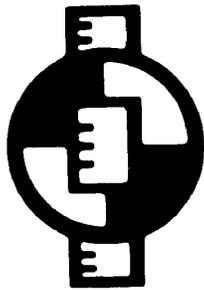


CHAPTER 28



ENGINEERING AIDE (EA)

NAVPERS 18068-28F
CH-77

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ENGINEERING AIDE (EA)

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NAVY ENLISTED OCCUPATIONAL STANDARD

FOR

ENGINEERING AIDE (EA)



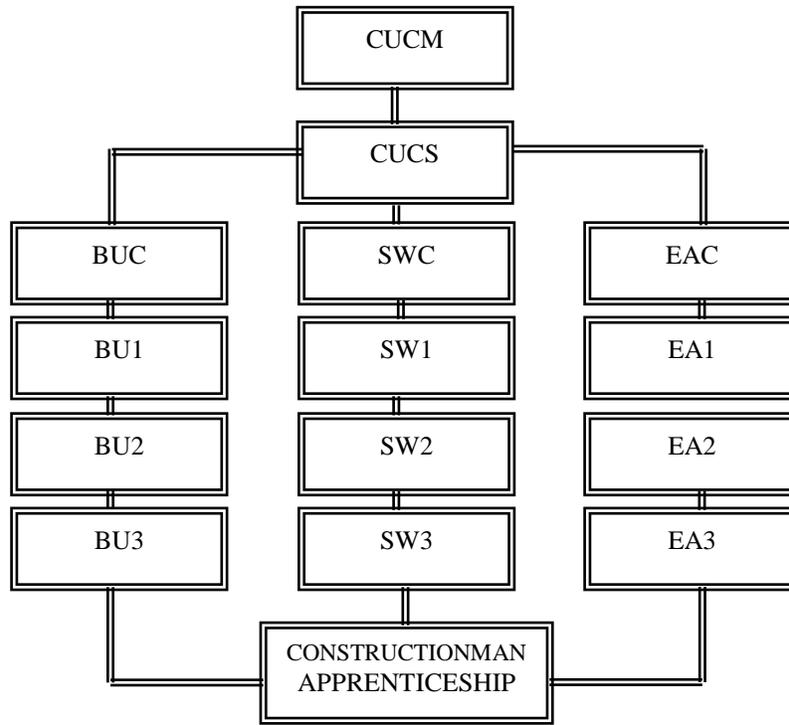
SCOPE OF RATING

Engineering Aides (EA) plan, supervise, and perform tasks required in surveying, drafting, materials testing, and construction management; establish control survey points, run and close traverses, run level circuits, create topographic maps, stake out construction projects, employing conventional and Global Navigation Survey Systems (GNSS) surveying systems; prepare, edit, and reproduce construction drawings; establish and operate systems for testing soils, concrete and other construction materials, design aggregate mixes for soil-cement, concrete, and bituminous applications; prepare timekeeping records, construction schedules, planning and estimating, quality control, and progress reports; provide facilities support; maintain individual combat readiness; and perform tasks required in combat, Defense Support of Civil Authorities (DSCA), and Humanitarian Assistance/Disaster Recovery (HA/DR) operations.

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) as Chapter 28.

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**Engineering Aide****Job Code****001160****Job Family**

Architecture and Engineering

NOC

TBD

Short Title (30 Characters)

ENGINEERING AIDE

Short Title (14 Characters)

ENGINEER AIDE

Pay Plan

Enlisted

Career Field

EA

Other Relationships and Rules

NEC BXXX series, 717B, 718B, 804G, 833A and other NECs as assigned.

Job Description

Engineering Aides plan, supervise, and perform tasks required in surveying, drafting, materials testing, and construction management; establish control survey points, run and close traverses, run level circuits, create topographic maps, stake out construction projects, employing conventional and Global Navigation Survey Systems (GNSS) surveying systems; prepare, edit, and reproduce construction drawings; establish and operate systems for testing soils, concrete and other construction materials, design aggregate mixes for soil-cement, concrete, and bituminous applications; and prepare timekeeping records, construction schedules and planning and estimating, and quality control and progress reports. As project managers they plan, staff, direct, and control multiple construction projects to include problem solving, planning, estimating, scheduling, cost control, and personnel management ensuring compliance with specifications, code requirements, plans, and contracts; and act as project supervisors and trainers for junior personnel.

