Civil Aviation Authority

CAR-MEL

Civil Aviation Regulation
Minimum Equipment List

Effective: 3rd April 2022 Approved by:

HE Eng. Naif Ali Hamed Al Abri
President of the CAA

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Records of Amendments

No.	Rev	Description
01	00	This CAR is a new issue
02	01	This CAR is a new revision including these changes: 1- The new name of CAA, Logo and the title of President of the CAA. 2- The new UK CAA airworthiness certification specifications after leaving EASA. 3- To be align with ICAO annex 6. 4- MEL Second extension CAA requirement 5- Lease in and Lease out CAA MEL requirements. 6- Changes to RIE requirements and procedures.

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FOREWORD

(1) This CAR-MEL establishes MEL regulatory requirements for Omani operators, provides relevant information to the public and clarifies the rules regarding the MMEL as the CAA at this point in time is not approving the MMEL but is accepting the approved MMEL from the State of Design.

(2) Where there is a contradiction between MEL procedures in the organization manuals such as Operations Manual and Continuing Airworthiness Management Exposition contradict the procedures contained in the MEL Preamble, then the latter shall prevail.

(3) The MEL shall be based upon the manufacturer's MMEL which has been approved by the State of Design and acceptable by the CAA. (e.g. Boeing MMEL approved by FAA, Airbus MMEL approved by EASA).

(4) This CAR shall enter into force on the 3st April 2022 . A transition period will be accepted up to 30th September 2022 with regards to CAR MEL.009 (a) for initial MEL approvals and for amendments.

(5) The editing practices used in this document are as follows:

(a) 'Shall' is used to indicate a mandatory requirement and may appear in CARs.
(b) 'Should' is used to indicate a recommendation
(c) 'May' is used to indicate discretion by the Authority, or the industry as appropriate.
(d) 'Will' indicates a mandatory requirement and is used to advise of action incumbent on the Civil Aviation Authority (CAA).

Note: The use of the male gender implies the female gender and vice versa.

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SUBPART A - GENERAL

Article 1

Objectives and scope

(1) This regulation establishes procedures for ensuring the compliance of standards and requirements in applying for a Minimum Equipment List (MEL) in pursuant of the enabling Law, for the time being enforce.

(2) The provision in this Regulation shall be applied to operator registered in the Sultanate of Oman.

(3) This Regulation shall be known as CAR – MEL, and prescribes the requirement for establishing a Minimum Equipment List.

Article 2

Definitions

For the purpose of this CAR the following specific definitions shall apply and all the other definitions are included in CAR-1:

Definitions for the purpose of this MEL:

'Alternate procedures are established and used' or similar statement, shall be taken to mean that alternate procedures (if applicable) to the affected process must be drawn up by the operator as part of the MEL approval process, so that they have been established before the MEL document has been approved. Such alternate procedures are normally included in the associated operations (O) procedure and/or an acceptable reference document.

'Any in excess of those required by regulations' means that the item required by applicable legislation (e.g. CAR OPS 1 or applicable airspace requirements) must be operative and only excess equipment may be inoperative. When the item is not required, it may be inoperative for the time specified by its rectification interval category. Whenever this condition is used in the MMEL, the applicable regulations for the intended routes and the resulting dispatching restrictions need to be clarified at operator's MEL level.

'Authority' means Civil Aviation Authority (CAA**).**

'Calendar day': means a 24-hour period from midnight to midnight based on either UTC or local time, as selected by the operator. All calendar days are considered to run consecutively.

'Commencement of flight' is the point when an aircraft begins to move under its own power for the purpose of preparing for take-off.

'Considered inoperative', as used in the dispatch conditions, means that the item must be treated for dispatch, taxi and flight purposes as though it were inoperative. The item shall not be used or operated until the original deferred item is repaired. Additional actions include documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MEL provisions, including any (M) and (O) procedures and observing the rectification interval.

'Daylight' corresponds to the period between the beginning of morning civil twilight and the end of evening civil twilight relevant to the local aeronautical airspace; or such other period, as maybe prescribed by the appropriate authority.

'Day of discovery' means the calendar day that a malfunction was recorded in the aircraft maintenance record/logbook.

'Deactivated and secured' means that the specified item must be put into an acceptable condition for safe flight.

'Item' means equipment, system, component or function.

'Icing conditions' means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s) as defined in the AFM. In the absence of any AFM limitations, icing conditions should be taken as visible moisture or precipitation, when the OAT is less than +5°C.

'If installed' means that the item is either optional or is not required to be installed on all aircrafts covered by the MEL.

'Inoperative' means that the item does not accomplish its intended purpose or is not consistently functioning within its approved operating limits or tolerances**.**

'Is not used' in the dispatch conditions, remarks or exceptions for an MEL item may specify that another item relieved in the MEL 'is not used'. In such cases, crew members shall not activate, actuate, or otherwise utilize that item under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operations related provisions, (O) procedures and rectification interval must be complied with. An additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crew members that an item is not to be used under normal operations.

