Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

BAC ONE ELEVEN

ALL SERIES

Revision 4
1 March 2004

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

BAC ONE ELEVEN

Revision 4
1 March 2004

REVISION 4

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

…….

S M Doherty

For and on behalf of the
Civil Aviation Authority

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Civil Aviation Authority

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REVISION RECORD

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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 (MELs). In the case of holders of Air Operators 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 despatched, 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. 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 DESPATCHED. Likewise 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/Operators 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 despatch 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. Some 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. In the MMEL some items are qualified in column 5 by the words:-

> "The aircraft may continue the flight or series of flights but shall not depart an airport where it is reasonably practicable for repairs or replacements to be made".

or similar wording. Operators with established routes shall specify in the MEL at which stations, in addition to the main maintenance base, such 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. 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 indicates 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.

   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 period 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 was 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 was 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.

   Note: The operator may permit, with Authority agreement, a one-off extension of the applicable rectification interval B, C or D for the same duration as that specified in the MMEL, in accordance with JAR MMEL/MEL.

DEFINITIONS (Cont...)

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

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. Asterisk (*): This symbol in Column 5 indicates that if the specified item is inoperative, a placard must be placed on or adjacent to the affected unit, component or control such that it is clear to the operating crew that it or its associated system is inoperative.

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 it's 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.

DEFINITIONS (Cont...)

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) in force during the flight.

    Operators should refer to the JAR-OPS 1 MEL Policy Document (Temporary Guidance Leaflet 26) for suitable alleviations based upon the required equipment identified within JAR-OPS 1, subparts K and L (published in the JAA Administrative and Guidance Material, Section Four: Operations, Part Three).

13. "VMC" and "IMC": The definitions of these terms are those used in Section 2 of the Air Navigation Order - Rules of the air.

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. "ETOPS": Refers to "extended range" operations which may be defined as "operation of a two-engined aeroplane over a route that contains a point farther than one hour flying time at the normal one-engined inoperative cruise speed (in still air) from an adequate airport".

DEFINITIONS (Cont...)

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

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

22. "Combustible Materials": 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. "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 129(2)(a) of the ANO and it is at the point of dispatch that the provisions of the MMEL cease to apply. They come into effect again when the aircraft next comes to rest at the end of its flight.

DEFINITIONS (Cont...)

24. **"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.

25. "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.

26. "Flight": For the purpose of a MEL, a flight is the period of time between the moment when an aeroplane beings 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).

27. Aircraft model designations and equipment configurations applicable to this BAC1-11 Series Master Minimum Equipment List (MMEL):

Certificated Model	MMEL Designation
BAC1-11 200 Series	200
BAC1-11 300 Series	300
BAC1-11 400 Series	400
BAC1-11 475 Series	475
BAC1-11 500 Series	500

Each listed item of equipment in this MMEL is applicable to all of the above models unless the models are specified. For example (400 and 500 Series) in column one indicates that the item is applicable to the BAC1-11 400 Series and 500 Series only. If a listed item of equipment has alternates, these will be specified in column 1.

28. Base documents used for the preparation of this MMEL are:

(a) CAA MMEL for the BAC One Eleven at Revision **3**, dated **28 August 1992**.

(b) FAA MMEL for the BAC 1-11 at Revision 32, dated 12 October 1990.

(c) CAA Policy Letters as at 1 March 2004.

(d) JAR-MMEL/MEL, 1 May 2000.

HIGHLIGHTS OF REVISION 4

GENERAL Chapter 28 has been updated to include changes from the manufacturer regarding fuel system safety.

DEFINITIONS Item 24 updated and item 25 added to reflect current CAA MMEL Policy. Subsequent items renumbered. Source documents updated.

28 FUEL

-10-1	Refuel / Defuel Valves	Reformatted to consider whether auxiliary tanks are fitted. No dispatch is allowed when auxiliary tanks are fitted, excluding BAC Mod PM4280. Added proviso to pull and collar circuit breaker.
-10-3	Fuel Tanks	Proviso (c) added and subsequent provisos renumbered.
-20-1	Wing Tank Booster Pumps	Reformatted and added proviso to pull and collar circuit breaker.
-20-2	Centre Tank Transfer Pumps	Reformatted and added proviso to pull and collar circuit breaker.
-20-3	Transfer Valve	Reformatted to consider whether auxiliary tanks are fitted. No dispatch is allowed when auxiliary tanks are fitted, excluding BAC Mod PM4280. Added proviso to pull and collar circuit breaker. Removed proviso that fuel tank contents gauges are operative, as the MMEL relief for this item has been withdrawn.
-20-4	Fuel Transfer Low Pressure Warning	MMEL relief withdrawn.
-20-7	Wing Tank Booster Pumps	Reformatted and added proviso to pull and collar circuit breaker.
-20-8	Jet Pump	Removed proviso that fuel tank contents gauges are operative, as the MMEL relief for this item has been withdrawn.
-20-9	Booster Pump Low Pressure Warning Lights	MMEL relief withdrawn.
-40-1	Wing Tank Contents Gauge	MMEL relief withdrawn.
-40-2	Centre Tank Contents Gauge	MMEL relief withdrawn.

HIGHLIGHTS OF REVISION 4

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING				
-00-1 Air Conditioning Systems	B	2	1	*(O)(M) One may be inoperative for pressurised flight provided: (a) Maximum operating altitude is limited to FL250, and (b) Ram air valve is operative.
	C	2	0	*(O)(M) Both may be inoperative for unpressurised flight provided: (a) Ram air valve and discharge valve (outflow valve) are operative, and (b) The aircraft remains at or below 10,000 ft. <u>Note:</u> With one or both air conditioning systems inoperative, the MAC valve(s) must be shut. The position indicator(s) on the valve(s) must be checked, the switch(es) labelled and the circuit breakers pulled and collared.
-20-1 Master Air Conditioning (MAC) Valve (Flow Control and Shut-off Valve)	C	2	1	*(O)(M) One MAC valve may be inoperative closed provided associated air conditioning system is considered inoperative (refer to item 21-00-1).
	C	2	0	*(O)(M) Both MAC valves may be inoperative closed for unpressurised flight (refer to item 21-00-1).
-20-2 MAC Valve Warning Lights	C	2	0	* One or both may be inoperative provided associated air system fail light is operative. <u>Note:</u> There may be no MAC Valve lights indication if ground fan switch (if installed) is selected to isolate.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21	**AIR CONDITIONING (Cont…)**				
-20-3	Ram Air Valve	C	1	0	* May be inoperative provided: (a) Valve is secured in the open position, (b) Maximum operating altitude is limited to FL250, and (c) No. 1 air conditioning system is used for pressurisation. <u>Note:</u> No. 2 air conditioning system is to be considered inoperative.
		C	1	0	* May be inoperative closed provided both air conditioning systems and both pneumatic systems operate normally.
		C	1	0	* May be inoperative closed provided either pneumatic system is operative and maximum operating altitude is limited to FL250.
-30-1	Automatic Pressure Control	B	1	0	* May be inoperative for pressurised flight provided: (a) Manual control operates normally and is used, and (b) Autopilot is operative.
		C	1	0	*(O)(M) May be inoperative provided the flight is conducted in an approved unpressurised configuration.
-30-2	Discharge Valve Suction Pump	C	1	0	*(O) May be inoperative provided: (a) Discharge (outflow) valve remains fully open by manual control until after take-off, and (b) Cabin is depressurised and discharge valve is fully open by manual control before landing.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21	**AIR CONDITIONING (Cont…)**				
-30-3	Discharge Valve (Automatic Control)	C	1	0	*(M) May be inoperative provided manual dump control operates normally.
		C	1	0	*(M) May be inoperative provided: (a) Valve is secured in the open position, and (b) The flight is conducted in an approved unpressurised configuration.
-30-4	Discharge Valve (Manual Dump Control)	C	1	0	* May be inoperative provided: (a) Discharge valve is secured open, (b) Flight is conducted in an approved unpressurised configuration, and (c) Extended overwater flights are prohibited.
-30-5	Discharge Valve Position Indicator	C	1	0	* May be inoperative provided the cabin differential pressure gauge operates normally.
-30-6	Safety Valve	C	1	0	* May be inoperative provided: (a) The flight is conducted in an approved unpressurised configuration, and (b) Extended overwater flights are prohibited.
		C	1	0	* May be inoperative closed provided flight is conducted in an approved unpressurised configuration.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 AIR CONDITIONING (Cont…)				
-30-7 Cabin Altitude Warning System	B	1	0	* May be inoperative provided: (a) Both pneumatic systems operate normally, (b) Both air conditioning systems operate normally, (c) Cabin altitude and pressure differential indicators are both operative, and (d) Maximum operating altitude is limited to FL250.
	C	1	0	*(O) May be inoperative for flight at or below 10,000 feet AMSL.
-30-8 Cabin Differential Pressure Gauge and Altimeter				
(1) Cabin Differential Pressure Indicator	C	1	0	* May be inoperative provided: (a) Cabin altitude indicator operates normally, (b) Cabin altitude warning system is operative, and (c) A conversion chart is readily available to the flight crew to convert cabin altitude to cabin differential pressure. (cont..)

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21	**AIR CONDITIONING (Cont…)**				
-30-8	Cabin Differential Pressure Gauge and Altimeter (cont.)				
	(2) Cabin Altitude Indicator	C	1	0	* May be inoperative provided: (a) Cabin differential pressure indicator operates normally, (b) Cabin altitude warning system is operative, and (c) A conversion chart is readily available to the flight crew to convert differential pressure to cabin altitude.
-30-9	Cabin Rate of Climb Indicator	C	1	0	* May be inoperative.
-50-1	Heat Exchanger Cooling Fan	C	1	0	*(O) May be inoperative provided air conditioning is not used on the ground or in flight below 135 knots IAS, using APU as air source; or below 165 knots using engines as air source.
-50-2	Radio Rack Cooling Fan	C	2	1	* One may be inoperative.
		C	2	0	*(O) Both may be inoperative provided systems not in use are switched off. <u>Note:</u> Reduce use of radio to a minimum.
-50-3	Fan Inlet Shutters (475 and 500 Series)	C	1	0	*(M) May be inoperative provided shutters are deactivated closed.

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21 AIR CONDITIONING (Cont…)				
-50-4 Cold Air Unit Overheat Thermostats	C	2	0	May be inoperative for an associated inoperative system.
(1) Graviner (or alternative equivalent) (If installed)	-	2	2	Both must be operative.
(2) Mercury Column	C	-	-	*(M) All may be inoperative provided leads are disconnected and stowed.
-60-1 Air Inlet Temperature Indicator (If installed)	C	2	0	* One or both may be inoperative provided auto and manual temperature control is operative.
-60-2 Cabin Temperature Indicator	C	1	0	* May be inoperative.
-60-3 Auto Temperature Control	C	2	0	* One or both may be inoperative provided: (a) Manual temperature control operates normally on associated air conditioning system, and (b) Associated temperature control valve position indicator(s) operate normally.
-60-4 Manual Temperature Control	C	2	0	* One or both may be inoperative provided automatic temperature control operates normally on associated air conditioning system.

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21 AIR CONDITIONING (Cont…)				
-60-5 Temperature Control Valve Position Indicator				
(1) Aircraft Installed with Air Inlet Temperature Indications	C	2	0	* One or both may be inoperative provided: (a) Air inlet temperature indication operates normally, and (b) Automatic temperature control is operative.
(2) Aircraft Not Installed with Air Inlet Temperature Indications	C	2	0	* One or both may be inoperative provided: (a) Automatic temperature control is operative, and (b) Alternate procedures are developed and utilised to control cabin temperature.

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22	**AUTOFLIGHT**				
-00-1	Autopilot	C	1	0	*(O) May be inoperative provided: (a) Approach minima do not require its use, and (b) Flight Manual limitations are complied with. Note 1: Any mode which functions normally may be used. Note 2: The altitude hold function is required to be operative for RVSM operations.
-10-1	Disconnect Lights	C	2	1	* One may be inoperative when autopilot is used.
	(1) Aircraft other than 510 series	C	2	0	*(O) Both may be inoperative provided: (a) Autopilot is not used, and (b) Approach minima do not require the use of autopilot.
	(2) 510 series	C	2	0	* One or both may be inoperative provided both autopilot engaged magnetic indicators are operative.
-10-2	Autopilot Engaged Magnetic Indicator (510 series)	C	2	0	* One or both may be inoperative provided both autopilot disconnect lights are operative.
-10-3	Disconnect Audible Warning (500 series) (If installed)	C	1	0	* May be inoperative provided approach minima do not require its use.

