- CDL Rev. 56

- MEL Rev. 56

- EICAS MSG

Lufthansa CityLine

Operations Manual

Part B:
Aeroplane Operating Matters
CRJ900 CRJ900NextGen

REV: 15 FEB 2024

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INT.10 GENERAL REVISION HIGHLIGHTS

INT.30 RECORD OF REVISIONS OM-B CRJ

List of Changes (automated)

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Revision No.	Status	Subject	Reason for Revision
56	Revised	**INT-10 General Revision Highlights - Revision Highlights 15 FEB 2024**	Revision highlights added
55	Revised	**INT-10 General Revision Highlights - Revision Highlights 10 OCT 2023**	Revision highlights added
55	Revised	**INT-10 General Revision Highlights - Revision Highlights 01 JUN 2023**	Revision highlights added

Chapter 9

Revision No.	Status	Subject	Reason for Revision
56	Revised	**9-5 PREAMBLE - Revision Status of MMEL**	Updated revision status
55	Revised	**9-5 PREAMBLE - Revision Status of MMEL**	Updated revision status
56	Revised	**9-MI-24-23-01 Air Driven Generator (ADG) Auto-Deploy System**	Moved (M) procedure to new Operational Procedure
55	Revised	**9-MI-25-23-01-A Overhead Stowage Bin(s) / Cabin and Galley Storage Compartment / Closets**	Added MEL Operational Procedure
56	Revised	**9-MI-25-23-01-B Overhead Stowage Bins(s) / Cabin and Galley**	Editorial correction
56	Revised	**9-MI-25-51-02 Cargo Compartment Door Restraint Nets (including associated equipment)**	Item 25-51-02-B deleted
55	Revised	**9-MI-25-61-02 First Aid Kits**	Changed title and added replacement period. Added OPS Procedure.
56	Revised	**9-MI-29-12-01 Hydraulic AC Motor Pump (ACMP) 3A**	Revised paragraph 4)
56	Revised	**9-MI-31-31-02 Quick Access Recorder (QAR)**	Updated item and maintenance procedure established
55	Revised	**9-MI-33-21-01-B A/C with LED Lights**	Changed rectification interval
56	Revised	**9-MI-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)**	Moved (M) procedure to Operational Procedure

Revision No.	Status	Subject	Reason for Revision
56	Revised	**9-MI-34-44-01 Radio Altimeter**	Moved (M) procedure to new Operational Procedure
56	Revised	**9-MI-49-10-01 Auxiliary Power Unit (APU)**	Moved (M) procedures to Operational Procedure
56	Revised	**9-MI-52-11 Passenger Door**	Item 52-11-06 deleted
56	Revised	**9-MI-52-21-01 Doors and Overwing Emergency Exits**	Deleted (M) procedure acc. manufacturer documentation
55	Revised	**9-MI-95 EICAS MESSAGES**	Editorial correction
56	Revised	**9-22-11-03 Take-Off / Go-Around (TOGA) Switches (on Thrust Levers)**	Alternate procedure established
56	Revised	**9-23-22-01 Aircraft Communications Addressing and Reporting System (ACARS)**	Alternate procedure established
56	Revised	**9-23-31 - Passenger Address System**	Alternate procedure enabled
56	Revised	**9-23-31-02 Flight Attendants Handsets**	Alternate procedure established
56	Revised	**9-24-23-01 Air Driven Generator (ADG) Auto-Deploy System**	Added (O) procedure
55	Revised	**9-25-23-01-A Overhead Stowage Bin(s) / Cabin and Galley**	New MEL Operational Procedure
55	Revised	**9-25-23-01-B Overhead Stowage Bin(s) / Cabin and Galley**	Adapted OPS Procedure
56	Revised	**9-25-32-01 Galley Waste Receptacle Access Doors**	Alternate procedure established
56	Revised	**9-25-40-02 Lavatory Waste Compartment**	Alternate procedure established

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		Access Door/ Flap Assembly	
56	Revised	**9-25-42-01 Lavatory Door Springs**	Alternate procedure established
55	Revised	**9-25-61-02 First Aid Kits**	Added OPS Procedure
56	Revised	**9-26-26-01 Lavatory Fire Extinguishing System**	Alternate procedures established
56	Revised	**9-27-15-02 Aileron Flutter Dampers**	Alternate procedure established
56	Revised	**9-33-51-01 Cabin Emergency Lights**	Alternate procedure established
56	Revised	**9-33-51-02 Exterior Emergency Lights**	Alternate procedure established
56	Revised	**9-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)**	Added Operational Procedure for item 9-34-43-01-A
56	Revised	**9-34-44-01 Radio Altimeter**	Added Operational Procedure for item 9-34-44-01
56	Revised	**9-34-61-01 Flight Management System (FMS)**	Alternate procedure established
56	Revised	**9-35-20-01 Passenger Oxygen System**	Alternate procedure established
56	Revised	**9-35-31-02 Protective Breathing Equipment**	Alternate procedure established
56	Revised	**9-38-10-01 Potable Water Systems**	Alternate procedures established
56	Revised	**9-49-10-01 Auxiliary Power Unit (APU)**	Added (O) procedure
56	Revised	**9-52-21-01 Doors and Overwing Emergency Exits**	Alternate procedures established

INT.05 General

CONTENTS AND ARRANGEMENT OF OM-B CHAPTERS 8-9

This volume contains the following OM-B chapters applicable to CRJ airplanes:

- Chapter 8, Configuration Deviation List (abbreviated "CDL"), and
- Chapter 9, Minimum Equipment List (abbreviated "MEL"), and
- the associated Crew Operating Procedures (co-located with the respective MEL-item)

CDL and MEL chapters are subdivided into sections categorized according to ATA subject numbers.

INT.10 General Revision Highlights

LIST OF CHANGES

An interactive list of “Revision Highlights” is included in Chapter INT-20 in the navigation tree in the EFB.

In the iCAB Library the changes are listed under “Revision Review”.

A corresponding “List of Changes” in pdf files is to be found here.

Auto List of Changes

Chapter INT

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56	Revised	**INT-10 General Revision Highlights - Revision Highlights 15 FEB 2024**	Revision highlights added
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REVISION HIGHLIGHTS 15 FEB 2024

Changes in following chapters:

- **Chapter 9**
  - Various changes due to manufacturers TRs including TR100

REVISION HIGHLIGHTS 10 OCT 2023

Changes in following chapters:

- **Chapter 9**
  - Various minor changes due to manufacturers TR96

REVISION HIGHLIGHTS 01 JUN 2023

Changes in following chapters:

- **Chapter 9 - Preamble**
  - Added clarification about contents of MEL

REVISION HIGHLIGHTS 09 MAY 2023

Changes in following chapters:

- **Chapter 1-3 in general**
  - Implementation of Smarter Briefings on CRJ fleet.

- Chapter 0, “GENERAL INFORMATION AND UNITS OF MEASUREMENT”
  - Implementation of AFM REV. 30D

- Chapter 1, “LIMITATIONS”
  - Withdrawal of the option to use A II HGS mode for LVO operation

- Chapter 2, “NORMAL PROCEDURES”
  - Withdrawal of the option to use A II HGS mode for LVO operation

- Introduced stabilization criteria on final Approach according OM-A (above threshold instead of AGL)

- Chapter 3, “ABNORMAL AND EMERGENCY PROCEDURES”
  - Introduction of the callout "Emergency Descent, Emergency Descent"
  - Editorial changes

REVISION HIGHLIGHTS 01 FEB 2023

Changes in following chapters:

- Chapter 11, “Emergency Evacuation and Fire Fighting Procedures"
  - Anpassung an neue Safety Position inklusive neuem Kommando

  - Erneuerung des QRH Cabin.
    Anpassung des Verfahrens zum kontrollierten Aussteigen mit stärkerer Einbindung von QRH Cabin.
    Anpassung der Cabin Fire Procedure gemäß QRH Cabin.

Archive

REVISION HIGHLIGHTS 23 NOV 2022

Changes in following chapters:

- Chapter 12, “Aeroplane Systems"
  - Implementierung der letzten Hersteller-Revisionen

REVISION HIGHLIGHTS 15 SEP 2022

Changes in following chapters:

- Chapter 9, “Minimum Equipment List”
  - Redaktionelle Änderung: Geänderte Nummerierung der Chapter 9.1 bis 9.5; neue Nummerierung 9.5 bis 9.9; keine inhaltlichen Änderungen

REVISION HIGHLIGHTS 31 MAR 2022

Changes in following chapters:

- Chapter 1, “Limitations”
  - Implementierung von Herstellerempfehlungen bzgl. Max. Crosswind. Die Crosswind-Limits sind unter “Wind Limitations” zu finden.

- Chapter 2, “Normal Procedures”
  - Anpassungen im “Approach Briefing” und beim “MINIMUM” callout des PM

- Chapter 4, “Performance”
  - 4-4-5-5 Landing Performance Assessment
    - –Die OFP Dispatch Calculation (LINTOP / LINLAP) beinhaltet bereits Performance Berechnungen für DRY / WET Runway. Eine zusätzliche Berechnung der Crew vor dem Abflug, empfiehlt sich bei einem Runway Condition Code (RCC) < 5, sofern davon ausgegangen werden muss, dass die Runway an Destination / Alternate zur Ankunftszeit nicht geräumt sein wird.
    - –Note: A good practice in dynamic weather conditions is computing Inflight Landing Distances for different Runway Condition Codes (RCC).
    - –Beispiel: Vergleich Landing Distance RCC 5 GOOD (Wet) vs. RCC 2 MEDIUM TO POOR (Standing Water)
  - 4-4-5-16 Thrust Reverser Effect on the Landing Distance
    - –Hintergrundinformation zum Default Rev.:NONE.
    - –Note: Landing distances for landings on contaminated runways can be reduced significantly by using full reverse thrust. Therefore consider selecting Thrust Reverser to “ALL” when calculating with RCAM Code 4 or less.
  - 4–5–2–9
    - –Limit für Crosswind nur noch in OM-B Limitations / Wind Limitations

- Chapter 6, “Mass and Balance”
  - 6-2-4 Load and Trimsheet / No Datalink
    - –No trim critical flight DAA will be loaded trim neutral. Up to 30 pcs in compartment 2 and the amount exceeding will be divided 1:1 in compartment 1 and compartment 6. A calculation for the Load and Trim Sheet is not necessary. The crew has to be notified verbally about the actual loading position by the ramp agent.
  - NEUES ITEM: 6-8 EFB Loadsheet/ Passenger Cabin Section
    - –Tabelle Configuration Information / Seating Layout

REVISION HIGHLIGHTS 06 DEC 2021

Changes in following chapters:

- Chapter 8, “Configuration Deviation List”
  - Attribute “PERFO” added where necessary
- Chapter 9, “Minimum Equipment List”
  - Various changes and updates according to manufacturer’s MMEL
- Chapter 10, “Survival & Emergency Equipment incl. Oxygen”
  - Neues Item aufgrund Aufnahme der BSP/ BHP Cabin

REVISION HIGHLIGHTS 12 AUG 2021

Changes in following chapters:

- Chapter 0, “GENERAL INFORMATION AND UNITS OF MEASUREMENT”
  - Implementation of AFM REV. 28
- Chapter 1, “LIMITATIONS”
  - Added column “FMS Version” to table overview of FMS 4200
  - Added limitations for the maximum leg length depending on RNP, prohibition to use temp.-comp. feature and prohibition to modify altitudes on SIDs and Missed Approach procedures
- Chapter 2, “NORMAL PROCEDURES”
  - The Emergency Briefing is now to be performed whenever the cockpit crew composition changes (adaption to OM-A).
  - The Cockpit to Ground communication procedure has been adapted to the latest LHG standard. The “pushback approved” call is given after the release of the parking brake has been confirmed as it is already common practice.
  - Introduction of the callout "V_{ref}" to transfer the low energy go-around maneuver into a normal go-around procedure when a normal energy state of the aircraft has been established
  - Implementation of the latest EASA requirement where both pilots are required to calculate the relevant landing performance data in cockpits where there exists an electronic solution for this task
- Chapter 3, “ABNORMAL AND EMERGENCY PROCEDURES”
  - New item “Procedures Depending On Incorporation Of Service Bulletins (SB)

REVISION HIGHLIGHTS 05 AUG 2021

Changes in following chapters:

- Chapter 4, “PERFORMANCE”
  - Updated LAPA Manual due to the implementation of operational landing distances (OLDs).
- Chapter 6, “MASS AND BALANCE”
  - Updated item “Weights / Pax and Bag” with implementation of reference to OM-A

REVISION HIGHLIGHTS 28 AUG 2020

Changes in following chapters:

- Chapter 1, “LIMITATIONS”
  - Implementation of AFM Rev. 24: Added Note to item 1.7.9 Turbulence Penetration Speed

REVISION HIGHLIGHTS 05 MAR 2020

Changes in following chapters:

- Chapter 1, “LIMITATIONS”
  - FMS 4200 Operational Approvals: Implementation of requirement to use flight director or autopilot on RNP procedures containing RF legs
- Chapter 2, “NORMAL PROCEDURES”
  - Introduction of new **Normal Checklist**
  - New procedure to allow switching of display fan to standby on ground under certain circumstances
  - Editorial corrections in outside check procedure
  - Callout “system failure” during LVO approaches withdrawn
  - Requirement to set CAT I minimum during LVO approaches withdrawn
  - Requirement for voice readback of CPDLC clearances withdrawn
- Chapter 3, “ABNORMAL AND/ OR EMERGENCY PROCEDURES”
  - Clarification of Engine Severe Damage procedure and reference to Engine Fire Crew Coordination implemented
  - RTO procedure clarified: Parking brake shall be set and QRC-12 On Ground Emergency checklist shall be used after an RTO with an IAS < 80 kt
- Chapter 4, “PERFORMANCE”
  - Information about flight with landing gear down added

REVISION HIGHLIGHTS 02 MAR 2020

Changes in following chapters:

- Chapter 10, “SURVIVAL AND EMERGENCY EQUIPMENT INCL. OXYGEN”
  - Updated Cabin Layouts
  - Erasure of double chamber life vests
  - Wenoll Oxygen System
- Chapter 11, “EMERGENCY EVACUATION AND FIRE FIGHTING PROCEDURES”
  - The situation of a pilot incapacitation after an emergency landing is now described more clearly.
  - New tablet mount

REVISION HIGHLIGHTS 31 JAN 2020

Changes in following chapters:

- Chapter 9, “MINIMUM EQUIPMENT LIST”
  - Several items changed, mostly due to editorial reasons. A few changes are caused by adaption to Bombardier’s Manuals.

