

SAFETY REGULATION FLIGHT OPERATIONS

FLIGHT OPERATIONS DIRECTIVES



2/2008

Applicability: All Aeroplane and Helicopter AOC Holders

1. **The Operator's Minimum Equipment List (MEL)**
2. **MEL Development Guidance and Policies**
3. **MEL Submission for Approval and Quality Assurance Review**
4. **MEL Amendments**

1. **The Operator's Minimum Equipment List (MEL)**

1.1 **Introduction**

- 1.1.1 JAR-OPS 1/3.030 requires that operators establish for each aircraft, an MEL approved by the Authority. This shall be based upon, but no less restrictive than, the relevant Master Minimum Equipment List (MMEL).
- 1.1.2 The MEL is a document that lists the equipment which may be temporarily inoperative, subject to certain conditions, at the commencement of flight. This document is prepared by the operator for his own particular aircraft taking account of the aircraft configuration, equipment and systems, type of operations (eg. MNPS, RNP, RVSM, RNAV, ETOPS) and the relevant operational and maintenance conditions in accordance with a procedure approved by the Authority.
- 1.1.3 Since 2005, the Authority has embarked on a complete review of all MELs and this process continues to date. Through this experience, the Authority has observed certain repetitive and common deficiencies in MELs submitted for approval. In some instances this may have been due to issues that are not adequately addressed as guidance or requirements. The purpose of this Flight Operation Directive is to present such clarification and further guidance that would assist the Operator in the MEL development process.

2. **MEL Development Guidance and Policies**

2.1 **The MMEL**

- 2.1.1 An aircraft MMEL is prepared and promulgated by the State of Design for a particular aircraft type or series. There are cases where other Authorities have subsequently re-certified the same aircraft in which case other situations may exist such as:

- a) That State would derive another MMEL for their use.
- b) That State would make a statement that they have accepted the original State of Design MMEL for their use.
- c) That State would issue a Supplement to the State of Design MMEL.

This invariably leads to a situation where an aircraft type may have more than one MMEL (eg. Transport Canada, FAA, UK CAA, EASA, Australia etc...). The Authority has to then take a decision based on the certification basis that the aircraft was accepted for importation and registration and such corresponding MMEL.

- 2.1.2 Prior to commencing the MEL development process, the Authority strongly recommends that the operators consult the Authority on the correct MMEL to be utilised for a particular aircraft type.
- 2.1.3 The MMEL cannot address individual variables such as equipment annotated as "If installed", nor standard terms such as "As required by Regulations" where operators are required to review the actual aircraft equipment fit, aircraft modification status, operational regulations, technical requirements applicable in the State where the aircraft is registered. It is for these reasons that a MMEL shall under no circumstance be presented to or approved by the Authority as a means of compliance to an Operator's MEL as required by JAR OPS 1/3.030.

2.2 The MEL and Operations Manual

- 2.2.1 The MEL forms part of the Operations Manual (Part B Section 9). Operators may choose to publish the MEL as a separate document. In such a case, the Operations Manual shall contain a statement to this effect.
- 2.2.2 The Authority will accept an electronic copy of the MEL as long as it contains all the necessary information as presented in the paper copy and only if it is the official means of controlled promulgation by the Operator to all other parties.

2.3 The Format and Content of an MEL

- 2.3.1 COMPOL 9/2007 requires that all operators produce MELs in accordance with the requirements of JAA MMEL/MEL, in particular Subpart C. Subpart C provides the necessary requirements in regards to the format, structure and content of an MEL. It also provides requirements relating to further amendment of the MEL following subsequent MMEL revisions, Repair Interval Extensions (RIE), maintenance and operational procedures and types of operations. Operators shall also consult the associated ACJ to Sub Part C where further guidance and explanation is provided.

2.4 The MEL Preamble, Definition and Clarification Notes.

- 2.4.1 In accordance with JAR MMEL/MEL.65, the MEL "Preamble" shall conform to APPENDIX 1 to ACJ-MMEL/MEL.065. Operators are advised that the MMEL Preamble in its entirety is not acceptable for use as an MEL Preamble as the intent and purpose of the two publications differ. Certain relevant information may be extracted such as definition of specific terms used by the manufacturer that is essential for MEL usage (if this does not conflict with JAR OPS or MMEL/MEL) and abbreviated operational or maintenance procedures.

