



Certification Memorandum

Development of OSD for Maintenance Certifying Staff

EASA CM No.: CM-MCSD-001 Issue 01 issued 29 October 2015

**Regulatory requirement(s): Commission Regulation (EC) No 216/2008, Article 5, which includes the elements of operational suitability evaluation as part of the type certification; and
21.A.15, 21.A.16A, 21.A.16B and related AMC & GM (Commission Regulation (EU) No 69/2014 amending Regulation (EU) No 748/2012)**

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Log of issues

Issue	Issue date	Change description
001	29.10.2015	First issue.

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1 Introduction

1.1 Purpose and scope

The purpose of this Certification Memorandum is to provide specific guidance related to the establishment of the Operational Suitability Data (OSD) certification basis in accordance with Part 21.A.17B for the OSD element 'the minimum syllabus of maintenance certifying staff type rating training, including determination of type rating'.

This Certification Memorandum presents a series of considerations regarding EASA's approach in preparation of the Special Condition which will be included in the operational suitability data certification basis to address the Maintenance Certifying Staff Data (MCSD).

1.2 References

It is intended that the following reference materials be used in conjunction with this Certification Memorandum:

Reference	Title	Code	Issue	Date
Commission Regulation (EU) No 748/2012 amended by Commission Regulation (EU) No 69/2014	Implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations	-	-	27.01.2014
ED Decision 2014/007/R	AMC & GM to Part 21	-	Amendment 2 to Issue 2	31.01.2014

1.3 Abbreviations

A/C	Aircraft
AML	Aircraft Maintenance Licence
AMM	Aircraft Maintenance Manual
AD	Airworthiness Directive
CA	Competent Authority
CDCCL	Critical Design Configuration Control Limitations)
CM	Certification Memorandum / Memoranda
CRI	Certification Review Item
CS	Certification Specification
CS-MCSD	Certification Specifications-Maintenance Certifying Staff Data
DOA	Design Organisation Approval



ETOPS	Extended-range Twin-engine Operational Performance Standard
EWIS	Electrical Wiring Interconnection System
FRM	Flammability Reduction Means
MCS	Maintenance Certifying Staff
MCSD	Maintenance Certifying Staff Data
MSTD	Maintenance Simulation Training Device
OEB	Operational Evaluation Board
OSD	Operational Suitability Data
RMP	Rule Making Plan
RMT	Rule Making Task
RTC	Restricted Type Certificate
SC	Special Condition
STC	Supplemental Type Certificate
MASE	Maintenance Area of Specific Emphasis
TC	Type Certificate
TCDS	Type Certification Data Sheet
TCH	Type Certificate Holder
T/S	Troubleshooting
WG	Working Group

1.4 Definitions

Base a/c configuration	The aircraft configuration used as a comparison basis to compare differences with a candidate aircraft.
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2 Background

With Commission Regulation (EU) No 69/2014, Part 21 was amended to include OSD in the aircraft type certificate (TC). The OSD contains five elements and for each of these elements dedicated certification specifications (CS) will be included in the certification basis for new TC applications. For the OSD element “the minimum syllabus of maintenance certifying staff type rating training, including determination of type rating” a dedicated CS has not yet been issued. Rulemaking task RMT.0106 (old 21.039e) is ongoing and is aimed to establish the CS for Maintenance Certifying Staff Data (CS-MCSD).

Whilst, in accordance with the rulemaking programme, the Agency is not expected to finalise and release the corresponding CS-MCSD before 2018, there is a need for interim guidance to be provided to TC



Applicants regarding the EASA certification policy in the field of OSD-MCSD. This certification policy will be used as guidance towards establishing Special Conditions in accordance with Part 21.A.16B to fill the gap in the certification basis pending the availability of CS-MCSD.

3 EASA Certification Policy

3.1 Type Rating Determination

The type rating proposed by the TC Applicant / TC Holder and evaluated by the Agency is the type rating for the purpose of Aircraft Maintenance Licence (AML) endorsement. Based on a favourable conclusion of the evaluation, this type rating will be included in the Type Certificate Data Sheet (TCDS).

