

Hong Kong Aviation Requirements

HKAR-MMEL/MEL

**Master Minimum Equipment List/
Minimum Equipment List**

1 May 2001

Issue 1

CAD 549

Civil Aviation Department

HONG KONG, CHINA

HKAR-MMEL/MEL

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CONTENTS

HKAR-MMEL/MEL

MASTER MINIMUM EQUIPMENT LIST/MINIMUM EQUIPMENT LIST

| Paragraph | Page |
|--|-------------|
| FOREWORD | F-1 |
| CHECK LIST OF PAGES | CL-1 |
| PREAMBLES | P-1 |
| SECTION 1 – REQUIREMENTS | |
| General and Presentation | 1-0-1 |
| Subpart A – General | |
| HKAR MMEL/MEL.1 Applicability | 1-A-1 |
| HKAR MMEL/MEL.5 Terminology | 1-A-2 |
| Subpart B – MMEL | |
| HKAR MMEL/MEL.10 General | 1-B-1 |
| HKAR MMEL/MEL.15 Types of Operation | 1-B-1 |
| HKAR MMEL/MEL.20 Preparation of MMEL | 1-B-1 |
| HKAR MMEL/MEL.25 Format and Language of MMEL | 1-B-2 |
| HKAR MMEL/MEL.30 Multiple Unserviceabilities | 1-B-2 |
| HKAR MMEL/MEL.35 Operational and Maintenance Procedures | 1-B-2 |
| HKAR MMEL/MEL.40 Rectification Intervals | 1-B-3 |
| HKAR MMEL/MEL.45 MMEL Acceptance | 1-B-4 |
| HKAR MMEL/MEL.46 MMEL Revision | 1-B-4 |

(to be continued)

HKAR-MMEL/MEL

(continued)

Subpart C – MEL

| | | |
|-----------------------------------|---|-------|
| HKAR MMEL/MEL.50 | General | 1-C-1 |
| HKAR MMEL/MEL.55 | Types of Operation | 1-C-1 |
| HKAR MMEL/MEL.60 | Preparation of MEL and MEL Revisions | 1-C-2 |
| HKAR MMEL/MEL.65 | Format of MEL | 1-C-2 |
| HKAR MMEL/MEL.70 | Multiple Unserviceabilities | 1-C-2 |
| HKAR MMEL/MEL.75 | Operational and Maintenance Procedures | 1-C-3 |
| HKAR MMEL/MEL.80 | Rectification Intervals | 1-C-4 |
| HKAR MMEL/MEL.81 | Rectification Interval Extension (RIE) | 1-C-4 |
| HKAR MMEL/MEL.85 | MEL Acceptance | 1-C-5 |
| HKAR MMEL/MEL.90 | Operations outside the Scope of the MEL | 1-C-5 |
| Appendix 1 to HKAR MMEL/MEL.90 | Operations outside the Scope of the MEL | 1-C-7 |

SECTION 2 – ADVISORY CIRCULAR JOINT

| | |
|--------------------------|-------|
| General and Presentation | 2-0-1 |
|--------------------------|-------|

ACJ - Subpart A

| | | |
|-------------------|----------------------------|-------|
| ACJ MMEL/MEL.1(d) | Limit of MEL Applicability | 2-A-1 |
|-------------------|----------------------------|-------|

ACJ - Subpart B

| | | |
|----------------------------------|-----------------------------|-------|
| ACJ MMEL/MEL.10(c) | General | 2-B-1 |
| ACJ MMEL/MEL.25 | Format of MMEL | 2-B-1 |
| ACJ MMEL/MEL.30 | Multiple Unserviceabilities | 2-B-2 |
| ACJ MMEL/MEL.40/.80 | Rectification Intervals | 2-B-2 |
| Appendix 1 to ACJ MMEL/MEL.25 | Format of MMEL | 2-B-4 |
| Appendix 2 to ACJ MMEL/MEL.25 | Specimen MMEL Preamble | 2-B-5 |

(to be continued)

(continued)

| ACJ - Subpart C

| | | |
|-----------------|--|--------|
| ACJ MMEL/MEL.55 | Types of Operation | 2-C-1 |
| ACJ MMEL/MEL.65 | Format of MEL | 2-C-1 |
| ACJ MMEL/MEL.75 | Operational and Maintenance Procedures | 2-C-1 |
| ACJ MMEL/MEL.81 | Rectification Interval Extension (RIE) | 2-C-2 |
| Appendix 1 to | | |
| ACJ MMEL/MEL.65 | Specimen MEL Preamble | 2-C-4 |
| Appendix 2 to | | |
| ACJ MMEL/MEL.65 | HKCAD MEL Policy Document | 2-C-11 |

HKAR-MMEL/MEL

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FOREWORD

Whenever the Hong Kong Aviation Requirements (HKARs) consider aircraft design, or installation and operation of equipment, it is assumed that no known failures exist at the commencement of flight. However, with various levels of redundancy designed into aircraft, operation of certain systems or installed equipment may not be required if the remaining operative equipment can maintain an acceptable level of safety.

HKAR-MMEL/MEL prescribes the conditions for the approval of documents called "Master Minimum Equipment Lists" (MMEL) and "Minimum Equipment Lists" (MEL).

The MMEL/MEL is an alleviating document to be used when a failure has been identified. Its purpose is not, however, to encourage the operation of aircraft with inoperative equipment, or to act as a serviceability checklist. Such operations are permitted only as a result of careful analysis of each item to ensure that an acceptable level of safety is maintained. 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 limited.

Amendments to the text in this HKAR-MMEL/MEL are issued as Replacement Pages. These show an effective date and have the same status and applicability as HKAR-MMEL/MEL from that date.

New, amended and corrected text is indicated by a marginal line.

HONG KONG AVIATION REQUIREMENTS

CHECK LIST OF PAGES

MASTER MINIMUM EQUIPMENT LIST/MINIMUM EQUIPMENT LIST

ISSUE 1, DATED 1 May 2001
REVISION 1, DATED 15 September 2004
REVISION 2, DATED 15 December 2006
REVISION 3, DATED 25 February 2009

The following pages of HKAR-MMEL/MEL are now current:

Page No.

Legend

| | |
|-----------------|------------------|
| Title Page | 1 May 2001 |
| ii | 1 May 2001 |
| C-1 to C-4 | 15 December 2006 |
| F-1 to F-2 | 25 February 2009 |
| CL-1 | 25 February 2009 |
| P-1 to P-2 | 25 February 2009 |
| 1-0-1 to 1-0-2 | 1 May 2001 |
| 1-A-1 to 1-A-3 | 25 February 2009 |
| 1-B-1 to 1-B-4 | 25 February 2009 |
| 1-C-1 to 1-C-10 | 25 February 2009 |
| 2-0-1 to 2-0-2 | 1 May 2001 |
| 2-A-1 to 2-A-2 | 15 December 2006 |
| 2-B-1 to 2-B-8 | 25 February 2009 |
| 2-C-1 to 2-C-42 | 25 February 2009 |

PREAMBLES

HKAR-MMEL/MEL

The preambles are intended to be a summarized record of the main changes introduced by each amendment of HKAR-MMEL/MEL.

Issue 1

1 May 2001

- New requirement for dispatch with inoperative equipment.

Revision 1

15 September 2004

- Added the "Flight Day" terminology to HKAR MMEL/MEL.5.
- Defined the Category A Rectification Interval when the time interval is listed as Flight Day.
- Added a new Appendix 2, HKCAD MEL Policy Document, to ACJ MMEL/MEL.65.

Revision 2

15 December 2006

- Added/amended the terminologies "Equipment", "Rectification Interval", "RIE", "Type Certificate" and "Type Certificate Holder" to/in HKAR MMEL/MEL.5.
- Amended HKAR MMEL/MEL.20 to cover "Preparation of MMEL".
- Amended HKAR MMEL/MEL.35 to address by whom and by how the "Operational and Maintenance Procedures" should be produced and published, and later amended.
- Amended HKAR MMEL/MEL.40 to clarify that the commencement of Category A Rectification Interval in sub-paragraph (a)(ii) is for time period in calendar days.
- Amended HKAR MMEL/MEL.45 to address that MMEL is no more approved but rather accepted by the Director-General. MMEL acceptance is now used throughout HKAR-MMEL/MEL.
- Added HKAR MMEL/MEL.46 for "MMEL Revision".
- Included in HKAR MMEL/MEL.60 a sub-paragraph stating that reduced time scales for implementation may be required for safety related MMEL revisions.
- Included in HKAR MMEL/MEL.65 that MEL Preamble shall also contain guidance for maintenance personnel using the MEL.

HKAR-MMEL/MEL

- Added HKAR MMEL/MEL.81 "Rectification Interval Extension (RIE)" the consolidated requirements on RIE. The associated HKAR MMEL/MEL.80 is amended accordingly.
- Amended ACJ MMEL/MEL.1(d) stating that the operator's MEL should include procedures to deal with any failures which occur between the start of taxi and take-off brake release.
- Added ACJ MMEL/MEL.10(c) the interpretative material on non-safety related equipment.
- Added ACJ MMEL/MEL.55 stating that an MEL should include the dispatch conditions associated with flights conducted in accordance with the operational approvals/permissions.
- Added ACJ MMEL/MEL.75 on "Operational and Maintenance Procedures".
- Added ACJ MMEL/MEL.81 on "Rectification Interval Extension (RIE)".
- Amended Appendix 1 to ACJ MMEL/MEL.65 "Specimen MEL Preamble" in accordance with this amendment of HKAR-MMEL/MEL.
- Amended Appendix 2 to ACJ MMEL/MEL.65 "HKCAD MEL Policy Document" with reference to JAA Temporary Guidance Material and UKCAA MEL Policy Data.
- Amended throughout the text of HKAR-MMEL/MEL that MEL is accepted by the Director-General rather than approved by him.

Revision 3

25 February 2009

- Amended Appendix 2 to ACJ MMEL/MEL.65 to include provisions of Article 14A of the AN(HK)O and changed the term "Exemption" to "Permission", together with some minor grammatical corrections.
- Amended throughout the text of HKAR-MMEL/MEL that MMEL and MEL are approved rather than accepted by the Director-General.

