



EASA

European Aviation Safety Agency

Airworthiness Limitation Section (ALS) AD's

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AD on ALS - Content

- EASA Policy: AD on ALS revisions
- Policy background
- ALS AD's writing standards in historical perspective
- Comparison with other authorities (FAA)



EASA Policy: AD on ALS revisions

- The ALS defines all mandatory maintenance tasks for a given product:
 - Mandatory Replacement Times (for Life Limited Parts)
 - Structural Inspections
 - Certification Maintenance Requirements (CMR)
 - Ageing Systems Maintenance and
 - Fuel Airworthiness Limitation
- Depending on the product these groups of tasks might be combined differently.



EASA Policy: AD on ALS revisions

- The ALS is part of the certificated product type design
 - 21.A.31 (a). Therefore the ALS document should be referenced in the TCDS at the time of type certification (as part of the applicable limitations).

- The ALS content is regulated by the airworthiness codes
 - e.g. CS 25.1529, Appendix H25.4



EASA Policy: AD on ALS revisions

- Standardised treatment of ALS revisions for EU products, prompted by the duty of EASA to notify new or more restrictive tasks as 'Mandatory Continued Airworthiness Information' to ICAO Contracting States.
- In view of the nature of the tasks contained in the ALS, failure to comply with an ALS revision (i.e. new or more restrictive tasks) would - in general - lead to an unsafe condition.



EASA Policy: AD on ALS revisions

- When an ALS is revised to introduce **new or more restrictive tasks**, that will lead to issuance of an AD, except when:
 - it has been demonstrated that failure to comply with the affected task(s) cannot lead to an unsafe condition or
 - the specific tasks are already covered by an AD.



- ICAO Annex 8 obligations of State of Design
 - Dissemination of Mandatory Continuing Airworthiness Information (MCAI) to all ICAO contract states, through ADs

- Failure to comply with the ALS revision would normally result in an unsafe condition
 - Application of 21.A.3B - Unsafe condition triggers need for AD



ALS AD's writing standards in historical perspective

- First EASA ALS AD was created in 2006.
 - Initially, AD text, style and content was non-standardised; differences per type and/or TCH.
 - in some cases, no compliance time specified; or
 - no description of the unsafe condition;
 - Ex: “... from the effective date of this AD it is mandatory to adhere to the life values of the parts as defined in ALS Part 1 Revision 00 from XX August 2006.”

Ex. EASA AD 2006-0129 and AD 2006-0197 (CDCCL).



ALS AD's writing standards in historical perspective

➤ Example EASA AD 2006-0129 :

Compliance:	<ol style="list-style-type: none">1. Except as provided in paragraph 3 of this AD, it is mandatory to strictly adhere to the life values of the parts as defined in the sub-parts 1-2 and 1-3 of the A330 ALS Part 1 revision 00 from 06 August 2006.2. From the effective date of this AD to 05 August 2006, it is mandatory to <u>strictly adhere to the life values of the parts as defined, either:</u><ul style="list-style-type: none">– In the sub-sections 9-1-2 and 9-1-3 of the A330 MPD Section 9-1 at revision 05, except as provided in paragraph 3 of this AD,or,– In the sub-parts 1-2 and 1-3 of the A330 ALS Part 1 at revision 00.3. From the effective date of this AD, <u>it is mandatory to strictly adhere to the life values defined in the sub-part 1-2 of the A330 ALS Part 1 revision 00 for:</u><ul style="list-style-type: none">– The main landing gear retraction bracket PN 201428332. <p>Note: It is necessary to implement and maintain traceability as defined in the A330 ALS Part 1.</p>
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➤ Example EASA AD 2006-0197:

Compliance:	<p>Unless already accomplished, the following actions are rendered mandatory within 3 months from the effective date of this AD:</p> <p>1. Maintenance/Inspection Tasks</p> <ul style="list-style-type: none">- <u>It is mandatory to strictly adhere to the requirements of the following Documents:</u>
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2. CDCCL

- It is the responsibility of the operator to ensure that their internal documentation is amended to reflect the data contained within the documents mentioned under 1) and to provide appropriate text to highlight the existence of each CDCCL. The operators internal procedures and documentation ensuring management of control of CDCCL shall be fully implemented before 01 July 2007.
- No retroactive action is required further to the above mentioned amendment of the documentation.



