COMMENT-RESPONSE DOCUMENT (CRD)

TO NOTICE OF PROPOSED AMENDMENT (NPA) 2011-19

amending Decision No 2003/19/RM of the Executive Director of the European Aviation Safety Agency of 28 November 2003 on acceptable means of compliance and guidance material to Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks

AND

for a Commission Regulation amending Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks

'Aircraft Continuing Airworthiness Monitoring'

Reactions to this CRD should be submitted via the CRT by clicking the 'add a general reaction' button.
Please indicate clearly the applicable paragraph.

Executive Summary

As part of their continuing airworthiness oversight system competent authorities are required to develop a survey programme to monitor the airworthiness status of the fleet of aircraft on their register, referred to as 'Aircraft Continuing Airworthiness Monitoring' (ACAM, cf. M.B.303). The survey programme shall be developed by selecting a relevant sample of aircraft and shall include an aircraft survey, focusing on a number of key airworthiness risk elements.

Appendix III to AMC M.B.303(d) 'Aircraft Continuing Airworthiness Monitoring – Planning & Recording Document' defines those key risk elements for the aircraft surveys to be conducted by competent authorities.

Feedback from competent authorities and typical findings encountered during standardisation inspections indicate that ACAM requirements and key risk elements are not consistently and uniformly applied in all Member States. The existing rule material and related Acceptable Means of Compliance and Guidance Material has, therefore, been reviewed to improve clarity and to include additional guidance, including typical inspection items, on the use of key risk elements. The changes proposed aim at enhanced efficiency of the ACAM programme, both in terms of flight safety and better use of competent authority resources, without creating additional burden for competent authorities or aircraft owners/operators.

Explanatory Note

I. General

1. The purpose of this Comment-Response Document (CRD) is to envisage amending provisions pertaining to ACAM in Commission Regulation (EC) No 2042/2003[1] Annex I Part-M and Decision 2003/19/RM of the Executive Director of the European Aviation Safety Agency of 28 November 2003[2]. The scope of this rulemaking activity is outlined in Terms of Reference (ToR) M.027 Issue 2 published on 4 October 2011 and is described in more detail below.

2. The European Aviation Safety Agency (hereafter referred to as the 'Agency') is directly involved in the rule-shaping process. It assists the Commission in its executive tasks by preparing draft Regulations, and Amendments thereof, for the implementation of the Basic Regulation[3] which are adopted as 'Opinions' (Article 19(1)). It also adopts Certification Specifications, Acceptable Means of Compliance and Guidance Material to be used in the certification process (Article 19(2)).

3. When developing rules, the Agency is bound to follow a structured process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'[4].

4. This rulemaking activity is included in the Agency's Rulemaking Programme for 2012. It implements the rulemaking task RMT.0216 (M.027) 'Aircraft Continuing Airworthiness Monitoring'.

5. The text of this CRD has been developed by the Agency with the assistance of the review group RMT.0216 (M.027). It is submitted for reactions in accordance with Article 52 of the Basic Regulation and Article 7 of the Rulemaking Procedure.

   The proposed rule has taken into account the development of the European Union and International law (ICAO), and the harmonisation with the rules of other authorities of the European Union's main partners as set out in the objectives of Article 2 of the Basic Regulation. The proposed rule is equivalent to the ICAO Standards and Recommended Practices.

II. Summary of changes – Implementing Rule

6. **M.B.303** is amended to better clarify the intent of the rule. Former paragraph (c) is removed; the items to be considered for the development of the programme are now addressed in AMC 1 M.B.303 (a). In former paragraph (d) the requirement for a root-cause determination for each finding has been removed. Provisions for the analysis of

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[1] Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 315, 28.11.2003, p. 1). Regulation as last amended by Commission Regulation (EU) No 593/2012 of 5 July 2012 (OJ L 176, 05.07.2012, p. 38).

[2] Decision No 2003/19/RM of the Executive Director of the Agency of 28 November 2003 on acceptable means of compliance and guidance material to Commission Regulation (EC) No 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks. Decision as last amended by Decision 2012/004/R of the Executive Director of the Agency of 19 April 2012.

[3] Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.03.2008, p. 1). Regulation as last amended by Regulation 1108/2009 of the European Parliament and of the Council of 21 October 2009 (OJ L 309, 24.11.2009, p. 51).

[4] Management Board Decision concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material (Rulemaking Procedure), EASA MB 01-2012, 13.3.2012.

findings are now included with AMC 1 M.B.303(d) 'Findings analysis'. Former paragraph (e), now (d), is amended to ensure that all findings can be traced back to a Part-M requirement. This does not limit the scope of findings that can be raised through the ACAM, but requires a link to be made between the finding and the corresponding continuing airworthiness management requirements. A requirement to analyse findings in terms of their safety significance is added. The new paragraph (f) is derived from former paragraph (g) and is made more generic. It focuses on the processing of the findings, as opposed to categorisation of findings which is addressed in paragraph (d). Former paragraph (i), now (g), is amended to clarify that exchange of information on non-compliances identified is only required when necessary to ensure proper enforcement.

Additional changes made after the review of the comments on NPA 2011-19:

- In paragraph (b) 'key risk elements' a reference to airworthiness has been added.
- In paragraph (e) the reference to 'recommendations' has been deleted, as these are not defined in M.B.903.

7. **M.B.304** is amended as a result of the deletion of M.B.303(g) and to ensure consistency with M.B.903. The reference to 'limitation' is deleted, as this option is not provided for in M.B.903.

III. Summary of changes – AMCs and GM

8. A new **AMC(2) M.B.102(c)** is added to specify the qualification requirements for ACAM surveys depending on the type of survey (in-depth/ramp). This allows inspectors qualified to perform ramp inspections in accordance with other Parts (such as the future ARO.RAMP[5]) to perform ACAM ramp surveys.

9. **AMC M.B.303** is deleted, the issue is now addressed under new AMC 2 M.B.303(a) 'Crediting' point (2).

10. Two new AMCs are added to M.B.303(a), they incorporate relevant elements from former M.B.303(c), AMC M.B.303(c) and AMC M.B.303(d).

— **AMC 1 M.B.303(a)** addresses the scope of the ACAM survey programme for a given planning cycle and defines the aspects to be considered in terms of risk-based planning. As regards item (2) of the AMC, a reference to complexity of aircraft on the register is included to consider situations where the ratio between large and small aircraft is not balanced: adopting a purely quantitative method for the determination of the sample size without considering the complexity of aircraft may lead to an over-representation of smaller aircraft in the ACAM survey programme, as these may outnumber large commercial air transport aircraft for a given register.

This AMC has been further amended following the review of NPA comments to clarify that the survey programme should also include a certain percentage of unannounced ramp surveys.

— **AMC 2 M.B.303(a)** addresses the crediting of surveys: Point (1) covers the crediting 'out' of ACAM surveys, point (2) covers the crediting 'in' of aircraft inspections others than those performed under M.B.303.

11. A new **GM 1 M.B.303(a)** 'Combined surveys' is added; it provides a non-exhaustive list of typical aircraft inspections that the competent authority may be required to perform and encourages integration of these inspections whenever possible. This reflects the views expressed by the drafting group on the need for a streamlined system of aircraft inspections.

[5] Cf. Opinion No 04/2011 of the European Aviation Safety Agency of 1 June 2011 for a Commission Regulation establishing Implementing Rules for Air Operations, Part-ARO, Subpart RAMP.

12. The text of AMC M.B.303(b), now included as **AMC 1 M.B.303(b**), is amended for consistency of wording. A statement is added on the need to perform a physical inspection during each ACAM survey to clarify the meaning of product survey. The reference to in-flight survey is deleted in line with the conclusions of the drafting group (cf. § 17).

    This AMC has been further amended:

    - following internal review, by deleting paragraph (c), which does not align with the previous paragraph calling for effective continuing airworthiness management.
    - in response to NPA comments by adding a new paragraph (3) to indicate that when performing a ramp survey, the inspector(s) should make all possible efforts to avoid an unreasonable delay of the aircraft inspected.

13. A new **AMC 2 M.B.303(b)** is added; it incorporates elements from former AMC M.B.303(d) and provides the link to the Appendix with the description of the KREs. A new **GM 1 M.B.303(b)** is added to clarify the need to address all KREs through the ACAM survey programme, whereas for a specific inspection a selection of KREs may be used, depending on the time available for the inspection and the KREs that are prioritised in the survey programme (cf. AMC 1 M.B.303(a) point (3)).

14. In response to NPA comments a new **AMC 3 M.B.303(b)** is added to introduce the 13 KREs, thus creating a link between M.B.303(b) and the Appendix III to GM 1 M.B.303(b). The new AMC further clarifies that the KREs and their detailed components should be adapted to the complexity of the aircraft type being surveyed by retaining only those items that are applicable and relevant for the particular aircraft type.

15. AMC M.B.303(c), incorporated into **AMC 1 M.B.303(a)**, is deleted. AMC M.B.303(d) is replaced by the new **AMC 2 M.B.303(b)** and new **GM 1 to M.B.303(b)**. To ensure consistency with other changes made, the references to root-cause identification and corrective action are deleted.

16. A new **AMC 1 M.B.303(d)** 'Findings analysis' is added to specify the actions required to determine the safety significance of any finding or combination of findings. The need for a root-cause analysis should be determined based on this analysis. Actions required are those defined in M.B.303 (d), (e) and (f).

    In response to NPA comments a new paragraph is added to clarify that it is not the purpose of the findings analysis process to analyse each individual finding to establish their root-cause, but to address systemic issues or issues that only become apparent at an aggregate level.

17. Appendix III to AMC M.B.303(d) is now included as **Appendix III to GM 1 M.B.303(b)**.

    The following list provides a summary of the main changes made:

    — Order of Key Risk Elements changed and Key Risk Elements grouped in three broad categories:

        A. Aircraft Configuration;

        B. Aircraft Operation;

        C. Aircraft Maintenance.

    — KRE 5 'Ultimate service life' renamed 'Component control'.

    — KRE 6 'Structural repair manual' renamed ' Repairs'.

    — KRE 8 'Minimum Equipment List' renamed 'Defect management'.

    — KRE 11 'Reliability programme' and KRE 13 'Maintenance programme' now grouped as 'Aircraft Maintenance Programme', number KRE 11 no longer allocated.

— KRE 12 'Type design' merged with KRE 4 'Configuration control' and renamed 'Type design and changes to type design'.

— new KRE 'Aircraft documents', under category B. 'Aircraft Operation'.

— no separate KRE retained for aircraft assessment, this item was included only to record the physical survey which is part of each ACAM inspection.

18. The new KRE guidance also considers the list of items and terminology used in M.A.710 'Airworthiness Review', which in its subparagraph (a) provides the areas to be assessed during the airworthiness review. The KRE numbers corresponding to the order of items in the current version of Appendix III to AMC M.B.303(d) were retained in the overview of KREs published with the NPA, to serve as a reference. They have been deleted in the present version. KREs should preferably be referred to by using their title rather than their number. For each KRE, a list of EASA reference documents is included for convenience.

19. In response to NPA comments it is proposed that this list be subject to annual updates through a recurrent rulemaking task, to ensure references remain up to date. This annual review will also allow assessing the appropriateness of all supporting information and typical inspection items included, so as to ensure that this information remains pertinent with regard to the airworthiness key risk areas identified.

Further changes were made to the KRE guidance following internal review and in response to NPA comments. The most significant changes are indicated below:

20. **A.3 Airworthiness Directives:**

The references to 'ADs issued or adopted by the State of Registry' and to 'additional requirements issued by the State of Registry' were deleted. An 'airworthiness directive' is defined in 1702/2003 Part 21A.3B as 'issued or adopted' by the Agency; therefore, any action by a European State of Registry (SoR) should not be published under the name 'airworthiness directive'. Furthermore, the Agency is authorised to take AD action to correct any unsafe condition, either being the result of a manufacturing error, or one that is (or could be) the result of a maintenance error, or any other 'root cause', for that matter, if it affects a 'design' approved by (or deemed to be approved by) the Agency. This goes back to Basic Regulation Article 20 specifying that *'the Agency shall […] carry out on behalf of Member States the functions and tasks of the state of design, manufacture or registry when related to design approval'.* Incorrect maintenance action(s) or production errors (e.g. wrong parts installed) are normally corrected by 'restoring' the aircraft to an already-approved configuration. No EASA 'design approval' is necessary for that; however, the approval of the compliance time of any measure required to restore the aircraft to an already-approved configuration (= time allowed to be non-compliant, to make the correction) constitutes a 'design related' approval. This means that even ADs addressing maintenance or production errors are to be considered 'related to design approval'.

In conclusion, 'no additional requirements' (specified either as 'AD' or termed otherwise, whether related to a design problem or not) should be issued by the SoR NAA regarding an EASA type design, unless such requirements are issued under the 'flexibility provisions' of EC 216/2008 Article 14 (1) and properly notified to the Agency, the Commission and to all Member States.

21. **B.2 Flight Manual:**

The title is changed to Flight Manual (instead of Aircraft Flight Manual) to align with terminology used in the Basic Regulation. The reference to 'hazardous/catastrophic events' in the block 'supporting information' is replaced by 'severe failure', which is more generic.

22. **B.3 Mass & balance:**

An additional typical inspection item is included to compare current mass and balance report with previous report for consistency.

23. **B.5 Operational requirements:**

In the typical inspection items item 1 is deleted, as it is already covered under KRE B.1. Item 5 is deleted, as it is already covered under KREs A.1 and C.2. Item 6 is deleted, as it does not relate to any Part-M requirement.

24. **B.6 Defect management:**

A new typical inspection item is included to compare the physical location of parts/serial numbers with the recorded locations to identify undocumented parts swaps for trouble shooting.

25. **C.1 Aircraft Maintenance Programme:**

This KRE is entirely reviewed to better align with M.A.302 and related AMCs. To address concerns expressed in the NPA comments, the new text (supporting information) clarifies tasks for which compliance is mandatory and tasks for which compliance is recommended, with reference to ICA, ADs, ALIs and CMRs. It also contains a reference to additional or alternative instructions proposed by the owner or the continuing airworthiness management organisation once approved in accordance with point M.A.302(d)(iii). A reference to unscheduled tasks is kept in the supporting information for completeness and to make the link with the reliability programme.

26. **C.2 Component control:**

The supporting information has been aligned with the terms used in the AMCs to M.A.305. The notes on 'hard-time' components and 'condition monitoring' components have been further amended. A new typical inspection item is added for sample checks of installed components (PN and SN) against aircraft records (correct Part Number and Serial Number installed, correct authorised release document available. It should be noted that the text for this KRE may require additional changes as an outcome of the rulemaking task RMT.0276 (MDM.076) 'Technical records'[6].

27. **C.3 Repairs:**

The title is changed from 'Structure/Repairs' to 'Repairs' and the supporting information is amended accordingly, with particular focus on the 'repair status'.

28. **C.4 Records:**

The typical inspection item related to checking for proper record transfer between owners/operators is deleted, as this should not be the focus of an ACAM inspection. As for C.2, it should be noted that the text for this KRE may require additional changes as an outcome of the rulemaking task RMT.0276 (MDM.076) 'Technical records'.

IV. Consultation

29. The draft Executive Director Decision amending Decision N° 2003/02/RM/Opinion for amending Commission Regulation 216/2008 was published on the web site (http://www.easa.europa.eu) on 29 November 2011.

30. By the closing date of 1 March 2012, the Agency had received 85 comments from 20 National Aviation Authorities, professional organisations and private companies.

[6] See ToRs: http://easa.europa.eu/rulemaking/docs/tor/mdm/ToR%20MDM.076%20(RMT.0276)%20Issue%201.pdf.

V. Publication of the CRD

3. All comments received have been acknowledged and incorporated into this Comment-Response Document (CRD) with the responses of the Agency.

4. In responding to comments, a standard terminology has been applied to attest the Agency's acceptance of the comment. This terminology is as follows:

   - **Accepted** – The comment is agreed by the Agency and any proposed amendment is wholly transferred to the revised text.
   - **Partially Accepted** – Either the comment is only agreed in part by the Agency, or the comment is agreed by the Agency but any proposed amendment is partially transferred to the revised text.
   - **Noted** – The comment is acknowledged by the Agency but no change to the existing text is considered necessary.
   - **Not Accepted** – The comment or proposed amendment is not shared by the Agency

   The resulting text highlights the changes as compared to the current rule.

5. The Agency Opinion on 'Aircraft Continuing Airworthiness Monitoring' will be issued at least two months after the publication of this CRD to allow for any possible reactions of stakeholders regarding possible misunderstandings of the comments received and answers provided.

6. Such reactions should be received by the Agency not later than **19 September 2012** and should be submitted using the Comment-Response Tool at http://hub.easa.europa.eu/crt.

