BERMUDA CIVIL AVIATION AUTHORITY

MEL POLICIES AND PROCEDURES MANUAL

Revision 1

1st December 2021

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ADMINISTRATION

A.1 AUTHORITY

This Manual has been prepared in accordance with the Air Navigation (Overseas Territories) Order 2013 as amended, for the use and guidance of BCAA and Industry personnel and contains all the relevant information with respect to the origin and development of the Master Minimum Equipment List (MMEL), Minimum Equipment List (MEL) and the BCAA approval process for a MEL.

BCAA Operations and Airworthiness Inspectors are expected to use good judgement in matters where specific guidance has not been given and be aware of the need for revision to the present information as new requirements evolve.

I would welcome any comments on this document to be sent for my attention at info@bcaa.bm.

Digitally signed by
Thomas Dunstan
Date: 2021.12.01
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Thomas Dunstan
Director General

A.2 AMENDMENT RECORD

Amendment Number	Amendment Date (Year/Month/Day)	Pages Affected	Produced By
Original Issue	26 January 2021	Original issue – all	BCAA - LC
Revision 1	01 December 2021	Revision 1 – all	BCAA - SB

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ACRONYMS

AD	Airworthiness Directive
AFM	Aircraft Flight Manual
AME	Aircraft Maintenance Engineer
AMO	Approved Maintenance Organization
AN(OT)O	Air Navigation (Overseas Territories) Order (and when used in this Manual, is meant to include the appropriate Schedules and OTARs)
AOC	Air Operator Certificate
AOM	Aircraft Operating Manual
AWI	Airworthiness Inspector
AWM	Airworthiness Manual
BCAA	Bermuda Civil Aviation Authority
CDL	Configuration Deviation List
OM	Operations Manual
DO	BCAA Director of Operations
DDG	Dispatch Deviation Guide
DDPG	Dispatch Deviation Procedures Guide
ETOPS	Extended Range Twin Operations
FAM	Flight Attendant Manual
FARs	Federal Aviation Regulations
FOI	Flight Operations Inspector
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
MCM	Maintenance Control Manual
MEL	Minimum Equipment List
MMEL	Master Minimum Equipment List
OTACs	Overseas Territories Aviation Circulars
OTARs	Overseas Territories Aviation Requirements
PIC	Pilot In Command
STC	Supplemental Type Certificate
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions

DEFINITIONS

Note: *These are formatted alphabetically and typical of the definitions to be found in an MMEL or MEL. Operators should utilize the definition of the appropriate MMEL.*

"_" symbol in Column 2 and/or Column 3 means there is a variable number (quantity) of the item installed.

Note: Where the MMEL shows a variable number installed, the MEL must reflect the actual number installed or an alternate means of configuration control approved by the BCAA.

"Administrative Control Item" means an item listed in the MEL by the operator for tracking and informational purposes. It may be added to an operator's MEL provided no relief is granted, or provided conditions and limitations are contained in an approved document such as the Structural Repair Manual. If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the BCAA. If the request results in review and approval, the item becomes an MEL item rather than an administrative control item.

"Airplane/Rotorcraft Flight Manual" (AFM/RFM) means the document required for Type Certification and Approval by the BCAA. The approved AFM/RFM for the specific aircraft is listed on the applicable Type Certification Data Sheet.

"Alphabetical symbol" in Column 4 means a proviso (condition or limitation) that must be complied with for operation with the listed item inoperative.

"Approved" means approved by the Governor or his delegate.

"As Required by Regulation", As required by FAR, and other similar statements mean that the listed item is subject to certain provisions (restrictive or permissive) expressed in such regulations as *the AN(OT)O and OTARs*, *Federal Aviation Regulations* or the *Airworthiness Manual* etc. Unless the MMEL provides otherwise, the items specified by these requirements must be operative.

"CDL - Configuration Deviation List" means a document developed by the aircraft manufacturer and approved by the Authority of the country of manufacture of the aircraft that covers minor items on the aircraft that may be missing or damaged, such as small access panels. This list may be adopted without change by the aircraft operator.

"Day of discovery" means the calendar day that an equipment/instrument malfunction was discovered. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment, and is applicable to all MMEL items in categories A,B,C, and D.

"DDG", Dispatch Deviation Guide, Procedures to permit operation of an aircraft, under specific conditions, with particular instruments, or functions inoperative until rectification can be made.

"Deactivated and Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of deactivating and securing will be established by the operator for inclusion in the MEL.

"Deleted" in the remarks column after a sequence item means that the item was previously listed but is now required to be operative if installed in the aircraft.

"Director General" means the Director General of the Civil Aviation Authority of Bermuda

"Engine Indicating Crew Alerting System (EICAS), Electronic Centralized Aircraft Monitoring System (ECAM) or similar systems" that provide electronic messages means a system capable of providing different priority levels of systems information messages (eg: Warning, Caution, Advisory, Status and Maintenance). An airplane discrepancy message may or may not affect its dispatch. Refer to the specific MMEL for the aircraft type.

"Excess Items" means those items installed that are excess to the requirements.

"ETOPS/EDTO " Any operation by an aeroplane with two or more turbine engines where the diversion time to an en-route alternate aerodrome is greater than the threshold time established by the State of the Operator.

"Federal Aviation Regulations (FARs)" means the applicable portions of the Federal Aviation Act and Federal Aviation Regulations.

"Flight Day" means a 24 hour period (e.g. from midnight to midnight) - either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

"Icing Conditions" means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s).

"Inoperative" means a system and/or components malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

"Inoperative components of an inoperative system" means inoperative items which are components of a system which is inoperative. They are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).

"Instrument flight rules" means the Instrument Flight Rules specified in the Rules of the Air found in Appendix D of OTAR Part 91, being rules governing the conduct of flight under instrument meteorological conditions.

"Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.

"(M)" symbol means there is a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill or requiring the use of tools or test equipment must be accomplished by maintenance personnel (see "(M#)" below). The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

"(M#)" symbol means there is a requirement for maintenance personnel to accomplish a "(M)" procedure.

"Maintenance Instruction" means there are maintenance instructions that must be accomplished prior to operation with the listed item inoperative, as per "(M)" procedure above.

"MOPP", Maintenance/Operational Placarding Procedures Manual.

"Notes" (Column 4) means additional information for crewmember or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

"Number Installed" (Column 2) means the number (quantity)of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.

*Note: The "***" symbol in Column 1 indicates an item which is not required by Regulation but which may have been installed on some models of aircraft covered by this MMEL. This item may be included on the operator's MEL after the approving office has determined that the item has been installed on*

*one or more of the operator's aircraft. The symbol, however, shall not be carried forward into the operator's MEL. It should be noted that neither this policy nor the use of this symbol provide authority to install or remove an item from an aircraft. The "***" symbol may be considered equivalent to the term "if installed".*

"Number required for dispatch" (Column 3) means the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.

Note: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the BCAA. The dash symbol may be retained where it would be impractical to determine the number of items installed such as: flight deck or cabin lights, cargo restraint devices or compartment lining panels, the Number of Fasten Seat Belt required to be visible to passengers when other signs or placards are inoperative etc., where the actual number installed is inconsequential to the MEL dispatch decision. However, the exceptions should be few.

"(O)" symbol means there is a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by a crew member; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL. Recording of the completion of required specific operations procedures will be accomplished by adding an appropriate statement to the "Instructions for Journey Log Book Use" found in the Operator's Journey Log Book to cover those items requiring Operations Procedures.

*Note: The "(M)" and "(O)" symbols **are required** in the operator's MEL unless otherwise authorized by the BCAA.*

"Operating Instruction" means there are operating instructions that must be accomplished prior to operation with the listed item inoperative, as per "(O)" procedure above.

"Passenger Convenience Items" means those items related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.

"Placarding" means that each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment condition.

Note: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

"Remarks" or "Exceptions" (Column 4) means a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.

