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MPIG Overview CIP Responses to “CIP EASA 2023-04” per 2023 IMRPBP meeting

*Clarifications on the policy of “off-wing”, overhaul
and restoration tasks*

May 13-17, 2024

MPIG Reference Material

1. **CIP EASA 2023-04** Clarifications on the policy of “off-wing”, overhaul and restoration tasks
2. **IP126** Use of Technical Standard Order (TSO) for MSG-3 Analysis (incorporated 2013.1)
3. **IP146** Recording Vendor Recommendations - Task Interval Consistency
4. **IP176** Task Data as part of the MSG-3 Dossiers
5. **MAP 2018-003** MRBR task description for off-wing tasks (MPIG Agreed Position)
6. **Meeting Presentation CIP EASA 2023-004 MPIG intro**



The presentation of *CIP EASA 2023-04* had the following outcome:

CIP EASA 2023-04 – recommendation not accepted to integrate into MSG-3

Implementation:

1) MSG-3 Revision 2018.1, Volume 1 – Fixed Wing Aircraft

- Amend the VR statement in Chapter 2-3-2
- Add a note to the L2 Restoration Chapter 2-3-7.5
- Add "Overhaul" to the Glossary (Appendix A)



GENERAL OVERVIEW – REVIEW OF IMRBPB 2023

The CIP EASA 2023-04 identifies several issues of significance:

- There is **lack of clarity** of the term “off-wing”, overhaul and restoration task collectively.
- The issue statements points to consolidation of **different task** into “**off-aircraft restoration**” implying packaging.
- The issue statement reflects on the usage of the wording “**complete overhaul**” currently published in MSG-3. The paper goes forward to recommend that the **philosophy of “overhaul”** be reintroduced into MSG-3 by adding a glossary definition for overhaul.
- The problem statement reflects on unique ICA development issues on aircraft platforms related to the classification of parts removed per ICA as **restoration task**, to include a link to CAA release certificates, while comparing the AMM to the CMM.
- Off-aircraft task are an **automatic restoration classification**, even when items are not restored.

GENERAL OVERVIEW – REVIEW OF IMRBPB 2023

MPIG provided a path forward to address the multiple issues raised in the CIP, as agreed by the IMRBPB during the meeting:

2023 presentation notes:

1. Initiate a CIP to insert the definition “off-wing” (not applicable) or “off-aircraft” (preferred) into MSG-3 and/or IMPS to mean removed for technical access or ease of task compliance.
 2. Initiate a CIP to remove the word overhaul completely from the MSG-3 document, consider IMPS guidance related to Working Group consolidation of tasks.
 3. Develop a CIP which requires all MRBR task summary detail to be provided by the TCH and controlled by TCH. (i.e., publish detail in TCH ICA or controlled hard hyperlink in TCH ICA)
- ***It was agreed MPIG would work to develop the above 3 CIPs to be presented at the 2024 IMRBPB.***

CIP DEVELOPMENT BY MPIG

MPIG created a sub-work group to develop the necessary CIPs to address the issues as raised and discussed.

1. Meetings were held and the CIPs reviewed and produced.
2. Goals:
 - Provide **clarity to the term “off- aircraft”** to remove any implied classification of an MSG-3 MRBR task type for items removed from the aircraft/rotorcraft. Additionally to ensure there is no relationship to the requirements of an NAA’s “authorized release certificate” requirements, nor the requirement to outsource the task(s) in any manner for MRBR ICA task compliance.
 - **Remove confusion created** by the reference to the wording “complete overhaul”, as overhaul is not an MSG-3 task type. Usage of the word “overhaul” is a technical work scope methodology related to Technical Standard Order (TSO) and ICA CMM processes for component certification and use on various equipment platforms (i.e., aircraft, rotorcraft, engines, systems, etc.).
 - Provide guidance for the **management of MRBR task intent instructions** when the task ICA’s are placed in vendor supplier data sources, while not being under the direct control of the TCH/OEM over the design operational life of the aircraft/rotorcraft.