IV. CRD table of comments, responses and resulting text

(General Comments)	-

comment	*6* comment by: *Michael Heiß* I don't think you should install an ACAM Process before the general aviation maintenance personnel is allowed to do more than the "pilot owner". There is a lot of maintenance work to be done with the number of sailplanes and motorgliders in germany which is neither listed in the Annex VIII nor in VII. EASA should first give the authority to the "Werkstattleiter" and "Warte" to give a release to service before installing a process of increasing the bureaucracy.
response	*Noted* The scope of this task is ACAM, not pilot owner maintenance. The comment has been communicated to the Part-M General Aviation Task Force, which will look into the scope of pilot owner maintenance (part of Phase II work).

comment	*14* comment by: *Luftfahrt-Bundesamt* The Luftfahrt-Bundesamt appreciates the intention to amend the provisions pertaining to ACAM. The proposed changes are in general agreed by the LBA. Only some adjustments are suggested: **1.) M.B.903** (see below) **and 2.) AMC 1 M.B.303 (b) 2** (see relevant paragraph) **M.B.903** The experience has shown, that guidance is required, if, according to M.A.201, the responsible person has not rectified an ACAM finding, which was classified as level 2, in a timely manner. We would recommend that a pragraph similar to 145.B.50 b) will be added to paragraph M.B.903, that in this case, the competent authority might also suspend or revoke the ARC.
response	*Noted* This change goes beyond the scope of this RM task. The comment will be considered for further RM (e.g. through task MDM.055 on SMS) as it also relates to the need to have common definitions of finding levels and the corresponding enforcement actions.

comment	*21* comment by: *Cessna Aircraft Company* Cessna Aircraft Company has no comment on this issue at this time.
response	*Noted*

comment	*60* comment by: *Swiss International Airlines / Bruno Pfister* SWISS Intl Air Lines supports the NPA 2011-19.
response	*Noted*

comment	*61* comment by: *AEA - Association of European Airlines* AEA (Association of European Airlines) supports NPA 2011-19
response	*Noted*

comment	*73* comment by: *DGAC* - DGAC France globally concurs with the proposed amendments to regulation (CE) n° 2042/2003. Nevertheless some comments are detailed hereafter. - Product controls are required from the authorities through M.B.303 and M.B.704 requirements. It appears to DGAC France that the same requirements should also be required from the organisations, while today they only appear in Acceptable Means of Compliance. DGAC France therefore suggests that the following requirements should be required in the applicable Implementing rules: - In AMC M.A.712 (b) it is indicated in §3 that "It includes some product sampling as this is the end result of the process". DGAC France would like a modification in M.A.172 (b) 3 as follows: "3. monitoring the continued compliance with the requirement of this Part by organising independent audits including product sampling". - 145.A.65 should be modified with the introduction of the mention "Independent audits shall include some product sampling" as follows: " […] (c) The organisation shall establish a quality system that includes the following: 1. Independent audits in order to monitor compliance with required aircraft/aircraft component standards and adequacy of the procedures to ensure that such procedures invoke good maintenance practices and airworthy aircraft/aircraft components. Independent audits shall include some product sampling. In the smallest organisations […]"
response	*Partially accepted* The changes suggested are not covered under the ToR of this rulemaking task. The issue could be addressed through rulemaking task MDM.055 (SMS) that will

look into quality systems and address compliance monitoring for all of Regulation (EC) 2042/2003.

comment

80 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

The general point of view from the Swedish CAA is that we agree to the proposed changes for the ACAM requirement but we have some comments, which we put in the relevant sections of the NPA.

response

Noted

comment

87 comment by: *ENAC*

ENAC agrees with the all the modifications proposed with the NPA 2011-19 with the following exception:

In-flight surveys: ENAC, for long time, carried out directly the assessment of the airworthiness for the aircraft registered in the Italian aircraft registry and in consideration of this long time experience gained in this field strongly recommend **not removing** the reference to in-flight surveys in the AMC. M.B.303(b). In fact ENAC considers airworthiness in-flight survey an essential component for verification of the efficiency and airworthiness of the aircraft. This is also supported by the results of initial phase of ENAC ACAM Program implementation.

response

Not accepted

1. The group acknowledges the benefits of performing airworthiness flight tests, but no clear agreement could be reached on what the objectives of "in-flight surveys" should be.
2. Terminology used throughout Part-M should be reviewed through further rulemaking, also considering the reference to "maintenance check flights" and "check flights" required upon import (cf. AMCs to M.B.904).
3. As specified in the EN (§17), ACAM is not an appropriate trigger for airworthiness flight tests.
4. Airworthiness flight tests are not clearly required for the airworthiness review. This should be more clearly defined by the rulemaking process. Without such clarification it is not appropriate to maintain this task as an authority task.
5. Performing in-flight surveys and flight tests without defining the applicable conditions may create specific risks (Perpignan accident).
6. Airworthiness flight tests are a valuable tool, based on the ICAO airworthiness manual.

Therefore, the recommendation of the review group is to:

- maintain the removal of in-flight surveys from AMC M.B.303(b), as proposed with the NPA;

- create a new RMT to define as a minimum:
  a. the objectives of performing such airworthiness flight tests,
  b. the conditions under which to carry out such tests,
  c. the range of aircraft/operations to be covered,
  d. the flight test procedures (staff qualification, flight test plan, etc.),
  e. the link with the OSD concept, to ensure conformity of such flight tests with the applicable initial and continuous Operational Suitability Data.

The existing RM group working on certification flight testing are the right group to process this task (MDM.003).

Note 1:

The ICAO airworthiness manual is currently being revised (§ 3.2.8): It provides further clarification on when an airworthiness test flight is required (initial CofA etc.). It also makes clear that if it is performed for the purpose of maintenance, it must be specified by the TCH.

Note 2:

Part-ARO foresees the possibility to have in-flight surveys as part of the oversight of AOC holders (see AMC1-ARO.GEN.305(b) Oversight programme).

Note 3:

EASA Rulemaking Tasks RMT.0393 and RMT.0394 (former MDM.097 a) and b)) are currently conducted in response to increased safety risks regarding maintenance check flights. These tasks will determine the protocol, as well as the responsibilities, operational requirements and crew competence criteria for such flights.

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comment *28* comment by: *SVFB/SAMA*

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SAMA

Swiss Aircraft Maintenance Association, a member of ECOGAS

Representing the whole range of professional MRO's from one man, to 3400 staff organisations.

Our association's comments are adressing maintenance issues and the effect of the regulation to maintenance organisations.

response *Noted*

A. Explanatory Note - II. Consultation p. 4-5

comment	*19* comment by: *Aero-Club of Switzerland* The Aero-Club of Switzerland thanks the Agency for the preparation of NPA 2011-19 which is commented with a focus on non-commercial operations with other than complex motor-powered aircraft. Many of the elements presented are acceptable to us, looking at our operations, especially AMC 2 M.B.303 a with the "crediting" idea, as well as GM 1 M.B.303 a about "combining" surveys. We think, however, appropriateness is very important. Therefore one solution could be to exempt all our operations, another solution could be to maintain our operations within ACAM, but based on particluarly tailored KRE, AMC and GM. In doing so no disproportional financial, administrative and workload burden would be created.
response	*Noted* The initial objective of this task was to provide further guidance to competent authorities on the use of the KREs. The KREs are included as an Appendix to GM, which gives latitude to competent authorities to implement them as appropriate to the specific context. This comment has also been provided to the Part-M General Aviation Task Force.

comment	*37* comment by: *René Meier, Europe Air Sports* Europe Air Sports, the Association representing European National Aero-Clubs and Air Sports Federations in regulatory matters with European authorities and institutions thanks the Agency for the preparation of this NPA which we studied carefully. Considering the comments received we propose that ACAM-rules be not applied to aircraft up to CS-ELA 2 and comparable in design and operation. Justification: In the view of our members detailed experience of the past has proven that there is no additional gain in safety. To ask for an adherence to approved maintenance programmes by qualified personnel in the maintenance organisations is sufficient for these non-complex aircraft. We shall, nevertheless, comment on some paragraphs important to our members on the following pages.
response	*Noted* The change proposed goes beyond the scope of this rulemaking task as defined

in the ToR. This comment has been provided to the Part-M General Aviation Task Force for consideration in Phase II of its work.

The basic need for some form of ACAM for all ICAO aircraft is acknowledged. The focus of the inspections and the sample size are to be determined using a risk-based approach.

A. Explanatory Note - III. Comment-response document p. 5

comment *8* comment by: *Aero-Club of Switzerland*

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IV. Content
8.
We think that the proposed Aircraft Continuing Airworthiness Monitoring improves aviation safety only when all information collected are inter-linked, otherwise it creates an additional workload on competent authorities which will tend to increase the number of their staff just to fulfil what they are asked for, and an additional financial burden on those operating aircraft will be the consequence.

Justification: In our view sufficient data are available covering the continuing airworthiness of all aircraft on a nations register, the link between the departments of NAA should be strenghtened.

We immagine that an exemption of all non-commerical operations from ACAM executed with aircraft below 2730 kg MTOM is acceptable to the entire aviation community.

Justification: Bearing in mind the slogan of the Agency "Your safety is our mission" we would like to adjust this a little bit: We as pilots in command of our aircraft are responsible for our safety and the safety of our passengers. Safety not only has to do with technical solutions and administrative regulations, it has much more to do with airmanship, this being a mental topic.

response *Noted*

The change proposed to exempt all non-commercial operations from ACAM executed with aircraft below 2730 kg MTOM goes beyond the scope of this rulemaking task as defined in the ToR. This comment has been provided to the Part-M General Aviation Task Force for consideration in Phase II of its work.

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision p. 5

comment *3* comment by: *Ian Robinson, Patriot Aerospace Group*

	We support any work to improve consistency across European aviation.
response	*Noted*

comment	*5* comment by: *AOPA-Sweden* AOPA-Sweden has the following position regarding ACAM.inspections of General Aviation aircraft: Background: Since the implementation of Pt. M in 2008 several Swedish aircraft owners have seen their aircraft grounded for longer or shorter periods of time due to actions from Transportstyrelsen (TS). These actions have in general been of two kinds; one is where TS has misinterpreted the word "or" to mean "and" in AMC MA 302 (d) resulting in all repetitive Service Bulletins becoming a mandatory part of the AMP, and also that a recommendation from an aircraft manufacturer to lubricate the door seals every 30 days has become a mandatory requirement for continued airworthiness. AOPA-Sweden fail to see how the lubrication of a door-seal every 30 days by certifying staff can be of such importance. The second problem has been the requirement in the Airworthiness Review MA 901 (d) that all repairs and modifications be done in accordance with Pt. 21. Pt. 21, as we know came into effect in 2003. This has not stopped TS from requiring that all repairs and modifications carried out before that date, also be in accordance with Pt. 21. TS has maintained this position in spite of numerous attempts by AOPA-Sweden to make TS adopt a more reasonable line. Furthermore, the TS attitude is that if an owner is not happy with TS ruling, the owner may appeal to the court. Some people have done so, and while the court is deliberating the aircraft is grounded. Up to a year is not uncommon for such a process. AOPA-Sweden Position: Since the ACAM inspections will likely be carried out by the very authority responsible for the previously mentioned problems, we will not support ACAM inspections of privately owned General Aviation aircraft. We furthermore believe that the Swedish problems may also be present in other countries due to the standardisation process. We also would like to point out the heavy imbalance in resources regarding interpretations of the rules and regulations where the NAA effectively has all the powers of enforcement as well as the right of interpretation and the aircraft owner has none. This coupled with the obviously limited understanding of Pt. M on the part of some NAA makes for an unacceptable situation where the aircraft owner may see his aircraft grounded without any foundation in Pt. M and still will have to go to court to find justice, which may take a year as stated before. For the above reasons, AOPA-Sweden recommends MB 303 be amended thus:

(a) The competent authority shall develop a survey programme to monitor the airworthiness status of the fleet of aircraft **used in commercial operations** on its register.

response *Noted*

The change proposed to exempt all non-commercial operations from ACAM goes beyond the scope of this rulemaking task as defined in the ToR.

KRE C.1 'Aircraft Maintenance Programme' clarifies mandatory and recommended tasks. The issue of clarifying in Part-M which TC holder data (e.g. SBs) are mandatory has been provided to the Part-M General Aviation Task Force for consideration in Phase II of its work.

Note:

Qualification of ACAM inspectors should be supported by introducing new detailed Guidance Material on KREs.

comment *29* comment by: *SVFB/SAMA*

The principal idea of this NPA is supported.

However the scepticism of our members stems from past experience with good ideas, supported unanimously by all, but where the result driven initially by good intentions nevertheless created mainly administrative burden without value added for safety.

The growing complexity of the regulation confusing for all users:

- **MRO's** for CAT- licensed air carriers
- **SME's** in **business aviation**, maintaining EBAA or other organisations aircraft
- **General Aviation** small repair organisations
- **Pilot owner (maintenance)**

comes from how problems are addressed article by article.

This NPA is typical: the ToR M.037 addresses MB303 which is just one patch of part M patchwork.

response *Noted*

This comment, which relates to EASA's Rulemaking strategy in the area of general aviation, has been provided to the Part-M General Aviation Task Force for consideration in Phase II of its work.

The Part-M General Aviation Task Force identified as one of the possible actions for future rulemaking to create a 'light Part-M'.

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - p. 6

Survey programme

comment	*9* comment by: *Aero-Club of Switzerland* We too identified no need for provisions at AMC level and welcome the proposed dynamic pattern. Justification: Flexibility helps to reduce costs.
response	*Noted*

comment	*38* comment by: *René Meier, Europe Air Sports* Europe Air Sports welcomes the creation of survey programmes as proposed in M.B.303(a). We particularly like the provision for crediting inspections made or work done as proposed in AMC 2 M.B.303(a) on page 16. Justification: This paragraph assures the flexibility we all repeatedly asked for.
response	*Noted*

comment	*74* comment by: *DGAC* DGAC France concurs with the fact that the reference to an annual programme is removed from the AMC.
response	*Noted*

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - Combined surveys p. 6

comment	*2* comment by: *Ian Robinson, Patriot Aerospace Group* We support the concept of combining ACAM surveys with other oversight operations.
response	*Noted*

comment	*39* comment by: *René Meier, Europe Air Sports* Europe Air Sports also supports the idea of combined surveys, thinking that such combined surveys are very demanding for the personnel executing this task. Justification: Combined survey keep on-ground-time short, hopefully costs down, but in our view the risk of wishing to check elements which should not be checked during (heavy) maintenance, provoking discussions, even doubtful results, exists.
response	*Noted* Combined surveys should indeed lead to more efficient oversight, by avoiding duplicate inspections. The comment will also be considered by the Part-M General Aviation Task Force.

comment	*75* comment by: *DGAC* DGAC France concurs with the Guidance Material addition to clarify that aircraft inspection procedures may take into account and combine the scope of other aircraft inspection tasks.
response	*Noted*

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - Root-cause analysis for each finding p. 6

comment	*30* comment by: *SVFB/SAMA* 6/32 13/**Private/small aircraft*:*** *EASA is not following the recommendation of the drafting group that ACAM root cause investigation are of limited value:* the effort to come to conclusions will be enormous for private light aircraft, the results if any, will never pay off. It just cant be financed. To exempt all private aircraft up to 2730 kg would have a positive effect on the root sector of aviation. If not: GA will be gone in a few years. **Large aircraft - airline environment:** Most if not all root cause analyses on very complex issues e.g. • Ø jet engine control problems due to electrostatic corrodibility of a specific engine oil further intensified by imperfect bonding, •

- elevator control problems due to volume expansion of certainde- ice fluids under specific meteo conditions ,
-
- have been analysed by MRO's together with OEM's. Root cause analyses have not been produced by an authority, **except** in case of accidents. Its unrealistic that EASA or any authority would be able to achieve or assemble in a cost effective manner the same competence like the respective OEM. It is not realistic or it cant be paid to have all necessary subject matter experts available at the authority or at all several, many or all authorities.

Therefore we see the danger that this well intended rule will produce a lot of data which are not of added value but will cost the authority enormous resources and finally will have to be financed by the industry.

response *Accepted*

Agreed to change AMC 1 to M.B.303(d) to clarify the intent of the provision.

The term 'root cause analysis' suggests that a detailed technical investigation is required, whereas under Part-M establishing the root cause is to ensure that the corrective action effectively addresses the finding. The root-cause analysis related to M.B.303 is to find the origin of non-compliance with Part-M requirements, not the origin of a technical defect. This may include investigating why a technical defect has not been identified, but not to investigate the causes of that defect.

See also Explanatory Note to the NPA § 14:

"The drafting group also pointed out an inconsistency under Part-M, as root-cause analysis is only referred to in M.B.303, and neither M.A.716 'Findings', nor M.A.905 'Findings' contain any provisions on root-cause analysis. The group therefore recommended a general review for consistency of all provisions related to findings throughout Regulation (EC) 2042/2003 in order to clarify the conditions, responsibilities and methods to be used to ensure effective root-cause analysis. This review cannot be accommodated under task RMT.0216 (M.027); the Agency therefore proposes to address this with the rulemaking task RMT.0251 (MDM.055) 'SMS implementation for Regulation (EC) 2042/2003'. A similar review for consistency of the provisions related to findings and root-cause analysis in Regulation (EC) 1702/2003 could be performed by means of the rulemaking task RMT.0262 (MDM.060)."

comment *31* comment by: *SVFB/SAMA*

14/ *The group therefore recommended a general review for consistency of all provisions related to findings throughout Regulation (EC) 2042/2003 in order to clarify the conditions, responsibilities and methods to be used for effective root cause analyses…….and move the task into the SMS RMT.0251 or .0262.*

To ensure effective root-cause analysis is a good proposition. But the link to SMS and to move it there may be a good or a bad move, depending on the outcome. If EASA forces small and medium enterprises into a regulation structure appropriate for major MRO's, additional costs is the only result. This

	inappropriate regulation is not necessary for SME's. Due to easier overview over their less complex & smaller size organisations and much simpler process than big organisations propability to detect hidden hazards is inherently higher. Today, most of the SME's have a CAMO approval as well: in fact, they had no choice it they want to stay in business. The CAMO structure for SME's has lead to a duplication of organisation structures,functions, manuals and paperwork with no safety benefit. It should be reorganized into a simpified structure without the present duplication. By shifting tasks into SMS workgroup a check out what SMS has so far delivered for SME's will reveal: little if any safety benefit. Therefore doubt that the proposed shift to SMS will enhance safety prevails. We don't doubt the value of a well designed and managed SMS for major MRO's. The problem with the proposal is more patch work as well as unproportionale (to size) regulation.
response	*Partially accepted* The AMC 1 to M.B.303(d) has been added to link the need for root-cause analysis to an assessment of the safety significance of the finding. The requirement for root-cause analysis of each finding has been removed from M.B.303. This comment is also addressing the rulemaking task MDM.055 (SMS). It will be considered for this task.

comment	*40* comment by: *René Meier, Europe Air Sports* One of the reasons the ACAM idea being rejected by Europe Air Sports is this mandate to determine the root cause by analysing each ACAM finding. Justification: In our view, writing for the lower end of General aviation, hundreds of ACAM will be generated by this provision, perfectly useless, not contributing to anything but to a data cemetery. Only if perfectly inter-linked, nationaly and internationaly, such a rule could probably contribute to a paramount view of the technical safety of the aircraft concerned.
response	*Noted* This very issue has been addressed in the NPA: The new AMC1 M.B.303(d) clarifies that root-cause analysis is not required for every finding.

comment	*41* comment by: *René Meier, Europe Air Sports* We very much respect the slogan "your safety is our mission". This is perfectly right for commercial air transport, where fare-paying passenger rely on good airmanship of all involved in the complex air transport world, but in our operations, it is the pilot in command only who is responsible for the execution of a flight. This is second reason to ask for aircraft up to ELA 2 and similar not

to be subject to ACAM.

Justification: Our organisations are in the most cases much smaller, management is much simpler, contacts are easier established than in the mostly much larger commercial air transport organisation, to which ACAM may perfectly fit.

response *Noted*

The comment has been provided to the Part-M General Aviation Task Force for consideration in Phase II.

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - Compatibility and comparability of ACAM results from different Member States p. 7

comment *1* comment by: *Ian Robinson, Patriot Aerospace Group*

Whilst we agree with Issue 1 of the ToR for this rulemaking activity insofar as compatibility and comparability is concerned, we strongly disagree with the decision to remove this requirement from the ToR.

There are many examples where EASA has produced flawed rules because of a lack of documented statistics (examples can be supplied if required). Regulations cannot be written on opinions or feelings, they need to be backed up with verifiable statistical justification. EASA had the perfect opportunity here to create a Europe-wide database on findings related to continuing airworthiness, which would prove invaluable to future rulemaking, but has chosen to ignore this opportunity on the basis that it is 'too difficult'.

EASA should use it's not inconsiderable resources to find a suitable method of collecting and collating this data, instead of just leaving it to the competent authorities to do, should they choose to do so. It is disturbing that EASA should have taken this stance.

