

# CHAPTER 42



## HULL MAINTENANCE TECHNICIAN (HT)

NAVPERS 18068-42D

**CH-55**

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NAVY ENLISTED OCCUPATIONAL STANDARD

FOR

HULL MAINTENANCE TECHNICIAN (HT)



SCOPE OF RATING

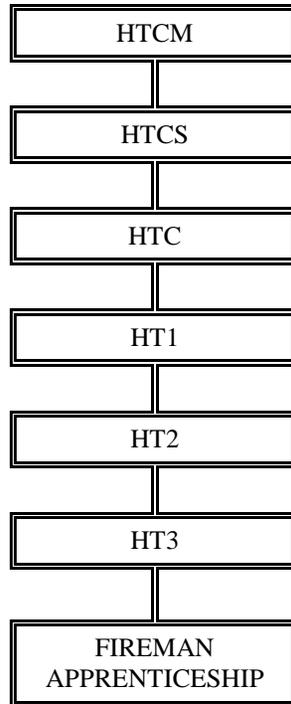
Hull Maintenance Technicians (HT) plan, supervise, and perform tasks necessary for fabrication, installation, maintenance, repair, and inspection of shipboard structures, plumbing, sewage, and piping systems; organize and supervise personnel in maintenance and hull repairs; instruct personnel; enforce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

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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**

Installation, Maintenance, and Repair

**NOC**

TBD

**Short Title (30 Characters)**

HULL SYSTEMS MAINTAINER

**Short Title (10 Characters)**

H SYS MAIN

**Pay Plan**

Enlisted

**Career Field**

HT

**Other Relationships and Rules**

Not applicable, based upon the NEC assigned to the job (if any)

**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**

Other Craftworkers N.E.C., 179000

**DoD Code**

**O\*NET Relationship**

**Occupation Title**

Maintenance and Repair Workers,  
General

**SOC Code**

49-9042.00

**Job Family**

Installation, Maintenance, and  
General Repair

**Skills**

*Equipment Selection*

*Operation and Control*

*Quality Control Analysis*

*Equipment Maintenance*

*Management of Material Resources*

*Installation*

*Reading Comprehension*

*Systems Evaluation*

*Operation Monitoring*

*Monitoring*

**Abilities**

*Control Precision*

*Information Ordering*

*Arm-Hand Steadiness*

*Memorization*

*Manual Dexterity*

*Finger Dexterity*

*Problem Sensitivity*

*Visual Color Discrimination*

*Near Vision*

*Selective Attention*

**BRAZING**

**Paygrade**

**Task Type**

**Task Statements**

E4

CORE

Inspect compressed gas cylinders for proper storage

E4

CORE

Operate portable ventilation equipment

E4

CORE

Perform oxyacetylene brazing, cutting, and welding operations

E4

CORE

Perform welding operations

E4

CORE

Set up portable ventilation equipment

E4

CORE

Set up welding equipment

E4

CORE

Visually identify oxygen and acetylene gauges

## CUTTING AND WELDING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Cut ferrous and non-ferrous metals
E4	CORE	Maintain band saw
E4	CORE	Maintain beverly shear
E4	CORE	Maintain brake press
E4	CORE	Maintain drill press
E4	CORE	Maintain notching punching shearing machine
E4	CORE	Maintain pipe threading and cutting machine
E4	CORE	Maintain plasma cutting equipment
E4	CORE	Maintain power hack saw
E4	CORE	Maintain shear
E4	CORE	Maintain sheet metal brake
E4	CORE	Maintain slip roll
E4	CORE	Maintain turret punch
E4	CORE	Operate band saw
E4	CORE	Operate beverly shear
E4	CORE	Operate brake press
E4	CORE	Operate drill press
E4	CORE	Operate notching punching shearing machine
E4	CORE	Operate pedestal grinder
E4	CORE	Operate pipe threading and cutting machine
E4	CORE	Operate plasma cutting equipment
E4	CORE	Operate power hack saw
E4	CORE	Operate shear
E4	CORE	Operate sheet metal brake
E4	CORE	Operate slip roll
E4	CORE	Operate turret punch
E4	CORE	Set up band saw
E4	CORE	Set up beverly shear
E4	CORE	Set up brake press
E4	CORE	Set up drill press
E4	CORE	Set up notching punching shearing machine
E4	CORE	Set up pipe threading and cutting machine
E4	CORE	Set up plasma cutting equipment
E4	CORE	Set up power hack saw
E4	CORE	Set up shear
E4	CORE	Set up sheet metal brake

E4	CORE	Set up slip roll
E4	CORE	Set up turret punch

#### **DAMAGE CONTROL**

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align main and secondary drainage
E4	CORE	Install emergency pipe patches
E4	CORE	Maintain main and secondary drainage
E4	CORE	Operate main and secondary drainage