CIP DEVELOPMENT BY MPIG

Three CIPs have been developed to address issues raised and agreed upon:

- 1. CIP IND 2023-04 Definition “Off-aircraft”*
- 2. CIP IND 2023-05 Latent use of the term “Overhaul”*
- 3. CIP IND 2023-06 MRBR Tasks ICAs CMM Policy (Rev 7)*



CIP DEVELOPMENT BY MPIG

Three CIPs have been developed to address issue raised and agreed upon:

CIP IND 2023-04 Definition “Off-aircraft”



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Significant Points: *CIP IND 2023-04 Definition “Off-aircraft”*

1. Currently **no definition** in MSG-3 document exist for “off-aircraft”, however it is used.
2. Examples of off-aircraft task on removed items:
 1. ELT battery replacement
 2. NI-CAD battery capacity checks, top charge, container sensor checks
 3. Emergency battery capacity check
 4. Coalescer housing, filter bag cleaning/replacement
 5. Thermal sensor measurement test
 6. Bleed air valve filter cleaning/replacement
 7. FDR ping test
 8. Fire bottle weight check
3. Operator maintenance **capabilities determine if the work is to be outsourced** for compliance with the MRBR ICA requirements.
4. **Lack of clarity resulting** from the omitted glossary term of “off-aircraft” creates the opportunity for miss classified task types and inappropriate consolidations of various task types (i.e., OP/OPC, FNC CK, DET, etc.) under the classification of “restoration”.



Significant Points: *CIP IND 2023-04 Definition “Off-aircraft”*

Recommendation has two textual changes:

1. Add glossary term for Off-aircraft:

Off-Aircraft:

Refers to the conditions, where a part/component (i.e., battery, ELT, sensor, landing gear, valve, etc.) would need to be removed and reinstalled in an aircraft to meet the Type Certificate Holders (TCH) ICA requirements (i.e., MRBR task) developed using MSG-3 logic analysis. The terms “off-aircraft” and “off-wing” are equivalent terms in the TCH’s PPH.

2. Replace the text as indicated below in location Chapter 2-3-7 para.5

The conditions where the part/component is removed from the aircraft to comply with the task type as selected to meet the applicability and effectiveness criteria (i.e., Table 2-3-7.1 Criteria for Task Selection) does not require the task(s) to be classified as a Restoration task type due to the part/component removal requirements from the aircraft to complete the task(s).



CIP DEVELOPMENT BY MPIG

Three CIPs have been developed to address issues raised and agreed upon:

*CIP IND 2023-05 Latent use of the term
“Overhaul”*



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Significant Points:

CIP IND 2023-05 Latent use of the term “Overhaul”

1. The term “**complete overhaul**” is used **twice** without qualification to its intent within the MSG-3 methodology to mitigate specific failure causes.
2. The schedule maintenance development process transitioned from MSG-2 to MSG-3 completely **eliminating** the hard time philosophy and the maintenance **methodology of overhaul**, as a maintenance practice to mitigate functional failures.
3. Industry has **various definitions to define the type of work**, not the detail, to be completed on an item, however not directed to any specific failure modes related to aircraft design or specific functions.
4. Overhaul documents were intended to **satisfy TSO ICA requirements** and are now more often referred to as Component Maintenance Manuals.
5. **MSG-3 logic has not historically been used by the suppliers/vendors** to develop their TSO ICA requirements to meet certification.



CIP IND 2023-05: OVERVIEW

Significant Points:

CIP IND 2023-05 Latent use of the term “Overhaul”

Recommendation has two textual changes:

1.)

Chapter 2-3-7 para. 5 below:

Current text:

5. Restoration (All Categories)

QUESTION 5C, 6C, 7C, 8D, & 9D. IS A RESTORATION TASK TO REDUCE FAILURE RATE APPLICABLE AND EFFECTIVE?

~~Since Restoration may vary from cleaning or replacement of single parts up to a complete overhaul, the scope of each assigned restoration task has to be specified.~~

Replace with:

Since Restoration may vary from cleaning, replating and/or replacement of single or multiple component parts, the scope of each assigned restoration task has to be specified. The scope is defined to meet the requirements of 2-1-2 paragraph 3. “Method for Scheduled Maintenance Development”.

The conditions where the part/component is removed from the aircraft to comply with the task type as selected to meet the applicability and effectiveness criteria (i.e., Table 2-3-7.1 Criteria for Task Selection) does not require the task(s) to be classified as a Restoration task type due to the part/component removal requirements from the aircraft to complete the task(s).



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CIP IND 2023-05: OVERVIEW

Significant Points:

CIP IND 2023-05 Latent use of the term “Overhaul”

Recommendation has two textual changes:

2.)

Glossary change below:

Current text:

Restoration

~~That work necessary to return the item to a specific standard. Restoration may vary from cleaning or replacement of single parts up to a complete overhaul.~~

Replace with:

Restoration: That work necessary to return the item to a specific standard.
Task(s) scope may vary from cleaning, replating and/or replacement of single or multiple component parts to meet task intent of task selected to mitigate the failure cause.