EASA should also consider the position of the collection of statistical information in European aviation in general - Europe wide databases of accident/incident data, occurence reports both mandatory and otherwise, and findings from EASA and NAA auditing should be set up and made available to the industry (with the necessary safeguards for anonymity) so the European aviation community can benefit from each others experiences.

response *Noted*

The pros and cons of adopting a system of pre-defined findings has been discussed with the drafting group. This would indeed be a prerequisite for a centralised, data-driven risk-based model. The opinion of the group was that the cost involved for establishing such a model would outweigh the possible benefits.

See also explanatory note to NPA § 16:

"M.B.303(i) defines that in order to facilitate appropriate enforcement action, competent authorities shall exchange information on ACAM non-compliances. Issue 1 of the ToR RMT.0216 (M.027) included in the task objectives the need to ensure compatibility and comparability of ACAM results and closely linked to that to adopt standard descriptions and findings for the 14 KREs. The Agency reconsidered this objective on the basis of the feedback provided by the drafting group: Comparing ACAM results between Member States would not only require the use of pre-defined findings, it would also entail the implementation of a common format for data to be exchanged and ideally of a common findings database, as well as of a standardised methodology to determine aircraft sample sizes representative of a given fleet and type of operations. In the absence of such tools and systems, the exchange of raw ACAM data between authorities is therefore considered to be of limited added value. As a consequence, the initial intent of adopting standard finding definitions for the list of KREs has not been maintained. The Agency amended the ToR accordingly to remove the reference to compatibility and comparability of data and reformulate the task objective with regards to the KREs. This does not prevent competent authorities from exchanging information derived from ACAM inspections in cases where a representative sample size cannot be reached in one Member State alone."

comment

32 comment by: *SVFB/SAMA*

7/32 CAT-licensed air carriers

16: the idea to exchange ACAM results (of public air transport fleets) is logical. The logic behind this is the need for synergies for safety and economy. So far we have not seen either: the resources used have grown dramatically. The need to much better coordinate the efforts of the 30 involved NAA's to create the expected and well deserved synergies is overdue but will not be accomplished with the past and present patch working.

Again: do as proposed for CAT (if licensed air carrier/MRO's – CAMO). They collect in their own interest since decades all the data anyway. Then try to aggregate the data BUT only if the result will be faster conclusions/problem solving compared with present airline/manufacturer the manufacturer cooperation. It's not probable that this will be case because airlines have well developed system for data collection, aggregation and analyses and exchange with OEM for quick problem solving.

We are pretty confident that any back test of past incidents and the process involved in fixing problems will confirm this opinion.

if so, this NPA would be invalid.

For **business aviation** the proper way of communication may be as well via the manufacturer.

Probably it would be more efficient if EASA would get it's data from the manufacturer because this requires less interfacing.

response

Not accepted

The issue is already regulated via Part-21 (see 21A.3).

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - In-flight surveys p. 7

comment	*10* comment by: *Aero-Club of Switzerland* Page 7 In-flight surveys 17. Who will order such flights and who will pay the bills? We think that special survey flights should be the absolute exception, that surveyors should accompany planned regular flights, and we also fear that the risk of ACAM inspectors tourism will arise. Justification: The authority requesting a survey flight shall pay all the bills related to such a flight requested by it, not the aircraft owner/operator.
response	*Noted* See response to comment 87.

comment	*25* comment by: *IACA International Air Carrier Association* Question 1: EASA invites stakeholders to provide their views on the deletion of in-flight airworthiness surveys as part of the ACAM and on the need to further regulate the performance of airworthiness check flights by the competent authority, as opposed to maintenance check flights, which are the subject of rulemaking task RMT.0393 (MDM.097(a)) and RMT.0394 (MDM.097(b)) 'Airworthiness and operational aspects for maintenance check flights'. Answer IACA: IACA agrees with the deletion of airworthiness check flights as part of the ACAM. The requirement of airworthiness check flights is disproportionate to the objective of the ACAM. Such airworthiness check flights have no added value: they will not disclose any special evidence which could not be assessed on the ground. If required, the in-flight airworthiness can be assessed during a normal revenue flight.
response	*Noted* See response to comment 87. The NPA proposal was to remove the reference to in-flight surveys. For information: Future Part-ARO (Annex II to future Regulation on Air Operations) foresees the possibility to have in-flight surveys as part of the oversight of AOC holders.

cf. ***AMC1-ARO.GEN.305(b) Oversight programme***

OPERATIONS AUDITS, INSPECTIONS AND OVERSIGHT PROCEDURES

…….

3. The following types of inspections should be envisaged, as part of the oversight programme:

- *flight inspection,*
- *ground inspection (documents and records),*
- *ramp inspection.*

comment *42* comment by: *René Meier, Europe Air Sports*

In our view such in-flight survey should be the absolute exception and be paid by the authority asking for it. In addition, the person deciding shall be obliged to collect a second opinon and the permission of his superior.

Surveyors may be onboard of planned flights, with the consent of the PiC who always is responsible for the safety of the aircraft. We fear a little bit that ACAM inspectors toursim could be created when no reasonable restrictions are established.

Justification: The authority requesting for an in-flight survey shall in all cases pay all bills related to such a flight, not the aircraft owner/operator.

response *Noted*

See response to comment 87.

comment *64* comment by: *UK CAA*

Page No: 7 (& 17)

Paragraph No: Section IV, paragraph 17 In-flight surveys (AMC M.B.303(b)2(c))

Comment:

The Agency invited comments on the deletion from AMC M.B.303(b)1(c) of in-flight surveys as deemed necessary by the competent authority as an element of ACAM. We question the basis given in Section IV paragraph 17 for this proposal and believe that the quoted benefits resulting from this are consequently debatable, and that the reference to in-flight surveys should consequently be reinstated.

Justification:

The NPA states that "In respect of the existing provisions on operational flight inspections for the initial certification and oversight of AOC holders (EU-OPS and future EASA ARO.OPS) and considering that requesting such in-flight survey in response to serious ACAM findings would not be the adequate response under Part-M …". We suggest however, based on our experience, that

in-flight surveys are, fundamentally, not a "response to serious ACAM findings" but more an opportunity to carry out an audit of a complete aircraft, and also of the controlled environment in which its continued airworthiness is managed. The benefit of this approach in the UK has frequently resulted in the identification of dormant failures and significant airworthiness shortcomings that were not identified in normal operation, nor during ground inspections.

As a result, it is suggested that an in-flight survey is an important constituent of the continued airworthiness programme and should continue to be available to the competent authority to consider as part of its oversight function. To ensure a standardised approach across member states, the Agency should also provide a common interpretation and definitive guidance on the criteria to be used to determine when an in-flight survey programme would be appropriate.

Proposed Text:

Retain AMC M.B.303(b) Aircraft continuing airworthiness monitoring 2(c):

2. *Sample product surveys of aircraft include:*

   (a) in depth surveys carried out during extensive maintenance that fully encompass selected aspects of an aircraft's airworthiness,

   (b) ramp surveys carried out during aircraft operations to monitor the apparent condition of an aircraft's airworthiness.

   (c) in-flight surveys, as deemed necessary by the competent authority.

response

Not accepted

See response to comment 87.

Part-M continuing airworthiness tasks do not define in-flight surveys as a standard element of continuing airworthiness monitoring.

AMC M.A.710(b) and (c) under point (2) only states that the physical survey may include verifications to be carried out during flight.

By inference, an in-fight survey should also not be foreseen as part of ACAM.

comment *66* comment by: *UK CAA*

Page No: 7 (& 17)

Paragraph No:

Section IV, Paragraph 17, Regulation of airworthiness check flights (AMC M.B.303(b)2(c))

Comment:

The Agency invited comments on the need to regulate further the performance of airworthiness check flights by the competent authority.

This opportunity is welcomed, since there has been a definite need for guidance from the Agency in this area. It has never published any guidance material to indicate what it would accept as the content and frequency of in-flight surveys since Part-M was first published. This has remained the case despite Part-M requiring each Competent Authority to establish procedures and

implementation policy detailing how compliance with Part-M will be accomplished [M.B.102].

As mentioned in the UK CAA comment on Section IV, paragraph 17 In-flight surveys (AMC M.B.303(b)2(c)), airworthiness check flights are an important tool in the assessment of continued airworthiness standards by the competent authority. To enable a standardised implementation of airworthiness check flights across member states guidance material is needed to cover:

Responsibilities of the competent authority and the operator;

Criteria for check flight sampling, e.g. frequency, use of KREs and past surveillance knowledge;

Procedures for the conduct of check flights, including the reporting of findings, findings analysis, closure actions and recommendations.

Not only is it particularly important that the findings found during individual check flights are resolved before the aircraft is returned to service, it is also important to recognise that the collation of findings from all check flights on a given type and across different ACAMs will provide important additional fleet-wide impressions of the continued and continuing airworthiness state of the type and of the ACAM itself.

The above additional aspects could easily be assimilated into the existing requirements in Part-M.

Other aspects, such as crew qualifications, training, experience and currency requirements for check flights could usefully adopt the measures being developed by rulemaking task RMT.0393 (MDM.097(a)) and RMT.0394 (MDM.097(b)) 'Airworthiness and operational aspects for maintenance check flights' since the disciplines required for airworthiness check flights are the same.

Justification:

A check flight is an important element of the continuing airworthiness management process and is an efficient method of assuring compliance with the typical inspection items identified in, for example, B.2 of the revised KREs of Appendix III to GM 1 M.B. 303(b). To assure a consistent interpretation of check flight frequency, competent authorities need the guidance material that has so far been lacking from Part-M.

The new guidance will need to be developed with inputs from specialists in this area, with experience that has been derived both from elective and mandated check flight activities.

Proposed Text:

To be developed by EASA.

response *Not accepted*

See responses to comments 64 and 87.

comment *76* comment by: *DGAC*

DGAC France concurs with the deletion of in-flight airworthiness surveys as part of the ACAM and the need to further regulate the performance of airworthiness

	check flights by the competent authority, as opposed to maintenance check flights
response	*Noted* See response to comment 87.

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - Qualification criteria for ACAM inspectors p. 7-8

comment	*26* comment by: *IACA International Air Carrier Association* Question 2: EASA invites stakeholders to provide their views on the need for a common regulatory framework for ramp inspections, and linked to this, on how this could best be accommodated under the current rule structure. Answer IACA: Ramp inspections shall take into consideration the operational condition of the aircraft: 1. when in operational condition: i.e. ramp inspections during a transit, as specified in GM for SAFA inspectors, inspectors must do everything possible to reduce hindrance to the minimum, e.g. flight crew should be allowed to give priority to staff directly involved in the flight preparation (e.g. fuel master, load-planning agent, handling agent pax. info, etc.).and where is necessary to see the preparation for intended flight with reduced impact on timing of performance (like pre departure check, fueling, dispatch for intended flight and currently operating on MEL or CDL , composition of crew and link between information from/to ground maintenance and crew) 2. general condition of aircraft, open defects, damage charts, consistency between aircraft status and airworthiness records…should be assessed when the aircraft is grounded for other reasons, e.g. for maintenance and/or longer ground time with no crew on board.
response	*Accepted* The following point (3) has been added to AMC 1 M.B.303(b) Aircraft continuing airworthiness monitoring: "When performing a ramp survey, the inspector(s) should make all possible efforts to avoid an unreasonable delay of the aircraft inspected." The issue is also addressed in the future ARO.RAMP to transpose the SAFA Directive, cf. Opinion 04/2011, cf. ARO.RAMP.125(b): *"When performing a ramp inspection, the inspector(s) shall make all possible efforts to avoid an unreasonable delay of the aircraft inspected."* A similar statement has been added to AMC 1 M.B.303(b), see new point (3): *"When performing a ramp survey, the inspector(s) should make all possible efforts to avoid an unreasonable delay of the aircraft inspected."*

comment	*54* comment by: *Howard Torode*
	Sent on behalf of European Gliding Union. (This is a general comment from our recent experience of ACAM audits 'in the field', carried out by NAA's in several of our nations). It is recognised that the specification and role of any ACAM inspection is fundamentally a matter for NAA's, which we would not presume to contest. Nevertheless we are aware that several NAA's have implemented 'on the spot' inspections in an insensitive and unhelpful way when applied to GA and sport aviation. We perceive that the rationale of this NPA in promoting an 'holistic' policy towards ACAM implementation (across maintenance, OPS and FCL) will offer NAA's further encouragement to embark on such 'spot' inspections. The value to airworthiness safety, of 'spot' or 'ramp' inspections (let alone 'in-flight' inspections), in GA and Sport Aviation in respect of ELA1 airframes is challenged. The appropriate place for Continuing Airworthiness and maintenance audit is in a CAMO office or Sub Part F workshop, at a time when the airframe is readily available. Adequate notice is a prerequisite of such an inspection. Invasive, unannounced, spot checks as have been experienced in some European nations, on a busy flight line, full of amateur pilots, are unhelpful and a potential flying hazard in itself, when one considers the distraction introduced to the prepared state of mind of the amateur/leisure pilot. In non-CAT, general and sport aviation, there are rarely any overtones of commercial of financial exploitation or passenger protection meriting Authorities intervention. The majority of leisure pilots are indeed flying single seat aircraft and gliders, at their own expense, and wherein the greatest risk is to themselves. Unannounced 'ramp' inspections have no merit in these circumstances Our strong preference would be to declare that ELA aircraft including sailplanes should be exempt from the 'without notice' ramp inspection process and to confine all such ramp inspection to larger aircraft in CAT. We feel that, at very least, clearer guidance material (in the MB clauses) should be introduced regarding the pertinence, advisability and consequences of conducting ACAM 'ramp' inspection without notice or warning, in GA/Sport aviation using ELA class aircraft. H.A.Torode EGU Technical Officer: CA and Maintenance
response	*Noted* See response to comment 26. The comment has also been provided to the Part-M General Aviation Task Force for consideration in Phase II.

comment	*88* comment by: *ENAC*

	ENAC also agrees with the opinions that: - an **integrated set of rules on ramp inspections** would be required to provide for a common, streamlined system of inspections, addressing the full scope (airworthiness, OPS and FCL), so as to promote a holistic oversight system and to make better use of competent authority resources;
response	*Noted* This comment is noted as input for future rulemaking.

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - Key Risk Elements (KREs) p. 8

comment	*27* comment by: *IACA International Air Carrier Association* Question 3: EASA invites stakeholders to provide their views on the need to include a detailed list of EASA rule references and on the periodicity for updating these. Answer IACA: While findings should be classified against relevant IRs, inspections/ assessments should be driven by safety, hence prioritised per KREs. Reference to IRs is required to demonstrate compliance with IRs and feed back to rulemaking to review IRs and verify objectives are met.
response	*Noted* The references to the applicable IRs will be kept in the KRE description and an annual update will be considered through a recurrent rulemaking task similar to what is used for amending the Part-66 AML list of aircraft types.

comment	*65* comment by: *AESA (SPAIN)* Explanatory Note (point 22) says that Relevant EASA rule references are provided in the new format of the list for that purpose. If the purpose of the EASA rule reference in the new format of KREs is to use this reference to classify any finding, then the wording of the reference should be appropriately expressed; example: EASA Part M.A.304 should say Regulation (EC) No 2042/2003 - Part M - M.A.304
response	*Noted* The inclusion of the EASA rule reference is mainly intended to assist inspectors in identifying relevant regulatory material, not to categorise each finding. The document is an Appendix to GM, which is the lowest level of regulatory

material. For those reasons, it is acceptable to include the references using simple coding.

comment *77* comment by: *DGAC*

DGAC France concurs on the need to include a detailed list of EASA rule references and to periodically update these. Nonetheless, as the inspector in charge of this survey is really concerned by a survey linked to regulation (CE) 2042/2003, the main item is to check requirements of this specific regulation. Therefore only the references of this rule should be indicated. All the other concerns linked to other Parts (21, CS, OPS) should be introduced by specific check-lists and not by the specific requirement linked to Parts that are not likely to be mastered by the inspector.

response *Accepted*

The references to the applicable IRs will be kept in the KRE description and an annual update will be considered through a recurrent rulemaking task similar to what is used for amending the Part-66 AML list of aircraft types. The annual update will also serve to review the appropriateness of the airworthiness KREs and of all other supporting information provided.

comment *89* comment by: *ENAC*

ENAC also agrees with the opinions that:

- on the need to include a **detailed list of EASA rule references,** and suggests 1 year maximum periodicity for its update.

response *Accepted*

The references to the applicable IRs will be kept in the KRE description and an annual update will be considered through a recurrent rulemaking task similar to what is used for amending the Part-66 AML list of aircraft types.

A. Explanatory Note - IV. Content of the draft Opinion and draft Decision - Summary of changes – Implementing Rule p. 8-9

comment *81* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

(#19-24, p8-9)
The terms classification and categorization are used inconsistently.

response *Accepted*

The draft will be reviewed to ensure the terms are used consistently. Only "categorization" will be used when referring to the identification of the applicable requirement. The term "classification" is commonly understood as referring to determining the level of finding.

A. Explanatory Note - V. Regulatory Impact Assessment - 3. Objectives p. 11

comment *11* comment by: *Aero-Club of Switzerland*

Again the Agency tries to create perfect system, will it succeed?.

Justification: On the one hand the Agency wishes to impose a risk-based ACAM programme on operators being no risk, or at least a neglible one, on the other hand the wording chosen "this should enhance the efficiency..." leaves the effectivness of the programme with regards to the objective very open.

response *Noted*

This comment relates more generally to the EASA rulemaking strategy.

The Part-M General Aviation Task Force will evaluate a reduction of the scope of ACAM for Phase II of its work programme.

comment *43* comment by: *René Meier, Europe Air Sports*

We think the Agency wishes to create a perfect system, but this is impossible. To create a perfect bureaucracy is one thing, to create perfect "living" systems like aviation organisations and operations of all kinds is completely different.

Justification: We are not living in a perfect world, "near-perfect" would be the appropriate term. Your sentence "this should enhance efficiency" may be used as proof the 100 % safe operations with zero incidents, zero accidents, zero fatalities never will become reality how strict safety regulations may be.

response *Noted*

This comment relates more generally to the EASA rulemaking strategy. The comment has been provided to the Part-M General Aviation Task Force for consideration in Phase II.

A. Explanatory Note - V. Regulatory Impact Assessment - 4. Options identified p. 12

comment	*44* comment by: *René Meier, Europe Air Sports* Our organisation favours Option 0. Justification: The other option proposed is not appropriate to our operations. Fully comparable data from all member states will not be available without considerable manpower and financial investment to achieve the goal of a contribution to safety. The proof of the correctness of our view is delivered by the Agency's text under 6.1 "Safety impacts".
response	*Not accepted* This would mean no change to the current rule and AMC, with systematic root-cause analysis, annual programme and a less flexible approach to determining the sample. The changes proposed provide more flexibility and proportionality.

A. Explanatory Note - V. Regulatory Impact Assessment - 6. Analysis of the impacts p. 12

comment	*35* comment by: *SVFB/SAMA* 12/32 **in respect of SME's and/or Aircraft below 5.7 to** 6.1 This is a complete lack of substatiation for the need for better ACAM: show the statistics demanding the change. 6.3 We see an immense economic impact by a uncontrolled cost increase. 6.5. EASA as a whole is does not see the proportionality issue through the whole regulation PART 145/147/M/66 . Its just consequent it is not identified here. 7. The only preferred option before the whole rule including basic regulation is reworked into sensible proportionality is: do nothing now.
response	*Not accepted* See response to comment 44 above.

