Civil Aviation Authority

SUPPLEMENT TO

BOEING / FAA APPROVED

MASTER MINIMUM EQUIPMENT LIST

FOR

BOEING 747 CLASSIC

(SERIES 100/200)

REVISION 2c

13 November 2009

CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2c
13 November 2009

BOEING 747 CLASSIC
(Series 100/200)

Revision 2c

This Master Minimum Equipment List (MMEL) Supplement is issued by the Civil Aviation Authority at the above revision and is approved as the basis for the preparation and approval of individual operators' Minimum Equipment Lists (MELs) for aircraft of this Type.

H A Fowler

For and on behalf of the
Civil Aviation Authority

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CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2c
13 November 2009

BOEING 747 CLASSIC
(Series 100/200)

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CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2c
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BOEING 747 CLASSIC
(Series 100/200)

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CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2c
13 November 2009

BOEING 747 CLASSIC
(Series 100/200)

TABLE OF CONTENTS

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LIST OF EFFECTIVE PAGES

Page		Revision	Date
i	Approval Sheet	Revision 2c	13 November 2009
iii	Revision Record	Revision 2c	13 November 2009
v	Table of Contents	Revision 2c	13 November 2009
vii	List of Effective Pages	Revision 2c	13 November 2009
viii	List of Effective Pages Cont.	Revision 2c	13 November 2009
ix	Introduction	Revision 2c	13 November 2009
xi	Preamble	Revision 2c	13 November 2009
xii	Preamble Cont.	Revision 2c	13 November 2009
xiii	Definitions	Revision 2c	13 November 2009
xiv	Definitions Cont.	Revision 2c	13 November 2009
xv	Definitions Cont.	Revision 2c	13 November 2009
xvi	Definitions Cont.	Revision 2c	13 November 2009
xvii	Definitions Cont.	Revision 2c	13 November 2009
xix	Revision Highlights	Revision 2c	13 November 2009
xx	Revision Highlights Cont.	Revision 2c	13 November 2009
xxi	Revision Highlights Cont.	Revision 2c	13 November 2009
	S21-1	Revision 2	3 January 2007
	S21-2	Revision 2	3 January 2007
	S21-3	Revision 2	3 January 2007
	S21-4	Revision 2	3 January 2007
	S21-5	Revision 2	3 January 2007
	S22-1	Revision 2	3 January 2007
	S23-1	Revision 2	3 January 2007
	S23-2	Revision 2	3 January 2007
	S24-1	Revision 2	3 January 2007
	S25-1	Revision 2	3 January 2007
	S25-2	Revision 2	3 January 2007
	S25-3	Revision 2	3 January 2007
	S25-4	Revision 2a	16 April 2008
	S25-5	Revision 2	3 January 2007
	S25-6	Revision 2c	13 November 2009
	S25-7	Revision 2b	12 November 2008
	S25-8	Revision 2b	12 November 2008
	S26-1	Revision 2	3 January 2007
	S26-2	Revision 2	3 January 2007
	S27-1	Revision 2	3 January 2007
	S27-2	Revision 2	3 January 2007
	S28-1	Revision 2c	13 November 2009
	S29-1	Revision 2	3 January 2007
	S29-2	Revision 2	3 January 2007
	S30-1	Revision 2	3 January 2007
	S31-1	Revision 2	3 January 2007
	S32-1	Revision 2	3 January 2007
	S33-1	Revision 2c	13 November 2009
	S33-2	Revision 2c	13 November 2009
	S34-1	Revision 2	3 January 2007
	S34-2	Revision 2	3 January 2007
	S34-3	Revision 2	3 January 2007

SUPPLEMENT

Revision 2c
13 November 2009

BOEING 747 CLASSIC
(Series 100/200)

LIST OF EFFECTIVE PAGES

Page	Revision	Date
S34-4	Revision 2c	13 November 2009
S34-5	Revision 2c	13 November 2009
S34-6	Revision 2c	13 November 2009
S34-7	Revision 2c	13 November 2009
S35-1	Revision 2	3 January 2007
S35-2	Revision 2	3 January 2007
S36-1	Revision 2	3 January 2007
S52-1	Revision 2	3 January 2007
S52-2	Revision 2	3 January 2007
S56-1	Revision 2c	13 November 2009
S73-1	Revision 2	3 January 2007
S75-1	Revision 2	3 January 2007
S75-2	Revision 2	3 January 2007
S77-1	Revision 2	3 January 2007
S78-1	Revision 2	3 January 2007
S79-1	Revision 2	3 January 2007

CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2c
13 November 2009

Boeing 747 CLASSIC
(Series 100/200)

INTRODUCTION

GUIDANCE IN THE USE OF THIS SUPPLEMENT

1. This supplement defines the standard of MMEL approved by the CAA for the above aircraft type. The supplement identifies the differences from the FAA MMEL. To assist users of this supplement, changes made from the standard presented in the FAA MMEL are highlighted in **bold** type.

2. The information presented in the FAA MMEL for the aircraft type is acceptable to the CAA except where superseded by an item in this supplement.

   NOTE Items within this supplement will use the same reference number as the corresponding item in the FAA MMEL, where applicable.

3. Unless superseded by information within this supplement, where the FAA MMEL refers to an item "as required by FAR" it shall be interpreted as meaning, "As required by Operating Requirements".

4. The MMEL and supplement apply a category (A, B, C or D) to each MMEL item which defines the length of time the deficiency may be carried (see Definition No. 3).

5. The standard Preamble and Definitions appropriate to a CAA MMEL are included here. These, in conjunction with those in the FAA MMEL, should be applied to any MEL generated by the use of this supplement.

6. This supplement is based upon the FAA approved Boeing 747 100/200/300/SP MMEL up to **Revision 34a dated 17 August 2009**.

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CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2c
13 November 2009

BOEING 747 CLASSIC
(Series 100/200)

PREAMBLE

1. The CAA approved Master Minimum Equipment List (MMEL) provides owners/operators of United Kingdom registered aircraft, of the relevant type, with the basis for the preparation of their individual Minimum Equipment List (MEL). In the case of holders of Air Operator Certificates, the MEL will be included in that Company's Operations Manual.

2. The approved MMEL represents a list of items of equipment which, under particular circumstances, can, to the satisfaction of the CAA, be unserviceable when the aircraft is dispatched, while still retaining the required level of safety.

3. The CAA recognises that in some respects the standard and scale of equipment provided in the aircraft may exceed the minimum required to satisfy airworthiness or Air Navigation Legislation requirements (including JAR-OPS 1 or EU-OPS). Where necessary to achieve a satisfactory level of safety with an inoperative item, appropriate limitations are imposed or the function transferred to another component.

4. The MMEL does not include items such as wings, engines and landing gear that are always required, nor is reference made to equipment such as passenger convenience and entertainment items which, when inoperative, obviously do not affect airworthiness. It is important to note therefore that ANY ITEM WHICH IS RELATED TO THE AIRWORTHINESS OF THE AIRCRAFT AND WHICH IS NOT INCLUDED IN THE MMEL IS ALWAYS REQUIRED TO BE OPERATIVE BEFORE A FLIGHT IS DISPATCHED. This also applies to items required by Air Navigation Legislation. Additional Certification Requirements as appropriate, which are not listed, must be operative.

5. The MMEL may not waive a limitation or an emergency procedure which is given in the Flight Manual (FM) or override an Airworthiness Directive (AD) /Mandatory Inspection unless the FM/AD provides otherwise. Similarly, any Additional Certification Requirements, or other special provisions, as appropriate, which have been determined as necessary by the CAA shall not be waived unless otherwise agreed or varied by the CAA.

6. An Owner/Operator's MEL must receive CAA approval which thereby conveys the permission, required by the UK Air Navigation Order, to the Commander, for operation of the aircraft with specified items of equipment unserviceable.

7. The MEL may not be less restrictive than the MMEL, therefore the number of items required for dispatch shall not be less than the corresponding number in column 4 of the MMEL and any associated conditions shall be at least as severe as those specified in column 5.

8. The MMEL does not anticipate the effects of combinations of apparently unrelated unserviceabilities or allow for situations where systems are made inoperative for special purposes such as demonstration, test or crew training. Other provisions may apply to positioning or ferrying flights but these may not necessarily be included in the MMEL.

PREAMBLE (Cont.)

9. The MEL should indicate that a decision to operate the aircraft with multiple unserviceabilities should only be made after due consideration of possible interrelated or additive effects and, if necessary, following consultation with appropriate engineering specialists.

10. It is not the purpose of the MMEL to allow defects of other than optional items to remain unrectified indefinitely. The operational flexibility provided under the MMEL policy is justified only within a framework of controlled and sound programmes of repairs, replacement and servicing. Defects should be rectified expeditiously thus retaining the intended overall level of safety and reducing the possibility of a subsequent failure necessitating the removal of the aircraft from service. Particular items in the MMEL may be subject to a limitation of flight hours, number of flights or consecutive calendar days, and these must be transferred into the MEL. A limit of three calendar days for completion of repairs or replacements has been applied to some items. Other time limits for rectification, such as those specified by the ANO, may also be applied as appropriate. Operators with established routes shall specify in the MEL at which stations, in additional to the main maintenance base, repair facilities exist.

11. This MMEL is based upon UK legislation and some of the alleviations it provides may not therefore necessarily comply with foreign legislation.