REVISION HIGHLIGHTS 12 DEC 2019

Changes in following chapters:

- Chapter 0, “GENERAL INFORMATION AND UNITS OF MEASUREMENT”
  - Introduction of general information about the OM-B including certification basis.
- Chapter 1, “LIMITATIONS”
  - Adaption of FMS 4200 limitations to fleet-wide installation of FMS 4.2 and allowance of FMS overlay approaches “for reference only” according AFM revision 22.
  - Implementation of new limitations concerning operation in areas with high magnetic variation.
- Chapter 2, “NORMAL PROCEDURES”
  - Introduction of new Lufthansa Group cockpit-to-ground communication concept.
  - Changed procedure for RNAV overlay approaches with white “NO APPR” message displayed.
- Chapter 3, “ABNORMAL AND/ OR EMERGENCY PROCEDURES”
  - Changed crew coordination procedure for emergency descent to enable CM2 to be pilot flying during an emergency descent procedure.

REVISION HIGHLIGHTS 05 DEC 2019

Changes in following chapters:

- Chapter 9, “MINIMUM EQUIPMENT LIST”
  - ATA 23 COMMUNICATIONS, sub item 22–02: Implementation of CPDLC (Controller Pilot Data Link Communication)

REVISION HIGHLIGHTS 20 NOV 2019

Changes in following chapters:

- Chapter 12, “AEROPLANE SYSTEMS”
  - ATA 23 COMMUNICATIONS, sub item 2 VHF COMMUNICATION SYSTEM – INTRODUCTION: Editorial change concerning the type of voice communication
  - Updated ATA chapter 46 INFORMATION SYSTEMS due to moving the EFB description into the Pilot’s eOPS Manual.

REVISION HIGHLIGHTS 15 NOV 2019

Changes in following chapters:

- Chapter 11, “EMERGENCY EVACUATION AND FIRE FIGHTING PROCEDURES”
  - According to ICAO recommendations a new safety position for Cabin Crews is introduced.

REVISION HIGHLIGHTS 27 SEP 2019

Changes in following chapters:

- Chapter 9, “MINIMUM EQUIPMENT LIST”
  - Item 21–51–01 “Air Conditioning Packs” — Exceptions modified
  - Item 32–46–01 “EICAS Brake Temperature Monitoring System Readouts” — Maintenance (M) procedure changed
  - Item 34–25–01 “Source Select Panel Switches” — Relief deleted.

REVISION HIGHLIGHTS 27 JUN 2019

Changes in following chapters:

- Chapter 9, “Minimum Equipment List”
  - Note in Item 31-31-01 inserted
  - Item 52-70-05-B deleted
  - Speed in Item 49-14-01 changed
  - Some messages in the message list deleted
  - Item 28-25-03 introduced.

REVISION HIGHLIGHTS 05 JUN 2019

Changes in following chapters:

- Chapter 1, “LIMITATIONS”
  - Section 1.1.1 now contains the latest revision state of the Bombardier AFM. In section 1.1.3 a passenger seating configuration map was introduced.
- Chapter 2, “NORMAL PROCEDURES”
  - The Sections “Aural / Visual Warning System”, “Windshear” and “TCAS Operation” were moved into chapter 3.
- Chapter 3, “ABNORMAL AND/OR EMERGENCY PROCEDURES”
  - The Sections “Aural / Visual Warning System”, “Windshear” and “TCAS Operation” were moved from chapter 2 into chapter 3.
  - The Section “Aural / Visual Warning System” was renamed to “EGPWS”.

REVISION HIGHLIGHTS 15 MAY 2019

Changes in following chapters:

- Chapter 11, Emergency Evacuation and Fire Fighting Procedures”
  - Besides many editorial changes the biggest revision change was for the QRH Cabin.
    The SSP, DGHP and MEP are now thoroughly described and more information was added for the correct use of the QRH Cabin in the individual situations.

REVISION HIGHLIGHTS 21 MAR 2019

Changes in following chapters:

- Chapter 2, NORMAL PROCEDURES
  - Editorial changes concerning layout of two graphics LOC/VOR/NDB/SRE APPROACH and CIRCLING APPROACH
- Chapter 9, MINIMUM EQUIPMENT LIST
  - 34–42–01 Ground Proximity Warning System: Operational Procedure implemented

REVISION HIGHLIGHTS 21 JAN 2019

Changes in following chapters:

- Chapter 1, LIMITATIONS

–1.12: Übersichtlichere Darstellung der Wind Limits und kleine Anpassungen

Um mehr Übersichtlichkeit in unsere Wind Limitations zu bringen, wurden diese jeweils in eine Tabellenform überführt und einige wenige Werte vereinfacht. So gibt es beispielsweise keine Unterscheidung mehr zwischen Steady-Component und Gusts.

Bei den Windlimits für Low-Visibility Operation wurde ein Wert an das Herstellerhandbuch angepasst.

- Chapter 2, NORMAL PROCEDURES

–2.1.2: FMS Preparation by Pilot Flying

Die FMS Programmierung soll zukünftig vom PF erfolgen. Auf diese Weise ist sichergestellt, dass der PF die volle Kontrolle darüber hat, welche Daten ins FMS eingegeben werden. Der PM kontrolliert das Setup im Anschluss.

Eine Ausnahme in der Aufgabenteilung kann beispielsweise gemacht werden, wenn CM1 den OutsideCheck vor dem ersten Flug des Tages durchführen muss.

– **2.1.2: Briefing des Departure Routings aus dem FMS**

In der Vergangenheit kam es innerhalb der Besatzung häufig zu Unklarheiten darüber, auf welche Art und Weise beim Departure Briefing das FMS Routing mit der Karte zu vergleichen ist. Es wurde nun festgelegt, dass der PF das Routing der SID, inklusive aller Constraints, aus dem FMS brieft und der PM dies mit der Karte abgleicht.

– **2.1.4: Intercom Off zum Pushback**

Die Empfehlung aus der vorletzten Flotteninfo haben wir ins OM-B übernommen. In den letzten Monaten kam es mehrfach zu Beschädigungen unserer Luftfahrzeuge aufgrund von Missverständnissen zwischen Cockpitbesatzung und Bodencrew. Auch von Flughäfen wurden wir bereits dazu aufgefordert, unsere SOPs an dieser Stelle anzupassen.

– **2.1.7: Aus “Go” wird “V_1”**

Zur Harmonisierung mit anderen CLH Flotten wird unser „Go“ Callout im Take-Off Roll in den Callout „V_1“ umgewandelt. Auch V_1 soll ca. eine Sekunde vor der Tatsächlichen V_1 ausgerufen werden, um sicherzustellen, dass bei V_1 die Go- / Nogo-Descision bereits getroffen wurde.

– **2.1.7 / 2.1.10: Standby Altimeter wird jetzt immer mit den Primary Altimeters umgestellt**

Wie in der Veröffentlichung zur OM-A Revision beschrieben, handelt es sich um ein EASA Reqirement. Der Standby Altimeter wird nun beim Cockpit-Check auf QNH und in der Transition Altitude, bzw. im Transition Level vom Pilot Monitoring mit auf 1013 hPa, bzw. QNH umgestellt.

Ein expliziter Crosscheck ist im Fluge nicht notwendig, hier genügt der Vergleich beim Power-Up.

– **2.1.12: Anpassung der Callouts im Approach an den Konzernstandard**

Ähnlich, wie beim V_1 Callout, passen wir unsere Callouts im Anflug an den Konzernstandard an. Der 1.000 ft Autocallout wird nun von beiden CM mit „Checked“ bestätigt, falls die Stabilized Kriterien erfüllt sind.

Das Minimum stellen wir uns künftig unabhängig vom Wetter immer ein. Beim Callout „Minimums“ kommt neuerdings vom Pilot Flying der Callout „Continue“, falls die Bedingungen für eine sichere Landung gegeben sind.

Zusätzlich haben wir den Zeitpunkt für die Speedreduction auf 200 KIAS von „on intercept heading“ auf „before 12 NM final“.

• Chapter 3, ABNORMAL/ EMERGENCY PROCEDURES

– **3.10: Einführung des Kapitels Upset Recovery Technique**

Seit längerer Zeit trainieren wir im Type-Rating und Recurrent Schulungen Upset Recovery Verfahren. Nun haben wir diese Verfahren in einem OM-B Kapitel verankert.

• Chapter 4, PERFORMANCE

– **Compliance with EASA regulations**

Der Gesetzgeber verlangt beim Kurvenflug im One-Engine-Out Fall (Special EOSID) eine Hindernisfreiheit von 50ft. statt 35ft., falls mit einer Bankrate von mehr als 15° geflogen wird. Sämtliche Berechnungen bei EOSID und Special EOSID im CLH TOPAS basieren auf einer Bankrate von 15° unterhalb VFTO, entsprechend OM-B 3 Abnormal and / or Emergency Procedures. V2-Limits im TOPAS müssen dabei eingehalten werden.

• Chapter 9, MINIMUM EQUIPMENT LIST

–Minor changes in items
34–43–01 Traffic Alert and Collision Avoidance System (TCAS) and
21–52–01 Ram Air SOV.

–Item 31–41–01 Data Concentrator Units (DCUs) deleted.

REVISION HIGHLIGHTS 02 JAN 2019

Changes in following chapters:

• Chapter 10, EQUIPMENT

–Minor changes

• Chapter 11, EVACUATION

–Changes according Change descriptions

REVISION HIGHLIGHTS 11 OCT 2018

Changes in following chapters:

- CHAPTER 12, AEROPLANE SYSTEMS

• **12–22–3 Subject: Lateral Modes of Operation**
Reason for Revision: Intrduction of an invalid take-off flight mode annunciation

• **12-26: Subject: APU Fire Extinguishing**
Reason for Revision: Text „Left bleed air SOV closes“ deleted as this was wrong

• **12-33-3 Subject: Passenger Compartment Lighting System**
Reason for Revision: New illustration

• **12-34-1 Subject: Navigation**
Reason for Revision: Editorial

• **12-76 Subject: Engine Controls**
Reason for Revision: New illustration

• **12-79 Subject: Oil System**
Reason for Revision: Oil quantities specified

INT.30 Record of Revisions OM-B CRJ

Issue Date	OM-B CRJ Chapter .../ REV Number													
	0	1	2	3	4	5	6	7	8	9	10	11	12 COC	12 CAB
15 FEB 2024									No. 56					
10 OCT 2023									No. 55					
01 JUN 2023									No. 54					
09 MAY 2023	No. 40	No. 37												
01 FEB 2023	No. 39										No. 39			
23 NOV 2022	No. 38												No. 12	
15 SEP 2022	No. 37								No. 53					
31 MAR 2022	No. 36				No. 32									
06 DEC 2021									No. 52		No. 38			
12 AUG 2021	No. 35													
05 AUG 2021					No. 31									
28 AUG 2020	No. 34													
05 MAR 2020	No. 33				No. 30									
02 MAR 2020											No. 37			
31 JAN 2020									No. 51					
12 DEC 2019	No. 32													
05 DEC 2019									No. 50					
20 NOV 2019													No. 11	
15 NOV 2019											No. 36			
27 SEP 2019									No. 49					
27 JUN 2019									No. 48					
05 JUN 2019	No.31													
15 MAY 2019											No. 35			
21 MAR 2019	No. 30								No. 47					
21 JAN 2019	No. 29								No. 46					
02 JAN 2019											No. 34			
11 OCT 2018													No. 10	

Issue Date	OM-B CRJ Chapter .../ REV Number													
	0	1	2	3	4	5	6	7	8	9	10	11	12 COC	12 CAB
JUN 2018									No. 45					
MAR 2018	No. 28													
FEB 2018					No. 28									
OCT 2017											No. 33			
SEP 2017									No. 44					
JUL 2017													No. 09	
MAY 2017									No. 43					
MAR 2017	No. 27													
FEB 2017									No. 42					
DEC 2016											No. 32			
NOV 2016									No. 41					
MAR 2016	No. 26													
FEB 2016									No. 40					
JAN 2016											No. 31			
AUG 2015											No. 30			No. 09
JUL 2015	No. 25													
MAY 2015													No. 08	
DEC 2014	No. 24								No. 39		No. 29			No. 08
JUN 2014	No. 23													
MAY 2014											No. 28		No. 07	
FEB 2014	No. 22													
DEC 2013									No. 38					
JUL 2013	No.21													
JUN 2013											No. 27			No. 07
MAY 2013													No. 06	
FEB 2013									No. 37					
JAN 2013											No. 26			
DEC 2012					No. 20									
OCT 2012									No. 36					
SEP 2012	No. 20				No. 19									

Issue Date	OM-B CRJ Chapter .../ REV Number													
	0	1	2	3	4	5	6	7	8	9	10	11	12 COC	12 CAB
JUN 2012											No. 25 (EMJ only)			
MAY 2012	No. 19													
APR 2012											No. 24			
FEB 2012									No. 35					
JAN 2012														No. 06
DEC 2011	No. 18												No. 05	
AUG 2011									No. 34					
MAY 2011	No. 17													
APR 2011	No. 16										No. 23			
FEB 2011									No. 33					
JAN 2011	No. 15													
NOV 2010											No. 22			No. 05
AUG 2010									No. 32				No. 04	
JUL 2010	No. 14													
JUN 2010									No. 31					
APR 2010											No. 21			
JAN 2010	No. 13													
AUG 2009											No. 20			
JUL 2009	No. 12													
MAY 2009									No. 30		No. 19			
MAR 2009	No. 11													
NOV 2008									No. 28 & 29					
OCT 2008	No. 10													
SEP 2008									No. 27		No. 18			
JUN 2008									No. 26					
FEB 2008	No. 09													
OCT 2007									No. 25		No. 17			
SEP 2007									No. 24					
AUG 2007									No. 23					

Issue Date	OM-B CRJ Chapter .../ REV Number													
	0	1	2	3	4	5	6	7	8	9	10	11	12 COC	12 CAB
MAY 2007									No. 22					
FEB 2007	No. 08								No. 21					
NOV 2006											No. 16			
SEP 2006									No. 20					
JUN 2006	No. 07													No. 04
MAY 2006											No. 15			
MAR 2006									No. 19					
FEB 2006	No. 06													
JAN 2006									No. 18					
DEC 2005									No. 17					
SEP 2005									No. 16					
JUL 2005									No. 15		No. 14			
JUN 2005									No. 14					
MAY 2005	No. 05													
MAR 2005	No. 04								No. 13					
JAN 2005									No. 12		No. 13			No. 03
NOV 2004													No. 03	
OCT 2004											No. 12			
SEP 2004									No. 11				No. 02	
MAY 2004									No. 10					No. 02
FEB 2004									No. 09					
JAN 2004	No. 03													
NOV 2003									No. 08		No. 11			
JUL 2003									No. 07		No. 10			
MAY 2003									No. 06					
APR 2003											No. 08 & 09			
DEC 2002									No. 05					
OCT 2002											No. 07			
SEP 2002													No. 01	
AUG 2002	No. 02										No. 06			
JUL 2002											No. 05			

Issue Date	OM-B CRJ Chapter .../ REV Number													
	0	1	2	3	4	5	6	7	8	9	10	11	12 COC	12 CAB
APR 2002														No. 01
FEB 2002									No. 04					
NOV 2001	No. 01													
SEP 2001											No. 04			
MAY 2001	No. 0													No. 0
APR 2001									No. 03				No. 0	
JAN 2001											No. 03			
AUG 2000									No. 02					
OCT 1999											No. 02			
AUG 1999									No. 01					
MAY 1999											No. 01			
NOV 1998									No. 0					
OCT 1998											No. 0			

8.TOC TABLE OF CONTENTS

8.2 GENERAL LIMITATIONS *(revised: FEB 2002)*

GENERAL LIMITATIONS

This Configuration Deviation List contains additional limitations for operation of the REGIONAL JET without certain secondary airframe and/or nacelle parts as listed herein. The Limitations in the Airplane Flight Manual are applicable except as amended in this appendix.

