (MAF)
E4	CORE	Install metal and non-metal sinks
E4	CORE	Layout metal flanges
E4	CORE	Manufacture gauge lines
E4	CORE	Repair piping system components
E4	CORE	Repair showers, faucets, and flushometers
E4	CORE	Replace flexible hoses and connections
E4	CORE	Replace piping system components
E4	CORE	Replace valve components
E4	CORE	Target piping systems

SEWAGE SYSTEMS MAINTENANCE AND REPAIR

Paygrade	Task Type	Task Statements
E4	CORE	Align Collection Holding and Transfer (CHT)/Vacuum Collection Holding and Transfer (VCHT) system for at-sea mode
E4	CORE	Align Collection Holding and Transfer (CHT)/Vacuum Collection Holding and Transfer (VCHT) system for in-port mode

SEWAGE SYSTEMS MAINTENANCE AND REPAIR (CONT'D)

Paygrade	Task Type	Task Statements
E4	CORE	Align Collection Holding and Transfer (CHT)/Vacuum Collection Holding and Transfer (VCHT) system for transit mode
E4	CORE	Clean sewage contaminated compartments
E4	CORE	Conduct sewage spill containment
E4	CORE	Disinfect sewage contaminated compartments
E4	CORE	Doff Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Don Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Maintain sewage spill lockers
E4	CORE	Replace commodes and urinals
E4	CORE	Set up Supplied-Air Respirator (SAR)

TECHNICAL ADMINISTRATION

Paygrade	Task Type	Task Statements
E4	NON-CORE	Document information on Quality Assurance (QA) forms
E4	CORE	Interpret technical drawings and blueprints
E4	NON-CORE	Prepare Quality Assurance (QA) forms
E5	NON-CORE	Review Quality Assurance (QA) forms

TESTS AND INSPECTIONS

Paygrade	Task Type	Task Statements
E5	NON-CORE	Conduct non-destructive visual liquid penetrate tests
E4	CORE	Identify metals
E4	CORE	Take precision feeler gauge clearance readings
E4	CORE	Take precision micrometer measurement readings

WELDING OPERATIONS

Paygrade	Task Type	Task Statements
E4	CORE	Clean welds
E4	CORE	Interpret welding symbols and standards from drawings and specifications
E4	CORE	Perform Gas Metal Arc Welding (GMAW) for ferrous and non-ferrous metals in all positions
E4	CORE	Perform Gas Tungsten Arc Welding (GTAW) for ferrous and non-ferrous metals in all positions
E4	CORE	Perform Shielded Metal Arc Welding (SMAW) for ferrous and non-ferrous metals in all positions
E4	CORE	Prepare surfaces for welding
E4	CORE	Set up welding equipment for Gas Metal Arc Welding (GMAW)
E4	CORE	Set up welding equipment for Gas Tungsten Arc Welding (GTAW)
E4	CORE	Set up welding equipment for Shielded Metal Arc Welding (SMAW)
E4	CORE	Set up welding equipment for stud welder

Job Title
HULL SYSTEMS TECHNICIAN

Job Code
003556

Job Family	NOC	Short Title (30 Characters)	Short Title (14 Characters)
Production	TBD	HULL SYSTEMS TECHNICIAN	HULL SYS TECH

Pay Plan	Career Field	Other Relationships and Rules
ENLISTED	HT	NEC Uxxx series or other NECs as assigned

Job Description
Hull Systems Technicians perform the work necessary to keep shipboard structures and surfaces in good condition; maintain and operate shipboard plumbing systems, marine sanitation systems, and ballast control systems, and manage the Quality Assurance Program; fabricate structures from light and heavy gauge metal such as aluminum, stainless steel, copper, brass, steel, and corrugated iron; inspect and test various shipboard structures and systems using radiological, ultrasonic, magnetic particle, and liquid penetrant testing equipment; conduct repairs to marine sanitation systems, decks, structures, and hulls by welding, brazing, and riveting; install, maintain, and repair valves, piping and plumbing system fittings and fixtures; perform pipe cutting, bending, threading and assembly, repair ventilation ducting, and install and repair insulation and lagging; and repair metal, wood, and fiberglass boats. Technicians are expected to work independently and mentor Hull Systems Maintainer(s) with very limited supervision.

DoD Relationship

Group Title	*DoD Code*
Other Craftsworkers, N.E.C., General	179000

O*NET Relationship

Occupation Title	*SOC Code*	*Job Family*
Inspectors, Testers, Sorters, Samplers, and Weighers	51-9061.00	Production

Skills	Abilities
Equipment Selection	*Information Ordering*
Quality Control Analysis	*Arm-Hand Steadiness*
Operation and Control	*Manual Dexterity*
Monitoring	*Deductive Reasoning*
Management of Material Resources	*Memorization*
Reading Comprehension	*Control Precision*
Coordination	*Problem Sensitivity*
Equipment Maintenance	*Finger Dexterity*
Systems Evaluation	*Written Comprehension*
Writing	*Extent Flexibility*

GENERAL SHOP OPERATIONS

Paygrade	Task Type	Task Statements
E4	CORE	Bend material using hossfeld bending machine
E4	CORE	Don proper personal protective equipment (PPE) (e.g., cutting, welding, and oxyacytelene operations)
E4	NON-CORE	Identify tools calibration requirements
E4	NON-CORE	Identify tools requiring calibration
E4	CORE	Maintain hand tools
E7	CORE	Manage cutting, welding, and oxyacytelene operations
E4	CORE	Replace saw blades, belts, bits, and disks
E4	CORE	Set up ventilation equipment
E6	CORE	Supervise cutting, welding, and oxyacytelene operations
E4	CORE	Verify proper ventilation