"Supplemental Type Certificate" (STC) means a Type Certificate issued to cover modifications and equipment added to an aircraft after its initial certification. This would be anything that is used during flight, interacts with the aircraft's controls or systems, or affects the performance, aerodynamics or handling of the aircraft

"Vertical bar" (change bar) in the margin means there is a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

"Visual Flight Rules" (VFR) means Rules as defined in the AN (OT) O, Rules of the Air (Appendix D of OTAR Part 91). This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

"Visual Meteorological Conditions" (VMC) means the atmospheric environment is such that would allow a flight to proceed under the Visual Flight Rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.

"Visual flight rules" means the Visual Flight Rules prescribed by OTAR Part 91.

"Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow.

CHAPTER 1 - INTRODUCTION

1.1 THE MASTER MINIMUM EQUIPMENT LIST (MMEL)

1.1.1 A MMEL is an approved document created specifically to regulate the dispatch of an aircraft type with inoperative equipment. It establishes the aircraft equipment allowed to be inoperative under certain conditions for a specific type of aircraft while still providing an acceptable level of safety.

1.1.2 The MMEL contains the conditions, limitations and procedures required for operating the aircraft with these items inoperative. It forms the basis for development and review of an individual operator's MEL.

1.1.3 The tailored MEL shall be produced by the operator based on the MMEL approved by the State which issued the Type Certificate used to obtain the BCAA Certificate of Airworthiness.

Note: Some EU authorities and the UK CAA require operators with their principal place of business/normal base in Europe/UK to have a MEL that is no less restrictive than the EASA MMEL; in such cases, BCAA will accept MELs that differ from the Type Certificated source MMEL, provided that the contents of each item are no less restrictive than the most restrictive of the two MMELs. The MEL Preamble should include an appropriate statement to that effect.

1.2 DISPATCH WITH INOPERATIVE EQUIPMENT

1.2.1 The MEL is an alleviating document. Its purpose is not, however, to encourage the operation of aircraft with inoperative equipment. It is never desirable that aircraft be dispatched with inoperative equipment and such operations are permitted only as a result of careful analysis of each item to ensure that the required level of safety is maintained.

1.2.2 A fundamental consideration in permitting the dispatch of aircraft with inoperative equipment is that the continued operation of an aircraft in this condition should be minimized. The limitations governing repair intervals are discussed later in this document.

1.3 LEGAL BASIS

1.3.1 The AN(OT)O Article 37 provides that the operation of an aircraft with equipment and/or instruments inoperative may be conducted through the use of a MEL.

1.3.2 The OTARs states in part *"the operator shall, where a master minimum equipment list (MMEL) exists for the aircraft: establish, for each aircraft, a minimum equipment list (MEL) approved by the Governor. This shall be based upon, but no less restrictive than, the relevant master minimum equipment list (MMEL); and …"* (see 121./135./125.615 for more details)

1.3.2 A MEL shall not be approved unless it complies with the minimum standards set out in that MMEL.

1.4 INSTALLED EQUIPMENT

1.4.1 Most large transport aircraft are designed and certified with a significant amount of redundancy in their systems, such that the minimum standards of airworthiness are satisfied by a substantial margin.

1.4.2 Many of these aircraft also have installed instruments and equipment that are not required for safe operation under all operating conditions, e.g., instrument lighting in day VMC. Other equipment, such as entertainment systems or galley equipment may be installed for passenger convenience.

1.5 EQUIPMENT INCLUDED IN THE MMEL

1.5.1 The MMEL lists those items of equipment - including optional equipment - which may be inoperative for the dispatch of a flight, e.g., entertainment items which, when inoperative, do not affect airworthiness.

1.5.2 It is important to note that any item related to the airworthiness of the aircraft, and not included in the MMEL, must be operative prior to flight. Items required by the AN(OT)O (and which are not listed in the MMEL,) are required to be operative for dispatch.

Note 1: MMELs may use "dashes" (----) to indicate variable quantities that may be found on an aircraft. An Operator's MEL must define these quantities with few exceptions, i.e.: flight deck and cabin lights, cargo/baggage compartment lining panels, cabin storage compartments, or other items which may be impractical to determine the number installed, or those items for which the number installed has no bearing on the dispatch decision.

Note 2: MMELs may use terminology such as "if installed". An Operator's MEL may not. The configuration of the aircraft must be defined.

CHAPTER 2 - MASTER MINIMUM EQUIPMENT LIST

2.1 ACCEPTANCE AUTHORITY

2.1.1 The BCAA Director of Operations has the responsibility for the overall acceptance of MMELs for aircraft registered in Bermuda (excluding Article 83*bis*). The source MMEL shall be the MMEL that has been approved by the Authority issuing the TCDS used to obtain the Bermuda Certificate of Airworthiness for the aircraft, unless otherwise approved by the DO. The BCAA do not produce any MMEL's for use on Bermuda registered aircraft. Normally, only EASA, FAA, Transport Canada and ANAC MMEL's will be accepted for the production of an operators MEL.

2.1.2 This chapter provides an insight into the criteria that govern the determination of an acceptable MMEL item and the methods of justification to be used in the development of a MMEL. The guidance needed to develop an MEL acceptable to the BCAA is contained in Chapter 3 and the Appendices section of this manual.

Note: Where there is a published STC that offers relief to the MMEL the Operator may use the relief for the development of the MEL if applicable.

2.2 DEVELOPMENT OF A MMEL

2.2.1 Aircraft manufacturers must produce a MMEL if they wish their aircraft to be operated with specified equipment inoperative. Where possible, the approval process for such a MMEL will take place concurrently with the Type Certification process, but the development of an approved MMEL is not a condition of aircraft Type Certification.

2.2.2 The development and approval of a MMEL is heavily dependent on the aircraft manufacturer as the primary source of information on any new aircraft and its systems. An Authority will not normally undertake either the origination or production of MMELs. The drafting of a MMEL is the manufacturer's responsibility.

2.2.3 The MMEL must be supported by appropriate engineering justification and special procedures where applicable. The engineering justification may include a quantitative and/or qualitative safety analysis, a rationale showing system redundancy, AFM limitations or any other technical justification supporting the prescribed level of safety.

2.3 SOURCE MMEL POLICY

2.3.1 The BCAA will normally accept MMELs approved by the Authority of the country of manufacture, as published (see 2.1). Operators are to incorporate source MMEL amendments/revisions when they are available. The amendment/revision to an operator's MEL is to be submitted to the BCAA for approval prior to usage. (see 3.9 for more details).

Note: Some EU authorities and UK CAA require operators with their principal place of business/normal base in Europe/UK to have a MEL that is no less restrictive than the EASA MMEL; in such cases, BCAA will accept MELs that differ from the Type Certificated source MMEL, provided that the contents of each item are no less restrictive than the most restrictive of the two MMELs. The MEL Preamble should include an appropriate statement to that effect.

2.4 MMEL FORMAT

2.4.1 Each MMEL should contain a cover/approval page, a Record of Revisions, a Reason for Changes page, a List of Effective Pages, a Table of Contents, an explanation of the symbols used in the MMEL and a definition of any terms having special meaning in the context of the MMEL. Each item of equipment

listed in the MMEL shall be described and identified in accordance with the Air Transport Association (ATA) specification 100 code System (See Appendix L). The number of each item of equipment installed and the number required to be operative for dispatch shall be stated in the appropriate columns.

2.4.2 Any conditions associated with inoperative equipment that is required to maintain a level of safety, shall be included in the "Remarks or Exceptions" column.

2.4.3 When practicable, the switch, lever, gauge or indicator of a particular item of equipment, should be identified. Source MMELs may indicate a requirement to placard inoperative equipment by use of an asterisk (*) in Column 4 to inform crew members of its condition.

2.4.4 For operator MELs, a definition shall be added, which shall state that each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment condition.

2.5 MMEL PAGE FORMAT

2.5.1 MMELs will be published in the "Four Column Format" where Columns 1 to 4 will contain respectively the name of the item and category, number installed, number required for dispatch and remarks or exceptions.

2.5.2 Other formats may be accepted for MMELs provided they are clear and unambiguous. Each MMEL/MEL will be preceded by an acceptable Preamble. An example of a Preamble is given in Appendix B.