A. Explanatory Note - V. Regulatory Impact Assessment - 7. Conclusion and preferred option p. 12

comment	*12* comment by: *Aero-Club of Switzerland*

Our organisation favours Option 0! The Option 1 is not appropriate to our operations. We invite the Agency to at least propose three different solutions, one for non-commercial operations with other than complex motor-powered aircraft, a different one for commercial operations, and another one for commercial air transport, others may be suitable as well.

Justifications:

Due to the fact that fully comparable data will not be available without considerable manpower and financial investment there will be no measurable increase in safety.

Under 2.2 on page 11/32 you write of an occasional risk and that inadequate ACAM directly...may lower the level of safety.

Option 1 clearly will have impacts on the environment, on the economic situation of the operator and on social issues, thinking of authority representatives asking for survey flight (the operator has to pay for...). Option 1 will cost a lot of money to us, increase the administrative burden, add to the workload, with no real benefit in safety.

For these reasons we ask for solutions appropriate to the nature of the flight operations.

response *Not accepted*

See response to comment 44 above.

Exempting certain segments from ACAM may be considered by the Part-M General Aviation Task Force in Phase II.

B. Draft Opinion and Decision - I. Draft Opinion Part-M - 1. M.B.303 Aircraft continuing airworthiness monitoring p. 14

comment *33* comment by: *SVFB/SAMA*

14/32 M.B.303 ACAM

There is a need to separate different risk potential.

Certain risks are just to "small" to be dealt with by EASA and/or the authorities. They could be left to the clubs, associations or other bodies instead.

The Task Force M is dealing with the whole issue of M including the issue of this NPA:

Ø what will be the result ?

Ø What will govern the final rule ?

A patchwork of fixes like this one for each and every rule is the root cause of user unfriendly regulations with constant growing complexity due to interlinking into all the parts.

Only a proposal which exempts aircraft up to 2730 kg would be appropriate.

response

Noted

See also response to comment No 8.

The comment has been provided to the Part-M General Aviation Task Force for consideration in Phase II.

comment *34* comment by: *SVFB/SAMA*

M.B.303 ACAM

(a) .. on a risk based approach..

we fully support the principle to base the survey programme on a risk based approach.

The big question here is : where is the limit of risks the authority should start to deal with.

The past expansion of regulation has supported a audit tourism of authority staff to audit risks whom are below a truly significant level.

It diverts resources from the major risks. The costs for such supervision are more then the potential of damage that could be avoided.

(b) basically to check for key risk parameters is a good thing IF THE RISK DIFFERENTIATION IS MADE CORRECT: we are afraid, that *by covering all aspects of key risk* elements the rule will embrace all aircraft even if the size of aircraft indicates for less risk potential: a door opening on a 4 seater bears a very different risk potential, even in the worst case, compared to an not correct closed/latched door on a DC 10.

(c and following) what if there are no findings ore the findings are not made available in a manner to produce an improvement ?

response

Partially accepted

While the competent authority's survey programme shall cover all aspects of the key risk elements, an individual ACAM inspection does not need to cover all KREs.

The following note has been added to Appendix III to GM 1 M.B.303(b):

"The key risk elements and their detailed components should be adapted to the complexity of the aircraft type being surveyed by retaining only those items that are applicable and relevant for the particular aircraft type."

comment *36* comment by: *SVFB/SAMA*

M.B.303 ACAM

(a) .. on a risk based approach..

we fully support the principle to base the survey programme on a risk based

approach.

The big question here is : where is the limit of risks the authority should start to deal with.

The past expansion of regulation has supported a audit tourism of authority staff to audit risks whom are below a truly significant level.

It diverts resources from the major risks.

The costs for such supervision are more then the potential of damage that could be avoided.

(b) basically to check for key risk parameters is a good thing IF THE RISK DIFFERENTIATION IS MADE CORRECT: we are afraid, that *by covering all aspects of key risk* elements the rule will embrace all aircraft even if the size of aircraft indicates for less risk potential: a door opening on a 4 seater bears a very different risk potential, even in a worst case scenario, compared to an not correct closed/latched door on a DC 10.

(c and following concerning GA and BA and SME's) what if there are no findings ore the findings are not made available in a manner to produce an improvement ?

response *Noted*

See response to comment 34.

comment *63* comment by: *AESA (SPAIN)*

M.B.303 d)

Any findings identified shall be categorised against the requirements of this Part

Not all the findings can be classified against a requirement of Part M. Explanatory Note (point 22) of the NPA says that findings should be classified against the relevant implementing rules (not only part M)

response *Accepted*

This inconsistency has been addressed in the revised text. For any ACAM finding there should always exist a Part-M requirement to support such finding, but this does not mean that when performing an ACAM inspection, findings cannot be raised against any other applicable Part. If this occurs, such findings shall be dealt with as prescribed in the relevant Part.

comment *70* comment by: *UK CAA*

Page No: 14

Paragraph No: M.B.303(c) Past Surveillance Activities

Comment: The demotion, from requirement to AMC, to the reference for competent authorities to account for 'past surveillance activities' in their continued airworthiness monitoring survey programme is not discussed in the NPA in any detail, but in any case it seems to be a retrograde step and should not be

adopted.

Justification: Any knowledge gained by a competent authority through its various oversight activities can only help it to make key strategic decisions to make its future oversight function more focused. This can only be good practice. Indeed, the Agency itself makes use of its knowledge of "past standardisation results" in its Regulatory Impact Assessment in this NPA (on page 11, Section V, paragraph 2.2), so it would be a useful, legitimate means which competent authorities could have at their disposal to fulfil their objectives.

Proposed Text: Retain the current reference to past surveillance activities in M.B.303:

M.B.303 Aircraft continuing airworthiness monitoring

(c) The programme shall be developed on a risk based approach taking into account the number of aircraft on the register, the diversity of aircraft types, local knowledge and the results of past surveillance activities.

response *Not accepted*

The IR should define the "WHAT" and the AMC the "HOW". Having this item in the AMC is not "demoting" as long as no alternative means of compliance has been approved. Would an NAA have benefits in adopting an alternative means for this particular issue?

comment *82* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

(#1, p14) NPA M.B.303(d)

- According to the proposed M.B.303(d), findings shall be categorized against Part-M. According to item no 22 (p8) in NPA the possibility is given to enter the findings against Part-21, Part-145 etc. This needs a clarification.

(#1, p14) NPA M.B.303(d)

- Proposal:
  - § Classification of findings should be against the KRE. Reason:

    Easier to communicate with all parts involved in the work on the aircraft instead of referring to paragraphs.

    Helps to keep focus on the inspection of the aircraft instead of referring to paragraphs.

    Easier to compare and exchange data between member states.
  - § The finding text must contain a reference to a relevant Part-M requirement. For example it is possible to refer to 1702/2003 via M.A.304 or M.A.401.

(#1, p14) NPA M.B.303

- The NPA M.B.303 contains the management of findings scattered over different parts of the rule. At other subparts in the regulation, findings has their own paragraphs. For example M.B.605, M.B.705, M.B.903.
- Proposal:
  - § Add a M.B.305 for "Findings"
  - § Move the management of findings to M.B.305.
  - § We suggest the use of the Level 1 and 2 findings.

response

Not accepted

See also response to comment 63.

First issue: not accepted.

"Categorisation of findings" just means that a Part-M requirement must exist to be able to raise an ACAM finding. This does not prevent the authority from raising findings against any other Part; in this case the finding is to be dealt with as prescribed in that Part.

No change on classification of findings (not to be classified against the KREs, but against the requirements of Part-M). Classification against the KREs would only be relevant with pre-defined findings. Nothing prevents the authority from doing it.

See also the Explanatory Note to the NPA § 24.

Second issue: not accepted.

Changing the requirements related to findings in areas other than ACAM is not within the scope of this task.

Part-M provides specific provisions on findings for Subpart-F organisations, Subpart-G organisations and for owners/operators. Aligning these may be considered as part of rulemaking task MDM.055.

B. Draft Opinion and Decision - I. Draft Opinion Part-M - 2. M.B.304 Revocation and suspension p. 14

comment

83 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

(#2, p14) NPA M.B.304

- Proposal:
  - § Add a new paragraph (c):

    suspend or revoke certificates of airworthiness pursuant to 21B.330.

    Reason: In case of the continuing airworthiness affect the CoA.
  - § Add a new paragraph (d):

There must be a bilateral communication in such cases when the State of Registry and the State of Operator are not the same.

Example: In case of leasing according to *bis83* agreements.

response *Not accepted*

1. Actions on the airworthiness certificate shall be set out in Part-21, not in Part-M.
2. ACAM inspections are to be performed only on aircraft on the register of the Member State.
3. Communication and assistance between authorities is already addressed under M.B.105.
4. Finally, if oversight of an aircraft is conducted under ICAO 83bis, then the procedures and communication modalities shall be established under this agreement.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 2. AMC 2 M.B.102(c) Competent authority - Qualification and training - ACAM INSPECTORS p. 15

comment *15* comment by: *Aero-Club of Switzerland*

The most relevant question to this is: Who pays the bill in the end?

Justification: Just as some airports charge landing fees higher priced than flight hours the Agency adds additional cost to the whole system, which have to be paid by someone, in our case our flying individuals and our groups, making flying excessively expensive.

response *Noted*

The issue of an increasing amount of regulations and its impact on NAA administrative systems is being discussed also by the Part-M GATF.

The comment is not specifically addressing qualification of inspectors. The move towards a more risk-based model should address some of the cost impacts.

comment *84* comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

(#2, p15) NPA AMC 2 M.B.102(c)

- The requirement for qualification and training is already mentioned in M.B102(c). We suggest to not regulate it twice.

It is not necessary to explain that ACAM ramp inspections can be performed by other inspectors authorized according to other Parts.

response | *Not accepted*

The new AMC aims at providing an alleviation for ramp inspections by allowing inspectors qualified to perform ramp inspections in accordance with other Parts (such as the future ARO.RAMP[1[1]]) to perform ACAM ramp surveys.

[1[1]] Cf. Opinion No 04/2011 of the European Aviation Safety Agency of 1 June 2011 for a Commission Regulation establishing Implementing Rules for Air Operations, Part-ARO, Subpart RAMP.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 3. AMC M.B.303 Aircraft continuing airworthiness monitoring p. 15

comment | *16* comment by: *Aero-Club of Switzerland*

"Crediting" is a very positive aspect!

Justification: It keeps costs down, if properly applied.

response | *Noted*

B. Draft Opinion and Decision - II. Draft Decision Part-M - 4. AMC 1 M.B.303(a) Aircraft continuing airworthiness monitoring - ACAM SURVEY PROGRAMME - SCOPE p. 15

comment | *62* comment by: *AESA (SPAIN)*

AMC 1 M.B.303(a) Aircraft continuing airworthiness monitoring

ACAM SURVEY PROGRAMME – SCOPE

1. Each competent authority should create a programme covering in-depth surveys and ramp surveys.

There is no further guidance on ramp surveys, and in particular, it is not clarified if the Key Risk Element concept has to be applied also to this kind of inspections.

Definition of KREs provided by Appendix III to GM 1 to M.B.303(b) is under the guidance for the IN –DEPTH SURVEY (AMC 2 M.B.303(b) Aircraft continuing airworthiness monitoring)

For the nature of the ramp inspection, not all the KREs can be inspected during a ramp inspection

response | *Not accepted*

See new GM 1 M.B.303(b) and explanatory note to the NPA § 21:

"The list of KREs should be used as a planning aid and a working tool for the

ACAM process. For an individual ACAM inspection, the competent authority may sample specific KREs, but it should be able to demonstrate that all KREs have been assessed during the programming period, so as to ensure there are no blind spots in the programme in terms of airworthiness."

comment *78* comment by: *DGAC*

DGAC France thinks that a mention to allow unannounced checks should be indicated and therefore proposes that this AMC should be modified by adding a new item "5." written as follows:

"5. A certain percentage of the survey programme can be composed of unannounced surveys."

response *Accepted*

A statement has been added to AMC 1 M.B.303(a) to indicate that the survey programme should also include a certain percentage of unannounced ramp surveys (see new point 4).

B. Draft Opinion and Decision - II. Draft Decision Part-M - 5. GM 1 M.B.303(a) Aircraft continuing airworthiness monitoring - COMBINED SURVEYS p. 16

comment *23* comment by: *Aero-Club of Switzerland*

We thank the Agency for the proposal of "combined surveys".

Justification: The money-saving aspect, applying these combined surveys, is very important for our community.

response *Noted*

comment *67* comment by: *AESA (SPAIN)*

GM 1 M.B.303(a) Aircraft continuing airworthiness monitoring – Combined Surveys

"In the interest of efficient use of competent authority resources, aircraft inspection procedures can be established…."

Proposal: change wording: "can" should be replaced by "may"

response *Accepted*

Agreed to use "may" instead of "can".

comment *68* comment by: *AESA (SPAIN)*

GM 1 M.B.303(a) Aircraft continuing airworthiness monitoring – Combined Surveys

"Ramp inspections performed in accordance with other Parts"

Proposal: replace by "inspections performed in accordance with other regulations"

Justification: there is no current ramp inspection required by other Parts, and the proposed expression is more extensive, and may include, for example, the inspections performed of Subpart K & L under the continuous surveillance of an Air Operator Certificate (EU OPS)

response *Accepted*

GM 1 M.B.303(a) has been amended to refer to "ARO.OPS" and "ARO.RAMP" (Subparts OPS and RAMP of Annex II to Regulation on Air Operations «Authority Requirements Air Operations»), which should be published before this rule amendment will be applicable.

Therefore, any reference to EU-OPS in the KRE description will be complemented with the EASA reference as per future Air Operations Regulation.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 6. AMC 1 M.B.303(b) Aircraft continuing airworthiness monitoring - SCOPE OF SURVEYS p. 16-17

comment *13* comment by: *Luftfahrt-Bundesamt*

AMC 1 M.B.303 (b) 2.

The experience has shown that physical surveys are of greater benefit when the aircraft is in operational condition. Aircraft, which are in extensive maintenance can not be considered to be in a condition that allows a statement of their airworthiness status because many sytems are at this point inoperable (e.g. electric system or hydraulic system) or dissembled (e.g. cabin interior). We suggest, for this reason, a more open wording.

response *Not accepted*

In-depth surveys allow a far better inspection (e.g. panels opened for access, interior removed, allows verification of AD compliance etc.).

Both possibilities are provided for (ramp surveys and in-depth surveys).

comment *17* comment by: *Aero-Club of Switzerland*

How often within what timeframe is "regular"?

Justification: We think some guidance is needed for planning purposes on our side!

response *Accepted*

The term "regular" has been removed from AMC 1 M.B.303(b) Aircraft continuing airworthiness monitoring (*).

B. Draft Opinion and Decision - II. Draft Decision Part-M - 7. AMC 2 M.B.303(b) Aircraft continuing airworthiness monitoring IN-DEPTH SURVEY p. 17

comment *45* comment by: *Airbus*

1.PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 17 of 32, AMC 2 M.B.303(b), paragraph 1.

2.PROPOSED TEXT / COMMENT:

The rule (M.B.303) requires that the survey programme covers all aspects of the key risk elements (KREs). However, the KREs are not identified in the rule. Therefore, It is considered that they should be listed in the AMC, and guidance on how to deal with the KREs should be given in the GM.

We therefore recommend a wording change, based on a relocation of the text (in bold italic) found on the first page of the Appendix III to GM 1 M.B.303(b). The text highlighted reflects the modifications incorporated in this text:

QUOTE

1.An ACAM in-depth survey is a sample inspection of the key risk elements (KREs) and should be performed during scheduled/extensive maintenance. ***The KREs are:***

A. AIRCRAFT CONFIGURATION

A.1 Type design and changes to type design: The type design is the part of the approved configuration of a product, as laid down in the TCDS, common to all products of that type. Any changes to type design shall be approved, and for those embodied, shall be recorded with the reference to the approval.

A.2 Airworthiness limitations: An airworthiness limitation is a boundary beyond which an aircraft or a component thereof must not be operated, unless the instruction(s) associated to this airworthiness limitation is (are) complied with.

A.3 Airworthiness Directives: An Airworthiness Directive means a document issued or adopted by the Agency, which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may otherwise be compromised. (Refer to EASA Part 21A.3B).

B. AIRCRAFT OPERATION

B.1 Aircraft documents: Aircraft certificates and documents necessary for operations.

B.2 Aircraft Flight Manual (AFM): A manual, associated with the certificate of airworthiness, containing limitations within which operation of the aircraft is to be considered airworthy and, instructions and information necessary to the flight crew members for the safe

operation of the aircraft.

B.3 Mass & Balance: Mass and balance data is required to make sure the aircraft is capable of operating within the approved envelope.

B.4 Markings & placards: Markings and placards are defined in the individual aircraft type design. Some information may also be found in the Type Certificate Data Sheet, the Supplemental Type Certificates ~~(STC)~~, the AFM, the Aircraft Maintenance Manual, the Illustrated Parts Catalog, etc…

B.5 Operational requirements: Items required to be installed to perform a specific type of operation.

B.6 Defect management: Defect management requires a system whereby information on faults, malfunctions, defects and other occurrences that cause or might cause adverse effects on the continuing airworthiness of the aircraft is captured. This system should be properly documented. It includes, amongst others, the Minimum Equipment List system, the Configuration Deviation List system and deferred defects management.

C. AIRCRAFT MAINTENANCE

C.1 Aircraft Maintenance Programme: A document which describes the specific scheduled maintenance tasks and their frequency of completion, the associated maintenance procedures and related standard maintenance practices ~~and the associated procedures~~ necessary for the safe operation of those aircraft to which it applies.

C.2 Component control: The component control should consider a twofold objective for components maintenance:

- ***Maintenance for which compliance is <u>mandatory</u>.***
- ***Maintenance for which compliance is <u>recommended</u>.***

C.3 ~~Structure /~~ Repairs: All repairs and unrepaired damage/degradations need to comply with the instructions of the appropriate manual (e.g. the Structural Repair Manual, the AMM, the Component Maintenance Manual) or, have been appropriately approved and recorded with the reference to the approval. This includes any damage or repairs to the aircraft/engines/propellers and their components.

C.4 Records: Continuing Airworthiness records are defined in M.A.305 and M.A.306, and related AMCs.

Appendix III to GM 1 to M.B.303(b) provides guidance on KREs that can be used for planning and/or analysis of the inspections.

UNQUOTE

These changes proposed (in bold italic) are also to be taken into account in the table of the Appendix III to GM 1 M.B.303(b). See comments N° 3

<u>3. RATIONALE / REASON / JUSTIFICATION for the Comment</u>

A logical structure is given to the information published in the regulation material: The rule requires that the survey programme covers all aspects of the KREs. The AMC defines the minimum scope of continuing airworthiness, thanks to the list of KREs. The GM provides guidance on KREs that can be used for the preparation and/or analysis of inspections.

response | *Partially accepted*

The list of KREs without detailed description has been defined in a new AMC to meet the legal drafting principles. The detailed description will be provided in the GM only to avoid duplication and reduce the impact of changes on existing procedures that are based on the previous KRE list as defined in Appendix III to AMC M.B.303(d).