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22 AUTOFLIGHT (Cont…)				
-10-4 Disengage Buttons	C	2	1	*(O) One may be inoperative provided the autopilot is not used at less than 1,500 feet AGL.
	C	2	0	*(O) Both may be inoperative provided: (a) The autopilot is not used, (b) Approach minima do not require the use of the autopilot, and (c) Flight Manual limitations are complied with if Mach trim is inoperative.
-10-5 Glide Slope Annunciator				
(1) 200, 300 and 400 series	C	1	0	* May be inoperative provided approach minima do not require its use.
(2) 475 and 500 series	C	2	1	* One may be inoperative.
	C	2	0	* Both may be inoperative provided approach minima do not require its use.
-10-6 Torque Limiter Adapter (If installed)	C	1	0	*(O) May be inoperative provided: (a) Autopilot is considered inoperative and not used, and (b) Landing weather minima do not require the use of autopilot.
-10-7 Pitch Monitor (If installed)	C	1	0	*(O) May be inoperative provided: (a) Autopilot is considered inoperative and not used, and (b) Landing weather minima do not require the use of autopilot.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22	**AUTOFLIGHT (Cont…)**				
-10-8	Air Data Sensor (Air Data Computer)	C	1	0	* May be inoperative provided auto pilot height lock, speed lock and auto throttle are not used. Note: The air data sensor is required to be operative for RVSM operations.
-10-9	Three Axis Trim Indicator	C	1	0	*(O) May be inoperative provided: (a) Autopilot is considered inoperative and is not used, and (b) Landing weather minima do not require the use of autopilot, and (c) Flight Manual limitations are complied with.
-10-10	A/P Auto-trim Light (If installed)	C	1	0	* May be inoperative provided approach minima do not require its use.
-10-11	A/P Auto-flare Computer (If installed)	C	1	0	* May be inoperative provided approach minima do not require its use.
-10-12	Land Annunciators (Model 510 only)	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
-10-13	Land Flare Annunciator (If installed)	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
-10-14	Autothrottle (If installed)	C	1	0	* May be inoperative provided: (a) Approach minima do not require its use, (b) Autothrottle master switch is selected OFF, and (c) Flight Manual procedures are observed.

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22 AUTOFLIGHT (Cont…)				
-10-15 Radio and Electronic AC Bus Bar Changeover (If installed)	C	1	0	* May be inoperative provided: (a) Approach minima do not require its use, and (b) Flight Manual procedures are observed.
-10-16 Autopilot Glide Slope Annunciator (Except Model 510)	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
-10-17 Autopilot/Flight Director Mode Indicator (Model 510 only)	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
-10-18 Autopilot Heading Transfer Switch (If installed)	C	1	0	* May be inoperative.
-10-19 Autopilot/Flight Director Compass Transfer Switch (Model 510 only)	C	1	0	* May be inoperative.

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23 COMMUNICATIONS				
-10-1 VHF Communications	D	-	-	* Any in excess of those required by Operating Requirements may be inoperative.
-10-2 HF Communications	D	-	-	* Any in excess of those required by Operating Requirements may be inoperative.
-10-3 UHF Communications	D	-	-	* Any in excess of those required by Operating Requirements may be inoperative.
-20-1 SELCAL (If installed)	C	1	0	* (O) May be inoperative provided flight crew monitor appropriate radio frequency.
	D	1	0	May be inoperative provided procedures do not require its use.
-20-2 ACARS System (If installed)	C	1	0	* May be inoperative provided alternate procedures are established and used.
	D	1	0	May be inoperative provided procedures do not require its use.
-30-1 Passenger Address (PA) System	B	1	0	*(O) May be inoperative provided: (a) Cabin Interphone System (including chime system) is operative, and (b) Alternate normal and emergency procedures are established and utilised.
	D	1	0	* May be inoperative for all cargo operations unless cargo carriage requires persons to be in attendance.
-30-2 Crew Chimes	C	1	0	* May be inoperative provided: (a) The PA system is operative, and (b) Alternate procedures are developed and utilised.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23	**COMMUNICATIONS (Cont…)**				
-30-3	Passenger Call System	D	1	0	* May be inoperative.
-30-4	Evacuation Alarm	C	1	0	* May be inoperative provided alternate procedures are developed and utilised.
-30-5	Headsets	D	-	-	* One headset (including boom microphone) must be operative for each crew member on flight deck duty. Any in excess of those required may be inoperative.
-30-6	Pre-recorded Passenger Announcement System (If installed)	D	1	0	*(O) May be inoperative provided alternate procedures are established and used.
-40-1	Flight Crew Intercom	-	1	1	* As required by Air Navigation Legislation. Must be operative for all crew members on Flight Deck duty.
-40-2	Cabin Interphone	-	-	-	*(O) As required by Operating Requirements
-50-1	Audio Selector Panels	D	-	-	* One required for each crew member on flight deck duty. Any in excess of those required may be inoperative.
-50-2	Flight Deck Speaker System				
	(1) Communications	C	-	-	* May be inoperative for communications purposes provided each crew member has an operative headset.
	(2) Aural Warning Alerts	C	-	-	* May be inoperative provided all appropriate aural alert functions are operating normally and the associated audible warnings are available to the crew.
-60-1	Static Dischargers	-	-	-	Refer to CDL (Configuration Deviation List).
-70-1	Cockpit Voice Recorder (CVR)	-	-	-	As required by Operating Requirements.

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24	**ELECTRICAL POWER**				
-10-1	Constant Speed Drive Fail Light (If installed)	C	2	0	*(O) One or both may be inoperative provided frequency meter operates normally and is monitored throughout the duration of the flight.
-20-1	AC Generators				
	(1) Engine Driven Generators	A	2	1	*(M)(O) One generator may be inoperative provided: (a) The APU and its generator operate normally and supply power to the aircraft electrical system, (b) The aircraft is operated in accordance with approved procedures/limitations for in flight use of the APU, (c) A water drain check of the left wing tank for freedom from water is made prior to each departure, (d) Total planned flight time, including diversion, does not exceed 3.5 hours, (e) The generator frequency meter is to be switched to the APU generator except when checking a main generator, and (f) Repairs or replacements are made within 3 calendar days.
	(2) APU Generator	C	1	0	* May be inoperative provided both engine driven generators and associated drives are operative.
-20-2	KVA Meter	C	3	2	* One may be inoperative provided AC voltmeter and frequency meter indications for the associated generator operate normally.

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24	**ELECTRICAL POWER (Cont…)**				
-20-3	AC Voltmeter	C	1	1	* Indication for external ground power, and indication for one of the two required generators may be inoperative provided the KVA meter and the frequency meter indications for the associated generator operate normally.
		C	1	0	* May be inoperative provided: (a) Both engine driven and APU generator channels operate normally, (b) KVA meter and frequency meter both operate normally (for each channel), and (c) APU is in use as essential equipment.
-20-4	Frequency Meter	C	1	1	* Indication for one of the two required generators may be inoperative provided KVA meter and AC voltmeter indications for the associated generator operate normally.
		C	1	0	May be inoperative provided: (a) Both engine driven and APU generator channels operate normally, (b) KVA meter and AC voltmeter both operate normally, and (c) APU is in use as essential equipment.
-20-5	Static Inverter	-	1	1	Must be operative.
-30-1	Batteries	-	2	2	Both must be operative.

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24 ELECTRICAL POWER (Cont…)				
-30-2 TRU Ammeter	C	2	1	*(O) or (M) One may be inoperative provided: (a) The associated TRU operates normally, and (b) All other channel indicators operate normally. Note: With the DC split C/B tripped, the output of the associated TRU is verified normal by power being available at the DC main and essential bus bars. Depress "Push for Batt Volts" button to verify the DC essential bus bar.
-30-3 Battery Ammeter	C	1	0	* May be inoperative provided: (a) Both TRU ammeters are operative, and (b) Battery magnetic indicator or battery light (whichever is installed) operates normally.
-30-4 Battery Warning Light or Magnetic Indicator (Whichever fitted)	C	1	0	* Battery magnetic indicator or battery warning light (whichever is fitted) may be inoperative provided battery ammeter operates normally.
-30-4 DC Voltmeter	-	1	1	Must be operative.
-30-5 TRU	-	2	2	Both must be operative.
-30-6 DC Failure Warning	-	1	1	Must be operative.
-50-1 AC Bus Failure Warning	-	2	2	Both must be operative.

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25 EQUIPMENT/FURNISHINGS				
-10-1 Flight Crew Shoulder Harness Inertia Reels	A	-	-	*(M) As required by Air Navigation Legislation. May be inoperative provided: (a) The affected harness is adjusted and locked by an approved means to suit the individual flight crew member, and (b) Repairs or replacements are made within 3 calendar days.
-10-2 Flight Deck Observer Seats and Harnesses	D	-	0	* May be inoperative provided the seat is not required and is correctly stowed.
-10-3 Flight Crew Seat Adjustment	-	1	1	Fore and aft adjustment must operate normally.
	B	1	1	*(M) Vertical and/or recline adjustments may be inoperative provided the seat is secured and locked in a position to suit the individual pilots requirements.
-20-1 Passenger Seats (Including Seat Backs)	C	-	-	*(M) May be inoperative secured in the up-right position.
	C	-	-	*(M) May be inoperative provided: (a) The affected seat does not block an Emergency Exit, (b) The affected seat does not restrict any passenger from access to the main aircraft aisle, and (c) The affected seat(s) is blocked and placarded 'DO NOT OCCUPY'. Note: A seat with an inoperative seat belt is considered inoperative.

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25 EQUIPMENT/FURNISHINGS (Cont…)				
-25-1 Cabin Attendant Seat Assembly	B	-	-	*(M)(O) One required cabin attendant seat may be inoperative or unusable provided: (a) The inoperative seat is not occupied, (b) The cabin attendant displaced by the inoperative seat occupies the passenger aisle seat nearest to the inoperative crew seat, (c) The passenger seat to be used by the cabin attendant is placarded "FOR CABIN CREW USE ONLY", (d) A folding type seat is stowed or secured in the retracted position, and (e) Alternate procedures are established / approved and used for the displaced cabin attendant. <u>Note 1:</u> 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. <u>Note 2:</u> A seat with an inoperative or missing seat belt or harness is considered to be inoperative and shall be placarded to prohibit occupancy. <u>Note 3</u>: This requirement does not preclude use of passenger seats by cabin attendants in excess of the required cabin attendant complement.
	D	-	-	(M)(O) Any cabin attendant seat, other than those required by legislation to be occupied, may be inoperative.

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25 EQUIPMENT/FURNISHINGS (Cont…)				
-60-1 Megaphones	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-60-2 FASTEN SEAT BELT Signs or Placards	-	-	-	Refer to Item 33-30-3.
-60-3 Smoke Protection				
(1) Flight Crew Smoke Protection Equipment (Basic and Portable)	D	-	-	* As required by Air Navigation Legislation. Individual specified items may be missing or inoperative in accordance with arrangements approved by the authority.
(2) Cabin Attendants Portable Smoke Protection Equipment	D	-	-	* As required by Air Navigation Legislation Individual specified items may be missing or inoperative in accordance with arrangements approved by the authority.
-60-4 Escape Slides	A	-	-	*(M)(O) As required by Air Navigation Legislation. One device may be inoperative provided all the conditions associated with an inoperative exit/door are observed and applied (refer to item 52-00-1).
-60-5 Flotation Devices (Lifejackets and Liferafts)	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required by legislation may be inoperative.
-60-6 Cabin Emergency Torch Holder and Torches	C	-	-	* As required by Air Navigation Legislation. May be inoperative or missing provided crewmember assigned to associated seat has a torch of equivalent characteristics available.
-60-7 Emergency Locator Transmitter (ELT) (If installed)	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 may be inoperative.

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26	**FIRE PROTECTION**				
-10-1	Zone 2 Engine Overheat Warning	-	2	2	Both must be operative.
-10-2	Power Plant Fire Warning System	-	2	2	Both must be operative.
-10-3	APU Fire Warning System	C	1	0	* May be inoperative provided the APU is not used.
-10-4	APU Tailcone Overheat Detection System	C	1	0	* May be inoperative provided the APU is not used.
-20-1	Hand Held Fire Extinguishers	D	-	-	* As required by Airworthiness Notice No. 60. Extinguishers in excess of the minimum required may be inoperative or missing provided: (a) Inoperative fire extinguisher is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit, and (b) Required distribution is maintained.
-20-3	Power Plant Fire Extinguishing System	-	2	2	Both must be operative.
-20-4	APU Fire Extinguishing System	C	1	0	(O) May be inoperative provided: (a) APU is used for engine start only, (b) APU is continuously monitored by ground crew during ground operations, (c) APU is shut down immediately after engine start, and (d) No passengers are permitted in the aircraft during APU operations.
		C	1	0	May be inoperative provided APU is not used.
-20-5	Toilet Compartment Fire Extinguisher Systems	D	-	0	* Any or all may be inoperative.