This Configuration Deviation List contains additional limitations for operation of the CL 600-2D24 [2D15 <2705>] Regional Jet without certain secondary airframe and/or nacelle parts as listed herein. The Limitations in the Airplane Flight Manual are applicable except as amended in this appendix.

The associated limitations must be listed on a placard affixed in the flight compartment on the instrument panel in clear view of both pilots.

The Commander will be notified of each operation with a missing part(s) by listing the missing part(s) in the flight or dispatch release.

The operator will list in the aeroplane logbook an appropriate notation covering the missing part(s) on each flight.

If an additional part is lost in flight the aeroplane may not depart the aerodrome at which it landed following this event until it again complies with the limitations of this appendix. This, of course, does not preclude the issuance of a ferry permit to allow the aeroplane to be flown to a point wherer the necessary repairs or replacements can be made. This flight must not be carried out in knwon or perceived lightning conditions.

A dagger (†) against a part indicates that the appropriate performance penalty must be determined in accordance with the definitions as stated below.

An asteriks (*) against a part indicates that the appropriate performance penalty must be determined in accordance with the definitions as stated below.

No more than one part for any one sub-system in this appendix may be missing unless specifically designated combinations are indicated herein. Unless otherwise specified herein, parts from different systems may be missing. The performance penalties are cumulative unless specifically designated penalties for combination of missing parts are indicated.

Where performance penalties are listed as negligible, no more than three negligible items may be missing for take-off unless the following performance penalties are applied for each additional negligible item:

Where performance penalties are listed as negligible, no more than three negligible items may be missing for take-off unless the following performance penalty is applied. When more than three negligible items are missing, a penalty of 46 kg (100 lbs) must be applied for take-off, enroute and landing for each additional negligible item.

8.3 DEFINITIONS *(revised: JUN 2008)*

DEFINITIONS

Take-off performance decrements are applicable to take-off gross weights which are limited by field length, first segment climb, second segment climb, final segment climb, or take-off flight path. The actual take-off weight must not exceed the normal take-off weight limit minus the CDL take-off weight penalty.

Take-off performance decrements are applicable to take-off gross weights which are limited by field length, first segment climb, second segment climb, final segment climb, or take-off flight path. The actual take-off weight must not exceed the normal take-off weight limit minus the CDL take-off weight penalty.

Enroute performance decrements are applicable to operations which are limited by en-route, one-engine-inoperative climb performance as governed by the applicable operational requirements (e.g. FAR 121.191 for operators under FAA jurisdiction).

Landing performance decrements are applicable to landing gross weights which are limited by landing field length, landing climb, or approach climb. The maximum allowable landing weight must not exceed the normal landing weight limit minus the CDL landing weight penalty.

Landing performance decrements are applicable to landing gross weights which are limited by landing field length, landing climb, or approach climb. The maximum allowable landing weight must not exceed the normal landing weight limit minus the CDL landing weight penalty.

The numbering and designation of systems in this appendix is based on ATA Spec. 100. The parts within each system are identified by functional description and, when necessary, by part numbers.

8.20.TOC TABLE OF CONTENTS

8.20.21 ELECTRICAL BONDING JUMPERS

8.20 AIRCRAFT STANDARD PRACTICES *(revised: DEC 2013)*

8.20.21 ELECTRICAL BONDING JUMPERS *(REVISED: DEC 2013)*

BOMBARDIER

REPAIR ENGINEERING ORDER (REO)

1 PRIME DESIGN ACTIVITY	BOMBARDIER INC. ☐ 3AB48			2 REO NUMBER	
BOMBARDIER INC., MONTRÉAL	☒ 88308	LEARJET INC.	☐ 24210	690-20-12-007	
BOMBARDIER INC., DOWNSVIEW	☐ 71867	SHORT BROTHERS PLC	☐ K4585		
3 TITLE	ELECTRICAL BONDING JUMPERS			4 SHEET	1 OF 3
5 REQUESTED BY	6 ADDITIONAL LIMITATIONS		7 MODEL	8 SERVICE EFFECTIVITY	
CAR 34757	NONE		CL-690	ALL	

9 DESCRIPTION / DISPOSITION

DESCRIPTION

Operators have reported damaged bonding jumpers for access doors and flight control surfaces. Repair and disposition instructions have been requested.

TEMPORARY REPAIR

1. Continued use with damaged or missing bonding jumpers is acceptable as noted in Table 1.
2. Trim off loose wire ends at the end terminal lugs.
3. Time limitations apply as noted for each installation.

REPAIR

Replace the bonding jumper per standard procedures.

10 REV	--				
11 DATE	2007-10-04				
12 PREPARED BY	C.Sobey				
13					
14					
15					
16 DESIGN AUTH	C.Sobey				
17 DAO AUTHORITY	C.Sobey AI #115				
18 RELEASE					

19 ☒ THE TECHNICAL CONTENT OF THIS DOCUMENT IS APPROVED UNDER THE AUTHORITY OF TRANSPORT CANADA DESIGN APPROVAL ORGANIZATION, DAO NO. 93-Q-02 ☐ BA ENGINEERING DISPOSITION FOR APPROVAL BY OPERATOR'S LOCAL AIRWORTHINESS AUTHORITY

LA PRÉSENTE INSTRUCTION TECHNIQUE DE RÉPARATION A ÉTÉ ÉTABLIE D'APRÈS LES DONNÉES FOURNIES À BOMBARDIER INC. PAR L'EXPLOITANT OU PAR SON REPRÉSENTANT. LA RESPONSABILITÉ INCOMBE À L'EXPLOITANT OU À SON REPRÉSENTANT DE S'ASSURER QUE TOUTES LES DONNÉES FOURNIES SONT COMPLÈTES ET EXACTES. BOMBARDIER INC. DÉCLINE TOUTE RESPONSABILITÉ QUANT AUX CONSÉQUENCES RÉSULTANT D'UN RAPPORT DE DOMMAGE OU D'ANOMALIE INCOMPLET OU INEXACT.

THIS REPAIR ENGINEERING ORDER HAS BEEN PREPARED ON THE BASIS OF INFORMATION SUPPLIED TO BOMBARDIER INC. BY THE OPERATOR OR HIS AGENT. IT IS THE RESPONSIBILITY OF THE OPERATOR OR HIS AGENT TO VERIFY THAT THE INFORMATION SUPPLIED IS COMPLETE AND ACCURATE. BOMBARDIER INC. DOES NOT ACCEPT RESPONSIBILITY FOR ANY CONSEQUENCE RESULTING FROM INCOMPLETE OR INACCURATE REPORTING OF THE DAMAGE / DISCREPANCY.

LES RENSEIGNEMENTS, LES DONNÉES ET DESSINS TECHNIQUES DIVULGUÉS DANS LES PRÉSENTES SONT LA PROPRIÉTÉ EXCLUSIVE DE BOMBARDIER INC. OU COMPORTENT DES DROITS DE PROPRIÉTÉ APPARTENANT À AUTRUI ET NE PEUVENT ÊTRE DIVULGUÉS À QUICONQUE NI UTILISÉS PAR QUI QUE CE SOIT SANS LE CONSENTEMENT ÉCRIT DE BOMBARDIER INC. LE DÉTENTEUR DES PRÉSENTES S'ENGAGE, DANS TOUTES CIRCONSTANCES, À GARDER CONFIDENTIELS LES DONNÉES ET DESSINS TECHNIQUES QUELLES CONTIENNENT. CE QUI PRÉCÈDE NE S'APPLIQUE PAS AUX PERSONNES QUI ONT DES DROITS DE PROPRIÉTÉ SUR CES RENSEIGNEMENTS. DONNÉES TECHNIQUES ET DESSINS DANS LA MESURE OÙ CES DROITS EXISTENT.

THE INFORMATION, TECHNICAL DATA AND DESIGNS DISCLOSED HEREIN ARE THE EXCLUSIVE PROPERTY OF BOMBARDIER INC. OR CONTAIN PROPRIETARY RIGHTS OF OTHERS AND ARE NOT TO BE USED OR DISCLOSED TO OTHERS WITHOUT THE WRITTEN CONSENT OF BOMBARDIER INC. THE RECIPIENT OF THIS DOCUMENT, BY ITS RETENTION AND USE AGREES TO HOLD IN CONFIDENCE THE TECHNICAL DATA AND DESIGNS CONTAINED HEREIN. THE FOREGOING SHALL NOT APPLY TO PERSONS HAVING PROPRIETARY RIGHTS TO SUCH INFORMATION, TECHNICAL DATA OR SUCH DESIGNS TO THE EXTENT THAT SUCH RIGHTS EXIST.

D 3353-27 REV 1999-07

BT0214-01 MW REV 2008-05

BOMBARDIER

REPAIR ENGINEERING ORDER (REO)

10 REV	2 REO NUMBER	4 SHEET
–	690-20-12-007	2

TABLE 1
BONDING JUMPER INSTALLATION

SYSTEM INSTALLATION			IPC REFERENCES				REPAIR REQUIREMENTS AND LIMITATIONS
			ATA	FIG	ITEM	QTY	
AILERON – LH or RH		MID HINGE	27-15-01	01	255	2	See Note 2 & 3
		IB HINGE	27-15-01	01	250	1	
		OB HINGE	27-15-01	01	250	1	
RUDDER		UPPER HINGE	27-24-01	01	005	1	See Note 2 & 3
		LOWER HINGE	27-24-01	01	030	1	
		MID HINGE	27-24-01	01	055	2	
ELEVATOR – LH or RH		OB HINGE	27-34-01	01	220	1	See Note 2 & 3
		IB HINGE	27-34-01	01	185 & 190	2	
		MID HINGE	27-34-01	01	185	1	
FLAPS LH or RH	INBOARD	2 HINGES	27-52-21	01	010 & 012	2	See Note 2 & 3
	OUTBOARD	3 HINGES	27-52-29	01	010 & 015 or 490 or 960	6	See Note 2 & 3
SPOILERS LH or RH	FLT SPLR & SPLRN	2 PCU	27-62-01		Part of PCU	1 per	See Note 1 Max 1 PCU per wing
	SPLRN	IB & OB HINGE	27-64-01	01	085	2	See Note 2 & 3
	FLT SPLR	IB & OB HINGE	27-64-05	01	085	2	See Note 2 & 3
	GND SPLR-IB	IB & OB HINGE	27-65-01	01	090	2	See Note 2 & 3
	GND SPLR-OB	IB & OB HINGE	27-65-05	01	090	2	See Note 2 & 3
Main Landing Gear LH or RH		Side Stay Assy	32-11-12	01	050 & 055	2	See Note 2 & 3
Nose Landing Gear		Strut Assy	32-21-01	01	140	1	See Note 2 & 3
			32-21-05	01	110	1	
Main Landing Gear LH or RH		Door	32-12-01	01	065 & 190	2	See Note 1
Nose Landing Gear		LH Door	32-22-01	01	150	1	See Note 1
		RH Door	32-22-01	01	150	1	See Note 1
		Aft Door	32-22-05	01	160	1	See Note 1

BT0214-03 MW REV 2006-05

BOMBARDIER

REPAIR ENGINEERING ORDER (REO)

10 REV	–					2 REO NUMBER	4 SHEET
						690-20-12-007	3

TABLE 1 (Cont'd)
BONDING JUMPER INSTALLATION

SYSTEM INSTALLATION		IPC REFERENCES				REPAIR REQUIREMENTS AND LIMITATIONS
		ATA	FIG	ITEM	QTY	
Passenger Door	Door Sill	52-11-04	1	065	1	See Note 1
Fwd Baggage-Bay Door - Fwd	Hinge	52-35-00	01	40	2	See Note 4
Fwd Baggage-Bay Door - Mid	Hinge	52-35-00	01	40	2	See Note 4
Service Door	Latch Mechanism	52-41-02	01	045	2	See Note 1
Aft Equipment Door	Hinge	52-43-00	01	090 & 140	2	See Note 4
ADG	Access Door	52-44-01	01	065	1	See Note 1
Forward Avionics – LH or RH	Access Door	52-44-11	01	085	1	See Note 1
Aft Lavatory Service	Access Door	52-45-01	05	070	1	See Note 1
Fwd Potable Water	Access Door	52-45-03	01	025	1	See Note 1
Aft Potable Water	Access Door	52-45-06	01	070	1	See Note 1
Refuel/Defuel Control Panel	Access Door	52-45-11	01	155	1	See Note 1
Fwd Water-Waste	Access Door	52-45-17	01	030	1	See Note 1
Refuel/Defuel Connection	Access Door	52-45-21	01	115	1	See Note 3
Oxygen Refilling	Access Door	52-45-26	01	055	1	See Note 1
Ext AC Power	Access Door	52-45-31	01	045	1	See Note 1
Ext Services Panel	Access Door	52-45-36	01	035	1	See Note 1
HP Ground Air Connection	Access Door	52-45-51	01	070	1	See Note 1
LP Ground Air Connection	Access Door	52-45-53	01	090	1	See Note 1
Radome	Hinge	53-81-80	01	340	2	See Note 2 & 3