See new AMC 3 M.B.303(b) Aircraft continuing airworthiness monitoring.

The editorial changes proposed for the KRE description have been accepted. Further changes have been made to ensure applicability not only to large aircraft and for consistency with Part-M.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 8. GM 1 M.B.303(b) Aircraft continuing airworthiness monitoring - KEY RISK ELEMENTS p. 17

comment | *46* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 17 of 32, GM 1 M.B.303(b)

2. PROPOSED TEXT / COMMENT:

We recommend the following wording change:

QUOTE

The KREs define the scope of continuing airworthiness. The list of KREs is intended to provide the basis for planning and control of the ACAM survey programme***. It will*** ensure that the programme covers all aspects of continuing airworthiness. While ***it is not required to cover all KREs during a given inspection***, the ACAM survey programme needs to ensure that there is no ***omission***, i.e. certain ***KREs*** never inspected.

UNQUOTE

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

For sake of clarity.

response | *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) p. 18

comment | *71* comment by: *AESA (SPAIN)*

Appendix III to GM 1 M.B.303 (b)

The description, typical inspection items and supporting information of KREs may be, in some cases repetitive, and may lead to situations in which an inspection item can be checked under several KREs. In other cases, the inspection item does fit properly in the KRE. Examples:

A.2 Airworthiness limitations

The inspection items of this KRE can be checked when checking other KREs, for example C.1 (Aircraft Maintenance Programme) or A.3 (Airworthiness Directives)

A.3 Airworthiness Directives

Typical inspection item 5 (check that AD´s are included into the AMP) can be also considered as included in inspection item 2 of KRE C1.

B.1 Aircraft Documents

Inspection item 5 (Check that there is an appropriate aircraft certificate of release to service): It is not clear the intention of the text: if this requires checking that all task required by the AMP are performed or this is to check that there is (on board?) a CRS and is signed off by competent/authorised persons.

B.5 Operational Requirements

Typical inspection item 1 (Check CofA/ARC/PtF/Noise certificates) is in KRE B1

B.6 Defect Management

The supporting information is not consistent with the definition of the KRE itself: it may lead to understand that only defects found by the inspector during the physical inspection can be considered.

Inspection Item 1: "Check that the deferred defects have been identified, recorded and rectified…" should say "Check that defects have been identified, recorded and rectified/or deferred…"

C.1 Aircraft Maintenance Programme

Inspection item 4 (recommended scheduled and unscheduled maintenance tasks are appropriately considered)

It is not fully clear the intention of the expression "appropriate", if this is to determine when a recommend task has to be incorporated in the AMP, or if it means to evaluate that, in the case a recommended task is included in the AMP, it is incorporated correctly, reflecting properly the applicability, interval…

C.3 Structure/Repair

Typical inspection item 5 (check that recommended maintenance task are included into the AMP) can be also considered as included in KRE C1.

C.4 Records

The description of this KRE says that Continuing Airworthiness records are described in M.A 305 and M.A. 306 and related AMC. However not all the aspects of these points of the regulation are under this KRE, Example: Records of ADs are under the KRE A2

Typical inspection item 2 (to make sure work performed is signed off including the maintenance statement by competent/authorised persons) would require then that appropriate reference of the regulation should added under this KRE(M.A.801 or 145.A.50)

response

Partially accepted

A.2 Airworthiness limitations

Noted – no change to the GM: Combining KREs when performing inspections is always possible. Considering the close links between some of the KREs, some items are relevant to more than one KRE.

A.3 Airworthiness Directives

Noted – no change to the GM: see above.

B.1 Aircraft Documents

Not accepted: This is indeed to check if a valid aircraft CRS is available, covering the latest maintenance requiring a release under Part-M.

B.5 Operational Requirements

Accepted: these items have been deleted from B5.

B.6 Defect Management

Accepted: text amended accordingly.

C.1 Aircraft Maintenance Programme

Accepted: text amended to also consider the case of non-large aircraft not used in CAT, reference to M.A.301 point 7 added.

C.3 Structure/Repair

Accepted: C1 amended to include one check item related to ICA resulting from any modification/repair embodied.

C.4 Records

Not accepted: Typical inspection items for this KRE focus on the record-keeping process in terms of continuity, integrity and traceability, specific records can be sampled under any of the other KREs.

Typical inspection item 2: Accepted – reference to M.A.801 has been added.

General comment: It should be noted that the details of the KREs are included as GM, which provides flexibility to authorities to use them as they see fit (there are no prescriptive elements in this GM).

comment

85 comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

(#13, p18-32) NPA Appendix III to GM 1 M.B.303(b):

o Keep the current KRE´s (1-15).

§ There is no value added to change/reclassify the KRE´s.

§ New KRE´s will create a lot of work to change and classify old data. That will be an unnecessary administrative burden to already performed development and work.

§ The statistic value of the performed inspections will be decreased.

o Remove the 3 proposed "headlines classification" (A-Aircraft Configuration, B-Aircraft Operation, C-Aircraft Maintenance) for the KRE´s.

§ It will be difficult to define the KRE´s to a correct "headlines classification".

§ If the "headlines classification" will be used, "Continuing Airworthiness Management" shall also be used.The title "Aircraft Maintenance" may be misleading.

o (p25) KRE B4, In the "Supporting information" text the word "aeroplane" is used. We suggest the use of "aircraft" instead.

o (p27) KRE B6, Defect management

§ Mention "Dent and buckle chart information" as an example in the Typical inspection items.

response *Partially accepted*

Items 1 & 2: Noted.

It should be noted that the details of the KREs are included as GM, which provides flexibility to authorities to use them as they see fit (there are no prescriptive elements). This means the authority may continue to use its existing list of KREs and still use the detailed information provided in the new version of the KREs. Regarding the statistical value of inspections, standard definitions and a standard classification of findings would be required to ensure common data formats. As explained in § 16 of the Explanatory Note to the NPA, implementation of such a system was not supported by the drafting group.

Item 3: accepted – text changed.

Item 4: not accepted – such chart is not required under Part-M (also not a requirement under ICAO).

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - Previous KRE ref. p. 19

comment *47* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 19 of 32, Appendix III to GM 1 M.B.303(b)

2. PROPOSED TEXT / COMMENT:

We recommend amendment of the proposed text as indicated in our comment N° 45, on AMC 2 M.B.303(b), paragraph 1.

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

A logical structure is given to the information published in the regulation material: The rule requires that the survey programme covers all aspects of the KREs. The AMC defines the minimum scope of continuing airworthiness, thanks to the list of KREs. The GM provides guidance on KREs that can be used for the preparation and/or analysis of inspections.

response *Noted*

See response to comment No 45.

comment 69 comment by: *AESA (SPAIN)*

Appendix III to GM 1 M.B.303 (b)

The KRE previous number reference should not appear in the regulation.

Justification: future regulation should not contain any reference to a regulation which is going to be replaced. The changes in the KRE system are sufficiently explained in the Explanatory Note (point 32) of the NPA, moreover the Explanatory Note (point 32) says that the KRE should be referred to by using the title and not the number.

response *Accepted*

Previous reference deleted in the CRD version of the GM.

comment 72 comment by: *UK CAA*

Page No: 19 & 24

Paragraph No:

Appendix III to GM 1 M.B.303(b) Scope of Surveys

Comment:

The scope of the continuing airworthiness programme as defined by the revised list of KREs should include a periodic assessment of the aircraft against its aeroplane flight manual, focusing particularly on its performance.

Justification:

Appendix III to GM1 M.B.303(b) B.2 Aircraft Flight Manual already recognises that:

The Aircraft Flight Manual needs to reflect the current status/configuration of the aircraft. When it does not, it may provide flight crew members with wrong information.

This may lead to errors and/or to override limitations that may result in hazardous/catastrophic events.

An in-flight assessment that the aircraft conforms with its Aircraft Flight Manual seems a reasonable response to this Key Risk Element. Indeed, a periodic in-flight assessment of the aircraft against its flight manual provides a degree of quality assurance upon which the operation of the aircraft can be based. There are aspects of both an aircraft's airworthiness (e.g. handling and control characteristics and performance) that cannot be evaluated during normal operations, and of its emergency systems serviceability that cannot normally be proven to be satisfactory, either through ground-maintenance checks or normal flight operations.

For example, this is particularly relevant with regard to performance. The ability of an individual aircraft to achieve the scheduled performance in its flight manual becomes an increasingly important safety factor under limiting conditions of weight, temperature and airfield characteristics. A performance

shortfall might remain undetected so long as operations are confined to relatively light weights at non-limiting airfields. The renewal or revalidation of a Certificate of Airworthiness or an Airworthiness Review Certificate is intended to be a declaration of confidence in the condition of the aircraft and this should imply a similar degree of confidence that the aircraft meets its performance criteria. It follows therefore that a periodic confirmation that an aircraft can deliver its scheduled performance should form an integral part of this process.

This philosophy is justified by the investigation into a recent fatal accident which resulted in a safety recommendation (2008-051) being made to EASA by the UK Air Accidents Investigation Branch recommending that EASA amends that part of the Regulations dealing with Continuing Airworthiness so that aircraft under their jurisdiction will require a periodic performance assessment.

Proposed Text:

Add an additional item to the Typical Inspection Items as follows:

1. *Check the conformity of the AFM (latest issue) with aircraft configuration, including modification status, (AD, SB, STC etc.).*
2. *Check:*
   - *The AFM approval, revision control, Supplement to AFM The impact of modification status on noise and weight & balance,*
   - *Additional required manuals (QRH/FCOM/OM-B etc.),*
   - *AFM limitation.*
3. ***<u>An in-flight survey to verify the information in the Aircraft Flight manual should be considered.</u>***

response *Not accepted*

Validation of the Aircraft Flight manual is a task under Part-21; it is not part of the tasks required under Part-M to manage the continuing airworthiness of the aircraft.

Regarding in-flight surveys: see response to comment 87.

comment *79* comment by: *DGAC*

This specific check-list is very useful for in-depth surveys. An identical Appendix should be developed for ramp surveys. By this way, it would be more convenient for every NAA to understand on which items it is necessary to focus on and therefore, this would lead to a better standardisation between the ramp surveys performed by different NAAs.

response *Not accepted*

The GM with the detailed description can be used both for in-depth surveys and ramp surveys, where for the latter only certain of the KREs would be sampled and not all of the typical inspection items of those sampled KREs would be checked.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III p. 20

to GM 1 M.B.303(b) - A.1 Type design and changes to type design

comment *48* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 20 of 32, Appendix III to GM 1 M.B.303(b), Section A.1, Type design and changes to type design

2. PROPOSED TEXT / COMMENT:

a) In the Supporting information field, we recommend the following text for paragraph 3:

3. ***An approved Airworthiness Limitations Section (ALS) of the*** Instructions for Continued Airworthiness (ICA) ~~***i.a.w. 21A.61, including an approved Airworthiness Limitation Section (ALS)***~~; and

This brings the text back in line with the EASA Part 21A.31. Inclusion of all ICA in the type design would imply that any amendment to these ICA becomes a (minor/major) change to the type design. This would mean that any operator adapting ICA to its operations needs to apply either for:

- An approval for each (minor) change, or
- A Design Organization Approval (DOA) to deal with minor changes under a DOA privilege, and to apply for approval of STCs for other changes.

This seems not reasonable (not technically justified, burdensome for authorities, and economically unacceptable for operators).

b) In the Reference documents field, we recommend the following changes:

- ~~***EASA Part-21, Subparts B, D, E, K, O***~~
- ***EASA Part 21A.31***
- EASA Part 21A.41
- EASA Part 21A.61
- EASA Part M.A.304
- EASA Part M.A.305
- EASA Part M.A.401

If this solution is not accepted, references to Part 21A.41 & 21A.61 should be deleted as these paragraphs are included in Part 21 subpart B.

c) Editorial comments on typical inspection items:

- Item 3, add an "s" to "Technical Variation",
- Item 5, add an "A" to "FM" (consistency with KRE B2).

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

As stated in this NPA (paragraph 11.), "the provisions at AMC [commenter: and therefore at GM] level should not introduce additional or more stringent requirements to those defined at implementing rule level". The EASA Part 21A.31 does not state that all ICA are part of the type design.

response *Partially accepted*

The only change that has not been accepted is KRE B2 typical inspection item (5) related to "AFM", which is now replaced by "FM", in line with BR terminology.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - A.2 Airworthiness limitation p. 21

comment *49* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 21 of 32, Appendix III to GM 1 M.B.303(b), Section A.2, Airworthiness limitations

2. PROPOSED TEXT / COMMENT:

a) In the Supporting information field, we recommend the following text:

Airworthiness limitations are exclusively associated with instructions whose compliance is mandatory as part of the type design. They apply to some scheduled or unscheduled instructions that have been developed to prevent ***~~and~~ and/or*** to detect ***~~safety-significant~~ the most severe failure***.

They mainly ***~~provide~~ apply to*** maintenance ***~~requirements~~ instructions*** (mandatory modification, replacement, inspections, checks, etc***.),*** but can also ***~~provide requirements~~ apply to instructions*** to control critical design configurations (for example Critical Design Configuration Control Limitations (CDCCL) for the fuel tank safety).

b) In the Typical inspection items field, we recommend the following text:

1. Check that the Aircraft Maintenance Programme (AMP) reflects airworthiness limitati*ons* ***and associated instructions*** *(st*andard or alternative) issued by the relevant design approval holders and approved by the competent authority

(...)

- *(4th bullet)* Ageing Systems Maintenance (ASM), including ***~~Instructions for EWIS~~ Airworthiness Limitations for Electrical Wiring Interconnection System (EWIS)***

(...)

- *(7th bullet)* Review ***~~MRBR/MPD versus aircraft maintenance programme (AMP)~~ the AMP versus source documents*** to ensure mandatory tasks are included.

c) Editorial comments on typical Airworthiness Limitation items:

- 2nd bullet: "Damage Tolerant ALI ***(DT ALI)***/Structur***e, i***ncluding ageing aircraft structure,"
- 3rd bullet: "***Certification Maintenance Requirements (***CMR***)***",
- 7th bullet is not a typical ALI but relates to the typical inspection item 1. It is therefore advisable to delete it. Further, it should have read: "Review ***the AMP*** versus ***source documents*** to ensure mandatory tasks are included,"

There are no tasks mandated through the MRBR. There is no requirement for

mandatory tasks to be included in the MPD. All mandatory tasks will be included in an ALS(or in ADs). The location of the ALS varies between Type Certificate holders and while it is true that some may include the ALS as a separate approved section of their MPDs, this does not justify the inclusion in this list. In addition, a concern is expressed because updating the MPD to reflect changes insource documents (e.g. ALS and ADs) may occur several months after release of the revised source document. It would thus be incorrect to compare the AMP with the MPD, and might lead to findings that are not justified,

- 8th bullet: it is proposed to provide clarification that it refers only to mandatory ageing fleet inspections that are included in the ALS (or AD). These inspections will typically be included in one of the previous bullets (e.g. 2nd and 4th bullets). The term "ageing fleet inspections "is not defined. These inspections might be assessed to include any Type Certificate holder's recommendation that adds tasks or reduces intervals to address ageing concerns. Only those that are published in the ALS or via ADs are mandatory. It might be interpreted that the inclusion of this bullet implies that all ageing-related tasks recommended by the Type Certificate holder must be included in the operators AMP.

3.RATIONALE / REASON / JUSTIFICATION for theComment:

Inappropriate or confusing terms are source of different interpretations and consequential difficulties.

In the 'supporting information':

-although the intent is clear, "safety-significant failure" is unfortunately not defined and therefore confusing: some will link this term to the ATA MSG-3 route5 and 8 maintenance tasks (confirmed by an opinion poll). This could create misunderstandings at the interface between design and continuing airworthiness management communities (on both authorities and industry sides). The alternative term "most severe failure" is probably acceptable for both parties; if reference to "hazardous" and "catastrophic", as defined in AMC 25.1309, is not acceptable (refer also to comments 7 and 9).

-it is to be noted that failure-finding tasks usually are not preventive maintenance tasks. Therefore, some instructions will prevent failures (no failure has occurred), while some others will detect failures (a failure has occurred), and finally some will do both. Hence, "and/or" is preferred.

-Airworthiness limitations (i.e. values) are associated with instructions. Therefore, airworthiness limitations do not "provide" but "apply to" instructions.

In the 'Typical Airworthiness Limitation items':

-The reason for the comments is attached with the comments

-In addition, for the bullet N°4, it is to be noted that with the exception of life limited EWIS components, instructions for EWIS are not mandatory. The EWIS ICA Compliance Source Document refers the operator to the location of the EWIS instructions. EWIS inspection requirements are typically included in the MRB Report. The oversight of such tasks should therefore be handled in a similar way to that of other MRBR tasks. No tasks are mandated through the MRBR.

response *Accepted*

The text has been changed accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - B.1 Aircraft documents p. 23

comment *50* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 23 of 32, Appendix III to GM 1 M.B.303(b)

2. PROPOSED TEXT / COMMENT:

Editorial comments on reference documents:

- 9th bullet: "2***1A***.807".

3. RATIONALE / REASON / JUSTIFICATION for the Comment

Typo

response *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - B.2 Aircraft Flight Manual p. 24

comment *51* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 24 of 32, Appendix III to GM 1 M.B.303(b), section B.2, Aircraft Flight Manual

2. PROPOSED TEXT / COMMENT:

a) We recommend correction of 2nd paragraph in "Supporting information" as follows:

This may lead to errors and/or to override limitations that ***~~may result in hazardous/catastrophic events~~ could contribute to severe failure.***

The use of "hazardous" and "catastrophic" terms was introduced as part of the Airbus initial contribution for the KRE A2 (Airworthiness limitations). It was not accepted by the EASA and replaced by "safety-significant failures". Unfortunately, this term is confusing. Refer also to our comments 49 and 53 for consistency.

b) Editorial comments on typical inspection items:

- Item 2, 1st bullet: Add a period after "Supplement to AFM" and create a new bullet with "The impact of modification status on noise and weight & balance".

3. RATIONALE / REASON / JUSTIFICATION for the Comment

For sake of consistency between KREs.

response *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - B.3 Mass & Balance p. 24

comment *52* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 24 of 32, Appendix III to GM 1 M.B.303(b), section B.3, Mass & Balance

2. PROPOSED TEXT / COMMENT:

In Typical inspection items, a word is missing:

1. Check that mass and balance report is valid, considering current ***configuration***

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

For sake of clarity

response *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - B.4 Markings & placards p. 25

comment *53* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 25 of 32, Appendix III to GM 1 M.B.303(b), section B.4, Marking & placards

2. PROPOSED TEXT / COMMENT:

In Supporting information, we recommend the following corrections:

Markings and placards or instructions shall be provided to give any information that is essential to the ground handling in order to preclude the possibility of mistakes in ground servicing (e.g. towing, refuelling) that could pass unnoticed and that could jeopardise the safety of the ~~***aeroplane***~~ ***aircraft*** in subsequent flights.