SECTION 1 – REQUIREMENTS

1 GENERAL

- 1.1 This SECTION 1 contains the requirements for the approval of Master Minimum Equipment Lists and Minimum Equipment Lists.

2 PRESENTATION

- 2.1 The Requirements of HKAR-MMEL/MEL are presented in full-page width on loose pages, each page being identified by the date of the issue or issue/revision number under which it is reissued or amended.
- 2.2 Sub-headings are in bold typeface.
- 2.3 Explanatory Notes not forming part of the requirements appear in a smaller typeface.
- 2.4 New, amended and corrected text is indicated by a marginal line.

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Subpart A - General

HKAR MMEL/MEL.1 Applicability

(a) Applicable Regulations

- (1) This HKAR-MMEL/MEL became effective on 1 July 2001.
- (2) After 1 July 2001 new MELs will only be approved in accordance with this HKAR-MMEL/MEL Subpart C.
- (3) MMELs for aircraft types for which the application for type certification in Hong Kong is made after 1 July 2001 will only be approved in accordance with this HKAR-MMEL/MEL Subpart B.

(b) Airworthiness Directives and other 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) which shall override.

(c) Retrospective Action

MELs existing prior to 1 July 2001 will continue to remain valid and applicable until 1 January 2002. The MELs should be reviewed where applicable, and from 1 January 2002 onwards all MELs shall be in accordance with this HKAR-MMEL/MEL Subpart C.

(d) Limit of MEL Applicability

The MEL is applicable up to the commencement of flight. (See ACJ MMEL/MEL.1(d))

HKAR MMEL/MEL.5 Terminology

Terms and abbreviations used in HKAR-MMEL/MEL have the following meaning:

- (a) **"As required by operating requirements"** means the listed item of equipment is subject to certain provisions (restrictive or permissive) expressed in the Air Navigation (Hong Kong) Order 1995, as amended.
- (b) **"Approved by the Director-General"** means approved by the Director-General of Civil Aviation (hereinafter referred to as the Director-General) or any officer delegated with such authority by the Director-General.
- (c) **"Calendar Day"** means a 24 hour period from midnight to midnight based on either UTC or local time, as selected by the operator.
- (d) **"Commencement of flight"** means the point when an aircraft begins to move under its own power for the purpose of preparing for take off.
- (e) **"Day of discovery"** means the calendar day that a malfunction was recorded in the aircraft maintenance record/log book.
- (f) **"Equipment"** means item, function, component or system.
- (g) **"Flight Day"** means a 24 hour period (from midnight to midnight) either UTC or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.
- (h) **"If installed"** means that the equipment is either optional or is not required to be installed on all aircraft covered by the MMEL.
- (i) **"Inoperative"** means that the equipment does not accomplish its intended purpose or is not consistently functioning within its design operating limits or tolerances.

Note: Some equipment have been designed to be fault tolerant and are monitored by

computers which transmit fault messages to a centralised computer for the purpose of maintenance. The presence of this category of message does not necessarily mean that the equipment is inoperative.

- (j) **"MEL"** An abbreviation for Minimum Equipment List.
- (k) **"MMEL"** An abbreviation for Master Minimum Equipment List.
- (l) **"MMEL Supplement"** means a list associated with MMELs for aircraft for which application for first type certification is made to the Director-General. The Supplement identifies any differences from the MMEL approved by the State of Design. The MMEL approved by the State of Design and the Supplement constitute the MMEL approval by the Director-General.
- (m) **"Rectification Interval"** means a limitation on the duration of operations with inoperative equipment.
- (n) **"RIE"** An abbreviation for Rectification Interval Extension.
- (o) **"Supplemental Type Certificate Holder"** means the holder of, or applicant for, a Supplemental Type Certificate.
- (p) **"Type Certificate"** means a Type Certificate, issued by or validated by the Director-General.
- (q) **"Type Certificate Holder"** means the holder of, or applicant for, a Type Certificate.

Subpart B - MMEL

HKAR MMEL/MEL.10 General

- (a) The MMEL is a document that lists the equipment which may be temporarily inoperative, subject to certain conditions, while maintaining an acceptable level of safety as intended in the applicable Hong Kong Aviation Requirements. Each MMEL is specific to an aircraft type.
- (b) All items related to the airworthiness of the aircraft and not included in the list are automatically required to be operative.
- (c) Non-safety related equipment such as galley equipment and passenger convenience items, need not be listed. (See ACJ MMEL/MEL.10(c))

HKAR MMEL/MEL.15 Types of Operation

The MMEL shall cover the types of operation for which the aircraft type is certificated.

HKAR MMEL/MEL.20 Preparation of MMEL

- (a) The initial MMEL or MMEL Supplement shall be issued by the Type Certificate Holder.
- (b) Amendments to the MMEL or MMEL Supplement shall be issued by the Type Certificate Holder or Supplemental Type Certificate Holder, as appropriate.
- (c) Applications for initial approval of an MMEL shall originate from the Type Certificate Holder.
- (d) Applications for the approval of changes to an already approved MMEL shall

originate from either the Type Certificate Holder or a Supplemental Type Certificate Holder, as appropriate.

HKAR MMEL/MEL.25 Format and Language of MMEL
(See ACJ MMEL/MEL.25)

- (a) The MMEL shall be provided with a relevant Preamble, Definitions and, if appropriate, clarifying Notes which shall adequately reflect the scope, extent and purpose of the List.
- (b) The MMEL shall be written in English.

HKAR MMEL/MEL.30 Multiple Unserviceabilities
(See ACJ MMEL/MEL.30)

The MMEL shall take into account the effects of multiple unserviceabilities.

HKAR MMEL/MEL.35 Operational and Maintenance Procedures

- (a) Operational and Maintenance Procedures are necessary to support certain MMEL items. These Procedures shall be produced and published by the Type Certificate Holder or the Supplemental Type Certificate Holder, as appropriate. The procedures shall be appropriately amended, as and when the MMEL is revised.
- (b) The intent of these procedures shall be identified during the development of the MMEL. However, the procedures themselves will not be subject to approval.
- (c) These procedures shall be referenced in the MMEL and published concurrently with the MMEL.

**HKAR MMEL/MEL.40 Rectification Interval
(See ACJ MMEL/MEL.40/.80)**

The MMEL shall provide categories A, B, C and D, Rectification Intervals.

The Category of each inoperative item shall be determined according to the requirements specified below:

(a) Category A:

- (i) No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the MMEL.
- (ii) Where a time period is specified in calendar days it shall start at 00:01 on the calendar day following the day of discovery.

(b) Category B:

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

(c) Category C:

Items in this category shall be rectified within ten consecutive calendar days, excluding the day of discovery.

(d) Category D:

Items in this category shall be rectified within one hundred and twenty consecutive calendar days, excluding the day of discovery.

HKAR MMEL/MEL.45 MMEL Approval

- (a) New MMEL and amendments to existing MMEL will only be approved in accordance with this HKAR-MMEL/MEL Subpart B.
- (b) The MMEL (including MMEL Supplement) shall be recommended to the Authority of the State of Design for their approval. Application shall be made to the Director-General to approve the MMEL for use by an operator.

HKAR MMEL/MEL.46 MMEL Revision

The Type Certificate or Supplemental Type Certificate Holder, as appropriate, shall positively inform all known operators when a revision to the MMEL (including MMEL Supplement) is published.

Subpart C - MEL

HKAR MMEL/MEL.50 General

- (a) The MEL is a document that lists the equipment which may be temporarily inoperative, subject to certain conditions, at the commencement of flight. This document is prepared by the operator for their own particular aircraft taking account of their aircraft configuration and the relevant operational and maintenance conditions in accordance with a procedure acceptable to the Director-General.
- (b) All items related to the airworthiness of the aircraft and not included in the list are automatically required to be operative.
- (c) Non-safety related equipment, such as galley equipment and passenger convenience items, need not be listed. Operators shall establish an effective decision making process for failures that are not listed to determine if they are related to airworthiness and required for safe operation. (See ACJ MMEL/MEL.10(c))
- (d) The MEL may contain additional advisory material or modified operational and maintenance procedures.

HKAR MMEL/MEL.55 Types of Operation (See ACJ MMEL/MEL.55)

With the agreement of the Director-General, 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.).

HKAR MMEL/MEL.60 Preparation of MEL and MEL Revisions

- (a) The MEL, including the Preamble and Definitions, shall be based upon, but no less restrictive than, the relevant MMEL (if this exists) approved by the Director-General.
- (b) When a MMEL revision is issued, an operator will have 90 days from the date of revision to submit the revised MEL to the Director-General.
- (c) Reduced time scales for implementation of safety related revisions may be required.

**HKAR MMEL/MEL.65 Format of MEL
(See ACJ MMEL/MEL.65)**

- (a) The MEL shall contain a relevant Preamble, Definitions and, if appropriate, clarifying Notes which shall adequately reflect the scope, extent and purpose of the List.
- (b) The MEL shall indicate the revision status of the MMEL, upon which it is based.
- (c) The Preamble shall contain guidance for flight crews and maintenance personnel using the MEL.

HKAR MMEL/MEL.70 Multiple Unserviceabilities

The Operator shall ensure that the MEL, including the Preamble, reflects the guidance given in the MMEL on the effects of multiple unserviceabilities.

**HKAR MMEL/MEL.75 Operational and Maintenance Procedures
(See ACJ MMEL/MEL.75)**

- (a) Operators shall take Operational and Maintenance Procedures referenced in the MMEL into account when preparing an MEL. An operator shall be prepared to present these procedures to the Director-General during the MEL approval process.
- (b) Operational Procedures shall be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorised 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.
- (c) Maintenance Procedures shall be accomplished prior to operating with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorised to perform certain functions. 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 a part of the operator's manual or MEL.
- (d) The procedures themselves, or symbols indicating their need and reference to their locations, are required in the operator's MEL.
- (e) The MEL shall be appropriately amended, as and when applicable Operational or Maintenance Procedures as referenced in the MMEL are revised.
- (f) Unless specifically permitted, an inoperative item may not be removed from the aircraft.

HKAR MMEL/MEL.80 Rectification Intervals
(See ACJ MMEL/MEL.40/80)

- (a) The operator shall take account of the Rectification Interval given in the MMEL when preparing an MEL. The Rectification Interval in the MEL shall not be less restrictive than the corresponding Rectification Interval in the MMEL.