NOTES
1. Bonding Jumper damaged or missing, repair by 50 flight hours
2. One (1) or more damaged or missing but not all bonding jumpers, repair by 50 flight hours
3. No bonding jumper, all damaged or missing, repair by two flight days
4. No bonding jumper, all damaged or missing, repair by 50 flight hours

BT0214-03 MW REV 2006-05

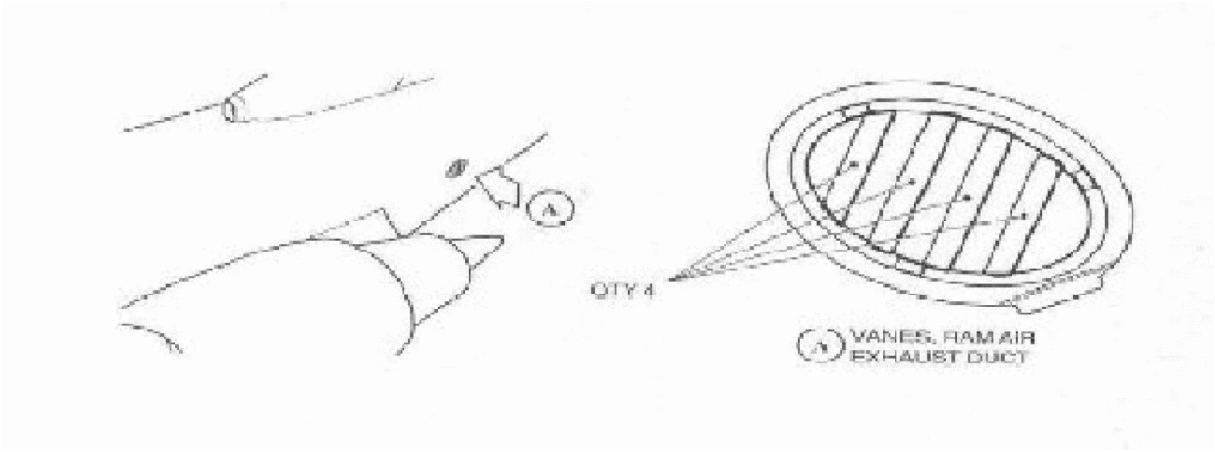
8-21 AIR CONDITIONING

8-21-51-01	Ram Air Exhaust Duct Assembly (L/R) Vanes

8-21-51-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
-	-	I	-

Any number or combination of vanes may be missing with no performance penalty.



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8-23 COMMUNICATIONS

8-23-61-01	Static Dischargers and Base

8-23-61-01

NUMBER INSTALLED	PROCE-DURE
27 or 31*	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

Certain static dischargers may be damaged or missing, as detailed in the deviation table on the next page.

Certain static discharger bases may be damaged or missing, as detailed in the deviation table on the next page.

Limitation:

- Missing base must be replaced within 600 flight hours.
- Apply SRM Task 51-27-15-001-001-A01
- Detailed speed tape inspection required at each 200 flight hour interval.

* Airplanes 15036 and subsequent, with the new winglet assembly installed

Letter Reference	Location	Quality Installed	Deviation(2)
A	Rudder	3	2 may be damaged or missing
B	Horizontal stabilizer tip trailing edge (1 each side)	2	1 side may be damaged or missing
C	Elevators (2 each side)	4	1 may be damaged or missing per side
D	Tailcone APU exhaust area	2	1 may be damaged or missing
E	Horizontal stabilizer Tail bullet fairing	2	1 may be damaged or missing

Remarks may be continued on next page!

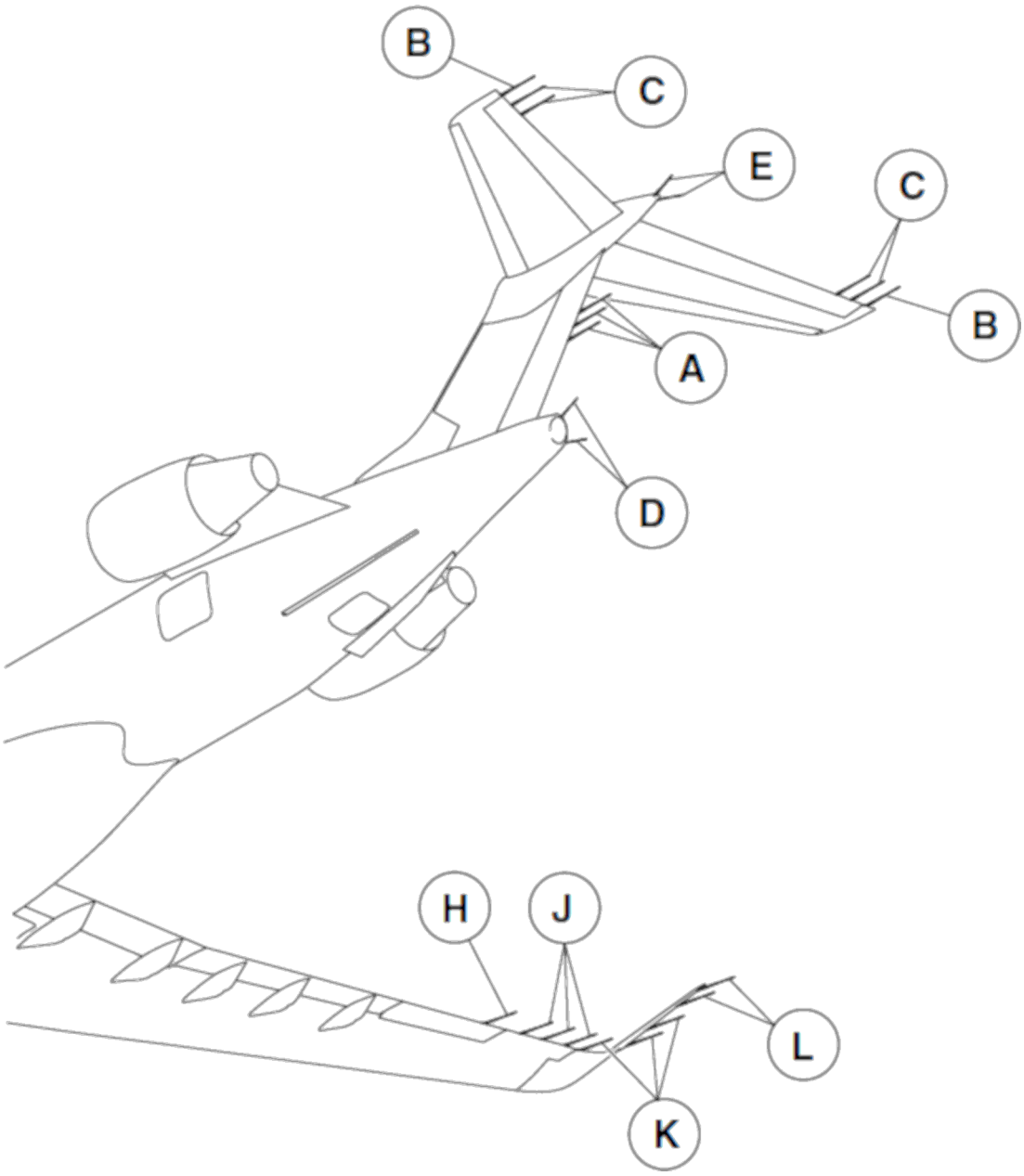
H	Aileron (1 each side)	2	1 may be damaged or missing per side
J	Wing trailing edge (3 each side)	6	1 may be damaged or missing per side
K(1)	Winglet trailing edge (3 per side)	6	1 may be damaged or missing per side
L(1)	Upper winglet (2 per side)	4	1 per side may be damaged or missing

(1) Airplanes 15036 and subsequent, with the new winglet assembly installed.

(2) No more than 6 static dischargers total may be damaged or missing from the airplane at any given time.

Remarks may be continued on next page!

Static Dischargers



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Remarks may be continued on next page!

8-27 FLIGHT CONTROLS

8-27-10-01	Seals between Aileron Side End and Wing

8-27-10-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
2	-	I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT (Flaps 8°)	
20,5 kg per seal	45 lb per seal

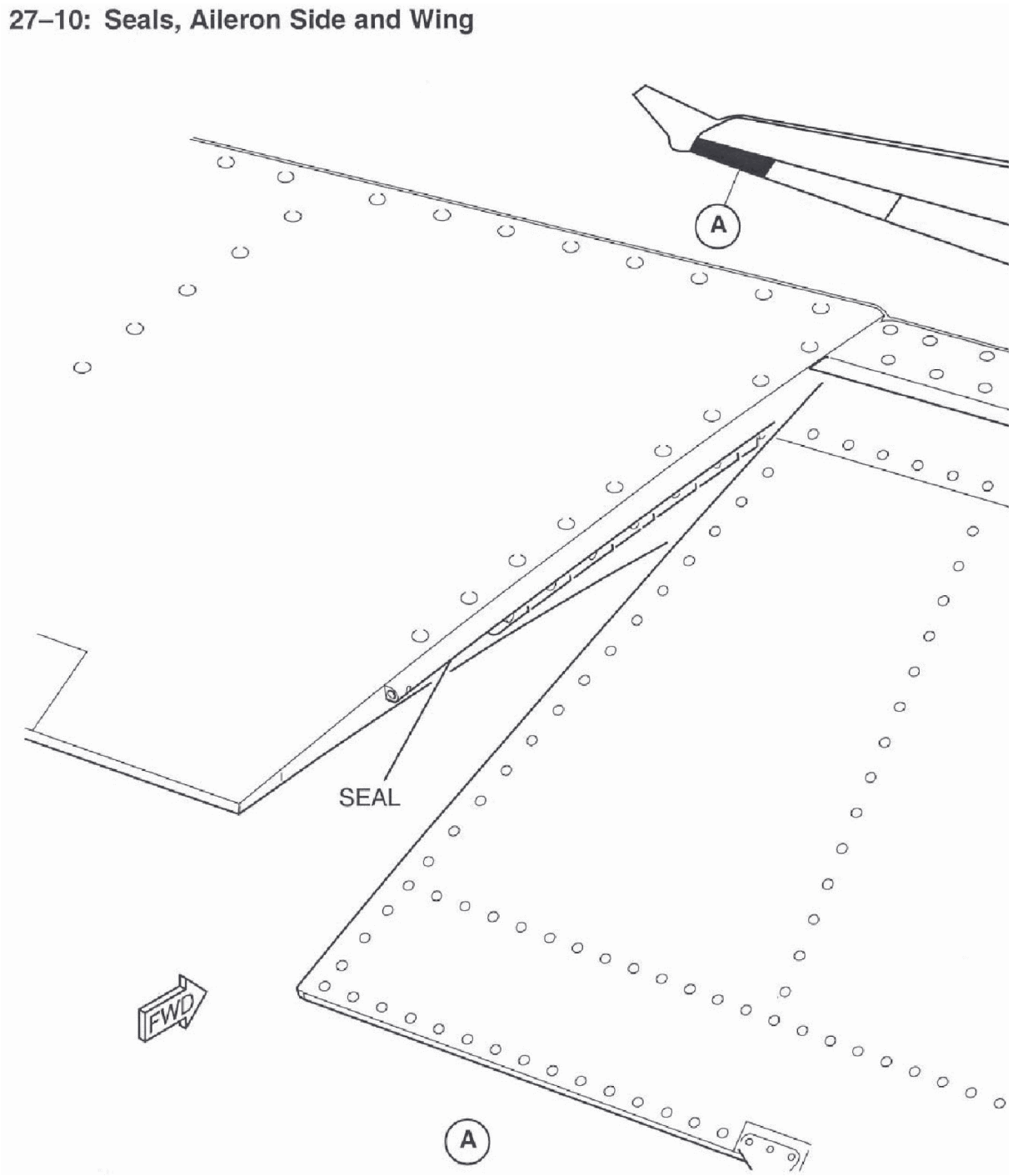
ENROUTE CLIMB	
45,5 kg per seal	100 lb per seal

LANDING WEIGHT	
20,5 kg per seal	45 lb per seal

FUEL CONSUMPTION
+ 0.30 % on fuel used / seal

Remarks may be continued on next page!

27–10: Seals, Aileron Side and Wing



END

Remarks may be continued on next page!

8-27-20-01	Seals between Rudder and Vertical Stabilizer

8-27-20-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
18,5 kg per seal	40 lb per seal

ENROUTE CLIMB	
39 kg per seal	85 lb per seal

LANDING WEIGHT	
18,5 kg per seal	40 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.25 % on fuel used / seal

END

Remarks may be continued on next page!