12. Where entries specify the use of (O) and/or (M) procedures the information contained in the BOEING 747 CLASSIC Dispatch Deviations Guide has been taken as the minimum required.

13. The CAA MMELs and Supplements are produced in conjunction with a base document, generally either the MMEL issued/approved by a Foreign Airworthiness Authority or the aircraft manufacturer at a specific quoted revision number and date. There may be occasions whereby the CAA MMEL or Supplement has not been updated to consider later revisions of the base document. This could lead to instances where there are alleviations in the base MMEL which have either been revised or deleted and are now more restrictive than the corresponding CAA MMEL or Supplement entry. Operators are invited to review all new base document MMEL revisions and where necessary advise the CAA MMEL section of any significantly more restrictive alleviations introduced by the revision. The CAA will then expedite review of these variations and, where required, issue amendments to the CAA MMEL or Supplement.

    New or amended alleviations given in later issues of the base document shall not be used until the CAA MMEL or Supplement has been updated to confirm that issue of the base document is acceptable.

DEFINITIONS

1. In this list, the items of equipment are classified in systems according to the ATA 100 specification. Individual items within a given ATA classification are numbered sequentially.

2. "Item" (Column 1): The equipment, system, components or function as listed in Column 1.

   NOTE: Items annotated in UPPER CASE letters indicate the precise flight deck legend used.

3. "Rectification Intervals" (Column 2): 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" column (2) of the MMEL.

   NOTE: **Subject to the approval of the Authority, the operator may permit a one-time extension of the applicable Rectification Interval B, C or D for the same duration as that specified in 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 column (5) of the MMEL.

   Where a time is specified it shall start at 00:01 on the calendar 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. For example, if it were recorded at 10 am on January 26th, the three-day interval would begin at midnight on the 26th and end at midnight on the 29th.

   Category C
   Items in this category shall be rectified within ten (10) consecutive calendar days, excluding the day of discovery. For example, if it were recorded at 10 am on January 26th, the 10 day interval would begin at midnight on the 26th and end at midnight on February 5th.

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

4. "Number Installed" (Column 3): The number of the specified items normally installed in the aircraft. This number identifies the aircraft configuration considered in developing the MMEL.

   NOTE: The operator's MEL should list the number installed in a particular aircraft.

5. "Number Required for Dispatch" (Column 4): The minimum number of the specified items required for operation provided the conditions defined in Column 5 are met.

DEFINITIONS (Cont.)

6. "Remarks or Exceptions" (Column 5): This column includes a statement prohibiting operation or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation and appropriate notes.

7. Dash (-): This symbol indicates a variable quantity when used in Columns 3 or 4.

   NOTE: The operator's MEL should list the numbers appropriate to his particular aircraft in Columns 3 and 4.

8. "Placarding": Each inoperative item must be placarded to inform and remind the crew members and maintenance personnel of the equipment condition. To the extent practicable, placards should be located adjacent to the control or indicator for the item affected such that it is clear to the operating crew that it or its associated system is inoperative.

   NOTE: The practice of specifying which items must be placarded, by means of an asterisk (*), has been discontinued.

9. "Inoperative": A system or item of equipment is deemed inoperative if it malfunctions such that it does not accomplish its intended purpose and/or is not consistently functioning within its designed operating limit(s) or tolerance(s).

10. "(O)": The use of this symbol in Column 5 indicates that an appropriate operating procedure (or change to an existing procedure) must be established, published and utilised to maintain the required level of safety while operating under the terms of the (M)MEL.

    Normally, these procedures are accomplished by the flight crew. However, other personnel may be qualified and authorised to perform certain functions.

11. "(M)": The use of this symbol in Column 5 indicates that an appropriate maintenance procedure must be established, published and utilised prior to the first flight undertaken following discovery of the defect and, if necessary, repeated at specified intervals during operation under the terms of the (M)MEL to maintain the required level of safety.

    Normally, these procedures are accomplished by maintenance personnel. However, other personnel may be qualified and authorised to perform certain functions.

    NOTE: Where an item is annotated (O)/(M), the "/" is defined as "and/or", which shows that there may be different options available in respect of the MEL procedures.

12. "As required by Air Navigation Legislation / Operating Requirements": The associated item must comply with legal provisions such as the Air Navigation Order or any other legislation (JAR-OPS 1 or EU-OPS) in force during the flight.

    Operators should refer to the JAR-OPS 1 MEL Policy document (Temporary Guidance Leaflet number 26) for suitable alleviations based upon the required equipment identified within JAR-OPS 1 or EU-OPS, subparts K and L (published in the JAA Administrative and Guidance, section four, Operations, part three).

DEFINITIONS (Cont.)

13. "VMC" and "IMC": The definitions of these terms are those used in Section 2 of the Air Navigation Order - Rules of the air. The definition of VMC does not include 'VFR-on-top'.

14. "Icing Conditions": An atmospheric condition that may cause ice to form on the aircraft or in the engines.

15. "Visible Moisture": An atmospheric environment containing water in any form that can be seen in natural or artificial light, i.e. clouds, fog, rain, sleet, hail, snow.

16. "Flight Hour": The time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing.

    NOTE: The definition differs from that given in the Air Navigation Order.

17. "Flight": For the purpose of a MEL, a flight is the period of time between the moment when an aeroplane begins to move by its own means, for the purpose of preparing for take-off, until the moment the aeroplane comes to a complete stop on its parking area, after the subsequent landing (and no subsequent take-off).

18. "Flight day": A 24 hour period (from midnight to midnight) during which at least one flight is scheduled for the affected aircraft.

19. "Authority": The competent regulatory authority according to the country of registry; for aircraft registered in the U.K. this is the Civil Aviation Authority.

20. "It is not reasonably practical to repair or replace before the commencement of flight / It is not reasonably practicable for repairs or replacements to be made": These statements are intended to cover situations where there is a lack of a replacement part(s), inadequate engineering resources or manpower to enable the defect to be rectified.

    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 on base to perform the task. The definition is not dependent on whether there is enough time available to complete the task before the next flight. If the aircraft is at a maintenance base or any other airport, but the spare(s) or manpower are not available, then the aircraft may be dispatched. As soon as the aircraft lands at an airport where the spares are available and there are qualified and authorised personnel on base, the defect must be rectified.

21. "The aircraft may depart on the flight or series of flights for the purpose of returning directly to a base where repairs or replacements can be made / the aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made": These statements 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.

DEFINITIONS (Cont.)

22. "Combustible (Material)": is defined as material which is capable of catching fire and burning.

When an MMEL item specifies the condition that only non-combustible materials are to be carried, it is the operator's responsibility to determine that all material (including containers, packing material and pallets etc) in the associated compartments is of a non-combustible nature.

If it cannot be determined whether any proposed cargo is non-combustible, it must not be loaded in compartments where combustible materials are prohibited.

23. "System": System means the group of directly related components which together perform a specified function, for example 'RPM indication system' would include the RPM indicator, tachometer generator, circuit breaker and associated circuitry.

24. "Extended Overwater Flight": Refers to an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline.

25. "Dispatch": The point at which an aircraft first moves under its own power for the purpose of commencing a flight.

NOTE: The definition above is in accordance with that given in Article 155(2)(a) of the ANO. The MMEL/MEL applies to all defects identified that occur up to the point of dispatch. They come into effect again when the aircraft next comes to rest at the end of its flight.

26. Base Documents used for the preparation of this MMEL Supplement are:

(a) FAA B747 Series100/200/300/SP MMEL at **Revision 34a, dated 17 August 2009**.

(b) CAA Policy as at **13 November 2009**.

(c) CAA MMEL Supplement B747 Series 100/200 at **Revision 2b, dated 12 November 2008**.

DEFINITIONS (Cont.)

27. This MMEL is applicable to Boeing 747 Series 100/200 aircraft (including Passenger, Combi and Freighter variants but excluding SP versions), having any of the following engines installed:

Engine Types:

Pratt and Whitney JT 9D-3
Pratt and Whitney JT 9D-3A
Pratt and Whitney JT 9D-7
Pratt and Whitney JT 9D-7A
Pratt and Whitney JT 9D-7AH
Pratt and Whitney JT 9D-7F
Pratt and Whitney JT 9D-7J
Pratt and Whitney JT 9D-7Q
Pratt and Whitney JT 9D-70A

General Electric CF6-50E2

Rolls Royce RB211-524B2-19
Rolls Royce RB211-524C2-19
Rolls Royce RB211-524D4-19
Rolls Royce RB211-524D4-39
Rolls Royce RB211-524B2-B-19
Rolls Royce RB211-524C2-B-19
Rolls Royce RB211-524D4-B-19
Rolls Royce RB211-524D4-B-39
Rolls Royce RB211-524D4X-19
Rolls Royce RB211-524D4X-B-19

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HIGHLIGHTS OF REVISION 2

GENERAL These highlights reflect the changes introduced as a consequence of reviewing FAA approved MMEL Revision 33 (dated 4 May 2006).
Letter "B" removed from "Boeing B747 Classic" in title and throughout document.

INTRODUCTION Editorial corrections and amended to reflect that Revision 33 dated 4 May 2006 is now the appropriate version of the FAA MMEL.

DEFINITIONS Item 25 – Air Navigation Order reference amended.

Item 26 – Amended to reflect the base documents used in the preparation of this MMEL Supplement.