- (b) The Operator is responsible for establishing an effective rectification programme that includes tracking of the inoperative items and co-ordinating parts, personnel, facilities, and procedures necessary to ensure timely rectification.

- (c) Operation of the aircraft is not allowed after expiry of the Rectification Interval specified in the MEL, unless:
 - (i) The defect has been rectified, or

 - (ii) The Rectification Interval is extended in accordance with HKAR MMEL/MEL.81.

HKAR MMEL/MEL.81 Rectification Interval Extension (RIE)
(See ACJ MMEL/MEL.81)

Subject to the approval of the Director-General, 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;

- (a) A description of specific duties and responsibilities for controlling extensions is established by the operator and approved by the Director-General, and

- (b) The operator only grants a one time extension of the applicable Rectification Interval, and

- (c) The Director-General is notified of any extension granted within ten days, and
- (d) Rectification is accomplished at the earliest opportunity.

HKAR MMEL/MEL.85 MEL Approval

New MEL and amendments to existing MEL will only be approved by the Director-General in accordance with this HKAR-MMEL/MEL Subpart C.

**HKAR MMEL/MEL.90 Operations Outside the Scope of the MEL
(See Appendix 1 to HKAR MMEL/MEL.90)**

- (a) Notwithstanding HKAR MMEL/MEL.81, under certain specified conditions and circumstances operators may be allowed by the Director-General to introduce and implement Special Procedure for operations outside the conditions of the MEL. The Special Procedure will in no circumstances be used to permit flights outside the constraints of the relevant MMEL.
- (b) Where an operator has been allowed to apply this Special Procedure for a particular aircraft type, this will be clearly stated as a condition on the MEL.
- (c) When allowed by the Director-General, operators with extensive experience of a particular aircraft type and the necessary operational management and engineering support facilities may exercise the Special Procedure to operate an aircraft strictly for the purpose of returning to a place where rectification can be made, with unserviceabilities of systems or equipment not permitted by the MEL.
- (d) In such circumstances, alternative compensatory factors like increased fuel reserves and enhanced weather minima, may need to be applied.
- (e) In cases where an operator intends to operate an aircraft where the requirements of the

MMEL are not met, the operator shall apply to the Director-General. The application shall be supported by documentary proof that the aircraft Type Certificate Holder has been consulted for that aircraft to be operated outside the conditions of the MMEL to establish that there is No Technical Objection (NTO). The flight so undertaken shall not be a revenue flight.

Appendix 1 to HKAR MMEL/MEL.90 Operations Outside the Scope of the MEL

(a) Introduction

This Appendix provides the conditions and circumstances under which the Director-General may allow an operator to apply a Special Procedure for operating an aircraft outside the conditions of a Minimum Equipment List (MEL). The Appendix states the Special Procedure to be followed by an operator approved in that respect.

(b) Application for Approval

- (1) Operators may apply to the Director-General for approval to apply a Special Procedure to operate an aircraft when the normal conditions of an MEL are not met.
- (2) Approval may be given by the Director-General when the Director-General is satisfied, having taken account of the operator's general and particular experience and relevant arrangements, that proper judgement regarding the safety of such flights will be made.
- (3) It is unlikely that an approval will be given when an aircraft type has been in service with an operator for less than one year. A comprehensive type qualified engineering support organisation will be an essential requirement.
- (4) Operations outside the conditions of an MEL will be monitored by the Director-General to satisfy himself as to the correctness of the operator's judgement. If the Director-General is not satisfied, the approval to apply a Special Procedure to operate in such circumstances will be suspended or revoked.

(c) The Special Procedure

- (1) The Special Procedure can be conveniently broken down into four phases:
 - (i) Request
 - (ii) Consultation
 - (iii) Decision
 - (iv) Authorisation.
- (2) The procedure to be followed in each of these phases shall be prescribed in the operator's Operations Manual.
- (3) All personnel authorised by the operator to act on its behalf in relation to the Special Procedure shall be listed in the Operations Manual and the scope of their authority shall be specified.
- (4) The full procedure to be followed shall be stated by the operator, including back-up procedures to be used in the event of the unserviceability of telex and facsimile, such as the use of radio or telephone communication.
- (5) The operator shall produce a Special Procedure Form. The required distribution of the form shall be stated. A copy of the form should accompany the application by the operator to the Director-General for approval to operate Special Procedure.
- (6) Personnel authorised by the operator in relation to Special Procedure shall ensure that good engineering and operational judgement is exercised when considering operations which are outside the conditions of the MEL.
- (7) The Special Procedure constitutes a temporary extension to the operator's MEL for the purpose of the flight or flights in question. It is a non-standard

means for compliance with the MEL.

- (8) The Special Procedure only permits a flight (or flights) for the purpose of positioning an aircraft to a place where it is reasonably practicable for rectification to be made. Such a flight (or flights) shall be conducted in a manner that minimises any significant additional risk.
 - (9) The commander is responsible for ensuring that the aircraft is acceptable for the intended flight (or flights). Request for a Special Procedure flight (or flights) is the commander's exclusive decision.
- (d) Conditions for flights under the Special Procedure
- (1) If it is not possible to position the aircraft by means of a single flight to a place where rectification or replacements can be carried out, a number of flights is permitted, which shall be no more than the minimum required.
 - (2) The Special Procedure form which shall be a numerically identified document will normally be passed by telex or by facsimile to the concerned parties including the commander. The form shall be issued/completed by the individuals named in the Operations Manual as authorised to do so by the operator.
 - (3) The form shall identify the MEL and item(s) concerned, the requesting commander, the engineering and operational specialists consulted in the decision making process.
 - (4) The form shall show the technical and/or operational conditions, if any, to be observed during the flight(s).
 - (5) The form will provide support for any endorsements to the technical log ensuring the aircraft is dispatched in accordance with the operator's procedures.

- (6) The Director-General shall be notified, using the Special Procedure form, of the flight (or flights) and of all circumstances and conditions under which the flight (or flights) was (were) operated within ten days.

SECTION 2 – ADVISORY CIRCULARS JOINT (ACJ)**1 GENERAL**

- 1.1 This Section contains Advisory Circulars Joint. They are non-requirements that are provided as Interpretations, Explanations and/or Acceptable Means of Compliance.
- 1.2 An applicant showing compliance with requirements in accordance with published ACJ material is assured of the Director-General's acceptance of such method.

2 PRESENTATION

- 2.1 The Advisory Circulars Joint are presented in full page width on loose pages, each page being identified by the date of issue or the issue/revision number under which it is reissued or amended.
- 2.2 A numbering system has been used in which Advisory Circulars Joint uses the same number as the paragraph in HKAR to which it is related. The number is introduced by the letters ACJ to distinguish the material from the HKAR.
- 2.3 Explanatory Notes not forming part of the ACJ text appear in a smaller typeface.
- 2.4 New, amended or corrected text is indicated by a marginal line.

Note: Where a particular HKAR paragraph does not have an ACJ, it is considered that no supplementary material is required.

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ACJ – Subpart A**ACJ MMEL/MEL.1(d) Limit of MEL Applicability
(See HKAR MMEL/MEL.1(d))**

If a failure occurs during the taxi phase before the start of the take-off roll, any decision to continue the flight should be subject to pilot judgement and good airmanship. The commander may refer to the MEL before any decision to continue the flight is taken.

The operator's MEL should include procedures to deal with any failures which occur between the start of taxi and take-off brake release.

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ACJ – Subpart B**ACJ MMEL/MEL.10(c) General**
(See HKAR MMEL/MEL.10(c))

Non-safety related equipment refers to equipment that is not required for airworthiness or operational reasons. In order for inoperative installed equipment to be considered non-safety, the following criteria should be considered:

- (a) The operation of the aircraft is not adversely affected such that standard operating procedures related to ground personnel, cabin crew and/or flight crew are impeded.
- (b) The condition of the aircraft is not adversely affected such that the safety of passengers and/or personnel is jeopardised.
- (c) The condition of the aircraft is configured to minimise the probability of a subsequent failure that may cause injury to passengers / personnel and/or cause damage to the aircraft.
- (d) The condition does not include the use of required emergency equipment and does not impact emergency procedures such that personnel could not perform them.

ACJ MMEL/MEL.25 Format of MMEL
(See HKAR MMEL/MEL.25)

- 1 The ATA 100 Specification numbering system is preferred.
- 2 A proposed five column format for the technical pages of all MMELs is shown in Appendix 1 to ACJ MMEL/MEL.25.
- 3 Appendix 2 to ACJ MMEL/MEL.25 can be used as a model for the Preamble.

ACJ MMEL/MEL.30 Multiple Unserviceabilities
(See HKAR MMEL/MEL.30)

- 1 MMEL Preambles should make it clear that not all combinations of unserviceabilities are considered.

- 2 The MMEL cannot include all combinations of unserviceabilities. Therefore it has to be accepted that because of the variety of multiple unserviceabilities which could arise, it is likely that many will not be covered in the MMEL.

ACJ MMEL/MEL.40/.80 Rectification Intervals
(See HKAR MMEL/MEL.40 and
HKAR MMEL/MEL.80)

- 1 The MMEL/MEL is intended to permit operations with inoperative items of equipment for that period of time necessary to organise rectification.

- 2 The MMEL/MEL is **not** intended as a tool for prolonged or permanent operation of aircraft in a configuration deviating from their certification status. It is important therefore that rectification be accomplished at the earliest opportunity in order that the affected aircraft can be returned to its certification status. In order to maintain this level, the MMEL establishes limitations on the duration of operation with inoperative equipment. These are called Rectification Intervals and are designated A, B, C or D.

- 3 The Rectification Interval Category for each item in the MMEL is stated in column 2. (See Appendix 1 to ACJ MMEL/MEL.25). The category of each inoperative item will be determined according to the specifications in HKAR MMEL/MEL.40.

- 4 An aircraft may have installed equipment which the operator considers to be unnecessary for their operation and the operator may want to delay rectification of such items for an indefinite period. In such cases modification of the aircraft is

SECTION 2

HKAR-MMEL/MEL

appropriate and deactivation, inhibition or removal of the system should be accomplished by an appropriate approved modification procedure.