2.6 MMEL OPERATING AND MAINTENANCE PROCEDURES

2.6.1 Any inoperative item of equipment in the MMEL which would require an operational or maintenance procedure to ensure the required level of safety shall be so identified by an appropriate symbol in the "Remarks or Exceptions" column of the MMEL. This will normally be (O) for an operational procedure and (M) for a maintenance procedure. (OM) means both operational and maintenance procedures are required.

2.6.2 Details of such procedures must be made available for review during the MMEL acceptance process as they form part of the justification supporting inclusion of an item in the MMEL. Where applicable, the limitations, procedures and remarks for individual MMEL items should cover at least day, night, VMC, IMC, ETOPS/EDTO, LVO, EVS, RNP, RVSM, icing, rain, and Category II/III.

2.7 MMEL PROHIBITED ITEMS

2.7.1 The MMEL shall not include any item of equipment which, if inoperative, is likely to significantly affect the take-off, landing or climb performance of the aircraft or associated landing speeds presented in the approved AFM unless the AFM specifies the effect and the MMEL draws attention to this fact.

2.7.2 No item shall be included in the MMEL which conflicts with the limitations or invalidates the emergency procedures of the AFM or of an AD unless the AFM or directive provide otherwise.

2.7.3 The MMEL shall not include any part or structural component of the aircraft which is the subject of the CDL.

2.8 MMEL REPAIR INTERVAL CATEGORIES

2.8.1 The maximum time an aircraft may be operated between the discovery of an inoperative item and its repair will be specified in the MMEL. Passenger convenience items such as reading lights may have no specified repair interval (no category).

2.8.2 The category of all other inoperative items will be determined according to the time intervals specified in the following Categories:

i) **Category A.** Items in this category shall be repaired within the time interval specified in the "Remarks or Exceptions" column of the operator's approved MEL. Whenever the proviso, in the "Remarks or Exceptions" column of the MMEL states cycles or flight time, the time interval begins with the next flight. Whenever the time interval is listed as flight days, the time interval begins on the flight day following the day of discovery. Some MMELs for aircraft that are equipped with FADEC engines have relief that is subject to time limited dispatch expressed as a specific number of engine hours, and will start in accordance with the times established by the engine manufacturer or as indicated in the Remarks column of the MMEL. Time limited relief cannot be extended.

ii) **Category B.** Items in this category shall be repaired within 3 consecutive calendar days excluding the day of discovery.

iii) **Category C.** Items in this category shall be repaired within 10 consecutive calendar days, excluding the day of discovery.

iv) **Category D.** Items in this category shall be repaired within 120 consecutive calendar days, excluding the day of discovery. To be considered for placement in Category D, the item must be of an optional nature, or excess equipment which an operator may, at his discretion, deactivate, remove from or install on an aircraft. To be approved for Category D, the item must meet the following criteria:

1) the absence of the item must not affect crew workload;
2) the pilots must not rely on the function of that item on a routine or continuous basis; and,
3) the pilots' training and subsequent habit patterns and procedures must not rely on the use of that item.

2.8.3 Category Format

2.8.3.1 The category of each item in the MMEL is to be inserted in column 1 adjacent to column 2.

CHAPTER 3 - MEL POLICY AND PROCEDURES

3.1 MEL PURPOSE

3.1.1 The MEL is an approved joint operations and maintenance document prepared for or by an operator to:

a) identify the minimum equipment and conditions for an aircraft to maintain the Certificate of Airworthiness in force and to meet the operating rules for the type of operation;
b) define operational procedures necessary to maintain the required level of safety and to deal with inoperative equipment; and
c) define maintenance procedures necessary to maintain the required level of safety and procedures necessary to secure any inoperative equipment.

3.2 MEL DEFINITION

3.2.1 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 route structure, geographic location, and number of airports where spares and maintenance capability are available etc. The MMEL cannot address either these individual variables, or standard terms such as "as required by Regulation". It falls on the operator to develop Operations (O) and Maintenance (M) procedures, or to use a DDPG or DDG, where these documents are available.

Note 1: Private aircraft operators may receive a 90-day permission to utilize an MMEL while their MEL is being processed/reviewed and subsequently approved.

Note 2: Operators currently using an approved company MEL or who are in the process of amending or developing a new MEL must ensure that all regulatory references are in accordance with the AN(OT)O and OTARs.

3.2.2 Equipment Required by Operating Regulation

3.2.2.1 When an item of equipment is required to be installed and operative under particular circumstances by the AN(OT)O, such equipment may be defined in the remarks column of the MEL by a synopsis of the Regulation.

3.3 MEL INTENT

3.3.1 Except as authorized by the Governor under the AN(OT)O, operation of an aircraft with aircraft equipment inoperative or removed is prohibited unless an operator does so in compliance with an approved MEL.

3.4 MEL LIMITATION

3.4.1 The content of an operator's approved MEL cannot be less restrictive than the content of the source MMEL for that aircraft type.

3.5 AUDIT OF AN OPERATOR'S MEL

3.5.1 The BCAA will audit the operator's conformance to MEL requirements on an ongoing basis as part of any company audit and during the Certificate of Airworthiness survey.

3.6 APPLICABILITY

3.6.1 Legal Basis

3.6.1.1 AN(OT)O Article 37 states in part *that "an aircraft registered in the Territory must not commence a flight if any of the equipment (including radio apparatus) 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 unless the aircraft does so under the terms of an approval granted under paragraph (1) to the operator and in accordance with a Minimum Equipment List approved by the Governor, and in the case of an aircraft to which articles 96 or 134 apply, the applicable operations manual contains the particulars of that approval.*

3.6.1.2 The term "MEL" is defined in OTAR Part 1 and OTAR Parts 121.610-615, 125.610-615 and 135.610-615. Each describes how the MEL is used by an operator or holder of an AOC.

3.7 BCAA MEL ADMINISTRATIVE PROCEDURES

3.7.1 Approval Authority

3.7.1.1 In accordance with the Delegation of Authority, the authority and responsibility for MEL approval rests with the Director of Operations.

3.7.2 MMEL Status

3.7.2.1 The operator must ensure that they use the latest version of the source MMEL to develop their MEL. The BCAA reserves the right to add an overriding limitation.

3.7.3 MMEL Acquisition

3.7.3.1 Approved MMELs may be acquired from the foreign Civil Aviation Authority. Alternatively, operators may obtain MMELs directly from the manufacturer, who normally provides MMELs along with a revision service. It is the responsibility of the operator to provide a complete set of source MMEL documents to the BCAA when requested by the BCAA.

3.7.4 Operator MEL Development

3.7.4.1 The operator will develop his MEL and all subsequent amendments, as a joint operations and maintenance document, based on the current MMEL revision. The operator's MEL shall be approved by at least one senior company official from each respective department (Operations and Maintenance) prior to the MEL application being submitted to the BCAA.

3.7.4.2 Any additional MEL items which do not appear in the MMEL will require substantiation for consideration and must be accompanied by a description of the appropriate (O) or (M) procedures when submitted to the BCAA for review and approval. The operator may also be asked to provide adequate substantiating documents to support their MEL submissions to the BCAA. These documents will provide additional information relating to the operator's MEL program.

3.7.4.3 The operator must submit one copy of the MEL and any other relevant documents to the BCAA.

Note: The OTAR requires that the MEL be included in the Operations Manual. For convenience, the MEL may be a stand-alone separate manual (or an electronic document) so long as an appropriate entry is displayed in the Operations Manual.

3.8 MEL APPLICATION PROCESS

3.8.1 All initial MEL applications must be submitted to BCAA utilizing the Application for Approval of an MEL found in Appendix A or on the BCAA website here: https://www.bcaa.bm/sites/default/files/Web%20Docs/Flight%20Ops/FORM_OPS_9006%20MEL%20Approval%20Application.pdf.

3.8.2 It will be necessary for operators to produce either themselves or to contract another organization to produce a MEL from the MMEL. The operator must consult the following documents to ensure their MEL is compliant:

a) the current requirements of the AN(OT)O;
b) the current version of OTARs Part 125, 135 or 121 as applicable); and
c) the BCAA MMEL/MEL Policy and Procedures Manual.

Note: Contact the BCAA at flightops@bcaa.bm if you require assistance obtaining these documents.