ATA 25 EQUIPMENT/FURNISHINGS

25-11	Upper Deck Escape Slide Inflation System (or door).	Sub Item 1) amended in line with FAA MMEL at Revision 33.
25-25	Emergency Medical Equipment	Item deleted. FAA MMEL entry acceptable.

ATA 28 FUEL

28-12	Centre Tank Fuel Quantity Indicating System (F/E Panel)	The FAA MMEL entry at Revision 33 is acceptable.

ATA 34 NAVIGATION

34-23	Weather Radar System	Complete MMEL Supplement text entered for clarification, comprising CAA Policy (in bold type) plus additional functions (as per FAA MMEL, in normal type).
34-26	ATC Transponders	Revised to reflect CAA policy for Mode S transponders.

HIGHLIGHTS OF REVISION 2a

GENERAL These highlights reflect the changes introduced as a consequence of reviewing FAA approved MMEL Revision 33a, dated 24 March 2008.

INTRODUCTION Amended to reflect that Revision 33a dated 24 March 2008 is now the appropriate version of the FAA MMEL.

PREAMBLE Item 3 – Reference added to JAR-OPS 1 and EU-OPS.

HIGHLIGHTS OF REVISION 2a (Cont.)

DEFINITIONS Item 12 – References added to EU-OPS.

Item 13 – Amended to state that the definition of VMC does not include 'VFR-on-top'.

Item 26 – Base document references updated.

ATA 25 EQUIPMENT/FURNISHINGS

25-11	Upper Deck Escape Slide Inflation System (or door)	Sub Item 1) Proviso b), "and escape harness" highlighted in bold type as this now forms a difference from the FAA wording. Sub Item 2) Provisos a) and b) – '(O)' added, in line with FAA MMEL Sub Item 2) Proviso c) – "only those flight crewmembers" highlighted in bold as the wording differs from the FAA MMEL. No technical change. Sub Item 3) - "only those flight crewmembers" highlighted in bold as the wording differs from the FAA MMEL. No technical change.
25-29	Emergency Locator Transmitter	Item re-written to identify Fixed and Survival Type ELTs, in line with FAA MMEL.

HIGHLIGHTS OF REVISION 2b

GENERAL These highlights reflect the changes introduced as a consequence of reviewing FAA approved MMEL Revision 34, dated 27 August 2008.

INTRODUCTION Amended to reflect that Revision 34 dated 27 August 2008 is now the appropriate version of the FAA MMEL.

DEFINITIONS Item 26 – Base document references updated

ATA 25 EQUIPMENT/FURNISHINGS

25-22	Passenger Seats	The FAA MMEL entry at Revision 34 is acceptable.

CIVIL AVIATION AUTHORITY

MASTER MINIMUM EQUIPMENT LIST

SUPPLEMENT

Revision 2b
12 November 2008

BOEING 747 CLASSIC
(Series 100/200)

HIGHLIGHTS OF REVISION 2c

GENERAL These highlights reflect the changes introduced as a consequence of reviewing FAA approved MMEL Revision 34a, dated 17 August 2009.

INTRODUCTION Amended to reflect that Revision 34a dated 17 August 2009 is now the appropriate version of the FAA MMEL.

DEFINITIONS Item 3 - Note relating to Rectification Interval Extension revised in accordance with CAA MMEL Policy Item GEN-6.

Item 26 – Base document references updated

ATA 25 EQUIPMENT/FURNISHINGS

25-22	Passenger Seats	Item deleted. (The FAA MMEL entry was accepted at Revision 34).

ATA 28 FUEL

28-12	Centre Tank Fuel Quantity Indicating System (F/E Panel)	Item deleted. (The FAA MMEL entry was accepted at Revision 33).

ATA 33 LIGHTS

33-2	Passenger Lighted Information Signs	New supplement item.

ATA 34 NAVIGATION

34-26	ATC Mode S Transponder System	Revised to read "As required by Operating Requirements".

ATA 56 WINDOWS

56-1	Windshields	The FAA MMEL at Revision 34a is acceptable.

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S21-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING				
2. Pack Flow Control and Shutoff Valve				
1) Three Pack **Aircraft**	C	3	-	(M)(O) May be inoperative **provided the associated pack(s) is considered inoperative (Refer 21-1).**
b) Cargo Configuration	D	3	2	(M)(O) One may be inoperative **provided the associated pack is considered inoperative (Refer 21-1).**
2) Two Pack **Aircraft** (Cargo Configuration)	C	2	1	(M)(O) One may be inoperative **provided the associated pack is considered inoperative (Refer 21-1).**
a) Half Flow Valve Position (If Installed)	C	-	-	
3. Air Cycle Machine (ACM)	C	-	1	(M)(O) Any in excess of one may be inoperative provided, if auto control is used, associated bypass valve(s) is (are) secured in the full heat (open) position.
	C	-	1	(M)(O) Any in excess of one may be inoperative provided, if manual control is used, associated bypass valve(s) remains in the full heat (open) position.
	C	-	-	(M)(O) May be inoperative provided, the associated pack(s) is (are) **considered** inoperative **(Refer 21-1)**.
1) Cargo Configuration Three Pack **Aircraft**	D	3	2	(M)(O) One may be inoperative provided, if auto control is used, associated bypass valve is secured in the full heat (open) position.
	D	3	2	(M)(O) One may be inoperative provided, the associated pack is **considered** inoperative **(Refer 21-1)**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S21-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING (Cont.)				
4. Pack Coolant (Inlet/Exit Door) Systems	C	3	2	(M)(O) One inlet door may be inoperative in the full open to 40% from full open position, (with associated exit door inoperative), provided: (a) The associated pack is operated in auto mode only, (b) The remaining two packs operate normally, and (c) The associated exit door is deactivated and secured at least 50% open.
	C	-	0	(M)(O) Inlet doors may be inoperative in the full open to 40% from full open position provided: (a) The associated exit door(s) operate normally, (b) The associated pack(s) is (are) operated in the manual mode, and (c) All pack indications operate normally.
	C	-	0	(M)(O) Inlet doors may be inoperative in the full open to 40% from full open position provided: (a) Associated exit door(s) is (are) deactivated and secured full open, (b) Associated pack(s) is (are) operated in manual mode, and (c) All associated pack indications operate normally.
	C	-	0	(M)(O) Inlet and exit doors may be inoperative in any position **provided the associated pack(s) is considered inoperative (Refer 21-1)**, associated exit door is open more than the inlet door on aircraft with line number 242 and subsequent, and on aircraft with S/B 21-2194 or production equivalent incorporated.

(Cont…)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S21-3

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING (Cont.)				
4. Pack Coolant (Inlet/Exit Door) Systems (Cont.)	C	-	0	(M)(O) Inlet and exit doors may be inoperative in any position **provided the associated pack(s) is considered inoperative (Refer 21-1)**, associated exit door is deactivated and secured at least 50% open on aircraft before line number 242, or without S/B 21-2194 incorporated.
	C	-	0	(M)(O) Exit doors may be inoperative provided they remain in the full open to 1/2 open position.
1) Cargo Configuration Three Pack Aircraft	D	3	2	(M)(O) One inlet door may be inoperative in the full open position to 40% from full open, (with associated exit door inoperative) provided: (a) The associated pack is operated in auto mode only, and (b) The associated exit door is deactivated at least 50% open.
	D	3	2	(M) One inlet door may be inoperative in the full open position to 40% from full open (with associated exit door inoperative) provided associated pack **is considered inoperative (Refer 21-1)**.
5. ACM Bypass Valves	C	-	1	(M)(O) Any in excess of one may be inoperative provided the valves are deactivated open before departure.
	C	-	-	(O) May be inoperative provided the associated pack(s) is (are) **considered inoperative (Refer 21-1)**.
1) Cargo Configuration Three Pack **Aircraft**	D	3	2	(M)(O) One may be inoperative provided the valve is deactivated open before departure.
	D	3	2	One may be inoperative provided the associated pack is **considered inoperative (Refer 21-1)**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S21-4

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING (Cont.)				
8. Pack Overheat Trip System	C	-	-	(O) One may be inoperative provided ACM OUTLT/COMP DISCH temperature indications of the associated pack operate normally.
	C	-	-	(M)(O) May be inoperative provided the associated pack **is considered inoperative (Refer 21-1)**.
1) Cargo Configuration Three Pack **Aircraft**	D	3	2	(O) One may be inoperative provided ACM OUTLT/COMP DISCH temperature indications of the associated pack operate normally.
	D	3	2	One may be inoperative provided the associated pack **is considered inoperative (Refer 21-1)**.
9. Pack Trip Lights	C	-	-	(O) One may be inoperative provided the associated pack airflow indicator operates normally.
	C	-	-	(O) One may be inoperative provided associated duct pressure indicator operates normally.
	C	-	-	(M)(O) May be inoperative provided associated **pack or pack trip system is considered inoperative (Refer 21-1 or 21-8 as appropriate)**.
1) Cargo Configuration Three Pack **Aircraft**	D	3	2	(O) One may be inoperative provided the associated pack airflow indicator operates normally.
	D	3	2	(O) One may be inoperative provided associated duct pressure indicator operates normally.
	D	3	2	**(M)(O)** One may be inoperative provided associated **pack or pack trip system is considered inoperative (Refer 21-1 or 21-8 as appropriate)**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S21-5

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING (Cont.)				
40. Equipment Cooling Smoke Detector	C	1	0	(M)(O) May be inoperative provided: (a) Equipment cooling is operated in the SMOKE mode, (b) Flow control and upper deck equipment cooling overboard dump valves are verified in the open (SMOKE mode) position, (c) Operations are conducted in a pressurised configuration, and **(d) Extended overwater flight is prohibited.**
46. Galley/Lavatory Fan (If installed)				
1) Lower Lobe Galley(s) Installed	C	-	0	**(M)(O) May be inoperative provided the galley(s) are not serviced with dry ice.**
47. Galley Supply Shut-off Valve (Lower Lobe Galley) (If installed)	C	1	0	(M)(O) May be inoperative provided the **conditions and limitations associated with the lower lobe galley fire extinguisher system inoperative are complied with (Refer 26-18)**.