'Master Minimum Equipment List (MMEL)' means a list established for a particular aircraft type by the organization responsible for the type design with the approval of the State of Design containing items, one or more of which is permitted to be unserviceable at the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures.

'Minimum Equipment List (MEL)' means a list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by an operator in conformity with, or more restrictive than, the MMEL established for the aircraft type.

'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.

'Non-Essential Equipment & Furnishings (NEF)' are those items installed on the aircraft as part of the original certification, supplemental type certificate, or engineering order that have no effect on the safe operation of flight and would not be required by the applicable certification rules or operational rules.

Specific approval.

a). A specific approval is an approval which is documented in the operations specifications for commercial air transport operations or in the list of specific approvals for general aviation operations.
Note. — The terms authorization, specific approval, approval and acceptance are further described in Attachment D. of ICAO Annexe 6, Part 1 and Attachment 3.D. of ICAO Annexe 6, Part 2.

b). A specific approval is an approval which is documented in the operations specifications for commercial air transport operations or in the list of specific approvals for non-commercial operations.
Note. — The terms authorization, specific approval, approval and acceptance are further described in Attachment D. of ICAO Annexe 6, Part 3.

Article 3

Abbreviations

AFM:	Aircraft Flight Manual
AMO:	Approved Maintenance Organization
AWI:	Airworthiness Inspector
BFE:	Buyer Furnished Equipment
CARs:	Civil Aviation Regulations
CDL:	Configuration Deviation List
DDG:	Dispatch Deviation Guide
DDPG:	Dispatch Deviation Procedures Guide
ETOPS:	Extended Range Twin Operations
FOI:	Flight Operations Inspector
IFR:	Instrument Flight Rules
IMC:	Instrument Meteorological Conditions
MEL:	Minimum Equipment List
MMEL:	Master Minimum Equipment List
NEF:	Nonessential Equipment and Furnishings
RI:	Rectification Interval
RIE:	Rectification Interval Extension
Seq:	Sequence number
VFR:	Visual Flight Rules
VMC:	Visual Meteorological Conditions

Article 4

Amendment and revision

(1) Revision may be made by the CAA to the technical requirements and administrative procedures contained in this Regulation resulting from any future International Standards changes in the airworthiness related Annexes in ICAO that the CAA may adopt.

(2) When such revision is made, the CAA shall ensure that the aeronautical industry shall be made aware of such revision in accordance with the Civil Aviation Regulation Change Procedures or process that the Authority may establish.

(3) By derogation from paragraphs 1 and 2, the CAA may however, amend, revise, supersede, revoke or cancel this Regulation in this CAR or in whole in accordance with established Civil Aviation Regulation Change Procedures.

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SUBPART B — REQUIREMENTS

CAR MEL.00 Application

(a) An applicant for the approval of a MEL must complete Form AWR/OPS 036, and submit it to the CAA together with the MEL.

(b) A MEL must contain:

(1) the type, model, registration and serial number of the aircraft to which it applies; and
(2) a list of instruments and equipment for the aircraft that may be partially or fully inoperative that:

i. has been approved by the manufacturer of the aircraft; or
ii. has been approved by the ICAO Contracting State that issued the type certificate for the aircraft such as the State of design; or
iii. is acceptable to the CAA on the grounds that the inoperative instruments and equipment do not affect the safe operation of the aircraft.

CAR MEL.001 General

(See GM to CAR MEL.001(a) & AMC to CAR MEL.001(b))

(a) Unless permitted by the CAA, an operator shall not operate an aircraft other than in accordance with the MEL.

(b) Any such permission will not permit operation outside the constraints of the MMEL without a flight permit.

(c) Items required by the CAA and are not listed in the MMEL must be operative prior to dispatch of the aircraft.

(d) Notwithstanding (a) and (b) above, under certain circumstances, the Pilot-In-Command may take immediate action to fly with inoperative equipment outside MEL constraints if he /she believe that leaving the aircraft on ground will likely jeopardize the aircraft and/ or its occupant's safety.

(e) When an item is found to be inoperative, it is reported by an entry in the operator's technical log. Following sufficient fault identification, the item is either rectified immediately or may be deferred following the MEL or other means of compliance approved by the CAA prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in a condition for safe operation with items inoperative.

(f) The MEL shall be consistent with all operational documents, and consistent with regulations, manufacturer requirements and Human Factors principles.

(g) The operator's MEL shall be based on an approved MMEL by the state of the design to develop a Non-Essential Equipment & Furnishing (NEF) process.

CAR MEL.003 Applicability

(a) This CAR-MEL prescribes the requirements concerning MEL for Aircraft registered in the Sultanate of Oman.

(b) An Operator shall establish a Minimum Equipment List (MEL) for each aircraft as required by CAR OPS 1, CAR OPS 2, CAR OPS 3 and CAR OPS 4. This shall be based upon, but no less restrictive than, the relevant Master Minimum Equipment List (MMEL).

