



Maintenance Review Board Process (MRB) And Instructions for Continued Airworthiness

Scheduled Maintenance Instructions

EASA - Certification Directorate/Flight Standards

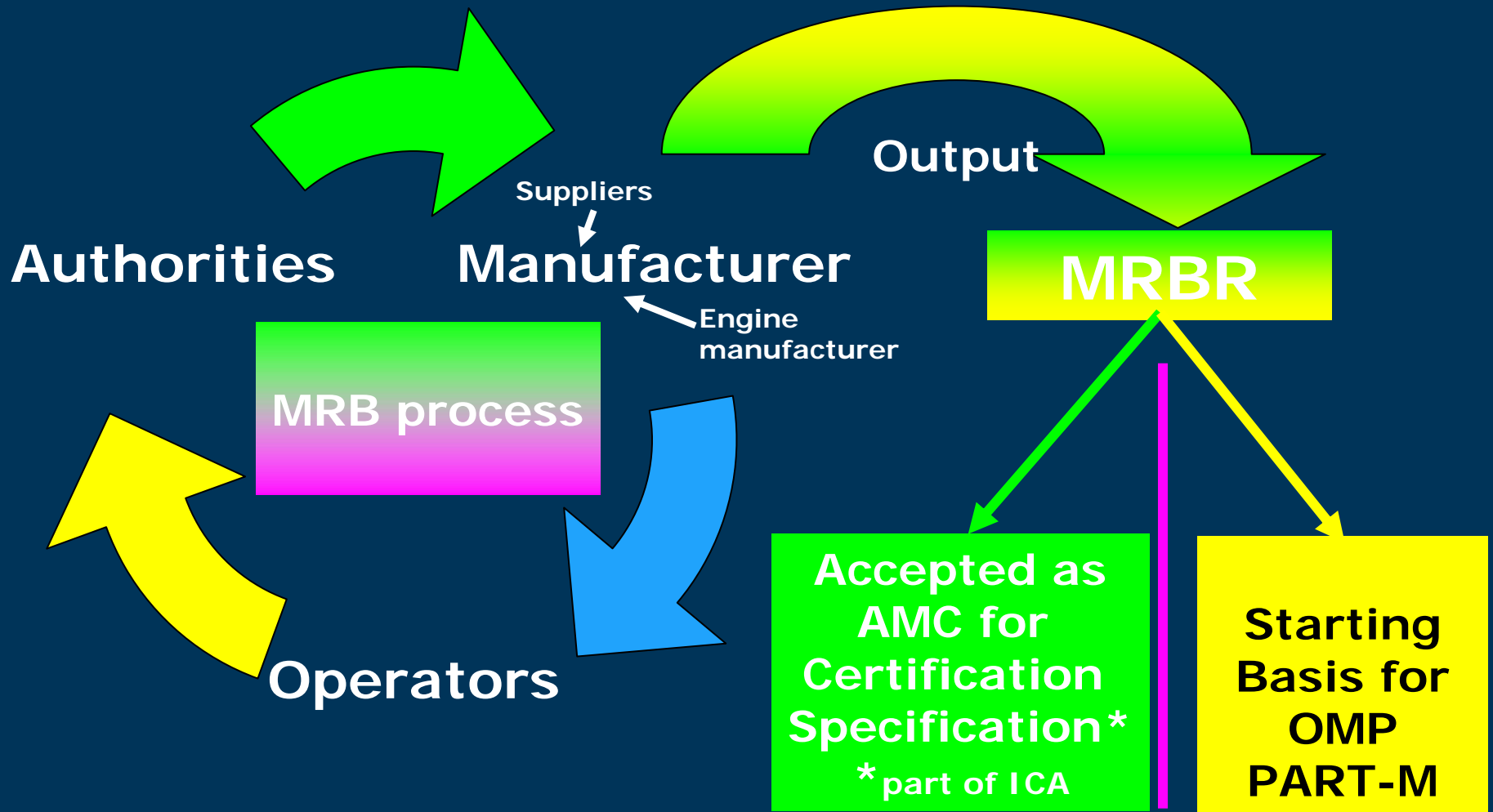


Introduction

- The **Maintenance Review Board (MRB) process** (with MSG-3 as a tool) is an **acceptable means of compliance** for developing a **maintenance program/** scheduled maintenance instructions as part of the compliance with the ICA.
 - **MSG-3 is an analytical methodology, officially recognized (FAA/TCCA/EASA)** based on **Reliability Centred Maintenance (RCM)**.
 - **The MSG-3 logic is owned by ATA.** MSG-3 is reviewed and updated by a **Maintenance Programs Industry Group (MPIG)** and approved through the **International MRB Policy Board (IMRBPB), AAs.**