APPENDIX 1 TO ACJ MMEL/MEL.25

(Name of the Authority of the State of Design)

MASTER MINIMUM EQUIPMENT LIST

| | | |
|---------------------------------------|-------------------------------------|--------------|
| AIRCRAFT: | REVISION NO.: | PAGE: |
| | DATE | |
| (1) Systems and Sequence Numbers Item | (2) Rectification Interval Category | |
| | (3) Number Installed | |
| | (4) Number Required for Dispatch | |
| | (5) Remarks or Exceptions | |

APPENDIX 2 to ACJ MMEL/MEL.25

*(SPECIMEN)**(Name of Authority of the State of Design)***MASTER MINIMUM EQUIPMENT LIST***(AIRCRAFT TYPE)***PREAMBLE**

The following is applicable for authorised certificate holders operating under Air Operators' Certificates Requirements Document (CAD 360). The Hong Kong aviation requirements require that all equipment installed on an aircraft in compliance with the airworthiness standards and the operating requirements must be operative. However, the requirements also permit the use of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety 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 an acceptable level of safety.

The Master Minimum Equipment List (MMEL) is developed by the Type Certificate Holder to improve aircraft utilisation and thereby provide more convenient and economic air transportation for the public. The MMEL includes those items of equipment related to airworthiness and operating requirements and other items of equipment which the Director-General finds may be inoperative and yet maintain an acceptable level of safety by 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's MEL which take into consideration the operator's particular aircraft equipment configuration and operational conditions. An operator's MEL may differ in format from the MMEL, but cannot be less

restrictive than the MMEL. 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 Hong Kong aviation requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from Airworthiness Directives or any other mandatory requirement. It is important to remember that all equipment related to the airworthiness and the operating requirements of the aircraft not listed on the MMEL 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 an acceptable level of safety is maintained.

The MEL is intended to permit operation with inoperative items of equipment for a period of time until rectification can be accomplished. It is important that rectification be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability the MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment. The MEL provides for release of the aircraft for flight 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 / logbook as prescribed by Hong Kong aviation requirements. The item is then either rectified or may be deferred per the MEL or other approval means acceptable to the Director-General 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 of equipment inoperative.

When these requirements are met, a Certificate of Release to Service, aircraft maintenance record / logbook entry, or other approved documentation is issued as prescribed by Hong Kong aviation requirements. Such documentation is required prior to operation with any item of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that an

acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative systems or components must also be considered. Wherever possible account has been taken in this MMEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the inter-relationships between those items and the effect on aircraft operation and crew workload must be considered.

Operators are to establish a controlled and sound rectification programme including the parts, personnel, facilities, procedures and schedules to ensure timely rectification. This programme should identify the actions required for maintenance discrepancy messages.

WHEN USING THE MEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS AND THE CONDITIONS AND LIMITATIONS SPECIFIED IN THE MEL IS REQUIRED.

DEFINITIONS AND EXPLANATORY NOTES

In addition to a Preamble arranged and worded along the lines of this Specimen, the MMEL should contain, as part of the Preamble, sufficient Definitions and Explanatory Notes to provide the user (this is primarily the operator when compiling the MEL) with a full and proper understanding of the intent and purpose of the items it contains.

While many of the Definitions used will be common to all MMEL, others will be specific to particular or individual aircraft types. Type Certificate Holders should, when preparing the MMEL, ensure that all relevant Definitions are included. Likewise Explanatory Notes should be provided in sufficient detail wherever the intent and purpose of a term or phrase or abbreviation etc. is necessary or advisable.

The Type Certificate Holders shall provide the following Definitions for Rectification Interval Categories in the MMELs they prepare.

Category A

No standard interval is specified, however, items in this category shall be rectified in

accordance with the conditions stated in the Remarks or Exceptions column (5) of the MMEL.

Where a time period is specified in calendar days it shall start at 00:01 on the calendar day following the day of discovery. Whenever the time interval is listed as flight days, the time interval begins on the flight day following the day of discovery.

Category B

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

Category C

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

Category D

Items in this category shall be rectified within one hundred and twenty (120) consecutive calendar days, excluding the day of discovery.

ACJ – Subpart C

ACJ MMEL/MEL.55 Types of Operations (See HKAR MMEL/MEL.55)

The MEL should include the dispatch conditions associated with flights conducted in accordance with the operational approval / permission e.g. RVSM, RNAV, ETOPS etc.

ACJ MMEL/MEL.65 Format of MEL (See HKAR MMEL/MEL.65)

- 1 The ATA 100 Specification numbering system is preferred.
- 2 A proposal for a five column format for all MEL is shown in Appendix 1 to ACJ MMEL/MEL.25.
- 3 Appendix 1 to ACJ MMEL/MEL.65 can be used as a model for the Preamble.
- 4 Appendix 2 to ACJ MMEL/MEL.65 provides operators the guidance necessary to develop the MEL provisions for instrument and equipment and conditions for their unserviceability, in order that HKAR-MMEL/MEL and other relevant operational requirements are properly complied with.

ACJ MMEL/MEL.75 Operational and Maintenance Procedures (See HKAR MMEL/MEL.75)

- (a) Operational and maintenance procedures are part of the MEL. They are an integral part of the compensating conditions needed to maintain an acceptable level of safety, enabling the Director-General to approve the MEL. The Director-General may request presentation of specific (O) and/or (M) procedures in the course of the MEL

approval process.

- (b) Operator's manuals may include the Operations Manual, the Maintenance Manual or other documents acceptable to the Director-General.

ACJ MMEL/MEL.81 Rectification Interval Extension (RIE)
(See HKAR MMEL/MEL.81)

- 1 The operator should ensure that rectifications are accomplished at the earliest opportunity. RIE are introduced to allow operators to continue to operate an aircraft after the Rectification Interval has expired if rectification has not been possible. An operator who utilises RIE would be required to report retrospectively all such uses, together with reasons, to the Director-General. The Director-General is ultimately responsible for the oversight of RIE.
- 2 The Director-General may reject any application for the use of RIE made by an operator who he considered not to have the necessary operational and engineering competence. The operator should provide the Director-General with details of the name and position of the nominated person responsible for the control of the company RIE procedure and details of the specific duties and responsibilities established by the operator to control the use of RIE. Authorising personnel, who must be adequately trained in technical and/or operational disciplines, should be listed by appointment and name. The Director-General will consider the engineering competence of the operator and the acceptability of the authorising personnel. Where an operator uses contracted-out maintenance facilities, the Director-General will judge whether the relationship between an operator and an independent maintenance contractor is adequate for the purposes of RIE.
- 3 The responsibility for monitoring an operator's adherence to the rules governing the use of RIE lies with the Director-General who should provide a suitable RIE Report Form requesting details of the original defect, the reason for the RIE and reasons why rectification was not carried out within the original Rectification Interval. Operators should forward the form to the Director-General within a timescale acceptable to the

Director-General.

- 4 The Director-General will detail procedures to be followed when dealing with the application and use of RIE; it is important that proper procedures are followed. In the event that operators do not comply with the specified procedures, the Director-General should take action by means of warning letters and ultimately not allow the operator to utilise RIE on either a temporary or permanent basis.

APPENDIX 1 to ACJ MMEL/MEL.65

(SPECIMEN)

CIVIL AVIATION DEPARTMENT

(OPERATOR'S NAME)

MINIMUM EQUIPMENT LIST

(AIRCRAFT TYPE)

PREAMBLE

(NOTE: This Specimen Preamble is intended only as an example of what is required and operators may, with the agreement of Director-General, vary the format and content of their MEL Preambles to suit their own needs and requirements.)

1 INTRODUCTION

This Minimum Equipment List (MEL) is based on the *(Name of Authority of the State of Design)* Master Minimum Equipment List (MMEL) *(Revision, dated)*.

This MEL takes into consideration *(the operator's)* particular aircraft equipment, configuration and operational conditions, routes being flown and requirements set by the Director-General of Civil Aviation (hereinafter referred as 'the Director-General').

This MEL will not deviate from Air Navigation (Hong Kong) Order 1995 as amended, Hong Kong Airworthiness Notices, any applicable Airworthiness Directive or any other mandatory requirement and will be no less restrictive than the MMEL.

The MEL is intended to permit operations with inoperative items of equipment for a period of time until rectification can be accomplished.

Rectification is to be accomplished at the earliest opportunity.

MEL Conditions and Limitations do not relieve the commander from determining that the aircraft is in a fit condition for safe operation with specified unserviceabilities allowed by the MEL.

The provisions of the MEL are applicable until the aircraft commences the flight.

Any decision to continue a flight following a failure or unserviceability which becomes apparent after the commencement of a flight must be the subject of pilot judgement and good airmanship. The commander may continue to make reference to and use of the MEL as appropriate.

By approval of the MEL the Director-General permits dispatch of the aircraft for revenue, ferry or training flights with certain items or components inoperative provided an acceptable level of safety is maintained by use of appropriate operational or maintenance procedures, by transfer of the function to another operating component, or by reference to other instruments or components providing the required information.

Note: For dispatch with airframe or engine parts missing, refer to the CONFIGURATION DEVIATION LIST (CDL).

2 CONTENTS OF MEL

The MEL contains only those items required by operating regulations or those items of airworthiness significance which may be inoperative prior to dispatch, provided that appropriate limitations and procedures are observed. Equipment obviously basic to aircraft airworthiness such as wings, rudders, flaps, engines, landing gear, etc. are not listed and must be operative for all flights. It is important to note that:

ALL ITEMS WHICH ARE RELATED TO THE AIRWORTHINESS OF THE AIRCRAFT AND NOT INCLUDED ON THE LIST ARE AUTOMATICALLY REQUIRED TO BE OPERATIVE.

3 CRITERIA FOR DISPATCH

The decision of the commander of the flight to have allowable inoperative items corrected prior to flight will take precedence over the provisions contained in the MEL. The commander may request requirements above the minimum listed, whenever in his judgement such added equipment is essential to the safety of a particular flight under the special conditions prevailing at the time.

The MEL cannot take into account all multiple unserviceabilities. Therefore, before dispatching an aircraft with multiple MEL items inoperative, it must be assured that any interface or inter-relationship between inoperative items will not result in degradation in the level of safety and/or an undue increase in crew workload. It is particularly in this area of multiple discrepancies and especially discrepancies in related systems, that good judgement, based on the circumstances of the case, including climatic and en-route conditions must be used.