3.8.3 OTAR Part 121 and 135 Operators

3.8.3.1 All AOC holders are required to submit their MEL along with the completed MEL Application for review and approval prior to the start of actual flight operations. The MEL must be an electronic copy, preferably PDF format. The MEL shall show the operator name, aircraft make and model, registration(s), the MMEL revision number and date used to produce the MEL. It must also contain a statement that indicates the MEL is in compliant with OTAR Part 121 or 135, as applicable. It is recommended that the MEL be given a "Title" (such as "XYZ Air B737 MEL") as this will be used to identify the MEL on the BCAA Approval Certificate.

3.8.4 OTAR Part 125 Operators

3.8.4.1 The completed MEL Application must be submitted along with an electronic copy of the MEL. The MEL shall show the operator name, aircraft make and model, registration(s), the MMEL revision number and date used to produce the MEL. It must also contain a statement that indicates the MEL is in compliant with OTAR Part 125. The requirements of OTAR Part 125 are very different from FAA Part 91 and operators must pay particular attention to ensure the OTAR requirements are complied with when using a FAA MMEL as the basis for their MEL. It is recommended that the MEL be given a "Title" (such as "XYZ Air B737 MEL") as this will be used to identify the MEL on the BCAA Approval Certificate.

3.8.5 Paperless Cockpits

3.8.5.1 Paperless cockpit operators may present tailored electronic MELs for Approval but the BCAA reserves the right to be given a text version. The same "rules" apply for optional equipment, references to regulations and ATA alphanumerics.

3.9 MEL APPROVAL PROCESS

3.9.1 Flight Operations and Airworthiness

3.9.1.1 The BCAA Operations section are responsible for managing the MEL approval process. The assigned FOI will be responsible for distributing the MEL submission to the AWI and for vetting the operator's MEL with respect to the operations functions and procedures. The FOI shall use the Flight Operations Procedures Manual MEL section and Checklist 9006D for guidance.

3.9.1.2 The assigned AWI will be responsible for vetting the operator's MEL with respect to the maintenance functions and procedures and ensuring that all of the maintenance procedures produced and published by the operator, are relevant to the required task.

3.9.2 Director of Operations Approval

3.9.2.1 Both the FOI and the AWI must be in agreement as to the quality of the MEL prior to recommending it to the Director of Operations for review and approval. Before recommending for approval both inspectors shall complete their portions of Checklist Form 9006D for internal record keeping.

3.9.3 Initial MEL Approval Time

3.9.3.1 Provided that the operator submits an initial MEL that complies with the MMEL and the BCAA MEL Policy and Procedures Manual, the BCAA will endeavour to approve the document or provide feedback within 10 working days.

3.9.4 Interim Approvals to use MMEL

3.9.4.1 The BCAA will grant private operators 90-day interim approval to utilize MMEL while the MEL is undergoing production and the review process.

3.9.5 MEL Distribution

3.9.5.1 An approved new MEL or an approved revision to an existing MEL is deemed to be in force upon receipt from the BCAA. (see 3.9.7). However, the operator may have 10 calendar days or as specified in the operator's approved system (if necessary) to distribute and implement the new document. In all cases, a copy of the MEL is required for:

a) each aircraft;
b) the Senior Company Official - Maintenance;
c) the Senior Company Official -Operations;
d) Dispatch (if applicable);
e) the Maintenance Coordinator (if applicable);
f) any other Company personnel as required; and
g) the BCAA. (PDF recommended)

Note: Distribution may be in electronic format or standard hard copy, in accordance with the operators approved procedures.

3.9.6 MEL Updates

3.9.6.1 It is the operator's responsibility to ensure that the MEL is reviewed and updated as required. The MEL should be reviewed by the operator at least annually to ensure that it incorporates any changes to the operation, aircraft or to the AN(OT)O. A revision to the MMEL will require that the operator review and amend the MEL, as necessary.

3.9.6.2 The MEL development, processing and approval procedures should be reviewed as part of the operator's quality assurance program.

3.9.7 MEL Revisions

3.9.7.1 Revisions to MELs must be submitted along with the applicable sections of MMEL, affected List of Effective Pages and a list that details the changes to the MEL. The submission of the effected MEL pages should be in that format that will be inserted into the MEL. Approval is required for all revisions.

3.9.7.2 When a MMEL or MMEL Supplement revision is issued an operator will have 90 days, from the date of the revision, to revise the MEL. Reduced timescales for implementation of safety related revisions of an MMEL or MMEL Supplement may be required by the BCAA. It is the operator’s responsibility to obtain MMEL Revisions (standard or temporary) or MMEL Supplements and revise their MEL accordingly and submit to BCAA for approval prior to the 90-day deadline. The operator's MEL need not be revised if the change to the MMEL is less restrictive than the existing MEL.

3.9.7.3 There are permissible exceptions to some of the above procedures. If the AN(OT)O and OTARs do not provide sufficient information:
i) CARs and MMEL Guidance Book must be used for a TC based MMEL
ii) EASA Air Operations and EASA CS-MMEL for an EASA based MMEL.
iii) 14 CFRs and MEL Policy Letters for an FAA based MMEL.
iv) As a last resort, if a dispatch condition cannot be found from TC or FAA sources for MMELs issued by these authorities, EASA CS-MMEL may be used.

3.9.8 Revised MEL Approval Time

3.9.8.1 Provided that the operator submits a revised MEL that complies with the MMEL and the BCAA MEL Policy and Procedures Manual, the BCAA will endeavour to approve or provide feedback within 5 working days.

3.10 CONFORMITY TO THE MMEL

3.10.1 Modification of MMELs

3.10.1.1 Operators may disagree with the content of the MMEL and request changes to their MEL. These suggestions for changes, accompanied by appropriate substantiation, should be forwarded by the operator to the foreign CAA (approving Authority of the source MMEL) or the manufacturer who is responsible for securing any such changes.

3.10.2 MEL Content

3.10.2.1 The operator's MEL must reflect the current source MMEL imitations unless otherwise authorized. When a revision is issued to a MMEL, the operator's MEL need not be revised if the change is less restrictive than what is contained in the existing MEL.

3.10.2.2 Except as noted above, all items installed in an operator's aircraft which are addressed in the most recent accepted version of the source MMEL shall be included in the MEL. At the same time, an operator or pilot retains the option to refuse any alleviation and may choose not to dispatch with any particular MEL item inoperative.

3.10.3 Administrative Control Items

3.10.3.1 Some operators use their MEL as a comprehensive document to control items for tracking and informational purposes. In such cases, operators' MELs may include items not contained in the MMEL; however, no relief may be granted for these administrative control items unless conditions and limitations are contained in an approved document other than the MMEL (e.g., aircraft flight manual).

3.10.3.2 Administrative control items and passenger convenience items may not include items or subsystems of items which are addressed in the MMEL. Operators seeking to add administrative control items to their MEL must submit their request to the BCAA with appropriate substantiation. (See Definitions)

3.10.4 Passenger Convenience Items or Nonessential Equipment and Furnishings (NEF)

3.10.4.1 The BCAA does not require an MEL to contain a Nonessential Equipment and Furnishings (NEF) list. Instead, the MMEL's Passenger Convenience items entry can be used.

3.10.4.2 Passenger convenience items are those items related to the convenience, comfort, or entertainment of an operator's passengers. They may include items such as galley, movie, or stereo equipment or overhead reading lamps.

3.10.4.3 Passenger convenience items do not carry a specific repair interval, and need not be listed in an operator's MEL, if they are not addressed in the MMEL. The exceptions to this rule are:

a) where passenger convenience items serve a second function, such as movie equipment being used for cabin safety briefings, operators must develop and include operational contingency procedures in case of an equipment malfunction; and
b) where passenger convenience items are part of another aircraft system, for example- the electrical system, procedures must be developed and included in the MEL for deactivating and securing in case of malfunction.

3.10.5 MEL Audits

3.10.5.1 Whenever an audit or survey is conducted on the aircraft the operator's MEL shall be reviewed. The review shall ensure that the MEL conforms to the AN(OT)O, OTARs and current policies and procedures.