(c) In case an aircraft is leased in from a third country operator or leased out to a third country operator, the MEL approval authority shall depend on the agreement between the CAA and the NAA of the concerned third country.

(d) The CAA shall take preference above the MMEL requirements if there is a need for the authority to be more restrictive than the MMEL or any other items as required by the regulations to be incorporated into the MEL for approval by the authority.

(e) A MEL must not contain any instruments or equipment that are—

(1) either specifically or otherwise required by the airworthiness requirements under which the aircraft is type certificated; or

(2) required by this subpart for specific operations; or

(3) required by an AD to be in operable condition.

(f) The CAA may specify operating conditions and limitations on the MEL that the CAA considers necessary in the interests of aviation safety.

CAR MEL.005 CAA Approval

(AMC-1 to CAR MEL.005(a) and GM to CAR MEL.005(a))

(a) The MEL shall be approved by the CAA.

(b) The MEL and any amendment shall be submitted to the Flight Safety Department for approval.

(c) On a case by case basis, the CAA may approve operations without an MEL in exceptional circumstances, such as; newly designed, under validation aircraft or when not practically possible for the operator to have an approved MEL by the time its starts its operation, in which case there will be a letter of No MMEL or MEL issued with the consequences that any unserviceability or any failure will result in an AOG, this condition shall also be limited to thirty (30) days during first entry of new aircraft which has not been certificated or accepted in the Sultanate of Oman.

(d) MEL approvals and amendments are to be considered a priority for CAA. Depending on existing tasking and resource availability CAA personnel in-charge of the MEL review shall attempt to minimize the approval process and urgently action MEL amendment related to Airworthiness Directives or Mandatory documents.

CAR MEL.007 Amendment of MEL

(See AMC & GM TO CAR MEL.007)

(a) The Operator shall amend the MEL after any applicable change to the MMEL and submit to the CAA within ~~sixty~~ ninety (90) days for approval.

(b) Following the embodiment of a modification (e.g. STC etc.) an AD, Bulletins or a CAA requirement having an impact on the MEL, the operator shall amend the MEL accordingly.

CAR MEL.009 Content

(See AMC-1 to 3 for CAR MEL.009, GM-1 to 6 for CAR MEL.009 & Appendix 3)

The MEL shall be in an acceptable format and shall contain the following:

(a) A Preamble, including guidance, organizational procedures and definitions for flight crew and maintenance personnel using the MEL. The procedures contained in the preamble shall have precedence over any other organizational procedures related to MEL usage and implementation.

(b) The revision status of the MMEL upon which the MEL is based on.

(c) The revision status of the MEL Item or page.

(d) 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.

CAR MEL.011 Rectification Intervals

(See AMC to CAR MEL.011)

The Operator shall:

(a) Establish rectification intervals for each inoperative instrument, item of equipment or function listed in the MEL. The rectification interval in the MEL shall not be less restrictive than the MMEL.

(1) The following categories shall be used unless otherwise specified in the MMEL:

Category A
No standard interval is specified; however, items in this category shall be rectified in accordance with the conditions stated in the MEL:

i. Where a time period is specified in days, the interval excludes the day of discovery.
ii. Where a time period is specified other than in days, it shall start at the point when the defect is deferred in accordance with the operator's approved MEL.

Category B
Items in this category shall be rectified within three (**3**) calendar days, excluding the day of discovery.

Category C
Items in this category shall be rectified within ten (**10**) calendar days, excluding the day of discovery.

Category D
Items in this category shall be rectified within one hundred twenty (**120**) calendar days, excluding the day of discovery. Items in this category meet the following criteria:

i. The absence of the item does not adversely affect crew workload;
ii. The crew do not rely on the function of that item on a routine or continuous basis; and
iii. The crew's training, subsequent habit patterns and procedures do not rely on the use of that item.

(b) Establish an effective rectification programme.

(c) Only operate the aircraft after expiry of the rectification interval specified in the MEL when:

i. The defect has been rectified; or
ii. The rectification interval has been extended in accordance with CAR MEL.013.

CAR MEL.013 Rectification Interval Extension (RIE)

(See AMC-1 to 3 for CAR MEL.013 & GM to CAR MEL.013)

(a) Subject to RIE procedures approved by the CAA, the operator may internally approve only a one-time extension of category B and C, with rectification intervals in accordance with the CAR-MEL.011, provided that:

(1) The extension of the rectification interval is, as a maximum, of the same duration as the rectification interval specified in the MEL item;

(2) The rectification interval extension is not used as a normal means of conducting MEL item rectification and is used only when events beyond the control of the operator have precluded rectification;
(3) A description of specific duties and responsibilities for controlling extensions is established by the operator which shall include a historical analysis of the MEL item for the previous thirty (30) days;
(4) CAA is notified of any extension of the applicable rectification interval within seventy-two (72) Hours;
(5) A plan to accomplish the rectification at the earliest opportunity is established.

