AIRWAYS
RAIMON

Minimum Equipment List (MEL)

Embraer

EMB-145 Series

EMB-145EP /EP-NEA /MSN: 145026

EMB-145EP /EP-NEB /MSN: 145025

EMB-145LR /EP-NEC /MSN: 145447

Issue: 01
Revision:02
Date: Aug 2025

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Islamic Republic of Iran
Civil Aviation Authority

Date: 16 September, 2025

Number: 24120427427

APPROVAL CERTIFICATE

Hereby, the Civil Aviation Authority of the IR Iran (CAA.IRI) confirm that the following document is approved in accordance with CAA.IRI AirOPS Regulation (ORO.MLR.100):

Document:
MEL
(EMB-145 Series)
Issue: **01**
Revision: **02**
Date: **August 2025**
Applicability:
EP-NEA (MSN: 145026), EP-NEB (MSN: 145025), EP-NEC (MSN: 145447)
Holder:
RAIMON Airways

Note: The MEL and any amendment thereto shall be approved by the CAA.IRI.

For Majid Akhlaghi
Vice President for Flight Standards

IRAN CIVIL AVIATION AUTHORITY

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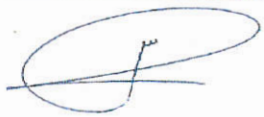
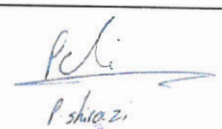
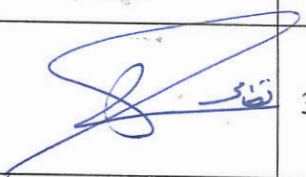
I.DOCUMENTATION CONTROL PAGE

	Name	Position	Signature	Date
Prepared By	Samira Razmara	Engineering & Planning Manager		19.08.2025
Reviewed By	Nima Ayrempour	Deputy Of Flight Operation Manager		19.08.2025
Agreed By	Farzad Emamalizadeh	CAMO Director		19.08.2025
Agreed By	Farhad Gervehei	Maintenance Director		19.08.2025
Agreed By	Pedram Shirazi	Flight Operation Director		19.08.2025
Verified By	Mohammad Nezami	SCM Director		30.08.2025
Approved By	Hosein Sargazi	Accountable Manager		30.08.2025

INTRODUCTION

0.1 MEL Revision Status & Applicability

ISSUE NO.	REVISION NO.	REFFRENCES	MEL DATE
01	00	MMEL EMB-145 Series MAY 19, 2023 Revision 15& DDPM-145/1958-12 NOVEMBER 22, 2019- Revision 8 AFM EMB-145 AUG 10, 2020 Revision 75	Jun,2024
01	01	MMEL EMB-145 Series MAY 19, 2023 Revision 15& DDPM-145/1958-12 NOVEMBER 22, 2019- Revision 8 AFM EMB-145 AUG 10, 2020 Revision 75	Feb,2025
01	02	MMEL EMB-145 Series MAY 19, 2023 Revision 15& DDPM-145/1958-12 NOVEMBER 22, 2019- R08 AFM EMB-145 AUG 10, 2020 Revision 75 HEAVY MAINTENANCE VISIT IN GOVERNED BY THE EMBRAER MRB-145/1150 REVISION 23-3 May 2023	Aug,2025

TYPE AND VARIENT	REGISTRATION	SERIAL NUMBER
EMB145EP	EP-NEA	145026
EMB145EP	EP-NEB	145025
EMB145LR	EP-NEC	145447

	Eng No. 1	Eng No. 2	APU
Type & model	AE3007A1P	AE3007A1P	T-62T-40C14/500R
Manufacturer	Rolls Royce	Rolls Royce	Hamilton Sundstrand

0.2 Table of Contents and Control Page

0.3 RECORD OF REVISION

Issue Number	Revision Number	Issue/Revision Date	Reason of Rev/Issue
01	00	Jun 2024	Initial
01	01	Feb 2025	1)Add EP-NEB 2)Change Camo Director
01	02	Aug 2025	1)Add EP-NEC 2) SCM Director Change 3) Maintenance Director Change 4)MEL Items Updated

0.4 SUMMARY OF CHANGES

Issue No.	Revision No.	Section	Location of Change	Description of Change	Date
01	00	-	-	Initial MEL Issue and Revision for RAIMON Airways	Jun 2024
01	01	Introduction	1,3,5,6,7	1)Add EP-NEB 2)Change Camo Director	Feb 2025
01	02	Introduction	1,3,5,6,7 21-4,21-7,21-20,21-21,21-22,34-17,34-26	1)Add EP-NEC 2) SCM Director Change 3) Maintenance Director Change 4)MEL Items Updated	Aug 2025

.5 LIST OF EFFECTIVE PAGES

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0.6 DEFINITIONS AND EXPLANATORY NOTES

1. **"Airplane/Rotorcraft Flight Manual"** (AFM/RFM) means the document required for type certification and approved by the Agency. The AFM/RFM for the specific airplane is listed on the applicable Type Certificate Data Sheet.

2. **"Alternate procedures are established and used"** or similar statement, means that alternate procedures (if applicable), to the affected process, is drawn up by the RAIMON Airways as part of the MEL approval process, so that they have been established before the MEL document has been approved. Such alternate procedures are normally included in the associated operations (O) procedure.

3. **"Any in excess of those required by regulations"** means that the listed item is required by applicable legislation (e.g., Part OPS, Single European Sky legislation or the applicable airspace requirements) must be operative and only excess items may be inoperative. When the item is not required, it may be inoperative for the time specified by its rectification interval category. Whenever this condition is used in the MEL, the applicable regulations for the intended flight routes and the resulting dispatch restrictions need to be clarified at the MEL level.

4. **"As required by (operational) regulations"** means that the listed item of equipment is subject to certain provisions (restrictive or permissive) expressed in the applicable legislation (e.g., regulation Air Operations, Single European Sky legislation or the applicable airspace requirements). When the equipment is not required, it may be inoperative for the time specified by its rectification interval category.

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

6. **"Combustible Material"** means the material which is capable of catching fire and burning. In particular: if a MEL item prohibits loading of combustible (or flammable or inflammable) material, no material may be loaded except the following:

a) Cargo handling equipment (unloaded, empty or with ballast);

b) Fly away kits (excluding e.g. cans of hydraulic fluid, cleaning solvents, batteries, capacitors, chemical generators, etc.);

NOTE: If serviceable tires are included, they should only be inflated to a minimum pressure that preserves their serviceability; and

c) Inflight service material (return catering — only closed catering trolleys/boxes, no newspapers, no alcohol- or duty-free goods).

7. **"Commencement of flight"** is the point when an airplane begins to move under its own power for the purpose of preparing for take-off.
8. **"Considered Inoperative"** as used in the dispatch conditions, means that item must be treated for dispatch, taxiing and flight purposes as though it were inoperative. The item shall not be used or operated until the original deferred item is repaired.

Additional actions include: documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures and observing the rectification interval.

9. **"Daylight"** means the period between the beginning of morning civil twilight and the end of evening civil twilight relevant to the local aeronautical airspace; or such other period, as may be prescribed by the appropriate authority.
10. **"Day of discovery"** means the calendar day that a malfunction was recorded in the airplane maintenance record/log book.
11. **Electronic fault alerting system** - General: New generation airplane display system fault indications to the flight crew by use of computerized display systems. Each airplane manufacturer has incorporated individual design philosophies in determining the data that would be represented. The following is the customized definition specific to Embraer airplanes to help determine the level of messages affecting the airplane's dispatch status. When preparing the MEL document, operators are to select the proper Definition No. 23 for their airplane, if appropriate.
The EMB-145 airplanes are equipped with Engine Indicating and Crew Alerting Systems (EICAS), providing different priority levels of system messages (WARNING, CAUTION, ADVISORY and MAINTENANCE). Any message that affects airplane dispatch status will be displayed at an ADVISORY message level or higher. The absence of an EICAS ADVISORY or higher level (WARNING, CAUTION) indicates that the system/component is operating within its approved operating limits or tolerances.

System conditions that result only in a maintenance level message do not affect dispatch and do not require action other than as addressed within an operator’s standard maintenance program.

13. **"ETOPS"** or **"ER operations"** refers to extended range operations of a two-engine airplane as defined by Part-SPA.
14. **"Extended Overwater"** means operations over water at a distance away from land suitable

making an emergency landing, greater than that corresponding to 120 minutes at cruising speed or 400 NM, whichever is the lesser.

15. **"Flight"** for the purposes of this MEL, means the period of time between the moment when an airplane begins to move under its own power, for the purpose of preparing for take-off, until the moment the airplane comes to a complete stop on its parking area, after the first landing.

16. **"Flight Day"**, a 24-hour period from midnight to midnight based on either UTC or local time, as selected by the operator, during which at least one flight is initiated for the affected airplane.

17. **"Icing Conditions"** means an atmospheric environment that may cause ice to form on the airplane or in the engine(s) as defined in the AFM/RFM.

18. **"If installed"** means that the item is either optional or is not required to be installed on all airplane covered by the MEL.

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

20. **"Is not used"** in the provisions, remarks or exceptions for an MEL item may specify that another item relieved in the MEL 'is not used'. In such cases, crew members should not activate, actuate, or otherwise utilize that item under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item.

However, operations-related provisions, (O) procedures must be complied with. An additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crew members that an item is not to be used under normal operations.

21. **"Intended flight route"** corresponds to any point on the route including diversions to reach alternate aerodromes required to be selected by the operational rules.

22. **"Item"** means component, instrument, equipment, system or function.

23. **"(M)"** indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel, however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator.

Appropriate procedures are required to be published as part of the Operator's Manual or MEL.

24. **"Master Minimum Equipment List"** means a document approved by the Agency that establishes the airplane equipment allowed to be inoperative under conditions specified therein for a specific type of airplane.

25. **"Maximum distance from an adequate aerodrome for two engine aero planes"** as defined in **SPA.ETOPS** and **CAT.OP.AH.140**.

26. **"Minimum Equipment List"** means a document established as specified under 8.a.3. of Annex IV to Regulation (EC) No 216/2008 and approved by the competent authority, in accordance with ORO.MLR.105, that authorizes an operator to dispatch an airplane with airplane equipment inoperative as per CAT.IDE.A/H.105 or NCC.IDE.A/H.105 under the conditions specified therein.

28. **"Notes"** provide additional information for flight crew or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the dispatch conditions.

29. **"Number Installed"** is the number (quantity) of items normally installed in the airplane. This number represents the airplane configuration considered in developing this MMEL. Should the number be a variable (e.g. passenger cabin items), or not applicable, a number is not required; a '-' is then inserted.

30. **"Number required for dispatch"** is the minimum number (quantity) of items required for operation provided the conditions specified are met. Should the number be a variable (e.g. passenger cabin items) or not applicable, a number is not required; a '-' is then inserted.

31. **"-"** in the Number Installed Column (respectively Number Required for Dispatch Column) indicates a variable number (quantity) of the item installed (respectively item required) or not applicable.

32. **"(O)"** indicates a requirement for a specific operational procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.

NOTE: The (M) and (O) symbols are required in the operator's MEL.

33. **"Operating minima"** means the set of requirements associated to operations requiring a specific approval (refer to Part-SPA).

34. **"Placarding"** Each inoperative item must be placarded, as applicable, to inform and remind the crew members and maintenance personnel of the item's condition.

NOTE: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

35. **"Rectification intervals"** Inoperative items or components, deferred in accordance with the MEL, must be rectified at or prior to the rectification intervals established by the following letter designators:

Category A:

No standard interval is specified. However, items in this category shall be rectified in accordance with the conditions stated in the MEL.

(i) Where a time period is specified in calendar days or flight days, the interval excludes the day of discovery.

(ii) Where a time period is specified other than in calendar days or flight days, it shall start at the point when the defect is deferred in accordance with the operator's approved MEL.

Category B:

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

Category C:

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

Category D:

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

36. **"Remarks or Exceptions"** include statements either prohibiting or allowing operation with a specific number of items inoperative, provisos (conditions and limitations), notes, (M) and/or (O) symbols, as appropriate for such operation.

37. **"Required Cabin Crew Seat"** is a seat in the airplane cabin which meets the following conditions:

a) Where the certification of the cabin requires this seat to be occupied by a qualified cabin crew member as specified in the Operations Manual;

b) This seat is a part of the station to which a qualified cabin crew member is assigned for the flight; and

c) The qualified cabin crew member assigned to the station is a member of the minimum cabin crew designated for the flight.

38. **"Visible Moisture"** means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, mist, rain, sleet, hail, or snow.

39. When EMB-135BJ is considered for approval under the provisions of CAT.OP.MPA.140 (a)(2) for 180 minutes diversion with one engine inoperative provided a special approval is granted for operation. It should be noted that this supplement reflects the conclusion in terms of systems capability as per Embraer GP- 135/3763 on item 24-31-01 Engine Driven Generator only. Other items have not been reviewed and may need to be revised at MEL level as part of the operator approval to ensure compliance with CAT.OP.MPA.140 (a)(2) requirements, as applicable.

40. This manual shall not incorporate the inclusion of the word 'AND' between each proviso, mainly due the aeronautical standard present in the MMEL. Most of other manufacturer's MMELs comply with the standard applied herein, which is the word AND only before the last provisos

41. If RVSM equipment (e.g., altimeters, autopilot, or Mode C transponder) is inoperative, the MEL typically prohibits RVSM operations, restricting the aircraft to non-RVSM airspace (below FL290 or above FL410, depending on the route).

NOTE: RVSM (Reduced Vertical Separation Minimum) airspace is any airspace or route between flight level 290 and flight level 410 inclusive where aircraft are spaced vertically by 1,000 feet. This service bulletin provides criteria for the approval of flights with EMB-145( ) in airspaces or on routes where RVSM is adopted.

IFR Flight					
Track from 0° to 179°			Track from 180° to 359°		
FL	Feet	Meter	FL	Feet	Meter
10	1000	300	20	2000	600
30	3000	900	40	4000	1200
50	5000	1500	60	6000	1850
70	7000	2150	80	8000	2450
90	9000	2750	100	10000	3050
110	11000	3350	120	12000	3650
130	13000	3950	140	14000	4250
150	15000	4550	160	16000	4900
170	17000	5200	180	18000	5500
190	19000	5800	200	20000	6100
210	21000	6400	220	22000	6700
230	23000	7000	240	24000	7300
250	25000	7600	260	26000	7900
270	27000	8250	280	28000	8550
290	29000	8850	300	30000	9150
310	31000	9450	320	32000	9750
330	33000	10050	340	34000	10350
350	35000	10650	360	36000	10950
370	37000	11300	380	38000	11600
390	39000	11900	400	40000	12200

42. Heavy maintenance visit: A Heavy Maintenance Visit (HMV) is a scheduled, comprehensive maintenance event for an aircraft that involves extensive inspections, repairs, overhauls, and replacements of major components to ensure continued airworthiness and compliance with regulatory standards. These visits are more intensive than routine line maintenance and are typically performed at a Maintenance, Repair, and Overhaul (MRO) facility. HMVs are planned based on the aircraft manufacturer's Maintenance Planning Document (MPD), which specifies intervals based on flight hours, flight cycles (takeoffs and landings), or calendar time.

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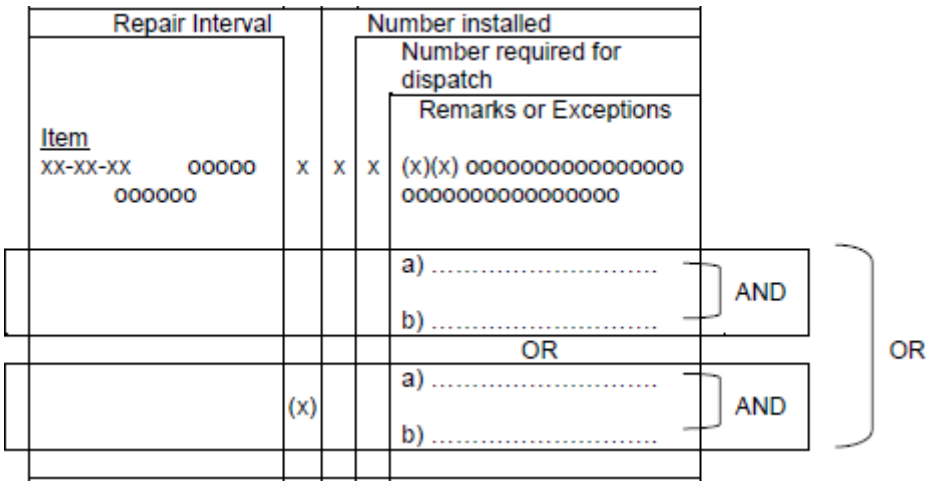
1 . GENERAL

Based on the "MMEL "which has been issued by the manufacturer, this manual has been reproduced in consideration of the Iranian Civil Aviation Regulation and the configuration of aircraft.

2 . APPLICATION OF MEL BY CONDITION

A. For items with single condition (maybe with some sub-conditions). As long as "OR" is not used specially, all sub-conditions should be met (as AND gate).

B. For items with alternative sub-conditions or with more than two conditions (1) In case "OR" is used among sub-conditions as below, each group divided by "or" (box) can applied alternatively.

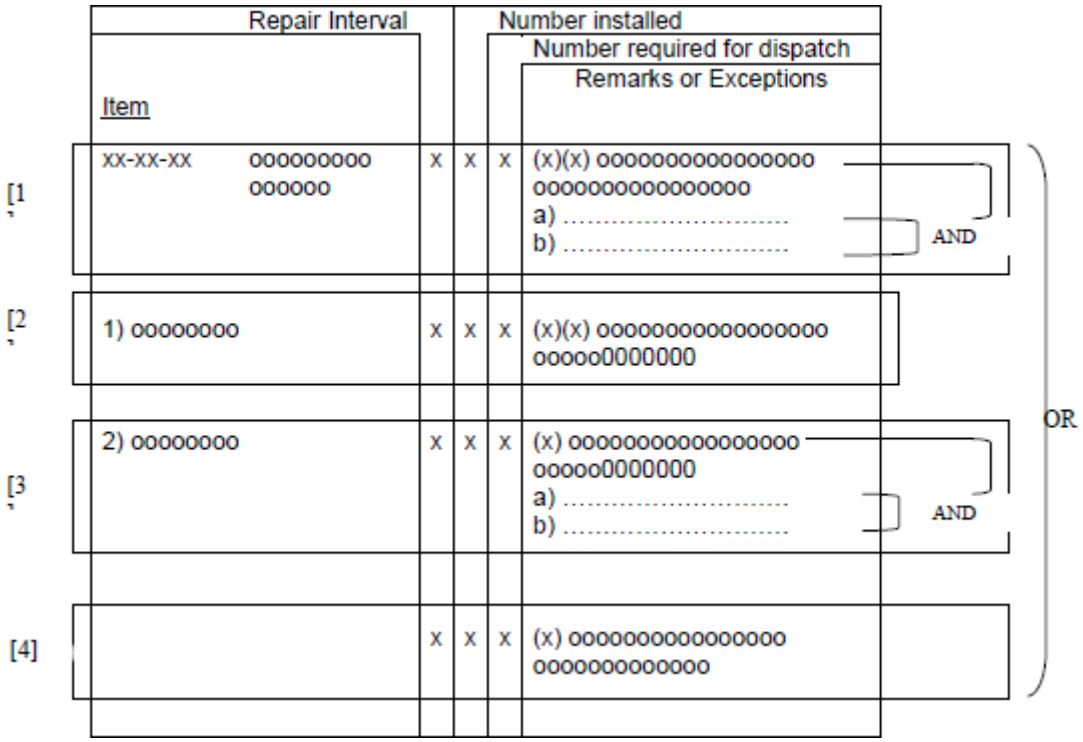


2) In case there are several conditions as below, any condition (box) may be applied alternatively. (as OR gate)

C. For the complicated items with the separate conditions for sub-system additionally This is usually seen in the system composed of several sub-systems. In case only a part of system is failed, If there is no any condition for the sub-system, the system overall will not be used even though the remaining is still normally operative. The reason that the additional condition for sub- systems is put in is to make the remaining normal subsystems used in flight in case as mentioned above.

Accordingly, any of several conditions (box) may be applied as below (like OR gate) regardless of system level (system or sub-system). For example, if [1] condition is applied, the system

overall, will not be available. But, if one of [2]~ [4] is applied, the remaining normal sub-systems can be used.



3. FLIGHT REQUIREMENTS

3.1 CLASSIFICATION AND POLICY

3.1.1 Defer/Carry Forward

Defect on the aircraft found on the base or at the airport should be cleared before the flight. But if the defect doesn't affect the airworthiness or the flight, the correction can be deferred or carry-forwarded. The defect will be corrected as an unscheduled maintenance.

A. The condition for "Defer/Carry forward"

(1) MEL Items

For inoperative items covered by Minimum Equipment List (MEL).

(2) Non-MEL Items

a) Defects of non-airworthy items like cargo loading/unloading, passenger entertainment system, etc.

b) Defects like fuel or hydraulic leaking, tire worn, window crack, etc. are within manual (M/M, SRM) limits.

c) Defects in aircraft structure/sub-structure are within manual (M/M, Structural Repair Manual, etc.) limits or necessary actions for the defects are performed according to the directions of manufacturer/vendor.

B. Classification and method of the Carry Over

(1) Defer (One time Carry-Over)

"Defer" is used as a special term in RAIMON Airways, which means to carry over the corrective action to the final flight of the day or return to home base due to lack of parts, manpower, scheduled commitments, etc.

a) Deferred defects should be recorded on the flight log at the airport where the defects occurred.

b) If correction is available, it should be done immediately.

[NOTE] *In departing at home base, If the aircraft won't be able to return to home base within the midnight of that day, Carry Forward (Normal Carry Over) should be applied.*

(2) Carry Forward (Normal Carry-Over)

If it is impossible to correct the defects within defer limit (One time Carry Over), the defects are dealt with by means of "carry forward" procedure.

a) Defects affected by MEL should be corrected within the time limit.

b) Carry Forwarded defects and corrective actions should be recorded on the proper form besides the logbook. And the condition of the defect should be watched till the defect is totally cleared.

3.2 Allowable Operation Standard: MEL

3.2.1 General

Modern transport aircraft is equipped with duplicated systems, components, instruments, electric communication facilities, structure, and important parts so that it may maintain its flight airworthiness and assure its reliability in spiteof a malfunction of any parts. MEL is established for above reason. But MEL does not include items which are essentially required for the flight such as

Wing, Rudder, Engine, Flap and Landing Gear and non-airworthiness related items like Cabin equipment, Cargo Loading Items, Minor airframe parts excluding major structure, etc.

3.2.2 Purpose

The purpose of the MEL is to dispatch the aircraft punctually within acceptable level of safety limit in operating the aircraft.

3.2.3 Establishment and Revision

A. The MEL is established/revised in compliance with MMEL (Master MEL), which is approved by Airworthiness Authority of Manufacturer.

B. The RAIMON Airways MEL should be approved by the I.R.I Civil Aviation Authority.
Item of MEL for each type is designated and maintained separately

3.2.4 Application and Limitation

A. When an abnormal condition covered by MEL occurs, the airplane is applied per MEL by means of "Defer" and "Carry Forward" referred to section 3.1.1.B in this MEL.

B. Items or components that are not installed on the aircraft are not applied.

C. Optional item for operator's convenience, affected items can be removed or block/deactivation or can be converted to the alternative way which does not affect airworthiness and safety.

D. Items and contents, which are not prescribed in this MEL, follow the AFM or information from manufacturer

3.2.5 Decision of Departure

A. Captain, dispatcher, and the responsible maintenance personnel must exchange views with one another regarding applicable defects. In case that malfunction, range may be satisfied on these standards and assured the flight safety, the departure is released. The responsible maintenance personnel should explain information and corrective action to captain or dispatcher if necessary.

B. In case of Ferry Flight, it could be released to depart under the minimum standard of MEL in accordance with Ferry Flight procedure in operation manual.

3.2.6 Repair Interval

A. Deferred defects should be corrected as soon as personnel, facility, equipment, property and time is secured. If it is impossible to correct defects, it can be carried forward. And in that case, it should be corrected by the time when is referred in Repair Interval designated as category.

B. The above limit days are regarded as the term from midnight of date carried forward to midnight

of the expired date.

C. If the expire date falls on any day during schedule maintenance, it can be extended until the schedule maintenance are completed.

3.2.7 Action

In case that the aircraft may be dispatched in accordance with this chapter, the responsible maintenance personnel should perform the following items.

A. Isolation of malfunction and Placard The appropriate action should be performed to the defected part and other system or part related with defect should be ensured. Then, inoperative state or limited item about inoperative equipment must be placarded so that crew
may not make the error of operation.

B. Record or Report

The responsible maintenance personnel should record the necessary items in the flight log. Thereafter it shall be informed to captain or dispatcher by him, and informed from each station to another station of applicable route including main base. However, if defect occurs after ENG START for departure and it is satisfied with MEL, it could be recorded on A/C FLT log at

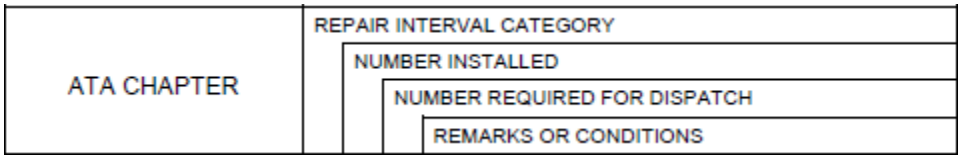
arrival station.

Departure of aircraft is decided in accordance with Alert Messages in Electronic Fault Alerting System of each A/C type. If there is not appeared status message or above level, it doesn't affect departure of A/C.

3.3 Allowable Operation Standard Requirements

Standard about each item must be arranged according to aircraft model in case of aircraft's departure.

3.3.1 Contents per item of MEL is as follows.



REPAIR INTERVAL CATEGORY: It indicates category A, B, C and D that means the period of carry forward.

The limitation of correction for the item carried forward is as followings.

Category A:

Items in this category shall be repaired within the time interval specified in the remark column of the MEL

Category B:

Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding previous malfunctions recorded in the aircraft maintenance record/log book.

Category C:

Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding previous malfunctions recorded in the aircraft maintenance record/log book.

Category D:

Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2880 hours), excluding previous malfunctions recorded in the aircraft maintenance record/log book.

Column 1: "NUMBER INSTALLED"

It indicates the number of systems or components installed in the aircraft. Should the number be a variable (-) a number is not required.

Column 2: "NUMBER REQUIRED FOR DISPATCH"

It represents the minimum number of systems or components required for flight. (In this case, the conditions specified in column 3 should be met.

Should the number be a variable (-) a number is not required. Column 3: "REMARKS AND/OR CONDITIONS"

It represents a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.

[NOTE] Special marks to be used in this MEL are as follows.

(1) * Each inoperative unit or components must be placarded in the cockpit. ("INOPERATIVE"). Note: Placard status described in operation procedure section.

(2) (M)(O) Identifies a maintenance and a crew operating procedure.

(3) (O) Indicates a requirement for a specific operations procedure, which must be accomplished in planning for and/or operating with the listed item inoperative. Normally the flight crew accomplishes these procedures; however, other personnel may be qualified and authorized to perform certain function.

(4) (M) Indicates a requirement for a specific maintenance procedure, which must be accomplished prior to operation with the listed item inoperative. Normally maintenance personnel accomplish these procedures; however other personnel may be qualified and authorized to perform certain functions.

Procedures requiring specialized knowledge or skill, or requiring the use of tool or test equipment should be accomplished by maintenance personnel.

(5) - Variable Quantity

3.3.2 MEL time limitation overrun (Extension)

The following paragraphs have been taken from CAME manual (Part 1 Page11):

CAMO director or his deputy may extend the applicable rectification intervals B and C once for the same duration with consideration of below mentioned requirements andalso may extend the applicable rectification interval as longas the repair time remains within the MMEL limits when the MEL rectification interval is more restrictive than the rectification interval of the MMEL without consideration of below mentioned requirements.

Request on extension of MEL item will send to CAMO department through related specified Form (CAME 5.1.8) by Part-145 maintenance organization, reliability section will evaluate and made comment on requested subject and also operations fleet manager comments and acceptance must be taken, then send the recommendations to engineering department; engineering department will review all related technical documents, A/C systems, A/C records and reliability comments engineering acceptance will forward to CAMO Director to Issue an extension on relevant MEL item.

To issuance of mentioned MEL extension following requirements must consider:

- The source of the failure must be known to such extent as necessary to positively identify the unserviceable component and/ or systems, for which MEL extension relief can be issue. It must be ascertained that a failed component and/ or system does not adversely affect operation of other

components and/ or systems for which no MEL relief is provided,

- Unserviceable means a system and/or component malfunctions to the extent that it does not accomplish it's intended function and/ or is not consistent within its operating limit(s) or tolerance(s),

The extension approval form will be used which is stored in ATL and competent authority will be notified within 24 hours

A/C: Aircraft
ACFT: Aircraft (alternative abbreviation).
AD: Airworthiness Directive (mandatory maintenance action, cannot be deferred via MEL).
AFCS: Automatic Flight Control System (e.g., autopilot).
AMM: Aircraft Maintenance Manual
AOG: Aircraft on Ground (aircraft unable to fly due to maintenance needs, often if MEL limits are exceeded).
AP: Autopilot
APU: Auxiliary Power Unit
ATA: Air Transport Association (chapter codes for systems, e.g., ATA 21 = Air Conditioning).
ATL: Aircraft Technical Log (where MEL items and deferrals are recorded).
AT: Autothrottle
AVNCS: Avionics
CAB: Cabin
CAA: Civil Aviation Authority (generic, used in various countries).
CASA: Civil Aviation Safety Authority (Australia)
CDL: Configuration Deviation List (covers missing external parts, e.g., fairings, vs. MEL for inoperative systems).
C-CHECK: A heavy maintenance visit, typically every 18-24 months.
CFR: Code of Federal Regulations (e.g., 14 CFR Part 121 for FAA).
CK: Check (e.g., maintenance inspection like C-check or D-check).
COM: Communication System
D-CHECK: A major overhaul, often every 6-10 years, where all MEL items are cleared.
DISP: Dispatch (approval to fly with inoperative item under MEL conditions).
DMI: Deferred Maintenance Item (an inoperative item logged under the MEL for later repair).
EASA: European Union Aviation Safety Agency
ECS: Environmental Control System
EFIS: Electronic Flight Instrument System
EICAS: Engine Indicating and Crew Alerting System
ELEC: Electrical System
ENG: Engine
ETOPS: Extended Twin-engine Operational Performance Standards (rules for twin-engine aircraft on long routes; affects MEL restrictions).
ETR: Estimated Time to Repair
FAA: Federal Aviation Administration
FCS: Flight Control System
FMS: Flight Management System
GAL: Galley
GPS: Global Positioning System
GPWS: Ground Proximity Warning System
HYD: Hydraulic System
IFE: In-Flight Entertainment
INOP: Inoperative (used to describe equipment deferred under MEL).
IPC: Illustrated Parts Catalog
IRS: Inertial Reference System
LAV: Lavatory
LG: Landing Gear
MPD: Maintenance Planning Document (defines maintenance schedules, including heavy checks).
MRO: Maintenance, Repair, and Overhaul (facility performing heavy maintenance).
MTC: Maintenance
NAV: Navigation System
NEF: Non-Essential Equipment and Furnishings (items that do not affect airworthiness, e.g., cabin amenities).
PAX: Passenger
PNEU: Pneumatic System
PREFLT: Pre-Flight (checks or procedures before takeoff).

RAT: Ram Air Turbine
RECT: Rectification (repair of an inoperative item).
SRM: Structural Repair Manual
STC: Supplemental Type Certificate (for modifications).
TC: Type Certificate (certification for aircraft design).
TCAS: Traffic Collision Avoidance System
TLB: Technical Log Book (same as ATL, records MEL deferrals).
TSO: Technical Standard Order (certification for equipment).
WO: Work Order (maintenance task assignment, often for MEL items).

PART 1

MEL ITEMS

ATA CHAPTER:

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
21. Air Conditioning					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
22-04	External Ground Connector Check Valve	B	1	0	(M)(O) May be inoperative open provided flight is conducted in an unpressurized configuration.
		D	1	0	May be inoperative closed.

21-22-04 EXTERNAL GROUND CONNECTOR CHECK VALVE

Placard Air Conditioning/Pneumatic Panel "GROUND CONNECTIONCHECK VALVE OPEN".

OPERATIONAL PROCEDURES

Refer to Item 21-31-03 for unpressurized configuration.

MAINTENANCE PROCEDURES

Refer to Item 21-31-03 for outflow valves secured open, if required.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
22-06	Baggage Compartment Ventilation System	C	1	0	(M) May be inoperative provided: a) Ventilation system remains closed, and b) Live animals are not carried in the cargo compartment.	

21-22-06 BAGGAGE COMPARTMENT VENTILATION SYSTEM

Placard Fire Detection/Extinguishing Panel "VENTILATION SYSTEM INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Alternate method (below) may be flight crewmember accomplished.

Deactivate Baggage Recirculation Fan as follows:

– On the circuit breaker panel, open the MISCELLANEOUS/
BAGGAGE RECIRC FAN circuit breaker and attach a do-not-close tag on it.

– Open access 272DR, Rear Electronic Compartment Access Hatch. Gain access to the rear electronic compartment and locate the baggage recirculation fan (See Figure on AMM PART I 21-27-00).

– Disconnect and stow electrical connector of the fan.

– Close BAGGAGE RECIRC FAN circuit breaker.

An alternate method to deactivate baggage compartment fan is pulling and collaring BAGGAGE RECIRC FAN circuit breaker. The Baggage Fire Extinguishing Button will not illuminate during system test, however, EICAS message BAGG SMOKE and extinguishing system will remain operate normally.

TABLE KEY					
		1. REPAIR CATEGORY			
		2.	NO. INSTALLED		
			3.	NO. REQUIRED FOR DISPATCH	
				4.	REMARKS OR EXCEPTIONS
21. Air Conditioning					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
23-03	Gasper Fan	C	1	0	(M) May be inoperative on ground with the avionics busses energized provided: a) If doors are open: both packs operate normally and remain in continuous operation, and ambient temperature is below ISA +25 °C, b) If doors are closed: at least one pack operates normally and remains in continuous operation, and ambient temperature is below ISA +32 °C, and c) Gasper fan is deactivated. NOTE 1: Avionics buses energized on the ground are limited to 10 min if doors are open and both packs are not operating. NOTE 2: Conditions above are applicable to ground operation only. There is no restriction to in flight operation with gasper fan inoperative. NOTE 3: Doors referred to above include main, service, and cargo compartment doors.

21-23-03 GASPER FAN

Placard Gasper Fan Button "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished.

Pull and safety gasper fan circuit breaker (F25).

