



EASA
European Aviation Safety Agency

Airworthiness Limitation Section (ALS) AD's

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08-09 December 2016

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TE.GEN.00409-001



AD on ALS - Content

- EASA Policy: AD on ALS revisions
- Policy background
- Current ALS AD writing standard



Airworthiness Limitations Section

- Airworthiness Limitations Section (ALS) is a part of the approved type design and approved by EASA.

21.A.31(a)(3) Type design

The type design shall consist of:

- 1. ...
 - 2. ...
 - 3. **an approved airworthiness limitations section** of the instructions for continued airworthiness as defined by the applicable certification specifications; and
 - 4. ...
- The ALS document is referenced in the Type Certification Data Sheet.



Airworthiness Limitations Section

- Part of the Instructions for Continued Airworthiness (segregated and distinguishable)
 - Each mandatory replacement time, structural inspection interval and related structural inspection procedure applicable to:
 - Damage Tolerant Airworthiness Limitation Items (based on Damage Tolerance evaluation; CS25.571)
 - Safe-Life Airworthiness Limitation Items
 - Fail-Safe Airworthiness Limitation Items
 - Each mandatory replacement time of EWIS (Electrical Wiring Interconnection System) components; CS25.1701



Airworthiness Limitations Section

- For some aircraft types, the ALS also includes:
 - Fuel Tank Airworthiness Limitations including Critical Design Configuration Control Limitations (CDCCL) inspections and procedures
 - CMR (Certification Maintenance Requirements)
 - ASM (Ageing Systems Maintenance)
 - AISS (Aircraft Information System Security)



Post-certification ALS change

- In-service experience or post-certification testing may show that existing ALS inspections, replacement intervals, maintenance actions have been inadequate to prevent catastrophic or hazardous failure conditions
- The evaluation may lead to:
 - Reduction of inspection/replacement intervals or introduction of a new task.
- Any change to the technical content of the ALS must be approved by EASA.



Unsafe condition

AMC and GM to Part 21.A.3B(b):

- An unsafe condition exists if:
 - An event may occur that would result in fatalities, usually with the loss of the aircraft...
(=Catastrophic failure condition), or
 - An event may occur that would reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions to the extent....
(=Hazardous failure condition), or



Unsafe condition

- There is an unacceptable risk of serious or fatal injury to persons other than occupants.
- Design features intended to minimise the effects of survivable accidents are not performing their intended function.



Post-certification ALS change

- Reduction of ALS intervals (replacement, inspection) or introduction of a new task
 - Reduces the risk of an existence of a hazardous or catastrophic failure condition to an acceptable level.
- Hazardous or catastrophic failure condition = unsafe condition.



Part 21.A.3B - EASA issue AD when an unsafe condition has been determined.



AMC 25-19 Certification Maintenance Requirements (CMR)-part of certification specification CS-25:

- If, the CMR introduces more restrictive or new task, the CMR will be mandated by an AD.



Comparison with other authorities

- Bilateral aspects: EU-US Bilateral agreement, technical implementation procedures for airworthiness - 3.1.3
- 3.1.3 The FAA and EASA shall treat a reduced life limit as an unsafe condition and shall accordingly issue an Airworthiness Directive (AD) in accordance with their internal procedures. The FAA and EASA may also issue an AD for other limitation changes if they are considered an unsafe condition.
- The Treaty on EU, Article 126(2) – Agreements concluded by the Union are binding upon institutions of the Union and on its Member States



Airworthiness Directive mandating ALS

- EASA responsibility as of State of Design (Basic Regulation 216/2008 Article 20):
 - ICAO Annex 8 Chapter 4 – to transmit to every contracting state ... any information found necessary for the continuing airworthiness in a form of MCAI
 - MCAI – Mandatory Continuing Airworthiness Information

Annex 8, Chapter 4.2.1: “The term “mandatory continuing airworthiness information” includes mandatory requirements for modification, replacement of parts or inspection of aircraft and amendment of operating limitations and procedures. Among such information is that issued by Contracting States in the form of airworthiness directives.”



ALS AD's current writing standards

- Current standard (introduced mid-2016):
 - Requires accomplishment of each action (when due) as specified in ALS (part replacement and inspection tasks) - § (1)

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously:

- (1) From the effective date of this AD, accomplish the following actions, as specified in the ALS, as applicable to aeroplane model and depending on aeroplane configuration:
 - (1.1) Replace each component before exceeding the applicable life limit, and
 - (1.2) Within the thresholds and intervals (see Note 1 of this AD), accomplish all applicable maintenance tasks.

Note 1: For the purpose of this AD, the thresholds and intervals as defined in the 'Compliance Time' pages of the ALS include specific compliance times for certain tasks.