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26 FIRE PROTECTION (Cont…)				
-20-6 Toilet Compartment Smoke Detection Systems	C	-	-	*(M) May be inoperative provided: (a) The toilet compartment is electrically isolated (including toilet flush motor and all other high voltage devices) as applicable, (b) The waste bin is empty, (c) Toilet door is locked closed and placarded, and (d) Toilet is not used for any other purpose.
	A	-	-	*(O) May be inoperative provided: (a) Toilet compartment fire extinguishers are fitted and operating normally, (b) The toilet compartment is checked at 20 (twenty) minute intervals for evidence of fire or smoke, and (c) Repairs or replacements are made within 3 calendar days.

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27	**FLIGHT CONTROLS**				
-00-1	Flight Control Failure Warning System	-	2	2	Both must be operative.
-00-2	Pre Take-off Configuration Warning System	A	1	0	*(O)(M) May be inoperative provided: (a) Oleo weight switches have been verified to be operating normally, (b) Flaps, speedbrake, tailplane and elevator electric trim tab are verified to be in the correct position prior to each departure, (c) Other warning systems are not affected, (d) Cabin freight door (400 and 475 series). Prior to each departure, verify that the operating handle is FULLY STOWED and the external mechanical indicator shows SAFE. This check must be made by a member of the flight crew, and (e) Repairs or replacements are made within 3 calendar days. Note: On some aircraft the same warning horn is also used for the speed brake/flap warning. Refer to item 27-60-3 if applicable.
-01-2	Emergency Elevator Hydraulic PCU Failure Warning	-	1	1	Must be operative.

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27	**FLIGHT CONTROLS (Cont…)**				
-01-3	Elevator Trim Tab Position Indicator	A	1	0	*(M) May be inoperative provided: (a) Tab is checked for full range of operation, (b) Tab is positioned to neutral prior to each departure and neutral position is verified by visual inspection, and (c) Repairs or replacements are made within 3 calendar days.
-01-4	Emergency Elevator Operating Light (If installed)	C	1	0	* May be inoperative.
-10-1	Aileron Gust Damper	-	2	2	Fault conditions such as a seized damper or mechanical damage would necessitate a damper change before flight.
		A	2	2	(M) One or both dampers may have low oil level, or a minor leak that creates a negligible loss of fluid provided: (a) Full and free movement of both ailerons is verified by applying a force to the aileron trailing edge NOT through the pilots' control wheels, and (b) The aircraft may continue the flight or series of flights but shall not exceed one flight day prior to the completion of replacements or repairs.
-20-1	Rudder Feel Unit	-	1	1	Must be operative.
-20-2	Feel Failure Warning	-	1	1	Must be operative.
-20-3	Series Yaw Damper (If installed)	C	1	0	* May be inoperative.

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27	**FLIGHT CONTROLS (Cont…)**				
-20-4	Rudder Pedal Adjustment Systems	A	2	0	*(M) One or both may be inoperative provided: (a) Pedals are adjusted utilising an approved maintenance procedure to satisfy the individual requirements of the flight crew, (b) It is verified that rudder and brake systems operate normally, and (c) Repairs or replacements are made within 3 calendar days.
-30-1	Elevator Feel Unit	-	1	1	Must be operative.
-30-2	Stall Warning/Stick Shaker	A	2	1	*(O)(M) One may be inoperative provided: (a) The remaining system including vane heaters is confirmed to be operating normally prior to each departure, (b) If the aircraft is operating with one engine ignitor unit inoperative, the number one stall warning auto ignition system must be operative, and (c) Repairs or replacements are made within 3 calendar days. Note: An inoperative system cannot be isolated by pulling a circuit breaker.
-30-3	Stall Identification/Stick Push System	C	2	1	*(O) One may be inoperative provided operations are conducted in accordance with the Flight Manual Normal Procedures.

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27	**FLIGHT CONTROLS (Cont…)**				
-30-4	Stall LOW PRESSURE Warning Light (Nitrogen Pressure) (If installed)	C	1	0	* May be inoperative provided both LP and HP pressure gauges are operative.
-30-5	Dump Valve	-	1	1	Must be operative.
-30-6	Valve A and B Indicator Lights	A	2	1	* One may be inoperative provided repairs or replacements are made within three calendar days.
-30-7	Stick Push Pressure Indication				
	(1) HP Gauge	C	1	0	*(M) May be inoperative provided bottle pressure is verified prior to each departure.
	(2) LP Gauge	C	1	0	* May be inoperative provided associated low pressure warning light operates normally.
-30-8	Stick Push Operating Indications				
	(1) Lights	A	2	1	* One may be inoperative provided: (a) Both klaxons operate normally, and (b) Repairs or replacements are made within 3 calendar days.
	(2) Klaxon	A	2	1	* One may be inoperative provided: (a) Both indicator lights operate normally, and (b) Repairs or replacements are made within 3 calendar days.
		C	2	1	One may be inoperative for an inoperative stall identification system (refer to item 27-30-3).

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27	**FLIGHT CONTROLS (Cont…)**				
-30-9	Stick Push Fail Warning	C	2	1	* One may be inoperative provided system warning lamps on roof panel operate normally.
-30-10	System Fail Warning	-	1	1	Must be operative.
-30-11	Tail Trim Indicator	C	1	0	*(M) May be inoperative provided a visual check is made to verify that the trim wheel index correctly indicates horizontal stabiliser position prior to each departure.
-30-12	Stall Protection Auto Ignition	A	2	1	* No. 1 auto ignition may be inoperative provided: (a) Both No. 2 (low energy) ignitors are verified to be operative prior to each departure, and (b) Repairs or replacements are made within 3 calendar days.
		A	2	1	* No. 2 auto ignition may be inoperative provided repairs or replacements are made within 3 calendar days.
-50-1	Flap Position Indicator Pointers				
	(1) Aircraft with <u>TWO</u> Pointers	A	2	1	*(M) One pointer may be inoperative provided: (a) It is verified that the flaps operate normally throughout their full range, (b) A visual inspection is carried out prior to each departure to verify that flaps are in the take-off position, and no asymmetry exists, and (c) Repairs or replacements are made within 3 calendar days.