DoD Relationship*Group Title*

Construction, General

DoD Code

171000

O*NET Relationship*Occupation Title*

Civil Engineering Technicians

SOC Code

17-3022.00

Job Family

Architecture and Engineering

Skills*Critical Thinking**Mathematics**Management of Personnel Resources**Complex Problem Solving**Judgment and Decision Making**Reading Comprehension**Equipment Maintenance**Quality Control Analysis**Management of Material Resources**Monitoring***Abilities***Information Ordering**Deductive Reasoning**Problem Sensitivity**Oral Expression**Inductive Reasoning**Visualization**Mathematical Reasoning**Written Comprehension**Spatial Orientation**Time Sharing***CONSTRUCTION DESIGN****Paygrade****Task Type****Task Statements**

E4

CORE

Develop architectural designs

E4

CORE

Develop civil engineering designs

E4

CORE

Develop electrical component designs

E4

CORE

Develop heavy construction designs

E4

CORE

Develop mechanical component designs

E4

CORE

Develop structural members designs

CONSTRUCTION MANAGEMENT**Paygrade****Task Type****Task Statements**

E6

NON-CORE

Conduct three-phase quality control inspections

E5

CORE

Develop construction activities

E5

CORE

Develop construction environmental protection plans

E4

CORE

Develop construction estimates

E5

CORE

Develop construction project packages

E4

CORE

Develop construction project sketches and diagrams

E5

CORE

Develop construction safety plans

CONSTRUCTION MANAGEMENT (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Develop master activities
E5	CORE	Develop project three-phase quality control plans
E6	CORE	Establish construction site layouts
E5	CORE	Input project data into construction management software and tools
E5	CORE	Inspect construction materials
E5	CORE	Interpret construction project drawings and specifications
E4	CORE	Inventory project tools and materials
E5	CORE	Lead construction project crew
E6	NON-CORE	Monitor construction project contracts
E7	CORE	Manage construction project resources
E7	CORE	Manage construction project(s)
E7	CORE	Manage construction safety plans
E7	CORE	Manage job site construction operations (e.g., quality control and safety plan implementation, job site information board, level III chart, etc.)
E7	CORE	Manage project quality control plan(s)
E7	CORE	Manage three-phase quality control process
E6	CORE	Supervise construction project crew(s)
E5	CORE	Supervise construction project safety operations
E6	CORE	Supervise environmental protection plans
E6	CORE	Supervise planning and estimating operations
E6	CORE	Supervise project three-phase quality control process
E5	CORE	Turnover construction project
E6	CORE	Validate construction project packages
E5	NON-CORE	Validate project surveys and elevation data

DRAFTING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Analyze construction drawings
E4	CORE	Develop construction plans using Computer-Aided Design (CAD) software
E4	CORE	Draft architectural drawings
E4	CORE	Draft civil drawings
E4	CORE	Draft electrical drawings
E4	CORE	Draft heavy construction drawings
E4	CORE	Draft mechanical drawings
E4	CORE	Draft structural drawings
E4	CORE	Produce construction drawings
E5	CORE	Supervise drafting operations
E6	CORE	Validate construction drawings

ENGINEERING TECHNICAL SUPPORT

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Calculate engineering and construction design requirements
E6	NON-CORE	Conduct building inspections
E6	NON-CORE	Consolidate construction project specifications
E5	CORE	Consolidate unit operational reports
E4	CORE	Maintain engineering technical libraries
E4	CORE	Maintain engineering tool kits
E4	CORE	Maintain technical plan files and records
E7	CORE	Manage engineering support operations
E6	CORE	Supervise engineering support operations

FACILITIES SUPPORT

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E6	NON-CORE	Administer facilities maintenance contracts
E5	NON-CORE	Administer facilities maintenance programs
E4	CORE	Coordinate facilities maintenance program requests
E7	NON-CORE	Manage facilities contract administration programs
E7	NON-CORE	Manage facilities maintenance programs