8-27-20-02	Seals between Inboard Flaps and Fuselage Fairing

8-27-20-02

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
29,5 kg per seal	65 lb per seal

ENROUTE CLIMB	
64 kg per seal	140 lb per seal

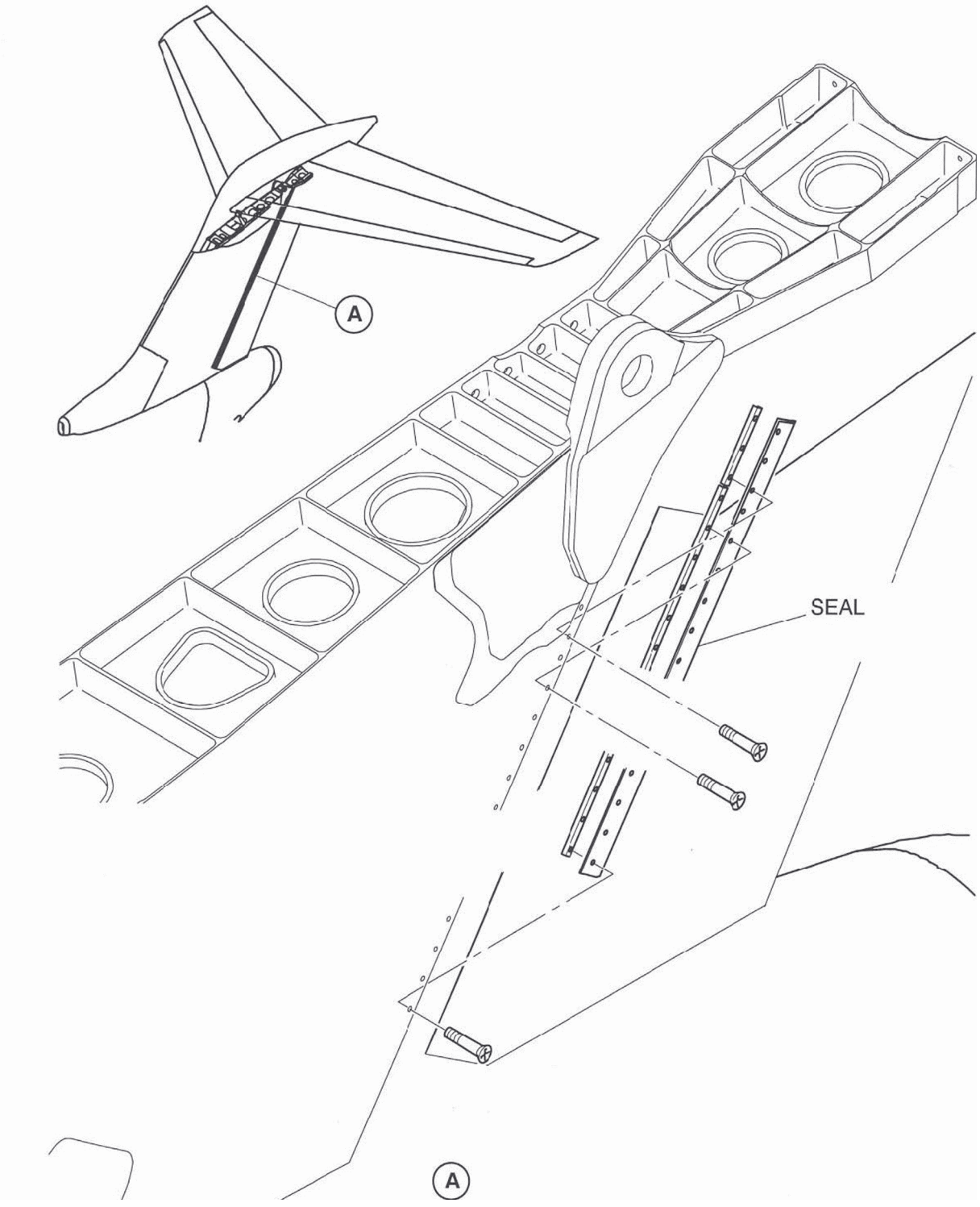
LANDING WEIGHT	
29,5 kg per seal	65 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.40 % per seal

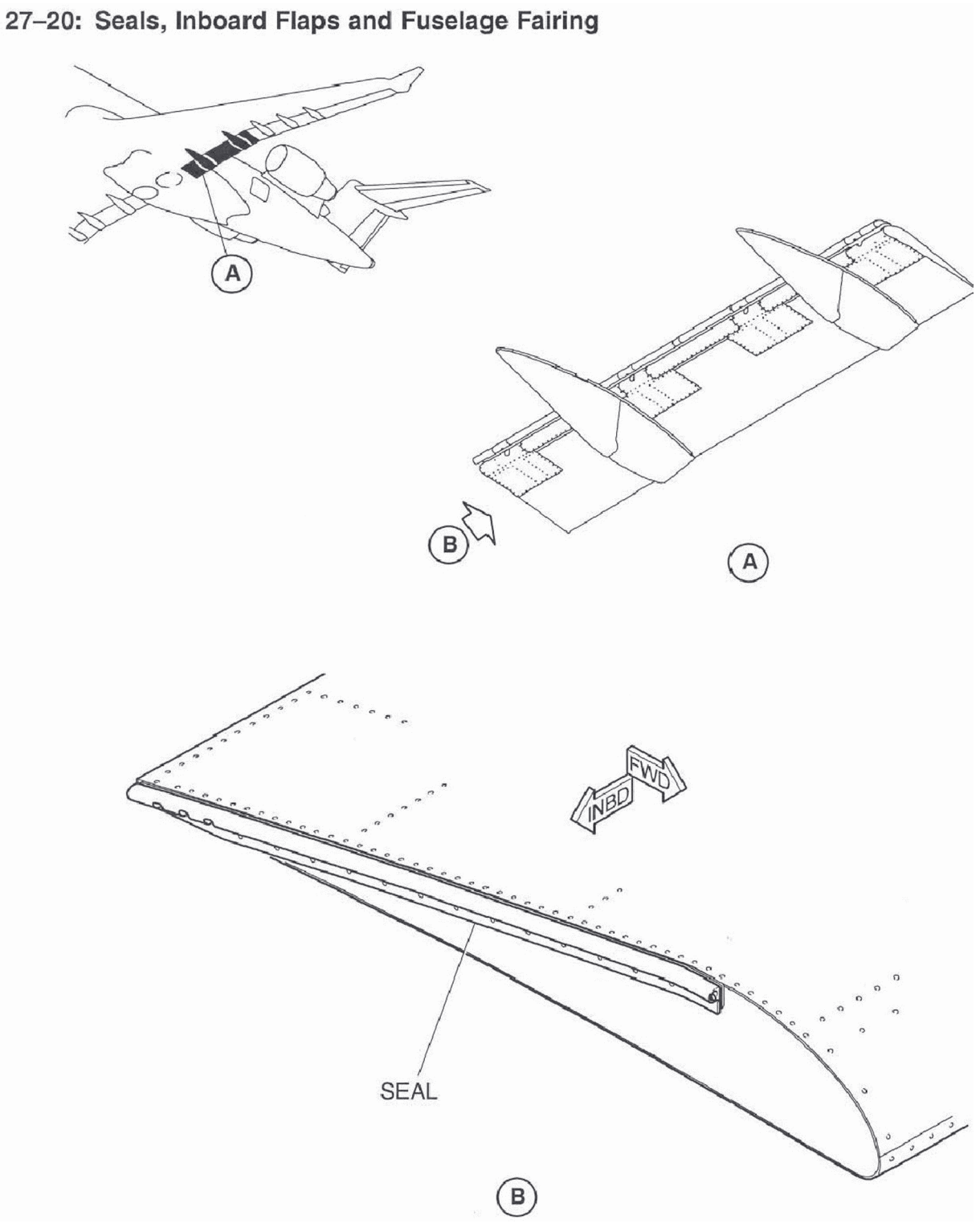
Remarks may be continued on next page!

27–20: Seals, Rudder and Vertical Stabilizer



Remarks may be continued on next page!

27–20: Seals, Inboard Flaps and Fuselage Fairing



END

Remarks may be continued on next page!

8-27-30-01	Seals between Elevator and Horizontal Stabilizer Upper Surface

8-27-30-01

NUMBER INSTALLED	PROCE-DURE
4	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
14 kg per seal	30 lb per seal

ENROUTE CLIMB	
29,5 kg per seal	65 lb per seal

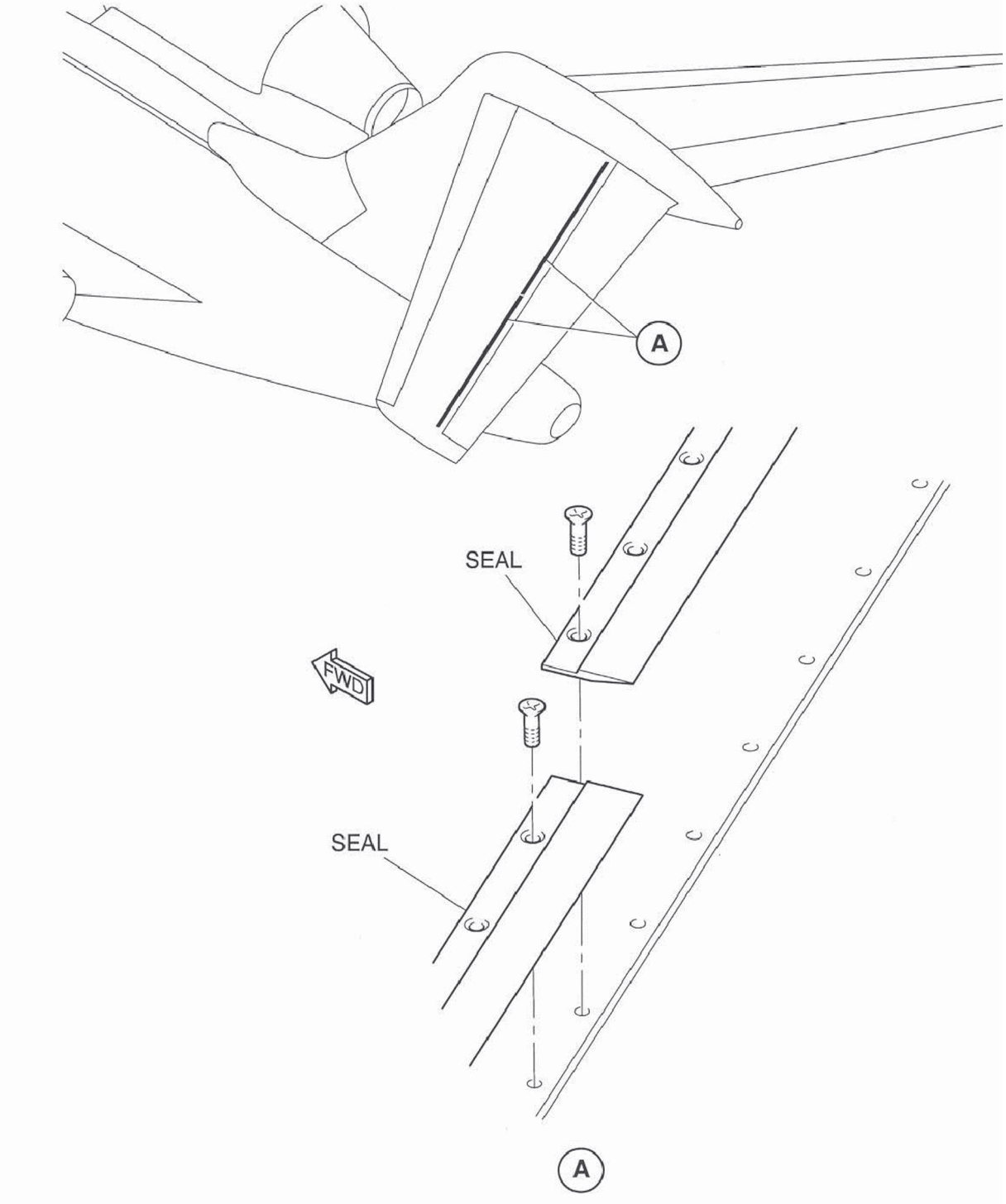
LANDING WEIGHT	
14 kg per seal	30 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.20 % on fuel used / seal

Remarks may be continued on next page!

27–30: Seals, Elevator and Horizontal Stabilizer Upper Surface



END

Remarks may be continued on next page!

8-27-50-01	Inboard Flap - Outboard Seal (Seals between Flap Side End and Wing)

8-27-50-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance and structurally limited weights are reduced by:

TAKE-OFF WEIGHT	
34 kg per seal	75 lb kg per seal

ENROUTE CLIMB	
75 kg per seal	165 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0,50 % on fuel used / seal

END

Remarks may be continued on next page!

8-27-50-02	Outboard Flap - Inboard Seal (Seal between Flap Side End and Wing)

8-27-50-02

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance and structurally limited weights are reduced by:

TAKE-OFF WEIGHT	
34 kg per seal	75 lb kg per seal

ENROUTE CLIMB	
75 kg per seal	165 lb per seal

LANDING WEIGHT	
34 kg per seal	75 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0,50 % on fuel used / seal

END

Remarks may be continued on next page!

8-27-50-03	Outboard Flap - Outboard Seal (Seal between Flap Side End and Aileron)

8-27-50-03

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance and structurally limited weights are reduced by:

TAKE-OFF WEIGHT	
25 kg per seal	55 lb kg per seal

ENROUTE CLIMB	
52,5 kg per seal	115 lb per seal

LANDING WEIGHT	
25 kg per seal	55 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0,35 % on fuel used / seal

END

Remarks may be continued on next page!

8-27-50-04	Seals Around Flaps Fairing

8-27-50-04

NUMBER INSTALLED	PROCE-DURE
20	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance and structurally limited weights are reduced by:

TAKE-OFF WEIGHT	
7 kg per seal	15 lb kg per seal

ENROUTE CLIMB	
11,5 kg per seal	25 lb per seal

LANDING WEIGHT	
7 kg per seal	15 lb per seal

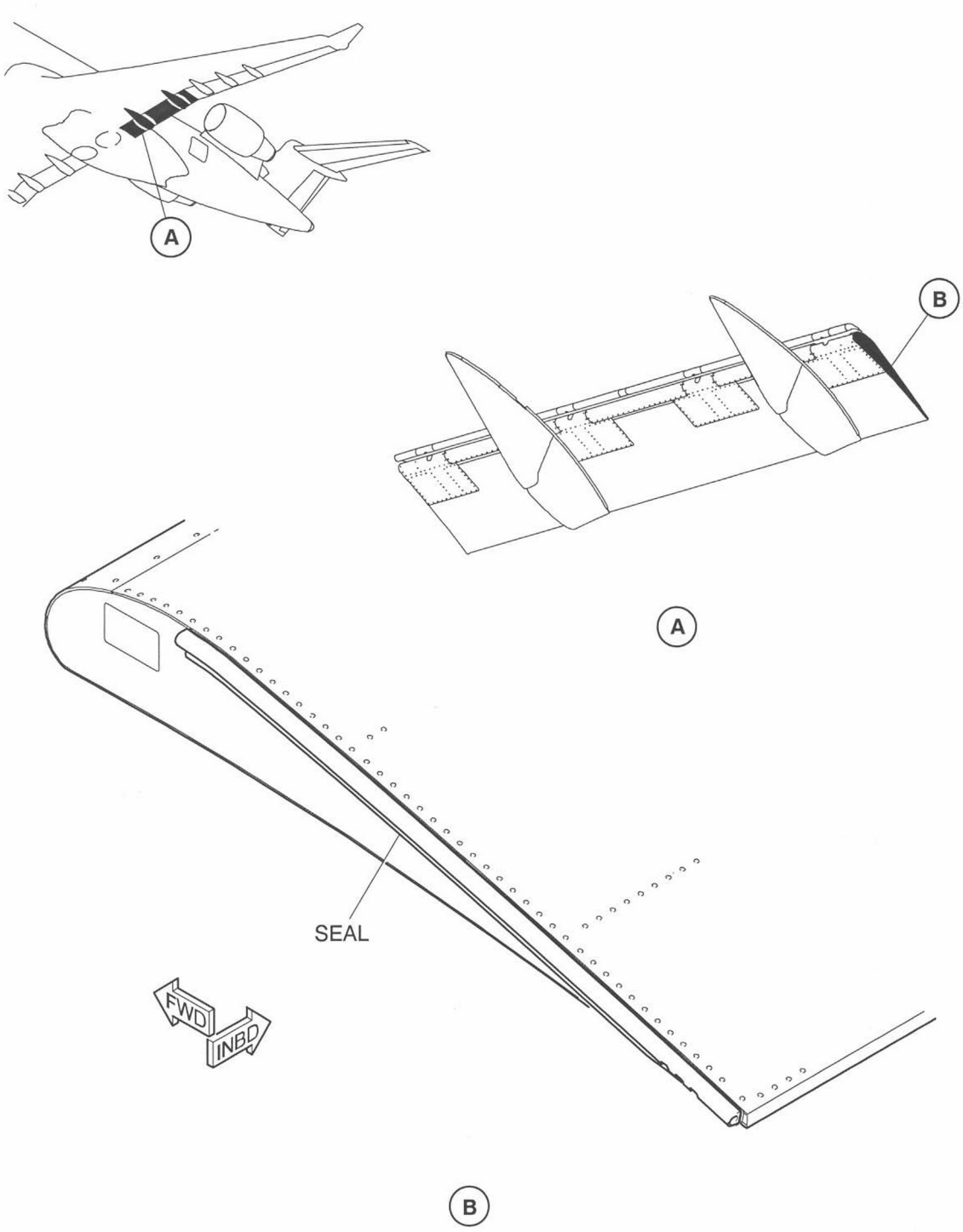
The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0,10 % on fuel used / seal

