AFCPCO NEWS

US Air Force Corrosion Prevention and Control Office Newsletter Aug 2023

United Arab Emirates C-17 Corrosion Assessment Support

The C-17 Security Assistance Program Manager (SAPM) for UAE requested AFCPCO Corrosion SMEs support to develop and execute a Corrosion Assessment on UAE C-17 aircraft because of increasing corrosion costs and heavy maintenance cycle times. AFCPCO collaborated with the USAF UAE engineer to write a plan which was presented to and accepted by the UAE Air Force.

AFCPCO, C-17 SPO, and UAE maintenance personnel inspected 7 aircrafts from 22 May 2023 to 25 May 2023, collecting over 100 surface swab samples from fuselage and wing areas, before & after engine wash water samples, and soil samples from the area surrounding the flight line. The aircraft corrosion prone locations were also inspected to assess the impact of local environmental conditions. AFCPCO will coordinate to have all samples analyzed to determine chemical composition and corrosivity to provide recommendations to the SAPM. AFCPCO will also provide SME support to the UAE Air Force, Boeing, and C-17 SPO corrosion action team being formed to address the issues.

Corrosion Assessment Benefits:

- Precisely defines the operating environment and the risk areas that need to be addressed via the Corrosion Prevention and Control Program and corrosion maintenance requirements (-23 & -6).
- More effective Corrosion Prevention and Control Program.
- Fewer non-mission capable (NMC) & maintenance man-hours, and lower operating costs.

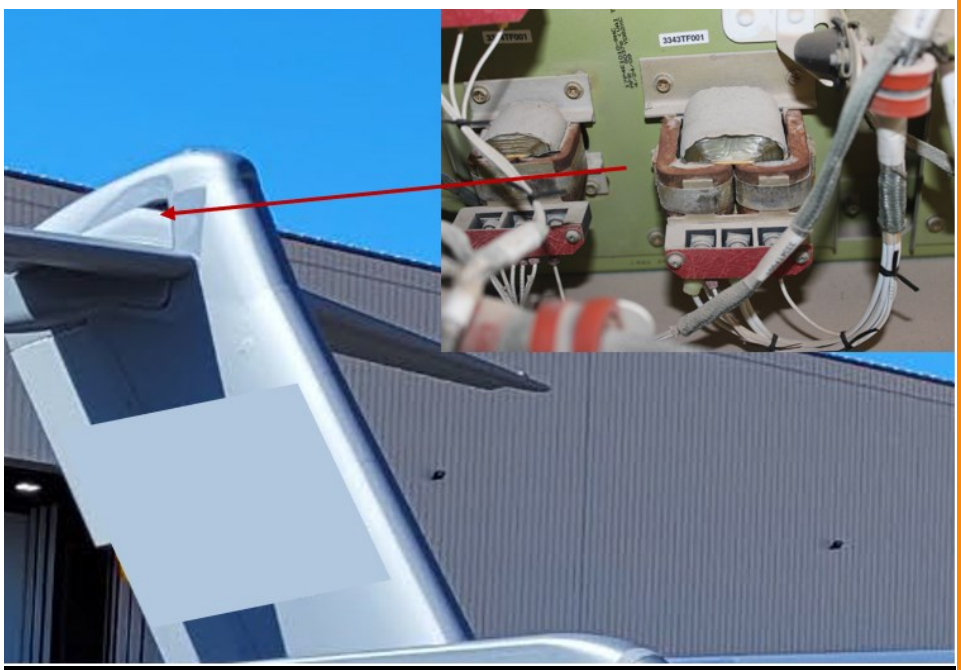


Figure 1. Electrical components located near vertical stabilizer showing corrosion .

In This Issue

Common Observations during Corrosion Surveys

- Corrosive RTV (MIL-PRF-46106) being utilized on/around electronic components (e.g. Avionics, E&E, GAC); not IAW TO 1-1-689-3, Section 5.19 and Table 5-1.
  ⇒ **Recommend:** Submit Recommended Change in ETIMS requesting change to non-corrosive RTV (MIL-PRF-46146).
- Parts washers not labeled to specify the material it contains.
  ⇒ **Recommend:** Attach a DD Form 2522 to the outside of parts washers and ensure material listed on form is current.
- Post PDM acceptance inspection does not typically include ASM for coating/markings inspection; missed failures does not hold depot accountable.
  ⇒ **Recommend:** Work with Plans and Scheduling section to add ASM-specific task to JST package and report deficiencies.
- Authorized corrosion preventive compounds (CPC) not being utilized on munitions trailer towbar pivot pin.
  ⇒ **Recommend:** Apply MIL-DTL-87177, Type 1, Grade B CPC as directed by trailer (MHU-110/141/226) TOs (NSN 6850-01-328-3617).

AFSOC C-130 Wheels Assistance Request

During a recent corrosion survey, the AFCPCO team was able to assist AFSOC in resolving a recurrent problem with keeping built C-130 wheels on hand and available for use. While working through the location-specific refurbishment issues, the survey team was able to connect the C-130 -21 equipment section with the host Unit so they could assist with the required overhaul measures. This started with identifying the specific corrosion inhibiting compound required by technical data and connecting the -21 section with the ISO support section who had the material on hand and available for use. Furthermore, an additional hurdle was rectified by facilitating a tooling modification request so the -21 section could conduct their inspections prior to assembling the landing gear wheels currently awaiting verification. By facilitating these measures, The AFCPCO survey team created a proactive approach while streamlining the local process and improved their efficiency in meeting demands for AFSOC-specific wheels in theatre.

