


EASA	COMMENT RESPONSE DOCUMENT
	<p align="center">EASA PAD No. 13-028 [Published on 05 February 2013 and officially closed for comments on 05 March 2013]</p>

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Comment # 1

1. INTRODUCTION

The pieces of information chosen by Airbus, and accepted by the EASA, to form an ICA sometimes complicate the activities of maintenance organisations approved under Part-145 and Continuing Airworthiness Management Organisations (CAMO) approved under Part-M. This is the case with the instructions for Damage Tolerant Airworthiness Limitation Items (a part of ICA specified as mandatory in approval of the type design).

The issue of an AD to address new or amended mandatory instructions and/or airworthiness limitations may cause additional prejudice to maintenance organisations and CAMO. The AD calls the attention of the competent authority for the oversight of the continuing airworthiness of individual aircraft to the matter and may amplify the difficulties of CAMO/maintenance organisations, especially when the data selected are not sufficient to form an ICA.

This PAD/AD is founded on an unstable basis.

The review of PAD 13-028 has to take into account the context in which the mandatory instructions and corresponding airworthiness limitations are introduced, and the rules governing this context. This is a requisite to achieve a correct introduction of mandatory directives compatible with the activities of maintenance organisations and CAMO.

To make this report easier to read, the subject context and the rules governing this context are described in the Appendix to this report. The Appendix to this report describes a process for the certification of a (recent) aeroplane type (and the benefits to properly comply).

The EASA stressed the impact of using ambiguous terms and the importance for providing clarity and accuracy (see Note 1). We have tried to pay particular attention to the terms used in the subject PAD and in this discussion: For example, “approved” does not mean “mandatory”, and “safety task” does not necessarily imply “mandatory compliance”.

Note 1: Refer to the EASA Proposed CM-21A-J-001 issue 01. Refer also to the FAA Advisory Circular (AC) 20-176 “Design Approval Holder Best Practices for Service Bulletins Related to Airworthiness Directives”.

2. SECTION ‘REASON’

Please could the EASA provide its answers to the following questions?

☐ Would not the use of a unique term for “maintenance instructions”, “maintenance tasks”, and “tasks” improve the section “Reason”?

The International Standards and Recommended Practices in the paragraph 10.4 of Chapter 10 in the Part IIIA of the Annex 8 (Amdt 103) to the Convention on International Civil Aviation refer to “maintenance tasks and frequencies that have been specified as mandatory by the State of Design in approval of the type design”

(ref. to the Appendix to this report, Part I, paragraph A.).

☐ Could the EASA provide the reasons why public has not been consulted earlier on this issue (i.e. PAD should have been published approximately a year ago) and the corrective actions the EASA intends to implement to prevent the possibility of reoccurrence?

This Section states that “The new Airbus A318/A319/A320/A321 Airworthiness Limitations Section (ALS) Part 2 Revision 01 document [...] introduce more restrictive DT ALI maintenance instructions”. Failure to comply with more restrictive mandatory maintenance tasks or airworthiness limitations can result in an unsafe condition.

☐ Would the following proposal for the section “Reason” be more appropriate?

“The Instructions for Continued Airworthiness (ICA) that have been specified as mandatory in approval of the type design for Airbus A318/A319/A320/A321 aeroplanes are currently collected in the Airworthiness Limitations Section (ALS).

The maintenance tasks for Damage Tolerant Airworthiness Limitation Items (DT ALI) and their respective airworthiness limitations were previously listed in Airbus A318/A319/A320/A321 ALI Document referenced AI/SE-M4/95A.0252/96 issue 10 and Airbus A319 Corporate Jet ALI Document referenced AI/SE-M2/95A.1038/99. EASA issued AD 2010-0071R1 to require compliance with these mandatory maintenance tasks and airworthiness limitations as specified in these documents.

The maintenance tasks for DT ALI and corresponding airworthiness limitations are now specified in Airbus A318/A319/A320/A321 ALS Part 2 (covers also Airbus A319 Corporate Jet), which is approved by the EASA. The revision 01 of this ALS Part introduces more restrictive maintenance tasks and/or airworthiness limitations. Failure to comply with the mandatory maintenance tasks or airworthiness limitations contained in this ALS Part revision could result in an unsafe condition.

