

OPTICAL-INSTRUMENT ASSEMBLER (OPTICAL GOODS)

RAPIDS: 0250N

O*NET/SOC: 51-9083.00

REVISION DATE: 09/2019

TRADE DESCRIPTION: Performs mechanical, mechanical- optical and electrical repairs to include inspecting, troubleshooting and adjusting fire control instruments and systems. Measures and tests optics, using precision measuring and testing instruments. Tests and sights instruments to verify compliance to specifications.

TASK PERFORMANCE: Demonstrate knowledge and skills for qualifying as Journeyman. Applicable Job Qualification Requirements will be used as a guide in performing tasks and demonstrating knowledge in the following skill areas. Actual work time must be recorded in the Work Experience Log; each skill area must be completed.

Applicable Ratings/MOS/NEC

USMC MOS: 2171

USCG: None

USN: 754B, AT, AWV, FC, I20A, I34A, IC, V21A, V81B

USA MOS: None

Related Instruction:

Trade related On-The-Job-Training (OJT) or Any trade related schools/courses totaling 288 or more hours.

Additional Requirement:

AT / AWV: Must have NEC 6631, I20A or 6724, I34A; FC Must have NEC 1139, V21A; IC Must have NEC 4779, 754B or 4787, V81B

Total Hours: **4000**

Skill	Description	Hours
A	GENERAL ADMINISTRATION	200

	-- Maintain publications records and reports.	
B	TECHNICAL ADMINISTRATION -- Record inspection and test data. -- Demonstrate ability to read blueprints, sketches, and work orders. -- Demonstrate ability to use formulas to compute distances.	200
C	LOGISTICS -- Order supplies and equipment. -- Package, process and document repairables for turn in.	100
D	MECHANICAL MAINTENANCE -- Maintain tools. -- Perform fault analysis and continuity checks. -- Inspect and replace faulty components of night vision sights. -- Perform re-cementing of lenses. -- Determine optical center of instrument lens and verify speed focusing power by sighting instrument on target and reading dials. -- Using precision measuring instruments, measure elements and instrument parts to verify dimensional specifications. -- Test oscilloscope and collimator with optical instrument. -- Assemble structural and mechanical parts of instrument with aid of blueprints, wrenches and screwdrivers. -- Using vacuum holding device, pick up element and position in mounting seat of housing. -- Secure with lock ring. -- Cement rings. -- Using tissue, cleaning solutions and compresses, air device and clean elements. -- Assemble telescopes, level transits and gun sights. -- Set up and operate lathes to modify instrument parts.	2500
E	CORROSION CONTROL -- Paint instrument parts with brush or spray gun. -- Using vacuum pump, fill instrument housing with nitrogen gas to minimize corrosive effects on internal optical surfaces.	500

F	INSPECTION AND EXAMINATION -- Compute standard trigonometric formulas to determine distance of test target from instrument. -- Position target in darkroom tunnel and connect optical instrument to test devices such as; oscilloscope or collimator. -- Sight instrument on target and read dial to determine optical center of instrument lens and verify specified focusing power. -- Record inspection and test data.	500
----------	--	------------