C-130 Corrosion Prevention and Control

March 2026

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Overview

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  - ❑Corrosion Prevention Advisory Board
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- ❑Initiatives and Non-Chrome Projects
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"To develop, deliver, and sustain the C-130 Hercules providing full-spectrum readiness and mission capabilities to the US and our global partners"

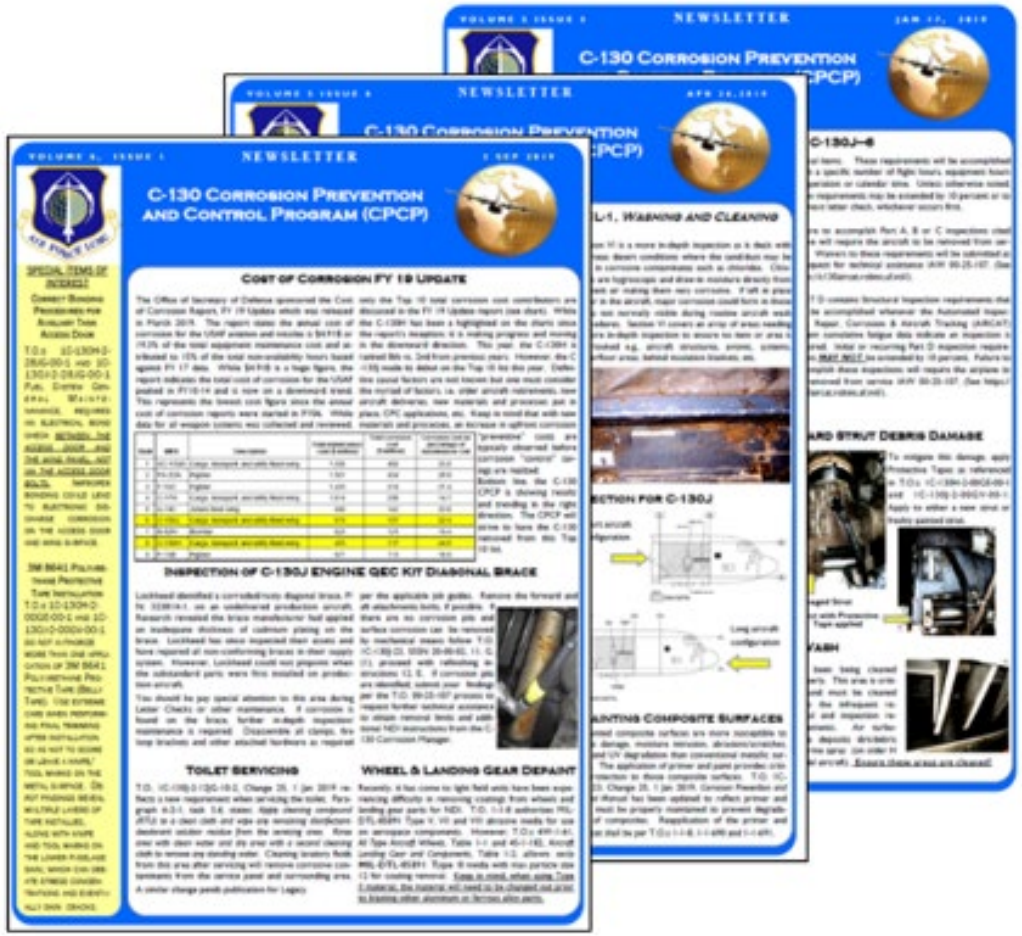
Corrosion Program Site Assessments

- On-site check of corrosion program, facilities, and aircraft
  - Aircraft condition assessments
  - Review of corrosion operations
  - Interviews with personnel
  - Technical Order (TO) compliance
- Open communication encouraged
- Results used to
  - Improve procedures and processes
  - Relay best practices and recommendations
  - Identify shortfalls in training or equipment needs
  - Adjust inspection requirements
- Assessments are non-retribution endeavors, NOT INSPECTIONS

- **Recent Assessments**
  - Keesler AFB, Mississippi
  - Ramstein AB, Germany
  - Cannon AFB, New Mexico
  - Hurlburt Field, Florida

Quarterly Corrosion Newsletter

- Single page of corrosion updates
- Recent topics:
  - Sealing Aircraft Panels
  - Aircraft Wash Procedure Updates
  - How Submitting AIDRs Could Save You Money
  - Leaking Toilet Issues
- PA reviewed, distributed via email, and posted to the C-130 CPAB SharePoint



Ask the corrosion team about joining the distribution list!

