

# Cabin Safety Bulletin 17 Application of a minimum equipment list (MEL) for cabin-related items

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## What is the purpose of this bulletin?

This bulletin provides operator guidance for the application of a minimum equipment list (MEL) for cabin-related items.

This bulletin describes an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. On its own this bulletin does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

A cabin safety bulletin is an advisory document that alerts, educates and makes recommendations about cabin safety matters. Recommendations in this bulletin are not mandatory.

## Who does this bulletin apply to?

This document applies to all operators of Australian registered aircraft and should be read in conjunction with regulations 37, 42L, and 207 of the Civil Aviation Regulations 1988 and section 20 of the Civil Aviation Orders.

## Background

Airworthiness and operational requirements, including the aircraft type design approval requirements, necessitate that every item of equipment installed in the aircraft must be operational at the beginning of a flight. However, because the various levels of redundancy designed into aircraft, under certain conditions an acceptable level of safety can be maintained with specific items of equipment inoperative for a limited period of time until repairs can be made using a minimum equipment list (MEL)<sup>1</sup> [\[#footnote1\]](#)-permissible unserviceability (PU)<sup>2</sup> [\[#footnote2\]](#).

Many aircraft also have equipment installed that is not required for safe operation under certain operating conditions, for example, instrument lighting in day visual meteorological conditions (VMC). Other equipment such as entertainment systems, may be installed for operators' operational considerations.

The MEL is a joint maintenance and operations document prepared for, or by an operator that will:

- ▶ define the process for managing permissible unserviceabilities
- ▶ identify the minimum equipment/aircraft components/systems and conditions for an aircraft to maintain conformity with the standards of airworthiness and to meet the operating rules for the type of operation
- ▶ define operational procedures necessary to maintain the required level of safety and to manage inoperative equipment

- ▶ define maintenance procedures necessary to maintain the required level of safety and procedures necessary to secure any inoperative equipment.

This system enables the pilot-in-command (PIC) to determine whether a flight may be commenced or continued from any intermediate stop should any instrument, equipment or system become inoperative.

## Legislative requirements

Regulation 37 of Civil Aviation Regulations 1988 (CAR) provides the Civil Aviation Safety Authority (CASA), or an appropriate airworthiness delegate, with the authority to approve defects in an Australian aircraft as a permissible unserviceability.

CASA also approves a schedule of permissible unserviceabilities for an aircraft in the form of a minimum equipment list (MEL). An approved MEL is a document that allows for the operation of a specific aircraft under specific conditions with a particular item(s) of equipment inoperative at the time of dispatch<sup>3</sup>[\[#footnote3\]](#) for the intended flight. Despite the inoperative equipment, the aircraft still complies with its type design standards.

[Civil Aviation Order \(CAO\) 20.18 Air equipment – basic operational requirements](#) <sup>4</sup>[\[#footnote4\]](#)

requires that, in the case of a charter or regular public transport aircraft, all instruments and equipment fitted to the aircraft must be serviceable before take-off, unless unserviceability is a permissible unserviceability set out in a MEL, or CASA has approved the flight with the unserviceability.

CAR 42L requires that if PUs have been approved for an aircraft in the form of a MEL, the MEL must be included in the system of maintenance for the aircraft.

Note that a registered operator of an aircraft that is not utilised in regulatory public transport (RPT) operations, or an aircraft for which an approved system of maintenance is not required, may also elect to have a MEL for their aircraft.

## Purpose

A master minimum equipment list (MMEL) is a document created for the purpose of regulating the continued operation of an aircraft type while certain items of equipment are inoperative. A MEL does not approve the removal of any faulty equipment but may include procedures on how to disable a faulty component or system with relevant 'M'<sup>5</sup>[\[#footnote5\]](#) or 'O'<sup>6</sup>[\[#footnote6\]](#) procedures. Normally the MMEL is developed by the aircraft manufacturer and is approved/accepted by the appropriate National Aviation Authority (NAA) responsible for the type certification of the aircraft.

The MMEL is a list of items of equipment that may be temporarily inoperative, subject to certain conditions and limitations, while still maintaining the level of safety intended in the design standards. The MMEL does not take into account the operating circumstances of individual operators of the type concerned and therefore it cannot, in itself, be regarded as providing operational permission. The MMEL is, however, the basis for the development of an individual operator's MEL.

A MEL is derived from the MMEL and is normally not less restrictive than the corresponding MMEL, except where regulatory requirements permit. An operator's MEL must take into account the aircraft

configuration, type of operation and operating environment.