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning

Sequence No.	Item	1	2	3	4	Change Bar
24-01	Recirculation Fans					
1)	Airplanes Equipped with Conventional Electromechanical Standby Instruments (EP-NEA, EP-NEB)	C	2	0	(M) May be inoperative provided failed fan is deactivated.	
2)	Airplanes Equipped with Integrated Standby Instrument System (ISIS) (EP- NEC)	C	2	1	(M) Recirculation fan 1 may be inoperative provided: a) Failed fan is deactivated, b) The remaining Fan and its associated Pack operate normally, and c) Ambient temperature on the ground is below ISA +25 °C.	
		C	2	0	(M) May be inoperative provided: a) Failed fans are deactivated, and b) At least pack 1 is in operation on the ground.	

21-24-01 RECIRCULATION FANS

Placard Recirculation Button "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Recirculation Fan deactivated:

May be flight crewmember accomplished.

Pull and safety the affected recirculation fan circuit breaker, COCKPIT RECIRC (J14) and/or CABIN RECIRC (J21).

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4 . REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
24-02	Recirculation Fan Valves	C	2	0	(M) May be inoperative open provided associated recirculation fan is verified to operate normally.	
		C	2	0	(M) May be inoperative closed provided associated recirculation fan is deactivated and considered inoperative.	

21-24-02 RECIRCULATION FAN VALVES

Placard Air Conditioning/Pneumatic Control Panel "RECIRCULATION FAN VALVE OPEN".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

– Perform SUBTASK 21-20-00-710-001-A00 (AMM) for recirculation fan operational check.

– Refer to Item 21-24-01 for recirculation fan deactivation.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
24-03	Air Distribution Valves	C	2	1	(M) One may be inoperative provided remaining valve is deactivated in open position.	

21-24-03 AIR DISTRIBUTION VALVES

Placard Air Conditioning/Pneumatic Control Panel "AIR DISTRIBUTION VALVE STUCK CLOSED".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished.

Perform TASK 21-22-01-040-801-A (AMM) for air dis

Distribution valve deactivation.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning

Sequence No.	Item	1	2	3	4 Change Bar
25-01	Ram Air Valves				
1)	Airplanes Equipped with Conventional Electromechanical Standby Instruments EP-NEA, EP-NEB	C	2	1	(M)(O) One may be inoperative provided: a) Associated air conditioning pack remains off, b) Affected ram air valve is verified to be in emergency ram air position, and c) Flight is conducted at or below FL 250.
	Airplanes Equipped with Conventional Electromechanical Standby Instruments EP-NEA,EP-NEB	C	2	0	(M)(O) May be inoperative provided: a) Both packs remain off, b) Flight is conducted in an unpressurized configuration, c) Ram air valves are verified to be in emergency ram air position, and d) Ambient temperature on the ground is below ISA +21 °C.
2)	Airplanes Equipped with Integrated Standby Instrument System (ISIS) (EP- NEC)	C	2	1	(M)(O) Either ram air valve may be inoperative provided: a) Associated pack remains off, b) Remaining pack and associated recirculation operate normally and remain in continuous operation on the ground, c) Associated ram air valve is verified to be in emergency ram air position, d) Flight is conducted at or below FL 250, and e) Ambient temperature on the ground is below ISA +25 °C.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

21-25-01 RAM AIR VALVES

Placard affected Air Conditioning Pack Button "INOP".

OPERATIONAL PROCEDURES

Failure of One Ram Air Valve:

Conduct flight at or below 25000 ft. Associated Air Conditioning Pack must be OFF.

Failure of Both Ram Air Valves:

Conduct flight at or below 10000 ft. Both Air Conditioning Packs must be OFF. Refer to Item 21-31-03 for unpressurized configuration.

MAINTENANCE PROCEDURES

Perform TASK 21-25-01-040-801-A (AMM) for ram air valve deactivation.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
25-02	Ram Air Check Valves	C	2	0	(O) One or both may be inoperative open provided flight is conducted in an unpressurized configuration.	

21-25-02 RAM AIR CHECK VALVES

Placard Air Conditioning/Pneumatic Control Panel "RAM AIR INOP OPEN".

OPERATIONAL PROCEDURES

Refer to Item 21-31-03 for unpressurized configuration.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
26-00	Forward Electronic Compartment Ventilation System					
1)	Exhaust Fans/Air Shutoff Valves	C	2	1	One exhaust fan or one shutoff valve may be inoperative.	
2)	Forward Electronic Bay Recirculation Fan	C	2	1	One recirculation fan may be inoperative.	

21-26-00 FORWARD ELECTRONIC COMPARTMENT VENTILATION SYSTEM

Placard Air Conditioning/Pneumatic Control Panel "FWD ELEC COMPT VENT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY			
	1. REPAIR CATEGORY		
	2. NO. INSTALLED		
	3. NO. REQUIRED FOR DISPATCH		
	4. REMARKS OR EXCEPTIONS		

21. Air Conditioning

Sequence No.	Item	1	2	3	4 Change Bar
30-00	Pressurization Control System				
1)	Automatic Mode	C	1	0	(M)(O) May be inoperative provided: a) Manual mode is verified operative, b) Electropneumatic outflow valve is secured closed, and c) Cabin differential pressure indication, cabin rate of change indication, and cabin altitude indication operate normally.
2)	Manual Mode	C	1	0	(M)(O) May be inoperative provided: a) Automatic mode operates normally, b) Pneumatic outflow valve is secured closed, and c) Cabin differential pressure indication operates normally.
3)	Automatic and Manual Modes	C	2	0	(M)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, and b) Both outflow valves are secured open.

21-30-00 PRESSURIZATION CONTROL SYSTEM

Placard Pressurization Mode Selector Button "MAN INOP", or "AUTO INOP", or "AUTO/MAN INOP".

OPERATIONAL PROCEDURES

Operation in Manual Mode:

If automatic control of the pressurization system is not possible, manual control of cabin pressure can be maintained via the pneumatic outflow valve using the following procedures:

– Rotate the Manual Pressurization knob clockwise to FULL UP position.
– Select MAN with the guarded pressurization mode selector button.
– Rotate the knob clockwise to increase cabin altitude, rotate it counter-clockwise to decrease cabin altitude.
– Monitor cabin differential pressure to ensure it remains within limits.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

Operation in Automatic Mode:

If manual control of the pressurization system is not possible, automatic control of cabin pressure can be maintained via the electropneumatic outflow valve monitoring cabin differential pressure to ensure it remains within limits.

Unpressurized Configuration:

Refer to either the Operational or Maintenance procedure under item 21-31-03, for electropneumatic/pneumatic outflow valves secured open.

MAINTENANCE PROCEDURES

Refer to Item 21-31-03 for electropneumatic/pneumatic outflow valves secured closed or secured open.

NOTE: For outflow valves secured open procedure on item 21-31-03, the airplane may be dispatched after either the operational procedure or the maintenance procedure is accomplished (only one of both is required to be performed).

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning

Sequence No.	Item	1	2	3	4 Change Bar
31-03	Outflow Valves				
1)	Electropneumatic	C	1	0	(M)(O) May be inoperative provided: a) Valve is secured closed, b) Manual pressurization control mode operates normally, and c) Cabin differential pressure indication, cabin rate of change indication, and cabin altitude indication operate normally.
2)	Pneumatic	C	1	0	(M)(O) May be inoperative provided: a) Valve is secured closed, b) Automatic pressurization control mode operates normally, and c) Cabin differential pressure indication operates normally.
3)	Electropneumatic and Pneumatic	C	2	0	(M)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, and b) Both outflow valves are secured open.

21-31-03 OUTFLOW VALVES

Placard Pressurization Mode Selector Button "MAN INOP" if pneumatic outflow valve is inoperative, or "AUTO INOP" if electropneumatic outflow valve is inoperative, or "AUTO/MAN INOP" if both outflow valves are inoperative.

NOTE: In case of pressurization static port heating inoperative, the airplane may be dispatched by this item.

OPERATIONAL PROCEDURES

Unpressurized Configuration:

Outflow Valves. ..... OPEN

Outflow valves may be kept open through one of the following ways:

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		NO. INSTALLED		
	2.	3. NO. REQUIRED FOR DISPATCH		
			4. REMARKS OR EXCEPTIONS	

21. Air Conditioning

Sequence No.	Item	1	2	3	4	Change Bar

Pressurization Dump Button..... PRESSED
OR
Pressurization Mode Selector Button .....PRESSED
Manual Controller Knob. ..... UP
OR
Using the Opening Tool Kit (refer to maintenance procedures). OR
Removing the valves.

NOTE: For flight in unpressurized configuration, the airplane may be dispatched after either the operational procedure or the maintenance procedure to secure both outflow valves open is accomplished (only one of both is required to be performed).

Bleed Air Buttons..... AS REQUIRED
If air conditioning packs are going to be used, maintain the Bleed Air Buttons at pressed position (bleed open), otherwise, set them to released position (bleed closed).
Pack Buttons..... AS REQUIRED
If air conditioning packs are going to be used, maintain the Pack Buttons at pressed position (pack valve open), otherwise, set them to released position (pack valve closed).
Recirculation Fans..... AS REQUIRED
Altitude..... 10000 FT

MAINTENANCE PROCEDURES

Electropneumatic Outflow Valve Secured Closed:

– Gain access to the electropneumatic outflow valve located in the rear pressure bulkhead.
– Perform AMM TASK 21-31-03-000-801-A to remove the electropneumatic outflow valve.
– Safety the valve in the closed position, as shown in outflow valves figure.
– Open fitting 1 (see outflow valves figure) and plug tube and valve with plugs P/N AN 806-D5 and P/N AN 929-5.
– Perform AMM TASK 21-31-03-400-801-A to install the electropneumatic outflow valve.
– Install removed access panel.

Pneumatic Outflow Valve Secured Closed:

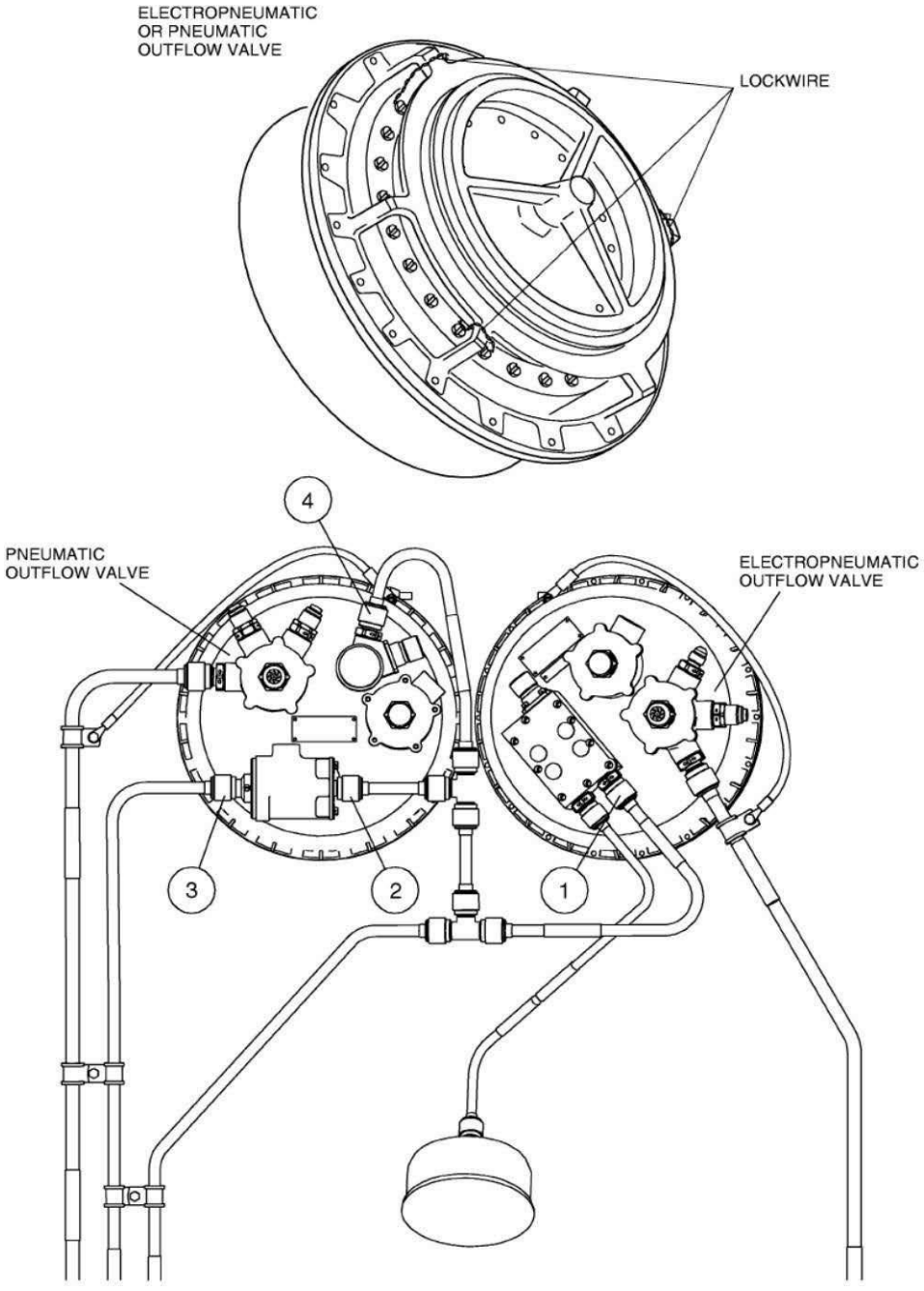
– Gain access to the pneumatic outflow valve located in the rear pressure bulkhead.
– Perform AMM TASK 21-31-04-000-801-A to remove the pneumatic outflow valve.
– Safety the valve in the closed position, as shown in outflow valves figure.
– Open fitting 2, 3 and 4 (see outflow valves figure) and plug tubes and valve with plugs P/N AN 806-D5 and P/N AN 929-5.
– Perform AMM TASK 21-31-04-400-801-A to install the pneumatic outflow valve.
– Install removed access panel.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
	2. NO. INSTALLED			
	3. NO. REQUIRED FOR DISPATCH			
	4. REMARKS OR EXCEPTIONS			

21. Air Conditioning

Sequence No.	Item	1	2	3	4	Change Bar



Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
21. Air Conditioning					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**

Both Outflow Valves Secured Open (if applicable):

– Gain access to the both outflow valves located in the rear pressure bulkhead.

– Using both hands, open one of the valves by pressing the poppet and insert the opening tool (GSE 282) so as to fit it in the valve axle guide (see Outflow Valve Secured Open figure).

– Assure the opening tool is fitted on the axle in order to avoid valve closing.

– Repeat the procedure for the remaining outflow valve.

NOTE: To remove the Opening Tool from the valve assembly, just pull it out.

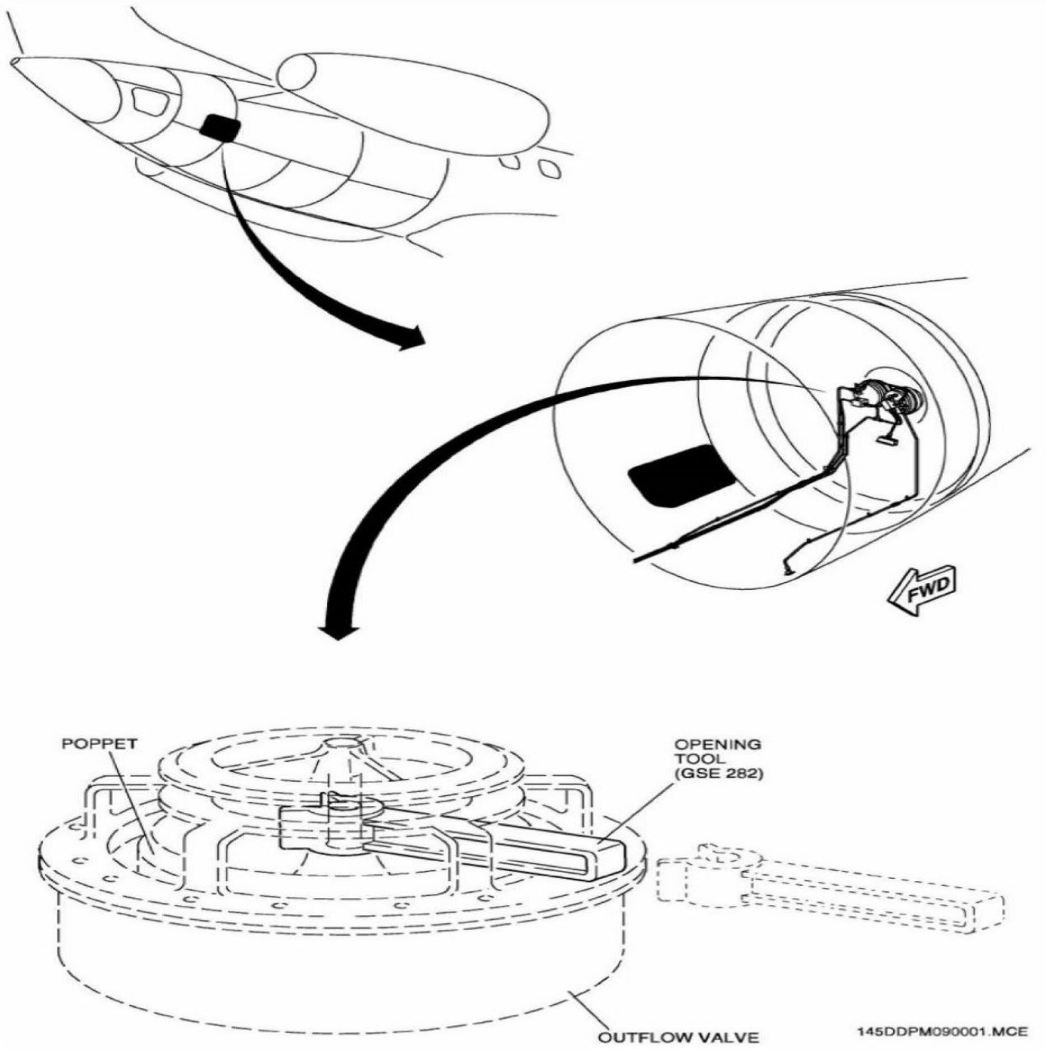


TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS

21. Air Conditioning

Sequence No.	Item	1	2	3	4 Change Bar
32-01	Cabin Pressure Acquisition Module (CPAM)	C	1	0	(O) May be inoperative provided flight is conducted in an unpressurized configuration.
1)	10,000 FT. Warning	C	1	0	(O) May be inoperative provided flight is conducted at or below 10,000 ft. MSL.
2)	Cabin Differential Pressure Indication	C	1	0	(O) May be inoperative provided: a) Cabin altitude and cabin rate of change indication operates normally, and b) A chart is provided to convert cabin altitude into differential pressure.
3)	Cabin Rate of Change Indication	C	1	0	May be inoperative provided: a) Automatic pressurization control mode operates normally, and b) Cabin differential pressure indication and cabin altitude indication are operating normally.
4)	Cabin Altitude Indication	C	1	0	(O) May be inoperative provided: a) Cabin differential pressure indication operates normally, b) A chart is provided to convert cabin differential pressure into cabin altitude indication, and c) Automatic pressurization control mode operates normally.

21-32-01 CABIN PRESSURE ACQUISITION MODULE

Placard Digital Controller "CABIN ALT WARN INOP", or "CABIN DIFF PRESS IND INOP", or "CABIN ALT IND INOP", or "CABIN RATE OF CHANGE IND INOP".

OPERATIONAL PROCEDURES21

Refer to Item 21-31-03 for unpressurized configuration.

Use to convert cabin differential pressure into cabin altitude:

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
21. Air Conditioning					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

AIRPLANE ALTITUDE (ft)	CABIN ALTITUDE (ft)	DIFFERENTIAL PRESSURE (psi)
10000	600	4.3
11000	900	4.5
12000	1100	4.8
13000	1300	5.0
14000	1500	5.3
15000	1700	5.5
16000	1900	5.7
17000	2100	6.0
18000	2300	6.2
19000	2500	6.4
20000	2700	6.6
21000	3000	6.7
22000	3200	6.9
23000	3400	7.0
24000	3600	7.2
25000	3800	7.3
26000	4000	7.5
27000	4200	7.6
28000	4500	7.7
29000	4700	7.8
30000	4900	7.9
31000	5100	8.0
32000	5400	8.1
33000	5600	8.1
34000	5800	8.2
35000	6100	8.2
36000	6400	8.3
37000	6700	8.3
38000	7100	8.3
39000	7400	8.3
40000	7700	8.3
41000	8000	8.4

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning

Sequence No.	Item	1	2	3	4	Change Bar
32-02	Cabin Pressure Control System High Altitude Mode	-	-	-	N/A	

21-32-02 Cabin Pressure Control System High Altitude Mode

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
21. Air Conditioning					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
51-00	Air Conditioning Pack Systems				
1)	Airplanes Equipped with Conventional Electromechanical Standby Instruments EP-NEA,EP-NEB	C	2	1	One may be inoperative provided flight is conducted at or below FL 250.
		C	2	0	(M)(O) May be inoperative provided: a) Both ram air valves operate normally, b) Flight is conducted in an unpressurized configuration, and c) Ambient temperature on the ground is below ISA +21 °C.
2)	Airplanes Equipped with Integrated Standby Instrument System (ISIS) (EP- NEC)	C	2	1	(O) One may be inoperative provided: a) Remaining pack and its associated recirculation fan operate normally, b) Ambient temperature on the ground is below ISA +25 °C, and c) Flight is conducted at or below FL 250.

21-51-00 AIR CONDITIONING PACK SYSTEMS

Placard affected Air Conditioning Pack Button "INOP".

OPERATIONAL PROCEDURES

NOTE: - The EICAS advisory message PACK 1 (2) OVLD may be displayed.

- Pack 1 will not close in case of single pack above 24000 ft in icing conditions.

Unpressurized Configuration (airplanes with conventional electromechanical standby instruments):

Refer to Item 21-31-03 for unpressurized configuration. In this condition, ambient temperature, on the ground, must be below ISA + 21°C.

NOTE: The EICAS advisory message BLD 1 (2) VLV CLSD may be displayed.

Operational Check of Pack and Recirculation Fan (airplanes with ISIS):

The recirculation fan operates only when the RECIRC switch is ON and the related pack valve is open. Set the RECIRC switch to ON and check that the airflow through the cockpit general outlets increases.

NOTE: The EICAS advisory message BLD 1 (2) VLV CLSD may be displayed.

MAINTENANCE PROCEDURES

Ram Air Valves Operational Check (airplanes with conventional electromechanical standby instruments):

Perform TASK 21-25-01-700-801-A (AMM) for ram air valves operational check.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
60-02	Cockpit Automatic and Manual Temperature Control Systems					
1)	Airplanes equipped with Conventional electromechanical standby instruments	C	2	0	May be inoperative provided a) Pack 1 remains OFF, and b) Flight is conducted at or below FL 250.	
2)	Airplanes equipped with Integrated Standby Instrument System (ISIS) (EP- NEC)	C	2	0	(O) May be inoperative provided: a) Pack 1 remains OFF, b) Pack 2 and its associated Recirculation Fan operate normally, c) Ambient temperature on ground is below ISA +25°C, and d) Flight is conducted at or below FL 250.	

21-60-02 COCKPIT AUTOMATIC AND MANUAL TEMPERATURE CONTROL SYSTEMS

Placard affected Air Conditioning Pack Button "INOP".

OPERATIONAL PROCEDURES

NOTE: The EICAS caution message PACK 1 (2) OVLD may be displayed.

Operational Check of Pack and Recirculation Fan (airplanes with ISIS):

The recirculation fan operates only when the RECIRC switch is ON and the related pack valve is open. Set the RECIRC switch to ON and check that the airflow through the cockpit general outlets increases.

NOTE: The EICAS advisory message BLD 1 (2) VLV CLSD may be displayed.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
60-03	Cabin Automatic and Manual Temperature Control Systems					
1)	Airplanes equipped with Conventional electromechanical standby instruments	C	2	0	May be inoperative provided: a) Pack 2 remains OFF, an b) Flight is conducted at or below FL 250.	
2)	Airplanes equipped with Integrated Standby Instrument System (ISIS) (EP- NEC)	C	2	0	(O) May be inoperative provided: a) Pack 2 remains OFF, b) Pack 1 and its associated Recirculation Fan operate normally, c) Ambient temperature on ground is below ISA +25°C, and d) Flight is conducted at or below FL 250.	

21-60-03 CABIN AUTOMATIC AND MANUAL TEMPERATURE CONTROL SYSTEMS

Placard affected Air Conditioning Pack Button "INOP".

OPERATIONAL PROCEDURES

NOTE: The EICAS caution message PACK 1 (2) OVLD may be displayed.

Operational Check of Pack and Recirculation Fan (airplanes with ISIS):

The recirculation fan operates only when the RECIRC switch is ON and the related pack valve is open. Set the RECIRC switch to ON and check that the airflow through the cockpit general outlets increases.

NOTE: The EICAS advisory message BLD 1 (2) VLV CLSD may be displayed.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
21. Air Conditioning					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
60-04	Cockpit and Cabin Automatic Temperature Control Systems	A	2	0	(O) May be inoperative provided: a) Associated manual temperature control mode operates normally, and b) Repairs are made within 30 flight days.
60-05	COCKPIT AND CABIN MANUAL TEMPERATURE CONTROLSYSTES	A	2	0	May be inoperative provided: a) The associated automatic temperature control mode operates normally, and b) Repairs are made within 30 flight days.
60-06	Attendant's Temperature Control	A	1	0	May be inoperative provided: a) Passenger Cabin Temperature and Mode Selector Knob operates normally, and b) Repairs are made within 30 flight days.

21-60-04 COCKPIT AND CABIN AUTOMATIC TEMPERATURE CONTROL SYSTEMS

Placard associated Temperature Control Mode Knob "AUTO INOP".

OPERATIONAL PROCEDURES

Associated Temperature Control Mode Selector .....MAN

Monitor cabin or cockpit temperature and control it by using the associated Temperature Adjusting Knob.

MAINTENANCE PROCEDURES

None.

21-60-05 COCKPIT AND CABIN MANUAL TEMPERATURE CONTROL SYSTEMS

Placard associated Temperature Control Mode Knob “MAN INOP”.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

Continued……

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
21. Air Conditioning					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

21-60-06 ATTENDANT'S TEMPERATURE CONTROL

Placard Attendant's Temperature Control "INOPERATIVE".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

21. Air Conditioning

Sequence No.	Item	1	2	3	4	Change Bar
61-02	Cockpit and Cabin Temperature Indication Systems	A	2	0	May be inoperative	

21-61-02 COCKPIT AND CABIN TEMPERATURE INDICATION SYSTEM

Placard Air Conditioning and Pneumatic Control Panel "CABIN TEMP IND INOP" or "CKPT TEMP IND INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
22. Auto flight					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
10-00	Autopilot/Flight Director Functions				
1)	Autopilot Function	C	1	0	May be inoperative provided enroute or approach procedures do not require its use. ***RVSM OPERATIONS NOT AUTHORIZED*** ***Autopilot required for CAT II Precision Approaches***
2)	Flight Director Function	C	2	1	One may be inoperative provided enroute or approach procedures do not require its use. NOTE 1: Windshear escape guidance function will be available from remaining flight director. NOTE 2: Either Go-Around Button will be operative. ***Two Flight Directors required for CAT II Precision Approaches*** ***Flying Pilot's Flight Directors required for BRNAV / PRNAV / RNAV*** ***One Flight Director required for RVSM Operations and RNP-APCH.***
		C	2	0	Both may inoperative provided: *Continued…*

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

22. Auto flight						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
					a) Enroute or Approach procedures do not require their use, b) Autopilot is considered inoperative, c) Windshear Escape Guidance is considered inoperative, and d) Go-Around Buttons are considered inoperative. • ***Two Flight Directors required for CAT II Precision Approaches***	
3)	Yaw Damper Function	C	1	0	May be inoperative provided enroute or approach procedures do not require its use. NOTE: Autopilot will not engage with yaw damper inoperative. • **RVSM OPERATIONS NOT AUTHORIZED** • **Yaw Damper required for CAT II Precision Approaches**	

22-10-00 AUTOPILOT/FLIGHT DIRECTOR FUNCTIONS

Placard Flight Guidance Controller "AP/FD/YD INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
22. Auto flight					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
11-01	Flight Guidance Controller Panel				
1)	Flight Director (FD) Buttons	C	2	0	(O) Both may be inoperative.
		C	2	1	
2)	Course Selector Knob	C	2	0	May be inoperative provided
		C	2	1	procedures do not require its use.
3)	(CRS PUSH SYNC) Button	C	2	0	May be inoperative.
4)	Autopilot (AP) Engage Button	C	1	0	May be inoperative provided autopilot function is considered inoperative.
5)	Autopilot Couple (CPL) Button	C	1	0	May be inoperative.
6)	Yaw Damper (YD) Engage Button	C	1	0	(O) May be inoperative provided yaw damper is verified to operate normally.
7)	Heading (HDG) Mode Button	C	1	0	May be inoperative provided procedures do not require its use.
8)	Navigation (NAV) Mode Button	C	1	0	May be inoperative provided procedures do not require its use.
9)	Approach (APR) Mode Button	C	1	0	May be inoperative provided procedures do not require its use.
10)	Low Bank (BNK) Mode Button	C	1	0	May be inoperative provided procedures do not require its use.
11)	Heading Select Knob	C	1	0	May be inoperative provided procedures do not require its use.
12)	Heading Synchronization (HDG PUSH SYNC) Button	C	1	0	May be inoperative provided procedures do not require its use. |

Continued…

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
22. Auto flight					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
13)	Speed Hold (SPD) Mode Button	C	1	0	May be inoperative provided procedures do not require its use.
14)	Flight Level Change (FLC) Mode Button	C	1	0	May be inoperative provided procedures do not require its use. *Autopilot with Automatic Altitude Control required for RVSM Operations.*
15)	Vertical Speed Hold (VS) Mode Button	C	1	0	May be inoperative provided procedures do not require its use.
16)	Speed Selector Control Knob	C	1	0	May be inoperative provided procedures do not require its use.
17)	IAS/M Selector (PUSH IAS/M) Button	C	1	0	
18)	Altitude Hold (ALT) Mode Button	C	1	0	(O) May be inoperative provided: a) Altitude preselect knob operates normally, and b) Procedures do not require its use. *. RVSM OPERATIONS NOT AUTHORIZED*
19)	Altitude Preselect Knob (ASEL)	A	1	0	May be inoperative provided: a) Altitude preselect function is considered inoperative, b) Procedures do not require its use, and c) Repairs are made within 3 flight-days. *. RVSM OPERATIONS NOT AUTHORIZED.*

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

22. Auto flight

Sequence No. Item	1	2	3	4	Change Bar

22-11-01 FLIGHT GUIDANCE CONTROLLER PANEL

Placard affected Flight Guidance Controller button or knob "INOP".

OPERATIONAL PROCEDURES

Flight Director Buttons Inoperative:

In case of no FD indication on PFD, select any button from flight guidance panel (except FD buttons) and it will be indicated on PFD.

Yaw Damper Engage Button Inoperative:

Verify AP and YD indication on PFD with autopilot engaged.

21-11-01-18

Operational Altitude Preselect Knob Check:

On ground, with airplane energized, turn the Altitude Preselect Knob (ASEL) selecting altitudes above and below the field elevation, verify that the selected altitude matches the desired altitude and if is displayed on the top right corner of the PFD.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
22. Auto flight					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-08	Touch Control Steering Button (TCS Sync Buttons)	C	2	0	May be inoperative in the deactivated condition.
11-09	Go-Around Buttons	C	2	0	May be inoperative provided: a) Enroute or approach procedures do not require its use, and b) Affected button is failed in the deactivated condition. NOTE: In case of dual failure, only automatic engagement of windshear escape guidance mode by positioning TLA above 78 degrees operates normally. ***One Go-Around Button required for CAT II Precision Approaches.***

22-11-08 TOUCH CONTROL STEERING BUTTONS (TCS SYNC BUTTONS)

Placard Flight Guidance Controller Panel "LEFT OR RIGHT OR BOTH TCS BUTTON INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

22-11-09 GO-AROUND BUTTONS

Placard Flight Guidance Controller Panel "LEFT or RIGHT or BOTH GA BUTTON INOP".

OPERATIONAL PROCEDURES

CAT I Operation:

None.

CAT II Operation:

Go-Around Button Check:

For CAT II operation, at least one go-around button must be operative.

Before engine start, press the operative Go-Around Button and check that the Takeoff Sub mode become available on the EADI.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
00-00	Communications System (VHF, HF, UHF)				
1)	Very High Frequency (VHF) Communication System	D	3	2	Any in excess of those required may be inoperative provided it is not powered by the Emergency AC Bus, Emergency DC Bus, Battery Direct Bus, or the DC Transfer Bus and not required for emergency procedures.
	Very High Frequency (VHF) Communication System	-	2	2	Must be Operative.
2)	High Frequency (HF) Communication System				N/A
	3) Ultra High Frequency (UHF) Communication System				N/A

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**

23-00-00 COMMUNICATION SYSTEMS (VHF, HF, UHF)

Placard associated control panel "VHF INOP" or "HF INOP" or "VHF INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
15-00	Satellite Communication System (SATCOM)	-	-	0	N/A
20-01	ACARS System	-	-	0	N/A
20-02	ACARS Printer	-	-	0	N/A
21-01	Selective Call System (SELCAL)	-	-	0	N/A
24-00	Controller-Pilot Data Link Communication (CPDLC) 1) Future Air Navigation System (FANS 1/A) (Continued)	-	-	0	N/A

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

23. Communications						
Sequence No.	Item	1	2	3	4	Change Bar

23-15-00 Satellite Communication System (SATCOM)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

23-20-01 ACARS System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

23-21-01 Selective Call System (SELCAL)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

23-24-00 Controller-Pilot Data Link Communication (CPDLC)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
30-01	Passenger Address System				
1)	Passenger Configuration	B	1	0	(O) May be inoperative provided: a) Alternate, normal, and emergency procedures and/or operating restrictions are established and used, and b) Flight crew compartment/cabin interphone system (including audio and visual alerting system) is operative, and c) Operations are conducted with a cabin attendant on duty occupying a cabin attendant seat. NOTE: Any station function(s) that operates normally may be used.
a)	Lavatory Speakers	C	1	0	(O) May be inoperative provided alternate procedures are established and used.

23-30-01PASSENGER ADDRESS SYSTEM (PA)

Placard Digital Audio Panels "PAX ADRS INOP".

OPERATIONAL PROCEDURES

1. Flight Attendants .....Notify.
2. Purser review location and operation of portable megaphones with flight attendants.
3. With the PA inoperative, the Flight Attendant must individually (few seats at a time) brief passengers before takeoff and landing.
4. PRIOR TO EACH DEPARTURE, ensure that all passengers are orally briefed on normal and emergency procedures.
5. Orally brief passengers during flight any time a briefing is required for normal or emergency operations.
6. A megaphone may be used to transmit relevant information to the passengers.

For Emergency:

1. Use of Emergency signals.

Continued….

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
23. Communications					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

2. A megaphone is used to transmit relevant information to the passengers.
3. Brief the Flight Attendants on the following alternate emergency procedures: 4.