(cont..)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
27 FLIGHT CONTROLS (Cont…)				
-50-1 Flap Position Indicator Pointers (cont.)				
(1) Aircraft with <u>TWO</u> Pointers (cont.)	A	2	0	*(O) Both may be inoperative provided: (a) Flaps are verified to be operating normally over their full range, (b) A trained observer is used to verify the flaps are in the correct position prior to take-off and landing by observing the painted marks on the flap surfaces, and (c) Repairs or replacements are made within 3 calendar days.
(2) Aircraft with <u>ONE</u> Pointer	A	1	0	*(O) May be inoperative provided: (a) Flaps are verified to be operating normally over their full range, (b) A trained observer is used to verify the flaps are in the correct position prior to take-off and landing by observing the painted marks on the flap surfaces, and (c) Repairs or replacements are made within 3 calendar days.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
27	**FLIGHT CONTROLS (Cont…)**				
-50-2	Flap Shaft Failure Warning	A	1	0	*(M) May be inoperative provided: (a) Both primary and secondary flap drive systems are verified to be serviceable in accordance with Maintenance Manual inspection procedures, (b) Flap position gauge must be operative, (c) Flap position must be monitored through each flap selection, and (d) The aircraft may continue the flight or series of flights not to exceed one flight day prior to the completion of replacements or repairs.
-50-3	Flap Overspeed Warning (Model 510 only)	C	1	0	* May be inoperative.
-60-1	Spoilers	-	4	4	All must be operative.
-60-2	Spoiler Failure Warning	-	2	2	Both must be operative.
-60-3	Speed Brake/Flap Warning (If installed)	C	1	0	* May be inoperative. <u>Note:</u> The same warning horn is used for this item and the pre take-off configuration warning. Refer to item 27-00-2 if applicable.
-60-4	Lift Dumper System (If installed)	C	1	0	*(M)(O) May be inoperative provided: (a) The entire system is deactivated, (b) Lift dumpers are locked “IN”, (c) Appropriate take-off and landing performance data is provided in the Flight Manual, and (d) Thrust reversers operate normally.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
27	**FLIGHT CONTROLS (Cont…)**				
-60-5	Lift Dumper Indication	C	2	0	*(M) One or both may be inoperative provided a visual inspection is made prior to each departure to verify the lift dumpers are operating normally.
-70-1	Elevator Gust Damper Warning	C	1	0	*(O)(M) May be inoperative provided: (a) Prior to each departure flight crew perform a feel check of No. 1 elevator system to verify it is in the normal power mode and elevator response is normal, and (b) Avoid parking aircraft tail to wind with hydraulic power off in other than moderate gust conditions.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL				**<u>NOTE:</u> The effect of inoperative components relative to fuel loading and usage must be taken into account – Refer to Flight Manual.**
-10-1 Refuel/Defuel Valves (Refuel Function)				
(1) Aircraft fitted with Auxiliary Tanks (excluding BAC Mod PM4280)	-	3	3	All must be operative.
(2) Aircraft not fitted with Auxiliary Tanks, or aircraft fitted with BAC Mod PM4280 Auxiliary Tanks	C	3	0	*(M) Any or all may be inoperative provided: (a) All inoperative valves are verified closed prior to each departure (refer to 28-20-3 for transfer function), and (b) Circuit breakers for associated inoperative valves are pulled and collared.
-10-2 Refuel/Defuel Connection Cover				
(1) Aircraft Fitted with Centre Tank Transfer Pumps	C	1	0	* May be missing provided centre tank transfer facility is not used.
(2) Aircraft Fitted with Jet Pump Transfer System	C	1	0	* May be missing.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-10-3 Fuel Tanks	C	3	2	*(M)(O) Centre tank may be inoperative provided: (a) Tank is empty and not required, and (b) It is verified that the tank remains empty prior to the first departure of each day.
	A	3	2	*(M)(O) Centre tank may be inoperative provided: (a) No leaks exist, (b) Fuel therein is considered as part of the Zero Fuel Weight, (c) If one or more auxiliary fuel tanks are fitted, all associated warning lights, fuel contents and levelling equipment must be fully operative, (d) Flight Manual limitations are observed, and (e) Repairs or replacements are made within 3 calendar days.
-10-4 Pressure Refuelling Facility	C	1	0	* May be inoperative. <u>Note:</u> Refer to Maintenance Manual for alternate procedures.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-1 Wing Tank Booster Pumps (Aircraft Fitted with Wing Tank Booster Pumps and Centre Tank Transfer Pumps)	C	4	2	*(O) One booster pump in each tank may be inoperative provided: (a) Both serviceable pumps are in the same relative position in each tank, and (b) Circuit breakers for associated inoperative booster pumps are pulled and collared. <u>Note 1:</u> With rear booster pump inoperative, contents of the affected tank before take-off should not be less than 2,500kg (5,500 lb). Normal requirements for symmetrical loading between tanks must be observed. Pitch attitudes should not exceed 12° nose up. OR <u>Note 2:</u> With a rear booster pump inoperative, the contents of the affected tank before take-off should not be less than 3,600kg (7,920 lbs). The planned fuel remaining in the affected tank on landing at the planned destination should not be less than 2,500 kg (5,500 lbs). Normal requirements for symmetrical loading between the tanks must be observed. Pitch attitudes should not exceed 20° nose up.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-2 Centre Tank Transfer Pumps (Aircraft Fitted with Wing Tank Booster Pumps and Centre Tank Transfer Pumps)				
(1) If Fuel Transfer Required	C	2	1	*(O) One may be inoperative provided: (a) All fuel tank contents gauges are operative and monitored during transfer, and (b) Circuit breaker for associated inoperative transfer pump is pulled and collared.
(2) If No Centre Tank Fuel Carried, or Transfer Not Required	C	2	0	*(O) Both may be inoperative provided: (a) Tank remains empty, or fuel in tank is included as part of Zero Fuel Weight, and (b) Circuit breakers for inoperative transfer pumps are pulled and collared.
-20-3 Transfer Valve (Function of Refuel Valve) (Aircraft Fitted with Wing Tank Booster Pumps and Centre Tank Transfer Pumps)				
(1) Aircraft fitted with Auxiliary Tanks (excluding BAC Mod PM4280)	-	2	2	Both must be operative. (cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-3 Transfer Valve (Function of Refuel Valve) (Aircraft Fitted with Wing Tank Booster Pumps and Centre Tank Transfer Pumps) (cont.)				
(2) Aircraft not fitted with Auxiliary Tanks, or aircraft fitted with BAC Mod PM4280 Auxiliary Tanks				
(a) If Fuel Transfer Required	C	2	1	*(O) One may be inoperative provided: (a) Lateral fuel balance is monitored during transfer, and (b) Circuit breaker for associated inoperative transfer valve is pulled and collared.
(b) If No Centre Tank Fuel Carried or Not Required	C	2	0	*(O) Both may be inoperative provided: (a) Tank remains empty, or fuel in tank is included as part of Zero Fuel Weight, and (b) Circuit breakers for inoperative transfer valves are pulled and collared.
-20-4 Fuel Transfer Low Pressure Warning (Aircraft Fitted with Wing Tank Booster Pumps and Centre Tank Transfer Pumps)	-	1	1	Must be operative.
-20-5 Transfer Valve Magnetic Indicator (Aircraft Fitted with Wing Tank Booster Pumps and Centre Tank Transfer Pumps)	C	2	0	* Both may be inoperative.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-7 Wing Tank Booster Pumps (Aircraft with Wing Tank Booster Pumps and Combined Jet Transfer Pumps)				
(1) If Fuel Transfer Required				
(i) Initial Centre Tank Contents Exceeding 900 kgs (2,000 lbs)	C	4	3	*(O) One rear booster pump may be inoperative provided: (a) Engine starting and taxiing are carried out using the operative rear pump with crossfeed open, and (b) Circuit breaker for associated inoperative booster pump is pulled and collared. Note 1: With rear booster pump inoperative, contents of the affected tank before take-off should not be less than 2,500kg (5,500 lb). Normal requirements for symmetrical loading between tanks must be observed. Pitch attitudes should not exceed 12° nose up. OR Note 2: With a rear booster pump inoperative, the contents of the affected tank before take-off should not be less than 3,600kg (7,920 lbs). The planned fuel remaining in the affected tank on landing at the planned destination should not be less than 2,500 kg (5,500 lbs). Normal requirements for symmetrical loading between the tanks must be observed. Pitch attitudes should not exceed 20° nose up. (cont..)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-7 Wing Tank Booster Pumps (Aircraft with Wing Tank Booster Pumps and Combined Jet Transfer Pumps) (Cont.)				
(1) If Fuel Transfer Required (cont.)				
(ii) Initial Centre Tank Contents <u>NOT</u> Exceeding 900 kgs (2,000 lbs)	C	4	3	*(O) One forward or rear booster pump may be inoperative provided: (a) If a rear pump is inoperative, engine starting and taxiing are carried out using the serviceable rear pump with crossfeed OPEN, (b) Tank contents gauges are monitored during transfer operations, and (c) Circuit breaker for associated inoperative booster pump is pulled and collared. <u>Note 1:</u> With rear booster pump inoperative, contents of the affected tank before take-off should not be less than 2,500kg (5,500 lb). Normal requirements for symmetrical loading between tanks must be observed. Pitch attitudes should not exceed 12° nose up. OR <u>Note 2:</u> With a rear booster pump inoperative, the contents of the affected tank before take-off should not be less than 3,600kg (7,920 lbs). The planned fuel remaining in the affected tank on landing at the planned destination should not be less than 2,500 kg (5,500 lbs). Normal requirements for symmetrical loading between the tanks must be observed. Pitch attitudes should not exceed 20° nose up.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-7 Wing Tank Booster Pumps (Aircraft with Wing Tank Booster Pumps and Combined Jet Transfer Pumps) (Cont.)				
(2) No Fuel Transfer Required				
(i) No Fuel in Centre Tank	C	4	2	*(O) One pump in each tank may be inoperative provided: (a) Both serviceable pumps are in the same relative position in each tank. (b) Circuit breakers for associated inoperative booster pumps are pulled and collared. <u>Note 1:</u> With rear booster pump inoperative, contents of the affected tank before take-off should not be less than 2,500kg (5,500 lb). Normal requirements for symmetrical loading between tanks must be observed. Pitch attitudes should not exceed 12° nose up. OR <u>Note 2:</u> With a rear booster pump inoperative, the contents of the affected tank before take-off should not be less than 3,600kg (7,920 lbs). The planned fuel remaining in the affected tank on landing at the planned destination should not be less than 2,500 kg (5,500 lbs). Normal requirements for symmetrical loading between the tanks must be observed. Pitch attitudes should not exceed 20° nose up. (cont.)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL (Cont.)				
-20-7 Wing Tank Booster Pumps (Aircraft with Wing Tank Booster Pumps and Combined Jet Transfer Pumps) (Cont.)				
(2) No Fuel Transfer Required				
(ii) Fuel Carried in Centre Tank But Transfer Not Required	C	4	2	*(O) Both forward pumps may be inoperative provided: (a) Fuel in centre tank is included as part of Zero Fuel Weight, and (b) Circuit breakers for associated inoperative booster pumps are pulled and collared.
-20-8 Jet Pump (Aircraft with Wing Tank Booster Pumps and Combined Jet Transfer Pumps)				
(1) If Fuel Transfer Required	C	2	1	*(O) One may be inoperative provided lateral fuel balance is monitored during transfer.
(2) If No Centre Tank Fuel Carried or Transfer Not Required	C	2	0	* Both may be inoperative provided fuel carried in centre tank is considered not transferable and is included as part of Zero Fuel Weight.
-20-9 Booster Pump Low Pressure Warning Lights	-	2	2	Both must be operative.
-20-10 Crossfeed Valve	-	1	1	Must be operative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28	**FUEL (Cont…)**				
-20-11	Crossfeed Valve Position Indicator	C	1	0	*(O)(M) May be inoperative provided: (a) Operation of crossfeed valve is verified normal prior to each departure, and (b) Both wing tank contents gauges operate normally and are monitored throughout the duration of the flight.
-20-12	LP Shut-off Valve	-	2	2	Both must be operative.
-20-13	LP Shut-off Valve Magnetic Indicator	C	2	0	*(O) One or both may be inoperative provided: (a) Prior to the next flight following discovery of the fault, the associated valve is checked for correct operation and then left in the fully open position as confirmed by the reference to the visual indicator on the valve, (b) Prior to subsequent flights, procedure as at (a) is repeated if the valve has been operated, and (c) Pending rectification of the fault, the procedure as at (a) is repeated prior to the first flight of the day. Note: Refer to Flight Manual, Section 3 "Engine Fire in Flight".
-20-14	Engine Fuel Low Pressure Warning	-	2	2	Both must be operative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28	**FUEL (Cont…)**				
-20-15	Pump Defuel Facility (If installed)	C	1	0	*(M) May be inoperative provided: (a) Valve is secured closed (by reference to visual indicator on valve), and (b) The DEFUEL VALVE circuit breaker is pulled and collared. Note: All associated controls and indications must be operative for valve to be regarded as operative.
-30-1	Jettison System (If installed)	C	1	0	*(O)(M) May be inoperative provided: (a) System is deactivated utilising an approved maintenance procedure, and (b) The aircraft is operated in accordance with Flight Manual limitations.
-40-1	Wing Tank Contents Gauges	-	2	2	Both must be operative.
-40-2	Centre Tank Contents Gauge	-	1	1	Must be operative.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
29	**HYDRAULIC POWER**				
-10-1	Engine Driven Pumps	A	2	1	*(M) One may be inoperative provided: (a) Drive is removed from inoperative pump, (b) Associated system pressure indicator is operative, (c) APU, APU generator, both engine generators, both auxiliary pumps and DC pumps all operate normally, and (d) The aircraft may continue the flight or series of flights not to exceed one flight day prior to the completion of replacements or repairs.
	(1) OFF LOAD Facility	-	2	2	Both must be operative.
-20-1	AC Pump Motor (200 Series) (If installed)	-	1	1	Must be operative.
-20-2	AC Pump (200 Series) (If installed)	-	2	2	Both must be operative.
-20-3	AC Pump and Motor (200 Series) (If installed) (300, 400, 475 and 500 Series)	-	2	2	Both must be operative.
-20-4	DC Pump	-	1	1	Must be operative.
-30-1	System Pressure Indicators	C	2	1	* One may be inoperative provided engine driven pump pressure failure warning lights operate normally.
-30-2	Reservoir Contents Indicators	-	2	2	Both indications must be operative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
29	**HYDRAULIC POWER (Cont…)**				
-30-3	No. 1 and No. 2 System Low Pressure Warning (200 Series)	C	2	1	*(O)(M) One may be inoperative provided: (a) Engine driven and AC pumps are verified to be operating normally prior to each departure, (b) If LP pressure switch has failed closed (light ON) the electrical lead from the switch is disconnected at the switch and stowed, and (c) Both system pressure indications operate normally and are monitored throughout the flight.
-30-4	EDP Low Pressure Warning (300, 400, 475 and 500 Series)	C	2	1	*(O)(M) One may be inoperative provided: (a) Engine driven and AC pumps are verified to be operating normally prior to each departure, (b) If LP pressure switch has failed closed (light ON) the electrical lead from the switch is disconnected at the switch and stowed, and (c) Both system pressure indications operate normally and are monitored throughout the flight.
-30-5	AC Pump Low Pressure Warning (300, 400, 475 and 500 Series)	C	2	1	*(O) One may be inoperative provided: (a) Both system pressure indicators are operative, (b) Output of associated pump is verified prior to departure, (c) Both EDPs are operative, and (d) Both reservoir contents indicators are operative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
29	**HYDRAULIC POWER (Cont…)**				
-30-6	Emergency Elevator Low Hydraulic Pressure Warning	-	1	1	Must be operative.
-30-7	Fluid Overheat Warning	-	2	2	Both must be operative.
-30-8	AC Pump Motor Overheat Warning				
	(1) 200 Series (If installed)	-	1	1	Must be operative.
	(2) 200 Series (If installed) and 300, 400, 475 and 500 Series	-	2	2	Both must be operative.
-30-9	Reservoir Air Pressure Warning System	C	2	0	*(O)(M) One or both may be inoperative provided: (a) Engine driven and AC Pumps are verified to be operating normally prior to each departure, (b) If the warning has failed with the light ON, the electrical lead from the switch is disconnected at the switch and stowed, (c) Both system pressure indications operate normally and are monitored throughout the flight, and (d) It is verified that the pressurisation system operates normally by checking the pressure at the ground service panel.
-30-10	Ground Servicing Reservoir Air Pressure Gauge	C	2	0	* One or both may be inoperative provided the associated low pressure warning system is operative.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
29 HYDRAULIC POWER (Cont…)				
-30-11 Main Accumulator Air Pressure Gauge	C	2	0	*(M) One or both may be inoperative provided reservoir pre-charge is verified normal prior to the first departure of each day.

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(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				
-10-1 Wing Shut-off Valves	C	2	0	*(M) One or both may be inoperative closed provided the aircraft is not operated in known or forecast icing conditions.
-10-2 Tail Shut-off Valves	C	2	0	*(M) One or both may be inoperative closed provided the aircraft is not operated in known or forecast icing conditions.
-10-3 Temperature Indications (Wing and Tail Anti-icing Temperature Indicator) (If installed)	A	2	1	* One may be inoperative provided: (a) Both air systems are operative, (b) Both associated wing and tail anti-ice shut-off valves are verified to be operating normally prior to each departure (for flights into known or forecast icing conditions), and (c) Repairs or replacements are made within 3 calendar days.
	C	2	0	* One or both may be inoperative provided the aircraft is not operated in known or forecast icing conditions.
-10-4 Wing and Tail Anti-icing Air Pressure Indicators (If installed)	A	2	1	* One may be inoperative provided: (a) Both air systems are operative, (b) Both associated wing and tail anti-ice shut-off valves are verified to be operating normally prior to each departure (for flights into known or forecast icing conditions), and (c) Repairs or replacements are made within 3 calendar days.
	C	2	0	* One or both may be inoperative provided the aircraft is not operated in known or forecast icing conditions.