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S22-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22 AUTOFLIGHT				
1. Autopilot Systems	C	-	**0**	(O) May be inoperative provided **operations are not dependent on use of the inoperative autopilot(s).** Any mode that functions normally may be used. **<u>Note</u>: The automatic altitude control system is required to be operative for RVSM operations.**
3) Nav. Selector Modes				
e) LNAV (If Installed)	C	-	0	**May be inoperative provided procedures do not require its use.**
g) GPS (If Installed)	C	-	0	**May be inoperative provided procedures do not require its use.**
2. Autopilot Disengaged Lights	**C**	-	0	May be inoperative provided autopilots are not used.
1) Triple Channel Installation	C	6	-	One light per channel may be inoperative and autopilot(s) used, except for autoland operations.
2) Dual Channel Installation	C	2	1	One may be inoperative and autopilot(s) used, except for autoland operations.

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S23-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23 COMMUNICATIONS				
2. Passenger Address System				
1) Passenger Configuration	B	1	0	(O) May be inoperative provided: (a) Alternate normal and emergency procedures and/or operating restrictions are established and used, and (b) **Flight Crew Compartment / Cabin Interphone system (including chime system) are operative.** Note: Any station function(s) that operates normally may be used.
a) Handsets	**C**	-	-	**As required by Operating Requirements.**
b) Lavatory Speakers	C	-	-	**(O)** May be inoperative **and lavatory used** provided: **(a) Return to seat light in associated lavatory operates normally, and** **(b) Alternate procedures for notifying lavatory occupants are established and used.**
2) Cargo Configuration	D	1	0	**(O)** May be inoperative **provided alternate normal and emergency procedures and / or operating restrictions are established and used.**
3. Communication Systems (VHF, HF, UHF)	**-**	-	-	**As required by Operating Requirements.**
5. Audio Selector Panels	**D**	**-**	**-**	**One required for each flight crew member on flight deck duty. Any in excess of those required may be inoperative.**
7. Crewmember Interphone System	-	-	-	**As required by Operating Requirements**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S23-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23 COMMUNICATIONS (Cont.)				
11. Alerting System (Call Signal, Flight Attendant Station from Flight Deck)	**C**	-	**-**	**Visual signal may be inoperative on the flight deck.**
	C	-	**-**	**Both visual and aural signals may be inoperative in the cabin provided the PA system is operative from the flight deck.** **<u>Note</u>: Any station that is operative may be used.**
12. Cockpit Voice Recorder (CVR) System	**-**	**-**	**-**	**As required by Operating Requirements.**
16. Headsets / Boom Microphones	**-**	-	-	**One headset (including boom microphone) must be operative for each required crewmember on flight deck duty.**
17. Flight Deck Hand Microphones	D	-	0	**Any or all may be inoperative.**
19. Push-To-Talk (PTT) Switches				
1) Control Wheel PTT Switches	**B**	2	1	(M) One may be inoperative provided: (a) Auxiliary Panel PTT Switches operate normally, and (b) Affected switch is deactivated open.
2) Flight Crew Auxiliary Panel PTT Switches	**B**	2	1	(M) One may be inoperative provided: (a) Control Wheel PTT Switches operate normally, and (b) Affected switch is verified failed open or is deactivated open.
20. Flight Deck Entry Door / Cabin Video Surveillance Systems (If installed)	**-**	**-**	**-**	**As required by Operating Requirements.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S24-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
24 ELECTRICAL POWER				
15. AC Meters Indications System				
1) Volts	**-**	-	-	AC voltage indication may be inoperative **provided the associated generator is considered to be inoperative (Refer 24-1).**
2) Frequency/CSD RPM	C	-	-	Frequency and CSD RPM indication may be inoperative **provided the associated main generator is considered to be inoperative (Refer 24-1)**, or frequency or CSD RPM indication may be inoperative for an operative main generator.
28. APU Generator Cooling Air Loss Generator Trip System (If installed)	C	-	0	**May be inoperative provided the APU generator NO GEN COOLING light operates normally.**
	C	-	0	**May be inoperative provided the associated APU generator is not used.**
29. APU Generator NO GEN COOLING Light (If installed)	C	-	0	**(M)/(O) May be inoperative provided the Cooling Air Loss Generator Trip system for the associated generator operates normally.**
	C	-	0	**May be inoperative provided the associated APU generator is not used.**
32. GEN OPEN light	**-**	-	-	May be inoperative **provided the associated generator is considered inoperative (Refer 24-1)**.
33. GEN FIELD OFF light	**-**	-	-	May be inoperative **provided the associated generator is considered inoperative (Refer 24-1)**.

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S25-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS				
4. Flight Crew Shoulder Harness	**-**	**-**	**-**	**One required for each crew member on flight deck duty.**
1) Inertia Reel	**A**	**-**	**-**	**May be inoperative provided:** **(a) The affected harness is adjusted and locked by an approved means to suit the requirements of the individual flight crew member, and** **(b) Repairs or replacements are carried out within three calendar days.**
5. Flight Attendant Seat Assemblies				
1) Required Flight Attendant Seats	B	-	-	(M)(O) One seat position may be inoperative provided: (a) Affected seat position is not occupied, (b) Flight attendant displaced by inoperative seat occupies either an adjacent flight attendant seat or the passenger seat which is most accessible to the inoperative seat, so as to most effectively perform assigned duties, (c) Alternate procedures are established**/ approved for the displaced flight attendant,** (d) Folding type seat stows automatically or is secured in the retracted position, (e) Passenger seat assigned to flight attendant is placarded: FOR FLIGHT ATTENDANT USE ONLY. (Cont…)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S25-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.)				
5. Flight Attendant Seat Assemblies (Cont.)				
1) Required Flight Attendant Seats (Cont.)				Note 1: A **fully** automatic folding seat that will not stow automatically **or remain stowed** is considered to be inoperative **and shall be secured in the retracted position or removed**. **An exception should only be made where cabin layout is such that emergency egress is not in any way compromised by a seat in the deployed position.** Note 2: A seat with an inoperative or missing **seat belt or harness** is considered inoperative. Note 3: **This requirement does not preclude use of passenger seats by flight attendants carried in excess of the required flight attendant complement.**
2) Excess Flight Attendant Seats	**D**	-	-	(M)**(O) Any flight attendant seat, other than those required by Legislation to be occupied, may be inoperative.**
10. Main Cabin Door / Slide	**A**	**-**	**-**	**(M)(O) One exit may be inoperative provided:** **(a) The exit is secured closed prior to passengers boarding and is not used for any purpose whilst passengers are on board,** **(b) All other exits and escape slides are fully operative,** **(c) The number of passengers carried and the position of seats which they occupy is in accordance with arrangements approved by the Authority in relation to the particular aircraft configuration,** (Cont…)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S25-3

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.) 10. Main Cabin Door / Slide (Cont.)				**(d) For extended overwater operations, occupancy shall not exceed the normal rated capacity of the slides/rafts, or the remaining slide/rafts, or the rated overload capacity remaining after loss of one additional slide/raft of greatest capacity, which ever is least,** **(e) All the emergency exit and/or exit markings, signs and lights associated with the affected door must be obscured,** **(f) The exit is marked by a red disc at least 23cm in diameter with horizontal white bar across it bearing the words "NO EXIT" in red letters,** **(g) Passengers are not seated near the unserviceable exit – subject to aircraft centre of gravity limitations,** **(h) The pre-take-off briefing to passengers must accurately represent the current state and condition of the aircraft's escape facilities. An oral briefing by cabin staff, or a briefing using automatic audio / visual means, or a briefing by reference to a briefing card, must be immediately qualified by an oral announcement to draw the attention of the passengers to the fact that a particular exit is inoperative and displays a red "NO EXIT" disc,** **(i) Where the evacuation drill calls for cabin crew to be seated by the inoperative exit, they are briefed to direct passengers to a serviceable exit,** **(j) Not more than 72 hours have elapsed since the exit became inoperative, and** **(k) The aircraft does not exceed 5 further flights with the exit inoperative.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2a DATE 16 April 2008	PAGE S25-4