4 MAINTENANCE ACTION

Every effort shall be made by maintenance to correct all technical defects as early as practicable and that the aircraft be released from a maintenance station in fully operational condition. The commander must be informed by maintenance as soon as practicable, should it be impossible to rectify the inoperative item prior to departure.

Whenever an aircraft is released by maintenance for dispatch with items inoperative, the following is required:

The technical log book aboard the aircraft must contain a detailed description of the inoperative item(s), special advice to the flight crew, if necessary, and information about corrective action taken.

When they are accessible to the crew in flight, the control(s), and/or indicator(s) related to inoperative unit(s) or component(s) must be clearly placarded.

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 should be determined by the operator.

If inadvertent operation could produce a hazard such equipment must be rendered inoperative (physically) as given in the appropriate maintenance procedure.

The relevant operational and maintenance procedures are contained in (*identify the particular Manual, Section, Chapter or Part etc. authorised by the appropriate Authority*).

5 RECTIFICATION INTERVALS

Inoperative items or components, deferred in accordance with the MEL, must be rectified at or prior to the rectification intervals established by the following letter designators given in the "Rectification Interval Category" column of the MEL.

Category A

No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the Remarks or Exception column (5) of the MEL.

Where a time period is specified in calendar days it shall start at 00:01 on the calendar day following the day of discovery. Whenever the time interval is listed as flight days, the time interval begins on the flight day following the day of discovery.

Category B

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

Category C

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

Category D

Items in this category shall be rectified within one hundred and twenty (120) consecutive calendar days, excluding the day of discovery.

6 RECTIFICATION INTERVAL EXTENSIONS

Subject to the approval of the Director-General, 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 in accordance with HKAR MMEL/MEL.081.

7 FERRY FLIGHTS

Ferry flights may be dispatched with less than the equipment specified in this MEL provided all the equipment expected to be utilised in flight is operable and any relevant Sections of the Flight Manual are applied.

Permission for such a flight, however, must be requested from the appropriate Authority or be granted by some other agreed procedure.

8 DEFINITIONS

For the purpose of this MEL the following definitions shall apply:

- (a) "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.
- (b) "Day" operation is any flight conducted from the point of take-off to landing between 30 minutes before sunrise and 30 minutes after sunset.
- (c) Dash "(—)" in columns 3 and 4 indicates a variable quantity.
- (d) "Icing Condition" means the atmospheric environment is such that ice can

form on the aircraft or in the engine(s).

- (e) "Commencement of flight" means the point when an aircraft begins to move under its own power for the purpose of preparing for take off.
- (f) "Inoperative" means that the equipment malfunctions to the extent that it does not accomplish its intended purpose or is not consistently functioning within its design operating limits or tolerances.

Note: Some equipment has been designed to be fault tolerant and are monitored by computers which transmit fault messages to a centralised computer for the purpose of maintenance. The presence of this category of message does not mean that the equipment is inoperative.

- (g) "Combustible Material" is material which is capable of catching fire and burning.
- (h) "It is not reasonably practical to repair or replace before the commencement of flight" OR "It is not reasonably practicable for repairs or replacements to be made" are intended to cover situations where there is a lack of a replacement part(s), inadequate engineering resources or manpower to enable the defect to be rectified.

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

- (i) "The aircraft may depart on the flight or series of flights for the purpose of returning directly to a base where repairs or replacements can be made" OR "The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made" are intended to allow the aircraft to be flown, using the most direct route, to the nearest maintenance base where arrangements for repairs or replacements can be made.

Note: Once the aircraft lands at the maintenance base, the aircraft shall not be dispatched until the defect has been rectified.

NOTE: *This is not an exhaustive list and operators should include in their MEL any definition which is considered to be relevant.*

9 CENTRALISED MESSAGE SYSTEMS (If appropriate)

This aircraft is equipped with a system (such as ECAM/EICAS) which provides different levels of systems information messages (warning, caution, advisory, status, maintenance etc.). Any aircraft discrepancy message that affects dispatch will normally be at status message level or higher. Therefore, systems conditions that result only in a maintenance message are not normally addressed in the MEL as they, in themselves, do not prohibit dispatch of the aircraft. However, maintenance discrepancy messages, must be recorded and corrected in accordance with the approved maintenance programme.

10 SPECIAL PROCEDURES FOR OPERATION OUTSIDE THE MEL

(Those operators which are allowed by the Director-General in accordance with HKAR MMEL/MEL.90 to use the Special Procedures for operation outside the conditions of the MEL should set out the arrangements and procedures for such operations agreed with the Director-General in the MEL Preamble).

APPENDIX 2 to ACJ MMEL/MEL.65**HKCAD MEL POLICY DOCUMENT****1 INTRODUCTION**

- 1.1 Article 14A of the AN(HK)O prescribes that an aircraft registered in Hong Kong shall not commence a flight if any of the equipment required by or under the said 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 and in accordance with the terms of a permission granted under this Article.
- 1.2 The permission granted by the Director-General to operators states that the only items of required equipment which are not carried or are not in a fit condition for use shall be listed in the respective aircraft type Minimum Equipment List (MEL) duly approved by the Director-General and it is provided in the said MEL that such items need not be carried or be in a fit condition for use in the circumstances of the intended flight.
- 1.3 The purpose of this Policy Document is to give operators the guidance necessary to develop the MEL provisions for instrument and equipment and conditions for their unserviceability, in order that HKAR-MMEL/MEL and other relevant operational requirements are properly complied with. Application of this Policy Document should ensure a harmonisation of MEL among all local operators and assist the Director-General in the MEL evaluation and approval.

2 MMEL ITEMS AS REQUIRED BY REGULATION/THE AUTHORITY

- 2.1 Certain items at the MMEL, especially for those navigation systems, the Remarks or Exceptions column will show "As required by Regulation/the

- 2.2 Authority". Operators when compiling their MEL should specify clearly any limitations as required by the relevant Hong Kong Aviation Requirements on those items such that dispatch of the aircraft could be allowed.
- 2.3 The following non-exhaustive list is established after reviewing most of the approved aircraft MMEL in Hong Kong and shows typical items that would fall into the situation as described in paragraph 2.1.
- 2.4 The listed rectification/repair intervals should be used when compiling the MEL. If there are differences in rectification/repair intervals between those as listed and those specified in the respective MMEL, the more restrictive intervals should be used. Rectification/repair intervals as stipulated by the relevant Hong Kong Aviation Requirements, including Hong Kong Airworthiness Notices (AN), AN(HK)O and etc., should be classified as Category A with applicable time limitations specified at the Remarks or Exceptions areas. No deviation from those intervals is allowed without prior approval from the Director-General.
- 2.5 Limitations/specified conditions for dispatch as required by the relevant Hong Kong Aviation Requirements are listed at Remarks or Exceptions areas together with their sources properly cross-referred. Other recommended procedures and/or considerations for dispatch based on the JAA Administrative & Guidance Material Section Four Part Three: Temporary Guidance Leaflet (TGL) (JAR-OPS) Leaflet No. 26 is also provided for MEL standardisation.

3 OPERATIONAL AND MAINTENANCE ITEMS

Any item of equipment in the MEL which, when inoperative would require an operational or maintenance procedure to ensure an acceptable level of safety, should be so identified in the "remarks" or "exceptions" column of the MEL. This will normally be "(O)" for an operational procedure, or "(M)" for a maintenance procedure. (O)(M) mean both operational and maintenance procedures are required (see HKAR MMEL/MEL.075(d)).