Public Address System Inoperative			
Source of Abnormal		Pilot Action	Briefing Items
Flight Deck	Cabin		
Smoke/Fire		Use cabin interphone.	No changes to current procedures. Pilots and flight attendants will use the cabin interphone for communication. Any public announcements will be made by the flight attendants using megaphones.
Emergency Landing		Use emergency signal followed by cabin interphone or face-to-face.	Pilots will use the emergency signal to alert the flight attendants to an emergency situation. Subsequent communication will then be via the interphone or face-to- face, time permitting. The interphone will be used to command an evacuation. Any public announcements will be made by the flight attendants using megaphones.
Ditching			
Evacuation or Rejected Takeoff			
	Smoke/Fire	Use cabin interphone.	No changes to current procedures. Pilots and flight attendants will use the cabin interphone for communication. Any public announcements will be made by the flight attendants using megaphones.
	Hijacking		
	Passenger Problem (Medical/ Disturbance)		

Lavatory Speakers:
Cabin attendant or crewmember will provide oral instructions to lavatory occupants as required.

MAINTENANCE PROCEDURES
None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4.REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
31-01	Crewmember Interphone System(s)				
a)	Flight Deck to Cabin, Cabin to Flight Deck Function	B	1	0	(O) May be inoperative provided: a) Flight deck to cabin and cabin to flight deck interphone functions operate normally on at least 50% of the cabin headsets, and b) Alternate communication procedures between the affected flight attendant stations are established and used. NOTE: Any handset function(s) that operate normally may be used.
b)	Cabin to Cabin Function	B	2	0	(O) May be inoperative provided alternate communication procedures between the affected flight attendant stations are established and used. NOTE: Any handset function(s) that operate normally may be used.
c)	Flight Deck to Ground Function	C	2	0	(O) May be inoperative provided alternate procedures are established and used.

23-31-01 CREWMEMBER INTERPHONE SYSTEM(S)

Placard ICU Panel "CREWMEMBER INTERPHONE INOP".

OPERATIONAL PROCEDURES

Flight Deck to Cabin, Cabin to Flight Deck Functions:

1.Choose one:

a. Cabin interphone system is operative:

Continue normal operation.

b. Cabin interphone system remains inoperative:

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**

1.Choose one:

c. Cabin interphone system is operative:

Continue normal operation.

d. Cabin interphone system remains inoperative:

Go to step 2

2.Notify Flight Attendants.

Contact Flight Purser and establish plan for communications under normal conditions.

Avoid use of PA for direct messages to Flight Attendants except in an emergency. Brief the Flight Attendants on the following alternate emergency procedure:

Cabin Interphone System Inoperative			
Source of Abnormal		Pilot Action	Briefing Items
Flight Deck	Cabin		
Smoke/Fire Emergency Landing Ditching Evacuation or Rejected Takeoff		Use PA.	Use the following procedure if an evacuation is required: Pilots will use the PA to contact the flight attendants. Subsequent communication will be face-to-face, time permitting.
	Smoke/Fire	Monitor PA.	Flight attendant will use the emergency signal to notify pilots to monitor the PA.
	Hijacking		Flight attendant will use the emergency signal to notify pilots to monitor the PA.
	Passenger Problem (Medical/ Disturbance)		Flight attendant will use the emergency signal to notify pilots to monitor the PA. If not possible, flight attendant will come to the flight deck door and use the briefed entry method.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
23. Communications					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

Cabin to Cabin Function

The inoperative crew stations will verbally communicate with the other attendant.

Flight Deck to Ground Function

Proper hand signals) must be used for communication. For example, Standard Marshaller signals:

1) “OK TO START ENGINE”
2) „ GEAR PINS OUT“
3) „ OK TO TAXI“
4) „ SHUT DOWN ENGINE”

The hand signals will be the Marshaller Signals used for Ramp movement.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS .
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**
31-02 Alerting Systems (Audio/Visual)				
1) Flight Deck Call Visual Alerting System	B	1	0	May be inoperative provided the flight deck audio alerting system operates normally. NOTE: The flight deck audio alerting must always be operative.
2) Flight Attendant Visual Alerting System	B	1	0	(O) May be inoperative provided: a) PA system operates normally, b) If affected light is used for lavatory smoke detector alerting, an alternate lavatory smoke alert (audio or visual) is installed and operates normally, and c) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to attendant call system is considered nonessential equipment and furnishing (NEF). NOTE 2: Any visual alerting system function(s) that operates normally may be used.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**
31-02 3) Flight Attendant Audio Alerting System	B	1	0	(O) May be inoperative provided: a) PA system operates normally, b) If affected chime is used for lavatory smoke detector alerting, an alternate lavatory smoke alert (audio or visual) is installed and operates normally, and c) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishing (NEF). NOTE 2: Any audio alerting system function(s) that operates normally may be used.

23-31-02 ALERTING SYSTEMS (AUDIO/VISUAL)

Placard CABIN or CAB EMER Buttons on ICU Panel "LIGHT INOP".
Placard CABIN Button on ICU Panel, PILOT light in the attendant's handset or secondary attendant call panel "LIGHT INOP".
Placard CABIN Button and ICU Panel or PILOT light in the attendant's handset "CHIME INOP".

OPERATIONAL PROCEDURES

1. Flight crew and flight attendant(s) to conduct pre-departure briefing to establish alternate cabin communications procedures.
2. Consider use of PA for alternate communications.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
31-03	Handset Systems				
1)	Flight Deck	C	1	0	(O) May be inoperative provided: a) Flight deck to cabin communication operates normally, and b) Alternate procedures are established and used.
		D	2	0	May be inoperative provided procedures do not require its use.
2)	Cabin	B	2	1	O) May be inoperative provided: a) 50% of cabin handsets operate normally, and b) Alternate communications procedures between the affected flight attendants station(s) are established and used. **NOTE 1**: An operative handset at an inoperative flight attendant seat shall not be counted to satisfy the 50% requirement. **NOTE 2**: Any handset(s) function(s) that operate normally, may be used.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
23. Communications					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

23-31-03 HANDSET SYSTEM(S)

Placard Attendant's Handset "INOP".

OPERATIONAL PROCEDURES

Flight Deck

Consider use of PA for alternate communications.

Cabin Attendant Handsets

Flight Attendant occupying seat with inoperative handset will establish communication with Flight Attendant occupying the position with an operative handset., the pilot in command should brief cabin crew members on the alternate procedures to be used.

i) Prior to flight PIC must brief the purser and cabin crew of the unserviceable station and to use the nearest operative cabin interphone system to communicate with the flight deck.

ii) Any handset function that operates normally may be used.

iii) Use the nearest operative cabin interphone handset to communicate with the flight deck /other cabin crew.

iv) If forward station handset not working, then cockpit crew can be informed physically by entering the cockpit through cockpit door access panel. Communication with the Aft station can be established by pressing crew call from passenger seat three times (three chimes will sound in the cabin) or in an emergency by using megaphone. This procedure must be verified with the PIC before flight.

v) If forward station handset not working then crew at aft station can use P.A. to contact the forward crew.

vi) If one Aft station hand set not working then the inoperative crew station will verbally communicate with the attendant with working handset.

vii) Aft cabin crew to use the operative handset for communication.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
32-02	Prerecorded Passenger Announcement System (SSPRAM)	D	1	0	(O) May be inoperative provided alternate procedures are established and used.

23-32-02 PRE-RECORDED PASSENGER ANNOUNCEMENT SYSTEM

Placard Entertainment System Panel "INOP".

OPERATIONAL PROCEDURES

Flight Attendants will make all preflight announcements through the Passenger Address System or by direct communication with all passengers in each cabin.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**
33-01 Passenger Cabin Speakers	C	32	18	May be inoperative provided any seat from which a passenger cannot clearly hear a passenger address announcement is not occupied. and placarded DO NOT OCCUPY.
	B	32	0	May be inoperative provided passenger address system is considered inoperative. (refer to MEL item 23-30-01-01).

23-33-01 PASSENGER CABIN SPEAKERS

Placard Digital Audio Panels "PAX SPEAKERS INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
51-03	Push to Talk (PTT) (Button on Glareshield Panel Control Wheel)	C	4	2	One button at each station must be operative.
51-04	Flight Deck Speakers	C	2	0	May be inoperative provided: a) A headset is operative for each required crewmember on flight crew compartment duty, and b) A spare operative headset is readily available in the flight crew compartment for use by any of the required crewmember on flight crew compartment duty.
51-05	Flight Deck Headsets	D	3	2	Any in excess of those required for each person on flight deck duty may be inoperative or missing.
51-07	Hand Microphones	D	2	0	May be inoperative provided associated boom microphones operate normally.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**

23-51-00,03,04,05,07 DIGITAL AUDIO PANEL

Placard Digital Audio Panel "INOP". Placard
affected PTT Button "INOP".
Placard Digital Audio Panels "FLT DECK SPEAKERS INOP". Placard
affected headset "INOP".
Placard pilot's Jack Panels "HAND MIC INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
51-12	Boom Microphones				
1)	Pilot and copilot's boom microphones	A	-	0	May be inoperative provided: a) Hand microphones are installed and operate normally, b) Flight Data Recorder operates normally, and c) Repairs are made within 3 flight days.
2)	Third crew member's boom microphone	D	-	0	May be inoperative provided observer seat is not occupied.
3)	Boom microphone(s) in excess of those required by regulations	D	-	0	May be inoperative.

23-51-12 Boom Microphones

OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**
71-00 Cockpit Voice Recorder System	A	1	0	May be inoperative provided: a) Flight Data Recorder (FDR) operates normally, and b) Repairs are made within 3 flight days.

23-71-00 Cockpit Voice Recorder System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
23. Communications					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
73-00	Video Surveillance System (VSS)	-	-	-	N/A
1)	Video Unit	-	-	-	N/A
2)	Video Camera	-	-	-	N/A
80-00	Radio Management Units (RMU)				
1)	NAV/Comm Tuning Function	C	2	1	One may be inoperative.
2)	Memory Function	C	2	0	May be inoperative provided tuning function operates normally.

23-73-00 Video Surveillance System (VSS)

OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

23-80-00 RADIO MANAGEMENT UNITS (RMU'S)
Placard associated RMU Bezel "NAV/COM TUN INOP" or "MEM FUNC INOP".

OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
23. Communications				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**
81-02 Tuning Backup Control Head	C	1	0	May be inoperative provided both radio management units operate normally.

23-81-02 TUNING BACKUP CONTROL HEAD

Placard Tuning Backup Control Head Panel "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
24. Electrical Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-01	Generator Current Indications	C	4	2	(O) One may be inoperative on each side provided: a) Associated voltage indication operates normally, and b) The remaining generator of the same side or APU generator is fully operative.
20-02	Generator Voltage Indications	C	4	2	One may be inoperative on each side provided associated current indication operates normally.
20-03	AC Inverter	A	1	0	May be inoperative provided: a) GPWS/windshear powered by 115V AC is considered inoperative, b) TCAS powered by 115V AC is considered inoperative, and c) Repairs are made within 2 flight-days. NOTE: The Pax AC Static Inverter installed in the entertainment cabinet is considered Passenger Convenience Item.

Continued……

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

24. Electrical Power

Sequence No.	Item	1	2	3	4	Change Bar

24-20-01GENERATOR CURRENT INDICATIONS

Placard affected Generator Button "CURRENT IND INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

24-20-02 GENERATOR VOLTAGE INDICATIONS

Placard affected Generator Button "VOLT IND INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

24-20-03 AC STATIC INVERTER

Placard AC PWR Button "INOP" and placard PFD Bezel "GPWS/TCAS INOP".

NOTE: - TCAS may be electric fed by either inverter or DC Bus. Only TCAS powered by the inverter is considered inoperative.

- GPWS/Windshear may be fed by DC bus or AC bus. Only GPWS/Windshear powered by AC bus is considered inoperative.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
24. Electrical Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
31-01	Engine Driven Generators	C	4	3	(M) One may be inoperative provided APU generator operates normally and is used to replace the affected generator during takeoff and landing.
31-02	Engine Driven Generator Bearings	A	4	3	Advisory message GEN BRG FAIL may be present for one generator provided: a) EICAS caution message GEN OFF BUS for the affected generator was not displayed during the previous flight, and b) Repairs are made within 20 flight-hours.

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2.	NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH		
				4.REMARKS OR EXCEPTIONS	
24. Electrical Power					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

24-31-01 ENGINE DRIVEN GENERATORS

Placard affected Generator Button "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. These procedures are to help maintenance to identify the faulty generator, that carries all loads and avoid dispatch the airplane with the good generator (zero load) inoperative.

The following maintenance procedures should be accomplished only if flight crew reports a continuous contactor switching noise with an unusual generating indication and no associated EICAS message. In this case, the faulty generator is absorbing the entire load while operating in parallel with other in good condition. In this condition, the voltage and current indication on MFD Electrical page of the faulty generator indicates that it is carrying all loads, while the voltage and current indication on MFD Electrical page of the good generator indicates zero load. In this failure mode, the unloaded generator

remains connected to the DC Bus. Its line contactor cycles and there is no GEN OFF BUS message. In order to identify the faulty generator, proceed as follows:

- BUS TIES Switch.....OFF
- All GEN Button.....ON
- Voltage and Current
  (All Generators - on MFD).....CHECK

If there is any generator carrying all the load:

- Affected GEN Button.....OFF
- BUS TIES Switch.....ON
- Voltage and Current
  (Remaining 3 Generators - on MFD).....CHECK

If the 3 remaining generators are operating normally, disconnect the affected generator of the respective DC Bus by releasing its button on the Electric System Panel.

Additionally, pull and safety affected generator GEN 1 (2, 3 or 4) POR and GEN 1 (2, 3 or 4) OUTVOLT Circuit Breakers.

TABLE KEY					
	1. REPAIR CATEGORY				
		2.	NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH		
				4.REMARKS OR EXCEPTIONS	
24. Electrical Power					
Sequence No.	Item	1	2	3	4 Change Bar

GENERATOR	CIRCUIT BREAKERS
1	E8 and E9 Left DC Distribution Box
2	E8 and E9 Right DC Distribution Box
3	D8 and D9 Left DC Distribution Box
4	D8 and D9 Right DC Distribution Box

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

24. Electrical Power

Sequence No.	Item	1	2	3	4 Change Bar
34-01	APU Starter Generator				
1)	Starter Function	D	1	0	May be inoperative provided APU is considered inoperative.
2)	Generator Function	D	1	0	May be inoperative provided engine driven generators operate normally.

24-34-01 APU STARTER GENERATOR

In case of Generator Function failure, placard APU Starter Generator Button "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
24. Electrical Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
37-00	DC/DC Power Conversion System	D	1	0	May be inoperative provided protective cover is used to cover the 12V DC plug receptacle during flight.

24-37-00 DC/DC POWER CONVERSION SYSTEM

Placard "DO NOT USE IN FLIGHT".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

24. Electrical Power

Sequence No.	Item	1	2	3	4 Change Bar
40-00	External Power System	C	1	0	May be inoperative.
1)	GPU AVAIL Lights	C	2	0	May be inoperative.

24-40-00 EXTERNAL POWER SYSTEM

Placard GPU Button "GPU SYS INOP" or "GPU AVAIL LIGHT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-00	Eye Locator	C	1	0	May be inoperative.
11-01	Flight crew Seats				
1)	Vertical Adjustments	D	2	0	(M)(O) May be inoperative provided: a) System is deactivated, and b) Manual seat adjustment operates normally.
		D	2	0	(O) Manual seat adjustment may be inoperative provided power seat adjustment operates normally.
		C	2	0	(M)(O) Power and Manual seat adjustments may be inoperative provided: a) Seat(s) is locked in a position that permits normal pilot's visibility, b) Full flight control movement is available, and c) Position of seat is acceptable to flight crew.
2)	Lumbar Supports	D	2	0	May be inoperative provided seat is acceptable to affected crewmember.
3)	Armrests	D	4	0	May be inoperative.
4)	Recline Functions	D	2	0	May be inoperative provided seat is acceptable to affected crewmember.
5)	Lateral Adjustments	D	2	0	May be inoperative with the seat at the central position provided fore/aft adjustments are operative and seat is acceptable to affected crewmember.
6)	Aft/Fore Adjustment Levers	D	2	1	One lever per seat may be inoperative or broken provided: a) The remaining lever on seat operates normally, and b) The inoperative or broken lever on affected seat does not pose a hazard to the crew or interfere with proper seat operation.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
7)	Thigh Support	D	4	0	May be inoperative provided seat is acceptable to affected crewmember.	

25-11-00 EYE LOCATOR

Placard on windshield central frame top "EYE LOCATOR REMOVED".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

25-11-01 FLIGHT CREW SEATS

Placard the affected seat control "INOP".

OPERATIONAL PROCEDURES

In case of vertical power seat adjustment failure, use the manual system to adjust the seat.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. In case of vertical power seat adjustment failure, pull and safety the associated SEAT ADJUST circuit breaker (E5 or E28).

NOTE: Some airplanes may present a different circuit breaker positioning configuration. Specific configuration may be found in the Aircraft Maintenance Manual (AMM).

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4	Change Bar
11-02	Observer Seat (Including Associated Equipment)	D	1	0	May be inoperative provided the affected seat is not occupied and is correctly stowed.	

25-11-02 OBSERVER´S SEAT (INCLUDING ASSOCIATED EQUIPMENT)

Placard observer's seat "OBSERVER'S SEAT INOP - DO NOT OCCUPY". If required, placard one passenger seat "RESERVED".

NOTE: If the Oxygen System Pressure is insufficient for three cockpit occupants, the observer seat must be considered inoperative.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
11-04	Cabin Attendant Seat				
1)	Standard Cabin Attendant Seat	C	1	0	(M)(O) May be inoperative provided: a) Associated seat position is not occupied, b) Cabin Attendant displaced by inoperative seat occupies the passenger seat closest to his/her duty station, c) Alternate procedures are established for displaced flight attendant, d) Folding type seat is stowed or secured in the retracted position, and e) Passenger seat assigned to flight attendant is placarded "FOR CABIN ATTENDANT USE ONLY". **NOTE 1:** A folding seat that will not stow automatically is considered inoperative. **NOTE 2:** A seat with a missing or inoperative lap belt and/or shoulder harness is considered inoperative. **NOTE 3:** The above provisos apply only to required cabin attendants. Seat positions in excess of those required may be inoperative provided they are properly stowed or secured in the retracted position.

Continued….

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-04	Flight Attendant Seat Assembly				
2)	Second Cabin Attendant Seat	D	1	0	(M)(O) May be inoperative provided: a) Associated seat position is not occupied, and b) Folding type seat is stowed or secured in the retracted position. **NOTE 1:** A folding seat that will not stow automatically is considered inoperative. **NOTE 2**: A seat with a missing or inoperative lap belt and/or shoulder harness is considered inoperative.

25-11-04 CABIN ATTENDANT SEAT

Placard Attendant's Seat "INOP - DO NOT OCCUPY". Placard assigned passenger seat "FOR FLIGHT ATTENDANT ONLY".

OPERATIONAL PROCEDURES

Flight Attendant will occupy the passenger seat closest to her duty station. Upon completion of before takeoff cabin announcements and cabin inspection, Flight Attendant will notify the captain that it is ready for departure. Captain will allow the Flight Attendant to be seated before takeoff roll. All other Flight Attendant procedures remain the same.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. The seat may be secured in the stowed position by using seat belt/shoulder harness or secured with baggage tape or equivalent.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
12-01	Sun visors	D	2	0	May be inoperative or missing provided there are no visual restrictions to flight crew.
12-02	Cockpit Convenience Item(s)	D	-	0	Cockpit convenience items, as expressed in this MEL, are those items related to crewmember convenience or comfort such as, but not limited to: cup holders, ashtrays, footrests, etc. Items addressed elsewhere in this document shall not be included.
12-03	Lighted/Mechanical Checklist	C	2	0	
12-04	Chart Holders	D	4	0	May be inoperative or missing at each pilot station.
21-05	Passenger Seat(s)	D	-	9	May be inoperative or missing provided one is available at each pilot station. May be inoperative provided: a) Seat does not block an Emergency Exit, b) Seat does not restrict any passenger from access to the main aircraft aisle, and c) The affected seat(s) are blocked and placarded "DO NOTOCCUPY".

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4 Change Bar
21-05	Passenger Seat(s)				NOTE 1: A seat with an inoperative seat belt is considered inoperative. NOTE 2: Inoperative seats do not affect the required number of Flight Attendants. NOTE 3: Affected seat(s) may include the seat(s) behind and/or adjacent outboard seats.
1)	Recline Mechanism	D	-	-	(M) May be inoperative and seat occupied provided seat is secured in the up-right position.
		C	-	-	(M) May be inoperative and seat occupied provided seat back is immovable in full up-right position.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS
25. Equipment/Furnishings				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**
21-05 Passenger Seat(s) (Continued) 2) Under seat Baggage Restraining Bars	C	32	-	(o) May be inoperative provided: a) Baggage is not stowed under seat with inoperative restraining bar, b) Associated seat is placarded "DO NOT STOW BAGGAGE UNDER THIS SEAT", and c) Procedures are established to alert Cabin Crew of inoperative restraining bar.
3) Armrest a) Armrest With Recline Mechanism	c	-	0	(M) May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, b) Armrest does not restrict any passenger from access to the main aircraft aisle, and If armrest is missing, seat is secured in the full upright position.
b) Armrest Without Recline Mechanism	c	17	-	(M) May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, and b) Armrest does not restrict any passenger from access to the main aircraft aisle.
4) Rear Facing Executive (Single and/or Double)		-	-	N/A
5) Forward Facing Executive Double Seat (in front of Conference Table)		-	-	N/A

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No. Item	1	2	3	4	Change Bar

25-12-01 SUNVISORS

If not missed, placard the affected sun visor "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

25-12-02 COCKPIT CONVENIENCE ITEMS

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

25-12-03 LIGHTED/MECHANICAL CHECKLIST

Placard the affected Mechanical Checklist Panel "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

25-12-04 CHART HOLDERS

If not missing, placard the affected Chart Holder "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

25-21-05 Passenger Seat(s)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4 Change Bar
22-00	Overhead Storage Bin(s)/Cabin and Galley Storage Compartment/Closets	C	-	0	(M) May be inoperative provided: a) Procedures are established to secure compartment OPEN or affected door(s) isremoved b) Associated bin or compartment is prominently placarded DO NOT USE, c) Any emergency equipment located in affected compartment is considered inoperative, d) Affected bin or compartment is not used for storage of any item(s) except for those permanently affixed, e) Procedures are established and used to alert crewmembers and passengers of inoperative bins, and f) Passengers are briefed that associated bin or compartment is not used. **NOTE 1:** If no partitions are installed, the entire overhead storage compartment is considered one bin. **NOTE 2:** Any emergency equipment located in the associated compartment (permanently affixed) may be available for use in case of overhead bin secured OPEN or REMOVED. *Continued…*

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4 REMARKS OR EXCEPTIONS	
				.	
25. Equipment/Furnishings					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**

25-22-00 OVERHEAD STORAGE BIN(S)/CABIN AND GALLEY STORAGE COMPARTMENT/ CLOSETS

Placard Overhead Bin "INOPERATIVE DO NOT USE".

OPERATIONAL PROCEDURES

Notify Flight Attendant that no items are to be stowed in the affected compartment.

MAINTENANCE PROCEDURES

Overhead Bin removal:

Perform TASK 25-22-03-000-801-A (AMM) for overhead bin removal.

Overhead Bin secured closed or open:

May be flight crewmember accomplished. As required to secure the overhead bin door open or closed. The door may be secured closed or open using suitable self-adhesive tape applied vertically over the bin latch with an overlap of at least ten centimeters above and below from the latch.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4	Change Bar
26-07	Baggage Compartment Partition Door	C	1	0	N/A	

25-26-07 BAGGAGE COMPARTMENT PARTITION DOOR

Placard Baggage Compartment Partition Door "INOPERATIVE DO NOT USE".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4 Change Bar
27-02	Lavatory Bulkhead Peephole	D	1	0	May be inoperative provided only view capability is obstructed. **NOTE:** The lavatory bulkhead peephole must be in place and not broken.
		C	1	0	(M) May be broken, missing or removed provided: a) The baggage compartments remain empty or, b) The hole is blocked by an approved means.
27-09	Forward Attendant Control Panel Cover	D	1	0	May be inoperative with no penalty provided the cover is removed.

25-27-02 LAVATORY BULKHEAD PEEPHOLE

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 25-27-02-300-801-A (AMM) to repair the forward baggage compartment partition.

25-27-09 FORWARD ATTENDANT CONTROL PANEL COVER

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4 Change Bar
30-01	Galley Waste Receptacles Access Doors/Covers	C	1	0	(M)(O) May be inoperative provided: a) The container is empty and the access is secured to prevent waste introduction into the compartment, and b) Procedures are established to ensure that sufficient galley waste receptacles are available to accommodate all waste that may be generated on a flight.

25-30-01 GALLEY WASTE RECEPTACLES ACCESS DOORS/COVERS

Placard Waste Door Assembly "INOP".

OPERATIONAL PROCEDURES

1. Advise cabin attendant and passengers of inoperative waste receptacle.
2. Provide alternate waste receptacle for passengers and stow PRIOR TO TAKEOFF AND LANDING.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. As required to secure the door in the closed position.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
40-00	Exterior Lavatory Doo Ashtrays				
1)	Airplanes with only one exterior lavatory door ashtrays installed	A	1	0	One or more may be missing or inoperative provided it is replaced within 3 consecutive calendar days.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
50-01	Cargo Restraint Systems	D	1	0	May be missing or removed provided baggage compartment remains empty.
1)	Horizontal Net	C	1	0	May be missing or removed provided alternate or approved means to avoid cargo shifting are installed. NOTE 1: Baggage compartment loaded up to 990 kg does not require the use of horizontal net.
2)	Vertical Net	D	1	0	NOTE: The vertical net(s) and attachments are optional and may be removed or installed by the operator at their discretion.
3)	Door Safety Net	C	1	0	May be inoperative or missing provided cargo restraint net (horizontal net) is available and used.

25-50-01 CARGO RESTRAINT SYSTEMS

Register in the appropriate logbook for reinstallation actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
60-02	Passenger Convenience/NEF Item(s)	D	12	0	Passenger convenience items, as expressed in this MEL are those items related to passenger convenience, comfort or entertainment such as, but not limited to: galley equipment, movie equipment, ashtrays, stereo equipment, overhead reading lamps. Items addressed elsewhere in the document shall not be included. (M) or (O) procedure may be required and are included within this MEL item. NOTE: Exterior lavatory door ashtrays are not considered passenger convenience items.
60-04	Life Raft	-	-	-	N/A
60-05	Flight Deck/Attendant Flashlight and Holder Assemblies	C	4	0	May be inoperative or missing provided affected crewmember has a flashlight of equivalent characteristics readily available.
60-06	Megaphones	D	1	0	(M)(O) Any in excess of those required by regulations may be inoperative or missing provided: a) Inoperative megaphone and its installed location are placarded inoperative, b) Inoperative megaphone is removed from the passenger cabin, and c) Procedures are established and used to alert crewmembers of inoperative or missing equipment.

Continued…

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
25. Equipment/Furnishings					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
60-07	Pyrotechnic Signal Devices	-	-	-	N/A
60-09	Emergency Medical Equipment				
1)	First Aid Kit (FAK) and/or Associated Equipment	-	1	1	(O) If more than one is required by local regulations, only one of the required first aid kits may be incomplete, missing or inoperative provided
60-10	"Fasten Seat Belts While Seated" Signs or Placards	C	-	9	May be illegible or missing provided a legible sign or placard is readable from each occupied passenger seat.

25-60-02 PASSENGER CONVENIENCE ITEM(S)
Placard affected item "INOP".

OPERATIONAL PROCEDURES
Advise passengers of inoperative equipment to prevent inadvertent use.
Cabin attendant may need to perform live/manual cabin safety briefing, depending on failure condition.

MAINTENANCE PROCEDURES
Inoperative or damaged items should be removed, deactivated or secured as necessary to ensure item presents no hazard to passengers or crewmembers.

25-60-05 FLIGHT DECK/ATTENDANT FLASHLIGHT HOLDER ASSEMBLIES
Placard affected Flight Deck/Attendant Flashlight Holder Assembly "INOP" or "REMOVED".

OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings				
Sequence No. Item	1	2	3	Change Bar

25-60-06 MEGAPHONE

Placard associated Megaphone assembly "MEGAPHONE REMOVED".

OPERATIONAL PROCEDURES

Alert crewmembers of inoperative or missing megaphone.

Depending on the number of passenger seats installed, the number of required megaphones is ZERO.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. As required to provide instructions to placard the inoperative megaphone and its installed location, and to secure the megaphone in an out of sight location.

25-60-09 Emergency Medical Equipment

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

25-60-10 "Fasten Seat Belts While Seated" Signs or Placards

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4 Change Bar
61-01	Emergency Locator Transmitter (ELT)	A	1	1	May be inoperative or missing for a maximum of one flight for returning to the base.

25-61-01EMERGENCY LOCATOR TRANSMITTER (ELT)

Placard ELT panel "ELT INOP" or "ELT NOT INSTALLED".

OPERATIONAL PROCEDURES

According to MMEL remarks.

MAINTENANCE PROCEDURES

Remove ELT from its location. Place the inoperative ELT out of sight so it cannot be mistaken for a functional unit.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

25. Equipment/Furnishings

Sequence No.	Item	1	2	3	4 Change Bar
64-02	Flotation Equipment (Crew and Passenger)	D	-	0	May be inoperative for flights over land (including takeoff and landing).

25-64-02 Flotation Equipment (Crew and Passenger)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

26. Fire Protection

Sequence No.	Item	1	2	3	4 Change Bar
12-00	APU Fire Detection System	C	1	0	May be inoperative provided APU is considered inoperative.

26-12-00 APU Fire Detection System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
26. Fire Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
14-00	Lavatory Smoke Detection System				
1)		C	1	0	(M) For each lavatory, the lavatory smoke detection system may be inoperative provided lavatory fire extinguisher system operates normally.
2)		C	1	0	(M)(O) For each lavatory, the lavatory smoke detection system may be inoperative provided: a) Lavatory waste receptacle is empty, b) Lavatory door is locked, closed and placarded "INOPERATIVE - DO NOT ENTER", and c) Lavatory is not used for any purpose. **NOTE:** These provisos are not intended to prohibit lavatory inspections by crewmembers.

26-14-00 LAVATORY SMOKE DETECTION SYSTEM

Placard Lavatory Door "INOPERATIVE - DO NOT ENTER", if applicable.

OPERATIONAL PROCEDURES

According to the MEL remarks.

MAINTENANCE PROCEDURES

Lavatory Fire Extinguisher Bottle Pressure check:

May be flight crewmember accomplished. Perform TASK 26-25-01- 200-801-A (AMM) to inspect and check the Lavatory Waste Auto-Fire Extinguisher Bottle.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
26. Fire Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
15-00	Baggage Compartment Smoke Detection System				
1)	Baggage Compartment Smoke Detection System Airplanes equipped with Class D Baggage Compartment	C	1	0	May be inoperative provided cargo compartment remains empty.
2)	Airplanes equipped with Class C Baggage Compartment	C	1	0	May be inoperative provided cargo compartment remains empty.
3)	Airplanes equipped with Class B Baggage Compartment	C	1	1	May be inoperative provided: a) Cabin to baggage compartment door remains CLOSE, and b) Procedures are established and used to ensure the cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (items for avionics, hydraulics, electrical systems, and cabin equipment)
15-10	Baggage Compartment Smoke Detector Protective Bar	B	2	0	May be inoperative provided: a) Protective bar does not contact the smoke detector, b) Baggage compartment smoke detector is checked before each flight, and c) The higher horizontal net is installed and no load is over the net.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

26. Fire Protection						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**

26-15-00 BAGGAGE COMPARTMENT SMOKEMDETECTION SYSTEM

Placard Fire Detection/Extinguishing Panel "BAGG SMOKE DET INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

For airplanes equipped with "Class-C" baggage compartment:

May be flight crewmember accomplished. Deactivate Baggage Recirculation Fan as follows:

– On the circuit breaker panel, open the MISCELLANEOUS/ BAGGAGE RECIRC FAN Circuit Breaker and attach a do-not-close tag on it.

– Confirm that the Recirculation Fan is deactivated. Pull and collar BAGG SMOKE DET circuit breaker.

26-15-10 BAGGAGE COMPARTMENT SMOKE

DETECTOR PROTECTIVE BAR

Placard as appropriate.

OPERATIONAL PROCEDURES

None

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

26. Fire Protection

Sequence No.	Item	1	2	3	4 Change Bar
21-01	Engine Fire Illumination Handle	C	2	0	(O) May be inoperative provided associated EICAS fire message, Master Warning lights and Aural warning are checked and operate normally
21-02	E1(2) EXTBTLA(B) INOP Caution Messages	B	4	2	(M) One or two messages may be inoperative provided engine fire protection systems A and B are verified operational once each flight-day.

26-21-01 Engine Fire Illumination Handle

OPERATIONAL PROCEDURES

None

MAINTENANCE PROCEDURES

None.

26-21-02 E1 (2) EXTBTLA (B) INOP CAUTION MESSAGES

Placard on associated Engine Fire Detection/Extinguishing Panel "E1 (or 2) EXTBTLA (or B) INOP MESSAGE NOT AVAIL".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Engine Fire Extinguishing System Functional Check:

Perform TASK 26-21-00-700-801-A (AMM) for engine fire extinguishing system functional check.

For airplanes Pre-Mod. SB 145-26-0007, if the EICAS message are triggered only when flying above FL 240, going off below such altitude, it may be a spurious message associated with an improper operation of the fire extinguishing bottle pressure switch. In this case, replace the task above by the following check:

- Perform once a continuity and isolation check on the wiring from the GS0827DC to the pin # A-14/ connector J1018 (DAU-2) and from GS0826DC to the pin # A-14/ connector J1020 (DAU-2).

Wiring Manual (WM) references 26-21-50 and 26-21-51. Check no fault found.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
26. Fire Protection					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**

Engine Fire Extinguishing Bottles Pressure Check:

The respective manometers of the affected extinguisher bottles must be checked before the first flight of each calendar day. For dispatch purpose the fire extinguisher bottles minimum pressure must be higher than values presented on the table below.

Temperature		Gauge Pressure Indication Minimum Pressure (psi)
°C	°F	
-54 to -40	-65 to -40	300
-29	-20	350
-18	0	400
-7	20	450
4	40	500
16	60	550
21 to 27	70 to 80	600
38	100	700
49	120	800
60	140	900

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
26. Fire Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
22-00	APU Fire Extinguishing System	C	1	0	May be inoperative provided APU is considered inoperative.
22-01	APU EXTBTL INOP Caution Message	C	1	0	(M) May be inoperativeprovided an alternate procedure is performed once each flight day to verify that the APU extinguishing bottle is operational.
1)		C	1	0	May be inoperative provided APU is not used.

