



Navigabilité des installations d'essai

3AF CT Essais 09-10.10.2024

HELICOPTERS

ETXMI

General requirements for equipment installed on Airbus helicopters

SPX 902A0002E0x : Environmental requirements

- SPX 902A0002E01 (master document) for general requirements, definitions of deliverables & standards to be used
- SPX 902A0002E02 (EMC appendix)
- SPX 902A0002E03 (general environment appendix) for requirements & procedures applicable for climatic conditions
- SPX 902A0002E04 (thermal appendix for AH internal use only) for temperature level to be respected in these tests

References:

- Do160 / ED14G Environmental conditions and test procedures for airborne equipment
- ED 234 - Supplement to ED-14G user's guide
- RTCA DO-357 - User Guide: Supplement to DO160G
- AC 21-16G - Advisory Circular
- MIL-STD-810 Iss G Environmental Engineering Considerations and Laboratory Tests
- 2020-181-C-AHD-MITB - Quality Escape for fire extinguisher

In detail...

- Natural, climatic, induced conditions
 - Thermal conditions: high and low temperatures
 - Temperature and altitude: stoppage (ground survival), short-time operating and operating
 - Temperature variation
 - Humidity
 - Fungus
 - Salt fog
 - Sand and dust
 - Waterproofness
 - Icing
 - Fluid susceptibility
 - Solar radiation
 - Explosion proofness
 - Fire resistance & flammability
- Mechanical environment
 - Vibrations for known / unknown helicopter frequencies
 - Operational shocks and crash safety
- Lightning direct effects
- Bird strike
- Specific requirements & military environments

Requirements for FTI equipment installed on Airbus helicopters

SAFETY FIRST !

SPX 902A0002E0x Environmental requirements → nice to have !

FTI not mission critical, but... FT is expensive → securing measurement results

Actually depend on

- Installation area: inside / outside cabin, rotating
- Intrusiveness: mechanical, electrical
- Duration of operation

If standards / norms are respected by the equipment → ok

If not (also for home made items):

- Home made tests in lab (temp, vib, EMC/EMI) & flight validation before official usage
- Risk analysis with Design Office specialist (e.g. lightning)

Validation of FTI installation

- Installation developed in FTI Design Office with, if needed, support of Design Office specialists
- Installation description is linked to Permit to Fly
- Bang Tests, B-Tests
- Inspection Reports performed by TVE (Test Validation Engineer)
- Final validation by CVE (Certification Validation Engineer) = FTE (Flight Test Engineer)

Other requirements for FTI equipment

- Known data format: IENA, IRIG 106 Ch10...
- Known description format: Xidml

Copyright Airbus (Helicopters, 2023) / Status on air data calibration, low air speed

This document and all information contained herein is the sole property of Airbus. No intellectual property rights are granted by the delivery of this document or the disclosure of its content. This document shall not be reproduced or disclosed to a third party without the expressed written consent of Airbus. This document and its content shall not be used for any purpose other than that for which it is supplied. Airbus, its logo and product names are registered trademarks.