MATERIALS TESTING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Compute bituminous mix design proportions
E4	CORE	Compute concrete mix design proportions
E4	CORE	Compute soil-cement mix design proportions
E5	CORE	Develop materials testing reports
E6	NON-CORE	Supervise batch plant operations
E5	NON-CORE	Supervise batch plant quality control requirements
E6	CORE	Supervise materials testing operations
E4	CORE	Test asphalt materials
E4	CORE	Test concrete materials
E4	CORE	Test soil materials
E6	CORE	Validate material testing reports

SEABEE COMMON CORE

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Apply combat life saving techniques
E5	NON-CORE	Assess airfield damage
E6	NON-CORE	Assist Maritime Prepositioning Force (MPF) operations
E4	NON-CORE	Conduct convoy security operations
E4	NON-CORE	Conduct crew-served weapons operational checks
E4	CORE	Conduct field communications equipment operational checks

SEABEE COMMON CORE (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E7	NON-CORE	Conduct Humanitarian Assistance and Disaster Relief (HADR)
E4	CORE	Conduct personal protection and decontamination (DECON) procedures
E4	CORE	Conduct small arms operational checks
E4	CORE	Employ Advance Base Functional Component (ABFC) systems
E4	NON-CORE	Employ crew-served weapons
E4	CORE	Employ field communications equipment
E4	CORE	Employ grenades, mines, and pyrotechnics
E4	CORE	Employ land survival techniques
E4	CORE	Employ small arms
E4	CORE	Maintain Personal Gear Issue (PGI)
E4	NON-CORE	Palletize cargo and equipment
E4	CORE	Patrol assigned areas
E5	NON-CORE	Perform arrival and departure airfield control group (AACG&DACG) procedures
E4	NON-CORE	Perform Chemical, Biological, Radiological, and Nuclear Defense (CBRND) reconnaissance (i.e., surveying, monitoring, and marking)
E7	CORE	Perform command and control of a company
E4	CORE	Perform command and control of a fire team
E6	CORE	Perform command and control of a platoon
E5	CORE	Perform command and control of a squad
E4	NON-CORE	Perform detailed troop and equipment decontamination (DECON)
E5	NON-CORE	Plan Advance Base Functional Component (ABFC) systems setup
E5	NON-CORE	Plan Airfield Damage Repair (ADR)
E5	NON-CORE	Plan convoy operations
E7	NON-CORE	Plan convoy security operations
E5	NON-CORE	Plan load for embarkation
E6	NON-CORE	Plan unit embarkation
E4	CORE	Prepare cargo and equipment for transport (e.g., weight, balance, and marking)
E4	NON-CORE	Prepare hazardous materials (HAZMAT) for transport
E4	NON-CORE	Repair damaged airfields
E4	CORE	Set tactical defenses
E6	NON-CORE	Supervise Advance Base Functional Component (ABFC) setup
E7	NON-CORE	Supervise Airfield Damage Repair (ADR) operations
E7	NON-CORE	Supervise Chemical, Biological, Radiological, and Nuclear Defense (CBRND) operations
E6	NON-CORE	Supervise convoy operations
E6	NON-CORE	Supervise convoy security operations
E7	NON-CORE	Supervise embarkation and debarkation operations
E4	CORE	Transport troops and equipment (e.g., convoy)

SURVEYING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Conduct construction surveys
E5	CORE	Conduct engineering surveys
E4	CORE	Conduct Global Navigation Survey System (GNSS) surveys
E4	NON-CORE	Develop survey designs using Geographic Information Systems (GIS) software
E5	CORE	Interpret survey data
E4	CORE	Process survey data
E5	CORE	Supervise surveying operations
E6	CORE	Validate survey data