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(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 (Cont…)				
-30-1 Pitot Head Heaters	A	3	2	*(M) One may be inoperative provided: (a) Flight is conducted in day VMC conditions only, (b) Remaining pitot head heaters are verified to be operating normally, and (c) Repairs or replacements are made within 3 calendar days.
	A	3	2	* P5 (Lower Right) pitot head heater may be inoperative provided: (a) The aircraft is not operated in known or forecast icing conditions, and (b) Repairs or replacements are made within 3 calendar days. Note: Pilot and Co-pilot pitot head heaters are required to be operative for RVSM operations.
-30-2 Feel Unit (Q) Pitot Heaters	C	2	1	* One may be inoperative provided the aircraft is not operated in known or forecast icing conditions.
-30-3 Pitot Heat Ammeters	A	5	4	One may be inoperative provided: (a) Associated pitot head heater is verified to be operating normally, (b) Remaining pitot heat ammeters are operative, and (c) Repairs or replacements are made within 3 calendar days.

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(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 (Cont…)				
-30-4 Stall Warning Vane Heaters	A	2	1	* One may be inoperative provided: (a) The associated stall warning system is considered inoperative (refer to item 27-03-2), (b) The remaining stall warning system including associated vane heaters and auto ignition system are verified to be operating normally prior to each departure, and (c) Repairs or replacements are made within 3 calendar days.
-30-5 Stall Identification Vane Heaters	A	2	1	* One may be inoperative provided: (a) The associated stall identification system is considered inoperative (refer to item 27-30-3), (b) The remaining Stall Identification System including associated vane heaters are verified to be operating normally prior to each departure, and (c) Repairs or replacements are made within 3 calendar days.

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(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 (Cont…)				
-30-6 Stall Protection Vane Heater Failure Warnings (Stall Warning Sensor Heater Failure Lights and Stall Identification Sensor Heater Failure Lights)	A	4	3	*(O)(M) One may be inoperative provided: (a) Operations are conducted in accordance with Flight Manual normal procedures, (b) The circuit breaker of the defective circuit is pulled and collared, (c) It is verified by utilising an approved maintenance procedure that the remaining stall warning and stall identification systems operate normally, and (d) Repairs or replacements are made within 3 calendar days. Note: When a particular stall warning system and its opposite stall identification system remain active, neither horn will operate.
-40-1 Front Windscreen Heating				
(1) PPG and Triplex	A	2	1	*(O) One may be inoperative provided: (a) Both sliding window heaters operate normally, (b) Aircraft is not operated in known or forecast icing conditions, (c) Windscreen de-mist system operates normally, (d) Visibility through the screen is acceptable to flight deck crew, (e) Flight Manual Normal Procedure speed and altitude restrictions are complied with, and (f) Repairs or replacements are made within 3 calendar days.

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(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 (Cont…)				
-40-2 Windscreen Heating (Side Fixed)	C	2	0	* Both may be inoperative.
-40-3 Windscreen Heating (Sliding)	C	2	0	* Both may be inoperative provided both front windscreen heat systems operate normally.
-40-4 Windscreen Overheat Warning	C	2	1	*(O) One may be inoperative provided the associated screen heat is considered inoperative and not used.
-40-5 Windscreen Underheat Warning	C	2	1	*(O) One may be inoperative provided the associated screen heat is considered inoperative.
-40-6 Windscreen Wipers	C	2	2	* Slow and variable speeds may be inoperative on one or both windscreens provided both operate normally on FAST.
	C	2	0	* One or both may be inoperative provided the aircraft is not operated in precipitation within arrival and departure areas.
-40-7 Rain Repellent (If installed)	D	1	0	* May be inoperative.

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(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 (Cont…)				
-70-1 Water Drain Outlet Heaters				
(1) Aircraft Using Water Injection Where it is Intended to Dump Unused Water in Known or Forecast Icing Conditions	C	2	1	*(O)(M) Forward drain outlet heater may be inoperative provided associated toilet wash basin and galley water supply is secured OFF.
(2) Aircraft Not Using Water Injection, or Where it is Intended to Dump Unused Water in Other Than Known or Forecast Icing Conditions	C	2	0	One or both may be inoperative.
-70-2 Galley Drain Pipe Heaters	C	1	0	* May be inoperative provided cabin staff are briefed of possible galley sink/toilet basins drain restriction.
-80-1 Rotary Ice Detector (If installed)	D	1	0	* May be inoperative.
-80-2 Hot Rod Ice Detector	C	1	0	* May be inoperative provided the aircraft is operated in accordance with Flight Manual procedures.

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31	**INDICATING AND RECORDING SYSEMS**				
-20-1	Clocks	C	2	0	* One or both may be inoperative provided an accurate timepiece is available on the flight deck indicating the time in hours, minutes and seconds.
-30-1	Flight Data Recorder (FDR)	-	-	-	As required by Operating Requirements.

Civil Aviation Authority

MASTER MINIMUM EQUIPMENT LIST

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32	**LANDING GEAR**				
30-1	Gear Selector Lock	A	1	0	* May be inoperative provided: (a) Landing gear lever locked circuit breaker is pulled and collared, (b) Correct re-engagement of the override mechanism is verified prior to landing, and (c) The aircraft may continue the flight or series of flights not to exceed one flight day prior to the completion of replacements or repairs.
-40-1	Autobrake System	C	1	0	*(O) May be inoperative provided wheels are braked before gear retraction. Note: Permissible for auto-brake pressure to remain "ON" after landing gear retraction provided brake temperature is less than 200°C before any take-off and is monitored after take-off in accordance with Flight Manual normal procedures.
-40-2	Anti-Skid Units (Maxaret)	C	4	3	*(O) One may be inoperative provided required runway length is increased in accordance with Flight Manual performance information.
-40-3	Anti-Skid Units (Hytrol or Goodyear)	C	4	0	*(O) One or more may be inoperative provided required runway length is increased in accordance with Flight Manual performance information. Note: If the appropriate data is not available, no units are allowed to be inoperative.

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32 LANDING GEAR (Cont…)				
-40-4 Hytrol or Goodyear Test Facility	C	1	0	*(O) May be inoperative provided anti-skid system is considered inoperative and required runway length is increased in accordance with Flight Manual performance information. <u>Note:</u> If the appropriate data is not available, no units are allowed to be inoperative.
-40-5 Hytrol or Goodyear Annunciators	C	4	0	*(O) One or more annunciators may be inoperative provided the associated anti-skid is considered inoperative (refer to item 32-40-3).
-40-6 Brake Temperature Indicator	C	4	2	* One may be inoperative on each main landing gear.
-40-7 Foot Brake Applied Pressure Indicators	C	2	0	* One or both may be inoperative provided all other pressure and temperature indicators operate normally.
-40-8 Brake Accumulator Pressure (Flight Deck Indicators)	C	2	0	*(M) One or both may be inoperative provided: (a) Brake accumulator air charge is verified normal once each flight day, and (b) Both foot brake applied pressure indicators operate normally.
-40-9 Hand Brake Pressure Indicator	A	1	0	* May be inoperative provided: (a) Care is exercised in the application of hand brake when landing without the normal system, (b) Wheels are chocked fore and aft before the flight crew leave the flight deck and remain chocked until after next engine start, (Cont…)

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32 LANDING GEAR (Cont…)				
-40-9 Hand Brake Pressure Indicator (Cont…)				(c) Following auto-brake operation and landing gear retraction, the hand brake lever is pulled and released, (d) All brake temperature indicators operate normally and are monitored before gear retraction, and (e) Repairs or replacements are made within 3 calendar days.
-40-10 Brake Accumulator Air Pressure Servicing Gauge	C	2	0	*(M) One or both may be inoperative provided: (a) Brake accumulator air charge is verified normal once each flight day, and (b) Both foot brake applied pressure indicators operate normally.
	C	2	0	*(M) One or both may be inoperative provided the associated flight deck accumulator pressure gauge is operative.
-40-11 Parking Brake	-	1	1	Must be operative.
-50-1 Rudder Pedal Fine Steering (300, 400, 475 and 500 Series)	C	1	0	*(M)/(O) May be inoperative provided: (a) Nose wheel steering operates normally, and (b) System is de-activated using an approved maintenance procedure.
-50-2 Standby Steering Accumulator Air Pressure Gauge	C	1	0	* May be inoperative provided standby steering accumulator air pressure warning light system is operative.

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32	**LANDING GEAR (Cont…)**				
-50-3	Standby Steering Accumulator Air Pressure Warning Light System	-	1	1	Must be operative.
-60-1	Gear Position Indicator Lights	-	4	4	All must be operative.
-60-2	Gear Position Warning Horn	-	1	1	Must be operative.
-60-3	Gear Position Mechanical Indicators	-	3	3	All must be operative.

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33 LIGHTS				
-10-1 Flight Deck and Instrument Lights	C	-	-	* As required by Air Navigation Legislation. May be inoperative for daylight operations.
	C	-	-	* As required by Air Navigation Legislation. Individual lights may be inoperative provided remaining lights are: (a) Sufficient to clearly illuminate all instruments and switches, (b) Positioned so that direct rays are shielded from the flight crew's eyes, and (b) Flight deck emergency lighting is verified operative.
-10-2 Master Warning Lights	-	2	2	Both must be operative.
-10-3 Door Warning Lights	-	-	-	Moved to item 52-70-1.
-10-4 Master Caution Lights (If installed)	C	2	1	* One may be inoperative provided all amber warning lights are operative.
-20-1 Front Passenger and Service Door Safety Lights	-	-	-	Moved to item 52-70-1.
-20-2 Cabin Interior Lighting	C	-	-	May be inoperative for daylight operations.
	C	-	-	Individual lights may be inoperative provided: (a) Lighting is adequate for the cabin crew to perform their required duties, and (b) Cabin emergency lighting is verified operative except the unit in the flight deck which is allowed to be inoperative. <u>Note:</u> Cabin emergency lighting does not include floor proximity lights (refer to item 33-50-3).

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33 LIGHTS (Cont…)				
-20-3 Passenger Notice System (No Smoking – Fasten Seat Belts Signs)	C	-	-	*(O) No seat or lavatory may be occupied from which a passenger cannot see a readily legible sign. Any such seat or lavatory must be blocked and placarded “DO NOT OCCUPY”..
	C	-	0	*(O) All may be inoperative, and the seat or lavatory occupied, provided: (a) PA System is operative, and (b) Alternate procedures are used for notifying passengers when seat belts must be fastened, smoking is prohibited and when passengers should return to the cabin from toilet compartments.
-30-1 Underfloor Compartment Lights (Cargo Compartment Service Bags)	C	1	0	* May be inoperative.
-40-1 Wing Landing Lights	C	2	0	* One or both may be inoperative for daylight operations.
	C	2	1	* One may be inoperative for night operations provided: (a) Associated side taxi light (if installed) is operative, or (b) Nose landing light is operative.
-40-2 Taxi Lights (If installed)	C	2	0	* One or both may be inoperative.
-40-3 Nose Landing Light	C	1	0	* May be inoperative for daylight operations.
	C	1	0	* May be inoperative for night operations provided both wing landing lights operate normally.
-40-4 Runway Turn-off Lights	C	2	0	* One or both may be inoperative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
33	**LIGHTS (Cont…)**				
-40-5	Anti-collision Beacons				
	(1) Day Operations	C	2	0	* One or both may be inoperative provided the light(s) is repaired at the earliest practicable opportunity.
	(2) Night Operations	C	2	1	* One may be inoperative provided: (a) A high intensity or strobe light system is installed and operative, and (b) The light(s) is repaired or replaced 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.
-40-6	Navigation Lights				
	(1) Day Operations	C	3	0	* Any or all may be inoperative.
	(2) Night Operations.	C	-	3	* Any except the following minimum may be inoperative: (a) One steady red wing tip bulb, (b) One steady green wing tip bulb, and (c) One steady white tail light.
-40-7	Wing Illumination Lights	C	2	0	* One or both may be inoperative for daylight operations.
		C	2	1	* One may be inoperative for night operations.
		C	2	0	*(O) Both may be inoperative for night operations provided an alternate means is available and utilised to adequately illuminate ice accretion on another outside surface visible from the flight deck.
-40-8	Engine Observation Lights	C	2	0	* One or both may be inoperative.