(b) In cases where the operator does not hold internal RIE approval privileges, the operator may apply for an extension of category B and C only, in accordance with the approved MEL rectification intervals to CAA and within a timescale acceptable to the CAA.

(c) In cases where a category D items cannot be cleared within the applicable time (120 days) an extension can be applied for on the submission of substantiating evidence for request of extension approval from the CAA.

(d) Operators shall approach the CAA for an approval of a second extension of CAT B and C where the privilege given under CAR MEL.013 (a) have been exercised or an approval has been obtained for a first RIE approval under CAR MEL.013 (b).

CAR MEL.015 Operational and Maintenance (O&M) Procedures

(See AMC -1 & 2 for CAR MEL.015(a) & (b)& GM to CAR MEL.015(a))

(a) The operator shall establish the operational and maintenance procedures in the MEL taking into account the operational and maintenance procedures referenced in the MMEL.

(b) The operator shall amend the operational and maintenance procedures referenced in the MEL after any applicable change to the operational and maintenance procedures referenced in the MMEL.

(c) Unless otherwise specified in the MEL, the operator shall complete:

(1) The operational procedures referenced in the MEL when planning for and/or operating with the listed item inoperative; and
(2) The maintenance procedures referenced in the MEL prior to operating with the listed item inoperative.

CAR MEL.016 Training Program

(See GM to CAR MEL.016)

(a) Operators shall ensure that personnel engaged in any MEL related tasks shall be provided with adequate training on the use the purpose and use of the manual and company policy regarding MEL Item.

(b) A recurrent training for the operator's personnel shall be carried-out periodically at least every two years to refresh awareness of MEL usage and any changes in the related policies and procedures.

Note: Refer to Appendix 2 for training syllabus.

CAR MEL.017 Operations Outside the Constraints of the MEL

(See GM to CAR MEL.017)

(a) Subject to a specific case-by-case approval by the CAA, the operator may operate an aircraft with an inoperative instrument, item of the equipment or functions outside the constraints of the MEL but within the constraints of the MMEL provided that:

(1) The concerned instruments, items of equipment or functions are within the scope of the MMEL;

(2) The approval is not used as a normal means of conducting operations outside the constraints of the approved MEL and is used only when events beyond the control of the operator have precluded the MEL compliance;

(3) A description of specific duties and responsibilities for controlling the operation of the aircraft under such approval is established by the operator; and

(4) A plan to rectify the inoperative instruments, items of equipment or functions, or to return operating the aircraft under the MEL constraints at the earliest opportunity is established.

(b) Subject to a specific case-by-case approval by the CAA, the operator may operate an aircraft with an inoperative instrument, item of the equipment or functions outside the constraints of the approved MEL such as:

(1) One-time extension of Category A (only in extremely exceptional case by case issue).

(2) One-time extension of items related to CAR MEL 003 (C) (only in extremely exceptional case by case issue).

This is used only when events beyond the control of the operator and all other avenues have been exhausted.

Note: The detailed risk assessment in accordance with CAR 100 and procedure to be submitted to supported the above requirements.

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SUBPART C — GUIDANCE MATERIAL (GM) & ACCEPTABLE MEANS OF COMPLIANCE (AMC)

GM to CAR MEL.001 (a) Applicability

The MEL is a document that provides a list of the equipment that may be temporarily inoperative for a particular aircraft configuration and all those individual variables that cannot be addressed at MMEL level, such as operating environment, route structure, geographic location, aerodromes where spare parts and maintenance capabilities are available etc., in accordance with a procedure approved by the CAA.

AMC to CAR MEL.001 (b) General

The MEL cannot deviate from Airworthiness Directives, Safety Directives or any other additional mandatory requirements. Where there is a conflict between the MMEL or MEL and an Airworthiness Directive or any other Mandatory Requirement, it is the data or information contained in the Airworthiness Directive or the Mandatory Requirement (e.g. Continued Airworthiness requirement, or AFM requirements) which shall prevail.

AMC-1 to CAR MEL.005 (a) CAA Approval

(a) A revised MEL is deemed to be in force upon receipt of approval from CAA. However, the operator has ten (10) calendar days or as specified in the operator's approved procedures, to distribute and implement the new document. In all cases, copies are required for:

(1) CAA.
(2) Each concerned aircraft;
(3) Post holder - Maintenance;
(4) Post holder - Operations;
(5) Flight operations / Dispatch office;
(6) Any other personnel as required;

(b) MEL items shall be in line with the limitations as per CAA Application form AWR 036 for MEL Approval.

(c) If all technical data has been provided with the MEL and accepted, CAA will:

(1) Accept MEL application form,
(2) Issue the stamped List of Effective Pages,
(3) Issue a Stamped Letter of approval to the operator.

GM to CAR MEL.005 (a) CAA Approval

With the approval of the CAA, the MEL may include specific provisions for particular types of operation carried out by the operator (e.g. crew training, positioning flights, demonstration flights etc.). The MEL and any amendment shall be approved by the CAA.

The CAA may grant the privilege of internal approval of certain MEL amendments to the operator.