3.10.5.2 Special attention should be given to AOC operations and operating rules that may have been amended since the MEL was last approved. It shall be confirmed that the latest revisions to the MMEL and DDG, if more restrictive, have been incorporated into the MEL.

3.11 MEL DEVELOPMENT PROCEDURES

3.11.1 MEL Basic Format

3.11.1.1 The MEL must include the following: a List of Effective Pages, a Table of Contents, the MEL Preamble, Notes and Definitions, a section for each aircraft system addressed, the MEL Approval and amendment record page.

3.11.1.2 Operators must specify the MMEL revisions and any other documents such as a DDPG, which were used in the development of their MEL.

3.11.2 MEL Page Format

3.11.2.1 The MEL format is at the discretion of the operator, provided that it is clear and unambiguous. However, it is recommended that the MEL page format follow the MMEL page format of four columns. The page numbering and individual MEL items however, must be in accordance with the ATA 100 code system. (See Appendix L).

3.11.2.2 The MEL may incorporate only one item per page or as considered appropriate by the operator when operations and/or maintenance procedures are required. If no procedures are required or the required action is simple, multiple items may appear on a single page.

3.11.3 List of Effective Pages

3.11.3.1 A LEP will 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 BCAA issues stand alone MEL approval documents and does not stamp the LEP to indicate the approval status of the contents of the MEL. However, the date and revision status of each page of the MEL must correspond to that shown on the LEP.

3.11.3.2 At the operators request the BCAA may stamp the LEP. If this is the case it must be retained with the original approved MEL.

Note: The BCAA MEL Approval Certificate (or a copy) must remain on the aircraft with the MEL.

3.11.4 Table of Contents

3.11.4.1 The Table of Contents page shall list the section for each aircraft system utilizing the ATA 100 listing as found in the MMEL. Pages will be numbered with the ATA system number followed by the item number for that system (e.g., the page following 27-2 would be 27-3).

3.11.5 MEL Preamble

3.11.5.1 The purpose of the MEL Preamble is to provide direction to company personnel on the philosophy and use of the MEL. The BCAA publishes a MEL Preamble which is acceptable for use by an operator (See Appendix B).

3.11.5.2 An operator may choose to develop their own Preamble, but it must contain at least the information contained in the BCAA version.

Note: The Preamble should include procedures to deal with equipment failures that occur after push-back/taxi. See paragraph 3.16 for further guidance.

3.11.6 Notes and Definitions

3.11.6.1 Notes and Definitions are required to allow the user to interpret the MEL properly. As a minimum, the notes and definitions contained in the Preface will be used in the MEL. Additions and deletions to the notes and definitions may be applied to the operator's MEL as required.

3.11.7 Operating and Maintenance Procedures

3.11.7.1 Dispatch with inoperative items is often acceptable only with the creation of special operating or maintenance procedures.

3.11.7.2 Where the MMEL indicates that this is the case, the operator must establish, obtain approval for and publish appropriate procedures. Procedures recommended by the aircraft manufacturer in most cases

can be adopted for this purpose, but the ultimate responsibility for providing acceptable procedures to be approved in the MEL rests with the operator. These procedures will ensure that a satisfactory level of safety will be maintained (See Section 3.15.1).

3.11.7.3 The operator, when comparing the MEL against the MMEL must ensure that where the (O) or (M) symbols appear, an operating 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 must be included in the MEL.

3.11.7.4 The only exception is when the procedure is contained in another document that is available:

i) to the flight crew on the flight deck, such as an AFM, AOM, or the COM;
ii) to the flight attendants, such as a COM or FAM; or
iii) to the maintenance crew, such as an AFM (e.g. - the Airbus Aircraft Deactivation Procedures Manual), MCM, etc.
iv) In these cases, the MEL may refer to a section of the appropriate document.

3.11.7.5 It is not acceptable to reference the AN(OT)O or similar documents, as these are not 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 4 states "as required by Regulation", this wording shall not appear in the MEL; rather, a synopsis of the Regulation shall appear. Alternatively, MMEL wording may be retained but translate the inaccurate "Regulation/FAR" to the applicable AN(OT)O or OTAR and add an Operations Note below this entry, in the Remarks or Exceptions column. A synopsis of the regulation may then be included in the Operations Note that properly describes the rule or required procedures.

3.11.7.6 Ops Spec/Airspace Approvals (Low Visibility Operations, RNP, RVSM, etc) usually require that the MEL contain the relevant dispatch conditions. The appropriate entry must be written in the Number Installed, Number Required and the Remarks or Exceptions column, or a reference made to the appropriate manual where the dispatch requirements may be found.

3.11.7.7 Although cabin crew may not normally be carried, operators must be mindful of OTAR 125.940 (Cabin crew duty assignment) by incorporating the requirements of OTARs 125.735 or .740 (Oxygen equipment) in the MEL to cover the occasions when cabin crew are assigned. This may be in the form of an operations note in the Remarks or Exceptions column, e.g., Portable Oxygen is required for operations with cabin crew on board (OTAR 125.740).

3.11.8 Approval of Operating and Maintenance Procedures

3.11.8.1 Manufacturers may choose to produce operating and maintenance procedures such as DDGs or MOPPs, for use by operators. These procedures may be inserted into the appropriate MEL pages, and submitted by the operator, to form part of the MEL. DDGs/MOPPs, CDLs, and other similar documents cannot be approved by the BCAA, nor can they replace the MEL but are supplements to the MEL approval process.

3.11.8.2 The manufacturer's (O)s and (M)s are not necessarily exhaustive. The operator must add its own procedures if the manufacturer's are vague, incomplete or not customized. If the aircraft manufacturer has not published (O) or (M) procedures, the operator must develop appropriate procedures and submit them to the BCAA for approval.

3.11.8.3 **It is the operator's responsibility to obtain DDG/MOPP Revisions and revise their MEL as appropriate and submit to BCAA for approval.**

3.11.9 COM Procedures

3.11.9.1 The operator must establish procedures in the COM for the use and guidance of crew members when using the MEL. The procedures must agree with those in the MCM. The operator may choose to include all procedures/instructions in the MEL itself; in which case the COM will only be required to reference this document.

3.12 MEL REPAIR INTERVAL CATEGORIES

3.12.1 The maximum time an aircraft may be operated between the deferral of an inoperative item and its repair will be specified in the MEL and where the MMEL has been categorized. Passenger convenience items such as reading lights and entertainment units must include a category. Most of these items will be a "D" category provided any (M) procedure (in the case of electrically supplied items) is applied.

a) **Category A.** Items in this category shall be repaired within the time interval specified in the "Remarks and Exceptions" column of the operator's approved MEL. Whenever the proviso in the "Remarks" or "Exceptions" column of the MMEL states "cycles" or "flight time", the time interval begins with the next flight. Whenever the time interval is listed as flight days, the time interval begins on the flight day following the day of discovery.
b) **Category B.** Items in this category shall be repaired within 3 consecutive calendar days, excluding the day of discovery.
c) **Category C.** Items in this category shall be repaired within 10 consecutive calendar days, excluding the day of discovery.
d) **Category D.** Items in this category shall be repaired within 120 consecutive calendar days, excluding the day of discovery.

Note: Because of difficulties experienced by MEL authors in determining Rectification Intervals for various MEL items (ex. Flight Data Recorders, navigation databases/systems/equipment, etc.) the period and conditions of EASA Certification Specifications and Guidance Material for Master Minimum Equipment List (CS-MMEL) may be used irrespective of the origin of the MMEL provided it is determined to be an acceptable and equivalent level of safety. EASA based aircraft are expected to include the period and conditions of the EASA CS-MMEL

3.13 MEL ITEM REPAIR INTERVAL EXTENSION

3.13.1 Purpose

3.13.1.1 Under certain conditions, such as a shortage of parts from manufacturers, or other unforeseen, situations, air operators may be unable to comply with specified repair intervals which would result in the grounding of aircraft. A separate Approval is not required for a Rectification Interval Extension (RIE) scheme. Only periods B, C, and D are permitted to be extended.