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Composition and Process





Composition and Process

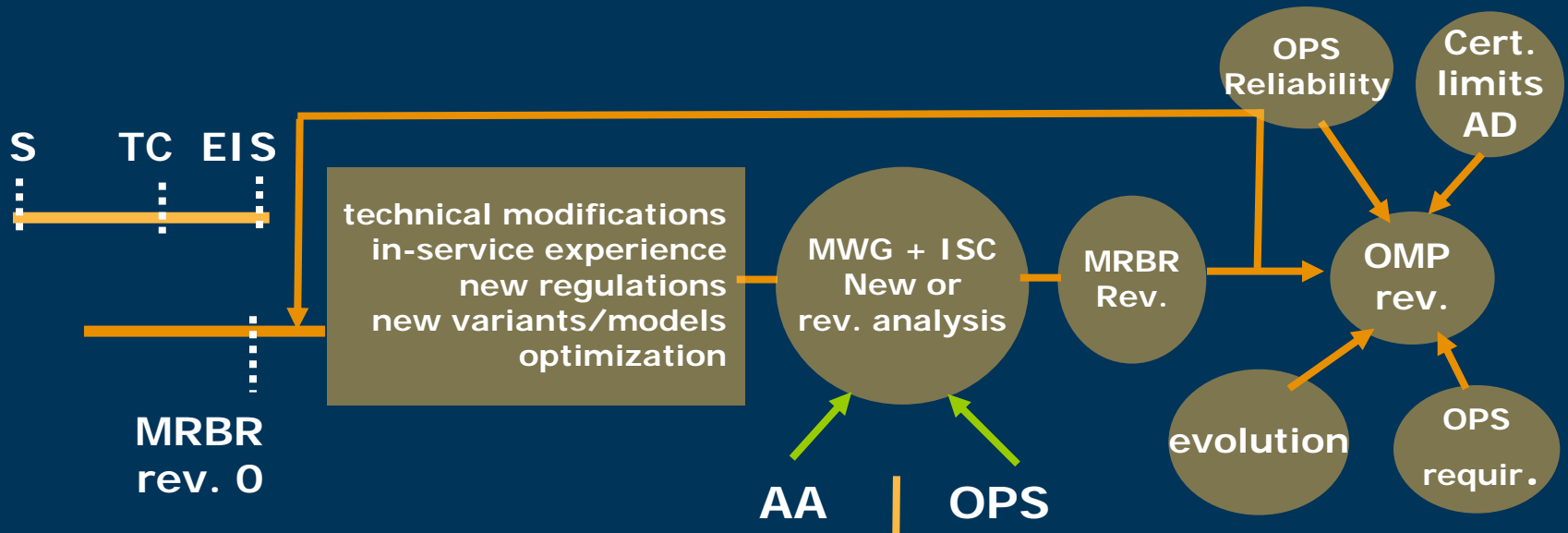
MRBR must be approved for EIS



At TC, compliance is demonstrated through MRB **Process**
Not necessarily through MRB- **Report**



Composition and Process



Any new inspection requirements which necessitate quick implementation, can use a **Temporary Revision process**, allowing **TR publication** in a very **short delay**.



Output

Maintenance
Review
Board
Report

MRBR Sections:

1. System & Powerplant
2. Structure
3. Zonal & Lightning/Hirf

The Maintenance Review Board Report contains the Minimum Initial Scheduled Maintenance Requirement.