An approved MEL for an aircraft is a non-transferable document. If an aircraft moves from one operator to another, the new operator cannot automatically use the previously approved MEL.

## Permissible unserviceability

Registered operators not having an approved MEL for their aircraft may also request approval from CASA for operations with a specific defect or damage in the aircraft as a PU. Also, under certain circumstances, operators of aircraft with an approved MEL may request approval from CASA for PUs that are not included in the MEL, as they occur.

## Minimum equipment list format

The Civil Aviation Act, Civil Aviation Regulations or Civil Aviation Orders do not stipulate any specific format and/or content for a MEL. However, the format provided within [CAAP 37-1\(5\) Minimum equipment lists \(MEL\) \[/files/37-1.pdf\]](#) would assist with the assessment of the MEL and is an internationally accepted format.

Mandatory amendment of a MEL is required when:

- ▶ the applicable MMEL is amended to become more restrictive
- ▶ any published 'O' and 'M' procedures utilised in the MEL are amended
- ▶ when new airworthiness or operational items of equipment or system standard is introduced
- ▶ the amendment is required by CASA as a result of an in-service experience
- ▶ airworthiness directives issued affect MEL item(s)
- ▶ legislative changes affecting MELs are published
- ▶ aircraft modifications are embodied that require MEL amendment.

## MEL administration - operator responsibility

To ensure that the MEL incorporates any changes to the aircraft configuration, operation or to the CARs, CAOs, Aeronautical Information Publications (AIPs) and other documents, it is the operator's responsibility to ensure that:

- ▶ all MELs are updated on a regular basis
- ▶ a MEL review is conducted and documented at least annually.

These procedures should be documented within the operator's maintenance control manual, or other suitable documents.

## Cabin safety

CASA will evaluate the MEL when submitted and where applicable, cabin safety related items must be reviewed to ensure that operational procedures proposed in the MEL are relevant, practicable and accurately reflected in the operations manual. The procedure for the approval of the MEL is described in the requisite [minimum equipment list and permissible unserviceability manual \[/publications-and-resources/publication/minimum-equipment-listpermissible-unserviceability-procedures-manual\]](#).

The responsibilities of the cabin safety inspectorate include evaluating an Air Operator Certificate (AOC) applicant's MEL submission and providing advice on cabin safety related matters concerning the approval of MELs and Pus.

Criteria against which the inspectorate will evaluate a MEL as it relates to cabin safety can be found on the CASA website on [Form 1442 Cabin Safety MEL Checklist \[/casa-form/form-1442-cabin-safety-mel-checklist\]](#). An example of that criteria has been extracted from the checklist and replicated here:

## CAO 20.11 paragraph 14.1.6/Type design requirements

Communication - Passenger Address System (PA):

- ▶ serviceable element of PA is accessible and capable of immediate operation by a suitable trained crew member
- ▶ appropriate 'O' procedures are established and used to enable continued support of normal, abnormal and emergency procedures
- ▶ transmission remains audible throughout the passenger cabin.

The cabin safety inspectorate will typically consult with airworthiness inspectors during the evaluation phase to garner advice or ensure that engineering-related matters documented in an applicant's submission, concerning the approval of MELs and PUs, are appropriate and correctly recorded.

In general, non-safety-related equipment such as galley equipment, passenger convenience items or optional items need not be listed in the MEL. If the applicant's MEL contains passenger convenience or optional items such as galley equipment, audio/video equipment or overhead reading lamps that are not addressed in the MMEL, then the assessment of the MEL should be carried out as follows:

- ▶ where passenger convenience items serve a second function, for example, movie equipment being used for cabin safety briefings, operators must develop and include operational contingency procedures in case of an equipment malfunction
- ▶ where passenger convenience items are part of another aircraft system, for example, the electrical system, or interact with other system(s), procedures must be developed and included in the MEL for deactivating and/or securing in case of malfunction.

## Manual reference

In the instance a PIC accepts an aircraft with inoperative equipment, he/she will ensure compliance with conditions and limitations specified in the MEL, as it relates to the inoperative item. Where an inoperability necessitates cabin crew actions to fulfil the requirements of the applied MEL, the PIC will brief accordingly prior to departure. The in-charge cabin crew member must ensure that the information contained within the PIC briefing is conveyed to all cabin crew on board prior to departure.

Operators typically provide information relating to alternate procedures to be adopted by crew members, as it relates to the pertinent MEL, in requisite parts of the operations manual suite. Refer to the below example, relating to an unserviceable jump seat, which demonstrates an accurate and clear method of presenting alternate procedures.

