



Joint Service Wiring Action Group (JSWAG)

January 2026

Aircraft Wiring Support Equipment Commodity (AWSEC)



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Aircraft Wiring Support Equipment Commodity (AWSEC)



AWSEC MISSION STATEMENT:

We are the process owner and warrant holder for aircraft wiring support equipment development, validation, verification, acquisition and lifecycle logistics support.

- providing full life cycle (cradle-to-grave) research, development, systems engineering, design engineering, in-service engineering, integrated logistics, management and acquisition support to the Naval Air Systems Command (NAVAIR) for Organizational and Intermediate Level Aircraft Wiring System Common (PMA260) and Peculiar Support Equipment (CSE & PSE).
- This mandate includes Miniature / Micro-miniature (2M) Component Repair and Aircraft Wiring Fiber Optics SE development.



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Cable Harness Repair or Manufacturing Equivalence (CHROME)

- NAVAIR AIR-411 Phased Support Plan of Jan 1990 established the requirement for Work Center 69C at USN/USMC "I" Level activities, ashore and afloat.
- Stand-up of Work Center 69C required unique equipment necessary to support Work Center 69C's mission to provide wire and cable harness repair and fabrication for all Navy and USMC Type/Model/Series aircraft.
- Future efforts include updating tool sets for all currently fielded aircraft.





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- Three NAVAIR CHROME Support Equipment (SE) procurements:

CHROME 0: 51 Sites

- Established 1994
- Wire Test Set, (Updated to Automatic Wire Test Set)
- Wire Repair Tool Sets

CHROME I: 51 Sites

- Established 1997
- Labeling Machine
- Pneumatic Tools

CHROME II: 25 Sites

- Established 2002
- Wire Processor
- Braiding Machine



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➤ Automatic Wire Test Set (AWTS)

- Programmable test system for aircraft wiring evaluation, maintenance, and fabrication.
- Automates the measurement and recording of critical characteristics of circuits in cables and wire-harness UUTs.
- Characteristics tested: circuit continuity and circuit-to-circuit isolation, circuit and insulation resistance, capacitance, and AC and DC voltage and current.
- Software Update SSC 5359 P/N AWTS-SW-001 issued 24Jan23 includes Win10 SHB and Elite Suite 93P-002-00001-04, Version F001-00A.
- Future software update to Win 10 Long Term Support Channel (LTSC) and latest Elite.
- CVN/FRC/MALS Gross Assets – 116.



Central Processing Unit



Test Control Unit



Switching Module



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➤ Wiring System Repair Tool Sets:

- Contain specialized, precision tools to insert & remove contacts from connectors.
- Properly crimp contacts and coaxial connectors to *numerous* MILSTD and OEM specifications.
- Assemble and disassemble connectors.

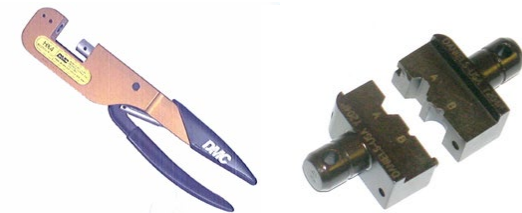
Adaptor Tool



EMI Shielding Banding Tool



Contact Insert/Removal Tools



Crimping Tool & Die



Crimping Tool & Positioner



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Aircraft Wiring Support Equipment Commodity (AWSEC) CHROME 0 (Continued)



- USN Wiring System Repair Tool Set, Basic
 - Shore/Afloat activities
 - Developed for carrier aircraft
 - Four cabinets
- USN Wiring System Repair Tool Set, Supplemental
 - Shore activities
 - Developed for land-based aircraft
 - Supplements the basic set
 - One cabinet
- USMC Wiring System Repair Tool Set
 - MALS activities
 - Developed for USMC aircraft
 - Four cabinets





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January 2026

Aircraft Wiring Support Equipment Commodity (AWSEC) CHROME I

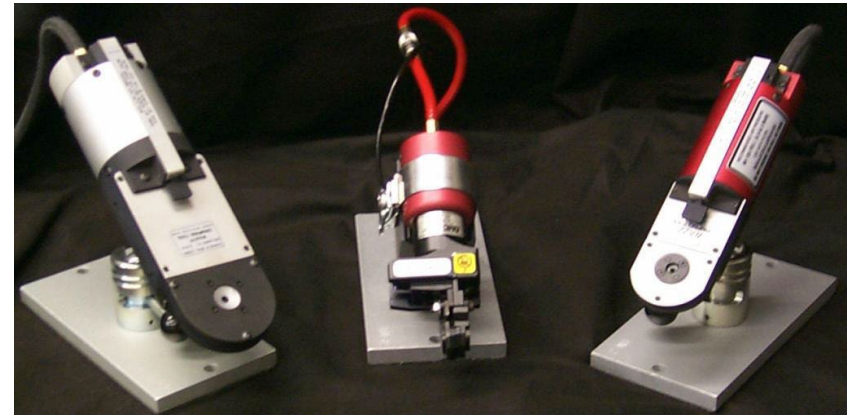


➤ LABELING MACHINE

- Thermal printer
- Prints a variety of labels used to mark cables, wires, terminal blocks and other electronic components
- Brady M610

