

United Kingdom Overseas Territories Aviation Circular

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Minimum Equipment List (MEL) Development and Approval

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GENERAL

Overseas Territories Aviation Circulars are issued to provide advice, guidance and information on standards, practices and procedures necessary to support Overseas Territory Aviation requirements. They are not in themselves law but may amplify a provision of the Air Navigation (Overseas Territories) Order or provide practical guidance on meeting a requirement contained in the Overseas Territories Aviation Requirements.

PURPOSE

This Circular provides information regarding the Minimum Equipment List (MEL) and guidance to assist the operator in the production, submission and approval of the MEL by the OTAA.

RELATED REQUIREMENTS

This Circular relates to OTAR Parts 21, 39, 43 and Subpart F of Parts 91, 121, 125 and 135.

CHANGE INFORMATION

Third Issue. Amendment to the EASA MMEL references in Section 9 - Further Guidance. Previously referenced JAA TGL 26 is now obsolete and no longer available.

ENQUIRIES

Enquiries regarding the content of this Circular should be addressed to Air Safety Support International at the address on the ASSI website www.airsafety.aero or to the appropriate Overseas Territory Aviation Authority.

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1. Introduction

- 1.1 This Circular provides background information and guidance with regard to the development, submission and approval of an Operators Minimum Equipment List (MEL).
- 1.2 The Master Minimum Equipment List (MMEL) and associated MEL are alleviating documents. Their purpose is not to encourage the operation of aircraft with inoperative equipment. It is undesirable for aircraft to be dispatched with inoperative equipment and such operations are permitted only as a result of careful analysis of each item to ensure that an acceptable level of safety is maintained. The MEL shall therefore be based on, but not less restrictive than, the relevant MMEL (if this exists) accepted by the Governor. A fundamental consideration is that the continued operation of an aircraft in this condition should be minimized. An operator retains the option to refuse any alleviation, and may choose not to dispatch with a particular MEL item inoperative.

2. Legal basis

- 2.1 The AN(OT)O states: "The Governor may grant in respect of any aircraft or class of aircraft registered in the Territory an approval permitting such aircraft to commence a flight in specified circumstances notwithstanding that any specified item of equipment required by or under this Order to be carried in the circumstances of the intended flight is not carried or is not in a fit condition for use".
- 2.2 Operations conducted under OTAR Part 91 do not require an MEL; however if an MEL is used it must be approved by the OTAA. All operations conducted under OTAR Parts 121, 125 or 135 must have an approved MEL.
- 2.3 The operator shall not operate an aircraft other than in accordance with the MEL, unless permitted by the Governor. Any such permission will in no circumstances permit operation outside the constraints of the MMEL. The one exception to this is the recognition of the superiority of an Airworthiness Directive over the conditions or limitations specified in the MEL.

3. MMEL/MEL definition

- 3.1 While the MMEL is for an aircraft type, the MEL is tailored to the operator's specific aircraft and operating environment and may be dependent upon the specific equipment fitted, route structure, geographic location and locations where spares and maintenance capability are available etc. The MMEL cannot address these individual variables. It is for this reason that an MMEL is not accepted by the OTAA as a substitute for the MEL. It therefore falls on the operator to develop operational "(O)" procedures reflecting the operational requirements of Subpart F of the applicable Ops OTARs and maintenance "(M)" procedures based on Type Certificate holder (TC) or Supplemental Type Certificate holder (STC) approved data. Documents issued by the Type Certificate holder, STC holder or Dispatch Deviations Guides, pre-approved maintenance and operational procedures etc, should also be reviewed during development of the MEL where these documents are available.

3.2 Glossary of terms

'As required by operating requirements' - The listed item of equipment is subject to certain provisions (restrictive or permissive) expressed in the applicable operational requirements.

'Approved by the OTAA' – Documented by the OTAA as suitable for the purpose intended.

'Calendar day' - A 24 hour period from midnight to midnight based on either UTC or local time, as selected by the operator.

'Day of discovery' - The calendar day that a malfunction was recorded in the aircraft maintenance record/log book.

