

Dec 04, 2024

Department of Defense  
OFFICE OF PREPUBLICATION AND SECURITY REVIEW



# Joint Services Wiring Action Group

# JSWAG

Primary Support Clamp

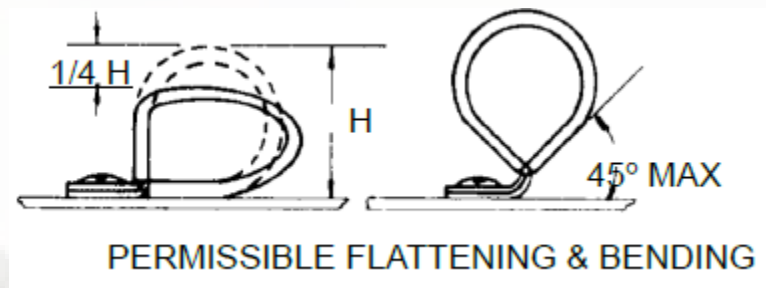
Deformation

Date: 01 JUL 24



# Background

- An Aircraft manufacturers process specifications allows artisans to flatten, deform and/or bend clamps up to 45° angle.
  - Covers various aircraft in military service.
  - Round cable clamps may be flattened by a maximum of  $\frac{1}{4}$  the overall height (H) of the clamp diameter to clear structural interferences. See Figure 8.
  - Cable clamps may be flattened to a maximum of  $\frac{1}{4}$  H to clear structural interferences.
  - Cable clamps may be bent to a maximum of 45 degrees to clear structural interferences.
  - Deformation of clamps after installation is normal and is not cause for rejection, provided:
    - (1) Approximately 50 percent of the ends of the cushion are in contact; or
    - (2) The cushion ribs are intermeshed to provide a barrier; and
    - (3) The wire(s) in the installed condition do not contact the metal band.





# Background



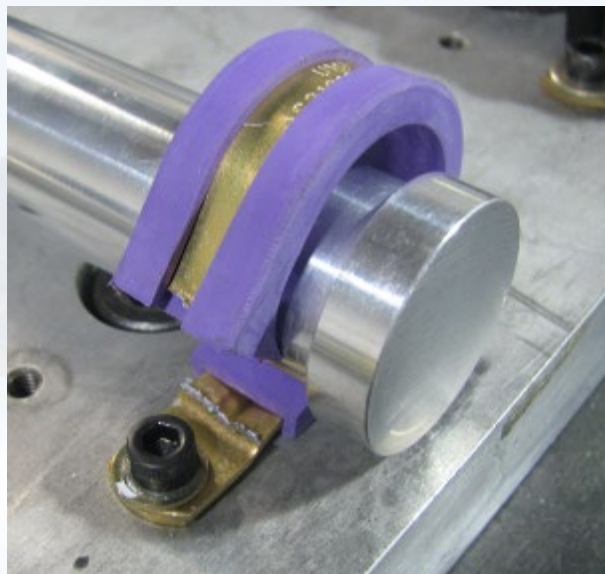
When a clamp manufacturer was asked if it was permissible to bend or flatten a clamp; the response was, “Our engineers do not recommend flattening or bending the clamp once it is installed since stress concentration can be introduced onto the metal, especially near the fastening area.”





# Background

- NAVAIR conducted clamp testing in 2013:
  - Due to the AS21919 Clamp not having performance requirements for qualification
    - This led to establishing the baseline vibration requirement for the AS23190/4 clamp as well as the MIL-DTL-85052/6-11 clamps
  - Failures identified were fractures of the metallic band.
  - Failure location on every clamp was in transitional region of band between foot of fastener location and loop.





# Recommendation



Based on NAVAIR vibration testing in 2013 and the clamp manufacturers response to bending/ flattening, it is recommended that a caution statement prohibiting the bending/ flattening of clamps be added to the NAVAIR 01-1A-505-1 / TO 1-1A-14 / TM 1-1500-323-24-1



# Path Forward

- Caution statement has been approved and will be included into the next change/ revision of the NAVAIR 01-1A-505-1 / TO 1-1A-14 / TM 1-1500-323-24-1, WP 010 00 para 47.

## CAUTION

Bending / flattening of clamps are prohibited as it may lead to premature failure.



# Questions