- 2.4.2 The first line of the Preamble (1.) shall also include by 1st June 2008, the following statement:
“The MEL has also been produced in accordance with TGL 26 – Guidance Document for MEL Policy {Revision}, {Dated} in accordance with SCAA COMPOL 9/2007.”
- 2.4.2 Notes and Definitions are required to allow the user to interpret the MEL properly and further contribute to standardised interpretation and dispatch. APPENDIX 1 to ACJ-MMEL/MEL.065 lists suggested definitions applicable to an MEL.
- 2.4.3 It should be noted that JAR OPS and JAR MMEL/MEL does not specifically utilise the term “Dispatch” but rather states (JAR MMEL/MEL.010 (a) refers) that the MEL is applicable up to the commencement of flight. The commencement of flight is subsequently defined in JAR MMEL/MEL.050 (e) as the point when an aircraft begins to move under its own power for the purpose of preparing for take off. In the case of a helicopter, it refers to the moment the helicopter commences air or ground taxi. For the purpose of this requirement the Authority accepts the term “dispatch” to be utilised to mean this point.
- 2.4.4 In such a case, if a failure occurs during the taxi phase before the start of the take-off roll, any decision to continue the flight shall be subject to pilot judgment and good airmanship. The commander may refer to the MEL before any decision to continue the flight is taken (ACJ to JAR MMEL/MEL.001(a) refers). This statement shall be made in the Clarification Notes of the MEL by 1st June 2008.
- 2.4.5 The operator’s MEL shall include policies and/or procedures by 1st June 2008, to deal with any failures which occur between the start of taxi and take-off brake release.
- 2.4.6 In some cases, operators may choose an alternative dispatch point which may be earlier such as door closed. As such, the definition list shall be supplemented by a definition of “Dispatch” as intended to be utilised by the Operator and shall also take into account 2.4.4 and 2.4.5 above.
- 2.4.7 JAR MMEL/MEL.065(a) makes provision for the inclusion of “Clarification Notes”. This shall be added to the MEL Preamble as Section 10 and shall take into account 2.4.4. Additionally, the Authority has considered it necessary to provide other material which shall be included by 1st June 2008 as follows:

- a) **“It is not reasonably practical to repair or replace before the commencement of flight /it is not reasonably practicable for repairs or replacements to be made”:**

The intention of either of these statements in an MMEL or MEL is that the aircraft may be dispatched if there are inadequate available spares or if there are no qualified and authorised personnel on base to perform the task. The definition is not dependent on whether there is enough time available to complete the task before the next flight. If the aircraft is at a maintenance base or any other airport, but the spare(s) or manpower are not available, then the aircraft may be dispatched. As soon as the aircraft lands at an airport where the spares are available and there are qualified and authorised personnel on base, the defect must be rectified.

This statement is to be clarified as follows: *“These statements are intended to cover situations where there is a lack of a replacement part(s), inadequate engineering resources or manpower to enable the defect to be rectified. It is not intended that operational restrictions such as time constraints or subsequent impact to the operator’s schedule be factors in such considerations.”*

- b) **“The aircraft may depart on the flight or series of flights for the purpose of returning directly to a base where repairs or replacements can be made / the aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made”:**

The intention of these statements is that once the aircraft lands at the maintenance base, the aircraft shall not be dispatched until the defect has been rectified.

This statement shall be clarified as follows: *“This statement is intended to allow the aircraft to be flown, using the most direct route, to the nearest maintenance base where arrangements for repairs or replacements can be made.”*

2.5 List of Effective Pages and Table of Content

- 2.5.1 All operator MELs shall include an accurate List of Effective Pages and Table of Content.
- 2.5.2 The List of Effective Pages shall 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.
- 2.5.3 The Table of Contents page shall list the section for each aircraft system utilizing the ATA 100 listing as found in the MMEL. The pages shall 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).

2.6 MEL ATA Indexing and Equipment Fit

- 2.6.1 Operators are advised that under all circumstances, the ATA indexing as stipulated by the respective MMEL shall be maintained for initial and continued cross reference to the MMEL.
- 2.6.2 In cases where certain equipment are not installed, operators shall state “Not Installed” below the item. The Authority recommends maintaining all such items in the MEL to facilitate the required entries should the equipment be subsequently fitted and to preserve the sequence of the ATA index.
- 2.6.3 MMELs are regularly reviewed and revised by the State of Design. As a result, certain item listing are either added or deleted or remarks revised. In cases where the MMEL has an item that has been deleted but is kept in the MMEL (eg. Altimeter (deleted)), such items shall be deleted from the MEL. All subsequent ATA indexes for items shall be maintained as per the MMEL.