26-22-00 APU FIRE EXTINGUISHING SYSTEM

Placard APU Panel "APU FIRE EXTING INOP - DO NOT USE APU".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

26-22-01 APU EXTBTL INOP CAUTION MESSAGE

Placard APU Fire Detection/Extinguishing Panel "APU EXTBTL INOP NOT AVAIL".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 26-22-00-700-801-A or 26-22-00-700-802-A (AMM) for testing the APU Fire Extinguishing System.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
26. Fire Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
23-00	Baggage Compartment Fire Extinguisher System	C	1	0	(M) May be inoperative provided cargo compartment remains empty.
		C	1	0	(M) May be inoperative provided: a) Ventilation system remains closed, b) Live animals are not carried in the cargo compartment, and c) Only non-combustible materials are carried. **NOTE:** Does not preclude the carriage of empty cargo containers, pallets, ballast, etc.
23-01	Portable Fire Extinguishers	D	3	1	

26-23-00 BAGGAGE COMPARTMENT FIRE EXTINGUISHER SYSTEM

Placard Fire Detection/Extinguishing Panel "BAGG EXTG INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

For airplanes equipped with "Class-C" baggage compartment:

May be flight crewmember accomplished. Baggage Recirculation Fan Deactivated:

- On the circuit breaker panel, open the MISCELLANEOUS/ BAGGAGE RECIRC FAN circuit breaker and attach a do-not-close tag on it.
- Confirm that the Recirculation Fan is deactivated.
- Pull and collar BAGGAGE FIRE EXTG circuit breaker if required.

26-23-00 Portable Fire Extinguishers

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

26. Fire Protection						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
23-01	Portable Fire Extinguishers	D	3	1	(M)(O) Any in excess of those required may be inoperative or missing provided: a) The inoperative hand fire extinguisher is removed from the aircraft and its installed location is placarded inoperative; or it is removed from the installed location, secured out of sight, and the hand fire extinguisher and its installed location are placarded inoperative, b) Required distribution of operative units is maintained throughout the aircraft, and c) Procedures are established and used to alert crewmembers of inoperative or missing equipment.	

26-23-01 PORTABLE FIRE EXTINGUISHER
Placard the associated Portable Fire Extinguisher "INOP" or "REMOVED", near its normal storage place.
OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

26. Fire Protection

Sequence No.	Item	1	2	3	4 Change Bar
25-00	Lavatory Fire Extinguisher Systems	C	1	0	(O) For each lavatory, the lavatory fire extinguisher system may be inoperative provided: a) Lavatory waste receptacle is empty, b) Lavatory door is locked closed and placarded "INOPERATIVE - DO NOT ENTER", and c) Lavatory is used only by crewmembers. NOTE 1: These provisos are not intended to prohibit lavatory use or inspections by crewmembers.

26-25-00 LAVATORY FIRE EXTINGUISHER SYSTEM

Placard lavatory door "INOPERATIVE - DO NOT ENTER", if applicable.

OPERATIONAL PROCEDURES

Lavatory Smoke Detector System test:

TEST Button .....PRESS

Check that the following test indications are activated:

- SMOKE red alarm light on the lavatory smoke detector panel.
- Horn activated on lavatory smoke detector panel.
- LAV SMOKE warning message on EICAS.
- Normal operation green light extinguished.

HORN RESET Button ..... PRESS

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. Check that lavatory waste receptacle is empty.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

27. Flight Controls

Sequence No.	Item	1	2	3	4 Change Bar
10-01	Aileron Dampers	C	2	0	(M) May be inoperative provided: a) The affected damper(s) is deactivated, and b) Visual inspection of the affected PCA rod ends and fittings are performed according to the latest approved revision of AD 1999-02-01.

27-10-01 AILERON DAMPERS

Placard Aileron Damper "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Aileron Damper Deactivation: Perform TASK 27-12-03-040-801-A (AMM) for Aileron Damper Deactivation. Aileron Damper Visual Inspection: Perform the visual inspection of the affected PCA rod ends and fittings according to the lasted approved revision of the AD 99-05-04.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
14-00	Roll Trim Position Indication	C	1	0	(O) May be inoperative provided: a) Roll trim is verified to be centered before each departure, and b) Yaw trim position indication operates normally.

27-14-00 ROLL TRIM POSITION INDICATION

Placard Roll Trim Switch "POSITION INDICATION INOP".

OPERATIONAL PROCEDURES

Aileron in Neutral Position check:

–Airplane..... DEENERGIZED
–Control Wheels .....NEUTRAL POSITION
–Ailerons. .....NEUTRAL POSITION
–Airplane..... ENERGIZE
–Roll Trim Switch..... RELEASED
–Electric Hydraulic Pumps..... ON
–Control Wheels .....NEUTRAL POSITION
–Ailerons. .....NEUTRAL POSITION

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
15-00	Aileron Disconnection Light	C	1	0	(O) May be inoperative provided a check is made before each takeoff to verify that both ailerons are connected.

27-15-00 AILERON DISCONNECTION LIGHT

Placard AIL DISC Caution Light "INOP".

OPERATIONAL PROCEDURES

Aileron Mechanical Interconnection check:

Left Control Wheel.....HOLD FIRMLY IN NEUTRAL POSITION
Right Control Wheel ..... TRY TO TURN LEFT AND RIGHT
If relative movement between both control wheels is not observed, then the aileron mechanical interconnection is connected.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
21-03	Pedal Adjustment Mechanisms	C	2	0	(M)(O) May be inoperative provided rudder pedals can be adjusted to suit individual pilot requirements and is acceptable to the flight crew member.

27-21-03 PEDALS ADJUSTMENT MECHANISMS

Placard associated Pedal Adjustment Switch "INOP".

OPERATIONAL PROCEDURES

With seats adjusted, check pedals for full travel. If the extreme pedal positions cannot be reached, readjust the seat or report to the maintenance personnel for pedal adjustment.

MAINTENANCE PROCEDURES

– Make sure that the aircraft is safe for maintenance.
– Do not do other tasks on the rudder system.
– Make sure the CB0383 (E5) is opened.
– Remove cockpit underfloor access hatch 123BL (AMM 06-41- 01/101).
– In the interconnection pedal assembly, locate the pedal regulator guide. Inside the guide there will be a pedal regulator spindle.

Using an 1/4" wrench, turn slowly clockwise or counterclockwise to move the rudder pedal assembly forward or rearward to suit the pilot requirements.

NOTE: Make sure that the 1/4" wrench fits in the protruded end of the spindle to avoid any damage to the component.

– Once finished the adjustment, install cockpit underfloor access hatch 123BL (AMM 06-41-01/101).
– Close CB0383 (E5) and return the aircraft back to service.

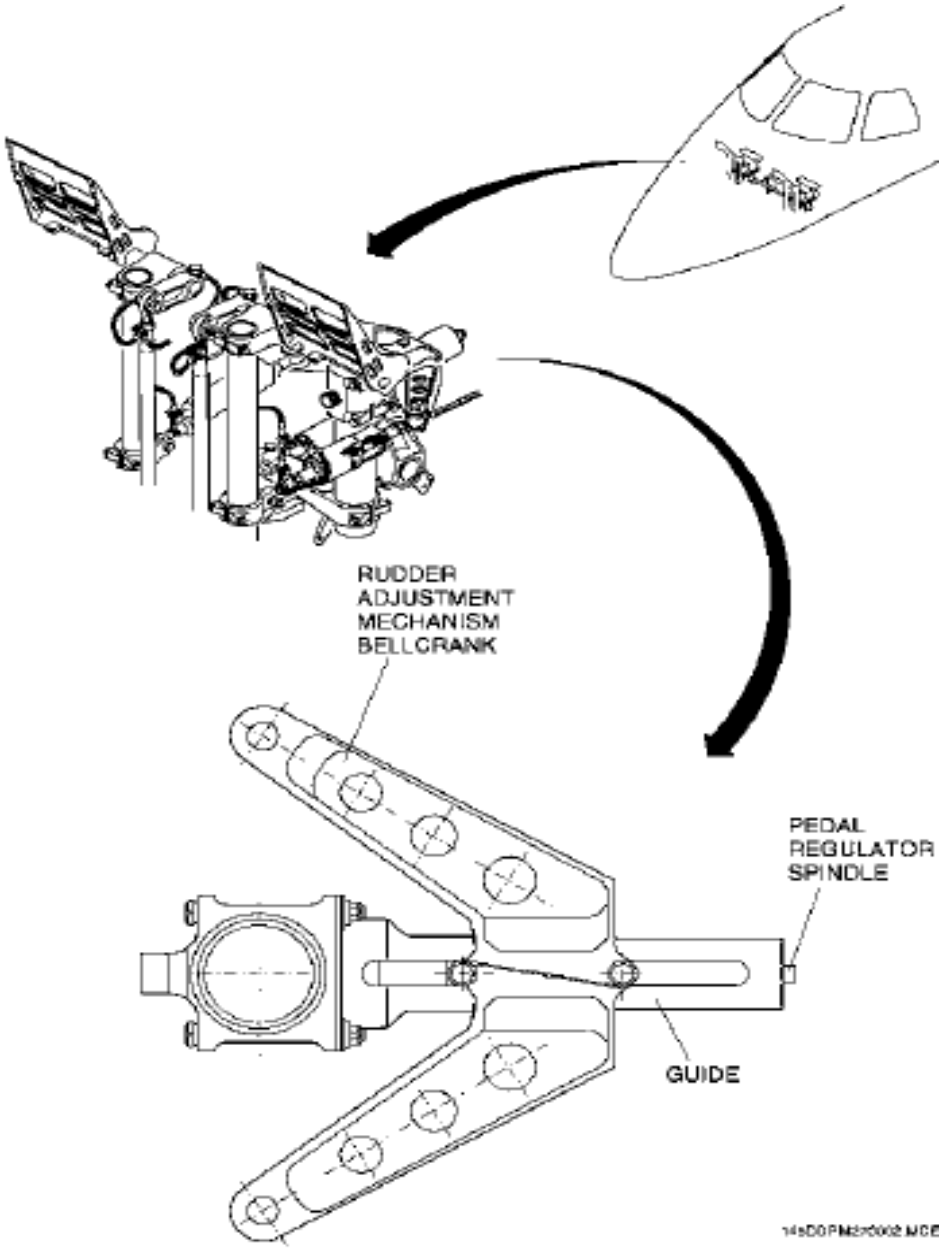
NOTE: Some airplanes may present a different circuit breaker positioning configuration. Specific configuration may be found in the Aircraft Maintenance Manual (AMM).

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

27. Flight Controls

Sequence No. Item	1	2	3	4	Change Bar



RUDDER ADJUSTMENT MECHANISM BELLCRANK

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
24-01	Yaw Trim Position Indications	C	1	0	(O) May be inoperative provided: a) Yaw trim is verified to be centered before each departure, and b) Roll trim position indication operates normally.

27-24-01YAW TRIM POSITION INDICATIONS

Placard YAW TRIM Knob "INOP".

OPERATIONAL PROCEDURES

Rudder in Neutral Position check:

- Airplane..... DEENERGIZED
- Rudder Pedals .....NEUTRAL POSITION
- Rudder.....NEUTRAL POSITION
- Airplane..... ENERGIZE
- Yaw Trim Knob .....RELEASED
- Electric Hydraulic Pumps..... ON
- Rudder Pedals .....NEUTRAL POSITION
- Rudder.....NEUTRAL POSITION

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
35-00	Elevator Disconnection Light	C	1	0	(O) May be inoperative provided a check is made before each takeoff to verify that both elevators are connected.

27-35-00 ELEVATOR DISCONNECTION LIGHT

Placard ELEV DISC Light "INOP".

OPERATIONAL PROCEDURES

Elevator Mechanical Interconnection check:

Left Control Column ..... HOLD FIRMLY IN NEUTRAL
Right Control Column. ..... TRY TO MOVE FORWARD AND BACKWARD
If relative movement between both control columns is not observed, then the elevator mechanical interconnection is connected.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
36-01	SPS/ICE SPEEDS Advisory Message	C	1	0	May be inoperative provided airplane is not operated in known or forecast icing conditions. May be inoperative provided AFM abnormal procedure "ADVANCED STALL PROTECTION" is followed.

27-36-01 SPS/ICE SPEEDS-Advisory Message

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
36-03	Stick Shakers	B	2	1	May be inoperative provided the airspeed is monitored to avoid operation in the white range.

27-36-03 Stick Shakers

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
40-00	Main Pitch Trim Switches	C	2	1	May be inoperative provided: a) Back Up Pitch Trim Channel is completely operational, and b) Pilot flying must be in the same side of the operational switch. NOTE: The message PTRIM CPT SW FAIL or PTRIM F/O SW FAIL may be present.
40-01	Pitch Trim Position Indication	B	1	0	(O) May be inoperative provided stabilizer is set by means of markings on vertical stabilizer and Takeoff Configuration Warning is checked prior to each departure.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS
				.

27. Flight Controls				
Sequence No. Item	**1**	**2**	**3**	**Change Bar**

27-40-00 MAIN PITCH TRIM SWITCHES

Placard the Copilot's Control Wheel "PITCH TRIM SWITCH INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

27-40-01 PITCH TRIM POSITION INDICATION

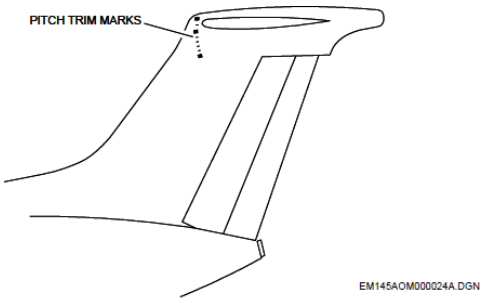
Placard near Pitch Trim Cut-out Buttons "POSITION IND INOP".

OPERATIONAL PROCEDURES

Check that stabilizer is correctly set according to CG position by looking at pitch trim marks on vertical stabilizer.

NOTE: The thick marks represent, respectively, 4° nose down (top of the scale), neutral, and 10° nose up (bottom of the scale) and each intermediate mark represent a 2° variation (See Figure).

- The airplane can be dispatched in case of: no EICAS indication, pitch trim system operating normally, stabilizer correctly set according to CG position by looking at pitch trim marks on vertical stabilizer, and aural warning TAKEOFF TRIM sounds.
- When thrust levers are moved beyond 60°, TAKEOFF TRIM will sound again. Flight crew must confirm that the aural warning is originated from pitch trim position indication inoperative condition.



PITCH TRIM MARKS

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
27. Flight Controls					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
53-00	Flap Channels	B	2	1	(M)(O) One channel may be inoperative provided: a) There are no obstacles in the Takeoff Flight Path above Level off Height,And b)Motor and brakes of failed channel are deactivated. NOTE: Flaps will operate at half speed.

27-53-00 FLAP CHANNELS

Placard near Flap Selector Lever "CHANNEL 1 (or 2) INOP".

OPERATIONAL PROCEDURES

According to the MEL remarks.

MAINTENANCE PROCEDURES

Perform TASK 27-53-00-040-801-A (AMM) for flap channel deactivation.

NOTE: In order to dispatch with this item inoperative level-off height must be higher than obstacle height.

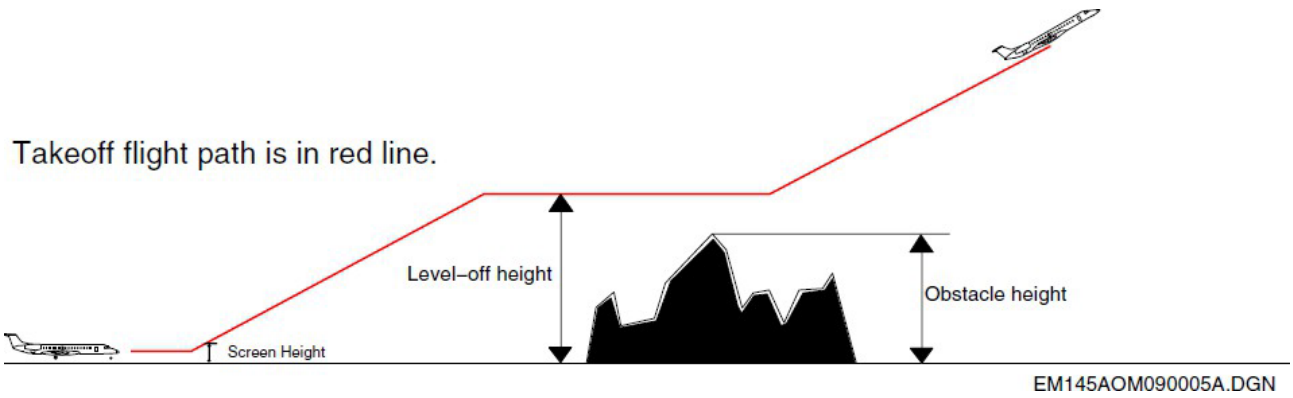


TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

27. Flight Controls

Sequence No.	Item	1	2	3	4 Change Bar
70-00	Gust Lock System				
1)	Mechanical Gust Lock System CEP-NEA	C	1	0	(M)(O) May be inoperative provided system is secured unlocked. NOTE: Appropriate measures should be taken to prevent damage from gusts while on the ground.
2)	Electro-Mechanical Gust LockSystem EP-NEB EP-NEC	C	1	0	(M)(O) May be inoperative provided: a) System is deactivated unlocked such that locking pins cannot engage the elevator, and b) GUST LOCK amber lights are masked. NOTE: Appropriate measures should be taken to prevent damage from gusts while on the ground.
a)	GUST LOCK Amber Lights	C	2	1	One may be inoperative.
3)	Gust Lock Lever Movable Stop (Airplanes with	C	1	0	(M) May be inoperative provided it is secured immovable in one of the edges of the crossbar.
		C	1	0	May be inoperative provided it has failed immovable in one of the edges of the crossbar.

27-70-00 GUST LOCK SYSTEM

For airplanes equipped with Mechanical Gust Lock System:

Placard Gust Lock Lever "INOP".

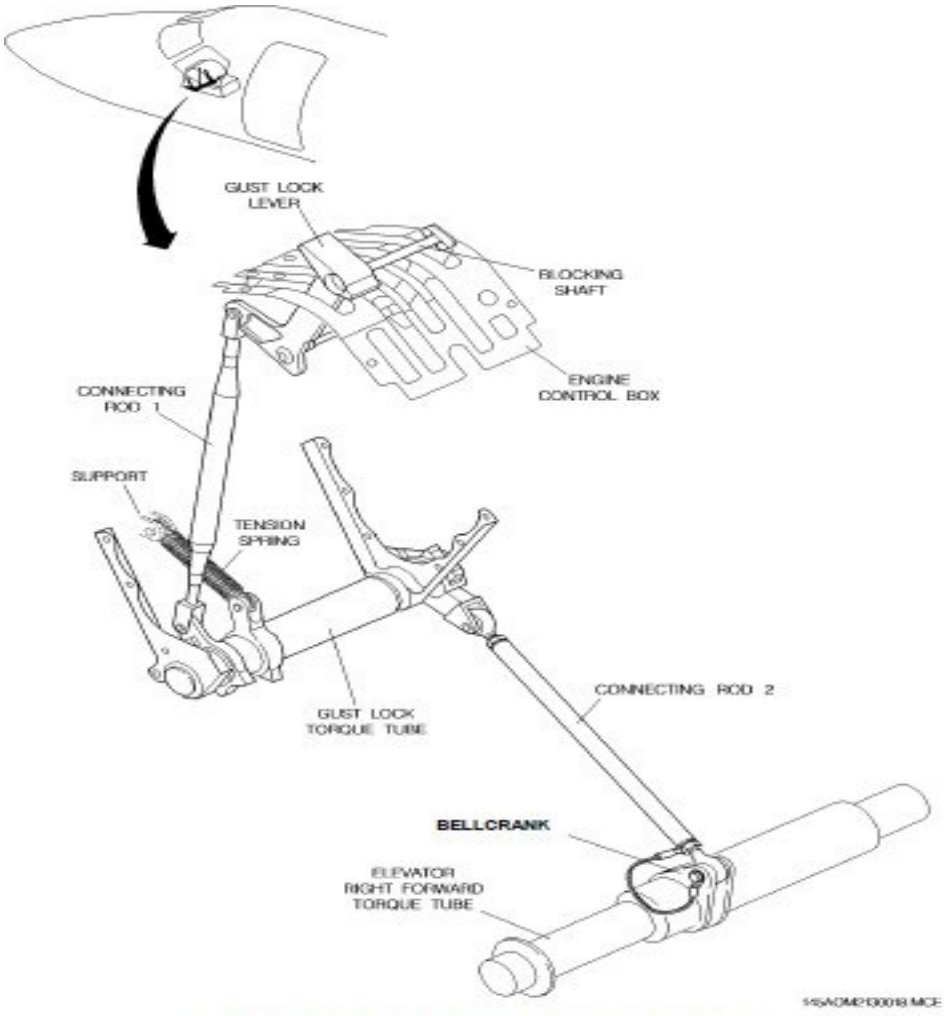
For airplanes equipped with Electromechanical Gust Lock System:

Placard Gust Lock Lever "INOP" and/or placard affected Gust Lock Amber Light "LIGHT INOP".

OPERATIONAL PROCEDURES

Carefully check elevators are free to move from full forward to full rearward positions. Obtain confirmation from maintenance personnel to check surface full travel.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
27. Flight Controls					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**



MECHANICAL GUST LOCK SYSTEM

MAINTENANCE PROCEDURES

For airplanes equipped with Mechanical Gust Lock System:

- Gain access to the Gust Lock system (Refer to AMM 06-41-01/101).

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

27. Flight Controls

Sequence No. Item	1	2	3	4	Change Bar

Check the connecting rod 1 for proper attachment (See Figure).
Check the crank 1, tension spring and gust lock torque tube for distortion, proper movement and loosing parts.
Check the connecting rod 2 for proper attachment.

NOTE: If any connecting rod or related attachment is found damaged, remove the part.
Check the elevator right forward torque tube for distortion, proper movement and loosing parts.

NOTE: - To avoid damage to the flight control system when the gust lock is disengaged, the airplane must be parked in areas not subjected to gust, such as inside a hangar.

In case of airplane parked in an open area, install the rig pin in the elevator rear sector (see figure) or secure the elevator by other alternate means approved by local authorities.
Perform TASK 05-50-26-200-802-A (AMM) before the reactivation and/or takeoff if the airplane is blown with any wind velocity values on ground with Gust Lock system inoperative and with the elevator rig pin not installed.
Perform TASK 05-50-26-200-802-A (AMM) if the airplane was exposed to wind velocities higher than 65 kt.
Remove rig pin before flight.
For airplanes equipped with Electromechanical Gust Lock System:
Pull the Air/Ground D circuit breaker (A29) and attach a DO-NOTCLOSE tag to it.
Move the gust lock lever to unlocked position (full forward).
If the lever does not move:
Perform TASK 27-71-06-900-801-A (AMM) to manually unlock the electromechanical Gust Lock.
If the solenoid rod cannot be moved, perform TASK 27-71- 06-000-801-A (AMM) to remove the Gust Lock solenoid.
After moving the Gust Lock lever to unlocked position, perform TASK 27-71-06-400-801-A (AMM) to install the Gust Lock solenoid.
Move the control column backward and forward full stroke.
If the control column cannot be moved:
Perform TASK 27-71-00-200-801-A (AMM) to do a detailed visual inspection on the electromechanical Gust Lock mechanism. Check for broken, locked or jammed parts.
Perform TASK 27-71-01-000-801-A (AMM) to remove the electromechanical Gust Lock actuator located at the tail torque box.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

27. Flight Controls				
Sequence No. Item	**1**	**2**	**3**	**Change Bar**

Perform TASK 27-71-07-400-801-A (AMM) to install the Gust Lock actuator locking device to keep the locking pins in the unlocked position.
With the gust lock in the unlocked position, move the control columns forward (nose down) and try to move the gust lock lever to locked position.
NOTE: The gust lock lever cannot be moved from unlocked position to locked position.

If the lever moves to the locked position perform SUB TASK 27-71-00-710-002-A00 (AMM) to assure the Electromechanical Gust Lock Solenoid alignment.
Pull and collar the Gust Lock circuit breaker (F24) to prevent an inadvertent actuation of the gust lock in flight. The GUST LOCK Amber Lights will illuminate and must be masked.
Push back in the Air/Ground D circuit breaker (A29) and remove the DO-NOT-CLOSE tag from it.

NOTE: - To avoid damage to the flight control system when the gust lock is disengaged, the airplane must be parked in areas not subjected to gust, such as inside a hangar.
In case of airplane parked in an open area, install the rig pin in the elevator rear sector (see figure) or secure the elevator by other alternate means approved by local
authorities.
Perform TASK 05-50-26-200-802-A (AMM) before the reactivation and/or takeoff if the airplane is blown with any wind velocity values on ground with the Gust Lock system inoperative and with the elevator rig pin not installed.
Perform TASK 05-50-26-200-802-A (AMM) if the airplane was exposed to wind velocities higher than 65 kt. Remove rig pin before flight.
Monitor control column during taxi, in case of any control column unusual movement (full backward or full forward control), the airplane shall return to gate for further maintenance inspection.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

27. Flight Controls

Sequence No. Item	1	2	3	4	Change Bar

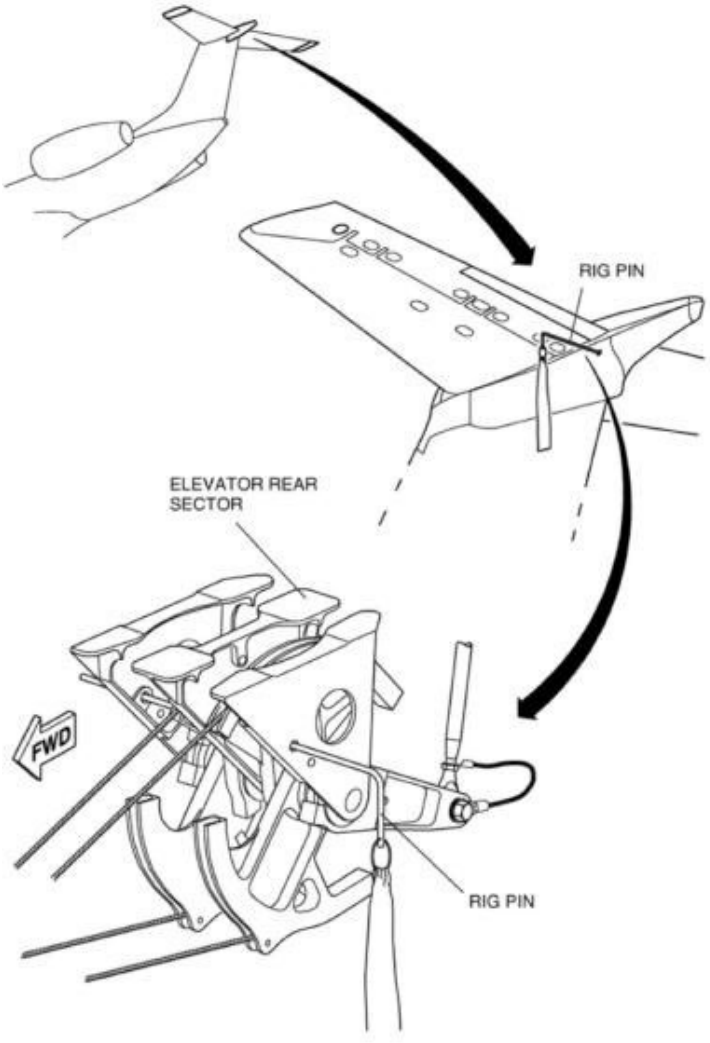
NOTE: The gust lock lever cannot be moved from unlocked position to locked position.

- If the lever moves to the locked position perform SUB TASK 27-71-00-710-002-A00 (AMM) to assure the Electromechanical Gust Lock Solenoid alignment.
- Pull and collar the Gust Lock circuit breaker (F24) to prevent an inadvertent actuation of the gust lock in flight.
- The GUST LOCK Amber Lights will illuminate and must be masked.
- Push back in the Air/Ground D circuit breaker (A29) and remove the DO-NOT-CLOSE tag from it.

NOTE: - To avoid damage to the flight control system when the gust lock is disengaged, the airplane must be parked in areas not subjected to gust, such as inside a hangar.
- In case of airplane parked in an open area, install the rig pin in the elevator rear sector (see figure) or secure the elevator by other alternate means approved by local authorities.
- Perform TASK 05-50-26-200-802-A (AMM) before the reactivation and/or takeoff if the airplane is blown with any wind velocity values on ground with the Gust Lock system inoperative and with the elevator rig pin not installed.
- Perform TASK 05-50-26-200-802-A (AMM) if the airplane was exposed to wind velocities higher than 65 kt.
- Remove rig pin before flight.
- Monitor control column during taxi, in case of any control column unusual movement (full backward or full forward control), the airplane shall return to gate for further maintenance inspection.

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
27. Flight Controls					
SequenceNo. **Item**	**1**	**2**	**3**	**4**	**Change Bar**



RIG PIN (GSE 058) (ELEVATOR REAR SECTOR)

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
28. Fuel					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-02	Sump Drain Valves	C	4	2	(M) One may be inoperative provided: a) There is no evidence of leakage, and b) No water contamination in the other tank is verified before the first departure of each flight-day.
11-05	Fueling Receptacle Cap	C	1	0	(M) May be inoperative (missing) provided: a) Refueling receptacle is visually checked for contamination before each refueling, and b) No leakage can be detected after refueling is completed.

28-11-02 SUMP DRAIN VALVES

Placard affected Drain Valve Panel "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Check visually the affected valve for no evidence of leakage and no water contamination in the other associated tank. Perform TASK 12-11-03-600-801-A (AMM).

28-11-05 FUELING RECEPTACLE CAP

Placard near Refueling Receptacle "CAP REMOVED".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. Before refueling check, the receptacle. Make sure there is no contamination. After refueling, make sure there is no evidence of leakage.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
21-01	Wing Tank Electrical Fuel Booster Pumps	C	6	4	(M)(O) One pump per tank may be inoperative provided: a) Remaining two pumps operate normally, b) If the pumps 1C and 2C are inoperative, the message ELEC EMERG ABNORMAL must be verified to operate normally before departure, c) Affected electric fuel booster pump is deactivated, and d) AFM limitations regarding unusable fuel are accounted for.
21-02	Wing Tank Electric Fuel Booster Pump Operating Indications	C	6	4	(O) One per side may be inoperative provided associated pump is verified to operate normally before departure.

28-21-01 WING TANK ELECTRIC FUEL BOOSTER PUMPS

Placard affected Fuel Pump Selector Knob "PUMP A (or B or C) INOP".

OPERATIONAL PROCEDURES ELEC EMERG ABNORMAL Message check:

If GPU is available:

– GPU ..... ON
– ESSENTIAL POWER Button ..... PRESS
– ELEC EMERG ABNORMAL Message .....CHECK ON
– ESSENTIAL POWER Button ..... RELEASE
– ELEC EMERG ABNORMAL Message .....CHECK OFF

If GPU is not available:

– APU or ENGINE (only one).....START
– APU or ENGINE Generator ..... ON
– ESSENTIAL POWER Button ..... PRESS
– ELEC EMERG ABNORMAL Message .....CHECK ON
– ESSENTIAL POWER Button ..... RELEASE
- ELEC EMERG ABNORMAL Message CHECK OFF

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
28. Fuel					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

If any electric fuel booster pump is inoperative, the unusable fuel quantity in the associated wing raises as presented in the table below. Therefore, additional fuel should be considered for flight planning purposes.

AIRPLANE MODEL	EMB-135/145 STD/EU/ER/EP/MK/MP	EMB-135/145 LR/LU
Unusable fuel quantity	Up to 149 liters (121 kg)	Up to 203 liters (165 kg)

MAINTENANCE PROCEDURES

May be flight crewmember accomplished.

Electric Fuel Booster Pump Deactivation procedure:

In the DC distribution boxes, open and safe the affected Electric Fuel Booster Pump power circuit breakers:

DISTRIBUTION BOX	PUMP	CIRCUIT BREAKER
LEFT SIDE	1A	A3
	1C	C4
	2B	A4
RIGHT SIDE	1B	A2
	2A	A3
	2C	C4

NOTE: - Some airplanes may present a different circuit breaker positioning configuration. Specific configurations may be found in the Aircraft Maintenance Manual (AMM).

- Pulling the circuit breaker on the distribution box deactivates the pump but may not change the MFD indications (e.g. a deactivated pump still shows indications if it is selected).

Ensure the selected pump on the overhead panel is not the deactivated pump.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No. Item	1	2	3	4	Change Bar

28-21-02 WING TANK ELECTRIC FUEL BOOSTER PUMP OPERATING INDICATIONS

Placard affected Fuel Pump Selector Knob "PUMP A (or B or C) IND. INOP".

OPERATIONAL PROCEDURES

Electric Fuel Booster Pump normal operation check:

- Airplane. ..... ENERGIZE
- Wing Tanks..... NOT EMPTY
- Associated Engine ..... START
- MFD Fuel Page..... SET
- Affected Pump..... SELECT
- Perform the following check:

· No MFD pump operation indication.
· No caution message FUEL LO PRESS displayed on the EICAS.
· No CAUTION light or aural caution alarm.

- Affected Pump Circuit Breaker ..... PULL
- Perform the following check:

· Associated caution message displayed on the EICAS.
· Master Caution light blinking.
· Aural Warning sounding.
· MFD indication changing to another pump.

- Affected Pump Circuit Breaker ..... CLOSE
- Check the airplane returning to the original condition.

MAINTENANCE PROCEDURES

None.

TABLE KEY						
		1. REPAIR CATEGORY				
			2. NO. INSTALLED			
				3. NO. REQUIRED FOR DISPATCH		
					4. REMARKS OR EXCEPTIONS	
28. Fuel						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
21-11	Ventral Tank Electric Fuel Transfer Pumps		-	-	N/A	

28-21-11 Ventral Tank Electric Fuel Transfer Pumps

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
22-01	APU FUEL Shutoff Valve	C	1	0	(M)(O) May be inoperative provided: a) APU is not used, and b) Valve is secured closed.

28-22-01 APU FUEL SHUTOFF VALVE

Placard APU Panel "APU FUEL SHUTOFF VALVE INOP - DO NOT USE APU".

OPERATIONAL PROCEDURES

According to the MMEL remarks.

MAINTENANCE PROCEDURES

Perform TASK 28-22-01-040-801-A (AMM) for APU Fuel Shutoff Valve secured closed.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
23-00	Pressure Defueling/Refueling System	C	1	0	(M)(O) May be inoperative provided: a) Airplane is defueled/refueled by gravity, b) If an overfilling condition occurs, it must be corrected before departure, and c) There is no fuel leakage at refueling/defueling adapter. **NOTE:** Does not preclude the ventral or auxiliary tanks refueling by fuel transfer procedures on the ground.

28-23-00 PRESSURE DEFUELING/REFUELING SYSTEM

Placard Refueling Panel "PRESSURE DEFUELING/REFUELING INOP".