The new maintenance tasks 531129-02-2 and 531129-02-3 introduce the inspection of the internal side of the windshield centre post lower attachment area, superseding the one time inspection previously required by EASA AD 2011-0231.

For the reasons described above, this AD retains the requirements of EASA AD 2010-0071R1 and those of EASA AD 2011-0231, which are superseded, and requires the implementation of the mandatory maintenance tasks and airworthiness limitations as specified in Airbus A318/A319/A320/A321 ALS Part 2 revision 01.”

3. SECTION ‘REQUIRED ACTION(S) AND COMPLIANCE TIME(S)’

☐ Would the paragraph (1) impose an excessive flexibility reduction on the organisations managing the continuing airworthiness of Airbus A318/A319/A320/A321 aeroplanes?

This paragraph is confusing. It requires after (How soon after? One day, one month or six months?) the effective date of this AD, the accomplishment of all applicable (see Note 2) maintenance tasks (see Note 3) within the compliance times defined in the Record Of Revisions (ROR) pages of Airbus A318/A319/A320/A321 ALS Part 2 revision 01. Why is it required to immediately carry out the first accomplishment of the applicable tasks for DT ALI, on (recent) aeroplanes that have not accumulated a life close to the corresponding airworthiness limitations? As long as the threshold/interval is not exceeded, there is no unsafe condition.

Note 2: Depending on aeroplane configuration.

Note 3: As included by reference in the Record of Revisions pages of ALS Part 3 revision 01.

Would the following proposal for the paragraph (1) be more appropriate?

“(1) From the effective date of this AD, comply with the instructions and corresponding compliance times as specified in the Record of Revisions (ROR) pages of Airbus A318/A319/A320/A321 ALS Part 2 revision 01.”

☐ What are the (new) restrictions introduced by the paragraph (2)?

Are not these instructions standard practices? Should EASA confirm the need for their introduction in the AD:

☐ Should not other relevant standard practices be introduced (e.g. lighting requirement)?

☐ What should be done for corrective actions that have been applied, but not approved, in the past (i.e. when there was no requirement on this matter in the DT ALI-related AD or when there was/is no such AD at all)?

☐ What should be done for corrective actions that have been applied, but neither developed nor approved by Airbus under its Design Organisation Approval?

Of course, they may be numerous.

Should not these standard practices be included in, or complement, the rules governing Airbus A318/A319/A320/A321 ALS Part 2 at the opportunity of the next revision? Would not this be a more reasonable solution?

☐ Would the following proposal for the paragraph (3) be more appropriate?

“(3) Compliance with the requirements of paragraph (1) of this AD can be demonstrated by:

(3.1) Revising as follows the approved Aircraft Maintenance Programme (AMP), on the basis of which the operator or the owner ensures the continuing airworthiness of each operated aeroplane:

Incorporate all maintenance tasks and airworthiness limitations specified in Airbus A318/A319/A320/A321 ALS Part 2 revision 01 that are relevant to the aeroplane model and weight variant,

and

(3.2) Complying with the approved AMP described in paragraph (3.1) of this AD.”

4. COMPLIANCE WITH THE A318/A319/A320/A321 ALS PART 2 REVISION 01

a. APPLICABLE INSPECTION PROCEDURES

The GM No. 1 to 21.A.239(a) indicates that the Office of Airworthiness (see Note 4) should ensure (see Note 5) that the manuals approved by the EASA (the Aircraft Flight Manual, Master Minimum Equipment List, the ALS of the ICA and the CMR document, where applicable), including any subsequent revisions, are checked to determine that they meet the respective requirements, and that they are provided to the EASA for approval (ref. subparagraph w, paragraph 3.1.4 of the GM). The subject check is a compliance verification (ref. paragraph 3.1.3 of the GM).

We infer from this GM that (i) the EASA Certification Directorate (see Note 6) has checked Airbus A318/A319/A320/A321 ALS Part 2 revision 01 before approving it, and (ii) the TC holder has produced Airbus A318/A319/A320/A321 ALS Part 2 revision 01 (ALS Part 2 author role) and performed an independent check (ALS Part 2 Compliance Verification Engineer (CVE) role).

Note 4: Office of Airworthiness of the Design Approval Holder organisation.

Note 5: The term “ensure” is important as it implies that the compliance verification is not necessarily performed by the Office of Airworthiness.