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33	**LIGHTS (Cont…)**				
-40-9	Wheel Well Lights	C	-	1	Any or all may be inoperative except for the nose landing gear compartment light which must be operative at all times.
-40-10	Logo Lights (Fin Illumination Light)	D	-	0	* Any or all may be inoperative.
-50-1	Emergency Lighting System	B	2	1	* Auto system must be operative for night operations.
		C	2	0	* Both may be inoperative for daylight operations.
-50-2	Exterior Evacuation Lights	A	-	-	* May be inoperative for day operations provided repairs are made within 3 calendar days.
-50-3	Floor Proximity Emergency Escape Path Marking System	A	1	1	* As required by Air Navigation Legislation. Specific lights may be inoperative in accordance with arrangements approved by the local authority for a particular lighting configuration. If the equipment becomes unserviceable, the aircraft may continue to fly in accordance with arrangements approved by the Authority.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34	**NAVIGATION**				
-10-1	Altimeter	-	2	2	Both must be operative.
-10-2	Servo Altimeter	-	1	1	Must be operative.
		A	2	1	* One may be inoperative provided: (a) A standby altimeter is fitted and operates normally, and (b) Repairs or replacements are made within 3 calendar days.
	(1) Air Data Display Unit (ADDU) (If installed as mod AM1424 or AM1432)	A	2	1	* One may be inoperative provided: (a) A standby altimeter is fitted and operates normally, and (b) Repairs or replacements are made within 3 calendar days. Note: Both ADDU systems are required to be operative for RVSM operation.
-10-3	Standby Altimeter	A	1	0	* May be inoperative provided: (a) Two servo altimeters are installed and operate normally, and (b) Repairs or replacements are made within 3 calendar days.
	(1) Aircraft with Air Data Display Unit (ADDU) installed (mod AM1424 or AM1432)	A	1	0	* May be inoperative provided: (a) Two ADDUs are installed and operate normally, and (b) Repairs or replacements are made within 3 calendar days.
-10-4	Airspeed Indicators	-	2	2	Both must be operative.

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34 NAVIGATION (Cont…)				
-10-5 Machmeters	C	2	0	*(O) One or both may be inoperative provided: (a) Operations are conducted in accordance with Flight Manual limitations, (b) Maximum altitude limited to that above which maximum operating limit speed is governed by MMO, and (c) Mach trim operates normally.
-10-6 Mach Airspeed High Speed Warning	C	2	1	* One may be inoperative provided both machmeters operate normally.
-10-7 Airspeed / Machmeter				
(1) ASI	C	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
(2) MACHMETER	C	2	1	*(O) One Machmeter indication may be inoperative provided: (a) Both Mach airspeed high speed warnings operate normally, and (b) Mach trim operates normally.
	C	2	0	*(O) One or both Machmeter indications may be inoperative provided: (a) Both Mach/airspeed warnings operate normally, (b) Maximum altitude limited to that above which maximum operating limit speed is governed by MMO, and (c) Mach trim operates normally.
-10-8 Combined ASI/Machmeter Adjustable High Speed Warning Switch (If installed)	C	2	1	* One warning switch system may be inoperative provided both machmeter indications operate normally.

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34 NAVIGATION (Cont…)				
-10-9 Outside Air Temperature Indication	-	1	1	Must be operative.
-10-10 Mach Trim System (Including Activity Indicator)	C	1	0	* May be inoperative provided: (a) Both Machmeters are operative, and (b) MMO airspeed must not exceed Flight Manual limitations.
	C	1	0	* May be inoperative provided: (a) Both Machmeters are operative, and (b) Autopilot operates normally in basic altitude hold mode and is engaged.
-10-11 Altitude Alert	B	1	0	* As required by Air Navigation Legislation. May be inoperative. The aircraft may continue the flight or series of flights but shall not depart an airport where it is reasonably practicable for repairs or replacements to be made. Note: The altitude alert system is required to be operative for RVSM operations.
-10-12 Flight Level 100 Warning System	C	1	0	* May be inoperative.
-20-1 Rate of Climb Indicator	C	2	1	*(O) One may be inoperative provided all other flight environment instruments are operative.

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34 NAVIGATION (Cont…)				
-20-2 Turn and Slip Indicators				
(1) Aircraft Fitted with Flight Director Indicators which Do Not Incorporate a Side Slip Indicator (FD105 System and SMITHS System)	C	2	2	* One or both turn rate indication(s) <u>ONLY</u> may be inoperative provided: (a) A standby horizon is installed and operates normally, and (b) The attitude display of both flight director indicators is operative.
(2) Aircraft Fitted with Flight Director Indicators which Incorporate a Side Slip Indicator (FD108 System)	C	2	0	* Both turn rate and slip indicators may be inoperative provided: (a) A standby horizon is installed and operates normally, and (b) The attitude display of both flight director indicators is operative.
-20-3 Compass Indicator (All Aircraft Except Model 510)				
(1) RMDI Heading	C	2	1	*(O) One may be inoperative provided: (a) Each pilot has an operative RMDI or course indicator, and (b) Standby Compass operates normally.
(2) VOR/ADF Bearing Indicators	C	4	2	* Two may be inoperative provided the handling pilot has an operative VOR and ADF presentation.
(3) Annunciator	C	2	1	* One may be inoperative provided: (a) Handling pilot is presented with the operative heading display, and (b) Standby compass is operative.
(4) VOR/ADF Changeover	C	4	2	* One or two may be inoperative provided the handling pilot an operative VOR and ADF presentation.

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34 NAVIGATION (Cont…)				
-20-4 RMI (Model 510 Only)				
(1) Heading	C	2	1	* One may be inoperative provided both flight compasses operate normally.
(2) VOR/ADF Bearing Indicators	C	4	2	* Two may be inoperative provided the handling pilot has an operative VOR and ADF presentation.
(3) VOR/ADF Changeover	C	2	1	* One may be inoperative provided the handling pilot has an operative VOR and ADF presentation.
-20-5 Flight Director Indicator (All Aircraft Except Model 510)				
(1) Attitude Display	A	2	1	* One may be inoperative provided: (a) Standby horizon operates normally, and (b) Repairs or replacements are made within 3 calendar days.
(2) Heading Mode	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
(3) VOR/LOC Mode	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
(4) Glideslope Mode	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
(5) Pitch Command	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
(6) Localiser Deviation	C	2	0	* One or both may be inoperative.
(7) Glideslope Deviation	C	2	0	* One or both may be inoperative.
(8) Altitude Hold (If installed)	C	2	0	* One or both may be inoperative. Note: Altitude hold is required to be operative for RVSM operations.

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34 NAVIGATION (Cont…)				
-20-6 Attitude Director (Model 510 only)				
(1) Sperry ADIs	-	2	2	Both must be operative.
(2) All Attitude Directors excluding Sperry ADIs	A	2	1	* One may be inoperative provided: (a) Standby horizon operates normally, and (b) Repairs or replacements are made within 3 calendar days.
-20-7 Flight Director (Model 510 only)	C	1	0	* May be inoperative provided approach minima does not require its use.
-20-8 Course Indicator (All Aircraft Except Model 510)				
(1) Heading	C	2	1	* One may be inoperative provided each pilot has an operative RMDI or course indicator.
(2) Selected Heading	C	2	0	* One or both may be inoperative provided approach minima do not require its use.
(3) Selected Course	C	2	1	* One may be inoperative provided approach minima do not require its use.
(4) Course Digital Display	C	2	0	* One or both may be inoperative provided approach minima do not require its use.
(5) Lateral Deviation	C	2	1	* One may be inoperative provided approach minima do not require its use.
(6) Glide Slope Indication	C	2	0	* One or both may be inoperative provided approach minima do not require their use.
(7) Digital Distance Display	C	2	0	* One or both may be inoperative.

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34 NAVIGATION (Cont…)				
-20-9 Attitude Director BEAM/GP Flags (Model 510 only)				
(1) BEAM	C	2	1	* One may be inoperative provided approach minima do not require its use.
(2) G/P	C	2	1	* One may be inoperative provided approach minima do not require its use.
-20-10 Autopilot/Flight Director Mode Annunciator (Model 510 only)	C	2	0	* One or both may be inoperative provided approach minima do not require its use.
-20-11 Flight Director Steering Computer	C	-	0	* May be inoperative provided weather minima does not require their use.
-20-12 Horizon Comparator Monitor	C	1	0	* May be inoperative provided: (a) Both attitude displays operate normally, and (b) Standby horizon is operative.
-20-13 Standby Horizon	-	1	1	Must be operative.
-20-14 Standby Compass	B	1	0	* May be inoperative provided at least two independent stabilised directional gyro systems are installed and operative.

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34 NAVIGATION (Cont…)				
-20-15 Flight Compass (Model 510 only)				
(1) Heading	C	2	1	* One may be inoperative provided: (a) Both RMIs operate normally, (b) Standby compass operates normally, (c) Select course and radio switching must be operative on the serviceable unit, and (d) Landing weather minima does not require its use.
(2) Select Heading	C	2	0	* One or both may be inoperative provided approach minima do not require its use.
(3) Select Course Facility and Associated Radio Switching and Navigation Display	C	2	1	* One may be inoperative provided: (a) Heading indication operates normally on the remaining unit, and (b) Approach minima do not require its use.
(4) Course Digital Display	C	2	0	* One or both may be inoperative provided approach minima do not require its use.
(5) Lateral Deviation	C	2	1	* One may be inoperative provided approach minima do not require its use.
(6) Glide Path Deviation	C	2	1	* One may be inoperative provided approach minima do not require its use.
(7) ILS Comparator	C	1	0	* May be inoperative provided approach minima do not require its use.
-20-16 ILS Monitor Detector (Excess Deviation Monitor) (If installed)	C	1	0	* May be inoperative provided approach minima do not require its use.
-20-17 Flight Director Glide Slope Annunciator (If installed)	C	2	0	* One or both may be inoperative provided approach minima do not require their use.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34	**NAVIGATION (Cont…)**				
-20-18	Compass Comparator (Model 510 only)	C	1	0	* May be inoperative.
-30-1	ILS System	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-30-2	Marker Beacon Receiver System	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-40-1	Radio Altimeter (If installed)				
	(1) Indicator	-	1	1	Must be operative for an operative system.
		C	2	1	* One may be inoperative provided approach minima or operating procedures do not require its use.
		A	2	0	* Both may be inoperative provided the system is considered inoperative - refer to part (2).
	(2) System	A	1	0	*(O) May be inoperative provided: (a) Approach minima or operating procedures do not require its use, and (b) Repairs or replacements are made within 3 calendar days. <u>Note 1:</u> If the loss of the radio altimeter prohibits normal operation of the GPWS/TAWS, the dispatch deviation and rectification interval for an inoperative GPWS/TAWS must be observed – refer to item 34-40-3. <u>Note 2:</u> If the loss of the radio altimeter prohibits normal operation of the ACAS, the dispatch deviation and rectification interval for an inoperative ACAS must be observed – refer to item 34-50-7.

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34 NAVIGATION (Cont…)				
-40-2 Weather Radar System	A	1	-	*(O) As required by Air Navigation Legislation, one display required when flying for the purposes of public transport except that a flight may commence if the system is unserviceable provided: (a) The weather radar display is provided to only one pilot, so long as the aircraft is flying only to the place at which it first becomes reasonably practicable for the set to be repaired: or (b) When the weather report or forecasts available to the commander of the aircraft indicate that cumulo-nimbus 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 any 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.
-40-3 GPWS	-	-	-	* As required by Operating Requirements.
-50-1 VOR Navigation Systems	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-50-2 ATC Transponder	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative provided en route operations do not require its use. Note: One transponder is required to be operative for RVSM operations.

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34	**NAVIGATION (Cont…)**				
-50-3	Radio Compass (ADF) Systems	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-50-4	Distance Measuring Equipment	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-50-5	Long Range Navigation System (INS, LORAN, OMEGA) (If installed)	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-50-7	Airborne Collision and Avoidance System (ACAS II) (If installed)				
	(1) ACAS II System	A	-	0	(O)(M) As required by Air Navigation Legislation. May be inoperative provided the system is deactivated and secured, and: (a) The aircraft may continue the flight or series of flights but shall not depart and airport where it is reasonably practicable for repairs or replacements to be made, and (b) Repairs or replacements must be carried out within 10 calendar days.
	(2) Combined Traffic Alert (TA) Resolution Advisory (RA) Dual Displays	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. (cont..)

