

C-130 CORROSION ISSUES



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CURRENT ISSUES

BL61 Aft Longerons corrosion

Primarily found in coastal aircraft

Caused by steel nutplates inside alum structure

Some have sealant blocking the forward end

Condensation unable to drain

Cracks up to 14” found



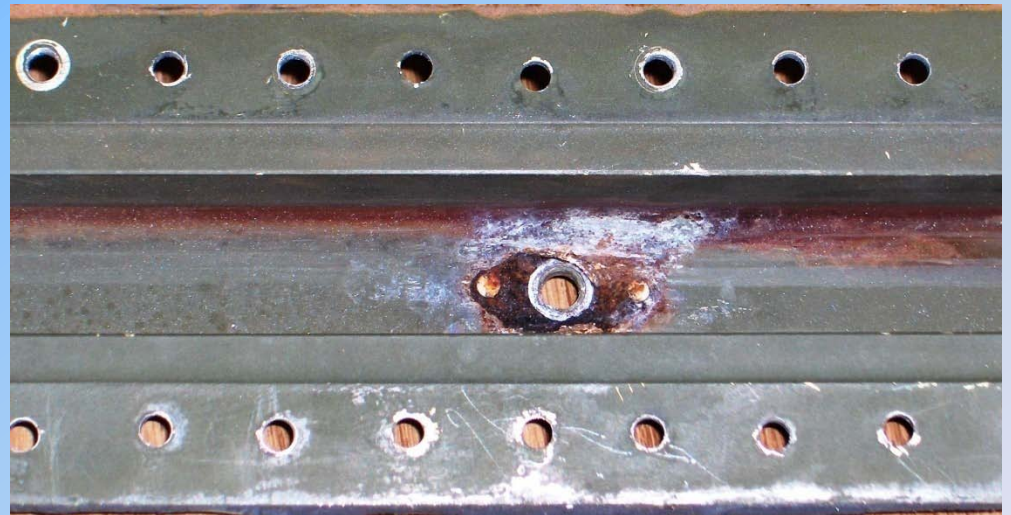
CURRENT ISSUES

BL61 Aft Longeron corrosion actions

Inspections

CPC

Repairs



CURRENT ISSUES

Corrosion sensor studies

Potential to reduce both inspections and repair

SBIR study for embedded corrosion/damage detection

Potential to reduce invasiveness of inspections

Corrosion Preventative Compound (CPC) studies

Structures and electrical

Current testing at Patrick AFB



CURRENT ISSUES

Leading edge erosion protection:

Reduced frequency of paint repair

Tape system in testing

Older types not effective – too hot

New paint system will be tested soon

Paint systems previously tested:

CeramKote, Polysulfide



CURRENT ISSUES

Non Chromium Primer System:

Hexavalent Chromium is hazmat

Working with Lockheed on test application at WR

Four different systems being tested

Early lab results similar to chromium systems



CURRENT ISSUES

Sloping longeron protection:

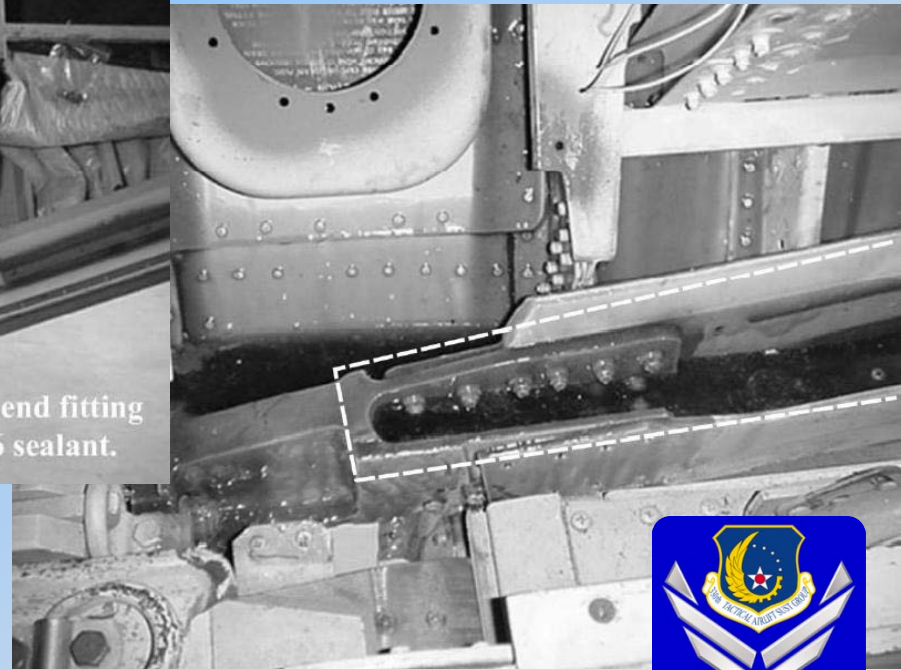
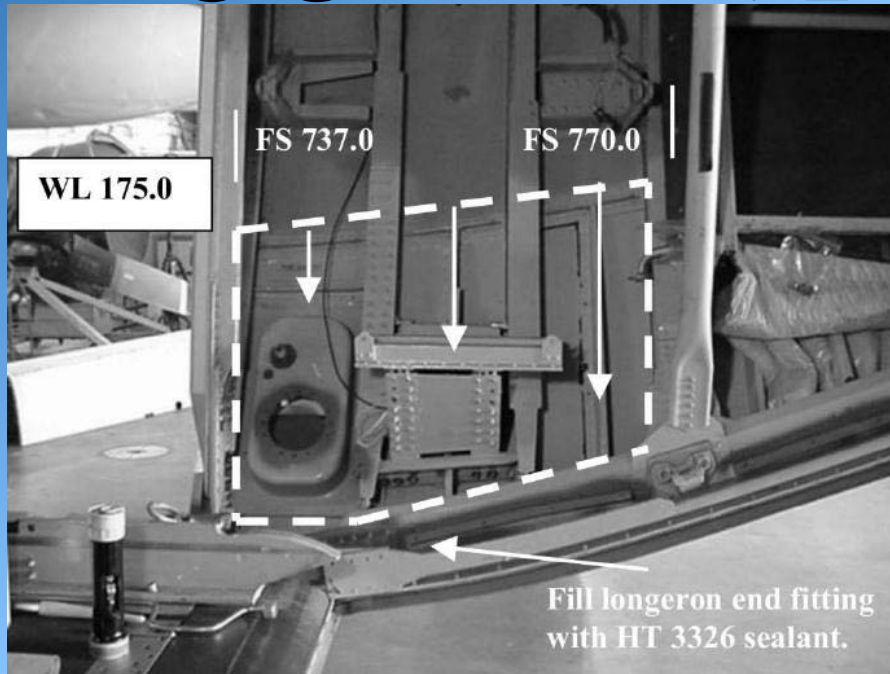
AvDec encapsulation (similar to USCG)