'Dispatch deviation guide' - For large aircraft, these procedures are normally contained in a manufacturer's attachment to the MMEL, (e.g. sections 2 and 3 in Airbus and Dassault manuals) or through a Dispatch Deviation Procedure Guide (DDPG), or a Dispatch Deviation Guide (DDG). For some aircraft, where these documents may not be available from the manufacturer; generated MELs, which contain pre-approved maintenance and operational procedures, may be used.

'Equipment' – means item component function or system.

'Flight day' - means a 24 hour period (from midnight to midnight) either UTC or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

'If installed' – means the listed item of equipment is either optional or is not required to be installed on all aircraft covered by the MMEL.

'Inoperative' - means in relation to an item, function, component or system, that the equipment item, function, component or system malfunctions to the extent that it does not accomplish its intended purpose or is not consistently functioning within its design operating limits or tolerances. Some systems have equipment that are designed to be fault tolerant and are monitored by digital computers which transmit fault messages to a centralised computer for the purpose of maintenance. The presence of this category of message does not necessarily mean that the system equipment is inoperative.

'MEL' - Abbreviation for Minimum Equipment List.

'MMEL' - Abbreviation for Master Minimum Equipment List.

'Rectification interval' – The limitation imposed with regard to the duration of operations with inoperative equipment.

4. Equipment included in the MEL

4.1 The MEL is a joint operations and maintenance document prepared by an operator to:

- a) Identify the minimum equipment and conditions for an aircraft to maintain an acceptable level of safety and to meet the operating rules for the type of operation.
- b) Define operational procedures necessary to deal with inoperative equipment and maintain an acceptable level of safety.
- c) Define maintenance procedures necessary to secure any inoperative equipment and maintain an acceptable level of safety.

- 4.2 Most aircraft are designed and certified with a significant amount of equipment redundancy, such that the airworthiness requirements are satisfied by a substantial margin. In addition, aircraft are generally fitted with equipment that is not required for safe operation under all operating conditions, e.g. instrument lighting in day VMC.

5. Development

- 5.1 The operator should develop its MEL and all subsequent amendments, as a joint operations and maintenance project, based on the current MMEL revision.
- 5.2 Except as noted above, the operator's MEL must be revised to reflect the most recent approved version of the MMEL or MMEL Supplement. The following are applicable changes to the MMEL that require amendment of the MEL:
- (1) a reduction of the rectification interval;
 - (2) change of an item, only when the change is applicable to the aircraft or type of operations and is more restrictive.
- 5.3 An acceptable timescale for submitting the amended MEL to the OTAA is 90 days from the effective date specified in the approved change to the MMEL. Reduced timescales for the implementation of safety-related amendments may be required if the OTAA considers it necessary. Where the MMEL revision affects a procedure, the period allowed for amendment of the MEL is 120 days. This extended timeframe allows for the drafting and publication of any applicable procedures etc in order to comply with the revision to the MMEL.
- 5.4 The operator's MEL must reflect the current limitations in the applicable MMEL or MMEL Supplement. When a revision is issued to an MMEL or MMEL Supplement, the operator's MEL need not be revised if the change is less restrictive than the existing MEL; therefore if any changes to the MMEL are more restrictive than the operator's MEL, a revision will be required to the MEL.

6. Content

- 6.1 The MELs submitted for approval must contain the following as a minimum:

6.2 List of effective pages

A List of Effective Pages (LEP) must be used to ensure that each MEL is up-to-date. It must list the date of the last amendment for each page of the MEL. The date and revision status of each page of the MEL must correspond to that shown on the List of Effective Pages.

6.3 Table of contents

The Table of Contents page should list the section for each aircraft system using the ATA 100/2200 listing as found in the MMEL. Pages should be numbered with the ATA system number followed by the item number for that system (e.g., the page following 27-2-1 would be 27-2-2).

6.4 MEL preamble

The purpose of the MEL Preamble is to provide direction to company personnel on the philosophy and use of the MEL. Due to the various certification bases for the same aircraft type, it would also be advisable to include references to the documents that the MEL is derived from and is supported by. As an example the list would typically refer to the following publications:

- a) MMEL;
- b) MMEL Supplement;
- c) Cabin handbook;
- d) Flight Manual;
- e) Operations Manual;
- f) Maintenance Control Manual.

6.4 Notes and definitions

Notes and Definitions are required to allow the user to interpret the MEL properly. Additions and deletions to the Notes and Definitions may be applied to the operator's MEL as required.

