

**COMMENT / RESPONSE DOCUMENT**

**CRITICAL PARTS**

The following have replied indicating that they have no comments.

Austro Control  
CAA Denmark  
CAA Hungary

The following comments were received from DGAC-F, with HASG replies.

Comment: (1) This NPA introduces an additional definition of “Critical Part” which is not compatible with that published in JAR-1

Reply: (1) The definition of a “Critical Part” introduced into JAR-1 Change 4 stems from JAR-E and was intended to ensure compatible terminology with the text of JAR-21, JAR-25 and JAR-P. However, this definition is not practical for rotorcraft and it was therefore felt appropriate to create a definition within JAR-27 & 29 to specifically state the applicability. With a Critical Part defined in this manner, the procedural rules of JAR-21 are not affected. In the longer term, it may be appropriate to amend the definition in JAR-1 to reflect the rotorcraft definition.

Comment: (2) The procedural aspects of the Critical Parts requirements should be adapted and placed into JAR-21 with a simple reference to JAR-21 retained in JAR 29.602.

Reply: (2) The placement of the procedural aspects of this requirement within the airworthiness code was deliberate and intended to highlight the greater need to control critical parts in rotorcraft.

The following comments were received from CAA UK, with HASG replies.

Comment: (1) The definition of a “Critical Part” contained in 29.602(a) should come solely from an analysis of the failure modes and their effects. The identification and control of the critical characteristics should not be part of this definition but contained as an essential part of the rule. It should also be made clear that the critical characteristics relating to design, production and operation must be addressed during certification.

Reply: (1) The definition has been the subject of a great deal of debate, where differing opinions, including those of the CAA, have been considered. The definition accepted is that agreed by the Working Group and endorsed by HASG.

- Comment (2) The text of 29.602(b) should not be limited in scope to only the critical design characteristics.
- Reply (2) Whatever characteristics need to be considered at the design stage can be termed “design characteristics”. While acknowledging that an inconsistency exists within the terminology used, this is not felt to be confusing or ambiguous, and the importance of retaining harmonisation with FARs is considered an overriding factor.
- Comment (3) The CAA disagree with the assumption that existing manufacturers who have met the intent of the critical part requirements in the past, would be acceptable today, without compliance with JAR 29.602 being established during each individual Type Certification exercise.
- Reply (3) The intent of the critical parts requirement was to formalise the procedures and standards currently used by industry. Manufacturer’s existing critical parts procedures could therefore be acceptable in meeting these requirements.
- Comment (4) The CAA do not support the assumption in ACJ 29.602 (2.a) that a suitable landing site is always present or that the operational environment need not be considered. The CAA recommend that CAT A and CAT B rotorcraft should be treated separately in accordance with the accepted operational philosophies. The Critical Parts List for CAT A rotorcraft should therefore include parts the failure of which would prevent continued safe flight.
- Reply (4) The intent of the NPA was simply to rewrite the existing text of 27/29x602 into a format which would be accepted as a harmonised code. There was no mandate to alter the applicability of the critical parts definition which has in the past been accepted by the CAA in validating rotorcraft. Any proposal to alter the existing standards would need to be justified and pursued through a new harmonisation initiative assigned to a new Working Group with specific ToR.
- Comment (5) ACJ 29.602 (2.b.(2)) should be re-worded to emphasise that there should be no “unauthorised” repairs.
- Reply (5) While acknowledging that the text proposed by the CAA is clearer, the comment does not change the intent of the paragraph.. The text of the NPA is therefore retained in order to prevent disharmony with FARs, but may be reviewed at a subsequent AC revision.
- Comment (6) The CAA recommend that the text of ACJ29.602 (2.b.(3)) should be re-formatted so that the importance of keeping accurate records for the control of service life is emphasised in a separate sub-paragraph.
- Reply (6) While acknowledging that the text proposed by the CAA is clearer, the

comment does not change the intent of the paragraph. The text of the NPA is therefore retained in order to prevent disharmony with FARs, but may be reviewed at a subsequent AC revision.

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| Comment | (7)  | The CAA question why the existing sub-paragraph “e” of ACJ to Appendix A has not been included in the revised ACJ, as it was seen to be an important aspect of the requirement.  |
| Reply   | (7)  | This issue was seen as having specific operational implications and therefore intentionally excluded from the text of the NPA.   |
| Comment | (8)  | The text of ACJ 29.602 (2.d) was felt to be too restrictive and should be expanded to cover other aspects of the part’s characteristics, not just fatigue strength.  |
| Reply   | (8)  | The text of the NPA is retained in order to maintain harmonisation with FARs. However the comment is noted for any future amendment.   |
| Comment | (9)  | The “if applicable” caveat in ACJ 29.602 (2.b.(3)) brings into question when would it be appropriate not to keep records. The CAA recommendation is to include all parts where practicable (i.e. with the exception of standard parts such as nuts, bolts, washers, etc.)            |
| Reply   | (9)  | If failure occurs to a part which has not been subject to a rigorous recording of its service life such as non life limited parts, or inadequate records have been kept, an AD will be raised to ensure all affected parts are in an airworthy condition or replaced as appropriate. |
| Comment | (10) | Instead of the wording proposed in ACJ 29.602 (2.g), the CAA recommended reverting to the text of ACJ 29x602 3g which was considered to express the intent more succinctly.  |
| Reply   | (10) | The comment does not alter the intent of the paragraph.  |

The NPA will be published without change.