[...]

When markings and placards are missing, or unreadable, or not properly installed, mistakes or aircraft damage may occur and ~~***may***~~ ***could*** subsequently ~~***result in a hazardous or catastrophic event***~~ ***contribute to a severe failure.***

This KRE is applicable to all categories of aircraft.

The use of "hazardous" and "catastrophic" terms was introduced as part of the Airbus initial contribution for the KRE A2 (Airworthiness limitations). It was not accepted by the EASA and replaced by "safety-significant failures". Unfortunately, this term is confusing. Refer also to comments 49 and 51 for consistency.

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

For sake of clarity and consistency.

response *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - C.1 Aircraft Maintenance Programme p. 28

comment *20* comment by: *AOPA-Sweden*

In bullet 1, Instructions for continued Airworthiness (ICA) are listed among the mandatory compliance items. This is incorrect, ICA, at least for General Aviation aircraft, contain only approved methods of doing maintenance. With the exception of the ALS section, of course.

The ICA should be under bullet 2, recommended maintenance.

It is important that ACAM-inspections are done in accordance with existing rules and actual reality.

response *Accepted*

The KRE has been reviewed to better align with M.A.302 and clarify the issue of ICAs.

A new item has been added on additional/alternative instructions as defined in M.A.302(d)(iii).

comment *55* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 28 of 32, Appendix III to GM 1 M.B.303(b), section C.1, Aircraft Maintenance Programme

2. PROPOSED TEXT / COMMENT:

a) In Supporting information, we recommend the following corrections:

The ~~***KRE***~~ Aircraft Maintenance Programme (AMP*)* ***is intended to embrace scheduled maintenance tasks, the associated procedures and unscheduled maintenance tasks such as those included in standard maintenance practices. It*** *a*lso includes the reliability programme, when

required.

[...]

- Tasks for which compliance is mandatory: Instructions specified in ***~~the~~*** Airworthiness Directives (AD), ***~~and/~~***or in the ***repository for Certification Maintenance Requirements (CMR), or in the*** Airworthiness Limitations Section (ALS)***~~., or Certification Maintenance Requirements (CMR) of a design approval holder's maintenance manual, or Instructions for Continued Airworthiness (ICA). CMR and the ALS are included in the Instructions for Continued Airworthiness (ICA) or in the maintenance manual of a design approval holder.***

[...]

Task accomplishment is scheduled (one time or periodically), or unscheduled (e.g. following an event). Statuses in aircraft continuing airworthiness records (refer to logbooks, technical logbooks, component log cards) dealing with:

- Scheduled tasks:
- One-time: life-limited parts status, modification status, repair status.
- Repetitive: maintenance programme status.
- ***Unscheduled tasks: directly recorded in logbooks, technical logbook, component log card, task cards.***

b) In Typical inspection items, we recommend the following corrections:

Review of AMP contents before approval:

~~1. Check if the AMP used is valid for the aircraft, is approved and is amended correctly.~~

~~2~~1. Check if the maintenance tasks specified in ADs or specified as mandatory in the approval of the type design (and the changes thereto) are identified as such.

~~3~~2. Check if the ***~~latest (MRB or AMM) revision~~*** mandatory scheduled and unscheduled maintenance tasks ***(latest source documents revision)*** are implemented ***within approved compliance times***. Sample check that no tasks have been omitted.

~~4~~3. Check if recommended scheduled and unscheduled maintenance tasks **(**the latest ***source documents*** revision**)** are appropriately considered ***when updating the AMP***.

~~5~~4. Check if task-cards correctly reflect ***~~the AMP and~~ or*** refer to accepted procedures and standard practises. Pay attention to unscheduled mandatory tasks (e.g. Critical Design Configuration Control Limitations, CDCCL).

~~6. Check if tasks are performed at correct intervals and comply with M.A.302.~~

~~7. Check the reporting of performed scheduled maintenance into the records system.~~

~~8~~5. Check if reliability programme is present and active when required. Analyse the effectiveness of maintenance programme and reliability by reviewing the unscheduled tasks***~~: directly recorded in logbooks, technical logbook, component log card, task cards~~***.

Review of aircraft compliance with an AMP:

1. Check if the AMP used is valid for the aircraft, is approved and is amended correctly.

2. Check if tasks are performed within the value(s) quoted in AMP and the source documents (scheduled/unscheduled).

3. Sample check that no task has been omitted without justifications accepted by the Competent Authority (at the time of decision).

4. Check the reporting of performed scheduled maintenance into the records system.

5. Check if reliability programme is active.

Comments and Justification for the new text in '***Review of AMP contents before approval***':

The items 2 and 3 are introduced using the same structure of wording, with due consideration to the timing for AMP revision. The wording ***'within approved compliance times'*** is proposed to fit with AMC M.A.302.(paragraph 3), where it is noted that AMP should be reviewed annually, and, specifying that mandatory requirements should be incorporated as soon as possible.

The current text, in the NPA, conflicts with the bullets in the 'supporting information' since it suggest that the MRB tasks are mandatory. An operator may have justified that a new/modified task introduced in an MRBR revision is not required in his operation based on reliability data. Absence of such tasks from the AMP does not necessarily constitute an omission.

The wording '***source documents'*** is proposed to encompass AD's, ALS, MRBR, ISB, etc.

Item 4: wording is slightly modified to be in line with the paragraph 1 of the AMC M.A.302 (procedures and standard practices are included in the AMP, i.e. the task cards are an element of the AMP).

Item 5: reference to records transferred to supporting information section.

Comments and Justification for the new text in ***'Review of aircraft compliance with an AMP'***:

Item 2: consideration is given not only to scheduled tasks but also to unscheduled ones. Reference to M.A.302 is deleted as it is not clear what "check if tasks comply with M.A.302" means.

Item 3 added to show that compliance with all AMP tasks is mandatory (unless otherwise agreed with the authority).

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

For sake of clarity and compliance with EASA Part M.A.302 and its AMC.

Tasks for which compliance is mandatory:

1. "the" before "AD" has been removed since this is a generic instruction that does not refer to any specific ADs,

2. Instructions in ADs will not also be in the ALS (or will take precedence over the ALS instructions) and thus the "and" is not justified,

3. It is the ALS that is required to be in the design approval holder's maintenance manual or in its ICA, and thus it is better to place the reference to CMR before the ALS,

4. Depending on the EASA Certifications Specifications (ref. CS 22 and CS 25 for example), the ALS (and CMR document, if any) will be included in the ICA or

in the maintenance manual of the design approval holder.

The way this KRE is currently introduced gives the impression that the KRE relates to the maintenance schedule (only). The proposal restores the relation to the entire AMP by including a wording for the scheduled and unscheduled tasks and by giving consideration to the AMC M.A.302, paragraph 1.

AMC M.A 302 states that the term "maintenance programme" is intended to include scheduled maintenance tasks the associated procedures,… and standard maintenance practices.

response *Partially accepted*

The text in this KRE has been reviewed to better align it with M.A.302. Items that are normally checked during the approval process of the AMP have been removed from the list of typical inspection items, as this KRE is used for ACAM, not for AMP approval. The notes on unscheduled tasks have been kept in the supporting information, the typical inspection items for "aircraft compliance with the AMP" have been amended as suggested in this comment.

comment *86* comment by: *GAMA*

Regarding NPA 2011-19 page 28 in the Aircraft Maintenance Programme supporting information section describing "Tasks included in the maintenance programme can originate from:"; the first bulleted list describes tasks for which compliance is mandatory. GAMA is concerned that the existing language will be misinterpreted that all ICA's are mandatory. This misinterpretation is further enforced by the lack of inclusion of "ICAs" under the "maintenance for which compliance is recommended" bullet list.

An aircraft certification basis determines whether ICA is required for that aircraft and therefore there is no regulatory ICA if not included in the cert basis. Any ICA and service instructions provided by the type certificate holder are simply advisory information on acceptable methods to support airworthiness and continued operational safety. Furthermore, EASA regulation (part 21 and JAR/CS-23, which are same as FAA) clearly state that when ICA is included in the cert basis (i.e. 23.1529), all mandatory inspections and tasks must be included in the airworthiness limitations section (ALS) (Basic Regulation Annex I 1.d.4) and that only the ALS is part of type design. Therefore, any reference to ICA on the type certificate data sheet (TCDS) as a condition or limitation of the type certificate must be limited only to the ALS and only for the specific make/model which includes it in the cert basis (not all models on the TCDS).

Further,

Certification Specifications: CS-23 Normal, Utility, Aerobatic and Commuter Category Aeroplanes - Book I, Airworthiness Code

- CS 23.1529 Instructions for continued airworthiness. Instructions for continued airworthiness in accordance with Appendix G must be prepared.
- Appendix G, Instructions for Continued Airworthiness
    - G23.3 Content
        - (a) Aeroplane maintenance manual or section...

- (b) Maintenance Instructions (1) Scheduling information for each part of the aeroplane and its engines, auxiliary power units, propellers, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods... The recommended overhaul periods and necessary cross reference to the airworthiness limitations section of the manual must also be included. In addition, an inspection programme that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the aeroplane must be included...

- G23.4 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 required for type certification. 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.

GAMA respectfully requests that EASA make the following necessary clarification to avoid any misinterpretations by adding language to the "mandatory" list of tasks so as to reference only the ALS sections of ICA are mandatory. Secondly, GAMA requests that EASA add language to the "recommended" section to indicate "applicable sections of the ICA", or "non-ALS" section of the ICA, is recommended.

GAMA appreciates your attention to these comments and would welcome the opportunity to answer any question regarding our comments.

response *Accepted*

The text for KRE C.1 has been amended to clarify:

tasks for which compliance is mandatory:

instructions specified in the Airworthiness Directives (AD), or in the repository for Certification Maintenance Requirements (CMR), or in the Airworthiness Limitations Section (ALS). CMR and the ALS are included in the Instructions for Continuing Airworthiness (ICA) or in the maintenance manual of a design approval holder;

tasks for which compliance is recommended:

additional instructions specified in the Maintenance Review Board Report (MRBR), the Maintenance Planning Document (MPD), the Service Bulletins (SB), or any other non-mandatory ICA issued by the design approval holder, meaning ICA other than ALIs or CMRs;

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III p. 29

to GM 1 M.B.303(b) - C.2 Component control

comment *56* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 29 of 32, Appendix III to GM 1 M.B.303(b), section C.2, Component control.

2. PROPOSED TEXT / COMMENT:

In Supporting information, we recommend the following corrections:

Time controlled components, include the following:

[…] They are subject to periodic maintenance dealing with a deterioration that is assumed to be ~~***constant***~~ ***predictable***

[...]

Restoration tasks for hard time components are not the same as 'On condition' task*s,* ~~***these tasks***~~ ***since they*** do not monitor gradual deterioration, but are primarily done to ensure the item may continue to remain in service until the next planned restoration.

[...]

Editorial change request for the supporting information: last two paragraphs should be included/at the same level as the paragraph starting with "Components for which removal and restoration are scheduled…"

To achieve an equal treatment of the different items (in particular those of the reliability programme), it would be appropriate to add the following text in the supporting information section:

"Components subject to "condition-monitoring" are permitted to remain in service without preventive maintenance until functional failure occurs. Reference is made to "fly-to-failure". Such components are subject to unscheduled tasks".

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

Comment refers to the words "[…] dealing with a deterioration that is assumed to be constant […]".

For a restoration to be applicable, the item must show functional degradation characteristics at an identifiable age, and a large proportion of units must survive to that age. It must be possible to restore the item to a specific standard of failure resistance. This does not mean that the deterioration is constant. Initially the rate of degradation may be small but this might increase as the surface treatment (for example) wears. Providing a value can be identified as the appropriate time to remove the item for restoration, it is not important whether the deterioration is constant or not. It is suggested that "predictable" may be a better word.

Note: The wording "these tasks" could be understood to refer to the "on-condition" tasks. Either change as proposed or break the sentence and start the second sentence with "Restoration tasks…".

response *Partially accepted*

The text has been amended while maintaining terminology used in the M.A.305 and related AMCs.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - C.3 Structure/Repairs p. 30

comment *57* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 30 of 32, Appendix III to GM 1 M.B.303(b), section C.3, Structure/Repairs.

2. PROPOSED TEXT / COMMENT:

It would be advisable to describe what is expected in the repair status like it is done in the item 2 of the KRE (C.2) on component control. This would ensure a (minimum) harmonization of statuses and therefore would significantly ease the investigations and aircraft transfers from a Member State register to another.

a) In Supporting information, we recommend the following corrections:

~~Each repair file~~ The data substantiating repairs should ***~~record~~ include, but is not limited to,*** the damage assessment, the rationale for the classification of the repair, the evidence the repair has been designed in accordance with approved data, i.e. by reference to the appropriate manual procedure or to a Part-21 repair design approval, and the drawings/material and accomplishment ***~~task cards~~ instructions, and the maintenance and operational instructions***.

The repair status means a list of:

- ***The repairs embodied since the original delivery of (and still existent upon) the aircraft/engine/propeller/component, and***
- ***The un-repaired damage/degradations.***

It also includes, either directly or by reference to supporting documentation (i.e. repair files), the substantiating data supporting compliance with the applicable airworthiness requirements.

The repair status should identify the repair file reference, the repair classification, the repaired item (i.e. aircraft/engine/ propeller/component, and a precise location if necessary), and the date and total life in FH/FC accumulated by the item at the time of repair or finding of the un-repaired damage/degradations. Cross-reference to the aircraft maintenance programme should also be included, as necessary.

Depending on [...]

The added wording is based on ICAO Airworthiness Manual Doc 9760 Volume II and the AMC to EASA Part M.A.305(d).

b) In order to match the previous inputs, we recommend the following changes for the typical inspection items:

1. ***~~Compare the repair status and the physical status of the repaired aircraft/engine(s)/propeller(s), and their repaired components~~***

~~(physical survey).~~ Sample the repair status to confirm it appropriately traces repairs and un-repaired damage/degradations.

2. Sample repair files (at least one file for each kind of repaired items) to check that repaired and unrepaired damage/degradations have been assessed against the latest published approved repair data.

~~2. Operator repair status should determine the damage assessment; the classification of the repair, the evidence of approved data issued from SRM or Part 21 approval reference, and the drawings/material and accomplishment task cards.~~ *[already covered in supporting information section].*

3. Check that repair instructions detailed in the repair file comply with published approved repair data.

~~3. Check repairs that are requiring repetitive inspection and/or limitation.~~ *[already covered in items 4 and 5]*

4. Check that major repairs resulting in ***new or amended*** airworthiness limitations and associated mandatory instructions (including ageing aircraft programme) have been included in the aircraft maintenance programme.

5. Check that ***~~recommended~~ new or amended*** maintenance ***instructions*** resulting from repairs ***~~has~~ have*** been considered for inclusion in the aircraft maintenance programme.

6. Compare the repair status and the physical status of the repaired aircraft/engine(s)/propeller(s), and their repaired components (physical survey) in order to confirm the quality of the repair status.

~~6~~7. Sample embodied repairs to check ***their*** conformity against ***the*** repair files (physical survey).

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

For sake of clarity and surveys harmonisation.

response *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - II. Draft Decision Part-M - 13. Appendix III to GM 1 M.B.303(b) - C.4 Records p. 31

comment *7* comment by: *Association of Dutch Aviation Technicians NVLT*

2. If applicable, make sure that the tech log system is used correctly and the work performed is signed off (including the maintenance statement) by competent/authorised persons.

This statement is not correct due the fact that a sign off is not a certificate of release to service!

The work in the aircraft technical log shall be accounted for by means of a sign-off in case of a Pre-flight inspection or in case of any maintenance by means of

a certificate of release to service. See **145.A. 50(A), AMC M.A.801 (d)(1), AMC145.A.50(b)(1), AMC 145.A.65(b)(3)(3)**

Note: A "sign-off" is a statement by the competent person performing or supervising the work, that the task or group of tasks has been correctly performed.

A sign-off relates to one step in the maintenance process and is therefore different to the release to service of the aircraft. "Authorised personnel" means personnel formally authorised by the maintenance organisation approved under Part-145 to sign-off tasks. "Authorised personnel" are not necessarily "certifying staff" .

response *Accepted*

The text has been amended accordingly.

comment *58* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 31 of 32, Appendix III to GM 1 M.B.303(b), section C.4, Records.

2. PROPOSED TEXT / COMMENT:

We recommend the following changes for the typical inspection items:

4. Check that any maintenance required following ***abnormal operation/event (such as*** *o*verspeed***, overweight operation,/***hard landing***, /***excessive turbulence***~~, etc., overweight operation~~***, and operation outside of AFM limitations***)*** has been performed, as applicable.

3. RATIONALE / REASON / JUSTIFICATION for the Comment:

For sake of clarity.

response *Accepted*

The text has been amended accordingly.

B. Draft Opinion and Decision - Abbreviations used p. 32

comment *59* comment by: *Airbus*

1. PAGE / PARAGRAPH / SECTION OUR COMMENT IS RELATED TO:

Page 32 of 32, Abbreviations.

2. PROPOSED TEXT / COMMENT:

Abbreviation change request:

EZAP Enhanced Zonal Analysis ***Procedure***

ICA Instructions for ***Continued*** Airworthiness

PNR Part Number

	SNR Serial Number **3. RATIONALE / REASON / JUSTIFICATION for the Comment:** For sake of consistency with standard abbreviations.
response	*Partially accepted* • Proposal 1 (EZAP): accepted. • Proposal 2 (ICA): not accepted - M.A.302 refers to Instructions for Continuing Airworthiness. • Proposals 3 and 4: not accepted: PN and SN are widely used.

Resulting text:

I. Draft Opinion Part-M

1. M.B.303 is amended as follows:

M.B.303 Aircraft continuing airworthiness monitoring

(a) The competent authority shall develop a survey programme on a risk-based approach to monitor the airworthiness status of the fleet of aircraft on its register.

(b) The survey programme shall include sample product surveys of aircraft and shall cover all aspects of airworthiness key risk elements.

~~(c) The programme shall be developed on a risk based approach taking into account the number of aircraft on the register, the diversity of aircraft types, local knowledge and the results of past surveillance activities.~~

~~(d)~~ (c) The product survey shall ~~focus on a number of key risk airworthiness elements~~ sample the airworthiness standards achieved, on the basis of the applicable requirements, and identify any findings. ~~Furthermore, the competent authority shall analyse each finding to determine its root cause.~~

~~(e)~~ (d) Any ~~All~~ findings identified shall be categorised against the requirements of this Part and confirmed in writing to the person or organisation accountable according to M.A.201. The competent authority shall have a process in place to analyse findings for their safety significance.

~~(f)~~ (e) The competent authority shall record all findings and closure actions.