3.13.2 Conditions for Extension

3.13.2.1 The RIE permits an operator to continue to dispatch an aircraft with equipment unserviceable or missing after the standard rectification interval has expired if in the opinion of the Chief Pilot and the Maintenance Manager it is not possible for the repair to be made within that rectification interval. It is not intended that RIEs should be used simply to double the standard rectification interval.

3.13.2.2 The operator may use a procedure for the extension of the applicable Rectification Intervals B, C and D for the same duration as specified in the MEL, provided:

i) A description of specific duties and responsibilities for controlling extensions is established by the operator and described either in the introduction to the MEL or in acceptable AN(OT)O Article 134 Operations Manual.
ii) The operator only uses a onetime extension of the applicable Rectification Interval.
iii) Rectification is accomplished at the earliest opportunity within the period of the extension.
iv) A report is sent to the BCAA describing the reason for the RIE within 24 hours.

3.12.2.3 Commonly, there are three reasons why an RIE is required: an inability to obtain a spare part; the lack of a suitably qualified engineer and difficulties in bringing the spare and the engineer to the aeroplane. The report must clearly describe which element or elements contributed to the need for an RIE and what steps were taken to organise the rectification.

3.12.2.4 All reasonable effort must be made complete the rectification within the MEL interval. Abuse of the Rectification Interval Extension scheme will result in the BCAA withdrawing its use by the operator.

3.12.2.5 The RIE scheme suggested in section 8 of UK CAA publication 549 (CAP 549) may be simplified by OTAR Part 125 operators. The 'Authorising Manager' may be the Chief Pilot or the Maintenance Manager but the principle of consultation between them must be followed.

3.12.2.6 Finally, the Pilot-in-Command has the right not to accept the use of an RIE.

3.12.3 Program Procedures - Maintenance Control Manual (MCM)

3.12.3.1 To ensure that operators obtain extensions on MEL repair intervals only when necessary, the following elements must be adequately addressed in the MCM. Some of the elements listed below are already required as part of an operator's maintenance program. They are restated here to emphasize their importance with respect to the MEL Item Repair Interval Extension Program. This list is not all inclusive and AWIs should take any other appropriate factors into account as necessary:

a) **Authority.** The operator must assign authority for seeking approval of item repair interval extensions to the appropriate level of the maintenance department. Procedures must be established and implemented to ensure that extensions are not sought without approval from the assigned operations and maintenance management level. The operator's authorized operations and maintenance personnel will indicate his approval in writing for seeking the extension.
b) **Communications.** Operator's maintenance and operations divisions must establish clear lines of communication to show that a MEL item repair extension will not be sought unless both parties agree that the extension is clearly warranted.
c) **Parts/Equipment Control.** The operator must establish and implement procedures that will ensure where parts and/or equipment are needed to rectify a MEL defect, that these established procedures are acted upon as soon as possible.
d) **Maintenance Control.** The operator must establish and implement procedures to ensure that all maintenance actions required to rectify a defect are initiated as soon as possible.

3.13.4 AWI/FOI Communications

3.13.4.1 BCAA Airworthiness and Operations Inspectors assigned to each operator requesting this extension must establish clear lines of communication throughout the approval process and during the time an extension is valid.

3.13.4.1 Additional extensions may be considered by the BCAA in exceptional circumstances. In such circumstances, the operator has a requirement to request the MEL Item Repair Interval Extension to the Operations Inspector should further deferment be needed.

3.14 DEFERRAL OF ITEMS

3.14.1 Procedures for the Deferral of MEL items

3.14.1.1 These procedures will be included as part of the operator's MCM. The operator must ensure that the COM and the MEL reference the aforementioned procedures in the MCM, or duplicates the same. 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 item(s);
d) controlling categorized times;
e) training of company personnel who are responsible for MEL compliance procedures; and
f) a remote deferral system (if applicable to the operator).

3.14.2 Review of Deferred Items

3.14.2.1 The operator must establish procedures whereby the Maintenance and Operations Departments 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.

3.14.2.2 Notwithstanding the categorization of item repair intervals, it should be the aim of each MEL document holder to ensure that inoperative items are repaired as quickly as possible.

3.14.2.3 It is BCAA policy that optional inoperative equipment should be repaired or removed from an aircraft. AWIs and FOIs are expected to encourage this practice with the operators.

3.15 PLACARDING

3.15.1 All inoperative items must be placarded to inform crew members of equipment condition. While the MEL for some items may require specific wording, the majority of items leave the placard wording and location to be determined by the operator. The operator shall provide the capability and instructions to the flight crew to ensure that the placard is in place prior to the aircraft being dispatched.

Note: The exclusion of an asterisk in a MMEL does not preclude the requirement for placarding.

3.15.2 Placarding and Placard Control

3.15.2.1 Placarding will be carried out in accordance with the placarding procedures established and set out in the operator's approved MCM. The method of placarding control must ensure that all inoperative items are placarded and placards are removed and accounted for when the defect is cleared.

3.15.3 Procedures

3.15.3.1 The equipment/system shall be placarded so as to inform the crew members of the inoperative condition(s) of the item. To the extent practicable, placards must be located as indicated in the MEL, or adjacent to the control or indicator affected. When not practical, the placard may be placed in a centralized location on the flight deck. This location shall be in plain sight of the flight crew.

3.15.3.2 In all cases, the MEL placarding instructions shall indicate where the placard is to be placed.

3.15.4 Placard Criteria

3.15.4.1 Placards should be self-adhesive and may be in two parts:

a) Part One should list a description of the defect and the defect control number and should be attached to the log book for crew reference.
b) Part Two should list the system affected and the defect control number and be fixed in the appropriate location. A MEL control sheet attached to the log book could serve the same purpose as Part One in a).

3.15.5 Multiple Placards

3.15.5.1 If more than one placard is required for a MEL item, provision must be made to ensure that all placards are removed when the defect is cleared.

3.15.6 Temporary Placards

3.15.6.1 If a defect occurs at a base where maintenance personnel are not available, the flight or cabin crew may install a temporary placard as required by the MEL. The aircraft may continue on a planned itinerary to a base where maintenance will rectify or re-defer in accordance with the approved deferral system.

3.16 DISPATCH

3.16.1 "Dispatch" for the purpose of the MEL/MMEL refers to the moment the airplane starts its takeoff roll. In the case of a helicopter, it refers to the moment the helicopter commences air or ground taxi.

3.16.2 The MEL is approved on the basis that equipment will be operative for takeoff unless the appropriate MEL procedures have been carried out. The operator's MEL shall include procedures to deal with any failures which occur between the start of taxi or push back and takeoff brake release.

3.16.3 Any failure which occurs after takeoff commences shall be dealt with as an in-flight failure, by reference to the appropriate section of the AFM, if necessary. After takeoff commences, no MEL action is required, until the completion of the next landing.

3.16.4 Operational and Maintenance Items

3.16.4.1 Any item of equipment in the MEL, which when inoperative would require an operating or maintenance procedure to ensure the required level of safety, shall be so identified in the "remarks" or "exceptions" column of the MEL. Normally "(O)" means an operating procedure, "(M)" means a maintenance procedure and "(O)(M)" means that both operating and maintenance procedures are required:

a) **(O) Items**
   i) Aircraft with inoperative equipment requiring an operating procedure may be returned to service following completion of the required MEL procedure for deferral.
   ii) Operating procedures are normally carried out by qualified flight or cabin crew, but may be accomplished by other qualified, approved personnel.

b) **(M) Items**
   i) Aircraft with inoperative equipment requiring a maintenance procedure may be returned to service following completion of the required MEL procedure for deferral.
   ii) Maintenance procedures are normally accomplished by maintenance personnel, but some elementary maintenance tasks may be carried out by crew members or other qualified, approved personnel (See Section 3.16.1).
   iii) Air crew may not perform maintenance procedures if the defect involves an item designated in the MEL with a "(M#) - Maintenance Personnel Required." In this circumstance, the aircraft may not proceed until authorized maintenance personnel carry out the specified procedure (Not all MMELs use the annotation M#).