METAL LAYOUT, FABRICATION, AND INSTALLATION

Paygrade	Task Type	Task Statements
E4	CORE	Conduct metal repairs
E4	CORE	Cut ferrous and non-ferrous metals
E5	CORE	Form materials using pull max
E4	CORE	Manufacture equipment templates
E4	CORE	Manufacture metal and non-metal deck plates
E5	CORE	Manufacture metal cofferdams
E4	CORE	Perform carbon-arc cutting
E4	CORE	Perform shop mathematics
E4	CORE	Set up carbon-arc cutting
E4	CORE	Verify piping fitups
E4	CORE	Verify structural metal fitups

OXYACYTELENE OPERATIONS

Paygrade	Task Type	Task Statements
E4	CORE	Clean braze joints
E4	CORE	Inspect compressed gas cylinders for proper storage
E4	CORE	Perform oxyacytelene brazing operations
E4	CORE	Perform oxyacytelene cutting operations
E4	CORE	Perform oxyacytelene welding operations
E4	CORE	Set up brazing equipment
E4	CORE	Set up oxyacytelene cutting equipment
E5	CORE	Stress relieve metal

PLUMBING AND PIPING SYSTEMS REPAIR

Paygrade	Task Type	Task Statements
E4	CORE	Fabricate templates to aid in the repair and replacement of piping
E4	CORE	Identify piping systems material and fittings by markings
E4	CORE	Inspect piping systems, tubing, and components
E4	CORE	Interpret piping diagrams
E4	CORE	Layout metal flanges
E4	CORE	Manufacture gauge lines
E4	CORE	Repair piping system components
E4	CORE	Replace flexible hoses and connections
E4	CORE	Replace piping system components
E5	CORE	Test repaired piping systems, tubing, and components

SEWAGE SYSTEMS MAINTENANCE AND REPAIR

Paygrade	Task Type	Task Statements
E4	CORE	Align Collection Holding and Transfer (CHT)/Vacuum Collection Holding and Transfer (VCHT) system for at-sea mode
E4	CORE	Align Collection Holding and Transfer (CHT)/Vacuum Collection Holding and Transfer (VCHT) system for in-port mode
E4	CORE	Align Collection Holding and Transfer (CHT)/Vacuum Collection Holding and Transfer (VCHT) system for transit mode
E4	CORE	Clean sewage contaminated compartments
E4	CORE	Conduct sewage spill containment
E5	CORE	Coordinate Collection Holding and Transfer (CHT) disposal evolutions
E6	CORE	Coordinate sewage spill containment and clean up
E4	CORE	Disinfect sewage contaminated compartments
E4	CORE	Doff Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Don Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E5	CORE	Monitor Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Set up Supplied-Air Respirator (SAR)
E7	CORE	Supervise personnel safety and rescue control procedures

TECHNICAL ADMINISTRATION

Paygrade	Task Type	Task Statements
E4	CORE	Approve Engineering Operational Sequencing System (EOSS) manual update
E4	NON-CORE	Document information on Quality Assurance (QA) forms
E4	CORE	Interpret technical drawings and blueprints
E5	CORE	Manage trouble call database
E4	NON-CORE	Prepare Quality Assurance (QA) forms
E5	NON-CORE	Recertify a space safe for entry
E5	NON-CORE	Review Quality Assurance (QA) forms
E6	NON-CORE	Review Quality Assurance (QA) packages
E4	NON-CORE	Update calibration records

TECHNICAL ADMINISTRATION (CONT'D)

Paygrade	Task Type	Task Statements
E5	CORE	Validate Engineering Operational Sequencing System (EOSS) manuals
E6	CORE	Verify accuracy of technical publications, blueprints, and drawings
E4	NON-CORE	Verify Immediately Dangerous to Life or Health (IDLH) space safe for entry
E5	NON-CORE	Verify space safe for coldwork
E7	NON-CORE	Verify space safe for entry and re-entry
E5	NON-CORE	Verify space safe for hotwork

TESTS AND INSPECTIONS

Paygrade	Task Type	Task Statements
E5	NON-CORE	Conduct non-destructive visual liquid penetrate tests
E5	NON-CORE	Document Non-Destructive Test (NDT) results
E4	CORE	Identify metals
E4	CORE	Take precision feeler gauge clearance readings
E4	CORE	Take precision micrometer measurement readings
E5	NON-CORE	Test repairs using hydro test stand

WELDING OPERATIONS

Paygrade	Task Type	Task Statements
E4	CORE	Clean welds
E4	CORE	Perform Gas Metal Arc Welding (GMAW) for ferrous and non-ferrous metals in all positions
E4	CORE	Perform Gas Tungsten Arc Welding (GTAW) for ferrous and non-ferrous metals in all positions
E4	CORE	Perform Shielded Metal Arc Welding (SMAW) for ferrous and non-ferrous metals in all positions
E4	CORE	Set up welding equipment for Gas Metal Arc Welding (GMAW)
E4	CORE	Set up welding equipment for Gas Tungsten Arc Welding (GTAW)
E4	CORE	Set up welding equipment for Shielded Metal Arc Welding (SMAW)
E4	CORE	Set up welding equipment for stud welder