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.)				
11. Upper Deck Escape **Door /** Slide Inflation System				
1) Passenger, Combi or Cargo Configuration (One Door)	C	1	0	(M)(O) May be inoperative provided: (a) **Only those flight crewmembers essential to the flight occupy the upper deck**, and (b) Inertial escape reels **and escape harnesses** are installed (as required) and operate normally for upper deck occupants.
2) Passenger or Combi Configuration (Two Door)				
a) Circular Stair	**B**	2	1	(M)(O) One may be inoperative provided upper deck occupancy is limited to sixteen passengers **and all other provisos associated with an inoperative Main Cabin Door are applied (Refer 25-10).**
b) Straight Stair	**B**	2	1	(M)(O) One may be inoperative provided: (a) Upper deck occupancy is limited to 24 passengers, (b) Aircraft capacity is limited to 550 passengers, and **(c) All other provisos associated with an inoperative Main Cabin Door are applied (Refer 25-10).**
c) Straight or Circular Stair	C	2	0	(M)(O) May be inoperative provided **only those flight crewmembers essential to the flight occupy the upper deck**.
3) Cargo Configuration, or Cargo With Upper Deck Occupants (Two Door)	C	2	0	(M)(O) May be inoperative provided **only those flight crewmembers essential to the flight occupy the upper deck**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S25-5

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.)				
12. Flight Crew Seats				
2) Manual Adjustment System				
a) Horizontal Adjustment	-	-	-	**Must be operative.**
b) Vertical and Recline Adjustment	**B**	**-**	**0**	**(M) May be inoperative provided:** **(a) Associated power control is operative,** **OR** **(b) Associated seat is secured in a position acceptable to the flight crewmember.**
c) Other Adjustments	**C**	**-**	**0**	**(M) May be inoperative provided:** **(a) Associated seat is secured in a position acceptable to the pilot, and** **(b) Inoperative armrest is in the up position or removed.**
19. Cargo Compartment Restraint Components	D	-	-	(M) May be inoperative or missing provided acceptable cargo loading limits from an approved source, i.e., an approved Cargo Loading Manual, Cargo Handling Manual or Weight and Balance Manual are **presented in a format acceptable to the Authority and** observed.
	D	-	-	(M) May be inoperative or missing provided associated cargo compartment remains empty.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S25-6

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.)				
21. Passenger Convenience Items		-	0	Passenger Convenience items, as expressed in this MMEL, are those related to passenger convenience, comfort, or entertainment such as, but not limited to, galley equipment, movie equipment, ashtrays, stereo equipment, overhead reading lamps. Items addressed elsewhere in this document shall not be included. (M) and (O) procedures may be required and included in the air carrier's appropriate document. Note: Lavatory door ashtrays **(internal and external)** are not considered convenience items.
23. Flight Deck Observer Seat(s) and Harness	D	**-**	**-**	**May be inoperative provided the seat is not required and is correctly stowed.**
29. Emergency Locator Transmitter (ELT) (If installed)				
(1) Survival Type ELTs	D	-	-	**(M) Any in excess of the minimum required may be inoperative or missing provided the equipment is placarded inoperative, removed from the installed location and placed out of sight so that it cannot be mistaken for a functional unit.**
(2) Fixed ELTs	A	-	**-**	**May be inoperative provided repairs or replacements are made within 6 further flights or 25 flying hours, whichever occurs first.**
	D	-	-	Any in excess of those required by **Operating Requirements** may be inoperative.
30. Flotation Equipment (Crew and Passengers)	**-**	-	-	**As required by Operating Requirements.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2b DATE 12 November 2008	PAGE S25-7

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.)				
33. Upper Deck Crew Rest Installation STC ST01174SE				
1) Smoke Detectors				
a) Common Area and/or Upper Bunk	C	2	1	
	C	2	0	(M) May be inoperative provided: **(a) Crew rest area is empty, and** (b) Crew rest area is locked closed and placarded: DO NOT USE. Note: These provisos are not intended to prohibit crew rest area inspections by crewmembers.
b) Lower Bunk	C	1	0	(M) May be inoperative provided: **(a) Crew rest area is empty, and** (b) Crew rest area is locked closed and placarded: DO NOT USE. Note: These provisos are not intended to prohibit crew rest area inspections by crewmembers.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2b DATE 12 November 2008	PAGE S25-8

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25 EQUIPMENT/FURNISHINGS (Cont.)				
Additional Entry				
34. Protective Breathing Equipment	**D**	**-**	**-**	**(M) PBE which is stowed in an approved stowage, but which is in excess of the required minimum crew complement, may be inoperative provided it is placarded to that effect and must either remain in an approved stowage or be removed from the aircraft.** **Note: PBE which:** **a) cannot be stowed in an approved stowage (whether inoperative or not); or** **b) is a replacement item,** **is subject to the requirements of the International Civil Aviation Organization's Technical Instructions, for Safe Transport of Dangerous Goods by Air.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S26-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
26 FIRE PROTECTION				
3. Fire Bottle Discharge Lights: Engine, APU and Lower Cargo	C	-	0	**(M)** May be inoperative provided: (a) Squib test is used to verify squib integrity, and **(b) An approved procedure is used to verify that the bottle is full.**
	C	-	-	May be inoperative for APU, or lower cargo extinguisher system **provided associated system is considered inoperative (Refer 49-1, 26-14)**.
4. Engine and APU Fire Extinguisher Thermal Discharge Discs	C	-	0	(M) May be missing provided: (a) Thermal discharge diaphragm integrity is verified by an approved procedure, and **(b) An approved procedure is used to verify that the bottle is full.**
	C	-	-	May be inoperative for APU fire extinguisher system **provided associated system is considered inoperative (Refer 28-8)**.
17. Fire Extinguisher Squib Test Function (Engine, APU and Lower Cargo) (If installed)	C	-	0	(M) Test function(s) may be inoperative provided it is verified that: (a) The failure is in the light circuit only, and (b) In the event of a fire, the bottle would discharge.
	C	-	0	Test function(s) may be inoperative **provided APU and/or lower cargo fire extinguisher system are considered inoperative (Refer 49-1, 26-14).**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S26-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
26 FIRE PROTECTION (Cont.)				
21. Lower Lobe Galley Portable Fire Extinguisher (If installed)	D	-	-	**Not required to be installed or operative provided either:** **(a) The affected galley is isolated and is not used,** **OR** **(b) A fixed fire extinguishing system is installed and operates normally.** Note: At least two per galley are required if lower lobe galley fire extinguisher system is not installed, or is not operating normally.
25. Lavatory Fire Extinguisher	C	-	0	**Any or all may be inoperative.**
27. Lavatory Smoke Detection Systems	C	-	-	**(M) May be inoperative provided:** **(a) Lavatory compartment is electrically isolated (including flush motors and other high voltage devices),** (b) Lavatory waste-bin is empty, (c) Lavatory door is locked and appropriately placarded, and **(d) Lavatory is not used for any other purpose.**
	B	**-**	**-**	**(O)/(M) May be inoperative provided:** **(a) Lavatory compartment fire extinguishers are fitted and checked to be operative on a daily basis, and** **(b) Lavatory compartment is checked at 20 (twenty) minute intervals for evidence of fire and smoke.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S27-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
27 FLIGHT CONTROLS				
8. Stall Warning Stick Shaker	C	2	1	(M) One may be inoperative provided system is deactivated. **<u>Note</u>: No further relief is permitted.**
11. Flaps LD RELIEF Light (If installed)	C	1	0	(M) May be inoperative provided it is verified that the malfunction is in the light circuit, and that the automatic flap retraction system otherwise operates normally.
	C	1	0	May be inoperative **provided** automatic flap retraction system **is considered inoperative (Refer 27-10)**.
12. Over-rotation Warning (If installed)				
1) **Series 100**	D	1	0	May be inoperative.
2) **Series 200**	D	1	0	May be inoperative provided **maximum take-off weight is limited to a maximum of 335,600 kg (740,000 lb).**
15. Reverser Actuated Leading Edge Flaps Retraction System (If installed)	C	1	0	(M)(O) May be inoperative provided: (a) Normal operation of leading edge flaps is not affected, **(b) For aircraft with any turbine reversers active, reverse thrust is not used.**
18. Leading Edge Flaps Drive (Pneumatic)	B	8	7	(M)(O) One may be inoperative provided: (a) Drive is deactivated in accordance with an accepted procedure, (b) All electric drives operate normally, (c) Take-off obstacle clearance is not dependant upon retraction of flaps from take-off position, and **(d) For aircraft with any turbine reversers active, reverse thrust is not used.** (Cont…)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S27-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
27 FLIGHT CONTROLS (Cont.) 18. Leading Edge Flaps Drive (Pneumatic) (Cont.)				Note: A maximum of one drive unit on each side may fail to reach fully extended position provided normal indications can be achieved within five seconds when using alternate system.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S28-1

(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28	**FUEL**				
4.	Fuel Pressure Indicators (If installed)	D	-	0	May be inoperative **provided the associated fuel low pressure lights operate normally.**
6.	Fuel CROSSFEED VALVE Lights	C	4	3	One may be inoperative provided associated crossfeed operates normally.
		C	4	3	One may be inoperative provided associated crossfeed valve is **considered** inoperative **(Refer 28-5).**
23.	Fuel Scavenge Pump Low Pressure Light	C	1	0	(O) May be inoperative provided **centre tank quantity indication operates normally.**
26.	Jettison Pumps Low Pressure Warning Lights	C	4	2	(M) One may be inoperative in each tank provided associated jettison pumps operate normally.
		C	4	0	May be inoperative provided the jettison system is **considered** inoperative **(Refer 28-21)**.
38.	Fuel Configuration Light (If installed)	C	1	0	May be inoperative provided **fuel quantity indication system operates normally.**
39.	Fuel Receptacle Cap	C	4	0	**(M)** May be inoperative (missing) provided: **(a) Refuelling receptacle is visually checked for contamination before each refuelling, and** (b) No leakage can be detected after refuelling is complete.
	<u>Additional Entries</u>				
42.	**Fuel Isolation Valve**	**C**	**1**	**0**	**(M) May be inoperative in the open position.** **<u>Note</u>: Refuel from one fuelling station only.**
43.	**Fuel Isolation Valve Position Light**	**C**	**1**	**0**	**(M) May be inoperative provided the isolation valve is secured in the open position.** **<u>Note</u>: Refuel from one fuelling station only.**