This privilege may be granted, after careful review of experience in operating the aircraft type, the compliance history with CAA requirements, competencies, knowledge of personnel, including Post Holders and availability of resources and are based upon the operator’s defined procedures.

This approval will be limited to the following amendments only:

(a) Amendment of the MEL to incorporate MMEL Revisions (including Temporary Revisions) (except items that are "As per Regulations")

(b) Amendment of the MEL to incorporate MMEL Supplement (initial and revisions) introduced via STC, which is approved by CAA (except items that are "As per Regulations")

(c) Amendment of the MEL to incorporate BFE equipment of a non-safety nature (except if the BFE is mandated by the regulations)

(d) Amendment to the MEL for correction of typographical errors.

(e) The addition of a new aircraft registration of the same type/model and equipment to the fleet.

In any case the operator shall submit the MEL (including its own internally approved amendments) to the CAA for formal acceptance at intervals agreed with the CAA. The MEL preamble shall include these limitations.

AMC to CAR MEL.007 Amendment of MEL

(a) The following changes to the MMEL that requires amendment of the MEL (as follows but not limited to):
  (1) A reduction of the rectification interval;
  (2) Change of an item, only when the change is applicable to the aircraft or type of operations and it is more restrictive than CAA requirements.
  (3) Inclusion of a new applicable MMEL item.

AMC-1 to CAR MEL.009 (a) Content

(See GM-6 to AMC-1 for CAR MEL.009(a))

With effect from 3rd April 2022, any application for MEL initial or revision approval submitted to the CAA shall include the following organizational procedures in the preamble of the MEL:

(a) Procedures related to RI and RIE's.
(b) Procedures for the operation of an aircraft outside the constraints of the MEL but within the constraints of the MMEL and within the CAA regulatory requirements.
(c) Placarding procedures.
(d) Operational and Maintenance procedures
(e) Procedures related to internal approval of the MEL
(f) Procedures related to the NEF program (Only for FAA approved MMEL's)
(g) Non Safety related equipment procedure.

AMC-2 to CAR MEL.009 (a) Content

The operator shall ensure that the MEL, including the Preamble, reflects the guidance given in the MMEL on the effects of Multiple Inoperative Items.

AMC-3 to CAR MEL.009 (a) Content

The operator shall include guidance in the MEL on how to deal with any failures that occur between the commencement of the flight (initial taxy) and the start of the take-off. If a failure occurs between the commencement of the flight and the start of the take-off, any decision to continue the flight shall be subject to pilot judgment and good airmanship. The pilot-in-command/commander may refer to the MEL before any decision to continue the flight is taken.

GM-1 to CAR MEL.009 (a) Content

For further guidance please see Appendix 3.

GM-2 to CAR MEL.009 Content

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. (See Appendix 1 – Sample of MEL format)

(a) The page numbering and individual MEL items shall be in accordance with the ATA 100 code system.
(b) 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.
(c) The operational and maintenance procedures are normally located immediately below the inoperative item of equipment to reduce error in cross referencing.
(d) As applicable, MEL Items with Placard, Operation (O) and (M) Maintenance procedures requirement are clearly mark.

GM-3 to CAR MEL.009 Content

The Table of Contents page normally lists the section of the MEL or List each aircraft system as per ATA 100 listing. Pages will ideally be numbered with the Section - ATA Chapter/Item or the ATA system number followed by the item number for that system (e.g., page following 27-2-1 would be 27-2-2).

GM-4 to CAR MEL.009 (a) Content

The purpose of the Minimum Equipment List Preamble is to provide direction to company personnel on the philosophy and use of the MEL.

GM-5 to AMC-1 to CAR MEL.009 (a) Content

(a) Placarding shall be carried out in accordance with the placarding procedures established and set out in the preamble of the MEL.
(b) The operator shall provide the capability and instructions to the flight/maintenance crew to ensure that the placard(s) is (are) in place prior to the aircraft being dispatched, in order to inform crew members of the equipment condition.
(c) It shall also ensure that the placard(s) is (are) removed and accounted for once the defect has been rectified.
(d) To the extent practicable, placards shall be located as indicated in the MEL or adjacent to the control or indicator affected and shall be self-adhesive.
(e) 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.
(f) The placard may be in two parts.
    (1) Part One lists a description of the defect and the defect control number and is attached to the log book for crew reference.
    (2) Part Two lists the system affected and the defect control number and is fixed in the appropriate location. A MEL control sheet attached to the log book could serve the same purpose as Part One above.

(g) If a defect occurs at a station where maintenance personnel are not available and no maintenance action is required, the flight or cabin crew may install a temporary placard as required by the MEL. The aircraft may continue on the planned itinerary and upon reaching a base where maintenance is available; the defect shall be rectified or re-defer in accordance with the approved deferral system.

(h) The exclusion of an asterisk in a MMEL does not preclude the requirement for placarding.

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

(j) All items related to the airworthiness or required for the safe operation of the aircraft and not included in the MEL list of equipment are automatically required to be operative.