#### **METAL LAYOUT, FABRICATION, AND INSTALLATION**

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Check piping fitups
E4	CORE	Check structural metal fitups
E4	CORE	Clean welds and castings
E4	CORE	Create sheet metal layout patterns
E4	CORE	Install joiner doors
E4	CORE	Layout, fabricate, and install sheet metal products
E4	CORE	Manufacture equipment templates
E4	CORE	Manufacture metal and non-metal deck plates
E4	CORE	Perform drilling, tapping, and threading operations
E4	CORE	Perform shop mathematics
E4	CORE	Prepare surfaces for welding
E4	CORE	Repair deck stanchions
E4	CORE	Repair fume tight doors
E4	CORE	Repair sheet metal bulkheads
E4	CORE	Repair small boat hulls
E5	CORE	Repair water tight doors, hatches, and scuttles
E4	CORE	Replace equipment flanges

#### **PLUMBING AND PIPING SYSTEMS REPAIR**

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Bend metal piping
E4	CORE	Clear clogged piping
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	Inspect flexible hoses and connections
E4	CORE	Install metal and non-metal sinks
E4	CORE	Layout and fabricate metal flanges and targets
E4	CORE	Manufacture gauge lines
E4	CORE	Repack system valves

E4	CORE	Repair piping system components
E4	CORE	Repair showers, faucets, and flushometers
E4	CORE	Replace deck drains
E4	CORE	Replace flexible hoses and connections
E4	CORE	Replace piping system components
E4	CORE	Replace valve components
E4	CORE	Visually identify and inspect shipboard piping systems and components

### **SEWAGE SYSTEMS MAINTENANCE AND REPAIR**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Align Collection Holding and Transfer (CHT) system for at-sea mode
E4	CORE	Align Collection Holding and Transfer (CHT) system for in-port mode
E4	CORE	Align Collection Holding and Transfer (CHT) system for transit mode
E4	CORE	Clean and disinfect sewage contaminated compartments
E4	CORE	Clean sewage pumps
E4	CORE	Conduct sewage spill containment and clean up
E4	CORE	Cycle diverter valves
E4	CORE	Don Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Don Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Maintain Collection Holding and Transfer (CHT) system risers
E4	CORE	Maintain sewage spill lockers
E4	CORE	Maintain, repair, and test sewage system piping and components
E4	CORE	Operate Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Replace commodes and urinals
E4	CORE	Set up Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Take soundings (tanks, voids, etc.)
E4	CORE	Test Collection Holding Tank (CHT) float sensors
E4	CORE	Test sewage pumps

### **TECHNICAL ADMINISTRATION**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Calculate daily draft reports
E4	CORE	Interpret technical drawings and blueprints
E4	CORE	Prepare Quality Assurance (QA) forms
E5	CORE	Review Quality Assurance (QA) forms
E4	CORE	Update Quality Assurance (QA) forms

### TESTS AND INSPECTIONS

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Conduct non-destructive visual liquid penetrate tests
E4	CORE	Conduct spark tests to identify metals
E4	CORE	Take precision feeler gauge clearance readings
E4	CORE	Take precision micrometer measurement readings
E4	CORE	Visually identify types of metal

### TOOL MAINTENANCE AND REPAIR

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Dress grinding wheels
E4	NON-CORE	Identify tools requiring calibration
E4	CORE	Maintain hand tools
E4	CORE	Replace saw blades, belts, bits, and disks

**Job Title****Hull Systems Technician****Job Code****003556****Job Family**

Production

**NOC**

TBD

**Short Title (30 Characters)**

HULL SYSTEMS TECHNICIAN

**Short Title (10 Characters)**

H SYS TEC

**Pay Plan**

Enlisted

**Career Field**

HT

**Other Relationships and Rules**

Not applicable, based upon the NEC assigned to the job (if any)

**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****O\*NET Relationship**Group TitleOther Craftworkers, N.E.C.,  
GeneralDoD Code

179000

Occupation TitleInspectors, Testers, Sorters,  
Samplers, and WeighersSOC Code

51-9061.00

Job Family

Production

**Skills***Quality Control Analysis**Equipment Selection**Operation and Control**Equipment Maintenance**Monitoring**Reading Comprehension**Systems Evaluation**Operation Monitoring**Management of Material Resources**Repairing***Abilities***Information Ordering**Control Precision**Arm-Hand Steadiness**Problem Sensitivity**Deductive Reasoning**Manual Dexterity**Written Comprehension**Memorization**Visual Color Discrimination**Near Vision***BRAZING****Paygrade****Task Type****Task Statements**

E4

CORE

Inspect compressed gas cylinders for proper storage

E4

CORE

Operate portable ventilation equipment

E4

CORE

Perform oxyacetylene brazing, cutting, and welding operations

E4

CORE

Perform welding operations

E5

CORE

Preheat and post heat base metal for welding and cutting operations

E4

CORE

Set up portable ventilation equipment

E4

CORE

Set up welding equipment

E5

CORE

Stress relieve metal

E4

CORE

Visually identify oxygen and acetylene gauges

## CUTTING AND WELDING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Cut ferrous and non-ferrous metals
E5	CORE	Maintain hossfeld bending machine
E5	NON-CORE	Maintain hydro test stand
E5	CORE	Maintain pull max
E5	CORE	Operate hossfeld bending machine
E5	NON-CORE	Operate hydro test stand
E5	CORE	Operate pull max
E5	CORE	Set up hossfeld bending machine
E5	NON-CORE	Set up hydro test stand
E5	CORE	Set up pull max