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S29-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
29 HYDRAULIC POWER				
2. Air Driven Pumps (ADP)	C	4	3	(M)(O) Either No. 2 or No. 3 pump (including the pump and/or associated plumbing) may be inoperative provided the pump is deactivated.
	B	4	3	(M)(O) Either No. 1 or No. 4 pump (including the pump and/or associated plumbing) may be inoperative provided: (a) Pump is deactivated, (b) Take-off performance is in accordance with the Flight Manual appendix for landing gear extended, (c) Take-off obstacle clearance is dependent upon flaps remaining in the take-off position, (d) For operation at JT9D-7F wet, JT9D-7J or CF6-45/45A thrust ratings, take-off performance is based upon Vmcg increase of 5 KIAS, and (e) For CF6-50/-50E/-50E-1/-50E-2 and JT9D-70A/-7Q and RB211-524B2/C2/D4 or D4X thrust ratings, take-off performance is based upon Vmcg increase of 9 KIAS.
4. ADP Auto Controls	C	2	0	(O) No. 2 and/or No. 3 may be inoperative provided OFF position operates normally.
	C	2	0	(O) No. 1 and/or No. 4 may be inoperative provided: (a) Associated pump operates continuously during take-off and landing, (b) One air conditioning pack remains OFF for take-off and landing, with performance based on the assumption that the pack is operating, and (c) OFF position operates normally.
	-	4	3	One may be inoperative provided associated ADP is **considered** inoperative **(Refer 29-2)**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S29-2

(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
29	**HYDRAULIC POWER (Cont.)**				
5.	ADP Continuous Run Control	C	4	2	Two may be inoperative provided: (a) The AUTO and OFF functions of the associated ADP operate normally, and (b) The associated EDP operates normally.
		-	4	3	One may be inoperative provided associated ADP is **considered** inoperative **(Refer 29-2).**
6.	ADP Run Lights	C	4	0	Any or all may be inoperative provided: (a) Associated system pressure indicator operates normally, and (b) Associated ADP and EDP low pressure lights operate normally.
		-	4	3	One may be inoperative provided associated ADP is **considered** inoperative **(Refer 29-2).** **<u>Note</u>: No further relief is permitted.**
8.	Hydraulic System Low Pressure Lights (Pilots' Panel)	C	4	0	(O) May be inoperative provided: (a) Associated ADP and EDP low pressure lights on the flight engineer's panel operate normally, and (b) For all aircraft equipped with auto spoilers. If light(s) are in hydraulic system 1 or 4, and the associated hydraulic system subsequently fails, assure that the auto speedbrake c/b is opened. **<u>Note</u>: No further relief is permitted.**
10.	**System Temperature Indicator (If installed)**	D	4	0	May be inoperative. **<u>Note</u>: No relief is permitted for the Systems Overheat Lights.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S30-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30 ICE AND RAIN PROTECTION				
4. Anti-Ice NACELLE VALVE OPEN Lights				
1) JT9D Engines (Including STATOR VALVE OPEN Lights)	C	-	0	(M) May be inoperative provided normal valve operation is verified before operating in known or forecast icing conditions.
	C	-	-	May be inoperative provided the associated anti-ice valve is **considered** inoperative **(Refer 30-1)**.
2) CF6 Engines	C	4	0	(M) May be inoperative provided normal valve operation is verified before operating in known or forecast icing conditions.
	C	4	3	May be inoperative provided the associated anti-ice valve is **considered** inoperative **(Refer 30-1)**.
3) RB211 Engines	C	4	0	(M) May be inoperative provided normal valve operation is verified before operating in known or forecast icing conditions.
	C	4	3	May be inoperative provided the associated anti-ice valve is **considered** inoperative **(Refer 30-1)**.
7. Probe Heater Ammeter or Light Indication Systems (Pilot's Overhead Panel)	C	2	1	(M) One may be inoperative provided associated heaters are verified to be operating normally before departure.
	C	2	1	One may be inoperative provided associated heater is **considered** inoperative **(Refer 30-5, 30-6)**.
11. Flight Deck Window Heating				
1) **Triplex / PPG only (No.1 & 2 Windows)**	C	4	3	One may be inoperative provided AFM limitations are applied.
2) No. 3 Window Heaters	C	2	0	(M) May be inoperative provided No.3 Window Heat circuit is deactivated.
15. Rain Repellent Systems (If installed)	D	2	0	May be inoperative **provided operational procedures do not require their use.**

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S31-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31 INSTRUMENTS				
1. Clock	C	-	**0**	**(O)** May be inoperative provided **an accurate timepiece is available on the flight deck indicating the time in hours, minutes and seconds.**
2. Flight Data Recorder (FDR) System	**-**	**-**	**-**	**As required by Operating Requirements.**
5. Quick Access Recorder (QAR) System	**A**	**-**	**-**	**May be inoperative subject to arrangements approved by the Authority.** **<u>Note</u>: Any alleviation and corresponding rectification interval will be dependent on the usage requirements of the QAR for individual operators, and will be subject to approval by the Authority.**
7. Astronautics EFIS Navigation Displays (STC ST01916NY) (If installed)	-	2	**2**	**Must be operative.**

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S32-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
32 LANDING GEAR				
1. Anti-Skid System				
1) Normal Anti-Skid System	C	1	0	(M)(O) May be inoperative provided: (a) Thrust reversers operate normally, and (b) Operations are conducted in compliance with AFM Anti-Skid Inoperative performance data. **<u>Note</u>: No further relief is permitted against the Normal Anti-Skid System and Control Channels.**
13. Gear TILT Indication Systems (F/E Panel)	C	2	1	(M)(O) One system (primary or alternate) may be inoperative provided **fuel jettison system is verified to operate normally when take-off gross weight exceeds maximum landing gross weight.**
16. Landing Gear Latch Solenoid	A	1	0	(M)(O) May be inoperative provided: (a) Override mechanism operates normally, and (b) Repairs **or replacements** are carried out within **three calendar days.**
22. Body Gear Steering Switch (Overhead Panel)	C	1	0	May be inoperative provided BODY GEAR STEERING ARM & IND circuit breaker is pulled and collared to deactivate the Body Gear Steering System.
	C	1	0	May be inoperative **provided** body gear steering system **is considered inoperative (Refer 32-17)**.
28. Wheel Tiebolts (Wing Gear or Body Gear)	**-**	#1	#2	#1 Number Installed: 288 #2 No. Required for Dispatch: **288** **All essential.**

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S33-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33 LIGHTS				
1. Flight Deck and Instrument Lighting System	C	-	-	Individual lights may be inoperative provided: (a) Sufficient lighting is operative to clearly illuminate all instruments, controls and other devices for which they are provided, **(b) Sufficient flight deck emergency lighting is operative, and** (c) Lighting configuration at dispatch is acceptable to the flight crew.
	C	**-**	**0**	**One or more may be inoperative for daylight operations.**
2. Passenger Lighted Information Signs	**-**	-	-	**As required by Operating Requirements.**
4. Cabin Interior Illumination System	**C**	**-**	**-**	**Individual lights may be inoperative provided lighting is acceptable for the cabin crew to perform their required duties.**
	C	**-**	**-**	**May be inoperative provided passengers are not carried.**
8. Landing Lights	**B**	4	2	Two may be inoperative for night operations.
	C	4	0	All may be inoperative for day operations.
9. Anti-collision Lights	**C**	**-**	**1**	**(O) Any in excess of one may be inoperative provided:** **(a) A high intensity strobe light system is installed and is operative, and** **(b) The light(s) is(are) repaired at the earliest practicable opportunity.**

