NAVSEA
STANDARD ITEM

FY-22

ITEM NO: 009-16
DATE: 01 OCT 2018
CATEGORY: II

1. SCOPE:

1.1 Title: Electronic Equipment; repair

2. REFERENCES:

2.1 Equipment Technical Manual

2.2 407-5291780, Standard Electromagnetic Interferences (EMI) Survey Procedures

2.3 SE000-01-IMB-010, Navy Installation and Maintenance Book (NIMB), Section VI, Electronics Installation and Maintenance Book - General Maintenance (Source CD: N0002400003)

2.4 SE000-01-IMB-010, Navy Installation and Maintenance Book (NIMB), Section IX, Installation Standards (Source CD: N0002400003)

2.5 S9300-A6-GYD-010, Electrical Workmanship Inspection Guide for Surface Ships and Submarines

2.6 IA PUB-5239-31, Information Assurance Shipboard Red/Black Installation Publication

2.7 NSTISSAM TEMPEST/2-95, Red/Black Installation Guidance (FOUO)

2.8 MIL-STD-1310, Shipboard Bonding, Grounding, and Other Techniques for Electromagnetic Compatibility, Electromagnetic Pulse (EMP) Mitigation, and Safety

3. REQUIREMENTS:

3.1 Disassemble equipment for cleaning, inspection, and repair, using 2.1 for guidance. Record and retain electrical hook-up data.

3.1.1 Accomplish visual inspection of components prior to cleaning to detect evidence of casualties and deteriorating conditions that may not be apparent after cleaning.

3.1.2 Clean equipment and remove foreign matter.

3.1.3 Dry equipment, removing moisture and cleaning solvents.

3.1.4 Inspect equipment for applicable electromagnetic interference (EMI) fixes using Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP) Technical Assist Network (STAN) in accordance with 2.2. Record results.

3.2 Inspect and test electrical and mechanical components, assemblies, subassemblies, equipment enclosures, internal circuitry, and enclosure hardware to design characteristics and determine missing and defective components, circuitry, and enclosure hardware in accordance with 2.1. Record results.

3.2.1 Remove existing and install new electrical and mechanical components, assemblies, subassemblies, internal circuitry, and enclosure hardware in place of those identified to be defective; install new where missing. New material must conform to the requirements of 2.1.

3.2.1.1 Accomplish soldering, desoldering, and removal of components and circuitry in accordance with Section 4 of 2.3.

3.2.1.2 Accomplish miniature and microminiature repair of printed circuit boards in accordance with Sections 5 and 6 of 2.3.

3.2.1.3 Ensure new wiring conforms to MIL-DTL-16878. Wire size and color code must be in accordance with 2.1. Individual wires in harnesses and chassis wiring may be plain white conductors with conductor identification sleeving at each end, stenciled with indelible ink to indicate color coding.

3.3 Inspect braided wire shielding terminations for conformance to Paragraph 2-19.3 of 2.4.

3.3.1 Remove existing and install new grounding sheath connectors in place of those identified to be defective; install new where missing. Installation must be in accordance with Paragraph 2-14 of 2.4.

3.4 Inspect terminal board wire connections for termination with lugs conforming to SAE-AS7928 of each conductor at the terminal board connections.

3.4.1 Remove existing and install new lugs in place of those identified to be defective, using 2.5 for accept or reject criteria; install new where missing. New lugs must conform to SAE-AS7928.

3.5 Inspect for missing and defective conductor identification sleeving.

3.5.1 Remove existing and install new conductor identification sleeving in place of those identified to be defective, using 2.5 for accept or reject criteria; install new where missing.

New conductor identification sleeving must conform to SAE-AMS-DTL-23053, Class One, white, marked with indelible ink.

3.5.1.1 Mark conductor identification sleeving in accordance with 2.1.

3.6 Correct discrepancies identified in terminal board connections in accordance with 2.1 and as modified by applicable field changes identified on the field change accomplished plate.

3.7 Inspect existing cabling and cable harnesses between hinged parts and between chassis and parts which are subject to removal for slack to prevent breaking of individual wires by repeated flexing and for chafing protection.

3.7.1 Provide slack in accordance with Paragraph 2-15 of 2.4 to prevent breaking of individual wires.

3.7.2 Install new chafing protection in accordance with Paragraph 2-15 of 2.4.

3.8 Secure loose wiring harness clamps. Remove existing and install new plastic clamps where identified to be defective; install new where missing. Installation must be in accordance with Paragraph 2-15.3 of 2.4.

3.9 Submit one legible copy, in approved transferrable media, of a report listing inspection and test results of 3.1 and 3.2, to include the applicable EMI fixes not installed and EMI fixes that have been improperly installed, a list of discrepancies corrected, and a list of new components and wiring installed, to the SUPERVISOR.

3.10 Tie loose harness lacing in accordance with Paragraph 2-15.2 of 2.4.

3.11 Adjust relays and burnish contacts in exposed type relays and switches.

3.12 Remove high spots on pinion and gear teeth by stoning.

3.13 Adjust and align mechanical components in accordance with 2.1.

3.14 Assemble equipment, using 2.1 for guidance.

3.14.1 Tighten loose controls and hardware. Free-up binding in moving parts, controls, switches, chassis slides, and runners.

3.14.2 Lubricate equipment in accordance with 2.1.

3.14.3 Install heat-dissipating tube shields conforming to MIL-DTL-24251.

3.15 Bond and ground equipment in accordance with 2.6 through 2.8.

(V)(G) “OPERATIONAL TEST”

3.16 Energize the equipment; calibrate, adjust, and align to achieve optimum operational characteristics in accordance with 2.1.

3.17 Update field change accomplished plate to indicate completed field changes when the Work Item directs the installation of new field changes.

4. NOTES:

4.1 Equipment technical manual will be listed in the invoking Work Item.

4.2 Shipboard Electromagnetic Compatibility Improvement Program (SEMCIP) Technical Assist Network (STAN) referred to in 3.1.4 is available at https://semcip.nswc.navy.mil/stan/modules/stan/default.asp .