## DAMAGE CONTROL

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Align main and secondary drainage
E6	CORE	Conduct installed Damage Control (DC) equipment training
E6	CORE	Conduct portable Damage Control (DC) equipment training
E6	CORE	Conduct training on the use of protective clothing
E7	NON-CORE	Coordinate ballast and de-ballast evolutions
E7	CORE	Evaluate Damage Control (DC) training drills
E4	CORE	Install emergency pipe patches
E4	CORE	Maintain main and secondary drainage
E6	NON-CORE	Operate ballast control systems
E4	CORE	Operate main and secondary drainage

## METAL LAYOUT, FABRICATION, AND INSTALLATION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Check piping fitups
E4	CORE	Check structural metal fitups
E4	CORE	Clean welds and castings
E4	CORE	Install joiner doors
E4	CORE	Manufacture equipment templates
E4	CORE	Manufacture metal and non-metal deck plates
E5	CORE	Manufacture metal cofferdams
E4	CORE	Perform shop mathematics
E4	CORE	Repair deck stanchions
E4	CORE	Repair fume tight doors
E4	CORE	Repair sheet metal bulkheads
E5	CORE	Repair structural damage
E5	CORE	Repair water tight doors, hatches, and scuttles

## **PLUMBING AND PIPING SYSTEMS REPAIR**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
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 flexible hoses and connections
E5	CORE	Inspect piping systems, tubing, and components
E5	CORE	Interpret piping diagrams
E4	CORE	Layout and fabricate metal flanges and targets
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
E4	CORE	Visually identify and inspect shipboard piping systems and components

## **SEWAGE SYSTEMS MAINTENANCE AND REPAIR**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	CORE	Align Collection Holding and Transfer (CHT) system for at-sea mode
E4	CORE	Align Collection Holding and Transfer (CHT) system for in-port mode
E4	CORE	Align Collection Holding and Transfer (CHT) system for transit mode
E4	CORE	Clean and disinfect sewage contaminated compartments
E4	CORE	Clean sewage pumps
E6	CORE	Conduct casualty control team training
E4	CORE	Conduct sewage spill containment and clean up
E7	CORE	Coordinate Collection Holding and Transfer (CHT) disposal evolutions
E6	CORE	Coordinate sewage spill containment and clean up
E4	CORE	Doff Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Don Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E7	CORE	Implement and supervise personnel safety and rescue control procedures
E6	CORE	Maintain Gas Free Engineering (GFE) equipment
E4	CORE	Maintain, repair, and test sewage system piping and components
E5	CORE	Monitor Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E6	CORE	Operate Gas Free Engineering (GFE) equipment
E4	CORE	Operate Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E6	CORE	Set up and calibrate Gas Free Engineering (GFE) equipment
E4	CORE	Set up Supplied-Air Respirator/Self-Contained Breathing Apparatus (SAR/SCBA)
E4	CORE	Take soundings (tanks, voids, etc.)

E4 CORE Test sewage pumps

**TECHNICAL ADMINISTRATION**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E7	CORE	Approve Quality Assurance (QA) forms
E4	CORE	Calculate daily draft reports
E5	CORE	Certify a space safe for coldwork
E7	CORE	Certify a space safe for entry and re-entry
E5	CORE	Certify a space safe for hotwork
E7	CORE	Certify Immediately Dangerous to Life or Health (IDLH) space safe for entry
E4	CORE	Interpret technical drawings and blueprints
E7	CORE	Manage trouble call database
E4	CORE	Prepare Quality Assurance (QA) forms
E5	CORE	Recertify a space safe for entry
E5	CORE	Review Quality Assurance (QA) forms
E5	CORE	Update calibration records
E4	CORE	Update Quality Assurance (QA) forms
E7	CORE	Validate Engineering Operational Sequencing System (EOSS) manuals
E7	CORE	Verify accuracy of technical publications, blueprints, and drawings

**TESTS AND INSPECTIONS**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E5	CORE	Conduct non-destructive visual liquid penetrate tests
E4	CORE	Conduct spark tests to identify metals
E5	CORE	Document Non-Destructive Test (NDT) results
E6	CORE	Inspect tanks and voids
E4	CORE	Take precision feeler gauge clearance readings
E4	CORE	Take precision micrometer measurement readings
E4	CORE	Visually identify types of metal

**TOOL MAINTENANCE AND REPAIR**

<b><u>Paygrade</u></b>	<b><u>Task Type</u></b>	<b><u>Task Statements</u></b>
E4	NON-CORE	Identify tools calibration requirements
E4	NON-CORE	Identify tools requiring calibration
E4	CORE	Maintain hand tools
E4	CORE	Replace saw blades, belts, bits, and disks