➤ PNEUMATIC TOOLS

- Hand-held, electrically generated pressure to strip wire and crimp contacts to wire
- May be used by a single technician





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CHROME II: 25 Different Sites



➤ BRAIDING MACHINE

- Electromechanical maypole braider
- Capable of braiding metal or cloth material to provide EMI shielding or additional protection and durability
- Fielded two per shore activity/one per CVN.

➤ WIRE PROCESSOR

- Fully programmable device used to measure, cut, strip and count wire
- Performs full strip or semi-strip operation on one or both wire ends
- Can store 99 batch programs





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Completed Acquisitions



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Aircraft Wiring Support Equipment Commodity (AWSEC)



Handheld Aircraft Wire Tester (HAWT)

P/N: 300-P000001 NIIN 01-528-3348





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HAWT Program Description



- Description: The HAWT is a hand-held Time Domain Reflectometer for testing aircraft cable harnesses at the O-Level.
- Aircraft Supported: All USN & USMC aircraft ashore & afloat.
- Program Status: All PMA-260 buys have been fielded. Contract has expired.



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FIBER OPTIC CSE



Fiber Optic
Inspection System
01-577-1018



Fiber Optic
Test Set
01-518-6383



E-2D Fiber Optic
Adapter Set
01-577-5209



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FIBER OPTIC CSE Program Description

- **Description:** The Fiber Optic Common Support Equipment consists of three separate sets of equipment:
 - (1) Fiber Optic Inspection Set (FOIS) provides inspection functions for problems caused by contamination across fiber optic interfaces and gives a visual indication of faults in the high-failure region at the rear of termini / connector.
 - (2) Fiber Optic Test Set (FOTS) provides signal-attenuation information to determine if a FO cable can transmit enough light for a system to operate properly.
 - (3) E-2 Fiber Optic Adapter Set (FOAS) provides the peculiar connector adapters and jumper cables for the E-2C/D aircraft for the proper interface and alignment of the inspection and test probes used with the FOIS and FOTS.

- **Aircraft supported:** E-2C/D, F-18E/F/G, JSF, MH-60S, MQ-4, P-8A.

- **Program Status:** PMA-260 buy complete. Contract has expired.



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**Aircraft Wiring Support Equipment Commodity
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Fiber Optic Repair Set (FORS)

P/N: 3881AS100-1 NIIN: 01-528-5511

Alt. P/N: FORS-Z99K1110S





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Fiber Optic Repair Set (FORS)



- **Description:** The FORS contains the tools for performing splice repairs to aircraft fiber-optic cables. It is required for in-line splices as well as splicing of pre-terminated pigtails to replace damaged termini at the connectors. Fiber-optic maintenance requires cutting/prepping the fiber, bonding the fiber ends, and restoring the cable strength.
- **Performance:** Stringent MIL-STD-24623C requirements
 - “Permanent” repair – hardened (cured) epoxy mating
 - Low db loss
- **A/C (Systems) Supported:** E-2CHE2K, E-2D, MQ-25A, P-8A
- **Program Status:** Fielded Total: 78 units. Contract has expired



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Wire Braiding Machine (WBM)

P/N: B10-36H

NIIN: 01-338-8846





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WBM Background



- Requirement for installation of Braiding Machines aboard ALL CVNs Validated by SECAs at FY14 SE Prioritization Working Group.





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WBM Capability

- Procuring and Installing B10-36H as opposed to B10-32H
 - B10-32H range: 5/8" - 3/4"
 - B10-36H range: 5/8" - 1"
 - The -32H already installed on CVN-72 and -76
- RFP released March 2016
- Contract award Aug 2016
- Installation completed on 11 CVNs
- Also installed at training centers and MALS sites