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|----------------------------|--|-----------|
| 22-10 | <p>Autopilot</p> <p>(1) Aeroplanes - Single Pilot Operations</p> <p>(2) Aeroplanes - Two Pilot Operations)</p> <p>(3) Helicopters - Single Pilot IFR Operations</p> | <p>D</p> <p>C</p> <p>-</p> | <p>Any in excess of one may be inoperative.</p> <p>(M)(O) May be wholly or partially inoperative provided:</p> <p>a) No electrical or mechanical fault exists that will have an adverse effect on any flight control function, and</p> <p>b) Precision navigation or approach minima do not require their use.</p> <p>Note: The automatic altitude control system is required to be operative for RVSM operations.</p> <p>Must be operative.</p> <p>Note: Any alleviations concerning the individual helicopter autopilot system should be made with reference to the manufacturer's MMEL.</p> | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|------|--|--------------------|
| 23-10 | Headset / Boom Microphone | B | One headset (including boom microphone) must be operative for each required crew member on flight deck duty. Any in excess of those required may be inoperative. | AN(HK)O Art. 35(8) |
| 23-11 | HF Communications (For Aeroplane Operations) | D | Any in excess of those required for the route to be flown, and not powered by an emergency bus, may be inoperative. | AN(HK)O Schedule 6 |
| 23-12 | VHF Communications (For Aeroplane Operations) | C | When flying VFR over routes navigated by visual reference to landmarks: Any in excess of one, and not powered by an emergency bus, may be inoperative. | JAA TGL |
| | | C | When flying IFR, or VFR over routes not navigated by visual reference to landmarks: Any in excess of two, and not powered by an emergency bus, may be inoperative. | |
| | a) Frequency Transfer Light | C | May be inoperative. | |
| | b) Frequency Transfer Switch | C | May be inoperative. | |
| | c) Frequency Selector Knob | C | Number required for dispatch is 2. | |
| | d) Frequency Indication | C | Number required for dispatch is 2. | |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|------|---|-----------|
| 23-12 | Radio Communications Systems (VHF / HF / UHF / FM) (For Helicopter Operations) | C | When flying VFR over routes navigated by reference to visual landmarks: Any in excess of one, and not powered by an emergency bus, may be inoperative. | JAA TGL |
| | | A | (O) When flying IFR, or VFR over routes not navigated by reference to visual landmarks: Any one of the two required Radio Communication Systems not powered by the emergency bus may be inoperative provided: a) The helicopter has not made more than one flight since the item was last serviceable, and b) The commander has satisfied himself that, taking into account the latest information available as to the route/are and heliport to be used (including any planned diversion) and the weather conditions likely to be encountered, the flight can be made safely and in accordance with any relevant requirements of the appropriate air traffic control unit. | |
| | a) Frequency Transfer Light | C | May be inoperative. | |
| | b) Frequency Transfer Switch | C | May be inoperative. | |
| | c) Frequency Selector Knob | C | Any in excess of one may be inoperative. | |
| | d) Frequency Indication | C | Any in excess of one may be inoperative. Note: Due to the different aircraft configurations and equipment fits, operators should review this alleviation with reference to their own operation and manufacturer's MMEL. | |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|---|---|---|
| 23-30 | Passenger/Public Address (PA) System (1) Passenger Configuration (2) Cargo Configuration | B D | For aircraft carries more than 19 passengers, a PA system and a flight deck-cabin interphone system are required. (O) May be inoperative provided: a) Alternate normal, and emergency procedures and/or operating restrictions are established and used, and are clearly defined by the operator at the MEL, and b) The flight crew compartment/cabin interphone system (including chime system) is operative. (O) May be inoperative provided alternate normal and emergency procedures and/or operating restrictions are established and used. | AN(HK)O Schedule 5 Scale Y2, JAA TGL |
| 23-40 | Cabin Interphone System (For Aeroplane Operations) (1) Flight Deck to Cabin / Cabin to Flight Deck (2) Cabin to Cabin (3) Flight Crew to Ground / Ground to Flight Crew | B C C | (O) May be inoperative provided: a) Flight deck door keypad (where installed) is verified to operate normally, and b) Flight deck door automatic locking system (where installed) is verified to operate normally, and c) Alternate procedures are established and used for communications with the flight deck, and d) The PA system operates normally. Note: Any station that is operative may be used. (O) May be inoperative provided: a) Alternate normal and emergency procedures are established and used, and b) The PA system is operative. (O) May be inoperative provided alternate normal and emergency procedures are established and used. | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|-------------------------------------|--|-----------|
| 23-40 | <p>Crew Member Interphone System (For Helicopter Operations)</p> <p>(1) Cabin / Service Interphone System (Flight Crew to Cabin / Ground, Cabin / Ground to Flight Crew, Cabin to Cabin)</p> <p>(2) Alerting System</p> <p>(3) Handsets</p> | <p>C</p> <p>C</p> <p>C</p> <p>C</p> | <p>(O) May be inoperative provided:</p> <p>a) Alternate normal and emergency procedures are established and used, and</p> <p>b) The PA system is operative.</p> <p>Note: Any station that is operative may be used.</p> <p>Visual signal may be inoperative on the flight deck.</p> <p>Both visual and aural signals may be inoperative in the cabin provided PA system is operative from the flight deck.</p> <p>Note: Any station that is operative may be used.</p> <p>Handsets at non required stations may be inoperative.</p> <p>(O) One handset may be inoperative provided alternate procedures are established and used to compensate for the loss of PA and interphone function at the affected station.</p> <p>Note: Any handset in excess of that required at each station may be inoperative.</p> | JAA TGL |
| 23-70 | Flight Deck Door Surveillance System (if installed) | D | (O) May be inoperative. | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|------|---|--------------------------------------|
| 23-71 | Cockpit Voice Recorder System (1) CVR | A | <p>One or more may be inoperative provided:</p> <ul style="list-style-type: none"> a) The failure occurs prior to take-off, and b) The aircraft does not exceed 8 further consecutive flights with the cockpit voice recorder unserviceable, and c) Not more than 72 hours have elapsed since the cockpit voice recorder was found to be unserviceable, and d) Any flight data recorder required to be carried is operative, and e) Aircraft shall not depart HKG unless the flight does not require passing over any other airspace. <p>Note: This alleviation is not applicable to combined CVR/FDR.</p> | AN(HK)O Schedule 5 Scale S, SS |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|------------|--|-----------|
| 25-21 | Passenger Seats | D D | <p>(M) One or more may be inoperative and secured in the upright position.</p> <p>OR,</p> <p>(M) One or more may be inoperative provided the inoperative seat(s):</p> <ul style="list-style-type: none"> a) Do(es) not block an emergency exit, and b) Do(es) not restrict any passenger from access to the main aircraft aisle, and c) Is (are) blocked and placarded "DO NOT OCCUPY". <p>Note: A seat with an inoperative or missing seat belt or harness is considered inoperative.</p> | JAA TGL |
| 25-21 | Cabin Crew Seat(s) (For Helicopter Operations) (where required) | C | <p>(M)(O) One seat or seat assembly may be inoperative provided:</p> <ul style="list-style-type: none"> a) Inoperative seat or seat assembly is not occupied, and b) Cabin crew displaced by inoperative seat occupies the passenger seat most accessible to his or her assigned exits, and c) Alternate procedures are established / approved and used for displaced cabin crew, and d) Folding type seat is stowed or secured in the retracted position, and e) Passenger seat assigned to cabin crew are placarded "FOR CABIN CREW USE ONLY". <p>Note 1: A seat with an inoperative or missing seat belt or harness is considered inoperative.</p> <p>Note 2: This requirement does not preclude use of passenger seats by cabin crew members carried in excess of the required cabin crew complement.</p> | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|-------------------|---|---|
| 25-21 | <p>Cabin Crew Seat(s) (For Aeroplane Operations)</p> <p>(1) Non-Required Cabin Crew Seats</p> <p>(2) Required Cabin Crew Seats</p> | <p>D</p> <p>B</p> | <p>(M)(O) Any in excess of those required by legislation may be inoperative.</p> <p>(M)(O) One seat or seat assembly may be inoperative provided:</p> <p>a) Inoperative seat or seat assembly is not occupied, and</p> <p>b) Cabin crew displaced by inoperative seat occupies the passenger seat most accessible to his or her assigned exits, and</p> <p>c) Alternate procedures are established/ approved and used for displaced cabin crew, and</p> <p>d) Folding type seat is stowed or secured in the retracted position, and</p> <p>e) Passenger seat assigned to cabin crew is placarded "FOR CABIN CREW USE ONLY".</p> <p>Note 1: A seat with an inoperative or missing seat belt or harness is considered inoperative.</p> <p>Note 2: This requirement does not preclude use of passenger seats by cabin crew members carried in excess of the required cabin crew complement.</p> <p>Note 3: Any aircraft which is subject to the direct view requirements may have one of the required cabin crew seats inoperative, provided the aeroplane does not depart a maintenance base where repairs or replacements can be made.</p> <p>Note 4: A folding seat that will not stow automatically or remain stowed is considered to be inoperative and shall be secured in the stowed position or removed.</p> | <p>AN(HK)O Schedule 5 Scale B JAA TGL</p> |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|---------------------|--|--|
| 25-60 | Torches | C OR C | Any in excess of those required as listed below may be inoperative or missing: a) One electric torch for each crew member. OR b) One electric torch for each flight crew member; and c) at least one electric torch affixed adjacent to each floor level exit. | AN(HK)O Schedule 5 Scale G |
| 25-65 | Megaphones | D | (M) Any in excess of those required as listed below may be inoperative or missing provided: a) The inoperative megaphone is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit, and b) Required distribution of operative megaphones is maintained. Megaphones required to be carried: a) One for 20 to 99 passengers. b) Two for 100 to 199 passengers. c) Three for more than 199 passengers. | AN(HK)O Schedule 5 Scale Y2 |
| 25-60 | Life Raft and Survival Beacon Radio Apparatus (if installed) | D | (M) Any in excess of those required may be inoperative or missing provided the inoperative equipment is placarded inoperative, removed from the installed location, and placed out of sight so it cannot be mistaken for a functional unit. | AN(HK)O Schedule 5 Scale K, U and V, AN 27 and JAA TGL |
| 25-62 | First Aid Kit | D A A | Any in excess of those required may be incomplete or missing. For aeroplane operations, if more than one is required only one of the required first aid kits may be incomplete for a maximum of 2 calendar days. For helicopter operations, first aid kit may be incomplete for a maximum of 1 calendar day. | AN(HK)O Schedule 5 Scale A, U and V JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|------|--|-----------|
| 25-63 | Automatic Emergency Locator Transmitter (ELT) (Aeroplane Operations) (Where required) | A | May be inoperative provided repairs are made within 6 further flights or 25 flying hours, whichever occurs first. | JAA TGL |
| 25-63 | Automatic Emergency Locator Transmitter (ELT) (Helicopter Operations) (Where required) | A | May be inoperative provided: a) The helicopter shall not fly for more than 6 hours after the ELT becomes unserviceable, and b) Not more than 24 hours have elapsed since the ELT became unserviceable. | JAA TGL |
| 25-63 | Automatically Deployable Emergency Locator Transmitter (ADELT) (Helicopter Operations) (Where required) | | | JAA TGL |
| | (1) Flights not overwater and overwater flights not beyond 10 minutes flying time from land | C | May be inoperative. | |
| | (1) Overwater flights beyond 10 minutes flying time from land | A | May be inoperative provided: a) The helicopter shall not fly for more than 6 hours after the ADELT becomes unserviceable, and b) Not more than 24 hours have elapsed since the ADELT became unserviceable. | |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|-----------------------------|------|---|-----------------------|
| 26-24 | Portable Fire Extinguishers | D | (M) Any in excess of those required by Airworthiness Notice No. 60 may be missing or inoperative provided: a) The inoperative fire extinguisher is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit, and b) Required distribution is maintained. | AN No. 60 and JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|----------------------------|------|--|-------------------------------------|
| 31-31 | Flight Data Recorder (FDR) | A | <p>One or more may be inoperative provided:</p> <ul style="list-style-type: none"> a) The failure occurs prior to take-off, and b) The aircraft does not exceed 8 further consecutive flights with the flight data recorder unserviceable, and c) Not more than 72 hours have elapsed since the flight data recorder was found to be unserviceable, and d) Any cockpit voice recorder (CVR) required to be carried is operative, and e) Aircraft shall not depart Hong Kong unless the flight does not require passing over any other airspace. <p>Note 1: This alleviation is not applicable to combined CVR/FDR.</p> <p>Note 2: The flight data recorder is considered to be inoperative when any of the following conditions exist:</p> <ul style="list-style-type: none"> (a) Loss of the flight recording function is evident to the flight crew during the pre-flight check e.g. by means of a system status monitor, or (b) The need for maintenance has been identified by the system monitors, where available, with the setting of an indicator and the cause of that setting has not been determined, or (c) Analyses of recorded data or maintenance actions have shown that more than 5% of the total number of individual parameters (variable and discrete) required to be recorded for the particular aircraft, are not being recorded properly. <p>Note 3: Where improper recording affects 5% of the parameters or less, timely corrective action will need to be taken by the aircraft operator in accordance with approved maintenance procedures.</p> | AN(HK)O Schedule 5 Scale P, S |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|-------------------------------------|-------------------|---|-----------|
| 31-31 | Combination Recorder (If installed) | <p>A</p> <p>A</p> | <p>If one combination recorder is installed, the flight data recorder or the cockpit voice recorder function may be inoperative provided:</p> <ul style="list-style-type: none"> a) The other function, where required, is operative, and b) The aircraft does not exceed 8 further consecutive flights with the inoperative function, and c) Not more than 72 hours have elapsed since the inoperative function was found. <p>If two combination recorders are installed, one may be inoperative provided:</p> <ul style="list-style-type: none"> a) The other combination recorder is operative, and b) Not more than 10 days have elapsed since the combination recorder was found to be unserviceable. <p>Note 1: The flight data recorder is considered to be inoperative when any of the following conditions exist:</p> <ul style="list-style-type: none"> (a) Loss of the flight recording functions is evident to the flight crew during the pre-flight check e.g. by means of a system status monitor, or (b) The need for maintenance has been identified by the system monitors, where available, with the setting of an indicator and the cause of that setting has not been determined, or (c) Analyses of recorded data or maintenance actions have shown that more than 5% of the total number of individual parameters (variable and discrete) required to be recorded for the particular aircraft, are not being recorded properly. <p>Note 2: Where improper recording affects 5% of the parameters or less, timely corrective action will need to be taken by the aircraft operator in accordance with approved maintenance procedures.</p> | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|---------------------|---|--|
| 33-10 | Flight Deck and Instrument Panel Lighting System | C C C | <p>One or more may be inoperative for daylight operations.</p> <p>Individual lights may be inoperative provided:</p> <ul style="list-style-type: none"> a) Sufficient lighting is operative to make each required instrument, control, and other device for which it is provided easily readable, and b) Sufficient flight deck emergency lighting is operative, and c) Lighting configuration at dispatch is acceptable to the flight crew. <p>Co-pilot's station instrument lights may be inoperative for single pilot operations, provided no Co-pilot's station instrument is required to be used by the Pilot.</p> | AN(HK)O Schedule 5 Scale C, JAA TGL |