(Cont...)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S33-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33 LIGHTS (Cont.)				
9. Anti-collision Lights (Cont.)	**C**	**-**	**0**	**(O) All may be inoperative for daylight operations provided the light(s) is(are) repaired at the earliest practicable opportunity.** **<u>Note</u>: If the red anti-collision light is inoperative, alternative procedures must be developed and used when the aircraft is on the ground with the engine(s) running.**
1) Strobe Lights	**C**	**-**	**0**	**All may be inoperative.**
10. Wing Illumination Lights	**D**	2	0	**Both may be inoperative for daylight operations.**
	B	2	0	**Both may be inoperative for night operations provided an alternate means is available and utilised to adequately illuminate the ice accretion on another outside surface visible from the flight deck.**
16. Floor Proximity Escape Path Marking System	**-**	**1**	**1**	**Individual lights may be inoperative in accordance with arrangements approved by the Authority for a particular lighting configuration.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S34-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION				
1. Standby Airspeed Indicator	-	1	**1**	**Must be operative.**
4. Altimeters **(Main)**	C	2	**2**	**One required at each pilot's station. Except where en-route operations require its use, either the CADC mode or Standby mode, but not both, may be inoperative in either instrument.** **<u>Note</u>: For RVSM operations both altimeters must be operable in the CADC mode.**
6. Standby Altimeter	-	-	**1**	**One must operate normally.**
7. Altimeter Vibrators				
1) Servo Pneumatic **Main** Altimeters	C	2	1	One may be inoperative provided the associated Air Data Computer operates normally.
2) Pneumatic **Main** Altimeters	C	2	1	One may be inoperative provided VMC conditions exist at departure and arrival airports.
3) Standby Altimeter	C	1	0	May be inoperative provided VMC conditions exist at departure and arrival airports.
	B	1	0	May be inoperative provided aircraft is equipped with normally functioning dual radio altimeters.
10. **Attitude Director Indicators**	**B**	**2**	**1**	**One may be inoperative for day VMC only provided the standby attitude indicator operates normally.**
11. Standby Attitude Indicator	B	-	0	**May be inoperative for day VMC only provided both attitude indicators are operative.**
17. Standby Magnetic Compass (Non-Stabilised)	**B**	**1**	**0**	**May be inoperative provided at least two independent stabilised compass systems are installed and operative.**
18. **Instrument Comparator Warning System**	**B**	1	0	May be inoperative **for day VMC provided the standby attitude indicator operates normally**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S34-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION (Cont.)				
20. Central Air Data Computer System (CADC)	C	2	**1**	**Except where en-route operations require its use, one** CADC may be inoperative provided dispatch deviations for affected equipment are observed and listed in this column of the operators MEL. **<u>Note</u>: Both CADCs are required for RVSM operations.**
22. DME	-	-	-	**As required by Operating Requirements.**
23. Weather Radar System	**A**	**1**	0	**(O) Required when flying for the purpose of public transport except that a flight may commence if the system is unserviceable:** **(a) such that the weather radar display is provided to only one pilot, as long as the aircraft flies to a place where it is reasonably practicable for the system to be repaired, or** **(b) when the weather reports or forecasts available to the commander of the aircraft indicate that cumulonimbus clouds or other potentially hazardous weather conditions, which can be detected by the system when in working order, are unlikely to be encountered on the intended route, or planned diversion therefrom, or the commander has satisfied himself that any such weather conditions will be encountered in daylight and can be seen and avoided, and the aircraft is in either case operated throughout the flight in accordance with any relevant instructions given in the Operations Manual.**
1) Display	C	-	1	Any in excess of those required may be inoperative.
2) Contour	C	-	0	May be inoperative provided manual gain control operates normally.
3) Map	C	-	0	May be inoperative.

(Cont…)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S34-3

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION (Cont.)				
23. Weather Radar System (Cont.)				
4) Test	C	-	0	(M) May be inoperative provided alternate procedures are established and used before each departure to verify normal weather mode operation.
5) Automatic Gain Control	C	-	0	May be inoperative provided radar gain can be manually tuned to receive satisfactory radar returns.
6) Stabilization	C	-	0	(M) May be inoperative provided: a) Tilt Control operates normally, and b) Antenna is verified to scan in a horizontal plane with the tilt at zero degrees.
7) Turbulence Detection Mode	C	1	0	May be inoperative.
8) Predictive Windshear (If installed)	B	-	0	(O) May be inoperative provided alternate procedures are established and used. <u>Note:</u> Operator's alternate procedures should include reviewing windshear avoidance and windshear recovery procedures.
	C	-	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Ground Proximity Warning System Windshear Warning (Mode 7) or Windshear Detection and Guidance System operates normally.
24. Radio Compass System (ADF)	**-**	**-**	**-**	**As required by Operating Requirements.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S34-4

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION (Cont.)				
26. **ATC Mode S Transponder System**				**As required by Operating Requirements.**
27. Inertial Navigation System (INS)	-	-	-	**As required by Operating Requirements.**
28. Altitude Alerting System	**B**	-	0	(O) Except where en-route operations require its use, may be inoperative provided autopilot with altitude hold operates normally. **<u>Note</u>: The altitude alerting system is required to be operative for RVSM operations.**
29. Low Range Radio Altimeter System				
1) Indicators	C	-	0	May be inoperative provided approach minima or operating procedures do not require their use.
2) Receiver / Transmitter (R/T) Units	A	-	0	May be inoperative provided: (a) Dispatch deviation for GPWS **/ TAWS** inoperative is observed **(Refer 34-32)**, (b) Approach minimums or operating procedures do not require their use, and (c) Operations are limited to not more than two flight days before repairs are made.
	C	-	1	Any in excess of one may be inoperative provided: (a) Failed R/T Unit(s), by design, does not provide inputs to the GPWS **/ TAWS**, and (b) Approach minima or operating procedures do not require its use. **<u>Note</u>: If the loss of the radio altimeter prohibits the normal operation of the ACAS, the dispatch deviation and rectification interval for an inoperative ACAS must be observed (see 34-40).**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S34-5

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION (Cont.)				
32. Ground Proximity Warning System **/ TAWS**	**-**	**-**	**-**	**As required by Operating Requirements.**
40. **Airborne Collision and Avoidance System II (ACAS II) (If installed)**				
1) ACAS II System	**A**	**-**	**0**	**(O)(M) May be inoperative provided the system is deactivated and secured, and:** **(a) It is not reasonably practicable for repairs or replacements to be made before the commencement of flight, and** **(b) Repairs or replacements must be carried out within 10 calendar days.**
2) Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display	**C**	**-**	**1**	**(O) May be inoperative on the non-flying pilot side provided TA and RA elements and audio functions are operative on the flying pilot side.**
3) Resolution Advisory (RA) Display System(s)	**C**	**-**	**1**	**(O) One may be inoperative on the non-flying pilot side.**
	C	**-**	**0**	**(O) May be inoperative provided:** **(a) All Traffic Alert (TA) display elements and voice command audio functions are operative, and** **(b) TA only mode is selected by the crew.**
4) Traffic Alert (TA) Display System(s)	**C**	**-**	**0**	**(O) May be inoperative provided all installed RA display and audio functions are operative.**
41. Metric Altimeter (If installed)	D	-	0	**May be inoperative provided:** **(a) Alternate procedures are established and used.** **OR** **(b) Procedures do not require its use.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S34-6

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION (Cont.)				
44. Microwave Landing Systems (If installed)	**B**	-	0	**One or more may be inoperative for IFR operations provided approach minima do not require their use.**
	D	-	0	**One or more may be inoperative for VFR operations.**
48. Global Positioning System / Global Navigation Satellite Systems (GPS/GNSS)	-	-	0	**As required by Operating Requirements.**
52. Flight Management Computer Systems (FMC) (If installed)	C	-	2	One may be inoperative provided en-route operations do not require its use.
1) Navigation Databases	**A**	-	-	(O) May be out of currency provided: (a) Current aeronautical **information is** used to verify Navigation Fixes prior to dispatch, (b) Procedures are established to verify status and suitability of Navigation Facilities used to define route of flight, and (c) **The navigation database is updated to current standard within 10 calendar days.**
56. Horizontal Situation Indicators (HSI)	**-**	**-**	**-**	**As required by Operating Requirements.**
1) Miles/Distance Readout	C	-	0	(O) May be inoperative provided alternate procedures are established and used.
57. Automatic Dependent Surveillance-Broadcast (ADS-B) System (If installed)	D	-	**-**	**As required by Operating Requirements.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S34-7

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 NAVIGATION (Cont.)				
58. Liquid Crystal Display (LCD) EHSI and EADI (If installed)				
1) Rockwell-Collins EHSI FPI-920 (STC ST00989LA-D)				
i) Terrain (TERR) Display (TAWS)	-	-	-	**As required by Operating Requirements.**
2) Rockwell-Collins EHSI FPI-930 (ATC TD10321LA-T)				
i) Terrain (TERR) Display (TAWS)	-	-	-	**As required by Operating Requirements.**
62 Airborne Dataloader (If installed)	C	-	0	(O) May be inoperative provided the dataloader selector switch remains in the OFF position, **and procedures do not require its use.**
1) Dataloader Selector Panel	C	-	0	(O) May be inoperative provided the dataloader selector switch remains in the OFF position, **and procedures do not require its use.**
Additional Entries				
63. CDU Cooling Fans	**C**	**3**	**2**	**(O) One may be inoperative.**
64. Data Adapter Unit	**C**	**3**	**2**	**(O) One may be inoperative.**
65. FMS TTI	**C**	**-**	**0**	**(O) May be inoperative.**
66. Pictorial Direction Indicator (PDI)	**C**	**2**	**0**	**(O) May be inoperative.**

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S35-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35 OXYGEN				
1. Passenger Oxygen System	B	1	0	(O) May be inoperative provided: (a) Flight is not conducted where the minimum en-route altitude is above **12,000 ft** MSL, (b) All air conditioning packs operate normally, (c) All other components of the pressurisation system operate normally, (d) Maximum flight altitude does not exceed FL250, (e) Portable oxygen units **containing sufficient oxygen for 30 minutes endurance are provided** for 10% of the passengers, and (f) Passengers are appropriately briefed.
1) Automatic Deployment	C	1	0	(M)(O) May be inoperative provided: (a) The manual deployment system operates normally, and (b) The flight is limited to **FL300** or below.
2) Passenger Service Units (PSU)	C	-	-	(M)(O) **One or more PSUs** may be inoperative without flight altitude restriction provided: (a) Affected seats are blocked and placarded to prevent occupancy, and (b) Units operate normally for all usable **passenger seats**, toilet compartments and flight attendant locations. **<u>Note</u>: The ANO oxygen requirements are given in Schedule 4 Scales L1 and L2. The effectivity 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.** (Cont…)