The type rating(s) determined should address all (new) models/variants specified in the TCDS.

For the purpose of this certification memorandum, the following criteria should be evaluated to require a different maintenance type rating separate from the existing type ratings:

- the aircraft is subject to a different aircraft type certificate; or
- the aircraft is subject to a major modification for installation of another type of engine; or
- the aircraft is subject to a STC for installation of another type of engine; or
- the analysis on the minimum syllabus content and/or training duration results in an evident and substantial difference; or
- such a recommendation is made by the Applicant or the Agency.

3.2 Minimum Syllabus Content

The minimum syllabus content specified for the type should be clearly identified and allocated to one of the four “box” categories identified in GM No 3 to 21.A.15(d) (see [fig. 1](#)) in order to identify its mandatory or non-mandatory status. The contents should address the minimum theoretical and practical type training for Maintenance Certifying Staff.

Whilst the TC Applicant/Holder should be adequately supporting each proposed element and its “box” categorisation, a list of expected content elements is provided below. The Applicant should consider these examples as being neither limiting nor exhaustive for their proposal.

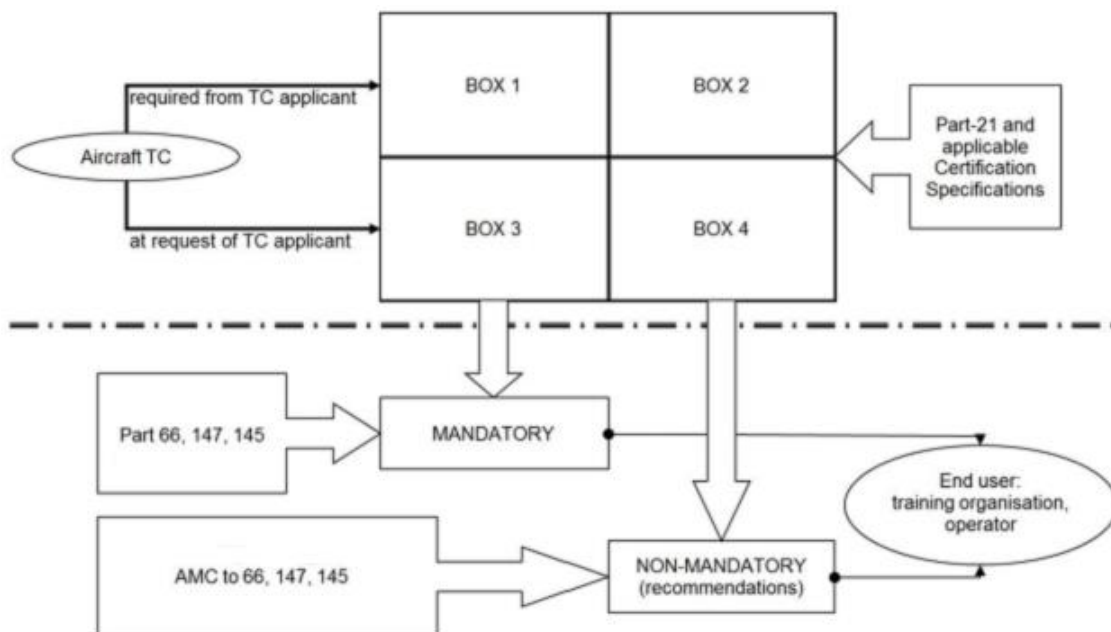


Fig. 1

Box1

- Type rating determination (see 3.1 of this CM).
- The base aircraft configuration relevant to maintenance type training and which should be addressed in accordance with the certificated type design. This configuration should be detailed to the ATA system – subsystem level and include the categorisation of technical information to be addressed in training (e.g. location, description, indication, normal operation, abnormal operation, MMEL specific maintenance actions called in some MMEL items dispatch condition as maintenance procedure(s) (M)). The list should be detailed to ATA component level in cases when the novelty or other characteristics of the component justify/require such a detail. The certificated a/c configuration detailed in Box1 should cover the complete base aircraft configuration relevant to maintenance type rating training and should leave the certificated configuration options (i.e. options at system, subsystem or equipment/appliance level in addition to/in place of the base configuration) to be addressed in Boxes 3 and 4.
- MASE – any element considered by the applicant as having a degree of novelty, specificity or uniqueness relevant to the maintenance of his product. This could be a technical or operational feature that maintenance personnel need to be aware of and take into consideration.

Refer to Appendix I for further practical guidance on MASE.

Box2

- Student prerequisites (knowledge, experience, qualification) for the particular a/c type training (e.g. previous exposure to and type of a/c maintenance experience; a/c type maintenance related elements for composite repair and bonding and appropriate knowledge, experience, and awareness in accordance with AMC 20-29, SAE AIR 5719)
- The logical sequence (i.e. time wise order) of imparting training elements from minimum syllabus if any (e.g. ATA29 training on hydraulic system(s) configuration should precede ATA27 training on flight controls actuation).

Box3

- All elements which should be considered in addressing difference training between types or between models under the same type (as categorised in Appendix I to AMCs of Part-66). Those elements should be identified using the same criteria utilised for Box 1.
- Optional systems.