Corrosion Prevention Advisory Board

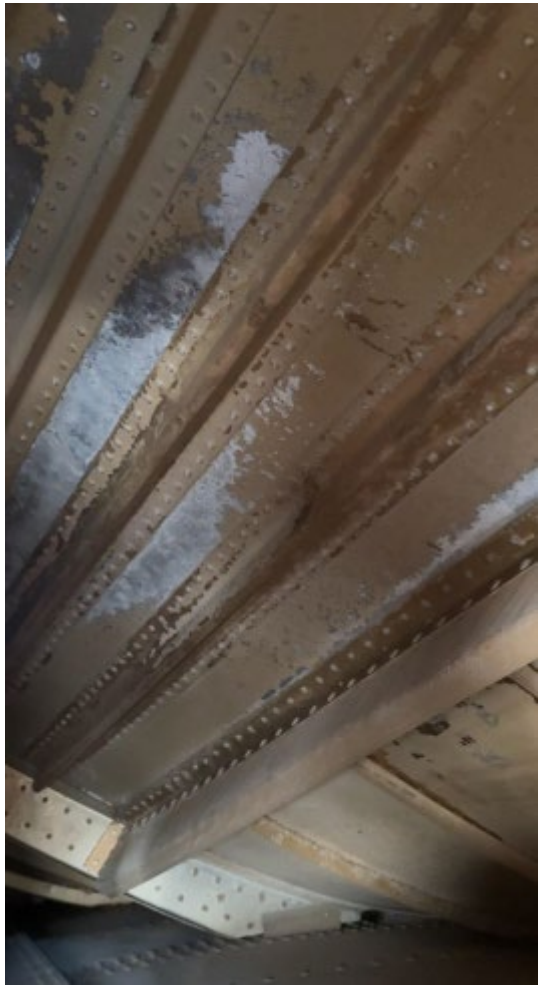
- 2026 CPAB was hosted 18-20 February at Savannah ANGB
  - Participants including units, MAJCOMs, USN/USMC, USCG
  - Wing Corrosion Manager (WCM) panel hosted by C-130 corrosion team and AF Corrosion Office (AFCPCO)
    - WCM panel formerly used to spread knowledge/informal training for WCMs
  - Keynote speaker stressed the importance of base-level corrosion experts communicating corrosion issues to leadership and peers
- Next quarterly CPAB review will follow annual CPAB, tentatively June 2026

Aircraft Washes – Frequent Problem Areas

- Critical to check the toilet area during interior wash and during the after-wash corrosion inspection
  - Leaks from toilet servicing line have led to severe corrosion on FS 737 structure
  - Leaks from bowl/tank interface or other areas of the tank have led to corrosion of toilet support structure (pedestal)
  - Also covered during BPO/PR zonal inspections
- Recent updates to the wash checklist TOs:
  - Mask over damaged or missing weather excluding patches prior to wash and replace patches after wash
  - Remove Nose Wheel Well Armor (if installed) before wash
  - Inspect windshield wiper assemblies for corrosion during after wash corrosion inspection
  - Requirement to post cleaning compounds used and mix ratios near wash equipment