~~(g) If during aircraft surveys evidence is found showing non-compliance to a Part-M requirement, the competent authority shall take actions in accordance with M.B.903.~~

~~(h)~~(f) If during aircraft surveys evidence is found showing non-compliance with this Part or with any other Part, the finding shall be dealt with as prescribed by the relevant Part.

~~(i)~~ (g) ~~In order to facilitate~~ If so required to ensure appropriate enforcement action, the competent authority ~~authorities~~ shall exchange information on non-compliances identified in accordance with paragraph ~~(h)~~(f) with other competent authorities.

2. M.B.304 is amended as follows:

M.B.304 Revocation and~~,~~ suspension ~~and limitation~~

The competent authority shall:

(a) suspend an airworthiness review certificate on reasonable grounds in the case of potential safety threat, or;

(b) suspend or~~,~~ revoke ~~or limit~~ an airworthiness review certificate pursuant to M.B.903(1)~~M.B.303(g)~~.

II. Draft Decision Part-M

1. AMC M.B.102(c) Competent authority – Qualification and training is renumbered as follows:

AMC 1 M.B.102(c) Competent authority – Qualification and training

2. A new AMC 2 M.B.102(c) is added

AMC 2 M.B.102(c) Competent authority – Qualification and training

ACAM INSPECTORS

1. ACAM in-depth surveys should be performed by competent authority inspectors qualified in accordance with M.B.102(c).
2. ACAM ramp surveys may be performed by inspectors qualified for the technical tasks of ramp inspections in accordance with other Parts, or inspectors qualified in accordance with M.B.102(c).

3. AMC M.B.303 is deleted:

~~**AMC M.B.303 Aircraft continuing airworthiness monitoring**~~

~~The competent authority may create an adapted airworthiness survey programme for the aircraft for which it performs the airworthiness review.~~

4. Two new AMCs are added to M.B.303(a), they incorporate relevant elements from former M.B.303(c), AMC M.B.303(c) and AMC M.B.303(d):

AMC 1 M.B.303(a) Aircraft continuing airworthiness monitoring

ACAM SURVEY PROGRAMME – SCOPE

1. The competent authority should create a programme covering in-depth surveys and ramp surveys.
2. The competent authority's survey programme should select aircraft and/or operators depending on the number and complexity of aircraft on the register, the diversity of aircraft types, local knowledge of the maintenance environment and operating conditions, airworthiness standards and past surveillance experience.
3. The programme should prioritise the operator/fleet/aircraft/key risk elements which are causing the greatest concern.
4. The survey programme should also include a certain percentage of unannounced ramp surveys.
5. The survey programme and changes thereto should be documented.

AMC 2 M.B.303(a) Aircraft continuing airworthiness monitoring

ACAM SURVEY PROGRAMME - CREDITING

1. Where the ACAM survey can be linked to the oversight of an approved organisation, then credit can be taken in the monitoring process of that approved organisation.

2. The competent authority may take credit for aircraft continuing airworthiness inspections which it performs in accordance with this and other Parts into the ACAM programme.

5. A new GM is added for M.B.303(a):

GM 1 M.B.303(a) Aircraft continuing airworthiness monitoring

COMBINED SURVEYS

In the interest of efficient use of competent authority resources, aircraft inspection procedures may be established which cover the combined scope of various aircraft survey tasks performed by a competent authority, such as, but not limited to:

- ACAM in-depth survey;
- Airworthiness review;
- Permit to fly physical inspection;
- Export Certificate of Airworthiness inspection;
- Product survey in accordance with M.B.704(c);
- Product audit in accordance with Part-145 or Part-M Subpart F;
- Review under supervision for airworthiness review staff authorisation, provided it covers the full scope of the physical survey in accordance with M.A.710(c); and
- Ramp inspections performed in accordance with ARO.OPS[7] or ARO.RAMP[8].

Depending on which type of survey is required, any actual survey performed may cover a subset of the combined scope.

6. In AMC M.B.303 (b), now AMC 1 M.B.303(b), the order of the subparagraphs is changed and the text is amended as follows:

AMC 1 M.B.303(b) Aircraft continuing airworthiness monitoring (*)

SCOPE OF SURVEYS

~~2.~~1. The competent authority should undertake sample product surveys of aircraft on its register to verify that:

(a) the condition of an aircraft as sampled is to a standard acceptable for the Certificate of Airworthiness/Airworthiness Review Certificate to remain in force,

(b) the operator/owner's management of the airworthiness of the aircraft is effective,

(c) the approvals and licenses granted to organisations and persons continue to be applied in a consistent manner to achieve the required standards.

A physical inspection of the aircraft is necessary during each ACAM survey (ramp or in-depth).

~~1.~~2. Sample product surveys of aircraft include:

[7] Subpart OPS of Annex II to Regulation on Air Operations 'Authority Requirements Air Operations'.

[8] Subpart RAMP of Annex II to Regulation on Air Operations 'Authority Requirements Air Operations'.

(a) in-depth surveys carried out during extensive maintenance that fully encompass selected aspects of an aircraft's airworthiness,

(b) ramp surveys carried out during aircraft operations to monitor the apparent condition of an aircraft's airworthiness.

~~(c) in-flight surveys, as deemed necessary by the competent authority.~~

3. When performing a ramp survey, the inspector(s) should make all possible efforts to avoid an unreasonable delay of the aircraft inspected.

7. A new AMC 2 is added for M.B.303(b), it incorporates elements from former AMC M.B.303(d).

AMC 2 M.B.303(b) Aircraft continuing airworthiness monitoring

IN-DEPTH SURVEY

1. An ACAM in-depth survey is a sample inspection of the key risk elements (KREs) and should be performed during scheduled/extensive maintenance. Appendix III to GM 1 to M.B.303(b) provides guidance on KREs that can be used for planning and/or analysis of the inspections.

2. The survey should be a 'deep cut' through the elements or systems selected.

3. The record of an ACAM inspection should identify which KREs were inspected.

8. A new AMC is added for M.B.303(b):

AMC 3 M.B.303(b) Aircraft continuing airworthiness monitoring*

KEY RISK ELEMENTS

1. The following key risk elements should be used for aircraft continuing airworthiness monitoring:
   (a) Type design and changes to type design
   (b) Airworthiness limitations
   (c) Airworthiness Directives
   (d) Aircraft documents
   (e) Flight Manual
   (f) Mass & Balance
   (g) Markings & placards
   (h) Operational requirements
   (i) Defect management
   (j) Aircraft Maintenance Programme
   (k) Component control
   (l) Repairs
   (m) Records

2. These KREs and their detailed components should be adapted to the complexity of the aircraft type being surveyed by retaining only those items that are applicable and relevant for the particular aircraft type.

New GM is added for M.B.303(b):

GM 1 M.B.303(b) Aircraft continuing airworthiness monitoring*

KEY RISK ELEMENTS

The KREs define the scope of continuing airworthiness. The list of KREs is intended to provide the basis for planning and control of the ACAM survey programme. It will ensure that the programme covers all aspects of continuing airworthiness. While it is not required to cover all KREs during a given inspection, the ACAM survey programme needs to ensure that there is no omission, i.e. certain KRE are never inspected.

* See Appendices to Part-M - Appendix III to GM 1 M.B.303(b)

9. AMC M.B.303(c), incorporated into AMC 1 M.B.303 (a), is deleted:

~~**AMC M.B.303 (c) Aircraft continuing airworthiness monitoring**~~

~~Each competent authority should create an annual programme of surveys, selecting aircraft and/or operators depending on local knowledge of the maintenance environment, operating conditions, airworthiness standards and past surveillance experience. The programme should be used to identify the operator/fleet/aircraft, which are causing the greatest concern.~~

10. AMC M.B.303(d) is deleted, it is replaced by the new AMC 2 to M.B.303 (b) and new GM 1 to M.B.303(b).

~~**AMC M.B.303 (d) Aircraft continuing airworthiness monitoring**~~

~~1. Appendix III to this AMC is an example format for an annual in depth survey programme. A sample of the 14 key risk airworthiness elements identified on the example should be assessed during each survey and the survey should include the aircraft as the product sample. The survey should be a 'deep cut' through the elements or systems selected and all findings should be recorded. Surveyors/inspectors in conjunction with the owners, operators and maintenance organisations should identify the root cause of each confirmed finding.~~

~~2. In addition, an annual ramp survey programme should be developed based on geographical locations, taking into account airfield activity, and focusing on key issues that can be surveyed in the time available without unnecessarily delaying the aircraft.~~

~~3. Surveyors/inspectors should be satisfied that the root cause found and the corrective actions taken are adequate to correct the deficiency and to prevent re-occurrence.~~

~~4. Where the aircraft continuing airworthiness monitoring survey visit can be linked to the oversight of an approved organisation then credit can be taken in the monitoring process of that approved organisation.~~

11. A new AMC is added to M.B.303(d):

AMC 1 M.B.303(d) Aircraft continuing airworthiness monitoring

FINDINGS ANALYSIS

1. The process should analyse the finding or combination of findings for any potentially hazardous effects that could affect flight safety in order to determine the need for further analysis of the root cause of the finding or combination of findings. The results of this analysis should be fed back into the ACAM and acted upon in accordance with M.B.303(d), (e) and (f).

2. It is not the purpose of this process to analyse each individual finding to establish their root cause, but to address systemic issues or issues that only become apparent at an aggregate level.

12. As a result of the changes made to M.B.303, item (2) of AMC M.B.705(a)(1) 'Findings' is changed as follows:

Furthermore, a level 1 finding could lead to ~~a~~ non-compliance to be found on an aircraft as specified in M.B.303 (~~g~~f). ~~In this case, proper action as specified in M.B.303 (h) would be taken.~~

13. Appendix III to AMC M.B.303(d) is renumbered Appendix III to GM 1 M.B.303(b) and replaced by the following document:

Appendix III to GM 1 M.B.303(b)

	Title	Description
A.	**AIRCRAFT CONFIGURATION**	
A.1	Type design and changes to type design	The type design is the part of the approved configuration of a product, as laid down in the TCDS, common to all products of that type. Any changes to type design shall be approved and, for those embodied, shall be recorded with the reference to the approval.
A.2	Airworthiness limitations	An airworthiness limitation is a boundary beyond which an aircraft or a component thereof must not be operated, unless the instruction(s) associated to this airworthiness limitation is (are) complied with.
A.3	Airworthiness Directives	An Airworthiness Directive means a document issued or adopted by the Agency, which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may otherwise be compromised. (Part 21A.3B)
B.	**AIRCRAFT OPERATION**	
B.1	Aircraft documents	Aircraft certificates and documents necessary for operations.
B.2	Flight Manual	A manual, associated with the certificate of airworthiness, containing limitations within which operation of the aircraft is to be considered airworthy and, instructions and information necessary to the flight crew members for the safe operation of the aircraft.
B.3	Mass & Balance	Mass and balance data is required to make sure the aircraft is capable of operating within the approved envelope.
B.4	Markings & placards	Markings and placards are defined in the individual aircraft type design. Some information may also be found in the Type Certificate Data Sheet, the Supplemental Type Certificates, the Flight Manual, the Aircraft Maintenance Manual, the Illustrated Parts Catalogue, etc.
B.5	Operational requirements	Items required to be installed to perform a specific type of operation
B.6	Defect management	Defect management requires a system whereby information on faults, malfunctions, defects and other occurrences that cause or might cause adverse effects on the continuing airworthiness of the aircraft is captured. This system should be properly documented. It may include, amongst others, the Minimum Equipment List system, the Configuration Deviation List system and deferred defects management.
C.	**AIRCRAFT MAINTENANCE**	
C.1	Aircraft Maintenance Programme	A document which describes or incorporates by reference the specific scheduled maintenance tasks and their frequency of completion, the associated maintenance procedures and related standard maintenance practices necessary for the safe operation of those aircraft to which it applies.
C.2	Component control	The component control should consider a twofold objective for components maintenance: - Maintenance for which compliance is mandatory. - Maintenance for which compliance is recommended.
C.3	Repairs	All repairs and unrepaired damages/degradations need to comply with the instructions of the appropriate manual (e.g. the Structural Repair Manual the Aircraft Maintenance Manual, the Component Maintenance Manual) or, have been appropriately approved and recorded with the reference to the approval. This includes any damages or repairs to the aircraft/engines/propellers and their components.
C.4	Records	Continuing Airworthiness records are defined in M.A.305 and M.A.306 and related AMCs.

A.1	Type design and changes to type design	The type design is the part of the approved configuration of a product, as laid down in the TCDS, common to all products of that type. Any changes to type design shall be approved and, for those embodied, shall be recorded with the reference to the approval.
Supporting information		**Typical inspection items**
The type design consists of: 1. the drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the product (i.e. the aircraft, its components, etc.) shown to comply with the applicable type-certification basis and environmental protection requirements; 2. information on materials and processes and on methods of manufacture and assembly of the product necessary to ensure the conformity of the product; 3. an approved Airworthiness Limitation Section (ALS) of the Instructions for Continued Airworthiness (ICA); and 4. any other data necessary to allow by comparison the determination of the airworthiness, the characteristics of noise, fuel venting, and exhaust emissions (where applicable) of later products of the same type. The individual aircraft design is made of the type design supplemented with changes to the type design (e.g. modifications) embodied on the considered aircraft. Depending on the product State of Design, Bilateral Agreements and/or Agency decisions on acceptance of certification findings exist and should be taken into account.		1. Use the current type certificate data sheets (airframe, engine, propeller as applicable) and check that the aircraft conforms to its type design (correct engine installed, seat configuration, etc.). 2. Check that changes have been approved properly (approved data is used, and a direct relation to the approved data). 3. Check for unintentional deviations from the approved type design, sometimes referred to as concessions, divergences, or non-conformances, Technical Adaptations, Technical Variations, etc. 4. Check cabin configuration (LOPA). 5. Check for embodiment of STC's, and, if any Airworthiness Limitations Section (ALS)/ FM/MEL/ WBM and revisions are needed, they have been approved and complied with. a. Aircraft S/N applicable b. Applicable engines c. Applicable APU d. Max. certified weights e. Seating configuration f. Exits 6. Check that the individual aircraft design/configuration is properly established and used as a reference.
Reference documents: EASA		- EASA Part-21A.31 - EASA Part 21A.41 - EASA Part 21A.61EASA Part M.A.304 - EASA Part M.A.305 - EASA Part M.A.401

A.2	Airworthiness limitations	An airworthiness limitation is a boundary beyond which an aircraft or a component thereof must not be operated, unless the instruction(s) associated with this airworthiness limitation is complied with.
Supporting information		**Typical inspection items**
Airworthiness limitations are exclusively associated with instructions whose compliance is mandatory as part of the type design. They apply to some scheduled or unscheduled instructions that have been developed to prevent and/or to detect the most severe failure. They mainly apply to maintenance (mandatory modification, replacement, inspections, checks, etc., but can also apply to instructions to control critical design configurations (for example Critical Design Configuration Control Limitations (CDCCL) for the fuel tank safety).		1. Check that the Aircraft Maintenance Programme (AMP) reflects airworthiness limitations and associated instructions (standard or alternative) issued by the relevant design approval holders and is approved by the competent authority. 2. Check that the aircraft and the components thereof comply with the approved AMP. 3. Check the current status of life-limited parts. The current status of life-limited parts is to be maintained throughout the operating life of the part. Typical Airworthiness Limitation items: - Safe Life ALI (SL ALI)/Life limited parts, - Damage Tolerant ALI (DT ALI)/Structure, including ageing aircraft structure, - Certification Maintenance Requirements (CMR), - Ageing Systems Maintenance (ASM), including Airworthiness Limitations for Electrical Wiring Interconnection System (EWIS), - Fuel Tank Ignition Prevention (FTIP)/Flammability Reduction Means (FRM), - CDCCL, check wiring if any maintenance carried out in same area - wiring separation, - Ageing fleet inspections mandated through ALS or AD are included in the AMP.
Reference documents: EASA		- EASA Part 21A.31 - EASA Part 21A.61 - EASA CS 22.1529 - EASA CS 23.1529, Appendix G, para. G25.4 - EASA CS 25.1529, Appendix H, para. H25.4 - EASA CS 27.1529, Appendix A, para. A27.4 - EASA CS 29.1529, Appendix A, para. A29.4 - EASA CS 31HB.82 - EASA CS-APU 30 - EASA CS-E 25 - EASA CS-P 40 - EASA CS VLR.1529, Appendix A, para. A.VLR.4 - EASA Part M.A.302 - EASA Part M.A.305 - EASA Part M.A.710(a)(7)

A.3	Airworthiness Directives	An Airworthiness Directive means a document issued or adopted by the Agency, which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may otherwise be compromised (Part 21A.3B).
Supporting information		**Typical inspection items**
Any Airworthiness Directive issued by a State of Design for an aircraft imported from a third country, or for an engine, propeller, part or appliance imported from a third country and installed on an aircraft registered in a Member State, shall apply unless the Agency has issued a different Decision before the date of entry into force of that airworthiness directive.		1. Check if all ADs applicable to the airframe, engine(s), propeller(s) and equipment have been incorporated in the AD-status, including their revisions. 2. Check records for correct AD applicability (including ADs incorrectly listed as non-applicable). 3. Check by sampling in the current AD status that applicable ADs have been or are planned to be (as appropriate) carried out within the requirements of these Airworthiness Directives, unless otherwise specified by the Agency (AMOC). 4. Check that applicable ADs related to maintenance are included into the Aircraft Maintenance Programme. 5. Check that task-cards correctly reflect AD requirements or refer to procedures and standard practises referenced in ADs. 6. Sample during a physical survey some ADs for which compliance can be physically checked.
Reference documents: EASA		- EASA PART 21A.3B - EASA PART 21B.60 - EASA PART 21B.326 - EASA PART 21B.327 - EASA PART M.A.201 & AMC M.A.201(h) § 4 - EASA PART M.A.303 - EASA PART M.A.305 § (d) & (h) - EASA PART M.A.401 § (a) & (b) - EASA PART M.A.501 § (b) - EASA PART M.A.503 § (a) - EASA PART M.A.504 § (a) 2 - EASA PART M.A.504 & AMC M.A.504(c) § 1 (f) - EASA PART M.A.613 & AMC M.A.613(a) § 2.4.3, 2.5.2, 2.6.1(h) & 2.8(b) - EASA PART M.A.708 § (b)8 - EASA PART M.A.709(a) - EASA PART M.A.710 § (a)5 - EASA PART M.A.801 & AMC M.A.801(h)

B.1	Aircraft documents	Aircraft certificates and documents necessary for operations.
Supporting information		**Typical inspection items**
The aircraft certificates and documents necessary for operations may include, but are not necessarily limited to: - Certificate of Registration; - Certificate of Airworthiness; - Noise certificate; - Aircraft certificate of release to service; - Technical log book, if required; - Airworthiness Review Certificate; - Etc.		1. Check that all certificates and documents pertinent to the aircraft and necessary for operations (or copies, as appropriate) are on board. 2. Check C of A modification/Aircraft identification. 3. Check that noise certificate corresponds to aircraft configuration. 4. Check Permit to fly and Flight Condition when necessary. 5. Check that there is an appropriate aircraft certificate of release to service.
Reference documents: EASA		- EASA Part 21 Subpart H - 21A.175 - 21A.177 - 21A.182 - Part 21 Subpart I - Part 21 Subpart P - EASA Part 21 Subpart Q - 21A.801 - 21A.807 - EASA Part M.A.201(a)(2) - EASA Part M.A 801