The **MRB process** is a standardized process used as an acceptable means of compliance to develop scheduled maintenance instructions ensuring the objectives of an efficient aircraft maintenance program.



Requirements

ICAO

State of design (TCH)

Annex 8

„Airworthiness of Aircraft“
=> continuing airworthiness
maintenance information
(= ICA)

ICAO 9760

normally issued as MRBR

EASA

Part 21A.61
(=> ICA)

CS 2X.1529 para “scheduling
Information”

Work-Instruction C.I011-01
MRBR accepted as AMC

State of operation (OPS)

Annex 6

„Operation of Aircraft“
=> maintenance program

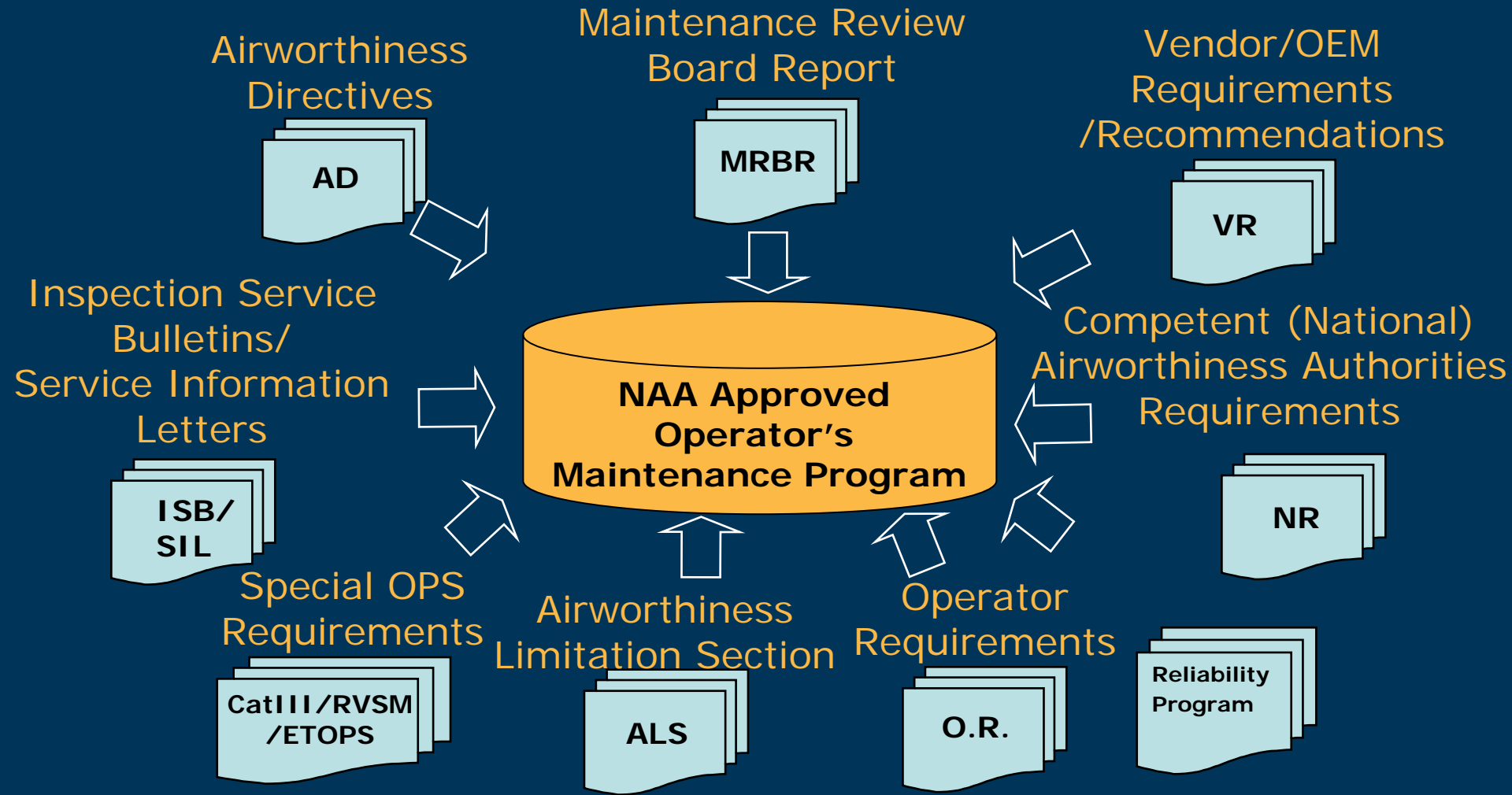
Part M.A. 302

=> Operator’s OMP

(EC 2042/2003 and AMC MA.302)



NAA approved OMP





CS 2X.1529 Appendix A/H

MRBR covers part of:

H/A2X.1

H25.5

**CS2X
Ap. H/A**

Y2X.2

Y2X.4

Y2X.3

.1 General

.2 Format

.3 Content

.4 ALS

.5 EWIS

What does the MRB process cover in the ICA requirements 1529?

Annex to ED Decision 2008/006/R

BOOK 1

Annex H

Continued Airworthiness

How they operate, including any special procedures and limitations that apply.

(4) The following information that covers details regarding: starting points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to different systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment requirements, and any other relevant information, including flow instructions and limitations, and labelling information.

interface of those appliances on the aeroplane. If Instructions for Continued Airworthiness are not available from the manufacturer of an appliance, the Instructions for Continued Airworthiness of the aeroplane must contain the following information for each appliance and its engine, auxiliary power unit, or other equipment:

(a) The Instructions for Continued Airworthiness must contain the following information:

(1) Location of the appliance.

(2) Reservations.

(3) A description of the appliance, including its location, which must contain a legend that reads: 'The Limitations Section is approved and variations must also be approved'.

(4) The location of the appliance must also be approved.

(Amat. No.: 25/5)

H25.5

The applicant must submit a description of the Wiring Interconnection System as defined in CS 25.1701. (see AMC Appendix H 25.5)