| 33-20 | Cabin Signs ("Fasten Seat Belt" & "No Smoking" Signs) | C C | <p>(M)(O) No passenger seat or crewmember seat or lavatory may be occupied from which a "No Smoking/Fasten Seat Belt" sign is not readily legible.</p> <p>(M)(O) "No Smoking/Fasten Seat Belt" signs may be inoperative and the affected passenger seat(s), cabin crew seat(s) or lavatories may be occupied provided:</p> <ul style="list-style-type: none"> a) The PA system is operative and can be clearly heard throughout the cabin during flight, and b) A procedure is used to notify passengers when the seat belts must be fastened and smoking is prohibited. <p>May be inoperative provided passengers are not carried.</p> | AN(HK)O Schedule 5 Scale B and Article 50, JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|------|---|---|
| 33-41 | Position Lights (Wing Tips and Tail) (For Aeroplane Operations) | C | Any in excess of the following minimum required may be inoperative for night operation: a) One stationary red wing tip light, and b) One stationary green wing tip light, and c) One stationary white tail light. | AN(HK)O Schedule 14 Rules 9, 10 and 11 |
| | | C | One or more may be inoperative for daylight operations. Note: The light(s) is(are) repaired at the earliest practicable opportunity. | JAA TGL |
| 33-42 | Beacon Lights (Red-strobes Anti-collision Lights) (For Aeroplane Operations) | C | (O) Any in excess of one may be inoperative. | AN(HK)O Schedule 14 Rules 9, 10 and 11 |
| | | C | (O) All may be inoperative for daylight operations only. Note 1: The light(s) is(are) repaired at the earliest practicable opportunity. Note 2: In Hong Kong, when stationary on the apron with engines running a red anti-collision light must be displayed. | |
| 33-43 | Wing Illumination Lights, for Detection of Ice (Aircraft, other than helicopter or gyroplane, MTWA exceeds 5,700 kg.) | D | One or more may be inoperative for daylight operations. | AN(HK)O Schedule 5 Scale G |
| | | B | (O) One or more may be inoperative for night operations provided an alternate means is operative and used to illuminate ice accretion on another outside surface visible from the flight deck. | |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|------|---|-------------------------------|
| 33-51 | Cabin Lighting System(for aeroplanes fitted with Photo-luminescent Emergency Escape Path Marking System) | C | <p>Individual lights may be inoperative provided:</p> <ul style="list-style-type: none"> a) Sufficient light remains to charge the photo-luminescent emergency escape path marking system, in accordance with the manufacturer's requirements, and b) Remaining lighting is sufficient for cabin crew to perform their duties, and c) Cabin emergency lighting is operative. <p>Note 1: Cabin emergency lighting does not include emergency escape path marking systems.</p> <p>Note 2: The MEL must reflect the specific allowance for inoperative cabin lights, as specified by the Design Authority for the photo-luminescent emergency escape path marking system.</p> | UKCAA MMEL Policy Item: 33-2. |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|-------------------------------------|--|-------------------------------------|
| 33-51 | <p>Floor Proximity Emergency Escape Path Lighting System (For Aeroplane Operations)</p> <p>Floor Mounted Incandescent Marker Systems (i.e. Discrete Light Sources)</p> <p>Floor Mounted Electroluminescent Systems (i.e. Continuous Light Strip)</p> | <p>D</p> <p>C</p> <p>D</p> <p>C</p> | <p>May be inoperative for daylight operations.</p> <p>Up to 50% of the floor markers may be inoperative provided:</p> <ul style="list-style-type: none"> a) There is a distance of no more than 1.016 metres (40 inches) between operative markers, and b) The aisle floor markers nearest to each exit are operative, and c) All exit identifiers are operative (where an exit identifier is illuminated by more than one light, at least 50% of the lights must be operative). <p>May be inoperative for daylight operations.</p> <p>Up to 50% of the floor light strip may be inoperative provided:</p> <ul style="list-style-type: none"> a) There is a distance of no more than 1.016 metres (40 inches) between operative light strip sections, and b) The aisle floor light strip nearest to each exit are operative, and c) All exit identifiers are operative (where an exit identifier is illuminated by more than one light, at least 50% of the lights must be operative). | <p>UKCAA MMEL Policy Item: 33-2</p> |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|------------------|---|---|--|---------------------------------------|
| 33-51 (cont.) | <p data-bbox="391 362 651 562">Floor Proximity Emergency Escape Path Lighting System (For Aeroplane Operations) (cont.)</p> <p data-bbox="391 600 611 696">Seat Mounted Marking/ Lighting Systems</p> <p data-bbox="391 1406 647 1503">Photo-luminescent Emergency Escape Path Marking System</p> | <p data-bbox="683 600 715 629">D</p> <p data-bbox="683 734 715 763">C</p> <p data-bbox="683 1406 715 1435">D</p> <p data-bbox="683 1541 715 1570">C</p> | <p data-bbox="745 600 1257 629">May be inoperative for daylight operations.</p> <p data-bbox="745 734 1310 1368">Seat mounted marker lights or strip lights of similar light intensity to those used for floor mounted systems may be inoperative provided: a) There is a distance of no more than 1.016 metres (40 inches) between operative lights, and b) Seat mounted marker lights or strip lights nearest to each exit are operative, and c) For seat mounted flood lighting systems there is a distance between operative lights the dimension of which is to be agreed with the Director-General), and d) Seat mounted flood lights nearest to each exit are operative, and e) All exit identifiers and other exit cues are operative/fitted (e.g. route markers or placards). (Where an exit identifier is illuminated by more than one light, at least 50% of the lights must be operative).</p> <p data-bbox="745 1406 1257 1435">May be inoperative for daylight operations.</p> <p data-bbox="745 1541 1289 1704">A maximum of 12.2 cm (4.8 inches) in every 1.219 metres (48 inches) length, or 10% if the length is less than 1.219 metres (48 inches), may be missing or obscured provided all sidewall EXIT indicators are operative.</p> | UKCAA MMEL Policy Item: 33-2 |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|----------------------------|--|--|
| 34-10 | <p>Altimeters (For Aeroplane Operations)</p> <p>(1) Single Pilot Operations</p> <p>(2) Two Pilot Operations</p> | <p>B</p> <p>C</p> <p>C</p> | <p>For VFR operations, any in excess of one may be inoperative for day VMC only provided the operative altimeter is on the commander's side.</p> <p>Two must be operative for IFR operations.</p> <p>Any in excess of two may be inoperative provided:</p> <ul style="list-style-type: none"> a) One altimeter is operative for each pilot, and b) The required altimeters operate independently, and c) At least one of the above is pneumatic, or servo pneumatic altimeter. <p>Note 1: For aeroplanes fitted with EFIS, the altimeter displays (tape) must be operative.</p> <p>Note 2: Two independent altitude measurement systems are required to be operative for RVSM operations.</p> | <p>AN(HK)O Schedule 5 Scale E, JAA TGL</p> |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|--|---|-----------------------------|
| 34-10 | Altimeters (For Helicopter Operations) (1) Day Time Operations (1) Night Time Operations | C C | Any in excess of one may be inoperative provided: a) Flight is conducted with reference to visual landmarks, and b) The operative altimeter is on the handling pilot's side. Any in excess of one may be inoperative provided: a) Flight is conducted with reference to visual landmarks, and b) The radio altimeter (where required) is operative, and c) The operative altimeter is on the handling pilot's side. Note: For helicopters with EFIS type displays, the altimeter display (tape) must be operative. | JAA TGL |
| 34-15 | Altitude Alerting System | B | (O) May be inoperative provided: a) An autopilot with an altitude hold is operative, and b) Aircraft shall not depart Hong Kong unless the flight does not require passing over any other airspace. Note: One altitude alerting system is required to be operative for RVSM operations. | AN(HK)O Schedule 5 Scale AA |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|------|---|---|
| 34-15 | Radar Altimeter with an Audio Voice Warning (Where required for helicopter operation) | A | (O) May be inoperative provided: a) It is not reasonably practical to repair or replace the radio altimeter before the commencement of the flight, and b) No more than 6 hours shall be flown overwater since the radio altimeter became unserviceable, and c) No more than 24 hours have elapsed since the radio altimeter became unserviceable, and d) The aircraft shall not fly overwater at an altitude of less than 500 feet except for take-off and landing, and e) The helicopter shall not descend below 500 feet on approach to landing overwater unless the landing site is clearly visible to the pilot. | AN(HK)O Schedule 5 Scale EE, JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|------|---|-----------|
| 34-40 | Airborne Collision Avoidance System (ACAS)/(TCAS) | | | JAA TGL |
| | (1) ACAS System | A | <p>(O)(M) May be inoperative provided the system is deactivated and secured, and</p> <p>a) Aircraft shall not depart Hong Kong unless the flight does not require passing over any other airspace, and</p> <p>b) If the aircraft is intended to be flown in airspace in which ACAS operation is required it may not fly for more than 10 calendar days with the equipment completely inoperative.</p> <p>Note: Local airspace requirement may impose a more restrictive rectification interval.</p> | |
| | (2) Combined TA and RA Dual Displays | C | <p>(O) May be inoperative on the non-flying pilot side provided:</p> <p>a) TA and RA elements and audio functions are operative on flying pilot side, and</p> <p>b) TA and RA display indications are visible to the non-flying pilot.</p> | |
| | (3) Resolution Advisory (RA) Display Systems | C | <p>(O) One may be inoperative on the non-flying pilot side.</p> | |
| | | C | <p>(O) One or more may be inoperative provided:</p> <p>a) All Traffic Alert (TA) display elements and voice command audio functions are operative, and</p> <p>b) TA only mode is selected by the crew.</p> | |
| | (4) Traffic Alert(TA) Display System(s) | C | <p>(O) One or more may be inoperative provided all installed RA display and audio functions are operative.</p> | |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|--|--|-------------------------------------|
| 34-41 | Weather Radar System(s) | <p>D</p> <p>C</p> | <p>Any system in excess of one may be inoperative provided procedures do not require use of inoperative systems.</p> <p>One or more system(s) may be inoperative provided the weather reports or forecasts available to the commander indicate that cumulo-nimbus clouds or other potentially hazardous weather conditions, which could be detected by the system(s) when in working order, are unlikely to be encountered on the intended route or any planned diversion therefrom.</p> | AN(HK)O Schedule 5 Scale O, JAA TGL |
| 34-43 | <p>Ground Proximity Warning Systems</p> <p>(1) Modes 1 to 4</p> <p>(2) Test Mode</p> <p>(3) Glideslope Deviation (Mode 5)</p> | <p>A</p> <p>A</p> <p>A</p> <p>B</p> <p>C</p> | <p>May be inoperative provided:</p> <p>a) Repairs or replacements are carried out within 6 further flights or 25 flying hours or 2 calendar days, whichever occurs first, and</p> <p>b) Aircraft shall not depart Hong Kong unless the flight does not require passing over any other airspace.</p> <p>May be inoperative provided:</p> <p>a) Repairs or replacements are carried out within 6 further flights or 25 flying hours or 2 calendar days, whichever occurs first, and</p> <p>b) Aircraft shall not depart Hong Kong unless the flight does not require passing over any other airspace.</p> <p>May be inoperative provided:</p> <p>a) Repairs or replacements are carried out within 6 further flights or 25 flying hours or 2 calendar days, whichever occurs first, and</p> <p>b) Aircraft shall not depart Hong Kong unless the flight does not require passing over any other airspace.</p> <p>May be inoperative.</p> <p>May be inoperative for day VMC only.</p> | AN(HK)O Schedule 5 Scale X, JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|------------------|--|---|---|--|
| 34-43 (cont.) | Ground Proximity Warning Systems (cont.) (4) Terrain Awareness & Warning System (TAWS) (where required) (5) Advisory Callouts (If Installed) (6) Windshear Mode (If Installed) (a) Predictive (b) Reactive | A A C D D | May be inoperative provided: a) The GPWS functions are operative, and b) Repairs or replacement are carried out within 10 calendar days. May be inoperative provided repairs or replacements are carried out within 6 further flights or 25 flying hours or 2 calendar days, whichever occurs first. Note: Particular circumstances may require the use of additional or alternate procedures. The alternate procedures would require the operator to consider the routes over which the operator is flying and ensure that the pilot adopted a flight path which would give him or her the protection which would otherwise be afforded. (O) May be inoperative provided alternate procedures are established and used. Note: Check Flight Manual limitations for approach minimums. May be inoperative. (O) May be inoperative provided alternate procedures are established and used. Note: For some designs, these functions are dealt with by other systems. | AN(HK)O Schedule 5 Scale X, JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|------|---|---|
| 34-50 | Radio Navigation Equipment (1) Duplicated VHF Navigation System (VOR/ILS) (2) 75 MHz Marker Beacon Receiver (3) DME (4) Radio Compass System (ADF) | A | Not more than one for each of the listed items may be inoperative provided: a) It is not reasonably practicable to repair or replace the item, before the commencement of the flight, and b) The aircraft has not made more than ONE flight since the item was last serviceable, and c) The commander of the aircraft has satisfied himself that, taking into account the latest information available as to the route and aerodrome to be used (including any planned diversion) and the weather conditions likely to be encountered, the flight can be made safely and in accordance with any relevant requirements of the appropriate air traffic unit. | AN(HK)O Schedule 6 Scale H or CAD Exemption |
| 34-54 | SSR Transponder | C | Any in excess of one may be inoperative. Note: This system is required to be operative for RVSM operations. | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|--|------|--|----------------------------------|
| 35-20 | Passenger Oxygen System | B | <p>See AN(HK)O for different scenario.</p> <p>(O)(M) May be inoperative provided:</p> <ul style="list-style-type: none"> a) Maximum altitude is limited to an altitude pressure of 10,000 feet, and b) All air conditioning packs operate normally, and c) All other components of the pressurisation system operate normally, and d) Passengers are appropriately briefed. <p>Note: The AN(HK)O oxygen requirements are given in Schedule 5 Scales L1 and L2. The affectivity depends upon date of first issue of a certificate of airworthiness. Therefore, a given type of aircraft may have examples subject to either of the two Scales of requirements. The amount of oxygen required varies considerably between L1 and L2, particularly for operations above FL250/300. Provided the operator supplies the required amount of oxygen, dispatch is considered acceptable.</p> | AN(HK)O Schedule 5 Scale L1 & L2 |
| 35-50 | Portable Oxygen Dispensing Units (Bottle and Mask) (Therapeutic) | D | <p>(M) Any in excess of those required may be inoperative provided the inoperative equipment is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit.</p> <p>Operator has to demonstrate the minimum number of unit required for dispatch.</p> <p>Note: The portable oxygen supplies required by Scales L1 and L2 are totally separate from the requirements of Scale R2.</p> | AN(HK)O Schedule 5 Scale L1 & L2 |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|-------|---|--|--|-----------|
| 52-51 | <p>Reinforced Flight Deck Door</p> <p>(1) Automatic Locking System</p> <p>(2) Lock Control Selector / Switch</p> <p>(3) LOCK / DENY Function</p> <p>(4) UNLOCK Function</p> | <p>A</p> <p>B</p> <p>C</p> <p>B</p> <p>C</p> | <p>(O)(M) May be inoperative for a maximum of 4 flights provided:</p> <p>a) Automatic locking system is deactivated, and</p> <p>b) Alternate procedures are established and used for locking and unlocking the door, using deadbolts or supplementary restraint systems.</p> <p>Note: These dispatch conditions only apply to operations to and from countries which require secured doors.</p> <p>(O)(M) May be inoperative provided:</p> <p>a) Automatic locking system is deactivated, and no other locking system is used, and</p> <p>b) Alternate procedures are established and used for access to the flight deck.</p> <p>Any system in excess of one may be inoperative.</p> <p>(O)(M) May be inoperative provided:</p> <p>a) Flight deck access device [keypad or pushbutton] is deactivated, and</p> <p>b) Alternate locking system is verified to operate normally, and</p> <p>c) Alternate procedures are established and used to lock the door, and for access to the flight deck.</p> <p>(O)(M) May be inoperative provided:</p> <p>a) Automatic locking system is verified to operate normally, and</p> <p>b) Alternate procedures are established and used to lock the door.</p> | JAA TGL |