Self-leveling green (HT3326) used to coat entire lavatory area and sloping longeron

Fwd end of sloping longeron filled – top coated with TS 1228 to create hard coating



CURRENT ISSUES



CURRENT ISSUES

Review of wash cycles for AOR aircraft

Poor water quality

Salt air

Transporting to acceptable location is cost prohibitive

Have typically been deferring (107)

Ensure wash is completed promptly upon return

Also reviewing wash for LC-130 aircraft
over 10 days on ice – reverts to “severe”



CURRENT ISSUES

Runway deicing fluid (RDF):

Current: Cryotech E-36 potassium acetate RDF

Raw materials shortage - Potash workers strike in Canada

Contains corrosion inhibitors

Cryotech NX-260 and XT-360 – sodium acetate RDF

XT-360 usable in colder climates than NX-360 (good to 0°F)

NX-360 does not contain corrosion inhibitors

Neither has been subjected to materials compatibility testing per Deicing Joint Test Protocol (attempting to secure funding for JTP testing)

Lack of corrosion inhibitors in NX-360 may increase corrosion

May require changes to landing gear wash procedures/times to remove excess RDF



CURRENT ISSUES

Belly tape removal testing:

Helps protect belly from damage, but hard to remove

Testing of 2-stage chemical stripping method for
polyurethane belly protection tape

Less work, but testing showed excessive time reqd.



CURRENT ISSUES

Refueling slipway paints:

Boom operators seem to prefer black christmas tree over reflective

still has sufficient contrast without the glare

Also reviewing tape vs. paint



CURRENT ISSUES

UV curable coatings tests

Will be doing testing soon

Mostly restricted to small parts

Seeking funding to continue



CURRENT ISSUES

Testing of low density – fast drying primer
being tested on GAANG plane at Dobbins (mid-Nov)
cures in 2 hours – faster topcoating
waiting to see if durability is similar to regular 23377



CURRENT ISSUES

MAFFS paint/sealing/cleaning

Powder coating of small items

Walkway coatings

Testing of SkyRestore for polysulfide fuel tank sealant removal

Pressure washing of removal of peeling polyurethane overspray in tanks



CURRENT ISSUES

Assisting with ODUSD “Cost of Corrosion Study”

Qualified Product Lists

Reviewing and updating items as necessary

Ensuring manufacturers of qualified products do not alter formulation or processes without proper review

Developing a Corrosion Prevention and Control Plan for all USAF C-130s

Based on Corrosion Prevention and Control Planning Guidebook

Will aid in C-130 corrosion damage management, planning, and decision making

Will ensure proper ASIP compliance



CURRENT ISSUES

Decontamination studies:

Chemical Agent Resistant Coating (CARC)
starting soon

Decontamination of chem/bio agents
testing suspended due to funding



CURRENT ISSUES

Working with AFSOC on comprehensive corrosion control plan (CPC, sensors, shelter, wash, inspections)

May transfer this to rest of fleet later





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