3.16.5 Elementary Work

3.16.5.1 Some elementary work called for in the MEL may be accomplished by crew members, or others, who have been trained and approved to do so according to the Regulations and Standards in the Maintenance Standards.

3.16.5.2 The MEL must clearly state where elementary work may be accomplished by crew members (or others). If the operator wishes crew members to accomplish some elementary work, it must be incorporated into the operator's training programme and made available to review by the BCAA.

3.17 MEL TRAINING

3.17.1 Training Program — Ground Personnel

3.17.1.1 Operators shall develop a MEL training program for ground personnel, to be included in the MCM and COM, as appropriate, which must be approved prior to an operator receiving approval to operate with a MEL.

3.17.1.2 The training should include those sections of the MCM / COM procedures dealing with the use of the MEL, placarding of inoperative equipment, deferral procedures, dispatching, and any other MEL related procedures. Ground personnel include dispatchers and maintenance engineers.

3.17.1.3 All required personnel shall receive MEL training prior to their use of the MEL.

3.17.2 Training Program — Crew Members

3.17.2.1 Operators shall provide crew members who are expected to use the MEL, with MEL training and shall detail such training in their COM.

3.17.2.2 The training will include the purpose and use of a MEL, instruction on company MEL procedures, elementary maintenance procedures, and PIC responsibility (See Appendix E). Crew members include pilots, flight engineers, and flight attendants.

3.17.3 Training Program — Recurrent

3.17.3.1 Annual Recurrent training shall be conducted to refresh procedural knowledge and ensure company personnel are aware of any changes in MEL procedures. This training can be incorporated and recorded as part of ground or simulator training.

3.18 BCAA MEL ADMINISTRATIVE PROCEDURES

3.18.1 MEL Review

3.18.1.1 Each MEL will normally be reviewed by at least one AWI and one FOI who will ensure all of the requirements for approval have been met. Any discrepancies will be brought to the attention of the operator for correction. This may be in the form of an email or email attachment of Form 9006R from the FOI. In either case, suggested changes may be provided.

3.18.1.2 Both Maintenance and Operations approved concurrence is required prior to the MEL being recommended to the Director of Operations for review and approval.

3.18.2 MEL Priority

3.18.2.1 MEL approvals and amendments are to be considered a top priority for BCAA personnel charged with their review. BCAA personnel will attempt to minimize approval/turnaround times for MEL submissions, depending on existing tasking and availability.

3.18.2.2 Should the inspector be on leave or if workload is prohibitive the MEL should be delegated to an inspector that can accomplish the review within the service response time.

3.18.3 Application Approval Status

3.18.3.1 If all requirements have been met following the MEL review process, the MEL Application will be recommended for approval.

3.18.3.2 If changes to the MEL are required before approval, the operator will be notified by email and by stating the required changes typically through comment form (Form 9006R). Major changes may require the application to be “Rejected” and a new application and MEL re-submitted by the operator.

APPENDICIES

APPENDIX A

BERMUDA CIVIL AVIATION AUTHORITY

Application for Approval of Minimum Equipment List (MEL)

Form No.:	9006	Last Updated:	8 Feb 2021

On completion, this form, the MEL, the MMEL with associated DDGs/MOPPs, a sample Technical Log page, and current Airspace Approvals / Ops Specs should accompany the required letter to the Director (for the attention of Flight Operations).

Name of Aircraft Operator:		
Aircraft Registration Marks:		
Aircraft Make and Model:		
Serial Number of Aircraft:		
Reference Number of MEL submitted:		
Reference Number of MMEL from which the MEL has been produced:		
Revision number of the MMEL which was used for the development of MEL:		
Flight Crew procedures for the use of the MEL are included in the Flight Operations Manual or a standalone document:	**YES** ☐	**NO** ☐
The MEL has been produced in accordance with Article 37 of the AN(OT)O.	**YES** ☐	**NO** ☐
A copy of the Technical Log used for the aircraft is attached review:	**YES** ☐	**NO** ☐
A copy of the customized MEL for review:	**YES** ☐	**NO** ☐
A copy of the MMEL and associated DDGs/MOPPs used for the development of MEL:	**YES** ☐	**NO** ☐
A list of current Airspace Approvals /Ops Specs:	**YES** ☐	**NO** ☐

COMPLIANCE STATEMENT

On behalf of the Operator listed above, I confirm that the above is true in every respect and, in accordance with the current version of BCAA's MEL Policies and Procedures Manual and constitutes the basis upon which an Approval for the above referenced MEL should be issued.

Name: **Date:**

Position: **Company:**

Tel: **Email:**

APPENDIX B MEL (AIRCRAFT TYPE) PREAMBLE (EXAMPLE ONLY)

All equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Rules must be operative. However, the AN(OT)O permits the publication of a MEL where compliance with certain equipment requirements is not necessary under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide the required level of safety.

A MEL is developed by the operator to improve aircraft utilization. The approved MEL includes those items of equipment related to airworthiness and operating regulations and other items of equipment the BCAA finds may be inoperative and yet maintain the required level of safety by applying appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. The MMEL is the basis for development of individual operator MELs which take into consideration the operator's particular aircraft equipment configuration and operational conditions. Operator MELs, for administrative control, may include items not contained in the MMEL; however, relief for administrative control items must be approved. An operator's MEL may differ in format from the MMEL but cannot be less restrictive than the MEL. The individual operator's MEL, when approved, permits operation of the aircraft with inoperative equipment.

Equipment not required by the operation being conducted and equipment in excess of the requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from the AFM Limitations, Emergency Procedures or ADs. It is important to remember that all equipment related to the airworthiness and operating regulations of the aircraft not listed on the MEL must be operative.

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as necessary are specified in the MEL to ensure that the required level of safety is maintained.

The MEL is intended to permit operation with inoperative items of equipment for a period of time until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity. In order to maintain the required level of safety and reliability the MEL establishes limitations on the duration of and conditions for operation with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record / Journey (Tech) Logbook. The item is then either repaired or deferred as per the MEL. Alternatively, the aircraft must be in compliance with the AN(OT)O which specifies the requirements for operating an aircraft subject to the conditions of a Flight Permit and the subordinate position of a MEL with regard to an AD for the same item.

MEL conditions and limitations do not relieve the operator from the responsibility to determine that the aircraft is in a safe condition for operation with items of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that the required level of safety is maintained. When operating with multiple inoperative items, the interrelationships between those items and the effect on aircraft operation and crew workload must be considered.

Operators are to establish a controlled and reliable repair program including the parts, personnel, facilities, procedures, and schedules to ensure timely repair of inoperative items.

NOTE: *When using the MEL, compliance with the stated intent of the preamble, definitions, and the conditions and limitations specified in the MEL is required.*