ALS AD's current writing standards

➤ Note 1: Clarifies that grace periods are also compliance times.

Note 1: For the purpose of this AD, the thresholds and intervals as defined in the 'Compliance Time' pages of the ALS include specific compliance times for certain tasks.

➤ Example

SECTION	REV CODE	ITEMS (Tasks or PNR)	VARIATION NUMBER	COMPLIANCE TIME	COMPLIANCE TIME APPLICABILITY
4-1	N	213100-00001-1-E	2.7	First accomplishment must be carried out no later than: <ul style="list-style-type: none">- 24 months from the Effective Date of the EASA Airworthiness Directive mandating the Revision 03 at issue 02 of A318/A319/A320/A321 ALS Part 4,or- within the due threshold and/or interval (50 000 FH or 210 Mo, whichever occurs first), whichever occurs later.	ALL



ALS AD's current writing standards

- Requires to take corrective action, depending on findings during accomplishment of tasks - § (2);

(2) **Corrective Action(s)**: In case of finding discrepancies during accomplishment of any task as required by paragraph (1) of this AD, **before next flight**, accomplish the applicable corrective action(s) in accordance with the applicable [TCH] maintenance documentation. If a detected discrepancy cannot be corrected by using existing [TCH] instructions, before next flight, contact [the TCH] for approved instructions and accomplish those instructions accordingly.

or



- (2) **Corrective Action(s)**: In case of finding discrepancies (as defined in the ALS) during accomplishment of any task as required by paragraph (1) of this AD, **within the compliance time specified in the ALS**, accomplish the applicable maintenance procedures for corrective action in accordance with the approved maintenance documentation. If no compliance time is identified in the ALS, accomplish the applicable corrective action(s) before next flight. If a detected discrepancy is not identified in the ALS, before next flight, contact [the TCH] for approved instructions and accomplish those instructions accordingly.



ALS AD's current writing standards

- Requires within 12 months revision of the Aircraft Maintenance Programme (AMP) by incorporating all limitations, tasks and intervals as in ALS - § (3).

(3) **Aircraft Maintenance Programme (AMP) Revision:** Within 12 months after the effective date of this AD, revise the approved AMP, on the basis of which the operator or the owner ensures the continuing airworthiness of each operated aeroplane, by incorporating the limitations, tasks and associated thresholds and intervals described in the ALS, as applicable to aeroplane model and depending on aeroplane configuration.



ALS AD's current writing standards

- Credit for AMP that already incorporates earlier ALS revision – only incorporate the new and more restrictive tasks

(4) **Credit:** For an AMP that, on the effective date of this AD, is already updated to incorporate the maintenance tasks and life limitations as specified in [the previous ALS revision], that action ensures (see Note 2 of this AD) the continued accomplishment of those tasks and limitations.

Consequently, for an aeroplane to which that AMP applies, it is acceptable to accomplish the new and more restrictive tasks and limitations, as applicable to aeroplane model and depending on aeroplane configuration, as defined in, and within the compliance times (see Note 1 of this AD) as specified in, the ALS, to comply with paragraph (1) of this AD.



ALS AD's current writing standards

For that AMP, it is acceptable to incorporate the new and more restrictive tasks and limitations, as applicable to aeroplane model and depending on aeroplane configuration, as defined in the ALS, into the AMP to comply with paragraph (3) of this AD.



ALS AD's current writing standards

- Once the AMP is approved (by the NAA), the operator does not have to record AD compliance for each individual task (admin relief) - § (5);

(5) **Recording AD compliance:** When the AMP of an aeroplane has been revised as required by paragraph (3) or (4) of this AD, as applicable, that action ensures (see Note 2 of this AD) continued accomplishment of the tasks as required by paragraphs (1) and (2) of this AD for that aeroplane. Consequently, after revising the AMP, as required by paragraph (3) or (4) of this AD, as applicable, it is not necessary that accomplishment of individual action is recorded for demonstration of AD compliance on a continued basis.



ALS AD's current writing standards

- The Note at the end of the AD highlights the (regulatory) fact that in Europe, operators must comply with the approved AMP through Part M.A.301, paragraph 3 (Comm. Reg. No 1321/2014).

Note 2: For affected [insert aircraft type(s)] registered in Europe, complying with the approved AMP, as specified in paragraph (3) or (4) of this AD, as applicable, is required by Commission Regulation (EU) No [1321/2014](#), Part M.A.301, paragraph 3.



ALS AD's current writing standards

The use of later approved **variations** or revisions of this document [or these documents, if more than 1] is acceptable for compliance with the requirements of this AD.



➤ Don't forget:

*COMMENT ON
EASA PADs !!!
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End slide

Questions ?

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