Aircraft Washes – Missing Weather Excluding Patches

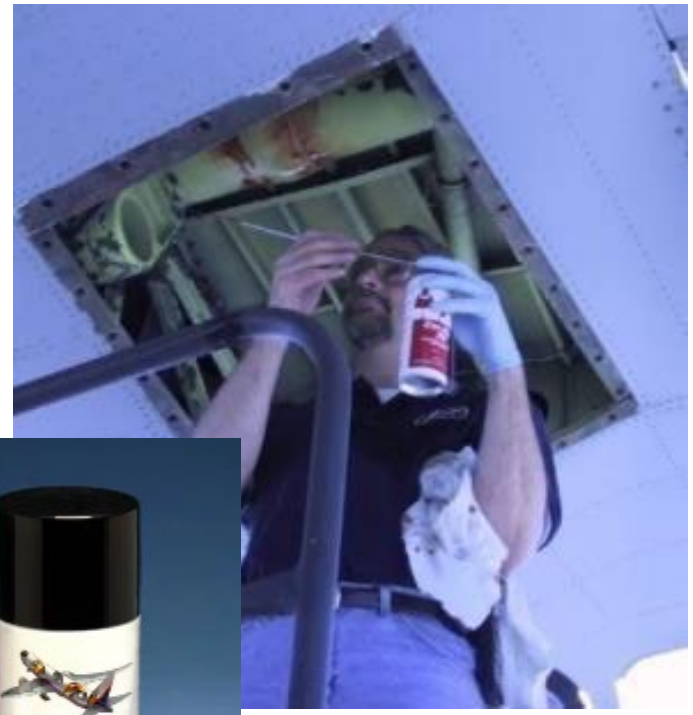
Missing Weather Excluding Patches



Initiatives – CPC Application, UDLM Efforts

Early CPC Application

- FS 517 MLG beam corrosion issue highlighted the need for early, widespread application of CPCs to high corrosion risk aircraft structure
  - Wing trailing edges, latrine area, wheel wells
- AFSOC applying CPCs to AC/MC-130J aircraft using OSDS contract support at Hurlburt Field
- Additional UDLM effort in work for HC-130J aircraft
  - Likely to be worked as a drop-in requirement at Robins AFB



Initiatives – Aircraft Insulation Update

Improved Thermal Acoustic Blanket (ITAB) and Improved Batting Acoustic and Thermal (IBAT), developed by Cocoon, Inc.:

- Utilizes breathable hydrophobic materials to prevent corrosion on aircraft interior
- Improves durability of the blanket system
- Improves attachment system to prevent dropped objects from around cargo ramp and cargo door
- Installation completed June 2024
- 540-day evaluation ended Jan 2026
  - Final report being compiled for determination of fleet modification

Initiatives – Non-Chrome

- PPG Advance Multifunctional Coating (AMC)
- PreKote, Akzo Nobel HS2118 Lithium primer, (ref MIL-PRF-32239, system 7)
- Bonderite® M-NT 5700 non-chrome conversion coat and Hentzen 16708TEP primer
- Bonderite® M-NT 5700 non-chrome conversion coat and Hentzen 53055/53094GEP primer
- Vantage Inhibited Surface Adhesion Promoter 311 (iSAP™ 311)
- PPG Aerocron™ (E-Coat)
- Non-chrome alternatives for PR-1432GV

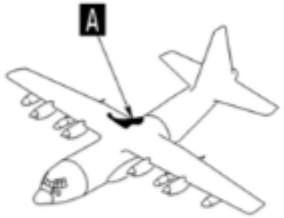
Initiatives – Other Corrosion Issues

Trailing Edge Strip Corrosion (C-130J)

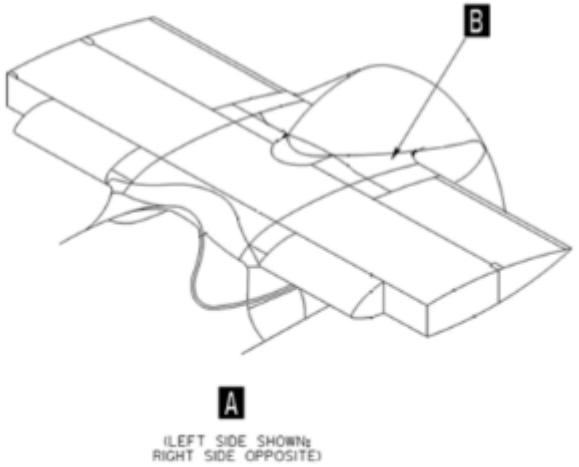
- Aluminum extrusion sandwiched between carbon fiber upper trailing edge skin panel and trailing edge pans
- Corrosion initiates in fastener holes or along the forward (internal) edge of the trailing edge strip
- Lockheed investigating material substitutions and new finish options
- New corrosion prone areas section of 1C-130J-23 will be published
- Exacerbated by missing weather excluding patches