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CIP DEVELOPMENT BY MPIG

Three CIPs have been developed to address issues raised and agreed upon:

CIP IND 2023-06 MRBR Tasks ICAs CMM Policy



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Significant Points:

CIP IND 2023-06 MRBR Tasks ICAs CMM Policy

1. The purpose of this CIP is to **establish policy** related to the outsourcing of MRBR ICA requirements to vendor/supplier controlled data sources.
2. The **issue is directly related to CIP EASA 2023-04** when the MRB/ISC establishes the task intent to be completed during a restoration, however the task intent of restoring would be circumvented by the vendor supplier CMM procedures. EXTRACT CIP EASA 2023-04 below:

1. Restoration tasks that are not restoring

There are manufacturers that per PPH call all off-aircraft tasks automatically RST, regardless the actual work scope. Currently there are many existing MRBR tasks where the task procedure differs from the task title. For example, a series of off-aircraft checks is published as restoration task although nothing is restored.

This results in the issue, that an operator sends a unit to the workshop for restoration, and receives it in return with a release certificate (e.g. EASA Form 1, FAA 8130-3 Form) stating the unit is "tested", so formally it does not meet the MRBR requirement to restore it, so it should not be installed on the aircraft and the according aircraft level task should not be signed off.



Significant Points:

CIP IND 2023-06 MRBR Tasks ICAs CMM Policy

3. TCH/OEM has **no constant authority or monitoring activity** over the textual detail content related to an MRBR ICA as defined by development criteria requirements of 2-1-2. Approach 3.) Method for Scheduled Maintenance Development.
4. The CIP list a total of **11 problem statements**, of which a recent request was made to add one more:
Problem Statement: 12.) The supplier/vendor CMM reference number may change over period creating a mismatch between TCH/OEM ICA and the CMM itself.
5. Operators **may not always be supplied vendor/supplier CMMs** for all outsourced ICA's during aircraft acquisition and EIS.



Significant Points:

CIP IND 2023-06 MRBR Tasks ICAs CMM Policy

6. EASA's IP 176 as currently incorporated in the MSG-3 document underpins the objective to ensure **TCH/OEM continued management of MRBR ICA's over the operational design life** of the aircraft/rotorcraft.

2-1-2. Approach

3. Method for Scheduled Maintenance Development

This document describes the method for developing the scheduled maintenance. Non-scheduled maintenance results from scheduled tasks, normal operation or data analysis.

Scheduled maintenance will be developed via use of a guided logic approach and will result in a task oriented program. The logic's flow of analysis is failure-effect oriented.

As part of the Scheduled maintenance development procedures, maintenance requirements will only be selected if they meet the applicability and effectiveness criteria as defined in this document. The ISC will define the information to be presented to the working group to support their task selection decision and to provide traceability of task requirements in the development of the supporting ICA. This information (e.g. task purpose, accesses, tools/GSE, main steps of the procedure, estimated elapsed time/labour hour, pass/fail criteria ...) will be recorded in the MSG-3 analysis or referenced supporting documentation for tracking purposes.



CIP IND 2023-06: OVERVIEW

Significant Points:

CIP IND 2023-06 MRBR Tasks ICAs CMM Policy

Resolution points:

- **December 7th 2023 an email** was sent via MPIG listing (328 plus) to request input related to the current process TCH/OEM are using with a response request of 12-January 2024, included was a draft CIP.
- The responses were less than expected, however some were received which demonstrated **various types of methods** being used.
- The initial CIP Draft was identified to **be too prescriptive** as specific steps were defined in the draft CIP.
- The effort then shifted to **focus on the policy** and not MSG-3 processes as initial steps to address the industry issues with a CIP. The current CIP provides policy recommendation to be placed in the IMPS document which will support IP176 continuity (i.e., purpose and recommendations).



CIP IND 2023-06 OVERVIEW

Significant Points:

CIP IND 2023-06 MRBR Tasks ICAs CMM Policy

Recommendation has two textual changes in IMPS

IMPS Revision:

3.7.1

The OEM/TCH must propose to the MRB/MTB a process to ensure that, for all MRBR/MTBR ICAs the traceability to the task scope, task intent and task identification (i.e., ATA Code) is sustained for both ICA's published in OEM/TCH documents and vendor/supplier source data documents (e.g., CMM, EMM, etc.) The process shall be documented or referenced in the PPH after acceptance by the MRB/MTB and in place for initial certification as well as continuing MRBR/MTBR ICA management.

9.2 Periodic Review Minimum content of a Periodic Review

Review of MRBR/MTBR ICAs published in vendor/supplier source data documents (e.g., CMM) to validate alignment with or equivalency to the MSG-3 logic selected task type, intent and scope.



CIP DEVELOPMENT BY MPIG

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...FURTHER QUESTIONS?



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