- Inboard flaps (WS 54.00,WS 128.00);
- Outboard flaps (WS178.00, WS 220.00, WS264.00)

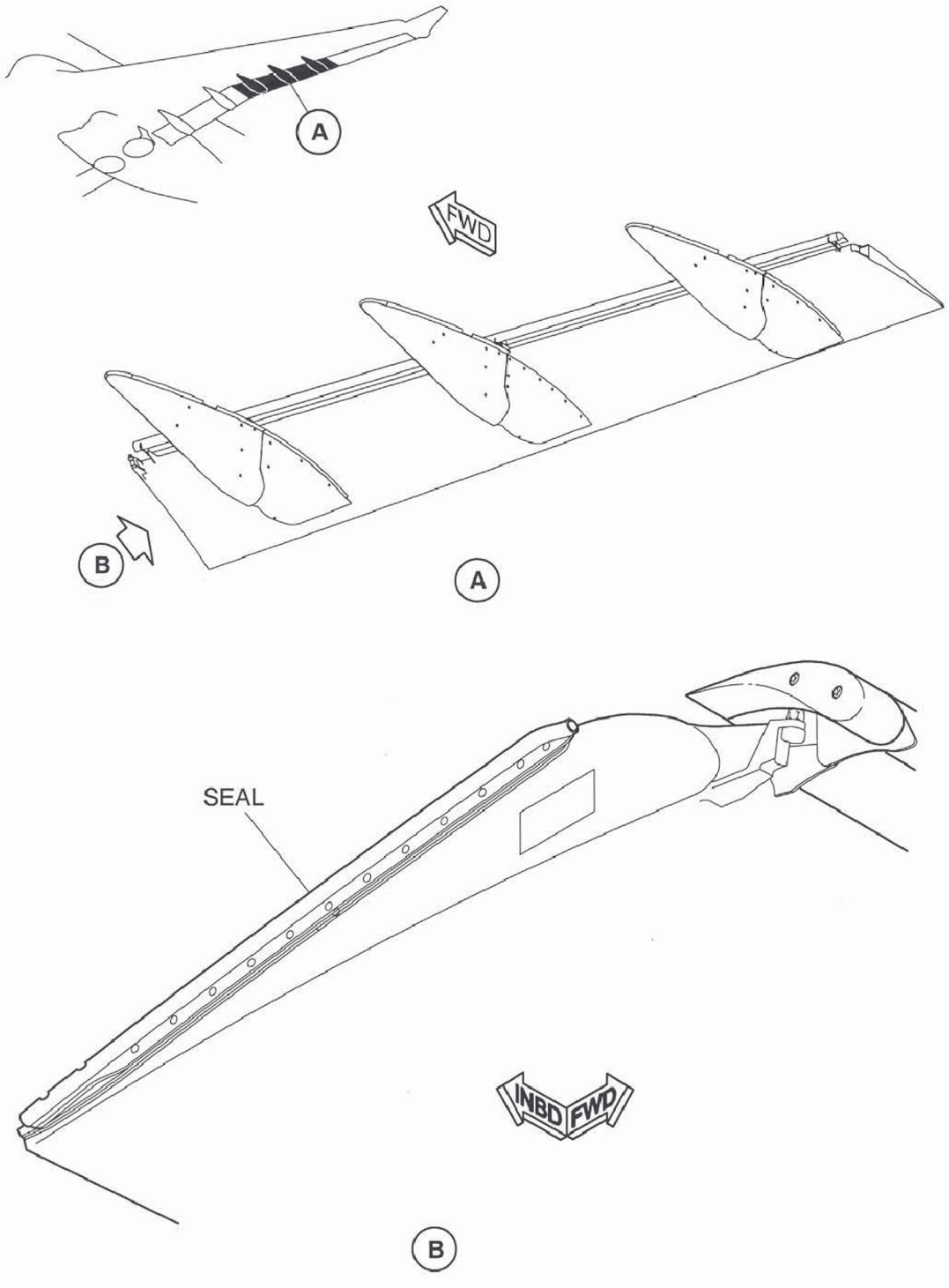
Remarks may be continued on next page!

27–50: Inboard Flap – Outboard Seal



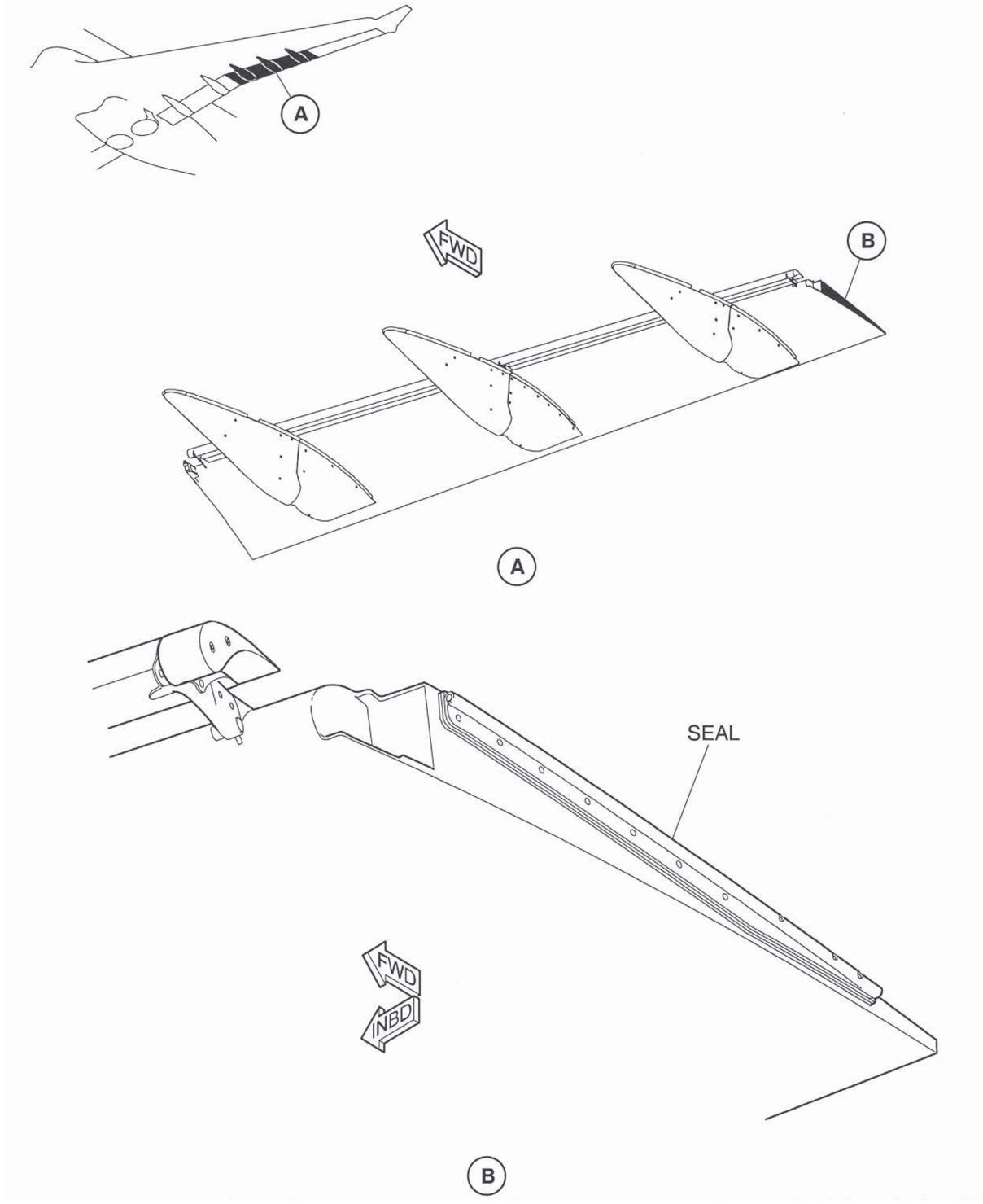
Remarks may be continued on next page!

27–50: Outboard Flap – Inboard Seal

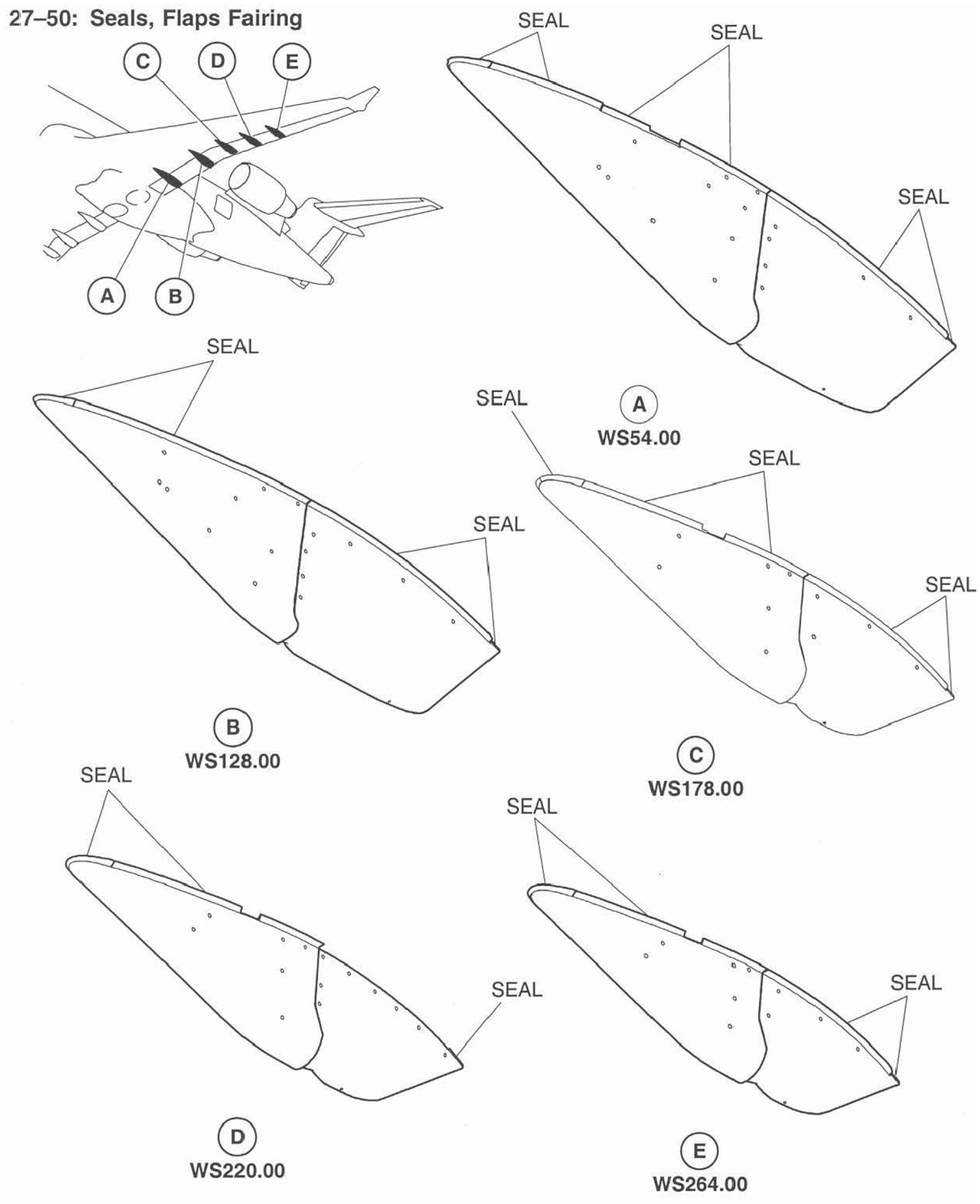


Remarks may be continued on next page!

27–50: Outboard Flap – Outboard Seal



Remarks may be continued on next page!



END

Remarks may be continued on next page!

8-27-54-01	Bute Door Seals, Outboard Flap

8-27-54-01

NUMBER INSTALLED	PROCE-DURE
8	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
5 kg per seal	10 lb per seal

ENROUTE CLIMB	
11,5 5 kg per seal	25 lb per seal

LANDING WEIGHT	
5 kg per seal	10 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.10 % on fuel used / seall

END

Remarks may be continued on next page!