[Amat. No.: 25/5]

1-App H-1

Amendment 5

CS-25 BOOK 1

Annex to ED Decision 2008/006/R

(c) Diagrams showing the location of the appliance when a fault occurs.

(d) Inspection and maintenance procedures for the appliance, including ultrasonic testing, as specified.

(e) Information regarding the location of the appliance, including its location, and any other relevant information, including flow instructions and limitations, and labelling information.

(f) All other information that is necessary for the safe operation of the aeroplane, such as identification, marking, and other information.

H25.4 Airworthiness Limitations

(a) The Instructions for Continued Airworthiness must contain the following information:

(1) Location of the appliance.

(2) Reservations.

(3) A description of the appliance, including its location, which must contain a legend that reads: 'The Limitations Section is approved and variations must also be approved'.

(4) The location of the appliance must also be approved.

(Amat. No.: 25/5)

H25.5

The applicant must submit a description of the Wiring Interconnection System as defined in CS 25.1701. (see AMC Appendix H 25.5)

[Amat. No.: 25/5]

1-App H-2

Amendment 5



CS 25 Appendix A/H

Under Maintenance Review Board process

Amend to ED Decision 2018/006/CS

CS-25 BOOK 1

CS-25 BOOK 1

Instru

H25.1 General

(a) This Appendix specifies the preparation of Instructions for Continued Airworthiness as required by CS 25.1701. The Instructions must be in the format of the manual or manuals for a practical arrangement.

(b) Maintenance instructions

(b) Maintenance Instructions must include the following information that is necessary for the safe operation of the aeroplane:

(c) Diagrams of structural accesses

(a) Aeroplane maintenance manual

(g) Tools

(b.3) Content

(d) Details for the Application of special inspection

(f) Data relative to structure

(e) Protective treatments

(b).1 Scheduling information

(b) The Instructions must contain the following information:

(1) Scheduling information, including the frequency and extent of the inspection programme that is necessary to provide for the continued airworthiness of the aeroplane must be included.