OPERATIONAL PROCEDURES

Operational procedure associated with overfilling condition Overfilling Condition:

An overfilling condition exists if during the pressure refueling operation there are:

– Fuel leakage through the tank ventilation point, or

– Illumination of the STOP RFL red lights on the refueling panel associated with the wing fuel tank quantity above the values presented in table 1.

NOTE: The STOP RFL lights are applicable only to airplanes equipped with High Level Exceeding Indication System.

Wing Tank Fuel Consumption Procedure:

The following procedure should be performed on ground if the corresponding maintenance defueling procedure is not practical or possible to be done.

Overfilling in One Tank: With the crossfeed selector knob in **LOW1** position (right wing tank overfilling) or in the **LOW2** position (left wing tank overfilling) run both engines in IDLE:

– During 15 minutes, or

– Until the fuel quantity indicated on EICAS/MFD is at or below the values presented in table 1. Overfilling in Both Tanks: With the crossfeed selector knob in **OFF** position, run both engines in IDLE:

– During 30 minutes, or

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4 REMARKS OR EXCEPTIONS

28. Fuel

Sequence No. Item	1	2	3	4 Change Bar

Until the fuel quantity indicated on EICAS/MFD is at or below the values presented in table 1. Check the fuel balancing between the tanks. **MAINTENANCE PROCEDURES**

Maintenance procedures not associated with overfilling condition Fuel Tank Gravity Refueling Procedure:

Perform TASK 12-11-02-600-801-A (AMM) for Fuel Tank Gravity Refueling.

Wing Tank Gravity Defueling Procedure:

Perform TASK 12-11-02-600-802-A (AMM) for Wing Tank Gravity Defueling.

Maintenance procedures associated with overfilling condition Overfilling Condition:

An overfilling condition exists if during the pressure refueling operation there are:

- Fuel leakage through the tank ventilation point, or
- Illumination of the STOP RFL red lights on the refueling panel associated with the wing fuel tank quantity above the values presented in table 1.

NOTE: The STOP RFL lights are applicable only to airplanes equipped with High Level Exceeding Indication System.

Wing Tank Defueling Procedure if overfilling condition exists:

Perform TASK 12-11-02-600-802-A (AMM) for Gravity Defueling to remove excess fuel from the wing tanks until the fuel quantity is at or below the values presented in table 1. Check the fuel balancing between the tanks.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
	M	NO. INSTALLED		
	2.	3. NO. REQUIRED FOR DISPATCH		
			4. REMARKS OR EXCEPTIONS	
28. Fuel				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**

TABLE 1 - WING TANK FUEL QUANTITY LIMIT
(NOT APPLICABLE TO GRAVITY REFUELING OPERATION)

COCKPIT/REFUELING PANEL INDICATION				
FUEL TEMP (°C)	FUEL TANK QUANTITY (kg)		FUEL TANK QUANTITY (lb)	
	WING (STD, ER, EP, MP)	WING (LR)	WING (STD, ER, EP, MP)	WING (LR)
-40	2030	2530	4480	5570
-35	2030	2520	4460	5550
-30	2020	2510	4440	5520
-25	2010	2490	4420	5500
-20	2000	2480	4400	5480
-15	1990	2470	4380	5450
-10	1980	2460	4360	5430
-5	1970	2450	4340	5400
0	1960	2440	4320	5380
5	1950	2430	4300	5350
10	1940	2420	4280	5330
15	1930	2400	4260	5300
20	1930	2390	4240	5280
25	1920	2380	4220	5250
30	1910	2370	4200	5230
35	1900	2360	4180	5200
40	1890	2350	4160	5180
45	1880	2340	4140	5150
50	1870	2330	4120	5130
52	1870	2320	4120	5120

Check fuel tank temperature on MFD Fuel Page before using the table.

NOTE: Refueling completion by gravity is allowed if required.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
23-07	Defueling Shutoff Valve	C	1	0	(M) May be inoperative provided valve is secured closed.
23-08	Fuel Quantity Indicator (Refueling Panel)	C	1	0	(M)(O) May be inoperative provided: a) Airplane is refueled by gravity, and b) Pilot or copilot monitors the refueling from the cockpit. **NOTE:** Does not preclude the auxiliary tanks refueling by fuel transfer procedures on the ground.

28-23-07 DEFUELING SHUTOFF VALVE

Placard Refueling Panel "DEFUELING SHUTOFF VALVE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 28-23-07-040-801-A (AMM) for Defueling Shutoff Valve secured closed.

28-23-08 FUEL QUANTITY INDICATOR (REFUELING PANEL)

Placard Refueling Panel "QUANTITY INDICATOR INOP".

OPERATIONAL PROCEDURES

Refer to AOM EMB-145 - Volume I - Section 1-12-25 for gravity refueling.
Monitor fuel quantity indication on MFD and EICAS or with the direct measuring sticks.

MAINTENANCE PROCEDURES

Perform TASK 12-11-02-600-801-A (AMM) for Fuel Tank Gravity refueling.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
40-00	Wing Tank Fuel Quantity Indications (EICAS and MFD)	B	4	2	(O) Indications for one tank may be inoperative provided: a) Fuel quantity in associated tank is verified by an alternate means, and b) Both fuel flow indications and fuel used indications are available, and are monitored throughout flight.

28-40-00 WING TANK FUEL QUANTITY INDICATIONS (EICAS AND MFD)

Placard MFD or PFD Bezel "FUEL QTY IND INOP".

OPERATIONAL PROCEDURES

If the Fuel Quantity Gauging and Indication System of one wing tank is inoperative, the associated indication will present unreliable information on the EICAS display. On the MFD Fuel Page both the associated tank indication and the TOTAL fuel quantity will present unreliable information. The EICAS caution message FUEL IMBALANCE may be also presented.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**

Wing tanks fuel quantity can be measured on ground, through the Direct Measuring Stick System, described on the AOM EMB-145 -Description System - Volume II - Section 2-08-15.
In flight, the aircraft Remaining Fuel Quantity can be determined through the information from the: Flight Card Required/Filled fuel, FMS fuel data, FUEL USED (FU) of the MFD Fuel Page and the FUEL FLOW (FF) of the EICAS/RMU/EFIS.
When one wing tank fuel quantity indication is inoperative, both the FUEL FLOW (FF) and the FUEL USED (FU) shall be monitored throughout the whole flight.

NOTE: In case of fuel tank level too high to be measured by the measuring sticks, it may be necessary to have the airplane topped off by gravity refueling.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
42-01	Direct Quantity Measuring Sticks	C	4	0	(O) May be inoperative provided fuel quantity is determined by other means.

MAINTENANCE PROCEDURES

Perform TASK 28-44-00-700-801-A (AMM) for FUEL LO LEVEL message check.

28-42-01 DIRECT QUANTITY MEASURING STICKS

Placard Refueling Panel "DIRECT QTY MEASURING STICKS INOP".

OPERATIONAL PROCEDURES

Check the remaining sources of fuel quantity information such as fuel quantity indications on EICAS and MFD Fuel Page, fuel quantity indicator in refueling panel and fuel loaded.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
28. Fuel					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
43-00	Fuel Tank Temperature Indication System	C	1	0	May be inoperative provided total air temperature (TAT) is used as an indication of fuel temperature and is limited to -40 °C.

28-43-00 FUEL TANK TEMPERATURE SYSTEM

Placard MFD Bezel "FUEL TANK TEMP IND INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
28. Fuel					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
44-00	FUEL 1 (or 2) LO LEVEL Messages	B	2	0	(M)(O) One may be inoperative provided: a) Fuel quantity indication is available and is monitored throughout the flight, and b) FUEL LO LEVEL message on non-affected side is verified operative.

28-44-00 FUEL 1 (OR 2) LO LEVEL MESSAGES

Placard EICAS Bezel "FUEL 1 (or 2) LO LEVEL MESSAGE INOP".

OPERATIONAL PROCEDURES

Check fuel quantity. If fuel quantity is below 300 kg (in flight), avoid pitch attitudes in excess of 10° nose down attitude, uncoordinated maneuvers and negatives.

MAINTENANCE PROCEDURES

Perform TASK 28-44-00-700-801-A (AMM) for Fuel Low Level Warning check.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

28. Fuel

Sequence No.	Item	1	2	3	4 Change Bar
45-01	E1 (or 2) FUEL LO PRESS Messages	B	2	0	(O) One may be inoperative provided: a) The associated fuel pump automatic function operates normally, and b) The associated electric fuel booster pump operating indication is operative.
45-02	APU Fuel Low Press Switch	C	1	0	(O) May be inoperative provided APU is considered inoperative.
		C	1	0	May be inoperative provided engine 2 fuel low pressure indication is operating normally and is used as indication of APU fuel low pressure.

28-45-01E1 (OR 2) FUEL LO PRESS MESSAGES

Placard EICAS Bezel "FUEL 1 (or 2) LO PRESS MESSAGE INOP".

OPERATIONAL PROCEDURES

Fuel Booster Pump Automatic Function Operation check:

– Airplane. .....ENERGIZE
– Associated Engine ..... START
– MFD Fuel Page.....SET
– 1A (2A) Fuel Pump ..... SELECT
• The MFD shows A for WING1 (WING2).
– 1A (2A) Fuel Pump Circuit Breaker A1 (A34).....OPEN
• On the MFD, the indication of the related tank changes to B, C, and OFF intermittently.
– 1A (2A) Fuel Pump Circuit Breaker A1 (A34).....CLOSE
• The A indication comes into view on the MFD again.
– Repeat the steps above for 1B (2B) and 1C (2C) fuel pumps.

Ensure that on the MFD the indication of the related tank changes to A, C and OFF intermittently and A, B and OFF intermittently.

Register on appropriate logbook for maintenance actions.

MAINTENANCE PROCEDURES

None.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTION
				.

28. Fuel					
Sequence No. Item	1	2	3	4	Change Bar

28-45-02 APU FUEL LOW PRESS SWITCH

Placard APU Control Panel "APU FUEL LO PRESS SWITCH INOP -DO NOT USE APU", if applicable.

OPERATIONAL PROCEDURES

Engine 2 Fuel Low Pressure Indication check:

- Airplane.....ENERGIZE
- Engine 2.....START
- MFD Fuel Page.....SET
- 2A Fuel Pump ..... SELECT
- Perform the following check:
- MFD shows A for tank 2.
- No caution message FUEL LO PRESS displayed on the EICAS.
- No caution light or no aural caution alarm.
- 2A Fuel Circuit Breaker (A34)..... PULL
- Check the indication of the related tank changes to B, C and OFF intermittently on the MFD.
- 2A Fuel Circuit Breaker (A34)..... CLOSE
- Select the 2B fuel pump and repeat the procedure.
- Select the 2C fuel pump and repeat the procedure.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
29. Hydraulic Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
10-02	GSE Couplings (External)	C	4	0	(M) May be inoperative open provided the failed external coupling (or the associated plumbing) is isolated from the hydraulic system.
10-05	Electric Hydraulic Pump Systems				
1)	AUTO Functions	C	2	0	(O) May be inoperative provided: a) Manual function operates normally, and b) Associated electric pump is selected ON for takeoff and landing and OFF during flight.
2)	Manual Functions	C	2	0	(O) May be inoperative provided AUTO and OFF positions for associated pump selector are verified to operate normally.
10-14	Reservoir Refilling Check Valves	D	2	0	(M) May be inoperative open provided failed valve is removed and plumbing plugged.
		D	2	0	May be inoperative closed.
10-16	Pressure Ground Connection Check Valves	D	2	0	(M) May be inoperative open provided the failed valve is removed and plumbing plugged.
		D	2	0	May be inoperative closed.
10-19	Engine-Driven Pump Pressure Switch (Hydraulic System 1)	C	1	0	(M)(O) May be inoperative provided: a) Pressure indication and electric pump switch operate normally, b) Electric pump is selected ON for takeoff and landing and OFF during flight, and c) Pressure switch is removed and pressure switch port is plugged in case of fluid leakage.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

29. Hydraulic Power					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

29-10-02 GSE COUPLINGS (EXTERNAL)

Placard the affected Plumbing "GSE COUPLING ISOLATED OR REMOVED".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 29-10-02-040-801-A (AMM) for GSE Pressure Coupling removal and install plugs MS21913W8 (or MS21913J8) and MS21913J5 on hydraulic lines (See figure below).

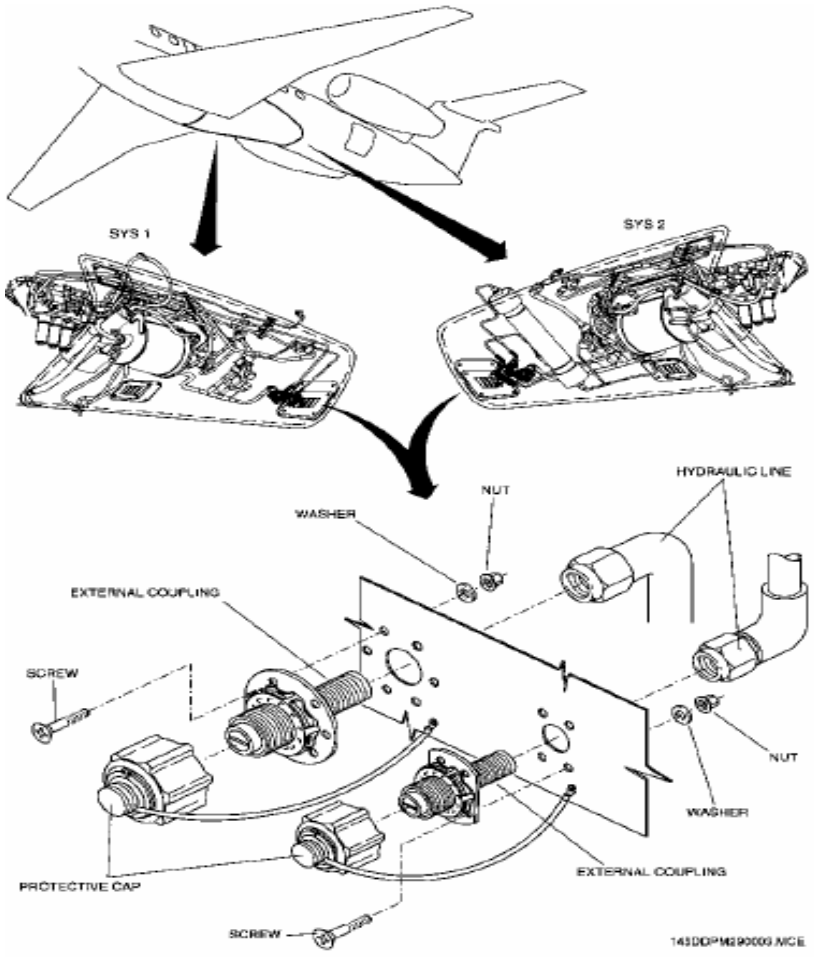


TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
29. Hydraulic Power					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

29-10-05 ELECTRIC HYDRAULIC PUMP SYSTEMS

Placard affected Electric Hydraulic Pump Control Knob "AUTO INOP" or "ON INOP".

OPERATIONAL PROCEDURES

In case of the automatic function failure, the affected pump must be turned off during cruise after gear retraction and back on prior to landing gear extension.

Pressure Indication and Electric Pump Pressure Switch check:

Before Associated Engine Start:

– Associated ELEC PUMP Knob. ..... OFF
– MFD1 or 2 .....HYD PAGE
– MFD Pump Status Indication ..... CHECK OFF
– MFD Hyd. Pressure Indication. ..... CHECK AROUND ZERO
– Associated ELEC PUMP Knob. ..... ON
– MFD Pump Status Indication ..... CHECK ON
– MFD Hyd. Pressure Indication. ..... CHECK WITHIN 2900 ± 200 psig
– Associated ELEC PUMP Knob. ..... OFF

OFF and AUTO Position check (Manual Function Inoperative):

With associated engine shutdown:

– Associated ELEC PUMP Knob. ..... OFF
– MFD 1 or 2. ..... HYD PAGE
– MFD Pump Status Indication. ..... CHECK OFF
– Associated ELEC PUMP Knob. ..... AUTO
– MFD Pump Status Indication. ..... CHECK ON
– Associated Engine ..... START

During associated engine START:

– N2 ..... BELOW 56%
– MFD Pump Status Indication. ..... CHECK ON
– N2 ..... ABOVE 56%
– MFD Pump Status Indication. ..... CHECK OFF

After associated engine START:

– Associated ENG PUMP SHUTOFF Button .....PRESS
– MFD Pump Status Indication. ..... CHECK ON
– Associated ENG PUMP SHUTOFF Button .....RELEASE
– MFD Pump Status Indication. ..... CHECK OFF

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

29. Hydraulic Power						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**

29-10-14 RESERVOIR REFILLING CHECK VALVES

Placard the affected Plumbing "CHECK VALVE REMOVED".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 29-10-14-040-801-A (AMM) for Check Valve removal and install plug MS21913W4 or MS21913J4 on hydraulic line (See figure below).

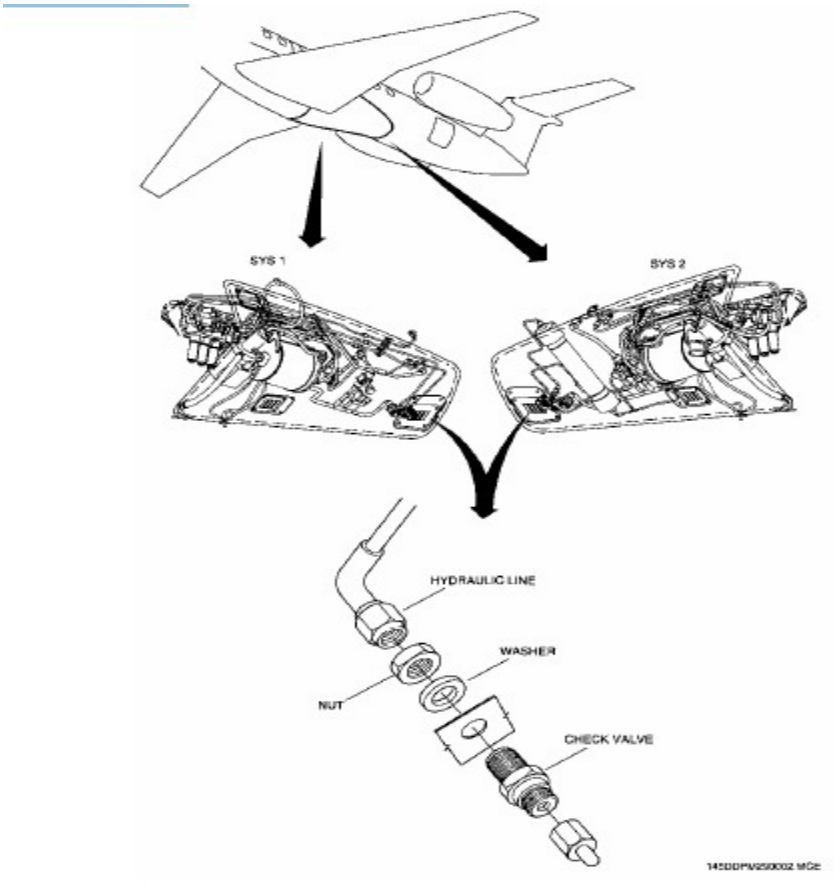


TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

29. Hydraulic Power					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

29-10-16 Pressure Ground Connection Check Valve

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

29 -10-19 Engine-Driven Pump Pressure Switch (Hydraulic System 1)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
29. Hydraulic Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
30-00	Hydraulic Fluid Quantity Indications (Including Low Level Warning)	C	2	1	(M)(O) May be inoperative provided: a) Associated fluid quantity is verified to be normal prior to departure, and b) Hydraulic pressure indication is available and is monitored throughout flight.
30-01	Reservoir Quantity Gages	C	2	0	(M) May be inoperative provided: a) Fluid quantity is verified by other means before each departure, and b) Pressure indication is operating normally.
30-02	Hydraulic Pressure Indications	C	2	1	(O) One may be inoperative provided associated hydraulic fluid quantity indication is available and associated HYD SYS FAIL caution message operates normally.
30-04	Electric Pump Pressure Switch (Hydraulic System 1)	C	1	0	(M)(O) May be inoperative provided: a) Pressure indication and engine-driven pump pressure switch operate normally, and b) Pressure switch is removed and pressure switch port is plugged in case of fluid leakage.

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
29. Hydraulic Power					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

29-30-00 HYDRAULIC FLUID QUANTITY INDICATIONS (INCLUDING LOW LEVEL ADVISORY MESSAGE)

Placard MFD Bezel "HYD QTY IND INOP".

OPERATIONAL PROCEDURES

According to the MEL remarks.

MAINTENANCE PROCEDURES

Perform TASK 12-13-01-600-801-A (AMM) for Hydraulic Fluid Quantity check.

29-30-01 RESERVOIR QUANTITY GAGES

Placard affected Gage "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Alternate Fluid Quantity check:

- Gain access to the affected reservoir (193BL or 193CR panel) (See figures 103 and 104 (AMM 06- 41-01/101) for positive identification).
- Remove the vent filter (cut the lockwire and remove both screws).
- Ensure Landing Gear/Main Door and Emergency/Parking Brake accumulators have a pre-charge of nitrogen only (refer to AMM TASK 32-44-02-700-801-A SUBTASK 32-44-02-720-001-A00 and TASK 52-12-00-700-802-A SUBTASK 52-12-00-720-001-A00).
- Insert a small rod in the vent filter hole deep enough to contact the piston head (in order to measure piston displacement).
- Make sure piston displacement is at or below 30 mm.
- If displacement is above 30 mm, perform TASK 12-13-01-600-802-A (AMM) to replenish the reservoir.
- Install and lockwire the vent filter.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

29. Hydraulic Power

Sequence No. Item	1	2	3	4	Change Bar

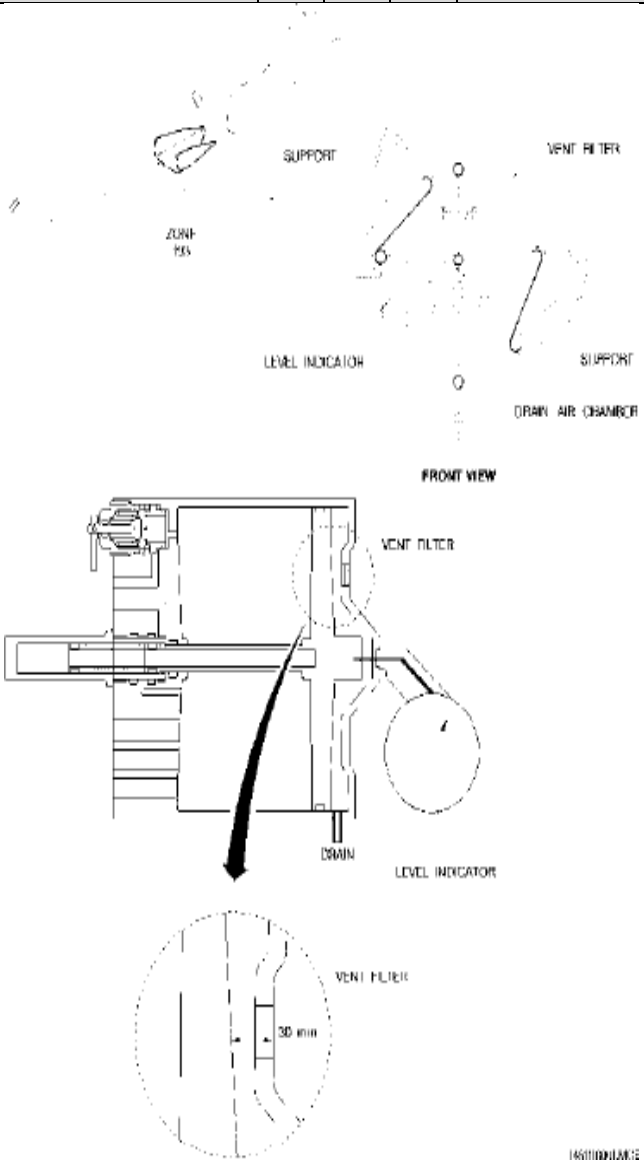


TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

29. Hydraulic Power

Sequence No. Item	1	2	3	4	Change Bar

29-30-02 HYDRAULIC PRESSURE INDICATIONS

Placard MFD Bezel "HYD SYS 1 (OR 2) PRESS IND INOP".

OPERATIONAL PROCEDURES

HYD SYS FAIL Caution Message operation check:

– Landing Gear Ground Locking Pins ..... INSERT
– Associated Engine .....START
– Air/Ground Circuit
Breakers (A5, A29, E17 and E18) ..... PULL
– Associated ELEC PUMP Knob. .....OFF
– Associated ENG PUMP SHUTOFF Button ..... PRESS
– Associated HYD SYS FAIL Message ..... CHECK ON
– Associated ENG PUMP SHUTOFF Button ..... RELEASE
– Air/Ground Circuit
Breakers (A5, A29, E17 and E18) ..... CLOSE
– Associated HYD SYS FAIL Message ..... CHECK OFF

MAINTENANCE PROCEDURES

None.

29-30-04 ELECTRIC PUMP PRESSURE SWITCH (HYDRAULIC SYSTEM 1)

Placard the affected plumbing "PRESSURE SWITCH REMOVED".

OPERATIONAL PROCEDURES

Pressure Indication and Engine Driven Pump Pressure Switch check:

Before associated engine start:
– Associated ELEC PUMP Knob ..... OFF
– MFD 1 or 2 ..... HYD PAGE
– MFD Pump Status Indication ..... CHECK OFF
– MFD Hyd. Pressure Indication. .....CHECK AROUND ZERO
– Associated ELEC PUMP Knob ..... AUTO
– MFD Pump Status Indication ..... CHECK ON
– MFD Hyd. Pressure Indication. ..... CHECK WITHIN 2900 ± 200 psig
During associated engine start:
– N2 ..... BELOW 56%

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4 REMARKS OR EXCEPTIONS

29. Hydraulic Power

Sequence No. Item	1	2	3	4	Change Bar

– MFD Pump Status Indication ..... CHECK ON
– N2 ..... ABOVE 56%
– MFD Pump Status Indication ..... CHECK OFF
After associated engine start:
– Associated ENG PUMP SHUTOFF Button PRESS
– MFD Pump Status Indication ..... CHECK ON (after pressure drops to 1600 psig)
– Associated ENG PUMP SHUTOFF Button RELEASE
– MFD Pump Status Indication ..... CHECK OFF

NOTE: After pressing the ENG PUMP SHUTOFF Button, pressure will take a while to drop to a value at which the Electric Pump will be automatically switched ON. This value can be as low as 1250 psig.

MAINTENANCE PROCEDURES

In case of fluid leakage, perform TASK 29-30-04-040-801-A (AMM) for pressure switch removal.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
30. Ice and Rain Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-00	Wing Anti-Icing System	C	1	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.
11-01	Wing Anti-Icing Valves	C	2	0	(M) May be inoperative provided: a) Valve is secured closed, and b) Airplane is not operated in known or forecast icing conditions.
11-02	Wing Anti-Icing Valve OPEN Light	C	1	0	(M) May be inoperative provided system is verified to operate normally before departure.
		C	1	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.

30-11-00 WING ANTIICING SYSTEM

Placard Ice Protection Panel "WING SYSTEM INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

30-11-01 WING ANTIICING VALVES

Placard above Wing Anti-icing Button "INOP".

OPERATIONAL PROCEDURES

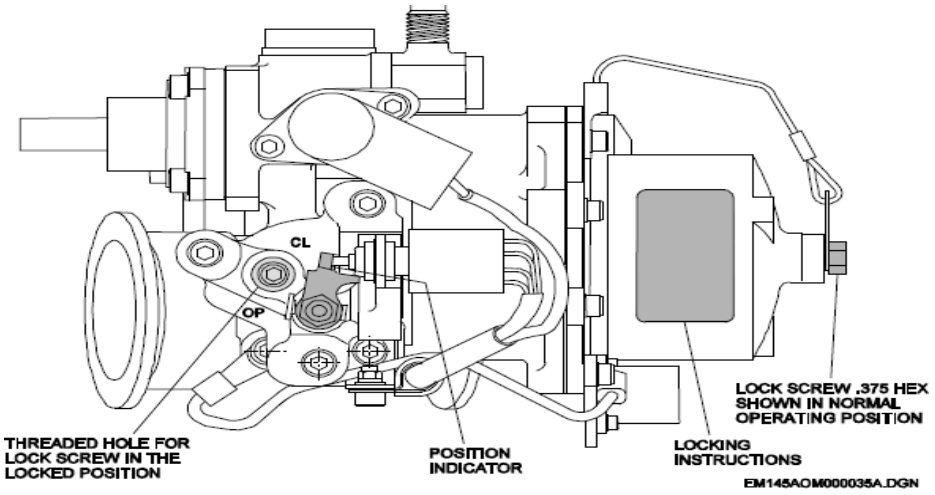
None.

MAINTENANCE PROCEDURES

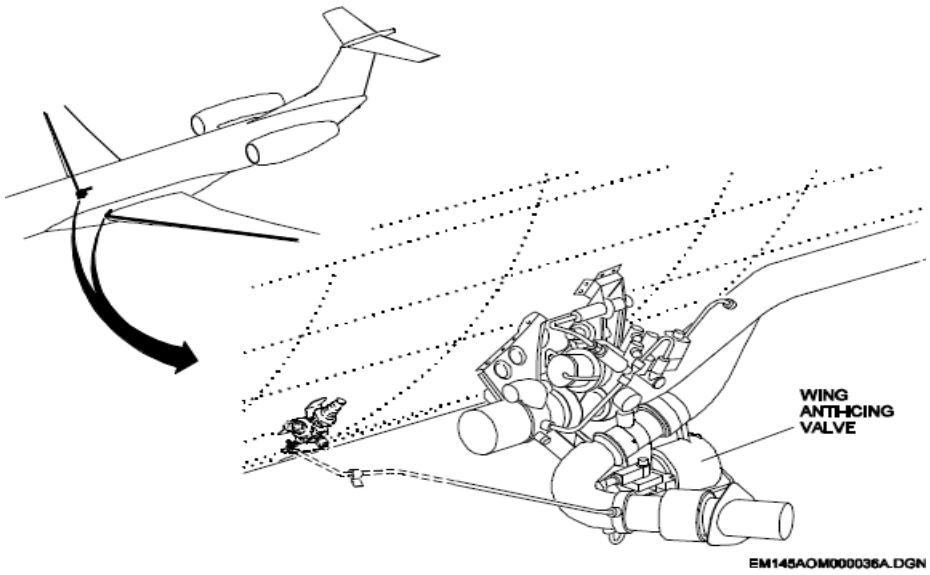
- Gain access to the valve through respective access panels (191EL - LH side, or 191FR - RH side. See AMM 6-41-01).
- With the anti-icing valve deenergized, the actuator pressure is vented to ambient and the valve is in the closed position. The position indicator is directed to "CL" on the valve housing.
- Remove the chained lock screw to vent servo and install the screw in the threaded hole (see figure) with the position indicator directed to "CL".
- Rotate the valve to the "CL" position (Align the position indicator hole with the cover assembly threaded hole by using a 1/4” socket or end wrench on the exposed valve shaft).
- Bottom screw in boss and wrench the lock screw to locked position to a maximum of 8 ft-lb.
- For quick reference, locking instructions are printed on the valve instruction plate.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection						
Sequence No.	Item	1	2	3	4	Change Bar



WING/STABILIZER ANTI-ICE VALVE (POST-MOD. SB 145-30-0021)



WING ANTI-ICE VALVE LOCATION
(PRE-MOD. AND POST-MOD. SB 145-30-0021)

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**

30-11-02 WING ANTI ICING VALVE OPEN LIGHT

Placard above Wing Anti-Icing Button "OPEN LIGHT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 30-00-00-700-803-A (AMM) for wing thermal anti-icing system operational check.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
30. Ice and Rain Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
12-00	Stabilizer Anti-Icing System	C	1	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.
12-01	Stabilizer Anti-icing Valve	C	1	0	(M) May be inoperative provided: a) Valve is secured closed, and b) Airplane is not operated in known or forecast icing conditions.
12-02	Stabilizer Anti-Icing Valve OPEN Light	C	1	0	(M) May be inoperative provided system is verified to operate normally before departure.
		C	1	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.

30-12-00STABILIZER ANTI ICING SYSTEM

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

30-12-01STABILIZER ANTI ICING VALVE

Placard above Stabilizer Anti-icing Button "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Refer to item 30-11-01 for valve secured closed procedure. To gain access to this valve, remove access panel 322AL (see AMM 6-42-00).

30-12-02 STABILIZER AN ICING VALVE OPEN LIGHT

Placard above Stabilizer Anti-Icing Button "OPEN LIGHT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 30-00-00-700-803-A (AMM) for horizontal stabilizer thermal anti-icing system operational check.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
30. Ice and Rain Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
21-00	Engine Anti-Icing Systems	C	2	1	May be inoperative provided: a) Affected A/I pushbutton is positioned to OFF prior to departure, and b) Airplane is not operated in known or forecast icing conditions. **NOTE:** The message ENG A/ICE OVERPRES may be present.
		B	2	0	May be inoperative for day VMC provided: a) Affected A/I pushbutton is positioned to OFF prior to departure, and b) Airplane is not operated in known or forecast icing conditions. NOTE: The message ENG A/ICE OVERPRES may be present.
21-01	Engine Anti-Icing Valves	C	2	0	(M)(O) May be inoperative provided: a) Valve is secured open, and b) performance penalties are applied. NOTE: On airplanes equipped with EICAS version 16.5 or subsequent, the message ENG A/ICE OVERPRES may be present.
21-02	Engine Anti-Icing Valve OPEN Light	C	2	1	(M) One may be inoperative provided system is verified to operate Normally before departure.
		C	2	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
30. Ice and Rain Protection					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

30-21-00 ENGINE ANTI ICING SYSTEMS

Placard Ice Protection Panel "ENGINE SYSTEM INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

30-21-01 ENGINE ANTI ICING VALVES

Placard above Engine Anti-icing Button "INOP".

OPERATIONAL PROCEDURES

For airplanes equipped with AE3007A, AE3007A1/1, AE3007A1, AE3007A1E, AE3007A1/3 and AE3007A1P engines (AE3007A and AE3007A1/1 engines intermix operation is also permitted): The following procedures must be accomplished when dispatching the airplane with one or both engine anti-icing valves locked open.

NOTE: The associated E1 (2) A/ICE FAIL message may be present throughout the flight unless the Ice Detection Override Knob is set to ENG or ALL. If this message persists with the knob in ENG or ALL, follow the associated QRH procedure or report to the maintenance personnel, as applicable.

Takeoff Data Setting

– Set REF A/I ON, so the FADECs properly command the correct thrust if one or two engine valves are locked open.

30-21-02 Engine Anti-icing Valve OPEN Lights

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None**.**

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection

Sequence No. Item	1	2	3	4 Change Bar

– Operate the Ice Detection Override normally: ENG in icing conditions, AUTO not in icing conditions.

– REF A/I DISAG message will be inhibited only when both engine anti-ice valves are locked open with REF A/I ON and ENG selected, otherwise the message may appear.