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S35-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35 OXYGEN (Cont.)				
1. Passenger Oxygen System (Cont.)				**Note: 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.** **Since there is a large number of permutations, it is proposed to refer to Air Navigation Legislation to allow the operator to adapt the MEL as necessary within the constraints applicable. The main constraints are:** **(a) The date of first issue of a Certificate of Airworthiness for individual aircraft,** **(b) The aircraft altitude and cabin altitude on routes flown, and** **(c) The numbers of passengers and crew carried.**
2. Portable Oxygen Dispensing Units (Bottle and Mask) (Therapeutic)	D	-	-	Any in excess of those required by legislation may be inoperative or missing. **Note: The portable oxygen supplies required by Scales L1 and L2 are totally separate from the requirements of Scale R2.**
Additional Entry				
8. Crew Oxygen System	**-**	**2**	**-**	**As required by Operating Requirements.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S36-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36 PNEUMATICS				
1. High Stage Bleed Valve Systems				
(3) CF6-45/50 Engines				
b) With Pt 5.4 Pressure Switch Installed	C	4	3	(M)(O) If Pt 5.4 switch is determined to operate normally, one may be inoperative secured closed provided a minimum of 70% N1 RPM is maintained while in icing conditions.
	C	4	**4**	(M)(O) **The Pt 5.4 switch(es) may be inoperative and high stage bleed valve system** operated normally **provided:** **(a)** Pt 5.4 switch(es) is (are) deactivated, and **(b)** No other bleed air system abnormality exists.
5. Engine Pylon Bleed Air Valves				
1) JT9D & CF6-45/50 Engines	C	4	3	(M)(O) Except for engine start, one may be inoperative secured closed provided: **(a) Associated bleed air valve switch remains in the closed position, and** (b) Duct isolation valve switches remain open for take-off and all flap operations.
2) RB211 Engines	C	4	3	(M)(O) Except for engine start, one may be inoperative secured closed provided: **(a) The associated bleed air valve switch remains in the closed position, and** (b) Duct isolation valve switches remain open for take-off and all flap operations.
18. High Stage Check Valves (RB211 Engines)	C	4	0	May be inoperative **provided engine start is normal.**

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S52-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52 DOORS				
9. Pressure Stop Fitting Assemblies, Main Entry Doors	**A**	-	-	(M)(O) One forward fitting and/or one aft fitting assembly per door (with a total of 10 fittings per aircraft) may be missing or inoperative provided: (a) There are no visible defects on other fittings for the affected door(s), (b) Auto controller operates normally, (c) Maximum cabin differential pressure is limited to 5.2 psi, and **(d) Repairs or replacements are carried out within three calendar days.**
10. Pressure Stop Fitting Assemblies, Upper Deck Door(s)	**A**	-	-	(M)(O) One forward fitting assembly and/or one aft fitting assembly per door may be missing or inoperative provided: (a) There are no visible defects on other fitting assemblies for the associated door(s), (b) Auto controller operates normally, (c) Maximum cabin differential pressure is limited to: All Except Extended Upper Deck: 6.1 psi Extended Upper Deck: 3.0 psi **(d) Repairs or replacements are carried out within three calendar days.**
11. Cargo Door Stop Pins or Stop Pin Fitting Assemblies (Main Lower Lobe or Main Deck Side Cargo Doors)	**C**	-	-	**(M) One** stop pin fitting per door may be inoperative or missing provided: (a) There is no evidence of adjacent structural damage, and **(b) The pressure seal is inspected after each flight.**
13. Main Entry Door Hold Open Latch	**A**	-	-	May be inoperative provided the associated door is considered inoperative **(Refer 25-10)**.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S52-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52 DOORS (Cont.)				
19. **Lockable** Flight Deck Door	-	-	-	**As required by Operating Requirements.**
33. Boeing Enhanced Flight Deck Security Door Automatic Locking System (If installed)				**Please refer to 52-19.**
34. Boeing Enhanced Flight Deck Security Door Dead Bolt				**Please refer to 52-19.**
Additional Entry				
35 Main Entry Door Mode Selector (Manual Mode)	**C**	**-**	**-**	**(M)(O) Manual mode selector may be inoperative provided it is verified before departure that the door is in the auto mode and that the power assist bottle is correctly charged.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2c DATE 13 November 2009	PAGE S56-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
56 WINDOWS 1. Windshields				**The FAA MMEL at Revision 34a is acceptable.**

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S73-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
73 ENGINE FUEL AND CONTROL				
15. Fuel Pressure Warning Systems (RB211 Engines)	A	4	**3**	**One** may be inoperative provided: **(a) Associated fuel pressure gauge operates normally,** (b) Associated engine fuel temperature indication system operates normally, and (c) Repairs or replacements are carried out within 10 flights.
16. Engine Limit Control Systems (RB211 Engines)	A	4	3	(O) One may be inoperative provided: (a) N1, N2, N3, fuel flow and **EPR** indicating systems operate normally on the associated engine, (b) The associated engine limit control switch is selected to OVERRIDE, and (c) Repairs or replacements are carried out within 10 flights.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S75-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
75 AIR				
4. Three Way Solenoid Directional Control Valve (JT9D Engines)				
1) Engines Prior to JT9D-7Q	C	4	2	Two may be inoperative in the ground mode.
	C	4	3	One may be inoperative in the flight mode provided: (a) Associated engine reverser is not used, (b) All remaining reversers operate normally, and **(c) AFM performance penalties are applied.**
2) JT9D-7Q Engines	C	4	3	(M) One may be inoperative provided: (a) Associated engine reverser is deactivated, (b) All remaining reversers operate normally, and **(c) AFM performance penalties are applied.**

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S75-2

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
75 AIR (Cont.)				
11. Five Way Solenoid Valve (JT9D-7R4G2 Engines Only)				
1) 3.5 Bleed Valve Function	C	4	3	(M) One may be inoperative provided: (a) Associated engine reverser is deactivated **and considered inoperative (refer 78-1)**, (b) All remaining reversers operate normally, and (c) Thrust setting of 1.62 EPR is not exceeded on the associated engine.
	A	4	2	(M) Two may be inoperative provided: (a) Associated engine reversers are deactivated **and considered inoperative (refer 78-1)**, (b) No damage exists which would impair structural integrity of associated reversers, (c) Inoperative reversers are on symmetrical engines only, (d) All remaining reversers operate normally, (e) Anti-skid and auto spoilers systems operate normally, (f) Thrust setting of 1.62 EPR is not exceeded on the associated engines, and (g) Repairs are made within three flight days.

AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S77-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
77 ENGINE INDICATING				
17. Engine Instrument Display System Model 94002 (EIDS) STC ST00483WI (If installed)	**-**	**-**	**-**	**Must be operative.**

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S78-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
78 EXHAUST				
1. Thrust Reversers	C	**4**	**2**	(O)(M) **One fan reverser may be inoperative, or two may be inoperative if symmetrical reverse thrust is available, provided:** (a) The associated reverser(s) is (are) verified to be locked in the forward thrust position by an approved procedure, **<u>Note</u>: If the associated engine is fitted with a turbine reverser, it must also be locked out.** (b) No damage exists which would impair structural integrity of the associated reverser, **(c) Auto-spoilers, anti-skid and wheel brake systems operate normally,** **(d) Appropriate performance decrements for non-availability of reverse thrust are applied, (take-off/landing),** **(e) Operations on icy runways or runways contaminated by snow, slush or standing water are prohibited, and** (f) JT9D engined aircraft only: On those aircraft not fitted with SB 747-32-2141 or production equivalent, in the event of failure of the ground safety relay in the flight position with No. 2 or No. 3 engine reversers inoperative, landing field length increases are required as follows: Dry Runway 150 feet Wet Runway 500 feet
5. Thrust Reverser Valve Indicating System (CF6 Engines)	C	4	2	(M)(O) May be inoperative for associated inoperative reverser(s), **(Refer 78-1), provided associated reverser(s) is (are) verified to be locked in forward thrust position**.

Civil Aviation Authority

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AIRCRAFT BOEING 747 CLASSIC (See Definitions for Aircraft & Engine Types)	REVISION NO 2 DATE 3 January 2007	PAGE S79-1

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
79 OIL				
2. Oil Pressure Warning Light Systems				
1) CF6 and JT9D Engines	**A**	4	3	(O) One may be inoperative provided: (a) Associated oil pressure, temperature and quantity indicators operate normally, and are monitored, and **(b) The aircraft may complete 1 (one) flight only to a base where repairs or replacements can be made.**
2) RB211 Engines	**-**	4	**4**	**All must be operative.**
7. Oil Pressure Indications (JT9D Engines)	**C**	**4**	**4**	**(O) One needle may be inoperative (ENG, FILT, DIFF) on one gauge. Alternate procedure is established and used to calculate missing parameter.**
8. Combined Filter and Differential Pressure Indicating Systems RB211 Engines	**-**	4	**4**	**All must be operative.**
9. Fine Scavenge Oil Differential Pressure (“FILT Delta P” Gauge) Indicating System RB211 Engines	**-**	4	**4**	**All must be operative.**
10. High Pressure Oil Differential Pressure (“FILT Delta P” Gauge) Indicating System RB211 Engines	**-**	4	**4**	**All must be operative.**

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