2.7 Number installed and Number Required for Dispatch

- 2.7.1 Operators shall ensure that the entries for the number installed (usually specified as “-” in the MMEL) in the required column is specified.
- 2.7.2 In most situations the number required for dispatch shall also be specified. There are a few instances that the Authority will accept a “-” in this column. These are instances where the equipment is dependant on particular operations, complement of passengers and/or crew. A few examples include oxygen masks, seats, seat belt, harnesses, life jackets etc... In all such cases the remarks and exceptions column shall contain adequate information to qualify and quantify such considerations.
- 2.7.3 Situations may exist (particularly on helicopters and light twin aeroplanes) where the number installed is the same as the number required. In such circumstances, by default, no relief is possible and as such the repair interval should be deleted and the remark should be substituted with “Required for operations”. The item shall not be deleted entirely from the MEL.

2.8 Operations (O) and Maintenance (M) Procedures

- 2.8.1 MMEL’s will usually annotate items that require special procedures to be completed as conditions of such alleviations. The O and M procedures shall be annotated accordingly in the operator’s MEL as required by JAR-MMEL/MEL.075.
- 2.8.2 Operators are permitted to utilise approved manufacturer publications such as Maintenance Manuals, Flight Manuals, Dispatch Deviation Guides (DDG), Aircraft Deactivation Procedures Manual etc... as sources to derive these procedures. Alternatively, operators may also reference to such documents.
- 2.8.3 The Authority requires that O and M procedures or references to such procedures are placed in two separate sections of the operator’s MEL. Placing abbreviated procedures or references to such procedures in the MEL remarks column adds too much clutter.
- 2.8.4 Where references are utilised to manufacturer publications, it shall contain the title of the publication and Chapter/Section reference.
- 2.8.5 Where the actual procedures are derived and placed as an integral part of the operator’s MEL, it shall be clearly identifiable by the respective ATA index to facilitate cross referencing.
- 2.8.6 Operators should note that O and M procedures are a fundamental part of the Authority’s consideration in the approval of the MEL and its importance shall not be diminished.

2.9 Special Operations (RVSM, RNP, BRNAV etc...)

- 2.9.1 Special Operations such as RVSM, RNP and BRNAV require operators to annotate minimum equipment carriage for such operations in accordance with ACJ-MMEL/MEL.055. The associated JAA TGL or AGM usually specifies, generally, such equipment required. Aircraft manufacturers will usually provide technical guidance material to operators relating to the TGL and AGM.

- 2.9.2 Operators shall consult such manufacturer technical publications in the MEL development process. This review is essential especially on large complex aircraft where basic terminology such as “Altimeters” required by the TGL or AGM may actually translate into a range of associated equipment and system on particular types of aircraft (eg. FMS, Air Data and other computers etc.....).
- 2.9.3 Operators undertaking such operations shall annotate equipment required for special operations. This shall be achieved by the statement “Required to be operative for {type of operations}”.

2.10 TGL 26 – MEL Policy

- 2.10.1 JAR-OPS 1/3.630(a)(2) and JAR-OPS 1/3.845(a)(3) prescribe that a flight shall not commence unless the instruments and equipment required under subparts K and L are in operable condition for the kind of operations being conducted, except as provided in the MEL.
- 2.10.2 Equipment and systems referred to in JAR OPS subparts K and L are usually indicated (in the remarks column in non-JAA MMEL) by statements such as:
- “As required by FARs”
 - “As required by Regulations”
 - “As required by Operating Regulations”.
 - “As required by Air Navigation Legislation”
- 2.10.3 The purpose of the TGL 26 is to give operators the guidance necessary to develop the MEL provisions for such equipment, and conditions for its unserviceability, in order that JAR-OPS 1 and 3 and JAR-MMEL/MEL are properly complied with. As such, all equipment indicated by these statements shall be referenced to TGL 26 for the repair interval, number required and associated remarks. The flowchart of the Appendix to Section 1 will assist operators in this process.
- 2.10.4 Statements such as those listed in 5.1.2 shall not appear in an operator’s MEL. The statements are intended that the operator reviews operating regulations of the State of Registry and Operator and alleviation policies which may be different to the State of Design, and finally make the appropriate entries.
- 2.10.3 It is not intended by TGL 26 that operators include all items TGL 26 into the MEL but rather the MMEL should be the primary document to identify should an entry be made in the MEL. The next step is to utilise the alleviation provided for in the TGL 26.
- 2.10.5 In cases where the Repair Interval in TGL 26 is more restrictive than the MMEL, the repair interval of TGL 26 shall take precedence representing the JAA policy on such a matter.
- 2.10.6 There are some cases where even when items are annotated by statements as listed in 5.1.2, the manufacturer has also included certain conditions in the remarks column. In such cases, operators shall ensure that the remarks proposed by TGL 26 satisfactorily encompass such conditions and where it does not, the operator shall integrate the manufacturer conditions in addition to the TGL 26 text.
- 2.10.7 The ATA indexes stated in the MMEL may also not correspond to that TGL 26. In such cases the ATA indexes in the MMEL shall be utilised for the MEL.