Takeoff Weights Corrections

The takeoff weight correction should be accomplished according one of the following criteria:

– Run the ETOAS with the Anti-ice option set to “FAIL”, or

– Reduce the MTOW by:

a) 360 kg (AE3007A, AE3007A1/1 or AE3007A1 engines).

b) 266 kg (AE3007A1E engine).

c) 230 kg (AE3007A1/3 or AE3007A1P engines).

NOTE: − In case of discrepancies between the MTOW calculated through Runway Analysis Software and the MTOW reduced by xx kg (depending on the engine) the value given by Software must prevail.

– For airplanes equipped with AE3007A, AE3007A1/1 and AE3007A1 engines, only T/O-1 mode is allowed for takeoff with engine anti-ice valve locked open.

– For airplanes equipped with AE3007A1/3 and AE3007A1P engines, only T/O mode is allowed for takeoff with engine anti-ice valve locked open.

– For airplanes equipped with AE3007A1E engine, only T/O and E T/O modes are allowed for takeoff with engine anti-ice valve locked open.

Speeds Corrections

There are no speed corrections associated with engine anti-ice valve locked.

Enroute and Landing Weights Corrections

Use applicable AFM supplement performance charts to calculate enroute and landing weights when operating with engine anti-ice locked open.

MAINTENANCE PROCEDURES

– Perform TASK 30-21-05-200-802-A (AMM) for Engine Anti-Ice Valve check.

Engine Anti-ice Valve secured open:

– Remove the following access panels (AMM 06-43-00/101):

• 412AT (Upper cowling of the LH powerplant) and

• 422AT (Upper cowling of the RH powerplant).

– Loosen both lock screws (approximately one turn).

– Press and rotate the manual override pin 270° as indicated to lock valve in the open position.

– Tighten both lock screws.

– Close the following access panels (AMM 06-43-00/101):

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
30. Ice and Rain Protection					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

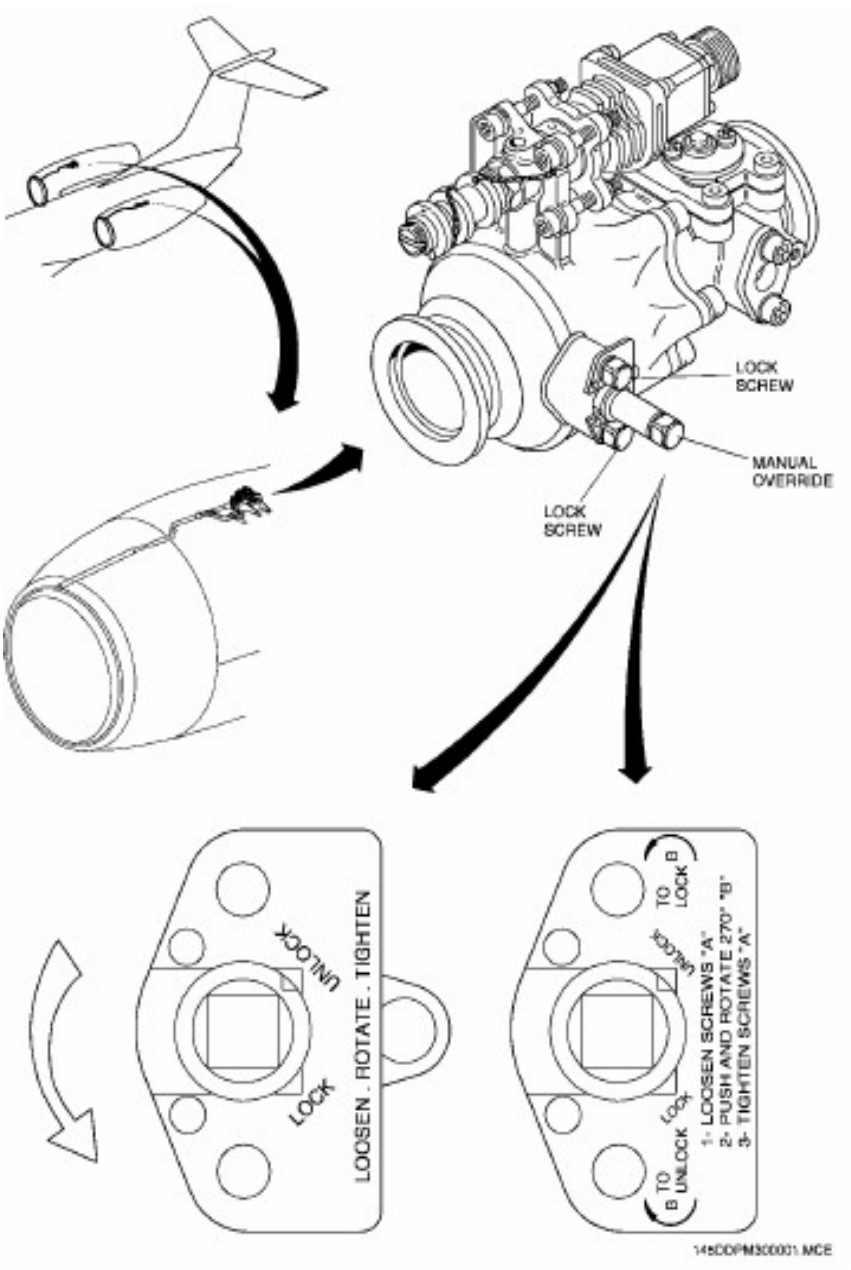
• 412AT (Upper cowling of the LH powerplant) and
422AT (Upper cowling of the RH powerplant).

NOTE: - The message ENG A/ICE OVERPRES may be present.

- The message NO ICE-A/ICE ON may be present.

- In case of engine anti-ice valve secured open and associated engine anti-icing OPEN light inoperative, the airplane may be dispatched.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
30. Ice and Rain Protection					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**



ENGINE ANTI-ICING VALVE

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection

Sequence No. Item	1	2	3	4	Change Bar

30-21-02 ENGINE ANTI-ICING VALVE OPEN LIGHTS

Placard above Engine Anti-Icing Buttons "OPEN LIGHT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 20-13-04-000-801-A (AMM) (removal) and TASK 20-13-04-400-801-A (AMM) (installation) to swap the push-buttons of Engine Air Inlet 1 and Engine Air Inlet 2. After swapping the pushbuttons, perform TASK 30-21-00-700-804-A (AMM) for Engine Anti-Icing Valve Operational Test.

NOTE: The intention of the accomplishment of these tasks above is to confirm the failure of the OPEN indication light and the proper operation of the engine anti-ice valve.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
31-00	Pitot/Static Heating Systems	C	3	2	(M) One may be inoperative provided: a) Standby and remaining pitot/static heating systems operate normally, and b) Airplane is not operated in visible moisture or in known or forecast icing conditions.	

30-31-00 PITOT/STATIC HEATING SYSTEMS

Placard above Pitot/Static Heating Button "PITOT HEAT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

NOTE: - For MMEL dispatch purposes, the Pitot/Static Heating system is comprised of: Pitot Tube Heating, Pitot/Static Heating and Static Port Heating.

- Pitot System 1 = Pitot 1 (P1) + Static 1 (S1). Pitot System 2 = Pitot 2 (P2) + Static 2 (S2). Pitot System 3 = P/S3 (pitot + static) (standby). **Pitot/Static Heating**

Operational Check:

May be flight crewmember accomplished.

After engine start: Check no caution message associated to the remaining static ports heating after any engine achieves 65% N2.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
32-01	AOA Sensor Heating Systems	B	2	1	One may be inoperative provided airplane is not operated in known or forecast icing conditions.	

30-32-01 AOA SENSOR HEATING SYSTEMS

Placard above AOA Heating Button "AOA HEAT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
33-01	TAT Probe Heating Systems	C	2	1	One may be inoperative provided airplane is not operated in known or forecast icing conditions.	

30-33-01 TAT PROBE HEATING SYSTEMS

Placard above TAT Heating Button "TAT HEAT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
30. Ice and Rain Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
41-00	Windshield Wipers	C	2	0	May be inoperative provided airplane is not operated in precipitation within 5 nautical miles of the airport of takeoff or intended landing. **NOTE:** For airplanes equipped with Rain Repellent Coating (RRC) the use of windshield wipers are not required.
1)	Low Speed	C	2	0	May be inoperative provided high speed operates normally.
2)	High Speed	C	2	0	May be inoperative provided low speed operates normally.
3)	Parking Mode	C	2	0	(O) May be inoperative provided blades can be positioned providing an acceptable field of vision to flightcrew.
4)	Timer Mode	C	2	0	

30-41-00 WINDSHIELD WIPERS

Placard Windshield Wiper Selector Knob "INOP" or "LOW INOP" or "HIGH INOP" or "TIMER INOP".

OPERATIONAL PROCEDURES

As required to meet MMEL remarks.

MAINTENANCE PROCEDURES

Perform TASK 30-41-04-200-801-A (AMM) for rain repellent coating **inspection for condition.**

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection

Sequence No.	Item	1	2	3	4 Change Bar
41-04	Rain Repellent Coating	-	-	-	N/A
42-02	Windshield Heating Systems	C	2	1	(M)One may be inoperative provided: a) Affected windshield heating system is deactivated, and b) Airplane is not operated in known or forecast icing conditions.
		C	2	0	May be inoperative provided operations are not conducted into known or forecast icing conditions.

30-41-04 Rain Repellent Coating

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

30-42-02 WINDSHIELD HEATING SYSTEMS

Placard Windshield Heating Control Panel "SYSTEM INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. Pull and safety the WSHLD TEMP circuit breaker associated with the inoperative windshield (G13 or J20).

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

30. Ice and Rain Protection

Sequence No.	Item	1	2	3	4 Change Bar
80-00	Ice Detectors	C	2	1	(O) One may be inoperative provided the AFM procedure ICE DETECTOR FAIL is used.
		C	2	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.

30-80-00 ICE DETECTOR

Placard Ice Detection Override Knob "ICE DET 1 (or 2) INOP".

OPERATIONAL PROCEDURES

Set the Ice Detection Override Knob to ALL position at the first visible or anticipated icing condition.

NOTE: - Icing conditions may exist inflight when Total Air Temperature (TAT) is 10°C or below and visible moisture in any form is presented (such as clouds, fog with visibility of one mile or less, rain, snow, sleet, and ice crystals).

- For ice protection test A or B, as described on Airplane Operations Manual (AOM) section 1-02-79, the message ICE DETECTORS FAIL will be present.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
30. Ice and Rain Protection					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
81-02	Clear Ice Indication Lamps	-	-	-	N/A

30-81-01 Clear Ice Detector System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

30-81-02 Clear Ice Indication Lamps

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
31. INSTRUMENTS					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
21-01	Clocks				
1)	Co-Pilot's Clock	D	1	0	May be inoperative provided pilot's clock operates normally.
2)	Pilot's Clock	A	1	0	May be inoperative provided: a) FDR is considered inoperative, and b) No more than 72 hours have elapsed since the FDR is considered or became inoperative.
3)	Both Clocks	A	2	0	May be inoperative provided: a) Both pilot and copilot have ready access to reliable timepiece which display seconds (a wrist watch is acceptable), b) Approach procedures do not require timing, c) FDR is considered inoperative (refer to MEL item 31-30-01), and d) No more than 72 hours have elapsed since the FDR is considered or became inoperative.

Continued……

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
31. INSTRUMENTS					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
30-00	Digital Flight Data Recorder System (DFDRS)	-	1	1	Must be operative from BASE

Continued….

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

31. INSTRUMENTS

Sequence No.	Item	1	2	3	4 Change Bar
30-00 1)	DFDRS Recording Parameters required by regulations	A	1	0	Up to 5% of the required parameters may be inoperative for a maximum of 90 calendar days or until the next maintenance inspection, whichever occurs first.
2)	DFDRS Recording Parameters not required by regulations	D	1	0	

31-30-00 DIGITAL FLIGHT DATA RECORDER SYSTEM (DFDRS)

Placard near Clock's Multiple Selector "FDR INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

31. INSTRUMENTS

Sequence No.	Item	1	2	3	4	Change Bar
35-01	Quick Access Recorder (QAR)	D	1	0	May be inoperative.	

31-35-01 Quick Access Recorder (QAR)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
31. INSTRUMENTS					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
42-02	Integrated Computer Configuration Modules (IC-600)	B	1	0	One may be inoperative with the EICAS message IC 1 (2) CONFIG FAIL displayed provided the EICAS messages CONFIG MISMATCH or CHK IC CONFIG are not displayed.

31-42-02 INTEGRATED COMPUTER CONFIGURATION MODULES (IM-600)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS

31. INSTRUMENTS						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
51-00	Aural Warning Unit					
1)	Channels	C	2	1	One may be inoperative.	
51-02	MASTER Warning Lights/Buttons					
1)	Lights	B	2	1	One may be inoperative provided master warning aural alert operates normally.	
2)	Alarm Cancel Functions	C	2	1	One may be inoperative.	
51-03	MASTER Caution Lights/Buttons					
1)	Lights	B	2	1	One may be inoperative provided master caution aural alert operates normally.	
2)	Alarm Cancel Functions	C	2	1	One may be inoperative.	

31-51-00 AURAL WARNING UNIT

Report to the maintenance personnel.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

31-51-02 MASTER WARNING LIGHTS/BUTTONS

Placard associated Light "LIGHT INOP" or "ALARM CANCEL INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

31. INSTRUMENTS						
Sequence No.	Item	1	2	3	4	Change Bar

31-51-03 MASTER CAUTION LIGHTS/BUTTONS

Placard associated Light "LIGHT INOP" or "ALARM CANCEL INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
32-02	Landing Gear Control Lever Latch System	B	1	0	(M)(O) May be inoperative in the latched position provided: a) Down lock release mechanism operates normally, and b) LG AIR/GND FAIL message is not present.

32-32-02 LANDING GEAR CONTROL LEVER LATCH SYSTEM

Placard Landing Gear Control Lever "LATCH SYSTEM INOP".

OPERATIONAL PROCEDURES

After takeoff, use the Down lock Release button to actuate the Landing Gear Lever to UP.

MAINTENANCE PROCEDURES

NOTE: If the operational procedure was accomplished previously during flight, the override mechanism check does not need to be accomplished.

Override Mechanism check:

- Install safety pins on the three LG legs.
- Pull the overhead panel landing gear circuit breakers A30 "CMD" and E21 "DOOR CMD".
- Try to move the landing gear lever up. The landing gear lever shall be latched in the down position.
- Press the down lock release button and try to move the landing gear lever to UP. The lever should move to UP position.
- Return the LG control lever to Down position.
- Restore the a/c to normal condition.

NOTE: Visually check the landing gear shock absorbers for condition and leakage.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

32. Landing Gear

Sequence No.	Item	1	2	3	4 Change Bar
40-01	Brake Temperature Monitoring Indications	D	4	3	(M) One may be inoperative provided the affected brake temperature sensor is deactivated.
		C	4	0	(M)(O) May be inoperative provided: a) Affected brake temperature sensors are deactivated, and b) Quick Turnaround Chart in AFM is used.

32-40-01BRAKE TEMPERATURE MONITORING INDICATIONS

Placard MFD Bezel "BRAKE XX IND INOP" or "BRAKE INDICATIONS INOP".

OPERATIONAL PROCEDURES

See Quick Turn Around Weight Chart on AOM Section 1-04-30 - Performance.

MAINTENANCE PROCEDURES

In order to deactivate each affected Brake Temperature Sensor independently, follow the steps below:

- Pull the affected Brake Temperature Sensor circuit breaker and attach a DO-NOT-CLOSE tag to it:

TEMPERATURE SENSOR	CIRCUIT BREAKER
RH and LH Inboard	E19
RH and LH Outboard	E16

- Open the access panel 193AL. Refer to the AMM 06-41-01/101.
- Disconnect the electrical connector associated to the failed Brake

Temperature Sensor:

TEMPERATURE SENSOR	LH OUTBD	LH INBD	RH INBD	RH OUTBD
CONNECTOR	P1075	P1077	P1076	P1078

- Secure the harness associated with the disconnected connector with an appropriate tie-wrap in order to prevent it from moving freely within the fairing area.
- Install a cap (P/N MS90376-16Y or P/N NAS820-16A) in the electrical connector. Lock wire can be used to hold the cap in its place, if there is no confidence that it will be held during the aircraft operation.
- Install a cap (P/N MS90376-12RB or P/N NAS831-12C) in the affected Brake Temperature Signal Conditioner.
– Push back in the affected Brake Temperature Sensor circuit breaker (E16 or E19) and remove the DO- NOT-CLOSE tag from it.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

32. Landing Gear

Sequence No. Item	1	2	3	4	Change Bar

NOTE: If two or more Brake Temperature Sensors are disconnected, see Quick Turn Around Weight Chart on AOM Section 1-04-30- Performance.

In order to deactivate two or all Brake Temperature Sensors, pull and collar the affected sensor circuit breaker:

May be flight crewmember accomplished. Pull the affected Brake Temperature Sensor circuit breaker and attach a DO-NOT-CLOSE tag to it:

TEMPERATURE SENSOR	CIRCUIT BREAKER
RH and LH Inboard	E19
RH and LH Outboard	E16

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
41-08	Brake Pressure Transducers	B	4	3	(M) One may be inoperative with the BRAKE DEGRADED caution message present provided: a) Only the respective PRESS TRANSDUCER FAIL message is present on the brake system portion of the CMC, b) External leakage is not present, and c) Affected brake pressure transducer is deactivated.

32-41-08 BRAKE PRESSURE TRANSDUCERS

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Brake Pressure Transducer deactivation:

– For brake pressure transducer access refers TASK 32-41-08-000- 801-A (AMM).
– Gain access to the affected pressure transducer.
– Disconnect and stow the electrical connector.
– Make sure there is no evidence of leakage on the pressure port connection.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
44-05	Accumulator Low Pressure Switch	C	1	0	(M) May be inoperative provided accumulator charge is verified to be normal once each flight-day.

32-44-05 ACCUMULATOR LOW PRESSURE SWITCH

Placard on EICAS Bezel "EMRG BR LO PRES MESSAGE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 32-44-05-040-801A (AMM) for Emergency/Parking Brake Accumulator Charge check.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
44-07	BRAKE ON Lights				
1)	Cockpit Light	B	1	0	(M) May be inoperative provided emergency/parking brake system operates normally.
2)	Ramp Light	C	1	0	May be inoperative.

32-44-07 BRAKE ON LIGHTS

Placard affected Light "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished.

Parking Brake System check:

– Shut engines down and chock the airplane.
– Use APU or GPU as electrical power supply.
– Set both Thrust Levers at IDLE position.
– Turn on hydraulic system 2 electric pump.

CAUTION: NEVER MOVE CONTROL SURFACES SUCH AS FLAPS AND SPOILERS WITHOUT FIRST MAKING SURE THAT THE AREA IS CLEAR.

– Set flap to position 9° and set pitch trim within the takeoff green band limits.
– Cycle Parking Brake handle, while a second person checks that the brake actuating pistons of all brake assemblies are in operation.
– Release Parking Brakes.
– Advance Thrust levers to MAX position.
– Check that the Voice Message TAKEOFF BRAKES does not sound and the EICAS message NO TAKEOFF CONFIG is not presented.
– Apply Parking Brake and check that the Voice Message TAKEOFF BRAKES sounds and the EICAS Message NO TAKEOFF CONFIG is presented.
– Retard power lever, set flap position to 0° and turn off the hydraulic pump.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
49-00	Brake Assembly Wear Indicator	C	8	4	(M) One per brake assembly may be missing provided brake wear indicator is checked each flight day.

32-49-00 BRAKE ASSEMBLY WEAR INDICATOR

Placard as appropriate.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 32-49-03-220-001-A00 (AMM) (Detailed inspection of the Brake Wear Indicator).

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
50-01	Nosewheel Steering Handle	A	1	0	O) May be inoperative provided: a) Steering command through pedals operates normally, and b) Repairs are made within 3 flights.
50-02	CONTROL WHEEL STEERING DISENGAGE BUTTONS	C	2	1	(M) Pilot flying's disengage button may be inoperative provided pilot not flying's disengage button operates normally

32-50-01 Nosewheel Steering Handle

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

32-50-02 CONTROL WHEEL STEERING DISENGAGE BUTTONS

Placard on the pilot´s console near the steering handle "PILOT CONTROL WHEEL STEERING DISENGA BUTTON INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished.

Copilot´s Control Wheel Steering Disengage Button check:

- Perform SUBTASK 32-50-00-841-001-A00 (AMM) for airplane preparation.
- Press the copilot steering disengages button (STEER DISC) on the control wheel.
- Check STEER INOP caution message comes into view.
- Move the pedals from full right to full left and check RUDDER movement associated with no steering comma Make sure that the wheels do not move when the pedal is operated.
- Press the steering handle to reconnect the steering.
- Check STEER INOP caution message goes out of view.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
32. Landing Gear					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
60-00	Landing Gear Proximity Switches	B	19	13	(M) One up lock proximity switch and one down lock proximity switch may be inoperative in each landing gear leg, provided the remaining proximity switches operate normally. NOTE: Proximity switches include: air/ground, up lock, down lock, 7-degree steering, and nose landing gear door sequence.

32-60-00 LANDING GEAR PROXIMITY SWITCHES

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Proximity Switch check:

To check the proximity switch refer to TASK 32-63-05-700-801-A (AMM).

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
10-00	Cockpit/Flight Deck/Flight Compartment and Instrument Panel Lighting Systems	C	8	2	Individual lights may be inoperative provided: a) Remaining lights are sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided, b) Remaining lights are positioned so that direct rays are shielded from flight crew members' eyes, and c) Lighting configuration and intensity is acceptable to the flight crew.
		C	8	0	May be inoperative for day light operations.

33-10-00 COCKPIT/FLIGHT DECK/FLIGHT COMPARTMENT AND INSTRUMENT PAN LIGHTING SYSTEMS

Placard associated Light or Switch "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-00	Cabin Interior Illumination System	D	-	0	May be inoperative provided passengers are not carried. May be inoperative for day light operations.
1)	Aircraft without Photoluminescent Emergency Escape Path Marking System	-	-	-	N/A
2)	Airplane With Photoluminescent Emergency Escape Path Marking System	C	-	-	M)(O) Individual lights including up to 10% of the ceiling and sidewall lamps may be inoperative provided: a) Remaining lighting is sufficient for cabin attendant to perform assigned duties, b) No more than 2 adjacent ceiling and sidewall lamps in the longitudinal or lateral direction are inoperative, c) Ceiling and sidewall lamps in the region of the galley, cabinets and life-raft stowage areas are operative, and d) Attendant's panel cabin lighting control buttons must operate in ON and BRIGHT setting.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

33. Lights						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**

33-20-00 Cabin Interior Illumination System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

33-21-02 Passenger Signs

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
23-00	Passenger Lighted Information Signs	C	34	17	(M)(O) No passenger, lavatory or attendant seat may be occupied from which a "No Smoking/Fasten Seat Belt/Return to Seat" sign is not readily legible, or that seat must be blocked and placarded "DO NOT OCCUPY".
		C	34	0	(O) If one or more "No Smoking/Fasten Seat Belt/ Return to Seat" signs are inoperative, the affected passenger seat(s), lavatory seat or cabin attendant's seat may be occupied provided: a) The passenger address system operates normally and can be clearly heard throughout the cabin during flight, and b) The passenger address system is used to notify the cabin attendant and passengers when seat belts should be fastened and when smoking is prohibited.

33-23-00 PASSENGER SIGNS

Placard the seats affected by the inoperative signs "DO NOT OCCUPY".

OPERATIONAL PROCEDURES

Prior to each flight the captain must verify that the Passenger Address system operates normally and the Flight Attendant is briefed that this system must be used to notify the Flight Attendant and passengers when seats belts must be used, and smoking is prohibited.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. Verify that NO SMOKING/FASTEN SEAT BELT sign is readily available for affected seat. If the sign is not readily available, block seat(s) and placard "DO NOT OCCUPY".

TABLE KEY						
		1. REPAIR CATEGORY				
			2. NO. INSTALLED			
				3. NO. REQUIRED FOR DISPATCH		
					4. REMARKS OR EXCEPTIONS	
33. Lights						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
26-00	Courtesy and Stairs Lighting System	C	1	0		

33-26-00 COURTESY AND STAIRS LIGHTING SYSTEM

Placard Courtesy Lights Panel "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
30-00	Compartment Lights (Nose, Tail, etc.)	C	4	0	May be inoperative.

33-30-00 COMPARTMENT LIGHTS (NOSE, TAIL, BAGGAGE, ETC)

Placard associated Light "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

33. Lights

Sequence No.	Item	1	2	3	4 Change Bar
41-00	Landing Lights	C	3	2	One may be inoperative for night operations.
		C	3	0	May be inoperative for day light operations.
1)	Nose Landing Gear Automatic Extinguishing Function	D	1	0	(O) May be inoperative provided light is manually turned off on gear retraction.

33-41-00 LANDING LIGHT

Placard affected Landing Light Switch "INOP".

OPERATIONAL PROCEDURES

Flight crew to extinguish light manually after gear retraction.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
42-00	Taxi Light	C	2	1	
		C	2	0	May be inoperative provided nose landing light is operating normally.
		C	2	0	May be inoperative for daylight operation.
1)	Automatic Extinguishing Function	D	2	0	(O) May be inoperative provided the light is manually turned off on gear retraction.

33-42-00 TAXI LIGHT

Placard Taxi Lights Switch "ONE or BOTH LT INOP".

OPERATIONAL PROCEDURES

Flight crew to extinguish light manually after gear retraction.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
43-00	Navigation Lights	C	6	4	(O) Any light may be inoperative provided one green light, one red light, and two white lights operate normally. NOTE: Tail Strobe light may be used in place of the inoperative tail white light.
		C	6	0	May be inoperative for daylight operations.

33-43-00 NAVIGATION LIGHT SYSTEMS

In case of both systems failure, placard Navigation Light Switch "INOP".

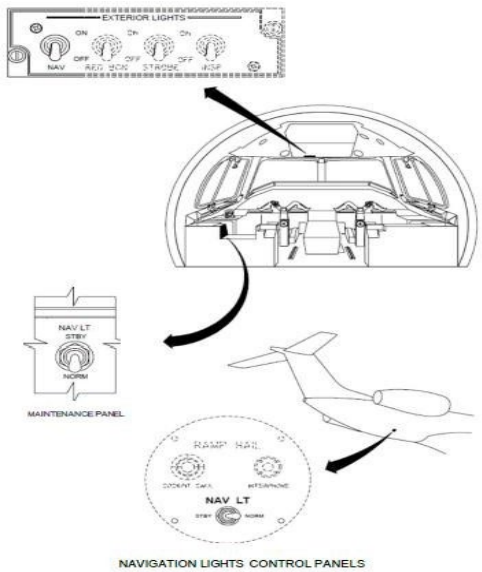
OPERATIONAL PROCEDURES Wingtip Lights (Green & Red):

Set the NAV LIGHT switch, on the maintenance panel (behind the pilot's seat), to the NORM or STBY position to select the system which is operative (See Figure).

Tail Boom Lights (only applicable to airplanes equipped with Four White Navigation Lights): Set the NAV LIGHT switch, on the aft ramp hail panel (See Figure), to the NORM or STBY position, in case one or both of the tail navigation lights in use become(s) inoperative.

MAINTENANCE PROCEDURES

None.



NAVIGATION LIGHTS CONTROL PANELS

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

33. Lights

Sequence No.	Item	1	2	3	4 Change Bar
44-00	Wing Inspection Lights	D	2	0	May be inoperative provided ground deicing procedures do not require their use.
		C	2	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.
		B	2	0	(O) May be inoperative provided a portable lamp/light of adequate capacity for wing and/or control surface inspection is available and used for night operations in icing conditions.

33-44-00 WING INSPECTION LIGHTS

Placard INSP Light Switch "INOP".

OPERATIONAL PROCEDURES

Use a portable lamp/light of adequate capacity for wing and/or control surface inspection in icing conditions.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
46-00	Logo Lights	D	2	0	May be inoperative.

33-46-00 LOGO LIGHTS

Placard LOGO Light Switch "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
47-03	Strobe Lights	C	3	0	May be inoperative for daylight operations.
		C	3	0	May be inoperative provided both red beacon lights operate normally.
		C	2	0	May be inoperative for daylight operations.
		C	2	0	May be inoperative provided both red beacon lights operate normally.
47-05	Red Beacons Lights	C	2	0	(O) May be inoperative for daylight operations provided: a) Beacon switch is positioned to ON prior to engine start, and b) Strobe lights operate normally. NOTE: The rotating beacon switch should be positioned to ON before engine start to turn the FDR on.
		C	2	1	(O) Either the upper or the lower fuselage lights may be inoperative provided 1 white strobe light at each wing position operates normally. NOTE: The rotating beacon switch should be positioned to ON before engine starting to turn the FDR on.

33-47-03 STROBE LIGHTS
Placard STROBE Switch "INOP".
OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
33. Lights					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

33-47-05 RED BEACON LIGHTS

Placard RED BCN Light Switch "INOP".

OPERATIONAL PROCEDURES

Before Starting Engines or APU:

Strobe Switch.....AS REQUIRED

For night operation, use strobe lights as a beacon to warn the ground personnel. For day operation, strobe lights are not required.

Red Beacon Switch.....ON

Set Red Beacon Switch to ON position before engine start to turn FDR on. Check carefully if the engines area is clear before starting engines.

NOTE: Red Beacon system could be disabled (pull and safety the RED BEACON (H19) circuit breaker), at ATA's discretion and FDR system still operates normally.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

33. Lights						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
48-00	Baggage Door External Light	D	1	0	May be inoperative.	

33-48-00 BAGGAGE DOOR EXTERNAL LIGHT

Placard Baggage Door External Switch "LIGHT INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
33. Lights					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
50-00	Emergency Lighting System (Battery-Powered)				
1)	External Lights	B	2	0	May be inoperative for daylight operations.
2)	Floor Proximity Strips (N/A TO EP-NEA, EP-NEB)	B	1	0	Up to two individual strips may be inoperative provided: a) They are not adjacent, and b) They are not used as an exit locator (amber light).
50-01	Photoluminescent Floor Proximity Emergency Escape Path Marking System	C	-	-	Up to 10% of any 1.22 meters section may be damaged or missing, except red indicators used as exit locators.

33-50-00 EMERGENCY LIGHTING SYSTEM (BATTERY POWERED)

Placard Emergency Light Switch “SYSTEM INOP”.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

33-50-01 Photoluminescent Floor Proximity Emergency Escape Path Marking System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
22-01	Main Panel Displays	B	5	4	(M)(O) Non-flying pilot's MFD (inboard display unit) may be inoperative.
1)	MFD Bezel	C	2	1	One may be inoperative provided opposite MFD works normally.
22-02	TAT Indications	C	2	1	(O)May be inoperative provided remaining TAT indication is operative.
22-03	SAT Indications	C	2	1	May be inoperative provided remaining SAT indication is operative.
-22-04	Slip Indicators	C	2	1	

34-22-01 MAIN PANEL DISPLAYS

Placard the affected Display "INOP".
The airplane may be dispatched after either the Operational or the Maintenance procedure below is accomplished.

OPERATIONAL PROCEDURES

If the non-flying pilot PFD display becomes inoperative, pull and safety affected Display Unit CB and revert the onside MFD display to PFD display, switching the MFD Selector Knob on the Reversionary Panel to PFD position.

NOTE: - The flying pilot PFD and MFD must be operative.
- In a SG reversion from co-pilot side, the autopilot is not able to capture the select altitude (although the FD mode transition - Vertical mode >> ASEL >> ALT HOLD and FD bars commands are correct). Besides, no faults are annunciated.

In case of CAS MESSAGE MISCOMPARISON and the non-flying pilot MFD display inoperative, revert displays 1, 2 and 3 to Symbol Generator 2 by pressing the LH SG button and compare EICAS messages.

MAINTENANCE PROCEDURES

If the EICAS display or either the flying pilot MFD or PFD display becomes inoperative, exchange its entire Display Unit with non-flying pilot MFD Display Unit and pull and safety affected Display Unit CB. Perform TASK 34-22-01-000-801-A (AMM) for Display Unit removal and TASK 34-22-01-400-801-A (AMM) for installation.

NOTE: The flying pilot PFD and MFD must be operative.

34-22-02 TAT INDICATION, 34-22-03 SAT INDICATION, 34-22-04 SLIP INDICATORS

Placard MFD Bezel "TAT INOP".

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4 REMARKS OR EXCEPTIONS

34. Navigation					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

Placard MFD Bezel "SAT INOP".
Placard MFD Bezel "SLIP IND INOP".

OPERATIONAL PROCEDURES
None.
MAINTENANCE PROCEDURES
None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
24-01	Standby Attitude Indication (On Integrated Standby Instrument (ISIS) or On Dedicated Instrument) (EP- NEC)	**B**	**1**	**0**	May be inoperative for day VMC operations only.
24-02	Standby Barometric pressure (STD) Button on ISIS (EP- NEC)	**C**	**1**	**0**	May be inoperative provided BARO knob is manually used to set barometric pressure.

34-24-01 STANDBY ATTITUDE INDICATOR

Placard Standby Attitude Indicator "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

34-24-02 Standby Barometric pressure (STD) Button on ISIS

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
25-00	Head-Up Guidance System (HGS)	-	-	-	N/A
25-01	Standby Magnetic Compass	B	1	0	May be inoperative provided: a) Any combination of two gyro or INS (IRU) stabilized compass systems operate normally, and b) Airplane is operated with Dual Independent Navigation capability and under positive radar control by ATC on the enroute portion of the flight.
		C	1	0	May be inoperative for flights that are entirely within areas of magnetic unreliability provided at least two stabilized directional gyro systems operate normally and are used in conjunction with approved free gyro navigation techniques.

34-25-00 HEAD-UP GUIDANCE SYSTEM (HGS)

Placard Head-Up Guidance System Control Panel (HCP) "HGS INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

34-25-01 STANDBY MAGNETIC COMPASS

Placard Standby Magnetic Compass "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY						
		1. REPAIR CATEGORY				
			2. NO. INSTALLED			
				3. NO. REQUIRED FOR DISPATCH		
					4. REMARKS OR EXCEPTIONS	
34. Navigation						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
27-00	Inertial Reference System (IRS) (For Aircraft Equipped with an Additional IRS Dedicated to HGS)	-	-	-	N/A	
27-05	IRS MSU Annunciators Lights (N/A TO EP-NEA, EP-NEB)					
1)	ALIGN Annunciator	C	2	0		
2)	FAULT Annunciator	C	2	1		
3)	ON BATT Annunciator	C	2	0		
4)	NO AIR Annunciator	C	2	0		
5)	NAV RDY Annunciator	C	2	0	(O) May be inoperative provided IRS is checked available for NAV mode.	
6)	BATT FAIL Annunciator	C	2	0	(O) May be inoperative provided IRS battery is checked supplying power.	