Box4

- All and any elements identified by applying the Box2 type of content rationale and which should be considered in addressing a difference training between types or models under the same type (as categorised in Appendix I to AMCs of Part-66).
- Course outline, which may include footprints, all learning objectives, examination elements... or full developed course on request when available.
- Potential use of specific Maintenance Simulation Training Devices (MSTD) to be used in imparting some of the type training minimum syllabus elements;
- Type rating training course instructional duration (i.e. consolidated per the whole course and/or segregated per elements of the minimum syllabus);

Note: in the absence of any recommendation about the overall course length, the figures as mentioned in Part66, Appendix III, 3.1 will apply.

- Outlines of any other supplemental courses e.g. for engine run-up, advanced T/S, special complex composite repairs, specific basic knowledge training needed.



- Any other additional elements (i.e. in addition to and beyond the Box1, Box2 and Box3 content) which are recommended by the TCH to the OSD-MCSD user.

An example of the Minimum Syllabus template can be found in Appendix II.

4 Who this Certification Memorandum affects

This Certification Memorandum affects all applicants for a new TC. Equally affected would be the TC Holder who (as mentioned in GM No 1 to 21.A.15(d)) is voluntarily applying for the OSD-MCSD evaluation for an aircraft which is not in Group 1 (per GM 66.A.45) or for an already certificated aircraft.

5 Remarks

1. Suggestions for amendment(s) to this EASA Certification Memorandum should be referred to the Certification Policy and Planning Department, Certification Directorate, EASA. E-mail CM@easa.europa.eu.
2. For any question concerning the technical content of this EASA Certification Memorandum, please contact:

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6 Appendix I

In order to identify the MASE, consideration should be given to, as applicable, but not limited to:

- (1) Criticality and safety impact of the task on the aircraft and personnel – of the System/ Sub System/ Component/ Structure/Procedure (e.g. new technologies, material, function, maintenance staff integrity)
- (2) Difficulty - depending on how difficult it is to perform the tasks/procedures (e.g. if it is necessary to use a complex tool; special coordination between people; complex maintenance instructions; specific interpretation skills)
- (3) Unusual Design - Relating to special features derived from new or unusual design related to system or subsystem (e.g. not covered by Part-66 Appendices I and III)
- (4) Frequency - Depending on the frequency with which the maintenance task or procedure will be performed or the item be replaced.
Note: "Frequency" does not necessarily mean that carrying out the task often make it complex or requires any special competence. However when a type of task normally carried out at "C" check is requested to be every "A" check for any good safety reasons, further attention should be given as to whether the task can be considered as MASE and why.
- (5) Human Factor - Relating to the human factor issues associated to the system, subsystem, components and/or tasks. (e.g. accessibility during maintenance, effect of volume, weight...; special attention)
- (6) In Service Experience - Relating to the feedback originating from operators and occurrence reporting and ADs.
- (7) Master Minimum Equipment List/Configuration Deviation List - Consider if this item is a part of Master Minimum Equipment List or not.
- (8) Special tools/equipment and tests.