APPENDIX C MEL QUICK REFERENCE COMPLIANCE CHECKLIST

MEL Quick Reference Compliance Checklist			
	Chec	**Standa**	**Notes for compliance**
1	A MMEL is not a MEL.	(The MEL must reflect, and should state, that it is compliant with the OTARs for the applicable type of operation to be undertaking – such as OTAR Part 125 or OTAR Part 121)	A MMEL will address multiple types, e.g., 737, -100, -200, -300, - 400, -500, -600, -700, -800, -900 are all in one MMEL. The MEL is to be tailored to the operators' specific aircraft and operating environment. All options would be included with tailoring to the specific aircraft. The MEL shall not contain wording as follows: "As required by
2	Insure MMELs or supplements from incorrect Authorities are not used in the construction of	Bermuda operators will frame their MELs based on the MMELs duly approved by the Authority of the country issuing the TCDS. See exception in 1.1.3.	MMEL must be from the State which issued the TCDS as found on Bermuda C of A Certificate.
3	The MEL is up to date based on the latest revision of the MMEL and any Temporary Revisions	The operator must ensure that they use the latest version of the source MMEL to develop their MEL. Revision to the MMEL will require that the operator review and amend the MEL. An operator mau choose not to amend their MEL where the MMEL amendment is less restrictive.	The Document should state the latest MMEL status it has been reviewed/revised to. This is normally found in the beginning pages of the MEL. If a revision of the MMEL did not affect their MEL this should be stated. NOTE: The revision status of any MMEL or DPG Temporary Revisions must be accounted for in the MEL. Operators must specify the MMEL revisions and any other documents such as a DDPG, which were used in the development of their MEL.
4	All items that are installed and are in the MMEL are to be incorporated into the MEL. Items that are not installed should not be included.	All items installed in an operator's aircraft which are addressed in the most recent accepted version of the source MMEL shall be included in the MEL. The MMEL may list options with the wording, "If Installed" Wording such as "as required by FAR...." must be replaced with the requirements of the OTARs as applicable to the type of operations.	Options are to be included and tailored to the operator's aircraft. Equipment that is not installed should not be included. The exception is if the operator has more than one aircraft with different options. If the option is visible to flight crew, e.g. Auto Pilot, then the wording "If Installed" would be seen in column 1, under the item. Otherwise, for the specific aircraft, if the options is installed it must be stated. Look carefully for options in ATA 34 Navigation and ATA 25 Equipment Furnishings. Also ensure compliance with OTAR 125.325 & .670, and OTAR 125.775
5	Basic requirements are met.	**MEL Basic Format** The MEL must include the following: 1 - A List of Effective Pages, 2 - A Table of Contents, 3 - MEL Preamble, 4 - Notes and Definitions, 5 - MEL Approval and Amendment Record page.	Ensure that each of these requirements is met. These are minimum requirement and must be part of the MEL. (See expanded requirements below) To review the LEP, select a few pages at random and check the accuracy. If the pages listed match the actual pages in the MEL, then it is good. (The MEL should be given a "Title" such as *"XYZ Air B737 MEL"* as this will be referenced on the approval document.)

MEL Quick Reference Compliance Checklist			
	Check	**Standard**	**Notes for compliance**
6	Proper categorization. The categories must match the categories found in the MMEL, unless prior authorization has been obtained from the BCAA.	**MEL Repair Interval Categories** The maximum time an aircraft may be operated between the deferral of an inoperative item and its repair will be specified in the MEL, 1 - Category A. 2 - Category B 3 - Category C 4 - Category D	These item categories are obtained from the MMEL and cannot deviate from that standard except as mentioned in 3.13.2. **Note:** *3.13.2 outlines the policy for Repair Interval Extension which may be included in the operators MEL.*
7	It is important that people using the MEL have instructions on how to use this document. Specific instructions must be given.	**Procedures for the Deferral of MEL items** These procedures will be included as part of the operator's MCM. The operator must ensure that the COM and the MEL reference the aforementioned procedures in the MCM, or duplicates the same. These procedures comprise a method for: 1 - deferral and/or rectification of inoperative equipment; 2 - placarding requirements as per the MEL; 3 - dispatching of aircraft with deferred MEL item(s); 4 - a remote deferral system; (optional) 5 - controlling categorized times; and 6 - Training of company personnel	These procedures can be in the MEL or in the COM but must be contained in the MCM. The reason they must be in the MCM is that this is the only place that Airworthiness approves these procedures. Flight operations approve the MEL and the COM. The procedures must match those in the MCM. **COM Procedures -**The operator must establish procedures in the COM for the use and guidance of crew members when using the MEL. The procedures must agree with those in the MCM. The operator may choose to include all procedures/instructions in the MEL itself; in which case the COM will only be required to reference this document. **Note:** *Training is normally contained in the Operations Manual*
8	Each item must include placarding instructions.	**Placarding** 1- All inoperative items must be placarded to inform crew members of equipment condition. 2 -While the MEL for some items may require specific wording, the majority of items leave the placard wording and location to be determined by the operator. **The operator shall provide the capability and instructions to the flight crew to ensure that the placard is in place prior to the aircraft being dispatched.**	These instructions are normally found above the O and M in the Procedures section of the MEL They are not part of the top part of the MEL (Provisos, the MMEL section of the MEL). The placarding instruction should indicate where the placard is to be placed and what if any wording should be included on it. E.G., PLACARDING INSTRUCTION: Placard next to the APU start switch, "APU NOT TO BE USED IN FLIGHT."

MEL Quick Reference Compliance Checklist			
	Check	**Standard**	**Notes for compliance**
9	The MMEL lists items that have (O) or (M), or (O)(M) procedures in column 4. Where the MMEL indicates a procedure is required, the operator must provide a procedure. Some procedures require customization.	**3.15.1 Operational and Maintenance Items** a) Any item of equipment in the MEL, which when inoperative would require an operating or maintenance procedure to ensure the required level of safety, shall be so identified in the "remarks" or "exceptions" column of the MEL. Normally "(O)" means an operating procedure, "(M)" means a maintenance procedure and "(O)(M)" means that both operating and maintenance procedures are required.	**Approval of Operating and Maintenance Procedures** Manufacturers may choose to produce operating and maintenance procedures such as DDPGs, for use by operators. These procedures may be inserted into the appropriate MEL pages, and submitted by the operator, to form part of the MEL. DDPGs, CDLs, and other similar documents cannot be approved by the BCAA, nor can they replace the MEL. Operator specific procedure customization is sometimes required. Common phrases that require operator specific customization includes "If installed, if equipped, Alternate Procedures, Required Distribution, If Fitted, For airplanes with, For airplanes equipped with, if X is not installed, Optional, Service Bulletin, National Aviation Authority, etc." If the aircraft manufacturer has not published (O) or (M) procedures, the operator must develop appropriate procedures and submit them to the BCAA for approval.
10	ECAS (Electronic Crew Alerting System)	The manufacture provides the rules and lists for these messages. (DPG)	It is very important that these directions and wording in these lists is very accurate. In some cases, ECAS is also used as an alternate method of dispatching the aircraft, (not just a list to reference the MEL item), and as such does not use the "MEL", in the usual manner. The pilot would only look at this list, determine the proper action, then go. The use of these lists must be appropriately trained; otherwise the potential for confusion is great.
11	Dispatch conditions	Relevant dispatch conditions for approved operations	Fly away kit (FAK) definitions, Ops Specs/LOAs (Low Visibility Operations, RNP, RVSM, LVO, EVS, etc.) usually require that the MEL contain the relevant dispatch conditions. The appropriate entry must be written in the Number Installed, Number Required and the Remarks or Exceptions column, or a reference made to the appropriate manual where the dispatch requirements may be found. Note: only CAT/AOC operations have Ops Specs. and NCC operations are issued Approvals or LOAs

NOTE: This checklist is only intended to highlight areas where common errors often occur when producing an operators MEL. Other requirements to be aware of are:

- OTAR 121/125.670 – use of a boom mic;
- OTAR 121/125.755 – FDR;
- OTAR 121/125.775 – WX Radar.
- OTAR 121/125.735, .740 & 121.745 – Cabin Crew Duty assignment and O^2 equipment

Operators must ensure that all OTAR requirements are accounted for to avoid delays with the approval process

APPENDIX D INITIAL AND RECURRENT MEL TRAINING SYLLABUS (EXAMPLE ONLY)

Note: If elementary work is to be carried out by crew members, this practice needs to be addressed in the MEL training syllabus in the COM and the MCM, including the particular items approved.

1.1 MEL Origin and Philosophy

a) MMEL background and development.

b) MEL background and development.

1.2 General MEL Content

a) Copy of MEL Approval.

b) List of effective pages.

c) Table of contents.

d) Preamble.

e) Definitions.

f) ATA chapters, page format, page numbering, system and item titles, categorization, columns, remarks and exceptions, placarding, "O" and "M" procedures.

1.3 Specific Use of the MEL

a) A review of items from a variety of systems, including those with no procedures, "(O)", "(M)", "(M#)", and "(O)(M)", as applicable.

b) Practical demonstration of MEL use versus hypothetical situations at and away from a maintenance base.

c) Supervised "hands on" use of a MEL, until familiar with the location, contents and procedures, including those at or away from a maintenance base.

1.4 Examination

a) A written or practical test to ensure that the training has been adequate.

1.5 Company Forms

Adequate company records must be developed to document MEL training (initial and recurrent) to be added to the employee's training records. If the aircrew are to exercise elementary maintenance privileges, training forms must include an area describing what is being certified, and a place for sign off by an AME.