34-27-00 Inertial Reference System (IRS)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

34-27-05 IRS MSU ANNUNCIATORS LIGHTS

Placard IRS Mode Selector Unit Panel "ALIGN or FAULT or ON BATT or NO AIR or NAV RDY or BATT FAIL BUTTON INOP".

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS

34. Navigation					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

OPERATIONAL PROCEDURES NAV mode check:
For airplane with dual IRS: Initialization phase:
– IRS MSU knob ..... NAV
– "IRS ALIGN" EICAS message ..... Displayed
– "ATT" and "HDG" flag on PFD ..... Displayed
After initialization phase is finished, check:
– "IRS ALIGN" EICAS message ..... Extinguished
– "ATT" and "HDG" flag on PFD .....Extinguished
If check is successful, IRS is available for NAV mode. For airplanes with single IRS:
Initialization phase:
– IRS MSU knob ..... NAV
– "ATT" and "HDG" flag on HUD..... Displayed
After initialization phase is finished, check:
– "ATT" and "HDG" flag on HUD..... Extinguished
If check is successful, IRS is available for NAV mode.
IRS battery power supply check:
For airplanes with single or dual IRS:
– BATT 1 and BATT 2 knob.....AUTO
– Backup Battery Button ..... CHECKED PUSHED IN
– IRS Circuit Breaker ..... PULL
– IRS.....CHECK AVAILABLE
If IRS remains available after check above, it means that only "BATT FAIL" annunciator light is inoperative and IRS system operates normally.
Before dispatch, turn back to normal configuration:
– BATT 1 and BATT 2 knob.....AUTO
– IRS Circuit Breaker ..... PUSH
IRS system is available to dispatch.
MAINTENANCE PROCEDURES
None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation

Sequence No.	Item	1	2	3	4	Change Bar
31-00	Radio Altimeter System					
	Dual radio altimeter installation	A	2	0	(M)(O) Radio Altimeter 1 or both may be inoperative provided: a) Approach minimums or operating procedures do not require its use, b) GPWS/EGPWS is considered inoperative, c) TCAS is considered inoperative if both Radio Altimeter are inoperative, d) Affected Radio Altimeter is deactivated, and e) Repairs are made within 2 flight days. (M)(O) Radio Altimeter 2 may be inoperative provided: a) Approach minimums or operating procedures do not require its use, and b) Radio altimeter 2 is deactivated.	

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
31-01	Altitude Altimeter Function	B	1	0	((O) Except where enroute operations require its use, may be inoperative provided: a) Autopilot altitude hold operates normally, b) Alternate procedures are established and used, and c) The altitude alerting system is not part of the equipment required for the intended operation. **RVSM OPERATIONS NOT AUTHORIZED**
31-02	Altitude Preselect Function	A	1	0	(O)May be inoperative provided: a) Autopilot altitude hold operates normally,
		A	1	0	b) Enroute operations do not require its use, c) Alternate procedures are established and used, d) Flight Level Change (FLC) mode is considered inoperative, e) Go Around buttons on the thrust levers are considered inoperative, f) Altitude alerter function is considered inoperative, and g) Repairs are made within

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**
				3 flight days.	

34-31-00 RADIO ALTIMETER SYSTEM

Placard in Clear View of the Pilots or PFD Bezel "RA* or RA 1 or RA 2 or RA 1 AND RA 2 INOP".

OPERATIONAL PROCEDURES

If RA* or RA 1 or RA 2 circuit breaker is pulled the following equipment will become inoperative:

– GPWS/EGPWS.

– WINDSHEAR.

– TCAS (For airplanes equipped with dual RA, the TCAS will be inoperative only if RA 1 and RA 2 are lost simultaneously).

MAINTENANCE PROCEDURES

May be flight crewmember accomplished.

Radio Altimeter deactivated:

Pull and safety affected Radio Altimeter circuit breaker:

RADIO ALTIMETER	CIRCUIT BREAKER
RA*	D14
RA 1	D14
RA 2	D21

34-31-01 ALTITUDE ALERTER FUNCTION

Placard on PFD Bezel "ALTITUDE ALERT INOP".

OPERATIONAL PROCEDURES

1. Use the autopilot and Altitude Hold and Altitude Capture modes for all phases of flight for which it is appropriate.
2. Cross-check the altitude displays between the captain’s and first officer’s PFDs upon reaching and departing an assigned altitude.
3. Periodically cross-check altitude indications when maintaining an assigned altitude.
4. Pilot monitoring should call out approaching and departing assigned altitudes.

a) Normal altitude calls out and visual alerts (change in colors provided above the altitude display on both PFD’s) shall be used.

5. Flight crew must be aware that the usual alerts for altitude deviations will not occur.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS
				.

34. Navigation					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**
				3 flight days.	

MAINTENANCE PROCEDURES

None.

34-31-02 ALTITUDE PRESELECT FUNCTION

Placard adjacent to ASEL knob on Flight Guidance Controller "ASEL INOP".

OPERATIONAL PROCEDURES

General Information:

– With altitude preselect function inoperative, the altitude preselect display on PFD may present dashes, zero or a fixed altitude value.

– Pilots should use the Altitude Hold mode to capture the desired altitude during climb and descent operations. Normal altitude callout procedure should be used.

– Flight Level Change mode must not be used and should be considered inoperative.

– Altitude alerter annunciation or altitude preselected information must be disregard by the crewmembers.

– RVSM operation is not allowed.

– Go-Around Buttons must not be used and should be considered inoperative.

NOTE:

- If dashes are presented on the altitude preselect display on PFD, it will be understood as zero-feet altitude by the Flight Director.

- Pilots must be warned that, if a fixed altitude value is presented on the altitude preselect display on the PFD, the airplane may capture this altitude when reaching it.

Altitude Hold Mode check

With airplane on the ground and energized:

Flight Director..... ON

HDG mode.....SELECT

Check HDG and PIT label annunciated on the PFD.

SPD mode ..... SELECT

Check command bar moving on the PFD.

ALT mode..... SELECT

Check command bar capturing present altitude and the ALT green label presented on the PFD.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				REMARKS OR EXCEPTIONS

34. Navigation					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**
				3 flight days.	

Takeoff procedure:

Since Go-Around buttons cannot be used, pilots must perform the Takeoff Sub mode manually using the Touch Control Steering Button (TCS). Selecting just a lateral mode (HDG or NAV) will activate the basic vertical mode (PIT). At rotation, keep the TCS button pressed to command a pitch attitude of 14° (for flaps at 9°) or 13° (for flaps at 18°). Once the Pitch value is reached, the TCS button must be released and the Flight Director will maintain the set pitch until a new vertical mode is selected.

Go-Around procedure:

During Go-Around procedure autopilot must be disengaged and go around buttons must not be used. Flight Director must be reverted to basic mode (ROL and PIT) and pilots should perform the Go-Around mode manually using the Touch Control Steering Button (TCS).

While keeping the TCS button pressed, pilots should command a pitch attitude to allow a climbing turn with airspeed around 1.23 Vs. Once a positive rate of climb has been achieved, pilots should set a pitch of 10° nose up and release the TCS button. This constant pitch attitude must be maintained for at least 20 seconds. After that, the IAS Speed Hold mode must be selected following the go-around speed preselect on the airspeed bug with limitation at 1.23 Vs.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation

Sequence No.	Item	1	2	3	4 Change Bar
32-00	VOR/ILS Systems	C	2	0	
1)	Instrumental Landing System (ILS)				May be inoperative provided approach procedures do not require its use. In case of VOR inoperative, at least one Flight Management Computer and Global Positioning System operates normally, and Inoperative system is not powered by standby or emergency power.
2)	Marker Beacon Systems	C	2	0	May be inoperative provided approach procedures do not require its use.
3)	Third VHF/NAV	D	-	-	May be inoperative provided the HGS is considered inoperative.

34-32-00 VOR/ILS SYSTEM

Placard in Clear View of the Pilots or PFD Bezel "VOR/ILS INOP", "ILS INOP" or "MARKER BEACON INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
41-00	Enhanced Ground Proximity Warning System (EGPWS)				
1)	GPWS	A	1	0	(O) May be inoperative provided: a) Alternate procedures areestablished and used, and b) Repairs are made within 2 flight days.
a)	Modes 1–4	B	4	0	One or more mode may be inoperative provided FLTA and PDA functions are operative.
b)	Test Mode	A	1	0	May be inoperative for a maximum of 6 flights or 2 calendar days, whichever occurs first.
c)	Glide slope Deviation(s) (Mode 5)	C	1	0	May be inoperative.
d)	Advisory Callouts (Mode 6)	C	1	0	(O) May be inoperative provided: a) Low visibility approaches requiring the use of affected callouts are not performed, and b) Alternate procedures are established and used.
e)	Windshear Mode (Reactive)	C	1	0	(O) May be inoperative provided alternate procedures are established and used.
2)	Terrain System – Forward-Looking Terrain Avoidance (FLTA) and Premature Descent Alert (PDA) Functions)	B	1	0	May be inoperative provided: a) Mode 1-4 are operative, and b) Approaches procedures do not require its use.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
3)	Terrain Displays	C	1	1	Any in excess of one may be inoperative.
		B	1	0	May be inoperative.
41-01	Windshear Escape Guidance System	C	1	0	(O) May be inoperative provided alternate procedures are established and used.

34-41-00 ENHANCED GROUND PROXIMITY WARNING SYSTEM (EGPWS)

Placard GPWS Lights "GPWS INOP".

OPERATIONAL PROCEDURES

1.Maintain terrain awareness.
2. Avoid flight in known or forecast windshear conditions.
3. Review windshear recognition and recovery procedures.
4. Make standard callouts verbally.
5. Pilot not flying should monitor flight path during takeoff, approach, landing and alert the pilot flying if any of the following conditions exist:

- High terrain or obstacles in the terminal area
- Excessive descent rate on the Baro Altimeter
- Excessive terrain closure rate on the Radio Altimeter
- Altitude loss after takeoff or go-around
- Deviation from glideslope.

MAINTENANCE PROCEDURES

None.

34-41-01 WINDSHEAR ESCAPE GUIDANCE SYSTEM Placard

PFD Bezel "WDSHEAR ESCAPE GUIDANCE INOP".

OPERATIONAL PROCEDURES

Avoid area where Windshear reported. In case Windshear follow Windshear escape maneuver.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
41-02	Steep Approach Function		-	-	N/A	

33-50-00 EMERGENCY LIGHTING SYSTEM (BATTERY POWERED)

Placard Emergency Light Switch “SYSTEM INOP”.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

33-50-01 Photoluminescent Floor Proximity Emergency Escape Path Marking System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
42-00	Weather Radar System	C	1	0	May be inoperative provided operations are conducted in daylight VMC.
		C	1	0	May be inoperative provided no thunderstorm or other potentially hazardous weather conditions, regarded as detectable with the airborne weather detection system, are forecasted along the route. **NOTE:** The route corresponds to any point on the route including diversions to reach alternate aerodromes required by the operational rules.
1)	Stabilization Function	B	1	0	(M) May be inoperative provided: a) Antenna sweep is parallel to aircraft pitch axis, and b) Antenna tilt operates normally.
2)	Control Panel (Only to airplanes equipped with two panels) N/A TO EP-NEA AND EP-NEB	D	2	1	Flying pilot's control panel may be inoperative provided the other panel operates normally.

34-42-00 WEATHER RADAR SYSTEM

Placard Weather Radar Control Panel "INOP" or "STABILIZATION INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform AMM TASK 34-42-01-040-801-A for antenna sweep check.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
43-00	Traffic and Collision Avoidance System	A	1	0	(M) May be inoperative for a maximum of 10 calendar days provided: a) TCAS is deactivated, and b) Operating procedures do not require its use.
1)	Combined Traffic Alert (TA) and Resolution Alert (RA) Dual Display System(s)	C	2	1	(O) May be inoperative on the non-flying pilot side provided: a) TA and RA elements and audio functions are operative on the flying pilot side, and b) TA and RA display indications are visible to the non-flying pilot.
2)	Resolution Advisory (RA) Display System(s)	C	2	1	May be inoperative on non-flying pilot side.
		C	2	0	(O) May be inoperative provided: a) All Traffic Alert (TA) display elements and voice command audio functions are operative, b) TA only mode is selected by the crew, and c) Operating procedures do not require its use.
3)	Traffic Alert Display System(s)	C	2	0	(O) May be inoperative provided: a) RA display and audio functions are operative, and b) Operating procedures do not require its use.

34-43-00 TRAFFIC AND COLLISION AVOIDANCE SYSTEM

Placard RMU or MFD Bezel Display or Panel "TCAS INOP".

OPERATIONAL PROCEDURES

RA or TA visual and audio function check:

Perform TCAS system test to ensure that RA or TA display and audio functions are operative.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS

34. Navigation						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**

MAINTENANCE PROCEDURES

Traffic and Collision Avoidance System deactivation:

May be flight crewmember accomplished. Pull and safety affected TCAS circuit breaker:

MODEL	CIRCUIT BREAKER
TCAS I	J6
TCAS II	J6
TCAS 2000	D3

NOTE: It is not recommended setting the ATC ON because this mode does not transmit the altitude reporting.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
51-00	Distance Measuring Equipment (DME) Systems	C	2	1	(O) One or more may be inoperative provided: a) The navigation systems required for each segment of the intended route are operative, and b) Alternate procedures are established and used, where applicable.	

34-51-00 DME SYSTEM

Placard PFD Bezel "DME INOP".

OPERATIONAL PROCEDURES

Use data from the operative FMS. Where operation procedure requires to use DME, operative DME should be on pilot flying side.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
52-00	ATC Transponder and Automatic Altitude Reporting System				
	Mode S Transponder	D	2	1	
1)	Elementary and Enhanced Downlink Aircraft	A	-	0	N/A
2)	ADS-B Out Extended Squitter Transmissions	B	-	0	N/A

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**

34-52-00 ATC Transponder and Automatic Altitude Reporting System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation

Sequence No.	Item	1	2	3	4 Change Bar
53-00	ADF System	-	1	1	Must be operative from BASE.
		D	2	1	(O) One may be inoperative provided: a) The navigation systems required for each segment of the intended route are operative, and b) Alternate procedures are established and used, where applicable.
54-00	XM Weather System	-	-	-	N/A

34-53-00 ADF SYSTEMS

Placard RMU Bezel "ADF INOP".

OPERATIONAL PROCEDURES

Use data from the operative FMS. Where operation procedure (NDB approach) requires to use ADF, pilot should choose another type of instrument approach or visual approach.

MAINTENANCE PROCEDURES

None.

34-54-00 XM Weather System

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
56-00	Global Positioning System	C	2	0	(O) May be inoperative provided alternate procedures are established and used.
		D	2	0	May be inoperative provided procedures do not require its use.

34-56-00 GLOBAL POSITIONING SYSTEM

Placard GPS Panel "INOP".

OPERATIONAL PROCEDURES

Ensure intended flight operation (departure, enroute, approach) does not require the use of GPS (for one or both GPS inoperative). Refer to the appropriate Operations Manual or AFM for equipment requirements for long range and performance-based navigation operations (PRNAV, BRNAV, RNAV, RNP, MNPS, etc.).

NOTE: In case of GPS inoperative, terrain awareness alerting and display functionality must be manually inhibited. For dual GPS configuration, terrain awareness alerting and display functionality must be manually inhibited only when both GPS are inoperative.

MAINTENANCE PROCEDURES

None

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
34. Navigation					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
60-00	Flight Management System	C	1	1	One is required if IRS is used as primary navigation and attitude source. RNP-APCH: One must be operative for dispatch (FMS CDU must be operative).
		C	1	0	(O) May be inoperative provided alternate procedures are established and used.
		D	1	0	May be inoperative provided procedures do not require its use. NOTE: Airplanes equipped with EGPWS and operating without FMS will loss the Terrain Clearance Floor mode. A TERRAIN INOP message will be presented on the EICAS.
1)	Navigation Databases	A	1	0	(O) One or more may be out of date for a maximum of 10 calendar days provided: a) Area Navigation (RNAV/RNP) departure, arrival and approach procedures are checked not to depend on the data amended in the current database cycle or Conventional (Non-RNAV/RNP) or ANSP assistance is used as an alternative to RNAV/RNP procedures which have been amended in the current database cycle, *Continued…*

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

34. Navigation						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
					b) Before each flight, current aeronautical information is used to verify the database Navigation Fixes, the coordinates, frequencies, status (as applicable) and	
2)	Joystick Controller	C	1	0	c)suitability of Navigation Facilities required for the intended flight route, and Radio navigation aids, which are required to be flown for departure, arrival and approach procedures and which have been amended in the current database cycle, are manually tuned and identified.	

34-60-00 FLIGHT MANAGEMENT SYSTEM

Placard FMS Panel "INOP".

OPERATIONAL PROCEDURES

Ensure intended flight operation (departure, enroute, approach) does not require the use of dual FMS. Refer to the appropriate Operations Manual or AFM for equipment requirements for long range and precision navigation operations (PRNAV, BRNAV, RNAV, RNP, MNPS, etc.). Use VOR and ADF source of navigation data.

34-60-00-01

Use procedure described under a), b) and c) above.

MAINTENANCE PROCEDURES

None.

NOTE:

– The AH-900 AHRS complete alignment requires a valid input of the airplane’s present position from the FMS or through the MDF 1. The present position input through MFD 1 is possible only if the IM-600 has been properly configured (airplanes equipped with EICAS 18 and on).

– Airplanes equipped with EGPWS and operating without FMS will loss the terrain clearance floor mode. A TERRAIN INOP message will be presented on the EICAS.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
35. Oxygen					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
10-01	Crew Mask Stowage Box 1) Doors	B	4	0	(M) May be inoperative or missing provided: a) Associated mask is secured in the stowage box, and b) The quick donning capability is not affected.

35-10-01 Crew Mask Stowage Box

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
35. Oxygen					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-00	Oxygen Pressure Indication Systems	B	2	1	(O) One may be inoperative provided an approved procedure is used before each departure to ensure that oxygen supply is at or above minimum required for flight.
11-03	Oxygen Cylinder Pressure Relief Disc (Green Disc)	C	1	0	May be missing or broken provided flight crew oxygen system operates normally.

35-11-00 OXYGEN PRESSURE INDICATION SYSTEMS

Placard MFD Bezel "OXY PRESS IND INOP".

OPERATIONAL PROCEDURES

If MFD oxygen pressure indicator inoperative: Check the gage reading on the oxygen service panel, it must be at or above the minimum required for dispatch (refer to the AOM - Section 2-16-30 - Minimum Oxygen Pressure for Dispatch).

If oxygen service panel indicator inoperative: Check the digital reading on the MFD. It must be at or above the minimum required for dispatch (refer to AOM – Section 2-16-30 – Minimum Oxygen Pressure for Dispatch).

MAINTENANCE PROCEDURES

None.

35-11-03 OXYGEN-CYLINDER PRESSURE RELIEF DISC (GREEN DISK)

Placard as appropriate.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
35. Oxygen					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-00	Passenger Oxygen System	B	1	0	(O) May be inoperative provided: a) All air conditioning packs operate normally, b) Pressurization system operates normally, and c) Passengers are appropriately briefed.
		B	1	0	May be inoperative provided flight is conducted at or below 10000 ft MSL.

35-20-00 PASSENGER OXYGEN SYSTEM

Placard Passenger Oxygen Panel "PAX OXY DEPLOY INOP" or "PAX OXY INOP".

OPERATIONAL PROCEDURES

If automatic deployment is inoperative and it is necessary to deploy passenger oxygen masks, position the Passenger Oxygen Selector knob to MAN.

MAINTENANCE PROCEDURES

Through the inlet of ram air valves, visually check flap in the emergency ram air position. Perform TASK 35-20-00-700-801-A (AMM) for manual deployment system operational check.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
35. Oxygen					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-00	Passenger Oxygen System (Cont'd)				
1)	Automatic Presentation System	C	1	0	(M)(O) May be inoperative provided: a) Manual deployment system operates normally, and b) Flight is conducted at or below FL 300.
2)	Passenger Dispensing Units	C	35	0	(M)(O) May be inoperative without flight altitude restriction provided: a) Affected seats are placarded and blocked to prevent occupancy, and b) Units operate normally at all usable lavatory and flight attendant locations.
20-05	Passenger Oxygen System Door - Manual Opening Tool	D	2	1	
		C	2	0	(O) May be inoperative or missing provided alternate procedures are established and used.

35-20-00 PASSENGER OXYGEN SYSTEM

Placard Passenger Oxygen Panel "PAX OXY DEPLOY INOP" or "PAX OXY INOP".

OPERATIONAL PROCEDURES

If automatic deployment is inoperative and it is necessary to deploy passenger oxygen masks, position the Passenger Oxygen Selector knob to MAN.

35-20-00-01

If it is necessary to deploy passenger oxygen masks, position the Passenger Oxygen Selector knob to MAN.

35-20-00-02

Verify affected seats have been placarded and blocked to prevent occupancy.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS
35. Oxygen				
Sequence No. Item	**1**	**2**	**3**	**4** **Change Bar**

MAINTENANCE PROCEDURES

Through the inlet of ram air valves, visually check flap in the emergency ram air position. Perform TASK 35-20-00- 700-801-A (AMM) for manual deployment system operational check.

35-20-00-01,02

Affected seats must be placarded and blocked to prevent occupancy.

35-20-05 PASSENGER OXYGEN SYSTEM DOOR - MANUAL OPENING

TOOL OPERATIONAL PROCEDURES

According to MEL remarks.

MAINTENANCE PROCEDURES

None

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

35. Oxygen

Sequence No.	Item	1	2	3	4 Change Bar
30-01	Portable Oxygen Units (Bottle and Mask)	C	2	1	
30-03	Protective Breathing Equipment (PBE)	D	3	2	(M) Any in excess of those required by the regulations may be inoperative provided: a) Inoperative unit is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a function unit, and b) Required distribution is maintained. c) Flight crew PBE is combined with flight crew oxygen mask. d) Portable PBE requires for flight crew adjacent to flight crew compartment when flight conduct without cabin crew member

35-30-01 Portable Oxygen Units (Bottle and Mask)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

35-30-03 PROTECTIVE BREATHING EQUIPMENT (PBE)

Placard on the affected equipment storage compartment "REMOVED".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

According to MEL remarks.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
36. Pneumatic					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
11-05	Engine Bleed Systems Left	C	2	1	(M)(O) Left engine bleed system may be inoperative provided: a) Left engine bleed valve is secured closed, b) Flight is conducted at or below FL 250, and Cross bleed valve is closed, and C)Airplane is not operated in known or forecast icing conditions.
	Left	C	2	1	(M)(O) Left engine bleed system may be inoperative provided: a) Left engine bleed valve is secured closed, b) When APU is not supplying bleed air, flight is conducted at or below FL 250, and c) Airplane is not operated in known or forecast icing conditions.
	Right	C	2	1	(M)(O) Right engine bleed system may be inoperative provided: a) Right engine bleed valve is secured closed, b) Flight is conducted at or below FL 250, and c) Airplane is not operated in known or forecast icing conditions.
11-05	Both	C	2	0	(M)(O) May be inoperative provided: a) Engine bleed valves are secured closed, b) APU bleed is operating normally and supplying bleed air, *Continued……*

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

36. Pneumatic						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
11-05	Engine Bleed Systems Both	C	2	0	c)Flight is conducted at or below 18,000 ft. MSL, and d) Airplane is not operated in known or forecast icing conditions. e) Ambient temperature on the ground is below ISA + 21ºC. NOTE: For airplanes with ISIS incorporated at least one Pack and associated Recirculation Fan must be operative on the ground. (EP- NEC)	
		C	2	0	(M)(O) May be inoperative provided: a) Engine bleed valves are secured closed, b) Flight is conducted at or below 10,000 ft. MSL, c) Flight is conducted in an unpressurized configuration, d) Airplane is not operated in known or forecast icing conditions, and f) Ambient temperature on the ground is below ISA +21 °C. NOTE: This configuration is not applicable for airplanes equipped with ISIS. (EP- NEC)	

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4.REMARKS OR EXCEPTIONS	
36. Pneumatic					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

36-11-05 ENGINE BLEED SYSTEM

Placard the affected Bleed Air Button "INOP".

OPERATIONAL PROCEDURES

When the Left Engine Bleed Shutoff Valve is inoperative and the Right Engine Bleed Shutoff Valve and the APU Bleed Shutoff Valve are operating normally and supplying bleed air, flight should be conducted at or below FL 370.

When the Left Engine Bleed Shutoff Valve and the APU Bleed Shutoff Valve are inoperative and the Right Engine Bleed Shutoff Valve is operating normally and supplying bleed air, flight should be conducted at or below FL 250.

When the Right Engine Bleed Shutoff Valve is inoperative and the Left Engine Bleed Shutoff Valve is operating normally and supplying bleed air, flight should be conducted at or below FL 250.

When Both Engine Bleed Shutoff Valves are inoperative and the APU Bleed Shutoff Valve is operating normally and supplying bleed air, flight should be conducted at or below 18000 ft.

When Both Engine Bleed Shutoff Valves and the APU bleed Shutoff Valve are inoperative, flight should be conducted at or below 10000 ft.

Refer to DDPM item 21-31-03 for unpressurized configuration flight. On the ground, ambient temperature must be below ISA + 21°C.

MAINTENANCE PROCEDURES

NOTE: For MMEL dispatch purposes, the Engine Bleed System is comprised of: Engine Bleed Shutoff Valve (EBV) or Pressure Regulator Shutoff Valve (P-RSOV), Fan Air Valve, Fan Air

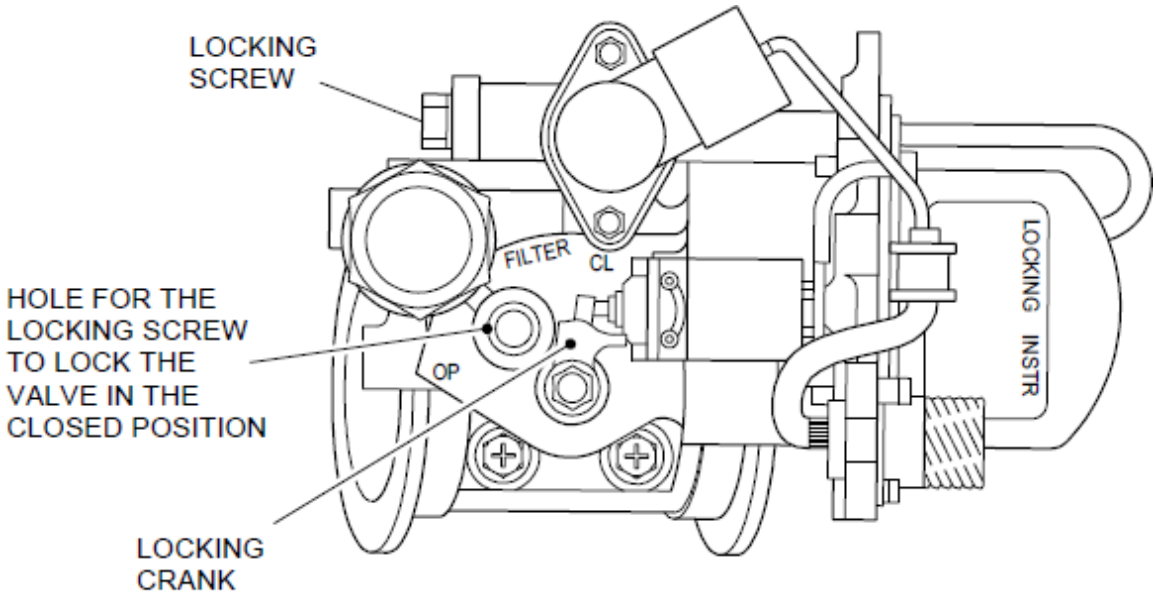
Thermostat, Pre-Cooler and Bleed Temperature Sensors, Differential Pressure Switch, High Stage Valve, High Stage Pressure Switch and Bleed Air Check Valve.

Engine Bleed Shutoff Valve secured closed:

- Gain access to the affected valve (AMM - Chapter 36).
- Disconnect, insulate and stow the electrical connector.
- Remove the locking screw from the actuator housing. It has a retaining cable.
- Turn the valve to the closed position. The locking crank has a hex head so you can put a wrench on it to turn the valve.
- Install the locking screw in the hole in the actuator housing that is nearest to the locking crank.

Continued…

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4.REMARKS OR EXCEPTIONS	
36. Pneumatic					
Sequence No. **Item**	**1**	**2**	**3**	**4**	**Change Bar**



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ENGINE BLEED SHUTOFF VALVE

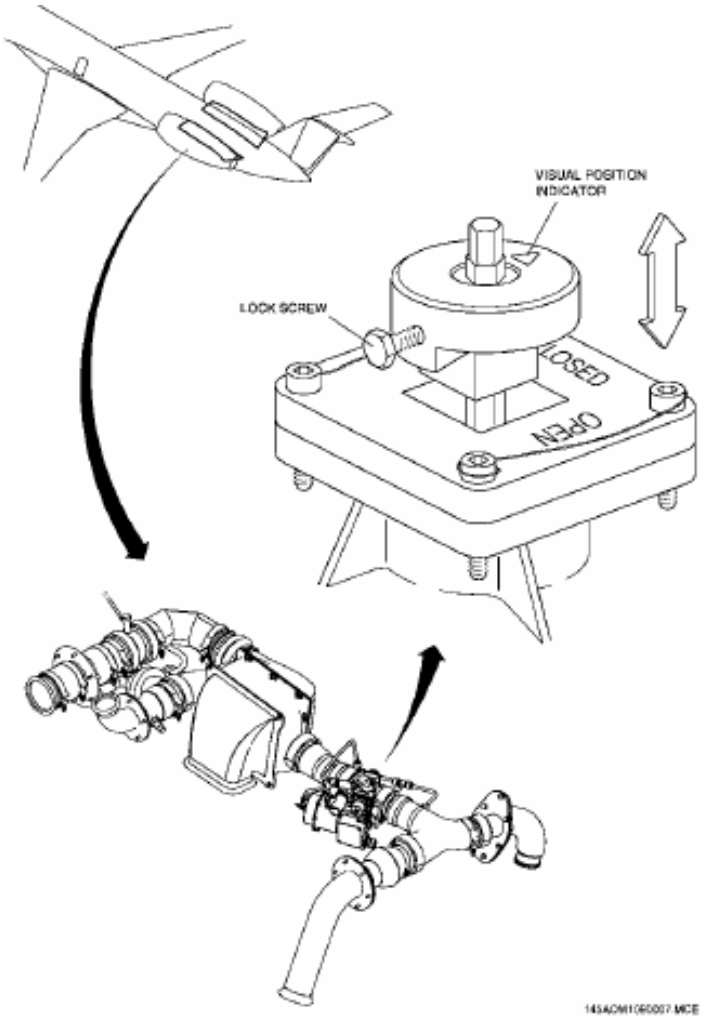
TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

36. Pneumatic

Sequence No.	Item	1	2	3	4	Change Bar

Engine Bleed Pressure Regulator Shutoff Valve secured closed:

– Remove the following access panels: 414DB (LH pylon) or 424DB (RH pylon).
– Verify that the pneumatic system is de-pressurized and that the solenoid is de-energized.
– Loosen the position indicator lock screw.
– Slide the lock into the recess of the cover plate. A rotation of the screw may be necessary to center the lock in the recess of the cover plate.
– Torque the position indicator lock screw to 11 to 13 lb-in.



ENGINE BLEED PRESSURE REGULATOR SHUTOFF VALVE

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
36. Pneumatic					
Sequence No.	**Item**	**1**	**2**	**3**	**4 Change Bar**
11-10	Air Conditioning Panel Bleed Air Button Red Leak Indication	B	2	0	(M) May be inoperative provided associated BLD LEAK EICAS message operates normally.

36-11-10 AIR CONDITIONING PANEL BLEED AIR BUTTON RED LEAK INDICATION

Placard affected Bleed Air Button "LEAK INDICATION INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 36-20-02-700-802-A (AMM) for EICAS indication for thermal switch operation check.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

36. Pneumatic

Sequence No.	Item	1	2	3	4 Change Bar
12-01	APU Bleed Shutoff Valve	D	1	0	(M) May be inoperative provided: a) APU bleed shutoff valve is secured closed, and b) APU bleed is selected off and not used.

36-12-01 APU BLEED SHUTOFF VALVE

Placard APU Bleed Button "INOP".

OPERATIONAL PROCEDURES

None.

NOTE: In case of APU bleed system deactivated, a ground pneumatic unit is required for engine start. Refer to item 49-00-00 (operational procedure).

MAINTENANCE PROCEDURES

Perform AMM TASK 36-12-01-040-801-A for APU T-62T-40 C11 or AMM TASK 36-12-03-040-801-A for APU T-62T-40 C14.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
36. Pneumatic					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-00	BLD APU LEAK Warning Message	C	1	0	May be inoperative provided APU is considered inoperative.

36-20-00 BLD APU LEAK WARNING MESSAGE Placard

EICAS Bezel "BLD APU LEAK MESSAGE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
38. Water/Waste					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
10-00	Water Systems	C	1	0	(M) Individual components may be inoperative provided: a) Associated components are deactivated or isolated, and b) Associated components are verified not to have leaks. NOTE: Any portion of the system which operates normally may be used.
		C	1	0	(M) May be inoperative provided: a) System is drained, and b) Procedures are established to ensure that system is not serviced.

38-10-00 WATER SYSTEM

Placard External Water Service Door "DO NOT SERVICE". Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

1. Cabin attendant must be briefed that the lavatory is locked and may not be used.
2. Advise Ground Service Personnel not to service Lavatory waste system.

MAINTENANCE PROCEDURES

- Deactivate or isolate the associated inoperative components.
- If system is leaking, it must be drained. Ground service must be contact to drain system.
- If tank cannot be drained, accomplish AMM TASK 38-10-05-790- 801-A for the tank valve leakage test.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
38. Water/Waste					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
30-00	Lavatory Waste Systems	C	1	0	(M) Individual components may be inoperative provided: a) Associated components are deactivated or isolated, and b) Associated components are verified not to have leaks. NOTE: Any portion of the system which operates normally may be used.
		C	1	0	(M) (O)Associated lavatory system(s) may be inoperative provided: a) Associated components are deactivated or isolated to prevent leaks, and b) Associated lavatory door(s) is secured closed and placarded “INOPERATIVE - DO NOT ENTER”. NOTE: These provisions are not intended to prohibit inspections by crewmembers.

38-30-00 LAVATORY WASTE SYSTEMS

Placard Lavatory Door "LAVATORY INOPERATIVE".

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

- Inspections of the lavatory by crewmembers.
- Flight attendant must be briefed that the lavatory is locked and may not be used.
- Advise Ground Service Personnel **not** to service Lavatory waste system.