(2) Information needed to apply protective treatments to the structure after inspection.

(f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.

(g) A list of special tools needed.

(b).2 Troubleshooting

H25.4 Airworthiness Limitations

(a) The Instructions for Continued Airworthiness must contain Airworthiness Limitations that are clearly distinguishable from the rest of the document. This section must set forth:

(1) Each mandatory structural inspection interval, and related structural inspection procedure approved under CS 25.571; and

(2) Reserved

(3) Any mandatory replacement time of EWIS components as defined in CS 25.1701 (see AMC Appendix H 25.4(a)(3)).

(b).3 information & methods for replacement

(b) If the Instructions for Continued Airworthiness consist of multiple sections, the section required by this paragraph must contain a legible statement of location that reads: "The Airworthiness Section is approved under CS 25.1701 and must also be approved".

[Amend. No.: 25/5]

(b).4 general instructions (system testing, etc)

H25.5 Electrical Wiring Interconnection System Instructions for Continued Airworthiness

The applicant must prepare Instructions for Continued Airworthiness applying to the Electrical Wiring Interconnection System in accordance with CS 25.1701. (see AMC Appendix H 25.5)

[Amend. No.: 25/5]

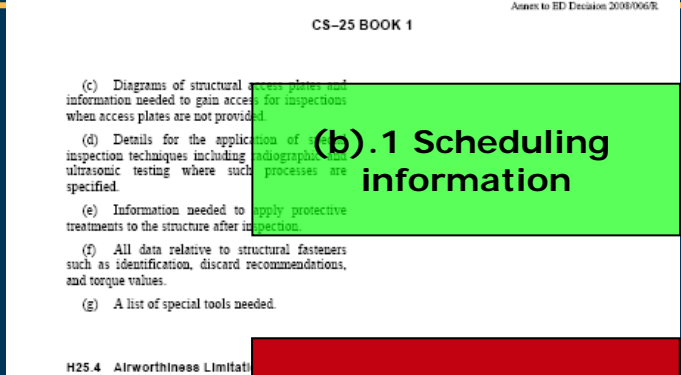
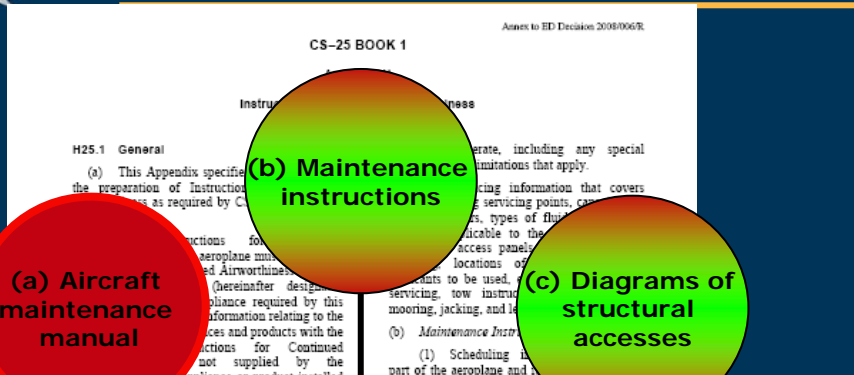