TCTOs

TCTO 1C-130J-1189 – *Inspection for Corrosion of Fuselage Station (FS) 617 Right and Left Wing to Fuselage Fairing Panel and Substructure*

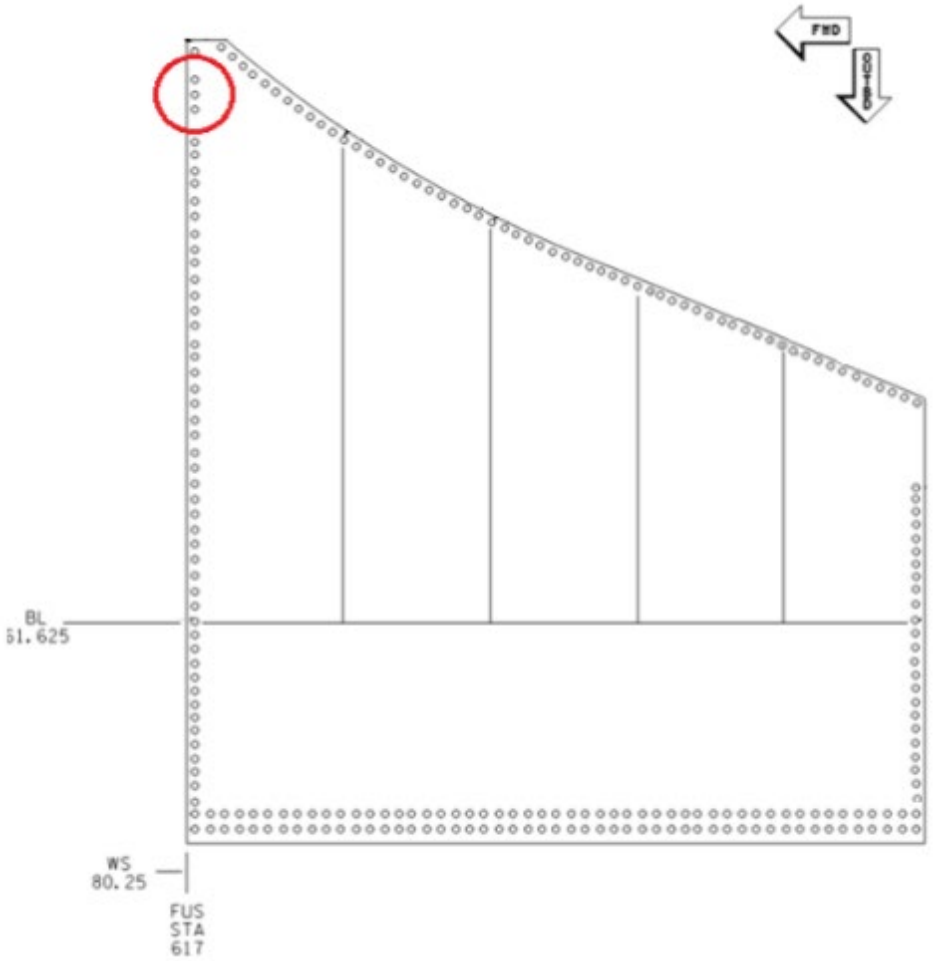


- Initial aircraft identified a wing to trailing edge fillet panel protruding into the airstream on top of the aircraft
- Shim between the panel and the aircraft structure was severely exfoliated
- Inspection on aircraft interior found improperly installed blind fastener and mild corrosion on ring segment
  - Removal of bad fastener revealed double drilled hole present since aircraft production



TCTOs

TCTO 1C-130J-1189 – Wing trailing edge panel and bad fastener hole



TCTOs

TCTO 1C-130J-1191 – *Inspection of Outer Mold Line Coating System for Peeling or Missing Coatings*