(k) Equipment such as entertainment systems or galley equipment may be installed for passenger convenience which are non-safety related equipment that does not affect the airworthiness or safe operation of the aircraft when inoperative. Passenger convenience items do not carry a specific repair interval, and need not be listed in an operators MEL, if they are not addressed in the MMEL. The exceptions to this are as follows:

(1) Where related equipment serves a second function, such as movie equipment being used for cabin safety briefings, operators shall develop and include operational contingency procedures in the MEL in case of an equipment malfunction.

(2) Where related equipment is part of another aircraft system, for example the electrical system, procedures shall be developed and included in the MEL for deactivating and securing in case of malfunction. In these cases, the item shall be listed in the MEL, with compensating provisions and deactivation instructions if applicable. The rectification interval will be dependent on the secondary function of the item and the extent of its effect on other systems.

(l) If the operator chooses to list non-safety related equipment in the MEL, not listed in the MMEL, they shall include a rectification interval category. These items may be given a 'D' category rectification interval provided any applicable (M) & (O) procedure is applied.

(m) Operators shall establish an effective decision making process for failures that are not listed in the MEL to determine if they are related to airworthiness and required for safe operation. In order for inoperative installed equipment to be considered non-safety related, the following criteria shall be considered:

(1) The operation of the aircraft is not adversely affected, such that standard operating procedures related to ground personnel, and crew members are impeded;

(2) The condition of the aircraft is not adversely affected such that the safety of passengers and/or personnel is jeopardized;

(3) The condition of the aircraft is configured to minimize the probability of a subsequent failure that may cause injury to passengers/personnel and/or cause damage to the aircraft;

(4) The condition does not include the use of required emergency equipment and does not impact emergency procedures such that personnel could not perform them.

AMC to CAR MEL.011 Rectification intervals (RI)

(a) The operator shall establish procedures whereby it periodically reviews 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.

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

(c) The operator shall also specify the time zone which will be used for the calculation of Repair Intervals to begin and expire.

AMC-1 to CAR MEL.013 (a) Rectification Interval Extension (RIE)

(a) The operator's procedures to address the extension of rectification intervals and on-going surveillance to ensure compliance shall provide CAA with details of the position of the nominated personnel responsible for the control of the operator's Rectification Interval Extension (RIE) procedures and details of the specific duties and responsibilities established to control the use of RIEs. These procedures shall be included in the MEL preamble.

(b) Personnel authorizing RIEs shall be adequately trained in technical and/or operational disciplines to accomplish their duties. They shall have necessary operational knowledge in terms of operational use of the MEL as alleviating documents by flight crew and maintenance personnel and engineering competence.

(c) The operator shall notify CAA within seventy-two (72) hours of the applicable Rectification Interval Extension or within the appropriated time scales specified by the approved procedure for the RIE.

(d) The notification shall specify the original defect, the historical analysis of the defect for the previous thirty (30) days, the reason for the RIE and the reasons why rectification was not carried out within the original rectification interval.

(e) The CAA may decide not to grant or revoke the internal RIE approval privilege to a particular operator, if in the view of the CAA, the operator is not fit to exercise such a privilege.

(f) For all internally approved extensions the operator shall record the information in an acceptable format. A copy of the completed document shall accompany the tech log entry as follows: "this aircraft is operating on a MEL item repair interval extension as specified in the attached document".

(g) A copy of the completed form (or the equivalent document) shall be retained and filed by the operator for a period of thirty-six (36) months, for auditing purposes. A review may result in changes to the period of the extension, or may be used to determine abuse of the process.

AMC-2 to CAR MEL.013 (b) Rectification Interval Extension (RIE)

(a) In cases where the operator does not hold internal RIE approval privileges, the operator shall submit a completed CAA Application Form AWR/OPS 047 for Repair Interval Extension (R.I.E) to the CAA with all required information for CAA approval process.

(b) A copy of the completed CAA approved form shall be retained on file by the operator for a period of thirty-six months, for auditing purposes.

GM to CAR MEL.013 Rectification Interval Extension (RIE)

Procedures for the extension of rectification intervals are meant to be applied under certain conditions such as a shortage of parts from manufacturers or other unforeseen situations (e.g. inability to obtain equipment necessary for proper troubleshooting and repair), in which case the operator may be unable to comply with the specified rectification intervals.

AMC-1 to CAR MEL.015 (a) Operational and Maintenance (O&M) Procedures

(a) Any item in the MEL requiring an operational or maintenance procedure to ensure an acceptable level of safety shall be so identified in the 'remarks' or 'exceptions 'column/part/section of the

MEL. This will normally be '(O)' for an operational procedure, or' (M)' for a maintenance procedure. '(O)& (M)' means both operational and maintenance procedures are required.

(b) The satisfactory accomplishment of all procedures is the responsibility of the operator.