B.2	Flight Manual	A manual, associated with the certificate of airworthiness, containing operational limitations, instructions and information necessary for the flight crew members for the safe operation of the aircraft.
Supporting information		**Typical inspection items**
The Flight Manual needs to reflect the current status/configuration of the aircraft. When it does not, it may provide flight crew members with wrong information. This may lead to errors and/or to override limitations that could contribute to severe failure.		1. Check the conformity of the Flight Manual (FM), latest issue, with aircraft configuration, including modification status, (AD, SB, STC etc.). 2. Check: - the FM approval, revision control, Supplement to FM; - the impact of modification status on noise and weight & balance; - additional required manuals (QRH/FCOM/OM-B etc.); - FM limitations.
Reference documents: EASA		- EASA Part 21A.174(b), 2(iii), (b), 3(ii) - EASA Part 21A.204(b)1(ii), (b)2(i) - EASA Part M.A. 305, AMC M.A. 305(d) - EASA Part M.A.710(a), 2 - EASA Part M.A. 710(c), 2 - EASA AMC M.A.710(a), 1 - EASA AMC M.A.901(b), (g) - EASA AMC M.A.902(b), 3 - EASA AMC M.A.904(a), 2(c) and (k) - EASA AMC M.A.904(b), (c)

B.3	Mass & Balance	Mass and balance data is required to make sure the aircraft is capable of operating within the approved envelope.
Supporting information		**Typical inspection items**
The mass and balance report needs to reflect the actual configuration of the aircraft. When it does not, the aircraft might be operated outside the certified operating envelope.		1. Check that mass and balance report is valid, considering current configuration. 2. Make sure that modifications and repairs are taken into account in the report. 3. Check that equipment status is recorded on the mass and balance report. 4. Compare current mass and balance report with previous report for consistency.
Reference documents: EASA / EU		- EASA Part M.A.305(d)5 - EASA Part M.A.708(b)(10) - EASA Part M.A.710(a)(9),AMC M.A.710 (1) - EASA Part-CAT: CAT.POL.MAB.100 and related AMCs/GM (EU-OPS 1.605 & Appendix 1)

B.4	Markings & placards	Markings and placards are defined in the individual aircraft type design. Some information may also be found in the TCDS, the Supplemental Type Certificates (STC), the FM, the AMM, the IPC, etc.
Supporting information		**Typical inspection items**
Markings and placards on instruments, equipment, controls, etc. shall include such limitations or information as necessary for the direct attention of the crew during flight. Markings and placards or instructions shall be provided to give any information that is essential to the ground handling in order to preclude the possibility of mistakes in ground servicing (e.g. towing, refuelling) that could pass unnoticed and that could jeopardise the safety of the aircraft in subsequent flights. Markings and placards or instructions shall be provided to give any information essential in the prevention of passenger injuries. National registration markings must be installed. They include registration, possible flag, fireproof registration plate. Product data plates must be installed. When markings and placards are missing, or unreadable, or not properly installed, mistakes or aircraft damages may occur and could subsequently contribute to a severe failure.	1. Check that the required markings and placards are installed on the aircraft, especially the emergency exit markings instructions and passenger information signs and placards. 2. Check that all installed placards are readable. 3. Check the Flight Manual Flight Manual versus the instruments. (General Aviation usually). 4. Check registration markings, including State of Registry fireproof nameplate. 5. Check product data plates. Examples of markings & placards: - door means of opening, - each compartment's weight/load limitation/placards stating limitation on contents, - passenger information signs, including no smoking signs, - emergency exit marking, - pressurised cabin warning, - calibration placards, - cockpit placards and instrument markings, - O^2 system information data, - accesses to the fuel tanks with flammability reduction means (CDCCL), - fuelling markings (fuel vent, fuel dip stick markings), - EWIS identification, - towing limit markings, - break-in markings, - inflate tyres with nitrogen, - RVSM + static markings.
Reference documents: EASA		- EASA Part 21A.175 - EASA Part 21A.715 - EASA Part 21A.801 - EASA Part 21A.803 - EASA Part 21A.804 - EASA Part 21A.805 - EASA Part 21A.807 - Relevant CS for the aircraft type being inspected - EASA Part M.A.501 - EASA Part M.A.710(c) - EASA AMC M.A.504(e) - EASA AMC M.A.603(c) - EASA AMC M.A.904(a)(2), para. 2.f. & 2.k.

B.5	**Operational requirements**	Requirements for the type of operation are complied with (e.g. equipment, documents, approvals).
Supporting information		**Typical inspection items**
This includes all equipment required by the applicable operational code including national requirements. In case of malfunction, it can create a hazardous situation. Especially emergency equipment needs attention during this inspection.		1. Check permits & approvals required for type of operation. 2. Check for the presence and serviceability of equipment required by operational approvals. 3. Check safety equipment, check that emergency equipment is readily accessible.
Reference documents: EASA / EU		- EASA Part M.A.201(a)(2) - EASA Part-21 Subpart I - EASA Part-CAT, Subpart D "Instruments, Data and Equipment" (EU-OPS Subpart K Instruments and Equipment, EU-OPS Subpart L Communication and Navigation Equipment)

<table>
<tr><td>B.6</td><td>Defect management</td><td>Defect management requires a system whereby information on faults, malfunctions, defects and other occurrences that cause or might cause adverse effects on the continuing airworthiness of the aircraft is captured. This system should be properly documented.

It includes, amongst others, the MEL system, the CDL system and deferred defects management.</td></tr>
<tr><td colspan="2">Supporting information</td><td>Typical inspection items</td></tr>
<tr><td colspan="2">This KRE addresses the effectiveness of defect management, it should also consider defects found during the physical inspection.</td><td>1. Check that the deferred defects have been identified, recorded, and rectified/deferred in accordance with approved procedures and within approved time limits.
2. Check that operations outside published approved data have only been performed under a Permit to Fly or under flexibility provisions (Basic Regulation Article 14). Sample on:
a. TLB and hold item list,
b. Maintenance task cards,
c. Engine shop report,
d. (Major) component shop report,
e. Maintenance/repair/modification working party files after embodiment of modifications or repairs,
f. Occurrence reporting data,
g. Communications between the user of maintenance data and the maintenance data author in case of inaccurate, incomplete, ambiguous procedures and practices.
3. Check that the consequences of the deferral have been managed with Operation/Crew.
4. Check that defects are being deferred in accordance with approved data (current revision of the MEL, CDL, aircraft maintenance programme).
5. Compare physical location of parts/serial numbers with recorded locations to identify undocumented parts swaps for troubleshooting.</td></tr>
<tr><td colspan="2">Reference documents: EASA /EU</td><td>- EASA Part M.A.301(2)
- AMC M.A.301-2
- EASA Part M.A.403
- AMC M.A.710(a) Airworthiness review
- EASA Part 145.A.60
- EASA Part 145.A.45(c)
- EASA Part-21 AMC 20-8
- EU Directive 2003/42/EC on occurrence reporting</td></tr>
</table>

C.1	Aircraft Maintenance Programme	A document which describes the specific scheduled maintenance tasks and their frequency of completion, related standard maintenance practices and the associated procedures necessary for the safe operation of those aircraft to which it applies.
Supporting information		**Typical inspection items**
The Aircraft Maintenance Programme (AMP) is intended to include scheduled maintenance tasks, the associated procedures and standard maintenance practises. It also includes the reliability programme, when required. Tasks included in the maintenance programme can originate from: - tasks for which compliance is mandatory: instructions specified in the Airworthiness Directives (AD), or in the repository for Certification Maintenance Requirements (CMR), or in the Airworthiness Limitations Section (ALS). CMR and the ALS are included in the Instructions for Continuing Airworthiness (ICA) of a design approval holder; - tasks for which compliance is recommended: additional instructions specified in the Maintenance Review Board Report (MRBR), the Maintenance Planning Document (MPD), the Service Bulletins (SB), or any other non-mandatory ICA issued by the design approval holder; - additional or alternative instructions proposed by the owner or the continuing airworthiness management organisation once approved in accordance with point M.A.302(d)(iii); The AMP shall contain details, including frequency, of all maintenance to be carried out, including any specific tasks linked to the type and the specificity of operations. -	**Review of AMP contents:** 1. Check that the AMP properly reflects additional instructions for continuing airworthiness resulting from modifications and repairs embodied. 2. Check if the maintenance tasks specified in ADs or specified as mandatory in the approval of the type design (and the changes thereto) are identified as such. 3. Check that repetitive maintenance tasks derived from modifications and repairs are incorporated into the AMP. 4. Check if the mandatory scheduled maintenance tasks (latest source documents' revision) are implemented within approved compliance times. Sample check that no tasks have been omitted. 5. Check how recommended scheduled maintenance tasks (the latest source documents' revision) are considered when updating the AMP; if applicable, check embodiment policy as required by M.A.301 point 7. 6. Check approval status of additional or alternative instructions (M.A.302(d)(iii)). 7. Check if a reliability programme is present and active when required. **Review of aircraft compliance with an AMP:** 8. Check if the AMP used is valid for the aircraft, is approved and is amended correctly. 9. Check if tasks are performed within the value(s) quoted in AMP and the source documents 10. Sample check that no task has been omitted without justifications accepted by the Competent Authority (at the time of decision). 11. Check the reporting of performed scheduled maintenance into the records system. 12. Analyse the effectiveness of the AMP and reliability by reviewing the unscheduled tasks.
Reference documents: EASA		- EASA Part M.A.302 and its AMC. - EASA Part M.A.708(b)(1), (2), (4)

C.2	Component control	The component control should consider a twofold objective for components maintenance: - Maintenance for which compliance is mandatory. - Maintenance for which compliance is recommended.
Supporting information		**Typical inspection items**
Depending on each maintenance task, accomplishment is scheduled or unscheduled. Refer to KRE Aircraft Maintenance Programme. Components affected by scheduled maintenance: Life-limited components are of two types: - components subject to a certified life limit - components subject to a service life limit. Components with a certified life-limit must be permanently removed from service when, or before, their operating limitation is exceeded. The life limitation is controlled at the component level (in opposition to aircraft level). Components subject to a service life ("time controlled components"), include the following: - components for which removal and restoration are scheduled, regardless of their level of failure resistance. Reference is made to hard time components: They are subject to periodic maintenance dealing with a deterioration that is assumed to be predictable (the overall reliability invariably decreases with age): Failure is less likely to occur before restoration is necessary. - - Components for which failure resistance can reduce and drop below a defined level: Inspections are scheduled to detect potential failures. Reference is made to 'On-condition' components: They are called such because components, which are inspected, are left in service (no further maintenance action taken) on the condition that they continue to meet specified performance standards. Notes: 1. Restoration tasks for hard time components are not the same as 'On-condition' tasks, since they do not monitor gradual deterioration, but are primarily done to ensure the item may continue to remain in service	1. Check that the mandatory maintenance tasks are identified as such and managed separately from recommendations. 2. Sample check installed components (PN and SN) against aircraft records: a. Correct Part Number and Serial Number installed. b. Correct authorised release document available. 3. Check the current status of time-controlled components, with due consideration to deferred items. They must identify: a. The affected components (Part Number and Serial Number). b. For components subject to a repetitive task: the task description and reference, the applicable threshold/interval, the last accomplishment data (date, the component's total accumulated life in Hours, Cycles, Landings, Calendar time, as necessary) and the next planned accomplishment data. c. For components subject to an unscheduled task: the task description and reference, the accomplishment data (date, the component's total accumulated life in Hours, Cycles, Landings, Calendar time, as necessary). Pay attention to ETOPS and CDCCL components. 4. Check current status of life-limited components. This status can be requested upon each transfer throughout the operating life of the part: a. The life limitation, the component's total accumulated life, and the life remaining before the component's life limitation is reached (indicating Hours, Cycles, Landings, Calendar time, as necessary). b. If relevant for the determination of the remaining life, a full installation history indicating the number of hours, cycles or calendar time relevant to each installation on these different types of aircraft/engine. 5. Check if the aircraft maintenance programme and reliability programme results impact the component control. 6. Check that life-limited and time controlled components are correctly marked during a physical survey.

until the next planned restoration. 2. Components subject to “condition-monitoring” are permitted to remain in service without preventive maintenance until functional failure occurs. Reference is made to “fly-to-failure”. Such components are subject to unscheduled tasks.	
Reference documents: EASA	- EASA Part 21A.805 - EASA Part M.A.302 - EASA Part M.A.305 - EASA Part M.A.501 - EASA Part M.A.503 - EASA Part M.A.710

<table>
<tr><td>C.3</td><td>Repairs</td><td>All repairs and unrepaired damage/degradations need to comply with the instructions of the appropriate manual (e.g. the SRM, the AMM, the CMM) or, have been appropriately approved and recorded with the reference to the approval.

This includes any damage or repairs to the aircraft/engine(s)/propeller(s), and their components.</td></tr>
<tr><td colspan="2">Supporting information</td><td>Typical inspection items</td></tr>
<tr><td colspan="2">The data substantiating repairs should include, but is not limited to, the damage assessment, the rationale for the classification of the repair, the evidence the repair has been designed in accordance with approved data, i.e. by reference to the appropriate manual, procedure or to a Part-21 repair design approval, the drawings/material and accomplishment instructions, as well as the maintenance and operational instructions.

“Repair status” means a list of:

- The repairs embodied since the original delivery of (and still existent upon) the aircraft/engine/propeller/component, and
- The un-repaired damage/degradations.

It also includes, either directly or by reference to supporting documentation (i.e. repair files), the substantiating data supporting compliance with the applicable airworthiness requirements.

The repair status should identify the repair file reference, the repair classification, the repaired item (i.e. aircraft/engine/propeller/component, and a precise location if necessary), and the date and total life in FH/FC accumulated by the item at the time of repair or finding of the un-repaired damage/degradations. Cross-reference to the aircraft maintenance programme should also be included, as necessary.

Depending on the product State of Design, Bilateral Agreements and/or Agency Decisions on acceptance of certification findings exist and should be taken into account for the determination of acceptable data for repairs.</td><td>1. Sample the repair status to confirm it appropriately traces repairs and un-repaired damage/deteriorations.

2. Sample repair files (at least one file for each type of repaired items) to check that repaired and unrepaired damage/deterioration have been assessed against the latest published approved repair data.

3. Check that repair instructions detailed in the repair file comply with published approved repair data.

4. Check that major repairs resulting in new or amended airworthiness limitations and associated mandatory instructions (including ageing aircraft programme) have been included in the aircraft maintenance programme.

5. Check that new or amended maintenance instructions resulting from repairs have been considered for inclusion in the aircraft maintenance programme.

6. Compare the repair status and the physical status of the repaired aircraft/engine(s)/propeller(s), and their repaired components (physical survey) in order to confirm the accuracy of the repair status. Sample embodied repairs to check their conformity against the repair files (physical survey).</td></tr>
<tr><td colspan="2">Reference documents: EASA</td><td>- EASA Part M.A.304
- EASA AMC Part M.A.304
- EASA Part M.A.305
- EASA AMCs to Part M.A.305
- EASA Part M.A.401
- EASA AMCs to Part M.A.401</td></tr>
</table>

C.4	Records	Continuing Airworthiness records are defined in M.A.305 and M.A.306 and related AMCs.
Supporting information		**Typical inspection items**

Retention/Transfer of the records is required so that the status of the aircraft and its components can be readily established at any time.
 	
Task accomplishment is scheduled (one time or periodically), or unscheduled (e.g. following an event). Aircraft continuing airworthiness records (refer to logbooks, technical logbooks, component log cards or task cards) shall provide the status with regard to:
- Scheduled tasks:
  - One-time: life-limited parts status, modification status, repair status.
  - Repetitive: maintenance programme status.
- Unscheduled tasks.
		1. Check the aircraft continuing airworthiness record system: M.A.305 and M.A.306, as applicable, require that certain records are kept for defined periods.
		
		Pay attention to the continuity, integrity and traceability of records:
		a. Integrity: Check the data recorded is legible,
		b. Continuity: Check that records are available for the applicable retention period,
		c. Traceability: Check the link between operator/CAMO and maintenance documentation, traceability to approved data, traceability to appropriate release documents, etc.
		2. If applicable, make sure that the tech log system is used correctly, including:
		a. current aircraft release to service (including the maintenance statement) issued and
		b. pre-flight inspections signed-off by authorised persons;
		
		3. Check that any maintenance required following abnormal operation/event (such as overspeed, overweight operation, hard landing, excessive turbulence, and operation outside of Flight Manual limitations) has been performed, as applicable.

Reference documents: EASA		- EASA Part M.A.305 - EASA Part M.A.306 - EASA Part M.A.307 - EASA Part M.A.801 - EASA AMCs to Part M.A.305 - EASA AMCs to Part M.A.306 - EASA AMC to Part M.A.307

Abbreviations used:

A/C	Aircraft
ACAM	Aircraft Continuous Airworthiness Monitoring
AD	Airworthiness Directive
ALI	Airworthiness Limitation Items
ALS	Airworthiness Limitations Section
AMM	Aircraft Maintenance Manual
AMP	Aircraft Maintenance Programme
APU	Auxiliary Power Unit
ASM	Ageing Systems Maintenance
CAMO	Continuing Airworthiness Management Organisation
CDL	Configuration Deviation List
CDCCL	Critical Design Configuration Control Limitations
CMR	Certification Maintenance Requirement
DT	Damage Tolerant
ED	Executive Director of EASA
ETSO	European Technical Standard Order
EWIS	Electrical Wiring Interconnection System
EZAP	Enhanced Zonal Analysis Procedure
FCOM	Flight Crew Operations Manual
FDR	Flight Data Recorder
FM	Flight Manual
FRM	Flammability Reduction Means
FTIP	Fuel Tank Ignition Prevention
GA	General Aviation
ICA	Instructions for Continuing Airworthiness
IPC	Illustrated Parts Catalogue
KRE	Key Risk Element
LHIRF	Lightning High Intensity Radiated Field
LOPA	Layout of Passenger Accommodation
MCAI	Mandatory Continuing Airworthiness Information
MEL	Minimum Equipment List
MRB	Maintenance Review Board
MRBR	Maintenance Review Board Report
MPD	Maintenance Planning Document
NAA	National Aviation Authority
OEM	Original Equipment Manufacturer
OM	Operations Manual
OM-B	Operations Manual Part-B
PN	Part Number
QRH	Quick Reference Handbook
PWR	Power
RVSM	Reduced Vertical Separation Minima
SN	Serial Number
SB	Service Bulletin
SM	Service Manual
SRM	Structural Repair Manual

STC	Supplemental Type Certificate
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TLB	Technical Logbook
TSO	Technical Standard Order