### **Figure 1: Example of alternate procedures for an unserviceable jump seat**

Aircraft type	Unserviceable equipment	MEL number	Procedure
A330	General	MEL 25-20	<p>At least one jump seat at each pair of doors must be serviceable with a serviceable interphone at that jump seat.</p> <p>Aisle surveillance will be maintained by primary crew members at doors 4.</p> <p>When passenger seats are used by cabin crew:</p> <ul style="list-style-type: none"> <li>▶ they must be placarded <b>for flight attendant use only</b></li> <li>▶ adopting the appropriate passenger brace position is required in an emergency situation, refer Section 3 - Brace Positions.</li> </ul>

## Warning signs and placarding

All inoperative items must be placarded as inoperative to inform flight crew members and maintenance personnel of equipment condition, where possible and practical.

The operator must provide the capability and instructions to the flight crew to ensure that the placard is in place prior to commencing the intended flight.

While the MMEL may require specific wording for some items, in the majority of cases, unless otherwise mentioned in the applicable MMEL, the operator may choose the placard wording and location at their discretion. However, it must be clearly spelled out in the 'O' and 'M' procedures.

## Placarding procedures

The item of equipment with the PU must be placarded to inform anyone involved in the operation of the aircraft 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/equipment affected.

A placarding procedure must be established and set out in the MEL defining the method of control of placards and placards must be removed and accounted for when the defect is cleared.

Placards should be self-adhesive wherever possible and may vary in size and shape.

**Note:** The type of placard utilised must be durable and conspicuous in its nature and take into consideration the surface it is to be adhered to and the various operating environments.

## Procedures for invoking MEL items

If there are no procedures for the invoking of MEL items within the operator's organisation, an airworthiness inspector will, in addition to vetting the MEL, ensure these procedures are in place.

Where procedures for the invoking of MEL items are not contained within the MEL, but are contained in the operator's maintenance control manual, operations manual or an alternative document, these documents must be available to the operating crew at all times.

These procedures must include, but are not limited to procedures for:

- ▶ placarding requirements as per the MEL
- ▶ dispatching of the aircraft with invoked MEL item(s) complete with conditions and procedures
- ▶ controlling categorised repair intervals.

## Training program – cabin crew

Operators should ensure cabin crew members are provided with MEL training and detail such training in the training and checking manual. The training syllabus should include, but not limited to, the purpose of a MEL, its application, instruction on company MEL procedures, pilot-in-command responsibility, cabin items which are included in the list, and elementary work procedures such as the operator's standard operating procedures for reporting all inoperative equipment/items.

To ensure company personnel remain current with these procedures, recurrent training should be conducted by the operator when required, or a controlled method put in place to alert staff to any changes in MEL procedures.

## Additional resources

- ▶ [CASA AOC Handbook volume 4 Specialist areas](#) [/publications-and-resources/publication/air-operators-certificate-handbook-volume-4-specialist-areas]

## Further information

View the [cabin safety](#) [/aircraft/landing-page/cabin-safety] pages.

If you have an inquiry, please contact the cabin safety team on 131757 and ask to speak to a cabin safety inspector or email [cabinsafety@casa.gov.au](mailto:cabinsafety@casa.gov.au).

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<sup>1</sup> Minimum equipment list means a list that provides for the operation of aircraft with permissible unserviceabilities, subject to compliance with such conditions, if any, as CASA directs under subregulation 37(2) of the Regulations.

<sup>2</sup> Permissible unserviceability means any defect or damage that CASA has approved under subregulation 37(1) of the Regulations as a permissible unserviceability.

[3](#) Time of dispatch is the time the aircraft engines are started or the commencement of pushback from the terminal for the purposes of the flight. Note however that major airline manufacturers define the point of dispatch differently and when constructing an operator MEL, the dispatch point should align with the MMEL reference.

[4](#) Note that this section of the Order does not include requirements for oxygen equipment, radio apparatus or emergency equipment which are specific in Civil Aviation Orders sections 20.4 and 20.11 respectively.

[5](#) 'M' procedures: the MMEL may identify items that require a maintenance procedure. These procedures must provide clear direction to the maintenance personnel.

[6](#) 'O' procedures: Where the 'O' symbol appears in the MMEL, an operations procedure must be developed that provides clear direction to the flight crew. These procedures must be included in the MEL. The only exception is when the procedure is contained in another document available on the flight deck (i.e. an operations manual or in an approved electronic form). In these cases, the MEL shall refer to a section of the appropriate document(s).

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