In addition, in order to identify the MASE, a systematic and structured approach is recommended. The applicant may propose different methods to capture the MTASE and demonstrate compliance with this CM. For instance, some CS 25/29/27 requirements and Part-21 processes may be used as reference in order to address those areas of maintenance interests, such as (*):

- CS 25.509 (Towing procedures and limitations)
- CS 25.571 (Structural inspection procedures)
- CS 25.603 (Maintenance procedures for composite materials)
- CS 25.689(f) (Cable systems inspections procedures)
- CS 25.611 (Accessibility provisions)
- CS 25.901(b) (Engine installation instructions)
- CS 25.981(d) (CDCCL inspections and procedures)
- CS 25.1301 (Labelling/identification/operating limitations)
- CS 25.1309 (Certification Maintenance Requirements)
- CS 25.1529 (Instructions for the Continued Airworthiness)
 - CS-25 H.3(a) (Aircraft Maintenance Manual)
 - CS-25 H.3(b)(1) (Scheduling Maintenance Instructions)
 - CS-25 H.3(b)(2) (Troubleshooting Instructions)
 - CS-25 H.3(b)(3) (Removal and Installation Instructions)
 - CS-25 H.3(b)(4) (Systems testing Instructions, ground checks, weighing,...)
 - CS-25 H.3(c) (Structural accesses Instructions)
 - CS-25 H.3(d) (Special Inspection Instructions)
 - CS-25 H.3(e) (Protective Treatments Instructions)
 - CS-25 H.3(f) (Structural fasteners Instructions)
 - CS-25 H.3(g) (Special Tools Instructions)
 - CS-25 H.4 (Airworthiness Limitation Section)
 - CS-25 H.5 (EWIS ICA)



- CS 25.1535 (ETOPS maintenance tasks)
- CS 25.1711 (EWIS components labelling Instructions)
- CS 25.1719 (EWIS Accessibility Provisions Instructions)
- CS 25.1729 (EWIS ICA)
- CS-25 M (Fuel Tank FRM maintenance Instructions)
- Part 21.A.3 (Failures, malfunctions and defects)
- Part 21.A.57 (Manuals)
- Part 21.A.61 (ICA)

(*): Only CS 25 paragraphs have been mentioned here for convenience.



7 Appendix II

Content of the 4 Boxes illustrated with a Minimum Syllabus-possible template.

Mandatory							Not-Mandatory			
Box 1/3	Box 1/3	Box 1/3	Box 1/3	Box 1/3	Box 1/3	Box 1/3	Box 2/4	Box 2/4	Box 2/4	Box 2/4
ATA Sub. Sys	Subject	Technical Info to be addressed	Theo.	Pract.	MASE?	Opt. sys	Student Prereq.	Logical Seq.	Duration	MSTD
To comp. level if necessary (1)		(2)			(3)		(4)			
...
Ex. 24-20	AC power gen. sys	Location	X	Rem./Inst. of the IDGs,..	No	N/A
Ex. 24-50-10	CB devices	Normal Operation	X	FOT	Yes	N/A
...

- (1) In cases when the novelty or other characteristics of the component justify/require such a detail
- (2) E.g. location, description, indication, normal operation, abnormal operation, MMEL specific maintenance action,..
- (3) Any element considered by the applicant as having a degree of novelty, specificity or uniqueness relevant to the maintenance of his product. This could be a technical or operational feature that maintenance personnel needs to be aware of and take into consideration
- (4) Knowledge, experience, qualification