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34 NAVIGATION (Cont…)				
-50-7 Airborne Collision and Avoidance System (ACAS II) (If installed) (Cont…)				
(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.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35 OXYGEN				
-10-1 Crew Oxygen (Flight Deck)	-	-	-	* As required by Air Navigation Legislation.
-20-1 Passenger Oxygen System	C	1	0	*(M) (O) As required by Air Navigation Legislation. The automatic presentation system may be inoperative provided: (a) The manual deployment system operates normally, and (b) The flight is limited to FL 300 or below.
	B	-	-	*(M) or (O) One or more passenger service units (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 toilet compartment and flight attendant locations.
	A	1	0	*(M) (O) May be inoperative provided: (a) Flight is not conducted where the minimum en-route altitude is above 12,000 feet MSL, (b) Both air conditioning packs operate normally and all other components of the pressurisation system operate normally, (c) Maximum flight altitude does not exceed FL 250, (d) Passengers are appropriately briefed, (e) Portable oxygen units containing sufficient oxygen for 30 minutes endurance are provided for 10% of the passengers, and (f) Repairs or replacements are made within 3 calendar days.

(cont..)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
35 OXYGEN (Cont…)				
-20-1 Passenger Oxygen System (cont.)				NOTE: The ANO oxygen requirements are given in Schedule 4 Scales L1 and L2. The effectivity depends upon date of first issue of a certificate airworthiness. Therefore, a given type of aircraft may have examples subject to either of the two scales of requirements. The amount of oxygen required varies considerably between L1 and L2, particularly for operations above FL 250/300. 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 the 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.
-30-1 Portable Oxygen Dispensing Unit (Bottle and Mask)	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required by legislation may be inoperative.
-30-2 Therapeutic Masks	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.
-30-3 Smoke Protection Breathing Set	D	-	-	* As required by Air Navigation Legislation. Any in excess of those required may be inoperative.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36 PNEUMATICS				
-00-1 Pneumatic Supply System	A	2	1	* One may be inoperative for pressurised flight provided: (a) Maximum operating altitude is limited to FL250, (b) Icing conditions are not forecast, (c) Mains ducts etc are structurally intact, (d) The ram air valve is operative, (e) Primary temperature control valve of the failed system is run CLOSED, (f) Air mains temperature control C/B is pulled and collared, (g) Isolation valve of the failed system is CLOSED after engine start, and (h) Repairs or replacements are made within three calendar days. <u>Note:</u> If, after starting engine, PRV or ISOL V is closed and left inoperative, CSDS assisted relight will not be possible for the associated engine.
	A	2	0	* Both may be inoperative provided: (a) The aircraft is operated in an approved unpressurised configuration, (b) Icing conditions are not forecast, (c) Mains ducts etc are structurally intact, (d) The ram air valve is operative, (e) Primary temperature control valve of the failed systems are run CLOSED, (Cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36 PNEUMATICS (Cont…)				
-00-1 Pneumatic Supply System (Cont…)				(f) Air mains temperature control C/Bs are pulled and collared, (g) Isolation valves are CLOSED after engine start, (h) APU is supplying air to mains, and (i) Repairs or replacements are made within 3 calendar days. <u>Note:</u> If, after starting engine, PRV or ISOL V is closed and left inoperative, CSDS assisted relight will not be possible for the associated engine.
	A	2	0	* Both may be inoperative provided: (a) The aircraft is operated in an approved unpressurised configuration, (b) Icing conditions are not forecast, (c) Mains ducts etc. are structurally intact, (d) The ram air valve is operative, (e) Primary temperature control valves of the failed systems are run CLOSED, (f) Air mains temperature control C/Bs are pulled and collared, (g) Isolation valves are CLOSED after engine start, (h) Discharge valve is operative (on manual control), (i) Both MAC valves selected to CLOSED, (Cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36 PNEUMATICS (Cont…)				
-00-1 Pneumatic Supply System (Cont…)				(j) Ground cooling fan OFF (switch to ISOLATE or pull and placard appropriate C/B(s)), and (k) Repairs or replacements are made within 3 calendar days. Note: If, after starting engine, PRV or ISOL V is closed and left inoperative, CSDS assisted relight will not be possible for the associated engine.
-10-1 Cross Feed Valve	A	1	0	*(M) May be inoperative provided: (a) Valve is verified to be in the CLOSED position, and (b) Repairs or replacements are made within 3 calendar days. Note: CSDS assisted relight of No. 2 engine will not be possible.
-10-2 Isolation Valve	A	2	0	One or both may be inoperative provided: (a) Conditions for Item 36-00-1 are applied, and (b) Repairs or replacements are made within 3 calendar days. Note: CSDS assisted engine relight will not be possible.
-10-3 Mains Pressure Reducing Valve	A	2	-	Failure of PRV CLOSED or in Regulating Mode renders associated system inoperative, and conditions in Item 36-00-1 apply. Failure to achieve Start Mode requires manual opening for engine start, otherwise system can be operated in the normal manner. Note: CSDS assisted engine relight will not be possible.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36	**PNEUMATICS (Cont…)**				
-10-4	Mains Temperature Control	A	2	0	One or both may be inoperative provided associated air supply is considered inoperative, refer to item 36-00-1. Note: APU may be used to supply air systems.
-10-5	Stub Duct Fail Detection System	A	2	1	One may be inoperative provided associated system is not used, except for engine start. Note: Refer to item 36-00-1.
		A	2	0	* Both may be inoperative provided air systems are considered inoperative, and not used except for engine start. Note: Refer to item 36-00-1.
-20-1	Mains Pressure Indication	C	2	1	* One may be inoperative provided: (a) Both systems operate normally, and (b) Associated temperature indication system is operative.
		A	2	1	*(M) One may be inoperative provided: (a) Associated isolation valve is closed after engine start, and (b) Associated air system is considered inoperative and not used, refer to item 36-00-1.
-20-2	Fuselage Duct Fail Indication	-	1	1	Must be operative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36	**PNEUMATICS (Cont…)**				
-20-3	Mains Air Temperature Indication				
	(1) Aircraft <u>WITH</u> Wing/Tail Anti-ice Temperature Indication	C	2	0	* One or both may be inoperative provided anti-ice temperature indication operates normally.
	(2) Aircraft <u>WITHOUT</u> Wing/Tail Anti-ice Temperature Indication	C	2	1	* One may be inoperative provided: (a) The associated pressure gauge is operative, and (b) Flight Manual procedures are observed.
-20-4	Mainsfault Annunciator (475, 500 Series)	C	6	0	* Any or all may be inoperative.
-20-5	System Fail Warning Light	A	2	0	* One or both may be inoperative provided the associated air system is considered inoperative and not used, except for engine start. Refer to item 36-00-1. <u>Note:</u> Associated isolation valve must be closed after engine start.
-20-6	Crossfeed Valve Magnetic Indication	C	1	0	* May be inoperative provided: (a) Both duct main pressure indicators operate normally, OR (b) Both duct main air temperature indicators operate normally.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
36	**PNEUMATICS (Cont…)**				
-20-7	Mains Over Temperature Switches	A	-	-	* Any or all may be inoperative for an associated inoperative system.
	(1) Graviner	-	2	2	Both must be operative.
		C	4	2	* Two may be inoperative provided: (a) They are not on the same side, and (b) Leads are disconnected and stowed.
	(2) Mercury Column	C	-	0	*(M) Any or all may be inoperative provided leads are disconnected and stowed.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
38	**WATER/WASTE**				
-10-1	Water Level Contents Light	C	1	0	*(O) May be inoperative.
-30-1	Toilet Gate Valves	C	2	0	*(M) One or both may be inoperative provided valve is manually secured closed.
-30-2	Toilet and Water External Couplings	-	-	-	(M) Any leaks are not acceptable, associated facility must be drained and considered inoperative.
-40-1	Air Pressure Reducing Valves (Pressurised Systems only)	C	-	0	*(M) Any or all may be inoperative provided manual valve in main landing gear bay is closed.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
49	**AIRBORNE AUXILIARY POWER**				Note: The aircraft may operate with the APU removed. Refer to Service Bulletin 49-PM 4331 and Maintenance Manual Chapter 49-10-0 for instructions on ballasting, systems disconnections and blanking.
-00-1	APU	C	1	0	* May be inoperative provided procedures do not require its use.
-30-1	LP Fuel Valve	C	1	0	*(M)(O) May be inoperative provided: (a) Valve is visually inspected to be closed (confirmed by reference to the visual indicator on the valve), (b) APU control switch is in the OFF position, and (c) APU is considered inoperative and is not used.
-30-2	LP Fuel Valve Indicator				
	(1) If APU is Considered Inoperative and is not Used	C	1	0	*(M) May be inoperative provided: (a) APU control switch is selected OFF, and (b) Valve is verified by visual inspection to be in the CLOSED position as confirmed by reference to the visual indicator prior to the first departure of each day.
	(2) If APU is Used	A	1	0	*(M) May be inoperative provided: (a) Valve is verified to be operating normally, (b) Prior to APU start, valve is verified by visual inspection to be in the OPEN position as confirmed by reference to the visual indicator, and (c) Repairs or replacements are made within 3 calendar days.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
49	**AIRBORNE AUXILIARY POWER (Cont…)**				
-50-1	Air Delivery Valve	C	1	0	*(M)(O) May be inoperative provided: (a) APU air delivery valve switch is selected CLOSED, (b) Delivery valve is visually inspected to be CLOSED, and (c) APU is considered inoperative for pneumatic supply. <u>Note:</u> APU may be used normally for electrical generation purposes.
-60-1	APU Start Indicator	C	1	0	* May be inoperative provided: (a) Flight Manual procedures for APU start are observed, (b) TRU ammeter and frequency meter both operate normally and are monitored, and (c) One minute maximum start time must be observed.
-70-1	APU EGT Indicating System	-	1	1	Must be operative.
-70-2	Low Oil Pressure (50 psi) Warning (If installed)	C	1	0	May be inoperative.
-70-3	Low Oil Pressure Switch	-	1	1	Must be operative.
-70-4	LP Fuel Pump (APU Booster Pump)	C	1	0	* May be inoperative.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52 DOORS				
-00-1 Emergency Exits (Including Passenger Entry Doors, Galley Service Doors and Overwing Exits)	A	-	-	*(M)(O) As required by Air Navigation Legislation, one exit may be inoperative provided: (a) The exit is secured closed prior to passenger boarding and is not used for any purpose, whilst passengers are on board, (b) All other exists and escape slides are fully operative, (c) The number of passengers carried and the position of the seats which they occupy is in accordance with arrangements approved by the authority in relation to the particular aircraft, (d) All the emergency exit and/or exit markings signs and lights associated with the affected door must be obscured, (e) The exit is marked by a red disc at least 23 centimetres in diameter with a horizontal white bar across it bearing the words “NO EXIT” in red letters, (f) Passengers are not seated near the unserviceable exit – subject to centre of gravity limitations, (g) The pre-take-off briefing to passengers must accurately represent the current state and condition of the aircrafts 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 passengers to the fact that a particular exit is inoperative and display a red “NO EXIT” disc, (Cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52 DOORS (Cont…)				
-00-1 Emergency Exits (Including Passenger Entry Doors, Galley Service Doors and Overwing Exits) (Cont…)				(h) 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, (i) The aircraft may continue the flight or series of flights but shall not depart an airport where repairs or replacements can be made, (j) It is not reasonably practicable to repair the inoperative exit before the commencement of flight, (k) Not more than 72 hours have elapsed since the exit became inoperative, and (l) The aircraft does not exceed 5 (five) further flights with the exit inoperative.
-10-1 Front and Rear Steps Hydraulic System				
(1) Front Steps	C	1	0	*(M) May be inoperative provided: (a) Locking catch operates normally with the steps retracted, (b) DC pump operates normally, and (c) Steps are not required as an emergency exit (refer to item 52-10-7).
(2) Rear Steps	C	1	0	*(O) May be inoperative provided steps are closed and locked manually.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52 DOORS (Cont…)				
-10-2 Front Steps Uplock (If installed)				
(1) Torsion Bar Operated	-	1	1	Must be operative.
(2) Hydraulically Operated	-	1	1	Must be operative on aircraft with escape slides/chutes installed on the forward entry door.
	C	1	0	* May be inoperative in UNLOCKED position on aircraft without escape slides/chutes installed on the forward door.
-10-3 Ventral Steps Uplock	-	2	2	Both uplocks must operate normally.
-10-7 Forward Steps				
(1) Aircraft Where the Steps are Used as a Means of Emergency Exit	A	1	0	* As required by Air Navigation Legislation. May be inoperative provided all the conditions associated with an inoperative exit/door are observed and applied (refer to 52-00-1).
(2) Aircraft Where to Steps are Not Used as a means of Emergency Exit	C	1	0	* May be inoperative.
-10-8 Rear Steps	C	1	0	*(M) May be inoperative provided: (a) Locking catch operates normally with the steps retracted, (b) DC pump operates normally, and (c) Steps are not required as an emergency exit (Refer to item 52-10-7).

