



## Announcements

The next JSWAG Technical Interchange Meeting is scheduled for August 26-28, 2014 at Wright Patterson AFB, OH. The JFOWG will meet August 28, 2014. Please contact a committee chair if interested in attending or send an email to [jswag@navy.mil](mailto:jswag@navy.mil).

## Training Resources

- Aircraft Wiring Systems Awareness DVD- Defense Imagery PIN #806881.
- Fiber Optic Awareness DVD- Defense Imagery PIN #806707.
- Joint Services Wiring Manual Maintenance Techniques DVD- Defense Imagery PIN #806994.
- MIL-HDBK-522- Guidelines for Inspection of Aircraft Wiring Interconnect Systems- <https://assist.daps.dla.mil>.
- MIL-HDBK-525- Electrical Wiring Interconnect System (EWIS) Integrity- <https://assist.daps.dla.mil>.

## Newsletter Contact

JSWAG Coordinator  
[jswag@navy.mil](mailto:jswag@navy.mil)

# 505-1 Wiring Tech Manual Receives Revisions

The Joint Service General Wiring Maintenance Manual (NA 01-1A-505-1, T.O. 1-1A-14, TM 1-1500-323-24-1) has just been released after an extensive revision. The following is the culmination of an extensive effort between warfighters, engineers and logisticians to bring together needed improvements to wiring systems procedures, materials and equipment.

**NAVAIR 01-1A-505-1  
TO 1-1A-14  
TM 1-1500-323-24-1  
15 APRIL 2014**

TECHNICAL MANUAL

INSTALLATION AND REPAIR PRACTICES

## VOLUME 1 AIRCRAFT ELECTRIC AND ELECTRONIC WIRING

Includes IRACs 1, 3, and 4 (IRAC 2 Cancelled).

For U.S. Navy Users Only - This manual supersedes NAVAIR 01-1A-505-1 dated 1 September 2009.

For U.S. Air Force Users Only - This manual supersedes TO 1-1A-14 dated 1 September 2009.

For U.S. Army Users Only - This manual supersedes TM 1-1500-323-24-1 dated 1 September 2009.

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Oliviu (Ollie) Muja with NAVAIR Wiring Systems (4.4.5.3), the 505 technical manual lead, stated that he was proud of the interaction and collaboration between: the various services, JSWAG participants, manufacturers and laboratories to bring about this intricate engineering effort. It is the most extensive update since its original joint service release in 2004. Every Work Package (WP) was updated. Countless improvements from numerous specifications, materials and process updates. This is a brief summary of the updates:

- Improved all figures and tables; new HAZMAT symbols throughout
- WP 002 00 (Introduction) and 003 00 (Definitions and Symbols); updated definitions, application of tech pub, and symbols
- WP 004 00 (Wire Characteristics, Replacement and Inspection Techniques) and 005 00 (Low Frequency, Multiconductor Round Cable Description and Replacements) ; updated wire replacement tables with improved types
- WP 004 01 (Aircraft Wiring System Inspection); developed composite connector damage limits, added contact fretting inspection; defined Detailed Visual Inspection (DVI) and General Visual Inspection (GVI) inspections; developed wire damage evaluation criteria; updates to incoming wire inspection
- WP 007 00 (Connectors, Wiring and Harness Stowage for Operational and Non-Operational Aircraft); Electrostatic discharge (ESD) grid tape not to be used to cap aircraft connectors; added stub splice and end cap guidance with new crimp tool
- WP 008 00 (Wire, Cable, and Harness Marking); update label markers, Clarified direct/indirect marking method; added laser wire marking equipment; added critical clamp marker guidance
- WP 009 00 (Wire and Cable Stripping); added 4 new precision wire cutter tools; thermal stripper and updated the stripper blades table
- WP 010 00 (Harness Installation); addition of Jig Boards and clamps for harness assembly; added connector torque values, improved connector inspection procedures; new junction box tie string requirements
- WP 011 02 (Banding Tool Use and Adjustment); added new one step and two step shield termination band tools
- WP 011 03 (Ribbonized, Organized, Integrated (ROI); new repair procedures
- WP 013 00 (Contacts and Terminals); complete re-write; new cold applied terminal lug; added three new terminal lug crimp tools; updated all terminal lug application tables
- WP 014 00 (Wire and Cable Splicing and Repair); Complete re-write; new fuel probe wiring repair; C-wrap; cold splice addition; new 1553 data bus repair; improved splice installation procedures and multiple cable repairs; new splice repair limits and several new splices
- WP 014 01 (Fault Diagnosis and Fault Location); emergency repairs removed; replaced by updated fault diagnostic equipment; Automatic Wire Test Set (AWTS) and Handheld Aircraft Wire Tester (HAWT)
- WP 014 02 (Basic Fault Isolation Methods); updated wiring fault isolation procedures (fluid soaked, intermittent)
- WP 016 00 (Soldering); shield termination updated with several new solder sleeve types
- WP 017 00 (Bonding and Grounding); bonding jumper procedure updates
- WP 018 00 (Lockwiring, Shearwiring and Safety Cables); updates to shear wire installation and material required
- WP 020 00 (Military Standard Circular Connectors); updated to grommet sealing plug installation procedures; new connector clocking tool
- WP 021 00 (Radio Frequency Connectors); updated installation/tooling research data
- WP 022 04 (Thermocouple Wire Repair); new WP
- WP 024 00 (Connector Accessories); EMI/RFI integrated shield backshell installation; new connector build up tape and new re-usable bushing
- WP 027 00 (Terminal Junction System); updated procedures
- WP 028 00 (Protective Devices Installation); new Circuit Breaker (C/B) collar; updates to C/B reset guidance and improved Arc Fault Circuit Breaker (AFCB) inspection guidance; new fuse selection guidance

For any issues or improvements to this technical publication, please submit your service's approved form. Your continued input and vigilance is necessary to keeping the technical publication current. For questions, please email [jswag@navy.mil](mailto:jswag@navy.mil). 