2.11 MEL Applicable to a fleet of same type or series

2.11.1 MELs may be applicable for a fleet of the same type or series. The operator shall ensure that the aircraft registration (S7-xxx) is used to annotate and differentiate items that are specific to a particular aircraft. Statements below the item such as (S7-xxx only), (Except S7-xxx) or (S7-xxx and S7-xy only) are acceptable.

3. MEL Submission for Approval and Quality Assurance Review

3.1 Operators shall ensure that prior to the MEL or MEL amendment being submitted to the Authority for Approval, the document is reviewed for conformance to JAA MMEL/MEL and this FOD by a Quality audit.

3.2 A checklist and compliance statement is presented at Appendix A to this FOD to facilitate the Quality review. A statement shall be made by the Quality Manager or Quality Assurance Programme Manager (Flight Operations or Maintenance) that the Quality review has been undertaken and that the MEL conforms to the standards.

4. MEL Amendments

4.1 JAR-MMEL/MEL.060 (c) requires that within 90 days of a revision to the MMEL, the operator shall submit a proposed amendment to the Authority reflecting such amendments. As such, it is recommended that operators establish a process that ensures that the MMEL and MEL is reviewed at times intervals necessary to identify such revisions.

4.2 It should also be noted that TGL 26 is also revised regularly and similarly, the operator shall have 90 days to amend the MEL to reflect the latest revision to TGL 26. The Quality Assurance Programme as required by JAR OPS 1.030 and associated AMC shall include periodic audits of the MEL to ensure compliance to 4.1 and 4.2.

4.3 Operators are reminded that the MEL and subsequent amendments are required to be approved by the Authority. This also includes any temporary amendments incorporated prior to another amendment or revision.

4.4 Operators shall ensure that all amendments to MELs include a highlight of revision sheet that includes reference to the ATA Chapter and page, and the reason for change. Amendment bars shall also be included next to all associated amendments or revisions.

5. Queries

- 5.1 Any queries as a result of this Flight Operations Directive should be addressed to Head Flight Operations at the following e-mail address: morr@scaa.sc

6. Cancellation

Nil

Marlon A. Orr
Head Flight Operations
1st April 2008

Recipients of new FODs are asked to ensure that these are copied to their 'in house' or contracted organisations, to relevant outside contractors, and to all members of their staff who could have an interest in the information or who need to take appropriate action in response to this Flight Operations Directive.

Appendix A

MEL Quality Review

Item	Conformance (Yes, No or N/A)
1. Correct MMEL and latest revision utilised and referenced in the MEL Preamble.	
2. Format of MEL in accordance with JAR- MMEL/MEL.065 and ACJ to MMEL/ MEL.065).	
3. MEL Preamble in accordance with APPENDIX 1 to ACJ-MMEL/MEL.065.	
4. Additional line included to Preamble (1.) as per FOD 2/2008, 2.4.2.	
5. Definitions to include "Dispatch" as per FOD 2/2008, 2.4.3.	
6. Procedures included for any failure occurring between start of taxi and brakes release.	
7. Addition of Section 10 "Clarification Notes" to the MEL Preamble as per FOD 2/2008, 2.4.7.	
8. Addition to Clarification Notes as per FOD 2/2008, 2.4.4.	
9. List of Effective Pages included.	
10. Table of Contents included.	
11. MEL ATA indexing, equipment/system, repair intervals, number required and remarks (except as per TGL 26) as per MMEL.	
12. Equipment not installed annotated as "Not installed" as per FOD 2/2008, 2.6.2.	
13. "Number installed" and Number required" specified as per FOD 2/2008, 2.7.	
14. O and M procedures are included or referenced to other publications and in separate sections to the MEL as per FOD 2/2008, 2.8.3.	
15. Equipment for Special Operations (ETOPS, RVSM, RNP, BRNAV) have been annotated in accordance with associated TGL and manufacturer technical publications.	
16. Latest TGL 26 MEL Policy document has been adhered to for all equipment relating to JAR OPS Sub Part K and L in accordance with FOD 2/2008, 2.10.	

**I hereby certify that the MEL submission conforms to the latest SCAA accepted MMEL and revision, TGL 26 and the SCAA FOD 2/2008 in all aspects.*

Operator:

Name:

Title:

Date:

Signature:

* Statement to be signed by Quality Manager or Quality Assurance Programme Manager after review of the MEL.