Note 6: Probably an EASA Structure Expert and the EASA Project Certification Manager.

Please could the EASA tell how the following issues have been taken into account by the stakeholders?

JAR 25 states in the Appendix H:

“H25.4 Airworthiness Limitations section

The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under JAR 25.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: ‘The Airworthiness Limitations Section is approved and variations must also be approved’.”

This paragraph of JAR 25 finds its roots in the FAR 25 amendment 25-54. The final rule explains that “FAA does not agree that inspection intervals and related procedures can be omitted from the Airworthiness Limitations section of the Instructions for Continued Airworthiness. For example, the proposed Airworthiness Limitations section on a transport category airplane must contain mandatory inspection intervals and related procedures because the damage-tolerance concept

described in Sec. 25.571 is predicated upon the use of such inspections to detect initial cracks in principal structural elements before crack growth under repeated loads could progress to a degree which would cause catastrophic failure of the airplane. However, the FAA does agree that Secs. 43.16 and 91.163(c) should permit modification of these intervals and procedures by other FAA approved methods”.

In other words, the application of an inappropriate inspection procedure, even at the correct interval, cannot guarantee the timely detection of cracks. Although the approved structural inspection procedures are crucial for the activities of maintenance organisations and CAMO, this information is obviously not given in Airbus A318/A319/A320/A321 ALS Part 2 revision 01.

☐ Can the EASA confirm whether it has reviewed and approved basic (see Note 7) structural inspection procedures necessary to the demonstration of compliance with all inspections specified in Airbus A318/A319/A320/A321 ALS Part 2 revision 01?

Note 7: Reference is made to the inspection procedure developed by the TC holder: some alternative inspection procedures may exist.

JAR 25 Appendix H25.4 states that the ALS “must set forth each [...] structural inspection procedure approved under JAR 25.571” and the ALS “[...] is approved and variations must also be approved”. Should not these structural inspection procedures have been approved by the Agency no later than Airbus A318/A319/A320/A321 ALS Part 2 revision 01, as the Part 21.A.263(c) does not list any approval privilege for the ALS?

☐ Can the EASA tell if the absence of references to basic structural inspection procedures to conform in order to declare the compliance with all inspections specified in Airbus A318/A319/A320/A321 ALS Part 2 revision 01 (and with the AD resulting from this PAD, a fortiori), can be considered as a non-compliance with JAR 25 Appendix H, paragraph H25.4?

☐ Can the EASA tell if a compliance verification of the MPD is carried out?

With the inspections of Airbus A318/A319/A320/A321 ALS Part 2 revision 01, CAMO and maintenance organisations are taken for a ride from a document to another, i.e. ALS Part 2 ☐ Maintenance Planning Document (MPD) ☐ Aircraft Maintenance Manual (AMM)/Non-destructive Testing Manual (NTM). To the best of our knowledge, Airbus considers that ICA do not embrace the MPD and some operators do not develop their Aircraft Maintenance Programme on the basis of the MPD.

☐ Is this interruption in the ICA chain acceptable for the demonstration of compliance with AD, taking into account the potential MPD quality issues?

The combination of data chosen by Airbus, and accepted by the EASA, to form an ICA specified as mandatory in approval of the type design, contributes sometimes to make more complex the activities of maintenance organisations and CAMO. This is the case with Airbus A318/A319/A320/A321 ALS Part 2 revision 01. The adequate combination for an inspection includes:

- (i) A unique inspection task identifier,
- (ii) An inspection task description,
- (iii) The direct cross-reference (at least) to the inspection procedure(s) to fulfil the inspection task objective,
- (iv) The airworthiness limitations, and
- (v) The applicability.

Neither the MRBR (approved, compliance not mandatory) nor the MPD (not approved, compliance not mandatory) is an appropriate repository for referencing the maintenance procedure(s) necessary to show compliance with mandatory instructions (as described in this report). A misleading message is therefore conveyed when an ALS Part references MRBR or MPD tasks instead of the relevant maintenance procedure.

Refer also to the paragraph E. of the Part II in the Appendix to this report.

The EASA correctly recommends (see Note 8) that in their Service Bulletins (SB) related to AD, design organisations should “not refer to documents that simply refer to other documents. Instead [they should] refer to the end document that provides the actual instruction”. But, why would this apply only to SB?