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Current Acquisitions



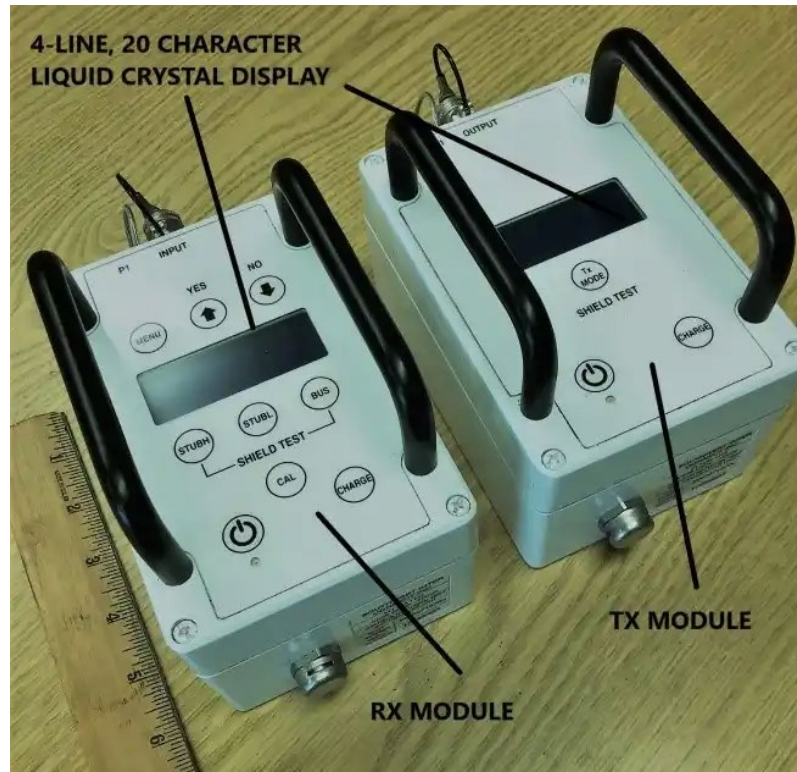
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January 2026

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(AWSEC)

Data Bus Network Tester (DBNT)

P/N: DBNTSW29716SET NIIN 01-707-0331



OEM Commercial
version of DBNT



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Data Bus Network Tester (DBNT)



- **Description:** Portable, rugged, battery-powered “O”-Level tester for isolating faults on transmission lines and stubs of aircraft 1553 data buses and ethernet.
- **A/C Supported:** C-130, CH-53E, MH-53E, CH-53K, E-2C, E-2D, E-6B, F/A-18E/F, EA-18G, F414, H-1, H-60, H-92, C/KC-130J, MQ-4C, P-8A, V-22, T-45, C-40
- **Background Information:**
 - The legacy 1553 DBNT is obsolete.
 - The original procurement was for Mod 1 and 2. A follow-on NAVICP buy delivered 120 Mod 3s and 4s. Obsolescence issues with circuit cards made units unsupported from OEM without total re-design.
- **Program Status:** FY18 Start;
 - Contract award June 2022 - Total: 193 units
 - CDR – March 2024
 - IOC – June 2026



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January 2026

**Aircraft Wiring Support Equipment Commodity
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Portable Electronic Maintenance Aid

P/N DL-ALEPEMA11 NIIN 01-725-8240





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Aircraft Wiring Support Equipment Commodity (AWSEC)



Portable Electronic Maintenance Aid (PEMA)

Description: A Commercial-Off-The-Shelf (COTS) Dell Pro Rugged 13 laptop which is deployed across the NAE. The laptop is ruggedized; meets MIL-STD-810F, MIL-STD-461F and IP54 requirements; 4 foot drop approved; sealed all-weather design; has passed MIL-STD-464A Flight Deck EMI testing for use on CVN, LHA and LHD class ships. Hero/HERF/HERP certification is not required per NAVSEA OP 3565 due to the PEMA's classification as non-radiating laptop.

➤ **A/C Supported:** F/A-18E/F, EA-18G, H-53E/K, MQ-8, TH-73A, V-22, VH-92, FRCs and MALS

➤ **Background Information:**

- GETAC A-790 obsolescence
- PEMA was selected to provide long term sustained support.
- OSD EWIS Intermittence Reduction Effort
- Rapid Sustainment Improvement Program (RSIP) funding procurement – 116 PEMAs

➤ **Program Status:**

- Waiting on the completion of the Cyber Security Authorization To Operate (ATO) process 3rd qtr FY-26
- Fleet objective introduction date February 2027



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January 2026

**Aircraft Wiring Support Equipment Commodity
(AWSEC)**

Wire Intermittent Fault Tester

P/N 4165AS0100-1 NIIN 01-668-5125





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January 2026

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Description: The WIFT is an aircraft wiring system electrical tester that has the capability to reliably and accurately detect and locate intermittent aircraft wiring faults at the organizational level of maintenance.

- **A/C Supported:** ALQ-99 NGJ, E-6B, H-1 P-8, T-45, V-22, VH-92A
- **Background Information:**
 - OSD EWIS Intermittence Reduction Effort
 - Rapid Sustainment Improvement Program (RSIP) funding procurement - 83 WIFT's
- **Program Status:**
 - Pending Contract award



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Questions?