(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52	**DOORS (Cont…)**				
-30-1	Cabin Freight Door (400 and 475 Series)	C	1	0	* Hydraulic operation may be inoperative provided: (a) Main hydraulic system is not affected, and (b) The operating handle is verified to be fully stowed and the external mechanical indicator shows SAFE prior to each departure.
-30-2	Cabin Freight Door 80° Position Micro-switch and Operating Mechanism (400 and 475 Series)	C	1	0	* May be inoperative provided the flight deck warning lights are not affected.
-50-1	Flight Deck Door	-	-	-	* As required by National Requirements.
-70-1	Door Warning Lights on Flight Deck				
	(1) All doors except cabin freight (200, 300, 400, 475 and 500 Series)	C	-	-	* Flight deck warning for rear passenger door must be operative. Any other door/latch warnings may be inoperative provided: (a) Associated door(s)/hatch(es) are confirmed by visual inspection to be closed and locked prior to departure, and (b) Fasten Seat Belt sign remains on, or passengers are verbally briefed prior to the departure to remain seated with their seat belts fastened.

(Cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
52 DOORS (Cont…)				
-70-1 Door Warning Lights on Flight Deck (Cont…)				
(2) Cabin Freight Door (400 and 475 Series)				
(i) Flight Deck Cabin Freight and Positive Lock RED lights and Pressure Warning AMBER Light	-	-	-	All must be operative.
(ii) External RED AMBER and GREEN Lights	C	-	-	Any or all may be inoperative provided that the unserviceability does not affect the flight deck warning lights.
-70-2 Front Passenger and Service Door Safety Lights	C	4	0	* May be inoperative provided that the mechanical cross-hatch indicator(s) completely fill(s) the viewing window(s).

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
53	**FUSELAGE**				
-15-1	Fuselage Adjacent to Main Static Vents / Pitot/Static Systems	-	-	-	(M) For RVSM operations, fuselage damage must be within approved limits.
-40-1	Forward Passenger Entrance Door Surround – Door Stops and Pads	A	-	-	*(M) One stop or one pressure pad may be missing from pressure stop fitting provided: (a) The aircraft is operated within the permitted deficiencies and limitations of the Maintenance Manual Chapter 52-10-1 Approved Repairs, and (b) The aircraft may continue the flight or series of flights not to exceed 8 landings prior to the completion of replacements or repairs.
-40-2	Forward Service Door Surround – Door Stop and Pads	A	-	-	*(M) One stop or one pressure pad may be missing from pressure stop fitting provided: (a) The aircraft is operated within the permitted deficiencies and limitations of the Maintenance Manual Chapter 52-40-1 Approved Repairs, and (b) The aircraft may continue the flight or series of flights not to exceed 8 landings prior to the completion of replacements or repairs.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
56 WINDOWS				
-10-1 Windscreens				
(1) Outer Glass	A	2	2	*(O)(M) The outermost glass facing ply only on one forward window may be cracked provided: (a) Cabin differential pressure does not exceed 5.5 psi, (b) Crack is restricted to the outer glass with no loose pieces, (c) Windscreen outer glass is inspected for condition prior to each departure, (d) The AC electrical supply to the heating element of the failed windscreen is isolated by pulling and collaring the appropriate CB, (e) Visibility through the affected windscreen is acceptable to the flight crew, and vision is not impaired on the remaining windscreen, (f) Flight Manual restrictions relating to a windscreen heating failure are observed, and (g) The aircraft may continue the flight or series of flights not to exceed ONE flight day prior to the completion of repairs or replacement.
(2) Inner Glass	A	2	2	*(O)(M) The inner glass on one forward window may be cracked provided: (a) The associated windscreen outer glass is not cracked, (b) Visibility through the affected windscreen acceptable to the flight crew, and vision is not impaired on the remaining windscreen, (Cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
56 WINDOWS (Cont…)				
-10-1 Windscreens (Cont…)				
(2) Inner Glass (Cont…)				(c) It must be ensured that no loose pieces or shards of glass remain which could cause injury to the flight crew, and (d) The aircraft may continue the flight or series of flights not to exceed ONE flight day prior to the completion of repairs or replacement.
-20-1 Cabin Windows				
(1) Outer Pane	A	-	-	*(O)(M) One outer pane may be defective provided: (a) The aircraft is operated in an approved unpressurised configuration, (b) Associated inner panel must be serviceable, (c) It must be ensured that no loose pieces remain which could be ingested by the engine, (d) The defective panel must be aft of the angle of airflow sensor vanes, (e) Provision must be made for moving passengers from the vicinity of the window if the noise level is unacceptable, (f) The desiccator pipe must be blanked off, and (g) The aircraft may continue the flight or series of flights not to exceed ONE flight day prior to completion of repairs or replacement. (Cont…)

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
56 WINDOWS (Cont…)				
-20-1 Cabin Windows (Cont…)				
(1) Outer Pane (Cont…)				Note 1: For definitions of cabin window defects refer to chapter 56-20-00 of the Maintenance Manual. Note 2: It should be noted that there are no airworthiness limitations associated with defects in the furnishing scratch panel.
(2) Inner Pane	A	-	-	*(O)(M) One inner pane may be defective provided: (a) The aircraft is operated in an approved unpressurised configuration, (b) Provision must be made for moving passengers from the vicinity of the window if the noise level becomes unacceptable, (c) Associated outer pane must be serviceable, and (d) The aircraft may continue the flight or series of flights not to exceed ONE flight day prior to completion of repairs or replacements. Note 1: For definitions of cabin window defects refer to chapter 56-20-00 of the Maintenance Manual. Note 2: It should be noted that there are no airworthiness limitations associated with defects in the furnishing scratch panel.

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(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**				
-20-1	Top Temperature Control	C	2	1	*(O) (M) May be inoperative on <u>ONE</u> engine provided: (a) Associated fuel dip/TTC switch is selected OFF, (b) Associated AC and DC CBs for fuel dip/top temp are pulled and collared, (c) Fuel dip and TTC systems are both operative on the other engine, and (d) TGT is monitored to ensure Flight Manual Limitations are not exceeded.
-20-2	Fuel Dip (If installed)	C	2	1	*(O)(M) May be inoperative on <u>ONE</u> engine provided: (a) Associated fuel dip/TTC switch is selected OFF, (b) Associated AC and DC CBs for fuel dip/top temp are pulled and collared, (c) Fuel dip and TTC systems are both operative on the other engine, and (d) TGT is monitored to ensure Flight Manual Limitations are not exceeded. <u>Note:</u> Auto ignition will be activated at a lower datum.
-30-1	Fuel Flow Meter	C	2	1	* One may be inoperative provided associated thrust setting indication, LP RPM and fuel quantity indications operate normally.
-30-2	Fuel Used Indication	C	2	0	* One or both may be inoperative.

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(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 (Cont…)**				
-30-3	Fuel Temperature Indication	C	2	1	* One may be inoperative.
-30-4	Engine Fuel Low Pressure Warning	-	-	-	Refer to item 28-20-14.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
74 ENGINE IGNITION				
-10-1 Ignitor Lights	C	4	0	*(M) Any or all may be inoperative provided operation of ignitors is verified using an approved maintenance procedure prior to each departure.
-30-1 Ignitors				
(1) 200, 475 and 500 Series	C	4	3	* One No. 2 ignitor on one engine may be inoperative provided the No. 1 stall protection auto ignition system is operative. Note: No. 1 unit is supplied by the DC essential bus bar and must always be operative.
(2) 300 and 400 Series	C	4	3	* One LOW ignitor on one engine may be inoperative provided: (a) No. 1 stall protection auto ignition system is operative, (b) When operating from wet runways ignitors must be selected to HIGH and LOW, and (c) Operations are conducted in accordance with Flight Manual Normal Procedures.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
75	**AIR**				
-10-1	Engine Anti-ice Valves	C	4	2	*(O) One on each engine may be inoperative provided the aircraft is not operated in known or forecast icing conditions.
-10-2	Engine Anti-ice Pressure Indication	A	2	1	*(M) One may be inoperative provided: (a) Procedures are developed and utilised to verify <u>BOTH</u> engine anti-ice valves operate normally, and (b) Repairs or replacements are made within 3 calendar days.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
77 ENGINE INDICATING				
-10-1 LP RPM Indicators	A	2	1	*(O) One may be inoperative provided: (a) Associated HP RPM indication operates normally, (b) Associated fuel flow indication operates normally, and (c) Repairs or replacements are made within 3 calendar days.
-10-2 HP RPM Indicators	A	2	1	*(O) One may be inoperative provided: (a) Associated LP RPM indicator operates normally, (b) Associated fuel flow indication operates normally, and (c) Repairs or replacements are made within 3 calendar days.
-10-3 Thrust Gauges				
(1) Spey 506, 511 Installations (200, 300 and 400 Series)	A	2	1	* One may be inoperative for FULL THROTTLE operations only provided: (a) All other engine indications operate normally on the associated engine, and (b) Repairs or replacements are made within 3 calendar days.
(2) Spey 512 Installations (475 and 500 Series)	-	2	2	Both must be operative.
-10-4 LP Shaft Rotation Light	C	-	0	*(M) One or both may be inoperative provided associated LP shaft(s) is manually checked to be free prior to each start.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
77	**ENGINE INDICATING (Cont…)**				
-20-1	TGT Gauges	-	2	2	Both must be operative.
-20-2	Engine LP Cooling Air Overheat Warning	-	2	2	Both must be operative.
-30-1	Vibration Indication	C	2	0	* One or both may be inoperative.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
78 THRUST REVERSE				
-30-1 Thrust Reverser	B	2	0	* One or both may be inoperative provided: (a) Lift dumper system (if installed) operates normally, (b) Inoperative reversers are verified as secured in the closed (forward thrust) position, (c) Operations are conducted in accordance with the Flight Manual, (d) Operations on slippery runways or runways contaminated by snow, slush or standing water are prohibited.
-30-2 Thrust Reverse Unlocked Lights	B	2	0	*(O) or (M) One or both may be inoperative provided associated reverser(s) is verified to be secured in the closed (forward thrust) position prior to each departure and take-off.

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79 ENGINE OIL				
-30-1 Oil Pressure Indication	A	2	1	* One may be inoperative provided: (a) Both oil low pressure lights operate normally, and (b) The aircraft may be flown for ONE SECTOR to position to a place where repairs may be made.
-30-2 Oil Low Pressure Warning Lights	A	2	0	* One or both may be inoperative provided: (a) Associated oil pressure and temperature indicators operate normally, and (b) Repairs or replacements are made within 3 calendar days.
-30-3 Oil Temperature Indication	-	2	2	Both must be operative.

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(1) System & Sequence Numbers Item		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
82	**WATER INJECTION**				
-00-1	Water Injection System (If installed)	C	1	0	*(O)(M) May be inoperative provided: (a) Water injection master switch is selected OFF, and (b) Operations are conducted in accordance with Flight Manual normal procedures for DRY take-offs only.
-10-1	Low Level Cut-off Unit	C	1	0	*(O)(M) May be inoperative provided complete system is considered inoperative (refer to 82-00-1).
-20-1	Water Flow Indication	-	2	2	Both lights must be operative for wet take-offs.
		C	2	0	*(O)(M) Both may be inoperative for dry take-offs provided the complete system is considered inoperative (refer to 82-00-1).
-20-2	Air Valve OPEN Indication	-	2	2	Both must be operative.
-20-3	Air Shut-off Valves	-	2	2	Both must be operative for wet take-offs.
		C	2	0	*(O)(M) Both may be inoperative closed provided complete system is considered inoperative (refer to 82-00-1).
-30-1	Drain Valve Indicator	C	1	0	* May be inoperative provided unused water can be carried within Flight Manual normal procedures for temperature and duration.

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(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
82 WATER INJECTION (Cont…)				
-40-1 Contents Gauge				
(1) DRY Take-offs	C	1	0	* May be inoperative provided: (a) The aircraft is operated within Flight Manual DRY power limitations, and (b) Residual water quantity is verified prior to each departure by an approved means for weight and balance purpose.
(2) WET Take-offs	-	1	1	Must be operative. Note: For carriage of unused water refer to Flight Manual for temperature and duration limits.