



Announcements

The Fall JSWAG/JFOWG Technical Interchange Meeting is tentatively scheduled for August 16-18, 2016 in Nashville, TN. 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.

Newsletter Contact

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Terminal Lugs Crimp Tools

Terminal lugs are available in various styles and configurations to accommodate termination of wire gauges 26-0000. Typical configuration terminals are in the M7928/1 thru 14, similar ones are in M25036 or M20659 family. For terminal lug installation (crimping) of 26-10 wire gauges, hand tools such as the M22520/5-01 or the /38, /40, /41 or /44 are employed. For large gauge terminal lugs used to crimp 8-0000 wire gauges, the updated and standardized AS5259 family of specifications applies.

Selecting the correct crimp tool stems from the specification detail sheet which defines the terminal lug (e.g. AS7928/4). That lists the approved crimp tools and /or crimp dies and settings as they apply. The complete selection information, tool use, installation and inspection instructions is listed, by terminal lug part number, in the maintenance manual (NA 01-1A-505-1, in WP 013 00). Recent investigations, test updates and lessons learned include:

Crimp Tool/Die. Large gauge terminal lug 8 gauge thru 0000 are crimped with an updated and standardized AS5259 family of tool specifications. For a correct installation check for: typical wire part number is printed every 12 inches along the wire length (i.e. M22759/1-4/0-9) shows the wire gauge as “4/0” or “0000”. This wire gauge needs to coincide with the terminal lug wire range of “4/0” as marked on the ring tongue. For newer configuration crimp dies, upon crimping, the die embosses (raised letters, Figure 1) the crimp die size “4/0 CU”, denoting a “4/0” gauge Copper crimp die was used. The wire gauge, terminal lug size/wire range and crimp die used shall coincide/be the same, in this case: “4/0”. If any disagreement is identified, the terminal lug shall be removed and correct tools/lugs employed for re-installation.

Crimp Die Stop/Positioner. Failure to position the crimp indent in the middle of the crimp barrel can result in 30% or more loss in tensile (mechanical) strength and related electrical performance of the termination. The performance degrades the more forward (closer to the tongue) the crimp indent is placed

Terminal Lug from page 1

(Figure 2). The use of crimp dies with a mechanical stop/positioner is recommended (Figure 3) as it centers the crimp indent consistently.

Wire Plating Impact on Performance. Using tin plated terminals on Nickel plated wire may not achieve appropriate voltage drop and tensile strength requirements. Refer to SAE AIR1263.

M22520/23-01 Pneumatic Crimp Tool. Note that the /23 crimp tool is only approved for large gauge contact installation. It is not intended, or approved for terminal lug installation. The terminal lug and crimp tool specification detail sheet continue to confirm that restriction. Recent laboratory tests further validated that the /23 crimp tool, when used to install terminal lugs, resulted in inferior mechanical and electrical performance. The maintenance manual also prohibits the practice.



Figure 1. Raised Crimp Die Mark; Single Wire Gauge/Range Mark "AN-4/0"

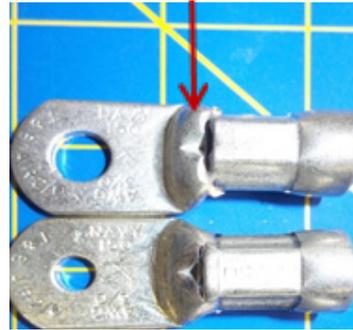


Figure 2. Incorrectly Positioned Crimp Indent (Not Centered on Crimp Barrel)



Figure 3. Crimp Dies with and without Mechanical Stop / Positioner.

Spring 2016 JSWAG/JFWOG

The Spring meeting was held the week of March 14 in San Diego, CA. We had over 195 attendees and 36 companies in attendance. 37% of the attendees were active duty and a quarter of all attendees were from the local area. We announced the 2015 Lu Robert winner. Jim Foley was the recipient for his outstanding contributions to the aerospace electrical wiring interconnect systems, specifically within the H-60 community.

Service Association	
Branch	Attendees
U.S Navy	75
U.S Marine Corps	42
U.S Air Force	47
U.S Army	14
U.S. Coast Guard	1
Royal New Zealand Air Force	2
Canadian	2
Israel	2
Ministry Of Defence UK	2
Other (DLA, Lockheed, Sikorsky, Bell, Boeing)	10
198	



Jim Foley (left) receives the Lu Roberts Award from Ollie Muja (right)

Platforms Represented	
F-35	C-130
F-16	MQ-8
A-10	UH-72A
C-5	C-17
V-22	F/A-18
B-1	H-53
EA-18G	KC-135
F-15	H-60
KC-10	E-2/C-2