Note 8: Refer to Proposed CM-21A-J-001 issue 01.

The application of the EASA's recommendation to Airbus A318/A319/A320/A321 ALS Part 2 would (i) minimize the possibility of errors or extensive judgment, and (ii) alleviate the burden AD and Airbus A318/A319/A320/A321 ALS Part 2 revision 01 generate on operators (without jeopardizing safety) for aeroplanes that have been previously processed in accordance with the end manual that provides the actual procedure.

b. ROR PAGES

☐ Can the EASA confirm if it is acceptable to deviate from the maintenance tasks or maintenance procedures corresponding to airworthiness limitations of A318/A319/A320/A321 ALS Part 2 revision 01?

The subparagraph 1. of paragraph "COMPLIANCE TIME" in the ROR states that "It is mandatory to comply with the airworthiness limitations as defined in the A318/A319/A320/A321 ALS Part 2 revision 1". No reference is made to the maintenance tasks or maintenance procedures.

c. SECTION 1

☐ Could the EASA confirm that "the Certification Maintenance Requirements (given in ALS Part 3), the Ageing Systems Maintenance (given in ALS Part 4), and the Fuel ALIs (given in ALS Part 5) satisfy the requirements given in JAR Part 25.571/25.1529/appendix H25.4", as stated in paragraph 1-1?

For example, Airbus A318/A319/A320/A321 ALS Part 3 revision 01 indicates in the sub-part 3-0, paragraph 1. that CMR are not addressed by the paragraph H25.4 of JAR 25 Appendix H. In the paragraph 5., it indicates that CMR have been shown to be necessary either by System Safety Assessment (e.g. JAR 25.1309 compliance) or, in a minority of cases, by engineering judgement.

☐ Can the EASA tell what a Damage Tolerant Airworthiness Limitation Item is?

The section 1 paragraph 1.1. indicates that "The requirements quoted in this document are classed as Damage-Tolerant Airworthiness Limitation Items (DT ALIs)". The Appendix C to Airbus A318/A319/A320/A321 ALS Part 2 revision 01 indicates that "They [DT ALI] are all those parts of the structure whose failure could result in catastrophic failure of the airplane and that are designed to fatigue and damage-tolerance concept".

☐ Can the EASA tell what the source document to identify the weight variant of an Airbus A318/A319/A320/A321 aeroplane at the time of its initial delivery is? Could it be the Aircraft Inspection Report of the aeroplane? Why is this source document not referenced in Airbus A318/A319/A320/A321 ALS Part 2 revision 01?

The paragraph 1.2.B. states "The applicable WV for each individual aircraft at delivery can be found in the Aircraft Cross Reference table in the A318/A319/A320/A321 SRM Front Matter".

☐ Can the EASA confirm the meaning of the Limit Of Validity (LOV)?

The paragraph 1.3. states that "The LOV reflects the limit of validity of the engineering data that supports the structural maintenance programme".

The FAA AC 120-104 defines the LOV as "[...] the period of time (in flight cycles, flight hours, or both), up to which it has been demonstrated that WFD is unlikely to occur in an airplane's structure by virtue of its inherent design characteristics and any required maintenance actions."

The LOV seems to be strictly associated to widespread fatigue damage.

☐ Can the EASA tell if it is necessary to assure traceability (of in-service history) and monitoring of transferable damage tolerant structural parts, which failure is potentially catastrophic?

There is a number of components in the aeroplane structure that are involved in catastrophic failure conditions (e.g. in landing gear assemblies, engine mount assemblies, as life limitations and inspections, respectively, can be found in Airbus A318/A319/A320/A321 ALS). The demonstrated operational life for damage tolerant components has not been specifically and systematically published: CAMO/ maintenance organisations are informed only when the operational life for a specific component is less than the aeroplane operational life. They are informed by the publication of a mandatory life limitation in Airbus A318/A319/A320/A321 ALS, or in an AD. Traceability of in-service history for affected components has been enforced only for Safe Life Airworthiness Limitation Items (ALS Part 1).

Unfortunately, this practice exposes public to unnecessary risks in the case of damage tolerant components that can be removed from an aeroplane to be fitted to another, as many times as necessary (see Note 9). Compliance with JAR 25.571 may not be maintained when transferable components are operated beyond their

demonstrated operational life.