- First standardised form was developed in 2008 and 2009:
 - For Airbus, reference was made to the ROR (Record of Revisions) of the ALS.
 - Compliance times were incorporated by referencing those in the ALS document itself;
 - Requirement to incorporate ALS changes into the approved Aircraft Maintenance Programme within an imposed timeframe (3 months example).

Ex. EASA AD 2008-0138 and AD 2009-0191



ALS AD's writing standards in historical perspective

➤ Example EASA AD 2008-0138: ALS Part 3

Effective Date:	06 August 2008
Required action(s) and Compliance Time(s):	<p>From the effective date of the AD, the following measures are required as indicated:</p> <p>Within the compliance times defined in <u>the Record Of Revisions</u> page of A330 ALS Part 3 Revision 01, each Operator must:</p> <ul style="list-style-type: none">- Review and assess the content of AIRBUS A330 ALS Part 3 Revision 01, <p>and</p> <ul style="list-style-type: none">- <u>Incorporate all applicable changes to requirements included in AIRBUS A330 ALS Part 3 Revision 01 into his approved maintenance programme,</u> <p>and</p> <ul style="list-style-type: none">- Comply with any action (tasks, intervals, inspections) required by AIRBUS A330 ALS Part 3 Revision 01.



ALS AD's writing standards in historical perspective

➤ Example EASA AD 2009-0191: ALS Part1

Required Action(s) and Compliance Time(s):	Required as indicated, from the effective date of this AD: <ul style="list-style-type: none">– Incorporate into the approved Aircraft Maintenance Programme all applicable changes to airworthiness limitations included in the appended Table 1 of this AD, and
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EASA Form 110

1/3

EASA AD No.: 2009 - 0191

	<ul style="list-style-type: none">– Comply with any action required by the approved Aircraft Maintenance Programme following incorporation of changes introduced by this AD.
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ALS AD's writing standards in historical perspective

A330-200/-300 SERIES

(*) Whichever occurs first.

Explanation notes are located at the bottom of the table.

(*) Whichever occurs first. Explanation notes are located at the bottom of the table.		LIFE LIMITATIONS (*)				
Nomenclature	Part Number	Flight Hours	Landings	Calendar Time	A330-2	
					Weight Variant (WV) 02x	
ATA 32-11-00 MAIN LANDING GEAR						
Main fitting (Left Hand)	201488324 (2)	36000	11920	N/A		
		57000	16685	N/A	X (1)	
		51000	16500	N/A		
	201488335	36000	11920	N/A		
		57000	16685	N/A	X (1)	
		51000	16500	N/A		



➤ Example: EASA AD 2009-0053

Required as indicated, unless accomplished previously:

- (1) Within the next 3 months after the effective date of this AD, amend the approved aircraft maintenance programme to incorporate the instructions of ATP AMM at Revision 82 Chapters 05-10-11 "Mandatory Life Limitations (Airframe – Systems)", 05-10-12 "Mandatory Life Limitations (Airframe – Structures)", 05-10-14 "Mandatory Life Limitations (Powerplant/Engine/APU – Systems)", 05-10-15 "Mandatory Life Limitations (Powerplant/Engine/APU – Structures)", 05-10-17 "Structurally Significant Items (SSI's)", 05-20-00 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System" and 05-23-00 "Certification Maintenance Requirements".
- (2) Thereafter, within the thresholds and intervals indicated in that document, accomplish the tasks described in BAE Systems (Operations) Limited ATP AMM Chapters 05-10-11, 05-10-12, 05-10-14, 05-10-15, 05-10-17, 05-20-00 and 05-23-00.



- First enhanced standardised form in 2010:
 - Compliance time(s) referenced better;
 - Compliance with the AD can be demonstrated by:
 - 1) Revising the approved AMP by incorporating all limitations and maintenance tasks as specified in the ALS;
 - 2) Complying with the AMP (included especially for operators).