Prevent, Mitigate, Destroy Corrosion

Did you know?

EZPT-CPCO and Navy Research Laboratories (NRL) Key West Corrosion Test Site

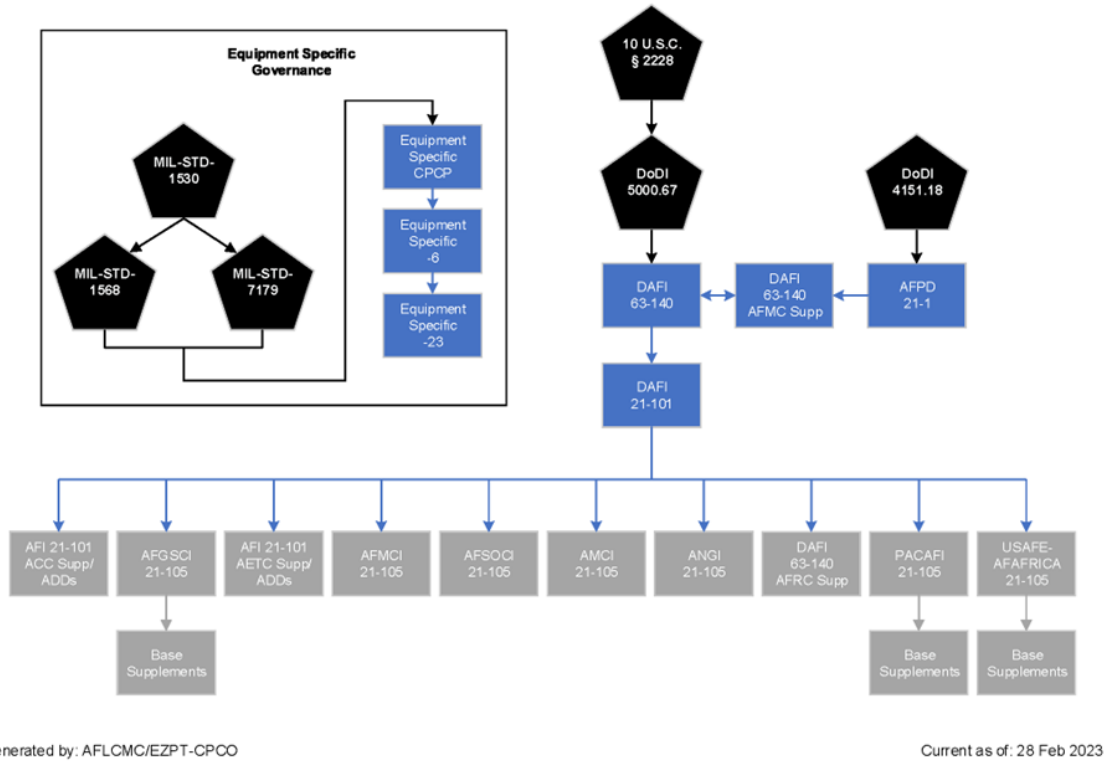
To support the growing demand for outdoor/environmental exposure testing, the Air Force Corrosion Prevention and Control Office is currently in collaboration with the Naval Research Laboratory to upstand a permanent corrosion test site at the NRL – Key West location. The intent of this site is to support USAF environmental exposure testing and promote tri-service environmental efforts.

The three main objectives for this site are as follows:

- Develop a USAF stationary corrosion test site at a well-characterized location.
- Decrease program office out-of-pocket costs by subsidizing materials (i.e., racks, stands, and other facility materials).
- Offer on-site engineering support to assist with subject analysis.

A data call was sent to all Program Offices asking if such a site would be a benefit to their program. If your organization is interested on this type of test site, please contact AFCPCO POC, Jarquees Williams.

Corrosion Control Governance Hierarchy



This article is a reminder that DAFI 63-140, 6 Aug 2020 superseded DAFI 20-114, 7 June 2011, and to explain the development and relevance of DAFI63-140, and the subsequent DAFI63-140, AFMC Supplement published on 15 July 2022.

When the USAF started its AFI reduction efforts, DAFI 63-140 only provided very generic policy received from HAF/A4. The intent moving forward was that detailed policies/requirements were to be authored in the MAJCOM supplements. Prior to the existence of the DAFI 63-140, AFMC Supplement, AFCPCO was a proponent for retaining detailed responsibilities at all Air and Space Equipment Structural Management Offices (AFSMO). Once a way forward was determined, HAF moved the AFSMOs' generic requirements into the DAFI 63-140, 6 August 2020 which superseded AFI 63-140, 7 April 2014 and AFI 20-114, 7 June 2011. This put corrosion control policies/requirements in the realm of ASIP which provided the AFCPCO (and the other AFSMOs) more visibility and credibility in the engineering/logistics community.

In an effort to bring back the depth of responsibility for the AFSMOs (including AFCPCO), AFMC A4/10 EN and SAF/AQR generated and published DAFI 63-140, AFMC Supplement on 15 July 2022. This supplement defines, in detail, the roles and responsibilities of the AFSMOs back to the level prior to USAF's AFI reduction efforts, effectively allowing AFSMO operations to continue as required.

To aid in navigating corrosion control governance, the AFCPCO has generated the following flow chart to assist the Field in their efforts.

Contact Us

Send us an email with any questions, concerns, or suggestions.

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Corrosion and material degradation never sleep!