8-27-54-02	Skin Panel, Seals, Inboard Flap

8-27-54-02

NUMBER INSTALLED	PROCE-DURE
6	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
14 kg per seal	30 lb per seal

ENROUTE CLIMB	
32 kg per seal	70 lb per seal

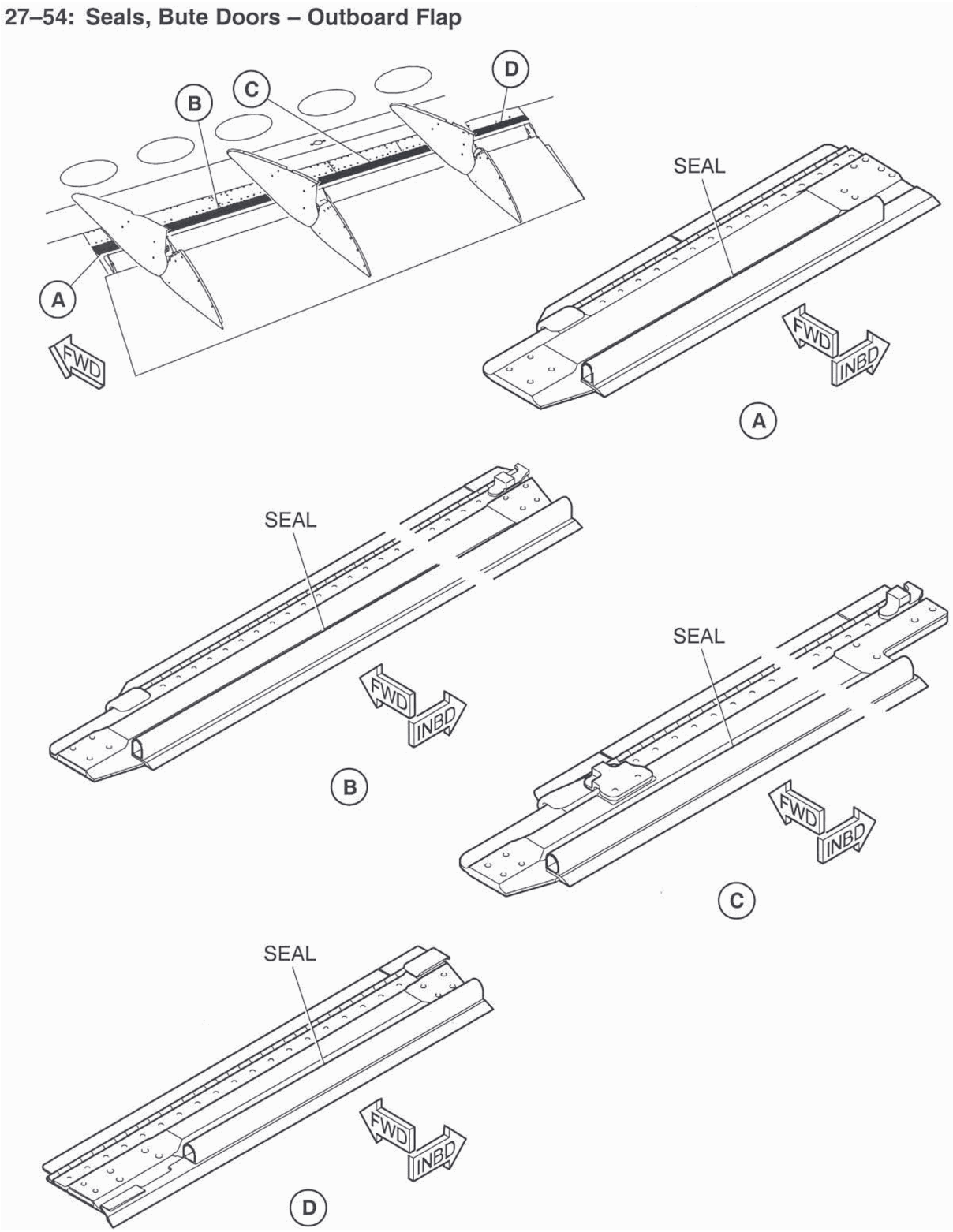
LANDING WEIGHT	
14 kg per seal	30 lb per seal

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.20 % on fuel used / seal

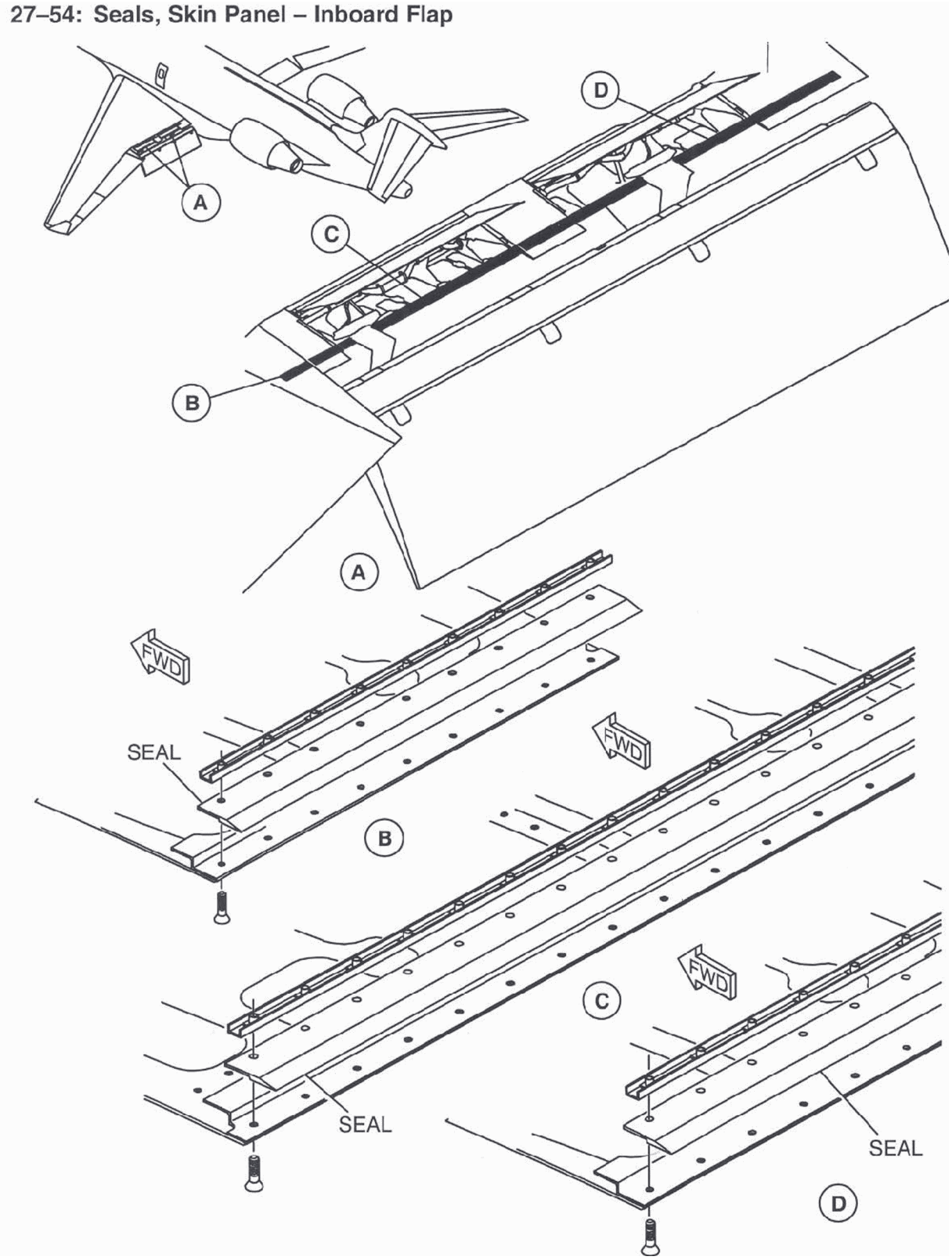
Remarks may be continued on next page!

27–54: Seals, Bute Doors – Outboard Flap



Remarks may be continued on next page!

27–54: Seals, Skin Panel – Inboard Flap



Remarks may be continued on next page!

END

Remarks may be continued on next page!

8-27-64-01	P-Seal under the Multi-Function Light Spoilers (MFS) Shroud

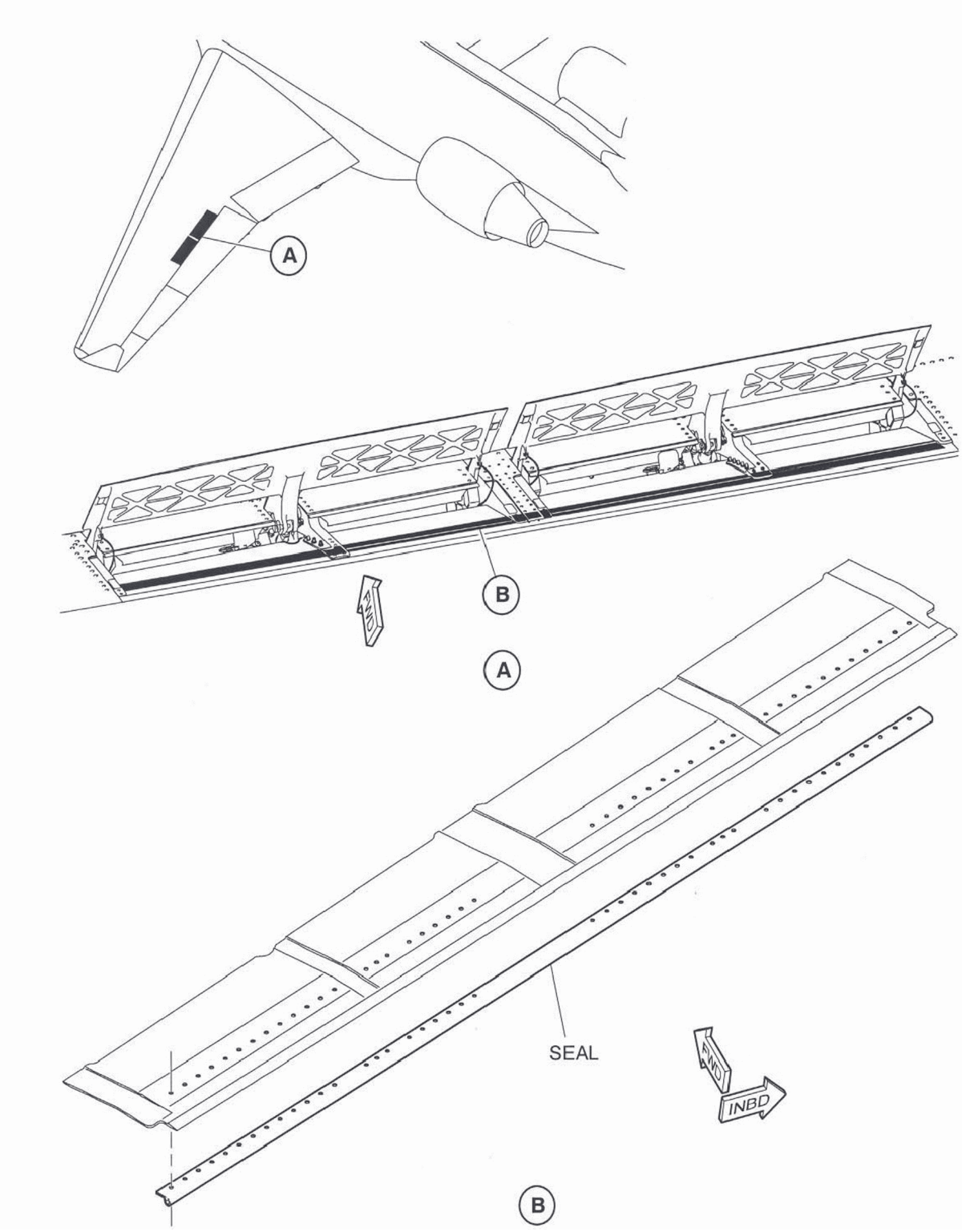
8-27-64-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
2	-	I	-

Any number or combination may be missing with no performance penalty.

Remarks may be continued on next page!

27–64: P-Seal, Multi-Function Flight Spoilers (MFS) Shroud



END

Remarks may be continued on next page!

8-28 FUEL

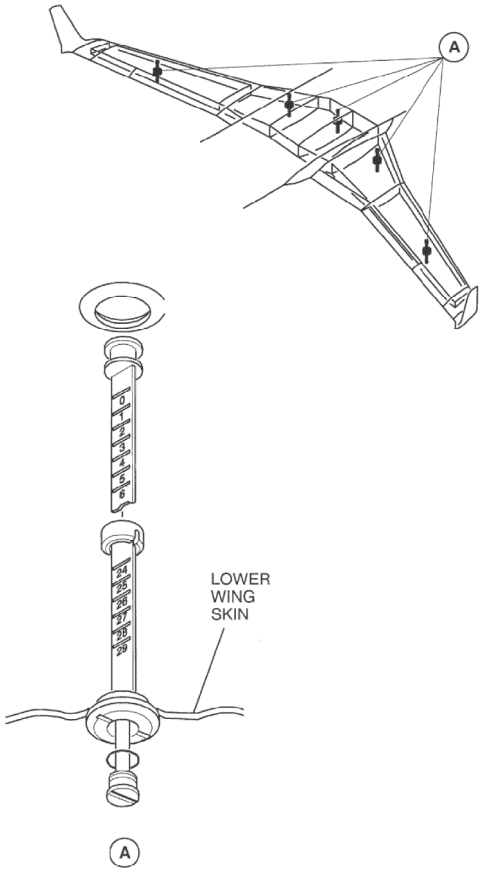
8-28-41-01	Magnetic Level Indicators

8-28-41-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
5	-	I	-

Any number may be missing with no performance penalty.

28–41 Magnetic Level Indicators



END

Remarks may be continued on next page!