6.5 Operational and Maintenance procedures

- 6.5.1 These must reflect the requirements of Subpart F Instruments and Equipment of the applicable Ops OTARs and OTAR Part 39 Airworthiness Requirements of the applicable Airworthiness OTARs.
- 6.5.2 Dispatch with inoperative items is often acceptable only with the creation of special operational or maintenance procedures.
- 6.5.3 Where the MMEL indicates dispatch with inoperative items as being acceptable, the operator must establish appropriate procedures to ensure an acceptable level of safety will be maintained. Procedures recommended by the Type Certificate holder or Supplemental Type Certificate holder in the form of dispatch deviation guides can be used as a source of information for developing Maintenance (M) and Operational (O) procedures; however the ultimate responsibility for providing acceptable procedures with the MEL rests with the operator.
- 6.5.4 The operator, when comparing the MEL against the MMEL, should ensure that where the (O) or (M) symbols appear, an operational or maintenance procedure has been developed that provides clear direction to the crew members and maintenance personnel of the action to be taken. This procedure should be included in the MEL or associated Operator's Manual.
- 6.5.5 The only exception is when the procedure is contained in another available document, e.g. in another part of the Operations Manual for "(O)" procedures or the Maintenance Manual for "(M)" procedures. In the latter cases, the MEL may refer to a section of the appropriate document; e.g:

- (i) *For cabin crew members, such as an Operations Manual or Cabin crew Manual.*
- (ii) *For Maintenance engineers, such as an Aircraft Maintenance Manual or Maintenance Control Manual, etc.*

6.5.6 It is not acceptable only to reference similar documents, as these documents may not be carried on board the aircraft and could be subject to misinterpretation. The objective is to provide personnel with clear, concise direction on how they are to proceed. Where the MMEL column 5 states "as required by Operating Requirements", this wording shall not appear in the MEL; rather a synopsis of the Regulation shall appear.

6.6 Operations Manual procedures

The operator must establish procedures in the Operations Manual for the use and guidance of crew members when using the MEL. The procedures must align with those in the Maintenance Control Manual.

6.7 Non-safety related equipment

6.7.1 Non-safety related equipment includes those items related to the convenience, comfort, or entertainment of the passengers. They may include items such as galley equipment, movie equipment ash trays stereo equipment, and overhead reading lamps. Non-safety related equipment must not have an effect on the airworthiness or operation of the aircraft. This equipment does not require a rectification interval, and need not be listed in an operator's MEL, if it is not addressed in the MMEL. If an operator chooses to list this equipment in the MEL, it may be given a D category rectification interval provided any applicable exceptions to this rule are:

- a) Where non-safety related equipment serves a second function, such as movie equipment used for cabin safety briefings, operators must develop and include operational contingency procedures in the MEL in case of an equipment malfunction.
- b) Where non-safety related equipment is part of another aircraft system, for example the electrical system, procedures must be developed and included in the MEL for deactivating and securing the related equipment in the event that failure or malfunction of one system will not have a detrimental effect on other systems.

6.7.2 In these cases, the item must be listed in the MEL, with compensating provisions and deactivation instructions if applicable. The rectification interval will be dependent on the secondary function of the item and the extent of its effect on other systems.

6.8 Rectification interval categories

The maximum time an aircraft may be operated between the deferral of an inoperative item and its rectification must be specified in the MEL. The rectification interval categories are as follows:

Category A - No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the MMEL. Whenever the time interval is specified in calendar days, it shall start at 00:01 on the calendar day following the day of discovery.

Category B - Items in this category shall be rectified within three consecutive calendar days, excluding the day of discovery.

Category C - Items in this category shall be rectified within 10 consecutive calendar days, excluding the day of discovery.

Category D - Items in this category shall be rectified within 120 consecutive calendar days, excluding the day of discovery.

6.9 Process compliance

Airworthiness and operational personnel should ensure that operators establish and implement a sound programme that satisfies the OTAA that ongoing surveillance ensures compliance with approved procedures.

6.10 Deferral of items

Procedures for the deferral of MEL items should be included as part of the operator's Maintenance Control Manual (MCM). The operator should ensure that these procedures in the MCM are referenced or copied in the MEL and/or Operations Manual.