- Replacement for TCTO 1C-130J-1131
- Production aircraft experiencing paint adhesion failures down to substrate
- TCTO results used to inform need for strip vs scuff sand at mid-cycle paint
- Corrective actions implemented by LM have decreased prevalence of issues, this TCTO pushes the initial inspection back to first B Check after delivery of aircraft

TCTOs

TCTO 1C-130J-1202 – *Inspection of Main Landing Gear (MLG) Wheel Well Drain Holes at Water Line 159*

- Addresses a potential corrosion issue caused by water entrapment in the MLG wheel wells
- Inspection of wheel well Zee angles to verify drain holes are present
  - If missing drain holes, install per TO 1C-130J-23, 53-10-00, Paragraph 53.20.1 and restore finish

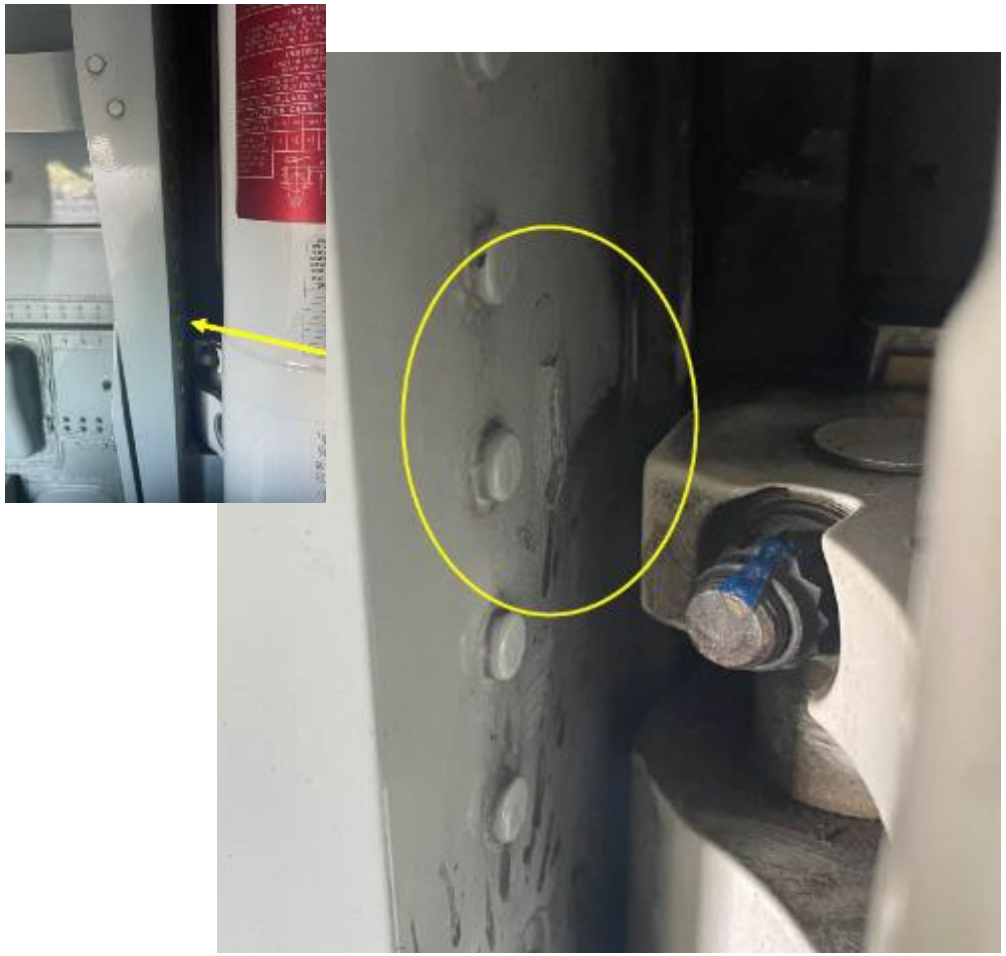
TCTOs

TCTO 1C-130-2351 – *MLG Frame Assembly Open Hole*

- Exfoliation corrosion discovered during C Letter Check, initiated in tooling hole that was not plugged during aircraft production
- Inspects for surface corrosion around tooling hole and provides repair guidance
- Inspects for presence of fastener and corrosion in tooling hole
  - Tooling hole corrosion corrected by reaming up for installation of oversized fastener, next nominal fastener, or bushing and nominal fastener, depending on severity.
- Inspection of other open tooling holes in the wheel well frames and bow beams, below WL 200, for signs of corrosion
- Similar to Lockheed Martin Service Bulletin SB 82-867
- Lockheed drafting updated metal removal guidance for TO 1C-130J-3, 1C-130A-23