GM to CAR MEL.015 (a) Operational and Maintenance (O&M) Procedures

(a) Operational and maintenance procedures are an integral part of the compensating conditions needed to maintain an acceptable level of safety, enabling the competent authority to approve the MEL. The CAA may request presentation of fully developed (O) and/or (M) procedures in the course of the MEL approval process.

(b) Normally, operational procedures are accomplished by the flight and/or cabin crew; however, other personnel may be qualified to perform certain functions.

(c) Normally, maintenance procedures are accomplished by the maintenance personnel; however, other personnel may be qualified to perform certain functions.

(d) Unless specifically permitted by a maintenance procedure, an inoperative item may not be removed from the aircraft.

AMC-2 to CAR MEL.015 (b) Operational and Maintenance (O&M) Procedures

(a) Changes to the operational and maintenance procedures referenced in the MMEL are considered applicable and require the amendment of the maintenance and operating procedures referenced in the MEL when the:

(1) Modified procedure is applicable to the operator's MEL; and
(2) Purpose of this change is to improve safety with the intent of the associated MMEL dispatch condition.

GM to CAR MEL.016 Training Programme

Appendix 2 Sample of MEL training syllabus provides guidance of typical training syllabus. "Personnel engaged" means crew members, dispatchers, maintenance engineers etc.

GM to CAR MEL.017 Operations Outside the Constraints of the MEL

Procedures for the operation of an aircraft outside the constraints of the MEL but within the constraints of the MMEL and are meant to be applied under certain conditions, such as a shortage of parts from manufacturers or other unforeseen situations (e.g. inability to obtain equipment necessary for proper troubleshooting and repair), in which case the operator may be unable to comply with the constraints specified in the MEL.

Appendix 1– Sample of MEL Format

(See also next table) as another alternative format

Sample 1.

AIRCRAFT : Boeing MODEL : B717-200	MINIMUM EQUIPMENT LIST					*COMPANY NAME or LOGO*
1. SYSTEM & SEQUENCE NUMBER ITEM	REPAIR INTERVAL					
		2. NUMBER INSTALLED				
			3. NUMBER REQUIRED FOR DISPATCH			
				MAINTENANCE		
21 AIR CONDITIONING					OPERATIONS	
						4. REMARKS / EXCEPTIONS
21.8 Air Conditioning Pressure Regulator Valves	C	2	1	M	O	
PLACARD : As APPROPRIATE **MAINTENANCE (M)** 1. Dispatch with one Air Conditioning Pilot Pressure Regulators Valve Inoperative: A. Select affected AIR CONDITIONING SUPPLY switch to OFF. B. Placard switch appropriately so as to prevent its use. **OPERATIONS (O)** 1. Dispatch with one or both Air Conditioning Pilot Pressure Regulator Valves Inoperative						
21.9 Air Conditioning Pressure Regulator warning						Not Installed

Sample 2.

(Company's Name or Logo)	MINIMUM EQUIPMENT LIST			PAGE
Boeing B797 Series :100/300	Amendment: 4 DATE: 01 Apr 95			21-3-1
1.ATA System and Sequence Number	2. NUMBER INSTALLED 3. NUMBER REQUIRED			
21. Air Conditioning	4. REMARKS OR EXCEPTIONS			
21-3 Equipment Cooling Fan (wardrobe)	D	1	0	(M) May be inoperative provided the equipment cooling fan is deactivated.

Alternate format may be acceptable with **separate Maintenance and operations procedures in a single document.**
Both Format shall include Maintenance and operating procedures or may refer to another operating procedures within the manual, except when the procedures is exceptionally lengthy and time consuming that require maintenance document in separate control.

Sample 3.

25-29-01 Overhead Flight Crew Rest (OFCR)
25-29-01A Deactivated Closed

Interval	Installed	Required	Procedure
C	1	0	(M)(O)

May be inoperative provided:

a. OFCR is deactivated closed.

b. Appropriate adjustment to flight crew Flight Duty Period (FDP) times are applied.

NOTE: This provision is not intended to prohibit OFCR inspections by crew members.

MAINTENANCE (M)

Deactivate overhead flight crew rest (OFCR) closed (AMM DDG 25-29-01).

1. Remove all baggage and personal items from the OFCR.

   NOTE: Blankets, pillows and other items normally used may remain.

2. Close the OFCR entrance door.

OPERATIONS (O)

The OFCR is not available for in flight use. Remove personal items and do not enter except for inspections by crew members.

Appendix 2– Sample of MEL training syllabus

Note: *For all work carried out by crew members, this practice needs to be addressed in the MEL training syllabus in the MEL Preamble, including the items approved.*

(1) ***MEL Origin and Philosophy***

(a) MMEL background and development.

(b) MEL background and development.

(2) ***General MEL Content***

(a) Approval Letter

(b) List of effective pages

(c) Table of contents

(d) Preamble

(e) Definitions/Abbreviations

(f) ATA Chapters, Page format, Page numbering, System and item titles, categorization, columns, remarks and exceptions, placarding, (O) and (M) procedures.