6.11 Requirements

These procedures comprise a method for:

- a) Deferral and/or rectification of inoperative equipment
- b) Placarding requirements as per the MEL
- c) Dispatching of aircraft with deferred MEL items
- d) Using a remote deferral system
- e) Controlling categorised times
- f) Training of company personnel who are responsible for MEL compliance procedures.

6.12 Review of deferred items

The operator should establish procedures for the Maintenance and Flight operations Departments to periodically review the deferred items, in order to ensure that any accumulation of deferred items neither conflict with each other nor present an unacceptable increase in flight or cabin crew workload. Notwithstanding the categorisation of item rectification intervals, it should be the aim of each MEL document holder to ensure that inoperative items are repaired as quickly as possible.

7. Application for approval

The applicant must submit a completed Minimum Equipment List (MEL) compliance document to the OTAA (refer to Appendix A of this document) and copies of the following in support of their application for approval of the MEL:

- a) Current approved version of the Master Minimum equipment list (MMEL) which can be obtained from the manufacturer or foreign national authority as applicable.
(Note: may not be required if a current copy of the MMEL was submitted at the time of Type Acceptance and is currently available and up to date)
- b) Copy of the Dispatch Deviation Guide, or approved Maintenance and Operational procedures that support the development of the MEL *(if requested)*.

- c) Two copies of the MEL for approval and accompanying documents.
(Note: Unless copies are submitted in electronic format, whereby one copy will suffice.)
- d) Current approved Aircraft Flight Manual.
(Note: may not be required if a current copy of the Aircraft Flight Manual was submitted at the time of Type Acceptance and is currently available and up to date)

8. Approval

The OTAA is responsible for approving the MEL of all operators operating under an AOC, or OTAR Part 125 approval. The operator must ensure that they use the latest version of the appropriate MMEL to develop their MEL. The latest supplements can be obtained from the Type Certificate Holder, who normally provides MMELs along with a revision service, on a commercial basis. Therefore whenever it is intended to make use of an MEL, this must be approved by the OTAA. The MMEL is available from the Type Certificate Holder' however the Type Certificate Holder may not be the original aircraft manufacturer.

9. Further guidance

Further guidance and information can be obtained from the following publications:

(Note: When reviewing other National Authority guidance material, OTAR requirements must be considered and complied with)

- a) EASA technical Certification Specification CS-MMEL which can be obtained from the following web link: [CS-MMEL Issue 2 | EASA \(europa.eu\)](#)
- b) EASA technical Certification Specification CS-GEN-MMEL for other than complex aircraft which can be obtained from the following weblink: [CS-GEN-MMEL Issue 2 | EASA \(europa.eu\)](#)
- c) FAA Flight standards information management system (FSIMS)
<http://fsims.faa.gov/PICResults.aspx?mode=Publication&doctype=MMEL>
- d) TCCA technical procedure TP 9155
<http://www.tc.gc.ca/eng/civilaviation/publications/tp9155-menu-5179.htm>

APPENDIX A – Compliance document

Minimum Equipment List (MEL) Compliance Document

Minimum Equipment List (MEL) Approval Submission

Aircraft type: _____

Item	Action to be taken	Justification

COMPLIANCE STATEMENT: This MEL complies with the Air Navigation Overseas Territories Order 2007 and is no less restrictive than the applicable approved State of Type Certification MMEL*/Supplement* (* delete as appropriate)

Signed: _____ Print name: _____ Position: _____

Date: _____ Operator: _____

To the Operator: Once accepted by the OTAA, this amendment should be published, dated and numbered as shown above.

For OTAA use only

AIRWORTHINESS SURVEYOR

2. Technical review completed.

Signed: _____ Date: _____

Print name: _____

State of Type certification MMEL / Supp Ref:

Version/issue/revision No:

Date:

MEL Ref:

Issue/Amendment/revision No:

Date:

FLIGHT OPERATIONS INSPECTOR

3. Flight Operations review completed. Operationally and technically acceptable.

Signed: _____ Date: _____

Print name: _____

4. Completed compliance document returned to operator:

.....(initials).....(date)

5. OM amendment received and incorporated:

.....(initials).....(date)