



## Announcements

The Spring 2016 JSWAG/JFOWG Technical Interchange Meeting will be held 14-17 March in San Diego, CA. For more information as it becomes available, please visit the JSWAG website.

## 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
- Heatless Splice Application Video- <https://www.youtube.com/watch?v=Op1YMaz454E&feature=youtu.be>
- MIL-HDBK-522- Guidelines for Inspection of Aircraft Wiring Interconnect Systems <http://quicksearch.dla.mil>
- MIL-HDBK-525- Electrical Wiring Interconnect System (EWIS) Integrity- <http://quicksearch.dla.mil>
- Need help locating information on connectors, contacts or accessories? If so, email us at [jswag@navy.mil](mailto:jswag@navy.mil).

## Newsletter Contact

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# Terminal Lug Update

Wires terminated with solderless terminal lugs provide easy and efficient connections and disconnections from terminal boards, bus bars, and other electrical equipment. The terminal lugs are made of either copper or aluminum, insulated (Type II) or uninsulated (Type I), and are available in various styles and accommodate wire gauges 26-0000. There are also environmentally sealed (cold applied) terminal lugs which are filled with a sealing gel (M7928/14). Attachment configurations include ring tongue / bell-mouth, or square. Note that fork-type, or open are not approved for aerospace applications. Terminal lugs are available in four styles: straight, 90 degree upright, angle, and flag, for use in different attachment applications. The flag terminals are for particular applications (AS25189), such as for circuit breakers, generators, or bus bars.

Selecting the correct terminal lug is done by identifying the part number on the box/container they were issued in. Unfortunately, the terminals don't have a part number stamped on them. They can also be identified by their configuration, i.e. color, and/or color stripe of the insulating sleeve, tongue shape, material and wire range they have stamped on the tongue. Refer to the NA 01-1A-505-1, WP 013 00 for additional details (Figure 1).

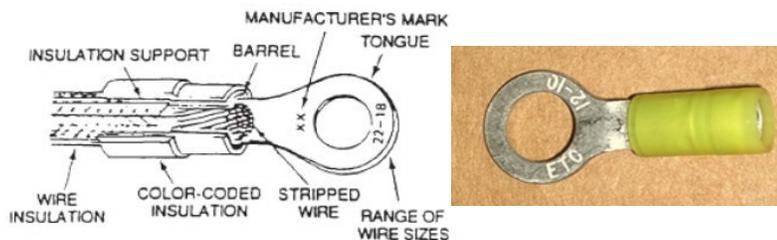


Figure 1. Typical Terminal Lug and Wire Range Marking

Other aspects and limitations apply to selection, and installation of terminals; they include:

**Replacement.** Terminal replacement shall be of the types specified in the applicable aircraft technical manual, illustrated parts breakdown, or drawing. Size, material and type, is critical for configuration control and system performance.

**Bend.** Allowable bend of straight terminal lugs; particularly the ring tongue, when first installed Figure 2 shows the maximum

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angle. Terminal lugs may only be bent once (at installation) and shall not be unbent and then re-bent to facilitate removal and installation on terminal post.

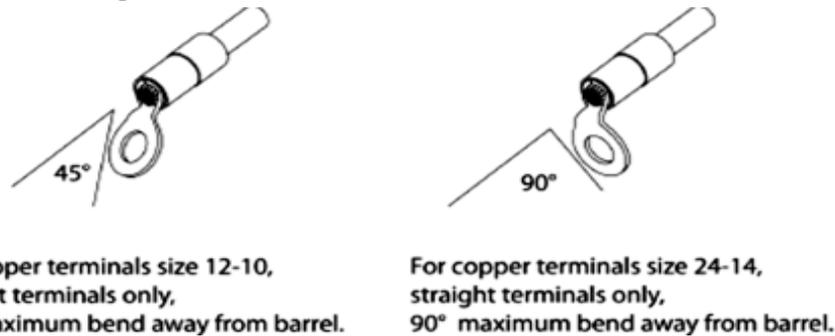


Figure 2. Maximum Allowable Terminal Lug Bend

Inter-mixing Copper / Aluminum. Aluminum terminals (MS25435 thru MS25438) are only used to terminate Aluminum wire (sizes 8 thru 0000); the same goes for Copper terminals and Copper wire; absolutely no inter-mixing. Failure to follow that rule will result in galvanic corrosion, overheat and possible fire. Designated Crimp Dies for Copper Terminations are not suitable for Aluminum Terminations, and vice versa. Care must be taken to match the authorized tooling to the type of termination being performed.

“AIR” Marking & Wire Range. For size 8 and larger, the stamped wire range marking may include multiple markings and configurations (Figure 3). If marked with “AIR” followed by a wire gauge or range; that is the gauge of wire accommodated for aviation applications. It stems from the type of conductor employed in aerospace applications, which has a smaller / thinner strand configuration needed to meet flexibility, improved vibration characteristics and tighter bend radius. For aviation applications, always select the “AIR”, or the default (if only one is shown) wire range number, which identifies the wire size marking the terminal can accommodate (i.e. “AIR 2/0” identifies a 00 gauge wire size). This is the same indicator to be used for crimp tool, die selection, and crimp die cavity selection. Failure to employ the correct “AIR” or default wire size/range could result in an incorrect crimp, overheat and component failure (Figure 4). There is an updated guide line on the topic in the Mil-Hdbk-522A.



Figure 3. “AIR” Marking



Figure 4. “AIR” Marking Disagrees with “AWG” Separate Crimp Die Mark

# JSWAG Website Migration

The current private (CAC required) JSWAG website began migrating to SharePoint at the beginning of 2016. The first major step was migrating the Action Chit module. All archived chits were migrated as well as currently open chits.

Meeting Registration for the upcoming Spring 2016 meeting and Lu Roberts voting will still be performed on the current site. We expect a complete migration to SharePoint by the end of March 2016 and will conduct training sessions at the upcoming Spring 2016 meeting in San Diego, CA. The SharePoint site will look and function differently but we are excited to deploy a more user friendly product to our users to include a more robust search capability.

To verify you will have access to SharePoint when deployed or for any questions, please email: [jswag@navy.mil](mailto:jswag@navy.mil). 