TCTOs

TCTO 1C-130-2351 – Exfoliation corrosion discovered during C Letter Check



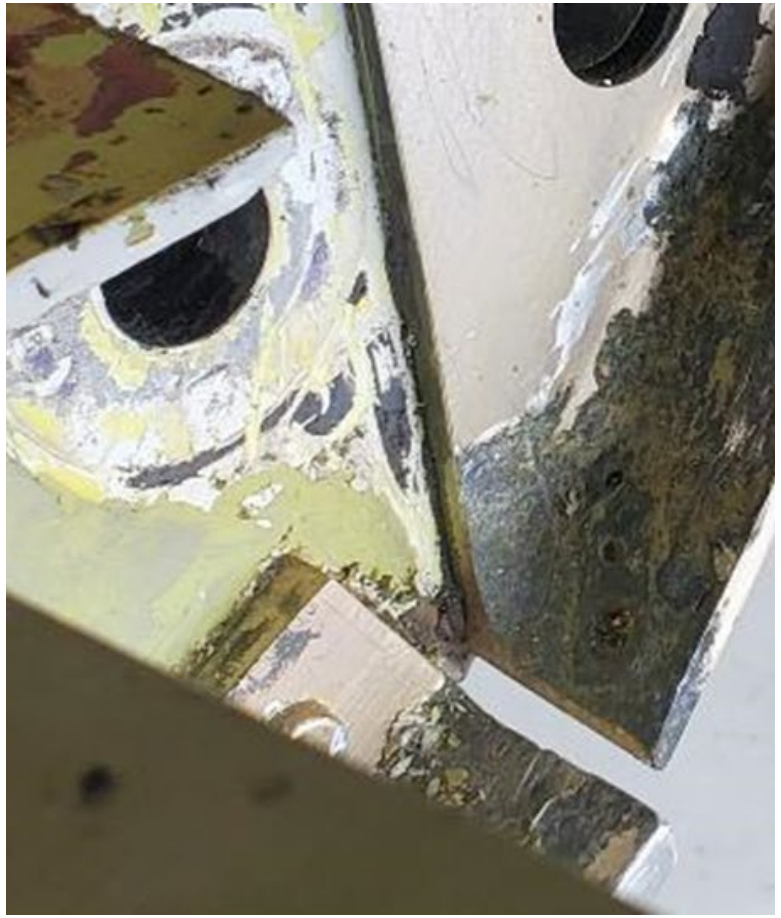
Upcoming TCTOs

Early Application of Av-DEC® SLG/TS on C-130J

- Drafting TCTO requiring application of SLG/TS CPCs to latrine area to help prevent corrosion caused by leaking lavatory fluids
- Before release of TCTO, SLG/TS application instructions in TO 1C-130J-23/1C-130A-23 are being expanded to provide better directions for cleaning/prep, equipment setup, and pictures
- SPO also seeking funding for implementation of improved toilet tank assembly with in-line servicing valve to prevent fluid leaks

Upcoming TCTOs

Early Application of SLG/TS on C-130J



Upcoming TCTOs

APU Compartment Corrosion

- Corrosion detected during APU duct installation
- Removal of APU, insulation materials, and firewall panel revealed extensive corrosion on longeron and inside compartment
- Lockheed Martin actions:
  - Corrosion inspection TCTO
  - Update structural repair manual
  - Recurring detailed/directed inspection requirement and interval of complete MLG pod area, left and right
  - CPC application requirements

Upcoming TCTOs

APU Compartment Corrosion

Corrosion Team POCs

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Questions?