Note 9: Reference is made to “transferable components”.

Operation beyond the applicable demonstrated operational life has already been observed for such components.

☐ Can the EASA tell if it is necessary to obtain an EASA approval for variations to the ALS as stated in JAR 25 Appendix H, paragraph H25.4?

The paragraph 1.4.A. states “Thresholds and intervals of the DT ALIs cannot be increased, unless advised by the manufacturer following approval by the Authority of the State of aircraft registry.”

☐ Can the EASA tell what the metallic structural items to be inspected for corrosion are?

The paragraph 1.4.A. states “The ALS Part 2 requires also to control corrosion to Level 1 or better on all metallic structure details, elements or assemblies, which contribute significantly to carrying flight, ground, pressure or control loads and whose failure could result in catastrophic failure of the aircraft.”

Airbus A318/A319/A320/A321 ALS Part 2 revision 01 does not provide the list of subject metallic structure details, elements or assemblies. So, what should be inspected?

☐ Can the EASA tell what the minimum maintenance requirements resulting from JAR 25.571 to address corrosion are?

The paragraph 1.4.A. states “The Corrosion Prevention and Control Program (CPCP) defined in the Structure Section of the A318/A319/A320/A321 MRB Report is an acceptable means of compliance”.

If the CPCP is one means (so not the only means to demonstrate compliance), what are the minimum maintenance requirements? Further, compliance with the MRBR is not mandatory (ref. to the Appendix to this report, Part I, paragraph C.).

So, should the minimum maintenance requirements resulting from JAR 25.571 to address corrosion be given in Airbus A318/A319/A320/A321 ALS Part 2?

☐ Can the EASA tell what the applicable airworthiness limitations for repaired structure are?

The paragraph 1.4.B. states “Limitations quoted in Section 2-2 are applicable to the undamaged and unrepaired structure.”

The paragraph 1.4.D. states “Limitations of the ALS Part 2 may be superseded by instructions given in either Airworthiness Directives (AD) or production Concessions or a Repair Approval Sheet (RAS) or an Alternative Means (see Note 10) Of Compliance (AMOC).

It is Operator’s responsibility to refer to the applicable limitations.”

Note 10: Alternative **Method** Of Compliance?

What should be done for airworthiness limitations stated in these documents, when the corresponding airworthiness limitations stated in Airbus A318/A319/A320/A321 ALS Part 2 revision 01 have been reduced?

☐ Could the following statement for the paragraph 1.4.C. be appropriate to alleviate the burden on maintenance organisations and CAMO?

“Any damage exceeding the scope of Airbus SRM or corrosion greater than Level 1 (regardless where and when the corrosion is detected) on DT ALI shall be reported to Airbus. [...]”

5. WAY FORWARD

We recommended to:

☐ Cancel the EASA PAD 13-028,

☐ Require the publication of an Airbus A318/A319/A320/A321 ALS Part 2 revision that will address the subject within a reasonable timeframe (e.g. before the end of 2013),

☐ Issue an AD requiring compliance with this Airbus A318/A319/A320/A321 ALS Part 2 revision.

6. CONCLUSION

It is our considered opinion that the PAD 13-028 may contribute to the confusion and could expose the public to its potential consequences. We therefore believe that corrective action is necessary. Consequently, the engineers who have commented the PAD 13-028 would respectfully request if the answers to these questions could be developed by the EASA.

It could be felt that, within various departments of the TCH, a shortfall in direction or experience in the management of aircraft continuing airworthiness could be holding an unmerited influence when addressing ALS issues.

We would like to express in anticipation our thanks to the EASA for the consideration given to our comments and for the release of public answers.

EASA response:

Comments understood but not agreed. In the view of EASA, the commenter provides a personal view on EASA AD policy and Airbus ALS documentation, rather than providing comments specifically focusing on PAD 13-028. In addition, a Comment Response Document is not a forum to open an online debate on either EASA or Airbus standard practices.

As the opinions expressed do not address the merits of the proposed requirements as expressed in the PAD, no changes have been made to the Final AD in response to these comments.

However, since PAD 13-028 was issued, EASA has approved Revision 02 to ALS Part 2, which has been published by Airbus. Consequently, the Final AD makes reference to (i.e. requires accomplishment of the actions as specified in) the latest ALS Part 2 revision.