MRB Conclusions

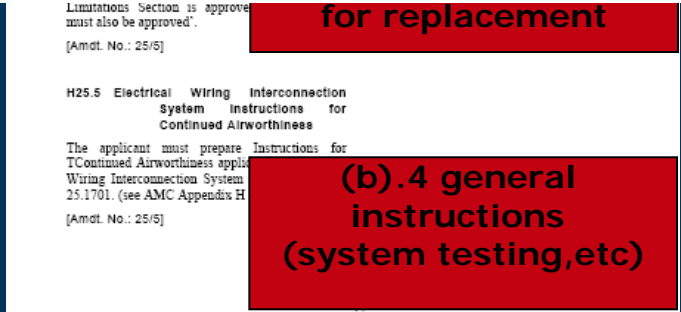
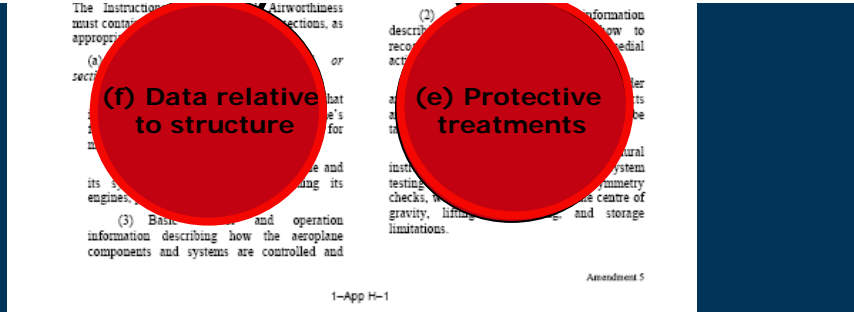
- How to demonstrate equivalent minimum maintenance requirement and reach similar safety level of a maintenance program without structured and recognized method (e.g. MSG-3)?
 - How to support operational requirements and ensure an efficient /cost effective maintenance program without specific tool such as MSG-3?
 - On which rationale AA can accept initial maintenance program without structured process and recognized methodology?
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MRB Conclusions



Our understanding is that standardized procedures/processes/guidelines should be developed and implemented in order to develop, validate and accept documents ensuring continued airworthiness and safety (1529 requirements).





Maintenance Review Board

➤ How does the MRB process fit in the approval/acceptance of ICA?

- How and what parts of the MRB report are integrated in the ICA ?
 - How do we coordinate the approval/acceptance processes ?
 - Case of the engine/propellers manufacturers/suppliers in the MRB process
 - How can a modification impacting the MRB be approved whereas MRB process is not completed thus does not allow to assess the impact?
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European Aviation Safety Agency

Appendix



ICAO 9760

- ICAO 9760 Volume 1 “Airworthiness Manual, Organization and Procedures”
 - ★ *“6.4.3 Content of the maintenance programme*
 - ➔ *“6.4.3.4 Annex 6, Part I, 11.3 also contains a recommendation that the maintenance programme be based on maintenance programme information made available by the State of Design or by the organization responsible for the type design. For large aeroplanes, this information is normally issued in the form of a maintenance review board report for the particular aircraft type (refer to Volume II of this manual, Part A, Appendix B to Chapter 2 for details of the maintenance review board process). ...”*
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Maintenance Review Board

According to Commission Regulation (EC) N° 2042/2003
(M.A302-(c))

- (c) The maintenance programme **must establish compliance** with:
 - ✦ 1. instructions for continuing airworthiness issued by type certificate and supplementary type certificate holders and any other organisation that publishes such data in accordance with Part-21, or
 - ✦ 2. instructions issued by the competent authority, if they differ from subparagraph 1 or in the absence of specific recommendations, or
 - ✦ 3. instructions defined by the owner or the operator and approved by the competent authority if they differ from subparagraphs 1 and 2.
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Maintenance Review Board

As a result, and in accordance with AMC M.A.302 (ED 2008/013/R of 12/12/2008):

- 1. An owner or **operator's maintenance programme** should normally be **based upon the maintenance review board (MRB) report** where applicable, the maintenance planning document (MPD), the relevant chapters of the maintenance manual or any other maintenance data containing information on scheduling. Furthermore, an owner or operator's maintenance programme should also take into account any maintenance data containing information on scheduling for components.

 - 2. Instructions issued by the competent authority can encompass all types of instructions from a specific task for a particular aircraft to complete recommended maintenance schedules for certain aircraft types that can be used by the owner/operator directly. These instructions may be issued by the competent authority in the following cases:
 - ✦ in the absence of specific recommendations of the Type Certificate Holder.

 - ✦ to provide alternate instructions to those described in the subparagraph 1 above, with the objective of providing flexibility to the operator.
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