| ATA | Item | R.I. | Remarks or Exceptions | Reference |
|------------------|--|------|--|--|
| 52-51 (cont.) | Reinforced Flight Deck Door (cont.) | | | JAA TGL |
| | (5) NORM / AUTO Function | B | (O)(M) May be inoperative provided: a) Flight deck access device [keypad or pushbutton] is deactivated, and b) Alternate locking system is verified to operate normally, and c) Alternate procedures are established and used for access to the flight deck. | |
| | (6) Door Release Mechanism / Door Strike (if installed) | D | For configuration where 3 door release mechanisms / door strikes are installed, one may be inoperative. | |
| | (7) Flight Deck Access Devices [Keypad / Pushbutton] | C | (O)(M) May be inoperative provided: a) Flight deck access device is deactivated, and b) Alternate procedures are established and used for access to the flight deck. | |
| | (8) LEDs on keypad or control panel | C | (O) May be inoperative provided alternate procedures are established and used for access to the flight deck. | |
| | (9) Door Lock FAIL / FAULT Light | C | May be inoperative provided the automatic lock controls are verified to operate normally. | |
| | (10) Door Lock AUTO UNLK / OPEN Light | C | May be inoperative provided: a) Automatic lock controls are verified to operate normally, and b) Door chime or buzzer operates normally. | |
| | (11) Buzzer / Chime | C | (O)(M) May be inoperative provided: a) Flight deck access device [keypad or pushbutton] is deactivated, and b) Alternate procedures are established and used for access to the flight deck. | |
| | (12) Supplementary Restraint Systems / Deadbolt (if installed) | B | May be inoperative provided the routes over which the aircraft is flying do not require it. Note 1: Observe the latest restriction imposed by Cockpit security requirements. Note 2: A general exemption has been issued for some business jets. | AN(HK)O Schedule 5 Scale Q, AN36E |

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