MAINTENANCE PROCEDURES

- Deactivate or isolate the associated inoperative components.
- If system is leaking, ground service must be contact to drain system. In case of toilet overservicing, perform AMM TASK 05-50-12-100-801-A (Cleaning Procedure) prior to next flight and AMM TASK 05-50-12-200-801-A (Complete Cleaning Procedure/Check) within next 10 consecutive days.
- May be flight crewmember accomplished: Lock lavatory door and install "LAVATORY INOPERATIVE" placard on lavatory door.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTION

45. Central Maintenance System

Sequence No.	Item	1	2	3	4	Change Bar
45-01	Central Maintenance Computer (CMC)	C	1	0	(M)May be inoperative provided maintenance procedures do not require its use.	|

45-45-01 CENTRAL MAINTENANCE COMPUTER (CMC)

Register as appropriate for maintenance personnel actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
46. Information Systems					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-01	Electronic Flight Bag Systems (EFB)				
	EFB System (Installed EFB System)	C	2	0	May be inoperative provided alternate procedures are established and used. NOTE: Any function, program, or document which operates normally may be used.
		D	1	0	May be inoperative provided procedures do not require its use.
1)	Data Connectivity	C	-	-	(O) May be inoperative provided alternate procedures are established and used.
		D	-	0	May be inoperative provided procedures do not require its use.
2)	Power Connection	C	-	-	(O) May be inoperative provided alternate procedures are established and used. NOTE: Depending upon configuration, power supply/power connection may require deactivation by (M) procedure.
		D	-	0	May be inoperative provided procedures do not require its use.
3)	Mounting Device (Class 2)	C	-	0	(M)(O) May be inoperative provided: a) Associated EFB and hardware is secured by an alternate means or removed from the airplane, and

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

46. Information Systems						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
3)	Mounting Device	D	-	0	b) Alternate procedures are established and used. (M) May be inoperative provided: a) Associated EFB and hardware is secured by an alternate means or removed from the airplane, and b) Procedures do not require its use.	

46-20-01 Electronic Flight Bag Systems (EFB)

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES.

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
49. Airborne Auxiliary Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
00-00	Auxiliary Power Unit (APU)	D	1	0	(M)(O) May be inoperative provided: a) APU is deactivated, and b) Procedures are not dependent upon its use.

49-00-00 AUXILIARY POWER UNIT (APU)

Placard APU Control Panel "INOP".

OPERATIONAL PROCEDURES

A Pneumatic Start Unit is required for engine start when APU is inoperative. Refer to TASK 20-40-03- 860-801-A (AMM) to connect the Pneumatic Start Unit.

If no Pneumatic Start Unit is available, at least one engine should be kept running during turn-around (refer to AOM Section 1-12-25 Refueling with an Engine Running and Deplaning or Boarding with One Engine Running procedures).

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. Pull and safety the APU CONTROL circuit breakers, (C30) on the Circuit Breaker panel and the (E6) on the Left DC distribution box.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
49. Airborne Auxiliary Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
70-01	APU OIL LO PRESS Caution Message	C	1	0	May be inoperative provided APU is used on ground only.
70-02	APU OIL HI TEMP Caution Message	C	1	0	May be inoperative provided APU is used on ground only.
70-03	APU FAIL Caution Message	C	1	0	May be inoperative provided APU is used on ground only.

49-70-01APU OIL LO PRESS CAUTION MESSAGE

Placard APU Control Panel "USE ONLY ON GROUND". Placard EICAS Bezel "APU OIL LO PRESS MESSAGE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

49-70-02APU OIL HI TEMP CAUTION MESSAGE

Placard APU Control Panel "USE ONLY ON GROUND". Placard EICAS Bezel "APU OIL HI TEMP MESSAGE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

49-70-03APU FAIL CAUTION MESSAGE

Placard APU Control Panel "USE ONLY ON GROUND".
Placard EICAS Bezel "APU FAIL MESSAGE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
49. Airborne Auxiliary Power					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
74-01	APU Hour Meter Function	C	1	0	(M) May be inoperative provided alternate procedures are used to accomplish hour meter function.

49-74-01 APU HOURMETER FUNCTION

Register in the appropriate document for the necessary actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

The operator shall develop appropriate procedures according to its airplane utilization to control APU operating hours.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
52. Doors					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
12-00	Main Door Hydraulic Actuation System (EP-NEC)	B	1	0	(M) May be inoperative provided damping function operates normally.

52-12-00 MAIN DOOR HYDRAULIC ACTUATION SYSTEM

Placard on Door Panel (Entrance and Exterior) "DOOR ACTUATION INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Damper Function checking:

May be flight crewmember accomplished. Lift the door manually up to its mid closed position, and then let the door to come down. Check that door moves down slowly, with damping.

NOTE: Care should be taken to avoid that the door coming down without damping.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

52. Doors

Sequence No.	Item	1	2	3	4 Change Bar
21-01	Overwing Emergency Exit	B	2	1	(M) May be inoperative provided damping function operates normally. (M)(O) One overwing emergency exit may be inoperative provided: a) Passenger number is limited to 19 or as established and agreed by the Local Authority, b) Affected emergency exit is verified CLOSED, LATCHED and LOCKED before each departure, c) A conspicuous barrier strap and a placard stating that the door is inoperative shall be placed across the inoperative door, d) Emergency exit sign associated with the inoperative exit must be covered to obscure the sign, and e) Crew must be briefed not to use the affected exit. **NOTE**: Overwater operation is not permitted.

52-21-01 Overwing Emergency Exit

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES.

None.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

52. Doors

Sequence No.	Item	1	2	3	4 Change Bar
51-00	C&D Aerospace Flight Deck Security Door				May be inoperative provided: a) Door Dead Bolt is operative, b) Door Dead Bolt is used to lock and unlock the door, and Repairs are made within two flight days
1)	Door latch	A	1	0	
2)	Flight Deck Door Panel Pressure Relief Latch (EP-NEC)	A	1	0	May be inoperative in the latched position provided repairs are made within two flight days
3)	Dead Bolt	C	1	0	

52-51-00 C&D AEROSPACE FLIGHT DECK SECURITY DOOR

Placard Door "INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
52. Doors					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
70-00	Doors Warning System (Door Position Indication on MFD and EICAS)				
1)	Main/Service Doors	C	2	0	(O) May be inoperative provided affected door is verified closed and latched before each departure.
2)	Baggage Door	C	1	0	(O) May be inoperative provided door is verified closed and latched before each departure.
3)	Emergency Access Hatches	C	2	0	(M) May be inoperative provided affected hatch is verified closed and latched before each departure.
4)	Access Hatches	C	3	0	(M) May be inoperative provided affected hatch is verified closed and latched before each departure.
5)	Fueling Door	C	1	0	(M) May be inoperative provided door is verified closed and latched before each departure.

52-70-00 DOOR WARNING SYSTEM (DOOR POSITION INDICATION ON MFD AND EICAS)

Placard MFD and EICAS Bezel "AFFECTED DOOR WARNING IND INOP".

OPERATIONAL PROCEDURES

Carefully check all doors closed and latched before each departure.

Main and service door internal check must be done by using a flashlight to confirm that all the red marks of each door are aligned (see figures).

NOTE: This procedure requires the usage of a flashlight to help visualizing the red marks alignment precisely.

MAINTENANCE PROCEDURES

May be flight crewmember accomplished. Carefully check all doors closed and latched before each departure. Main, service and baggage doors must be checked aligned with the fuselage and the handles must be stowed.

In case of nuisance message being triggered:

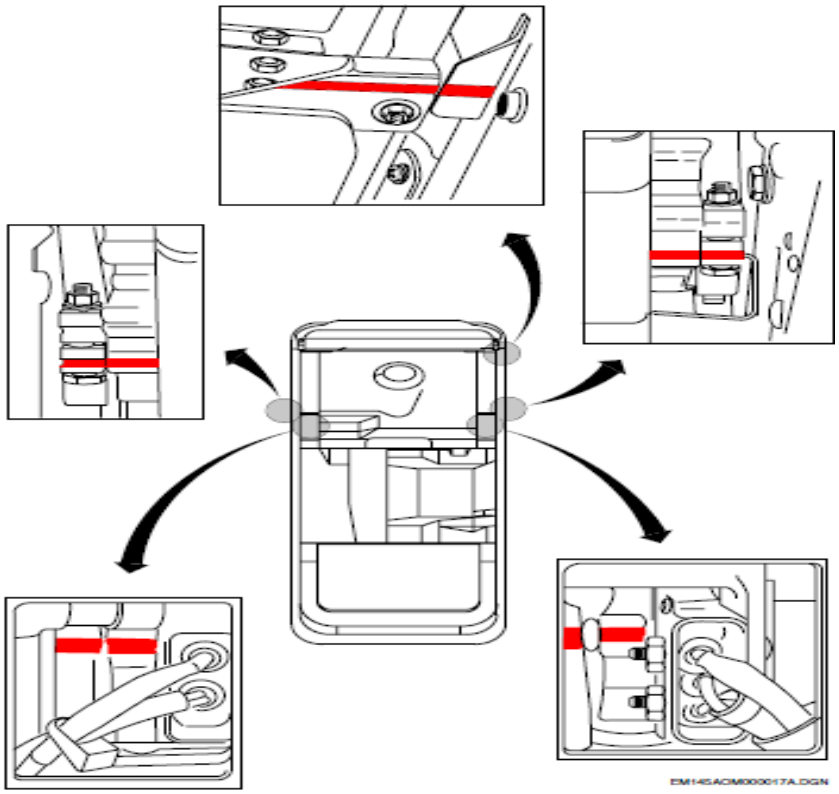
– Perform AMM TASK 52-71-01-000-801-A for forward electronic compartment access hatch, at CAMO discretion.

– Perform AMM TASK 52-72-01-000-801-A for cockpit underfloor access hatch, at CAMO discretion.

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
	2.	NO. INSTALLED		
		3. NO. REQUIRED FOR DISPATCH		
			4.REMARKS OR EXCEPTIONS	
52. Doors				
Sequence No. Item	**1**	**2**	**3**	**4 Change Bar**

– Perform AMM TASK 52-73-01-000-801-A for main door, at CAMO discretion.
– Perform AMM TASK 52-74-01-000-801-A for service door, at CAMO discretion.
– Perform AMM TASK 52-75-01-000-801-A for emergency access hatches, at CAMO discretion.
Perform AMM TASK 52-76-01-000-801-A for cargo door, at CAMO discretion.
– Perform AMM TASK 52-77-01-000-801-A for rear electronic compartment access hatch, at CAMO discretion.
– Perform AMM TASK 52-78-01-000-801-A for fueling door, at CAMO discretion.



SIDE-HINGED MAIN DOOR RED MARKS

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

52. Doors

Sequence No.	Item	1	2	3	4	Change Bar

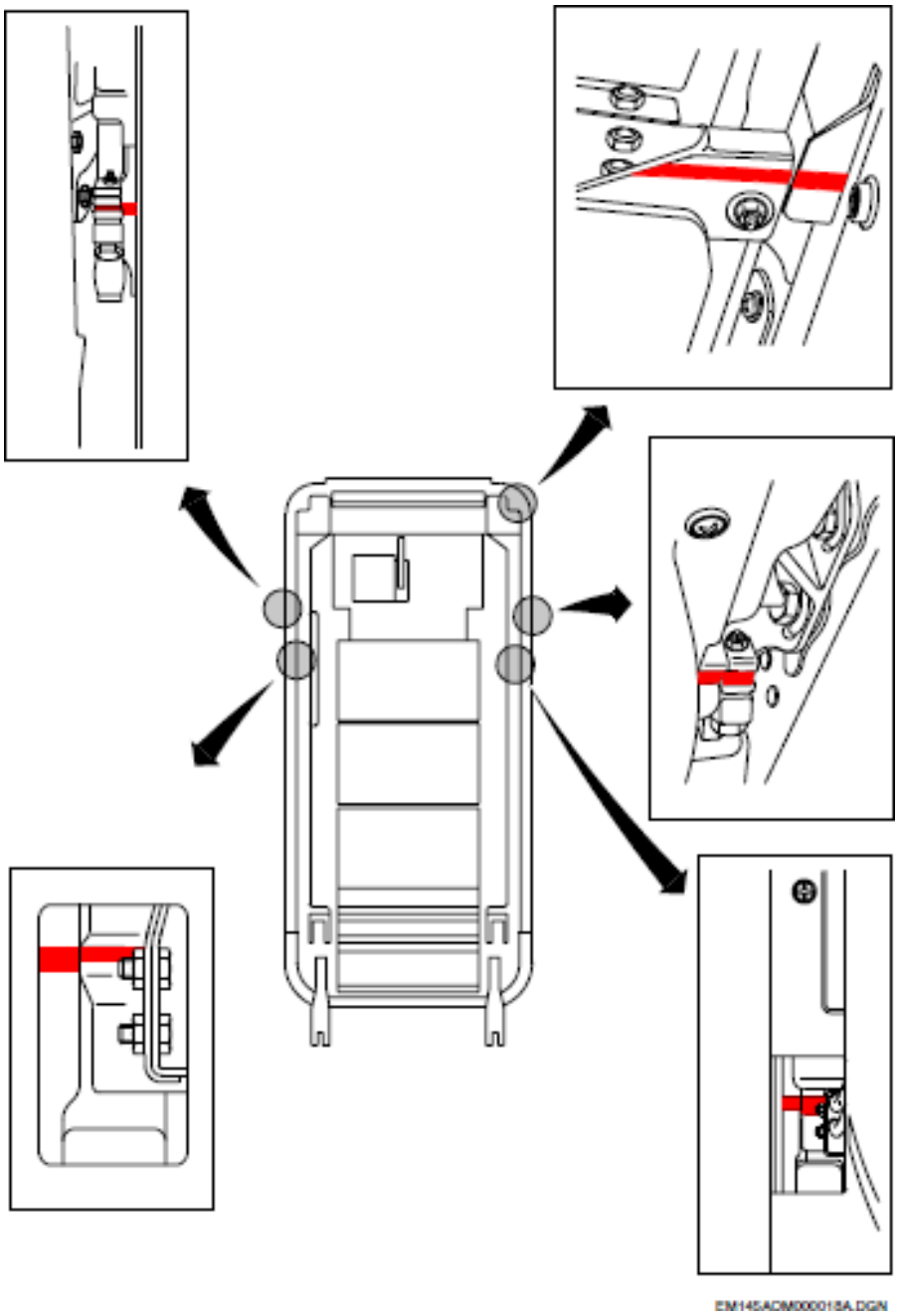


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TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

52. Doors

Sequence No.	Item	1	2	3	4	Change Bar

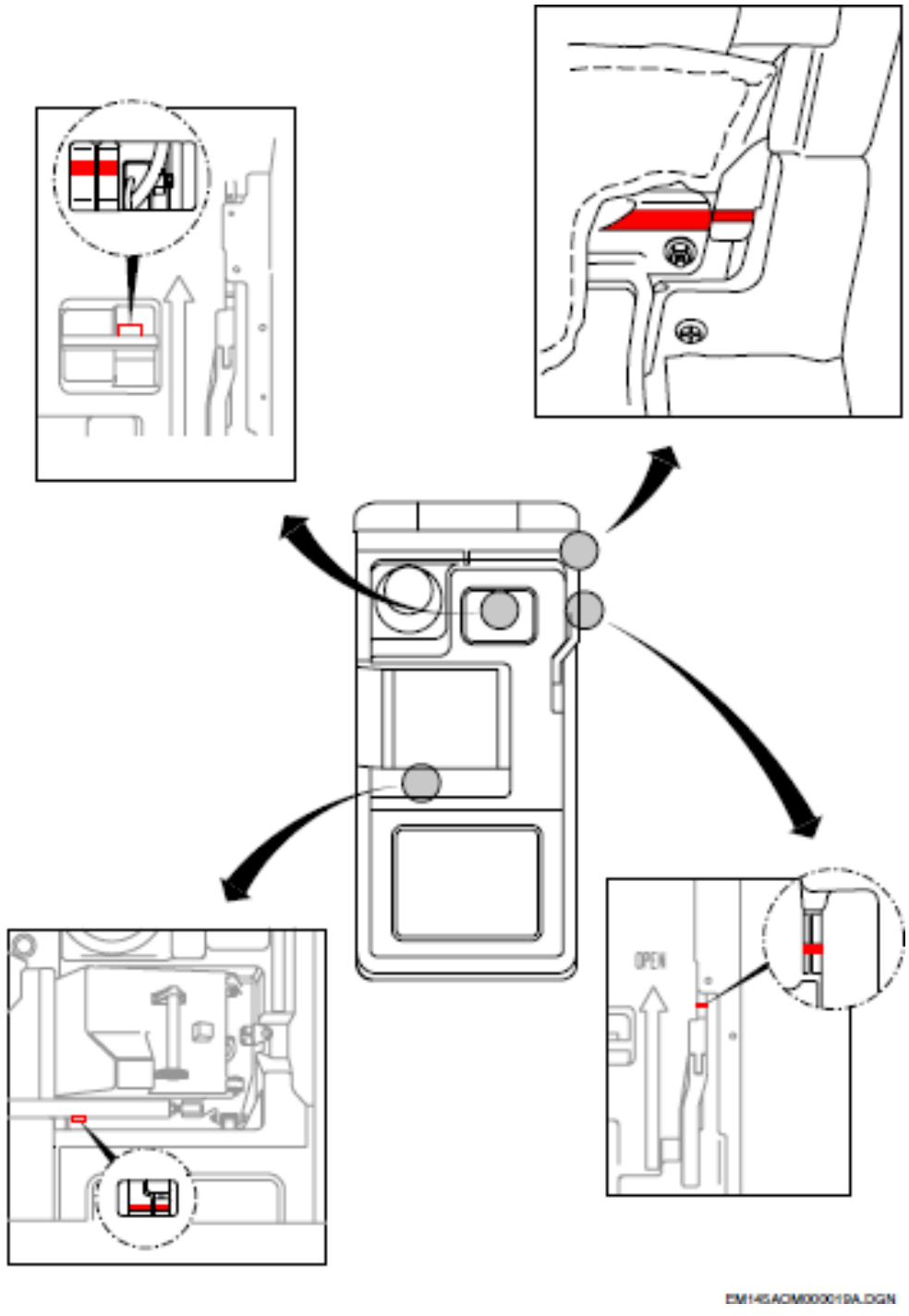


TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4 REMARKS OR EXCEPTIONS
73. Engine Fuel and Control					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
22-01	Engine Full-Authority Digital Electronic Control (FADEC) System				
1)	System Faults	A	4	-	(M) One engine at the time may be dispatched with FADEC faults provided repairs are made in accordance with times established by engine manufacturer (refer to Rolls Royce AE3007A Series Maintenance Manual). No extensions are authorized.NO EXTENSIONS ARE AUTHORIZED.
22-02	Automatic Takeoff Thrust Control System (ATTCS) (Airplanes Equipped with A, A1/1, A1, and A3 Engines Only)	-	-	-	N/A

73-22-01 FADEC

Placard Power Plant Control Panel "FADEC XX DEFERRED BY MEL/TLD".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

According to Rolls Royce AE3007A Series Maintenance Manual.

73-22-02 AUTOMATIC TAKEOFF THRUST CONTROL SYSTEM (ATTCS) (AIRPLANES EQUIPP WITH A, A1, A1/1 AND A3 ENGINES ONLY)

Placard near Thrust Rating Mode Buttons "ATTCS INOP".

OPERATIONAL PROCEDURES

Select T/O-1 thrust mode using Takeoff Data Setting procedure prior to takeoff. Refer to AOM - Section 2-10.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
73. Engine Fuel and Control					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
32-01	Engine Fuel Temperature Sensors	C	2	0	(O) May be inoperative provided a) Fuel tank temperature indication is operative, and b) Temperature of fuel in the tank remains above 4°C throughout the flight.
		C	2	0	(O) May be inoperative with fuel tank temperature below 4 °C provided icing inhibitor is added to the fuel.

73-32-01 ENGINE FUEL TEMPERATURE SENSORS (AT FUEL COOLED OIL COOLER)

Placard EICAS Bezel "E1 (or 2) LO TEMP MESSAGE INOP".

OPERATIONAL PROCEDURES

Ensure that icing inhibitor is added to the fuel. If an icing inhibitor has not been added, refer to MFD fuel page and ensure temperature of fuel in the tank remains above 4°C throughout the flight.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
73. Engine Fuel and Control					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
33-01	E1 (2) FUEL IMP BYP Advisory Messages	B	2	1	(M) One may be inoperative provided: a) Associated engine fuel temperature sensor is operative, b) Malfunction is verified to be in the fuel filter electrical/mechanical impending-bypass indicator or its associated wiring, c) Fuel filter electrical/mechanical impending-bypass indicator is checked not extended at least every 10 flight-hours, and d) Fuel filter mechanical actual-bypass indicator is checked not extended at least every 10 flight-hours.
33-02	Fuel Filters	A	2	1	(M) One E1 (2) FUEL IMP BYP advisory message may be displayed per engine provided: a) Associated fuel filter mechanical actual-bypass indicator is checked not extended before each departure, and b) Fuel filter is replaced within 10 flight-hours.

73-33-01E1 (2) FUEL IMP BYP ADVISORY MESSAGES

Placard EICAS Bezel "E1 (or 2) FUEL IMP BYP MESSAGE INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

NOTE: The engine fuel temperature sensors must not be dispatched under MMEL 73-32-01 in case of E1 (2) FUEL IMP BYP messages inoperative.

Continued……

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4 REMARKS OR EXCEPTIONS

73. Engine Fuel and Control					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

– Energize the airplane with a DC Power Supply (TASK 20-40-01-860- 801-A – AMM).
– Pull the START 1 and START 2 circuit breakers (B12 and B23 respectively) and attach DO-NOT-CLOSE tags to them.
– Open the associated engine lower cowling door (TASK 71-12-01- 000-801-A – AMM).
– Use the following check procedures as a troubleshooting reference:

Visual indicators (pop-up buttons) check:

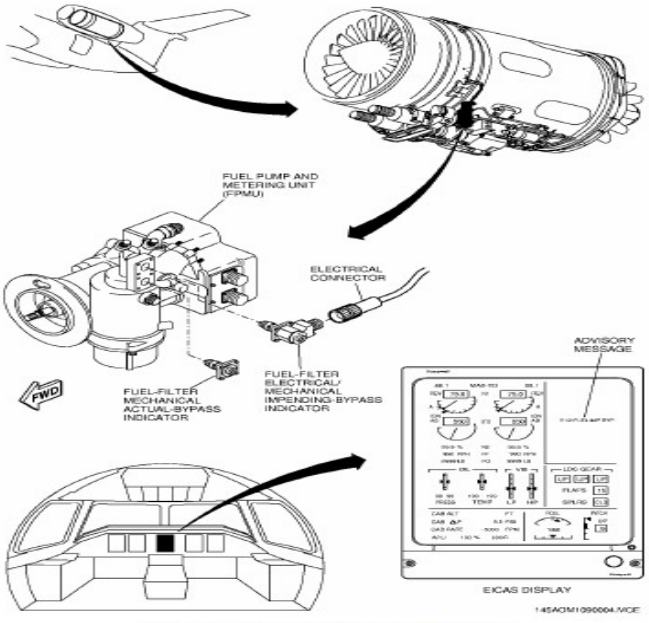
– Check that both the electrical/mechanical impending-bypass indicator and the mechanical actual-bypass indicator (See Figure) have their respective pop-up buttons not protruded.

Electrical/mechanical impending-bypass indicator (switch) check:

– Check that the resistance between pins B and C in the electrical/mechanical impending-bypass indicator is not greater than 10 ohms.
– Check that the resistance between the indicator shell and pins B and C, one at a time, is not lower than 1000 ohms.

Electrical connector (wiring) check:

– Disconnect the electrical connector from the electrical/mechanical impending-bypass indicator (See Figure) and wait at least 10 seconds.
– Check that EICAS advisory message E1 (2) FUEL IMP BYP is displayed.
– Connect the electrical connector to the electrical/mechanical impending-bypass indicator.
– Check that EICAS advisory message E1 (2) FUEL IMP BYP goes out of view.



FUEL FILTER BYPASS INDICATORS

TABLE KEY					
	1. REPAIR CATEGORY				
		2. NO. INSTALLED			
			3. NO. REQUIRED FOR DISPATCH		
				4. REMARKS OR EXCEPTIONS	
73. Engine Fuel and Control					
Sequence No. Item	**1**	**2**	**3**	**4**	**Change Bar**

After checking:

– Close the engine lower cowling door (TASK 71-12-01-400-801-A - AMM).

– Push in the START 1 and START 2 circuit breakers (B12 and B23 respectively) back and remove the DO-NOT-CLOSE tags from them.

– Remove the DC Power Supply (TASK 20-40-01-860-801-A - AMM).

73-33-02 FUEL FILTER

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Associated fuel-filter mechanical actual-bypass indicator is checked not extended before each flight.

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4. REMARKS OR EXCEPTIONS

73. Engine Fuel and Control						
Sequence No.	**Item**	**1**	**2**	**3**	**4**	**Change Bar**
40-03	Fuel Flow Indications	C	2	1	(O) One may be inoperative provided: a) Associated engine parameters are monitored throughout the flight, and b) Both fuel quantity indications operate normally.	

73-40-03 FUEL FLOW INDICATIONS

Placard EICAS Bezel "FUEL FLOW INOP".

OPERATIONAL PROCEDURES

NOTE: Abort start immediately when:

– Only on ground, no light-up in 20 seconds after the engine start command. Monitor remaining engine parameters within normal values.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4 REMARKS OR EXCEPTIONS
74. Ignition					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
20-00	Ignition System Channels	B	4	3	(O) One may be inoperative provided engine is started by positioning the ignition selector knob to ON.

74-20-00 IGNITION SYSTEMS

Placard Power Plant Control Panel on overhead panel, close to the Ignition Selector Knob of the affected engine "ONE CHANNEL INOP".

OPERATIONAL PROCEDURES

- Before starting the affected engine, select Ignition Selector Knob ON.
- Upon reaching 14% N2 during start, check green label IGN AB on EICAS.
- After normal engine start cycle completed, check steady engine parameters.
- Select Ignition Selector Knob AUTO (blank indication on EICAS).

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
76. Engine Control					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
12-00	Engine Takeoff Data Setting Knob Spring	B	1	0	(O) May be inoperative provided flight crew member check MFD takeoff data before takeoff.

76-12-00 ENGINE TAKEOFF DATA SETTING KNOB SPRING

Placard Overhead panel "ENGINE TDS KNOB INOP".

OPERATIONAL PROCEDURES

Select TOTEMP and takeoff data through the inoperative knob, press STORE and check MFD takeoff parameters before takeoff.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
77. Engine Indicating					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
41-02	HP Vibration Indication	C	2	1	One may be inoperative provided tactile or audible indications allow the vibrating engine to be identified.

77-41-02 HP VIBRATION INDICATION

Placard EICAS Bezel "HP VIB INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
78. Engine Exhaust					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
30-00	Thrust Reversers	A	2	1	(M)(O) Any door actuation, lock or control on one thrust reverser may be inoperative provided: a) Affected thrust reverser is not used, b) Affected system is deactivated and secured stowed, and c) Repairs are made within 30 flight days. NOTE: Thrust reverse operation with one thrust reverser secured stowed will be accomplished only if the reverse Thrust Lever operative side is set to reverse range and reverse Thrust Lever affected side is set to idle.
		C	2	0	(M) Any door actuation, lock or control on both thrust reversers may be inoperative provided: a) Thrust reversers are not used, and b) Systems are deactivated and secured stowed.

78-30-00 THRUST REVERSERS

Placard Control Pedestal "THRUST REVERSER INOP".

OPERATIONAL PROCEDURES

When operating with one thrust reverser secured stowed, the FADEC of the operative side will only command reverse thrust if the associated Thrust Lever is requesting reverse thrust and the Thrust Lever of the affected side is set to idle. Differential braking and rudder may be required to maintain directional control.

MAINTENANCE PROCEDURES

Perform TASK 78-31-01-980-801-A (AMM) for the affected thrust reverser stowage.

In case of thrust reverser hydraulic system leakage, perform TASK 78- 31-01-980-03-A (AMM) before performing TASK 78-31-01-980-801-A (AMM).

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
78. Engine Exhaust					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
34-00	ENG 1 (2) REV DISAGREE Messages	A	2	1	(M)(O) May be inoperative provided: a) Affected thrust reverser is considered inoperative, b) Affected system is deactivated and secured stowed, and c) Repairs are made within 30 flight days. NOTE: Thrust reverse operation with one thrust reverser secured stowed will be accomplished only if reverse Thrust Lever operative side is set to reverse range and reverse Thrust Lever affected side is set to idle.
		C	2	0	(M)(O) May be inoperative provided: a) Thrust reversers are considered inoperative, and b) Systems are deactivated and secured stowed.

78-34-00 ENG1 (2) REV DISAGREE MESSAGES

Placard as appropriate.

OPERATIONAL PROCEDURES

When operating with one thrust reverser secured stowed, the FADEC of the operative side will only command reverse thrust if the associated Thrust Lever is requesting reverse thrust and the Thrust Lever of the affected side is set to idle.

MAINTENANCE PROCEDURES

Perform TASK 78-31-01-980-801-A (AMM) for thrust reverser stowage.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
78. Engine Exhaust					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
34-05	Idle Stop (Solenoid)	A	2	1	(M)(O) May be inoperative provided: a) Affected thrust reverser is considered inoperative b) Affected system is deactivated and secured stowed, and c) Repairs are made within 30 flight days. NOTE 1: Thrust reverse operation with one thrust reverser secured stowed will be accomplished only if the reverse Thrust Lever operative side is set to reverse range and reverse Thrust Lever affected side is set to idle. NOTE 2: The message E1 (2) IDL STP FAIL may be present.
		C	2	0	(M) May be inoperative provided: a) Thrust reversers are considered inoperative, and b) Systems are deactivated and secured stowed. NOTE: The message E1 (2) IDL STP FAIL may be present.

78-34-05 IDLE STOP (SOLENOID)

Placard Control Pedestal "THRUST REVERSER INOP".

OPERATIONAL PROCEDURES

When operating with one thrust reverser secured stowed, the FADEC of the operative side will only command reverse thrust if the associated Thrust Lever is requesting reverse thrust and the Thrust Lever of the affected side is set to idle.

NOTE: Never set thrust levers below idle in flight.

MAINTENANCE PROCEDURES

Perform TASK 78-31-01-980-801-A (AMM) for the affected thrust reverser stowage. In case of thrust reverser hydraulic system leakage, perform TASK 78- 31-01-980-803-A (AMM) before performing TASK 78-31-01-980-801-A (AMM).

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
79. Engine Oil					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
32-01	Low Oil Pressure Switches	C	2	1	(O) May be inoperative provided associated oil pressure, temperature and quantity indications operate normally and are monitored throughout the flight.

79-32-01 LOW OIL PRESSURE SWITCHES

Placard EICAS Bezel "E1 (or 2) OIL LOW PRESS MESSAGE INOP".

OPERATIONAL PROCEDURES

Check oil pressure and temperature indications on EICAS and oil quantity on MFD.

MAINTENANCE PROCEDURES

None.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
79. Engine Oil					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
33-01	Oil Level Indication Systems	C	2	1	(M) May be inoperative provided: a) Associated oil temperature and pressure indications, and OIL LOW PRESS message operate normally, and b) Oil quantity is serviced each flight day.

79-33-01 OIL LEVEL INDICATION SYSTEMS

Placard MFD Bezel "OIL1 (or 2) IND INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 12-12-01-600-801-A (AMM) for oil quantity servicing.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
79. Engine Oil					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
34-01	Oil Particle Sensors	C	2	1	(M) May be inoperative provided the oil tank mag plug is visually checked each flight-day.

79-34-01 OIL PARTICLE SENSORS

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform the visual check on the affected oil tank magnetic plug. Refer to Rolls Royce MM TASK 79-30- 00-200-801.

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
79. Engine Oil					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
35-01	E1 (2) OIL IMP BYP Messages	C	2	0	(M) May be inoperative provided: a) Affected engine impending bypass visual indicator operates normally, b) Visual indicator(s) is checked before each flight and is not found extended, and c) The ENG OIL DEBRIS maintenance message is not presented on CMC before each flight. NOTE: The affected message E1 (2) OIL IMP BYP may be present.
35-02	Oil Filters Element	A	2	1	(M) One E1 (2) OIL IMP BYP advisory message may be displayed for one engine provided: a) Maintenance procedures do not require its replacement, and b) Oil filter element is replaced in less than 20 flight-hours.

79-35-01E1 (2) OIL IMP BYP MESSAGES

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Open the affected engine lower cowling and verify the visual indicator inside housing. Perform TASK 45-45-00-970-801-A (AMM) to the CMC downloading with the MFD maintenance page.

79-35-02OIL FILTER ELEMENT

Register as appropriate for maintenance actions.

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

Perform TASK 79-30-00-200-802 (ROLLS ROYCE AE3007A Series Maintenance).

TABLE KEY					
		1. REPAIR CATEGORY			
			2. NO. INSTALLED		
				3. NO. REQUIRED FOR DISPATCH	
					4. REMARKS OR EXCEPTIONS
80. Starting					
Sequence No.	**Item**	**1**	**2**	**3**	**4** **Change Bar**
00-00	Engine Start/Stop Switch Protection Guards	C	2	0	
10-01	Starter Control Valves	B	2	1	(M)(O) One may be inoperative closed provided: a) Associated EICAS Caution message E1(2) ATS SOV OPN operates normally, and b) Manual override start procedures are used.

80-00-00 ENGINE START/STOP SWITCH PROTECTION GUARD

Placard Powerplant Control Panel "PROTECTION GUARD INOP".

OPERATIONAL PROCEDURES

None.

MAINTENANCE PROCEDURES

None.

80-10-01 STARTER CONTROL VALVE

Placard EICAS Bezel or Powerplant Control Panel "STARTER CONTROL VALVE INOP".

OPERATIONAL PROCEDURES

Manual Override Start Procedure:

- Ensure communications are in place with maintenance personnel operating the Starter Control Valve manually.
- When ready to start, perform a normal start.
- Ensure maintenance personnel are notified when engine N2 comes to the IDLE.
- Ensure ground personnel are clear after start.

MAINTENANCE PROCEDURES

Manual Override Start Procedure:

- Use the rear (ramp) interphone system for communications between persons on the ramp and in the cockpit.
- Perform TASK 80-10-02-980-801-A (AMM) to start the affected engine using Starter Control Valve Manual Override procedure.
- When the task is complete and all personnel and equipment are clear of the airplane, notify the cockpit.

EICAS Caution Message E1(2) ATS SOV OPN check:

- Access the Starter Control Valve by performing TASK 80-10-02- 980-801-A (AMM).

Continued…

TABLE KEY				
	1. REPAIR CATEGORY			
		2. NO. INSTALLED		
			3. NO. REQUIRED FOR DISPATCH	
				4.REMARKS OR EXCEPTIONS

80. Starting				
Sequence No. Item	**1**	**2**	**3**	**Change Bar**

- Airplane..... ENERGIZE
- EICAS Override Switch (cockpit).....OVRD

- Starter Control Valve ..... OPEN

Tell the ground personnel to open the Starter Control Valve.

- Check Caution Message E1(2) ATS SOV OPN displayed on the EICAS.
- EICAS Override Switch..... NORM

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