(3) ***Specific Use of the MEL***

(a) A review of items from a variety of systems including those with or without an (O) and/or (M) procedures 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 based.

(d) Specific procedures for pilot to dispatch under MEL without engineer release; as applicable,

(e) Repair Interval Extension.

(4) ***Company Forms***

Adequate company records must be developed to document MEL training to be added to the Employee's training records. If the aircrew is 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.

(5) The MEL training shall be consistent with other operational documents, and consistent with regulations, manufacturer requirements and Human Factors principles.

(6) Examination

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

Appendix 3– MEL OPERATIONS MANUAL AMENDMENT GUIDE

Defect Deferral Recommended Procedures

Disclaimer

(1) This sample is provided to operators as a means of defect control.

(2) It is not intended to be used as a guide or checklist for those air operators who have existing procedures that currently meet the intent of regulatory requirements.

(3) These procedures shall be identical to those found in the operator's exposition and shall also be included in the MEL Preamble.

MEL DEFECT DEFERRAL PROCEDURES

(1) ***Defects and their control – General***

(a) All defects will be entered in the aircraft Log. (If applicable interior cosmetic defects may be entered in a Cabin Defect Log Book.)

(b) Prior to flight all defects shall be actioned and certified or deferred in accordance with the procedures set forth in the Operations Manual (OM), CAME and Minimum Equipment List (MEL).

(c) For each aircraft a defect will have a unique number assigned to it for tracking purposes.

(2) ***Deferred Defect Restrictions***

(a) Any defect may be deferred provided it is included in the approved MEL and the aircraft must be operated in accordance with any conditions or limitations specified therein.

(b) Where the conditions or limitations specified in a MEL conflict with the requirements of an airworthiness directive, the airworthiness directive prevails.

(c) If any doubt exists as to the deferral of an item, consultation between operations and maintenance is required.

(d) Once a defect has been established as being deferrable the following procedures will be used.

(3) ***Deferring Procedures and Control – Maintenance***

If a defect has been deferred by the flight crew, this deferring is in accordance with the following:

(a) The defect will be entered in the Aircraft Log as "deferred in accordance with MEL-ATA #..." and signed by a qualified AME.

(b) A placard will be placed in the aircraft as described by the MEL.

(c) The Aircraft Log must be checked to ensure that when operating with multiple inoperative items.

(d) The interrelationship between those items and the effect on aircraft operation and crew workload will be considered.

(e) Quality Assurance will monitor the deferral to ensure a timely rectification in regard to the categorisation.

(f) After defect rectification, remove the placard from the aircraft; and

i. Follow the procedures in the CAMO for placarding control; Or

ii. For multiple copy Aircraft Log, afix the placard to the maintenance copy of the defect rectification; Or

iii. For single copy bound type Aircraft Log, afix the placard adjacent the maintenance rectification.

(g) It is mandatory that all defects not cleared when the Aircraft Log expires be transferred to the new Aircraft Log with all details.

(5) ***Use of MEL -Flight Crew***

Once a defect has been established as being deferrable the Pilot-in-Command (PIC) may defer the defect in accordance with the MEL providing the following procedures are adhered to:

(a) The Pilot-in-Command will enter the defect in the Aircraft Log.
(b) The Pilot-in-Command will advise the Maintenance department as soon as practicable.
(c) Where required the flight crew will adhere to all column 4 restrictions and perform (O) procedures as applicable.
(d) (M) Maintenance Procedures may be actioned and deferred by Flight Crews who have been trained to do so under the authority of "Elementary Work".
(e) Flight Crews may not perform Maintenance procedures if the defect involves an item which requires maintenance personnel. The aircraft may not proceed until maintenance is carried out.
(f) The Aircraft Log must be checked by the Pilot-in-Command for multiple inoperative items. The interrelationship between those items and the resultant effect on aircraft operation and crew workload will be considered by the PIC before making a go / no-go decision.
(g) Appropriate placard(s) will be installed by the flight crew in accordance with the instructions in the MEL.
(h) The Pilot-in-Command will enter in the Aircraft Log, adjacent to the defect, under what authority the defect has been deferred i.e. “deferred in accordance with MEL-ATA Number...”, the time of day, his/her signature and pilot’s license number.
(i) If any doubt exists, this does not preclude the pilot from consulting maintenance to confirm that the ATA item and procedure has been deferred correctly prior to subsequent dispatch.
(j) The aircraft may proceed on a planned itinerary to a base where maintenance will rectify or re-defer the defect in accordance with their defined procedures.

(6) ***Aircraft Log Book Procedure***

PRIOR TO EACH DEPARTURE:

Where an "O" and/or "M" Procedure is required PRIOR TO EACH DEPARTURE, the Pilot-in-Command will ensure all required actions are completed in accordance with the MEL.

PRIOR TO EACH FLIGHT DAY:

Where an "O" and/or "M" Procedure is required PRIOR TO EACH FLIGHT DAY, the Pilot-in-Command will ensure all required actions are completed in accordance with the MEL.