ALS AD's writing standards in historical perspective

- The main reason not to include a compliance time for AMP amendment was the time necessary for a State of Registry NAA to approve the operator's amended AMP. Cases were known where an operator was found 'non-compliant': AMP not approved within AD compliance time.
- The principle 'flaw' of this standard: it remained unclear when an operator was required to demonstrate compliance with all ALS tasks.
Ex. EASA AD 2010-0076



ALS AD's writing standards in historical perspective

➤ Example EASA AD 2010-0076 – ALS (Rolls-Royce De):

<p>➤ Required action(s) and Compliance Time(s):</p>	<p>Required as indicated, unless accomplished previously:</p> <p>(1) <u>Within one month after the effective date of this AD or upon accumulating the new DSCL indicated in Table 1 or 2 of this AD, whichever occurs later, and thereafter, at intervals not to exceed the new DSCL, replace the HP1 Turbine Disc or the HP2 Turbine Disc, as of applicable, with a serviceable HP1 Turbine Disc or the HP2 Turbine Disc, as applicable, in accordance with Rolls-Royce Deutschland. NMSB SB-BR700-72-A900492 initial issue.</u></p> <p>(2) Compliance with the requirements of paragraph (1) of this AD can be demonstrated by:</p> <p>(2.1) <u>Revising as follows, unless accomplished previously, the approved Aircraft Maintenance Programme from which the Operator or the Owner ensures the continuing airworthiness of each operated aeroplane:</u></p> <p>Incorporate the new DSCL and associated aircraft airworthiness limitations specified in the Rolls-Royce Deutschland. NMSB SB-BR700-72-A900492 initial issue.</p> <p>and</p> <p>(2.2) <u>Complying with the approved Aircraft Maintenance Programme as described in paragraph (2.1) of this AD.</u></p>
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ALS AD's current writing standards

- Current standard (introduced mid-2014):
 - Requires accomplishment of all actions as specified in ALS (with parts replacements before reaching LL, accomplishment of all applicable maintenance tasks) - § (1); Example: EASA AD 2014-0224

Required as indicated, unless accomplished previously:

- (1) From the effective date of this AD, accomplish the actions as specified in Fokker Services Reports SE-473 issue 10 (CMRs), SE-623 issue 13 (ALIs and SLIs) and SE-672, issue 4 (Fuel ALIs and CDCCLs), hereafter referred to collectively as 'the ALS', as required by paragraphs (1.1) and (1.2) of this AD.
 - (1.1) Replace each component before or upon reaching the applicable life limit, and
 - (1.2) Within the thresholds and intervals, accomplish all applicable maintenance tasks.



ALS AD's current writing standards

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

(2) If, during accomplishment of any task as required by paragraph (1) of this AD, any discrepancies (as defined in the ALS) are found, within the applicable compliance time specified in the ALS, accomplish the applicable maintenance procedures for corrective actions in accordance with the approved maintenance documentation. If no compliance time is identified in the ALS, accomplish the applicable corrective actions before next flight. If a detected discrepancy is not identified in the ALS, before next flight, contact Fokker Services for approved instructions and accomplish those instructions accordingly.



ALS AD's current writing standards

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

(3) Within 12 months after the effective date of this AD, revise the approved aircraft maintenance programme (AMP) and standard practices, 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 the 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); Ex. EASA AD 2014-0224

(4) 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 Fokker reports SE-473 issue 10, SE-623 issue 12 and SE-672 issue 4, the new and more restrictive tasks and limitations, as defined in SE-623 issue 13, must be incorporated 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) Compliance with the requirements of paragraph (3) constitutes compliance with the requirements of paragraphs (1) and (2) of this AD. After revising the AMP, as required by paragraph (3) or (4) of this AD, as applicable, it is not necessary that accomplishment of individual tasks is recorded for demonstration of AD compliance on a continued basis.



ALS AD's current writing standards

- Note at the end of the AD, highlighting the (regulatory) fact that in Europe, operators must comply with the approved AMP through Part M.A.301, paragraph 3 (Comm. Reg. No 2042/2003).

Note: For affected Fokker F28 Mark 0070 and Mark 0100 aeroplanes registered in Europe, complying with the approved AMP as specified in paragraph (3) of this AD is required by Commission Regulation (EC) No [2042/2003](#), Part M.A.301, paragraph 3.



Comparison with other authorities

- Bilateral aspects: EU-US Bilateral agreement, technical implementation procedures for airworthiness - 3.1.3
- *Sharing Information on Any Airworthiness Limitation Changes. The FAA and EASA shall share information on any changes that affect operating limitations, life limits, or any other airworthiness limitation, including manual changes and changes to certification maintenance requirements. These changes should be promptly sent to the importing authority in order to ensure the continued operational safety of the aircraft. 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.*



➤ Don't forget:

*COMMENT ON
EASA PADs !!!
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End slide

Questions ?

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