UNDERWATER CONSTRUCTION

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	NON-CORE	Conduct corrective maintenance on certified Diver's Life Support Systems (DLSS)
E5	NON-CORE	Conduct corrective maintenance on Self-Contained Underwater Breathing Apparatus (SCUBA) diving equipment
E5	NON-CORE	Conduct corrective maintenance on Surface Supplied Diving (SSD) equipment
E5	NON-CORE	Conduct corrective maintenance on underwater construction equipment and tools
E5	NON-CORE	Conduct maritime defensive operations
E5	NON-CORE	Conduct oceanographic surveys
E5	NON-CORE	Conduct preventive maintenance on cable systems
E5	NON-CORE	Conduct preventive maintenance on certified Diver's Life Support Systems (DLSS)
E5	NON-CORE	Conduct preventive maintenance on fleet moorings
E5	NON-CORE	Conduct preventive maintenance on pipelines
E5	NON-CORE	Conduct preventive maintenance on Self-Contained Underwater Breathing Apparatus (SCUBA) diving equipment
E5	NON-CORE	Conduct preventive maintenance on Surface Supplied Diving (SSD) equipment
E5	NON-CORE	Conduct preventive maintenance on underwater construction equipment and tools
E5	NON-CORE	Conduct preventive maintenance on waterfront facilities
E5	NON-CORE	Conduct terrestrial construction demolition using explosives
E5	NON-CORE	Conduct underwater construction demolition using explosives
E5	NON-CORE	Conduct underwater search and recovery operations
E5	NON-CORE	Construct cable systems
E5	NON-CORE	Construct fleet moorings
E5	NON-CORE	Construct pipelines
E5	NON-CORE	Construct waterfront facilities
E5	NON-CORE	Deploy underwater vehicles (e.g., Remotely Operated Vehicle (ROV) / Autonomous Underwater Vehicle (AUV) / Unmanned Underwater Vehicle (UUV))
E5	NON-CORE	Inspect cable systems
E5	NON-CORE	Inspect fleet moorings
E5	NON-CORE	Inspect pipelines

UNDERWATER CONSTRUCTION (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	NON-CORE	Inspect waterfront facilities
E7	NON-CORE	Manage diving emergency incidents
E7	NON-CORE	Manage diving equipment maintenance and certification (e.g., SCUBA, SSD, DLSS)
E7	NON-CORE	Manage light salvage operations
E7	NON-CORE	Manage Ocean Facilities inspection
E7	NON-CORE	Manage Ocean Facilities maintenance
E7	NON-CORE	Manage oceanographic survey teams
E7	NON-CORE	Manage Offshore Petroleum Distribution System (OPDS) operations
E7	NON-CORE	Manage terrestrial explosive construction demolition operations
E7	NON-CORE	Manage underwater construction equipment and tools maintenance
E7	NON-CORE	Manage underwater construction projects
E7	NON-CORE	Manage underwater explosive construction demolition operations
E7	NON-CORE	Manage underwater search and recovery operations
E7	NON-CORE	Manage watercraft program
E5	NON-CORE	Perform diving emergency procedures
E5	NON-CORE	Perform light salvage operations
E5	NON-CORE	Perform Offshore Petroleum Distribution System (OPDS) operations
E6	NON-CORE	Plan terrestrial explosive construction demolition
E6	NON-CORE	Plan underwater explosive construction demolition
E5	NON-CORE	Provide diving assistance during Maritime Prepositioning Force (MPF) operations
E5	NON-CORE	Repair cable systems
E5	NON-CORE	Repair fleet moorings
E5	NON-CORE	Repair pipelines
E5	NON-CORE	Repair waterfront facilities
E6	NON-CORE	Supervise construction of fleet moorings, waterfront facilities, pipelines, and cable systems
E6	NON-CORE	Supervise diving emergency incidents
E6	NON-CORE	Supervise diving equipment maintenance and certification (e.g., SCUBA, SSD, DLSS)
E6	NON-CORE	Supervise hyperbaric treatments
E6	NON-CORE	Supervise inspection of fleet moorings, waterfront facilities, pipelines, and cable systems
E6	NON-CORE	Supervise light salvage operations
E6	NON-CORE	Supervise oceanographic survey team
E6	NON-CORE	Supervise Offshore Petroleum Distribution System (OPDS) operations
E6	NON-CORE	Supervise preventive maintenance of fleet moorings, waterfront facilities, pipelines, and cable systems
E6	NON-CORE	Supervise repairs of fleet moorings, waterfront facilities, pipelines, and cable systems
E6	NON-CORE	Supervise terrestrial explosive construction demolition operations
E6	NON-CORE	Supervise underwater construction equipment and tools maintenance

UNDERWATER CONSTRUCTION (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E6	NON-CORE	Supervise underwater explosive construction demolition operations
E6	NON-CORE	Supervise underwater search and recovery operations
E6	NON-CORE	Supervise watercraft crew during operations
E5	NON-CORE	Transport divers, personnel, and equipment using watercraft