8-32 LANDING GEAR

8-32-12-01	Main Landing Gear Door - Inboard Door

8-32-12-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
245 kg / door	540 lb / door

ENROUTE CLIMB	
551 kg / door	1215 lb / door

LANDING WEIGHT	
245 kg / door	540 lb / door

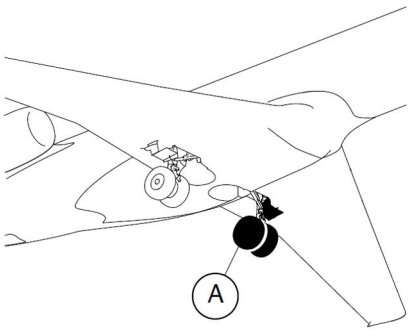
The mission fuel requirements are increased by:

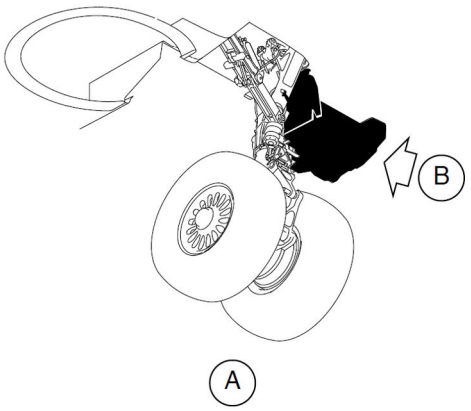
FUEL CONSUMPTION
+ 2.5 % on fuel used / door

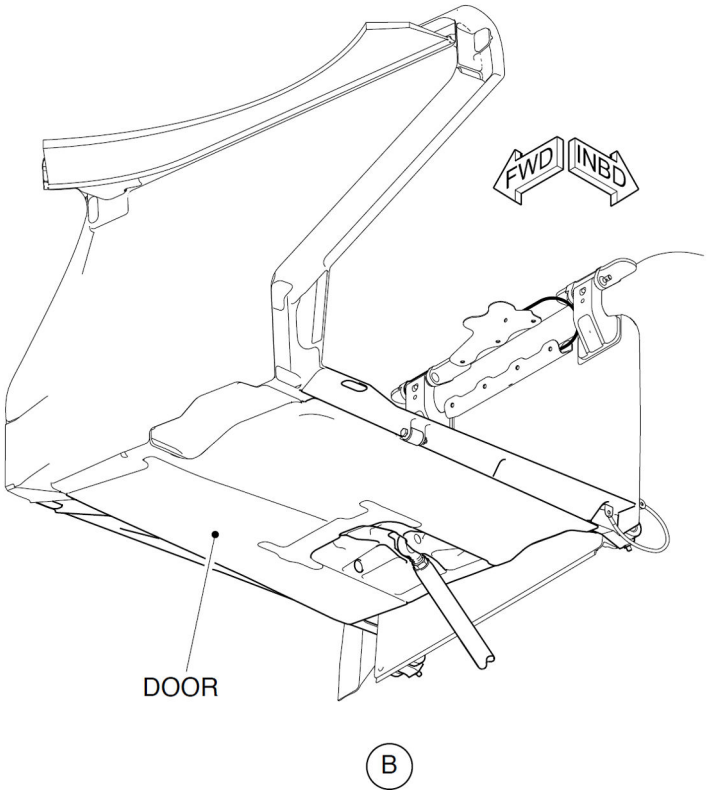
Note: *The climb ceiling obtained from the Flight Planning and Cruise Control Manual (FPCCM) mustbe reduced by 1.000 ft / door.*

Remarks may be continued on next page!

32–12: Main Landing Gear Door – Inboard Door







END

Remarks may be continued on next page!

8-32-12-02	Main Landing Gear Door Brush

8-32-12-02

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
32 kg / brush	70 lb / brush

ENROUTE CLIMB	
70,5 kg / brush	135 lb / brush

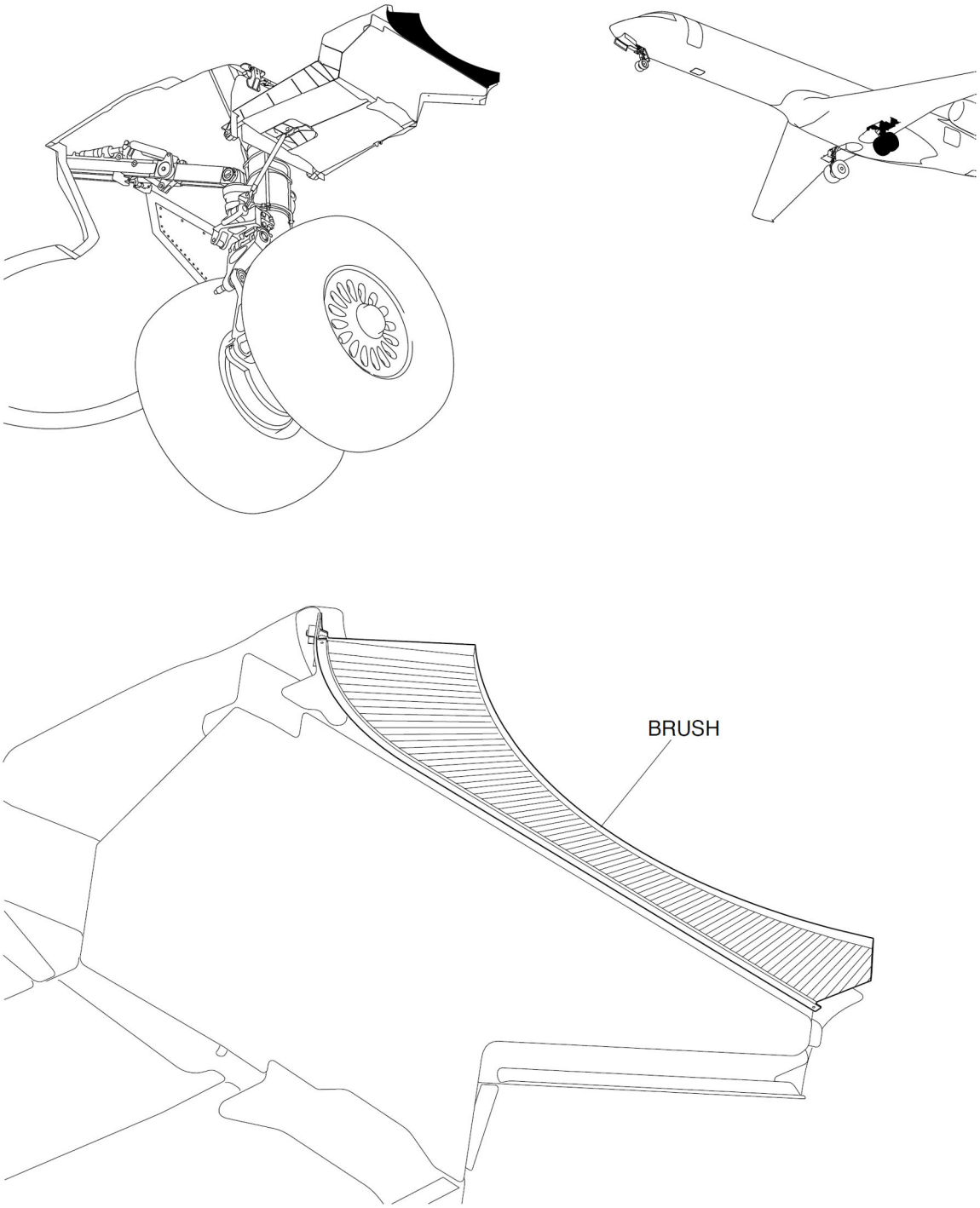
LANDING WEIGHT	
32 kg / brush	70 lb / brush

The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.45 % on fuel used / brush

Remarks may be continued on next page!

32–12: Main Landing Gear Door – Door Brush



END

Remarks may be continued on next page!

8-32-12-03	Main Landing Gear Door Blade Seal

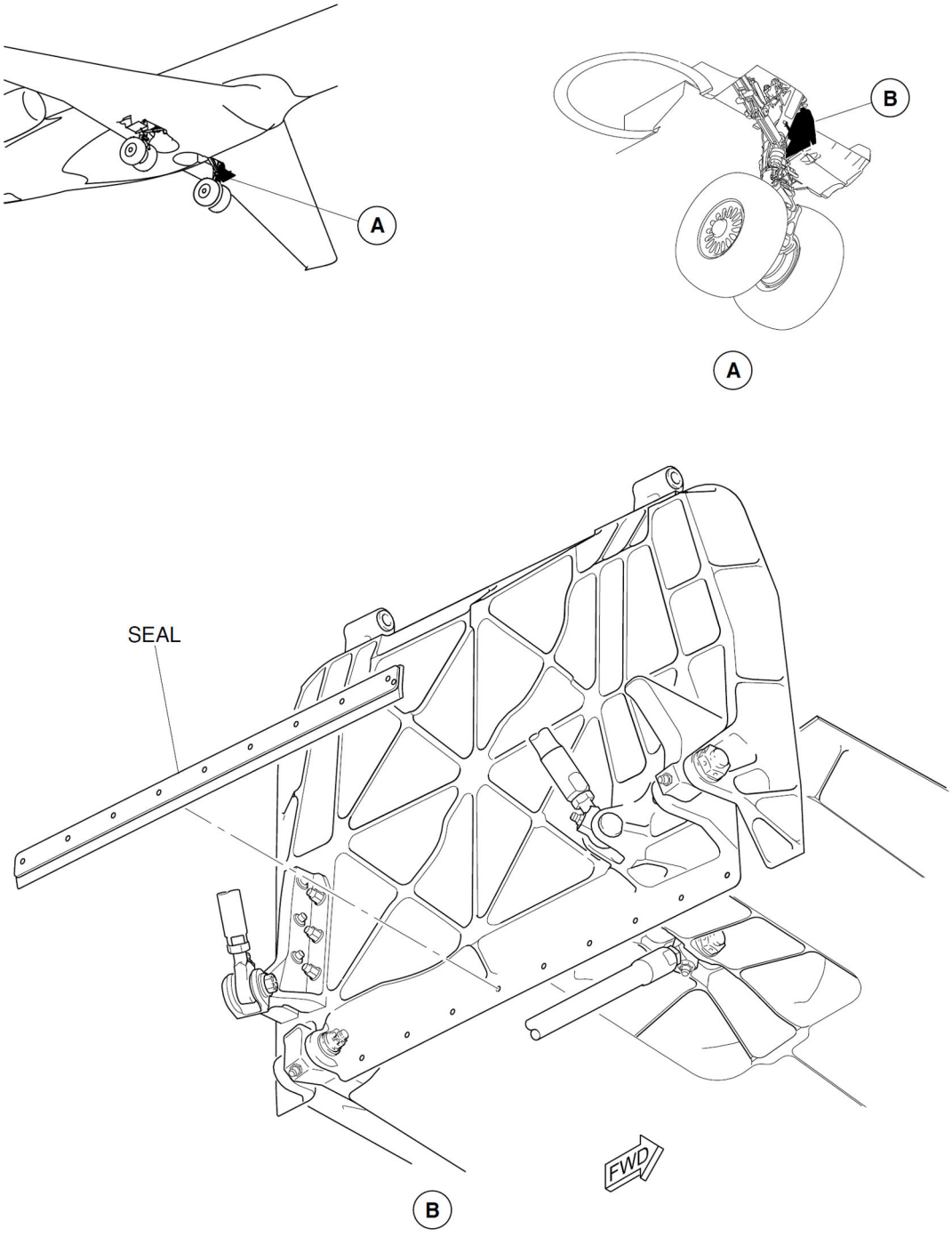
8-32-12-03

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
2	-	I	-

One or both may be missing with no performance penalty.

Remarks may be continued on next page!

32–12: Main Landing Gear Door – Door Blade Seal



END

Remarks may be continued on next page!

8-33 LIGHTS

8-33-42-01	Navigation Light Covers on Vertical Stabilizers*

8-33-42-01

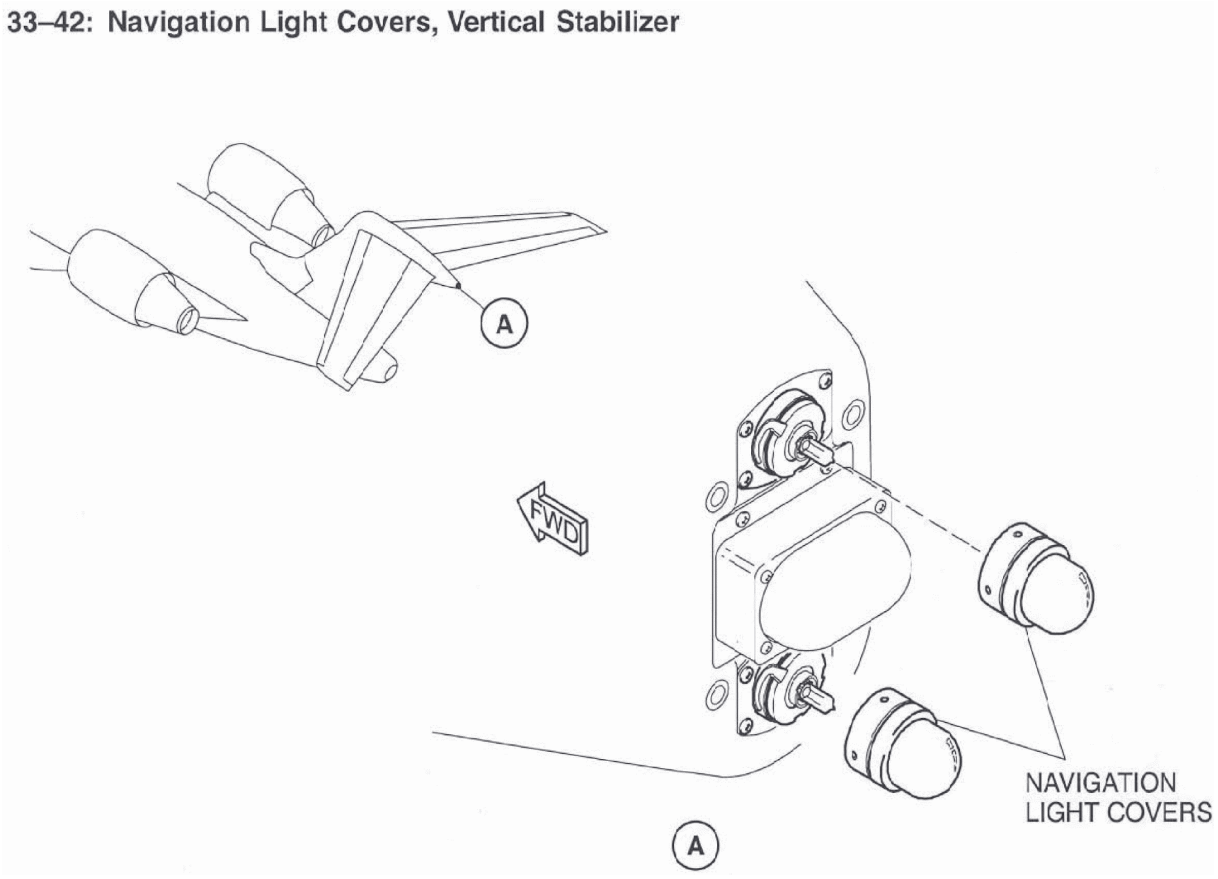
NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be missing with no performance penalty.

*Only one flight is permitted, to an aerodrome where the necessary repairs or replacements can be made. This flight must not be carried out in known, forecast or anticipated lightning conditions.

33–42: Navigation Light Covers, Vertical Stabilizer



END

Remarks may be continued on next page!

8-33-43-01	Wing Inspection Light Covers*

8-33-43-01

NUMBER INSTALLED	PROCE-DURE
2	-

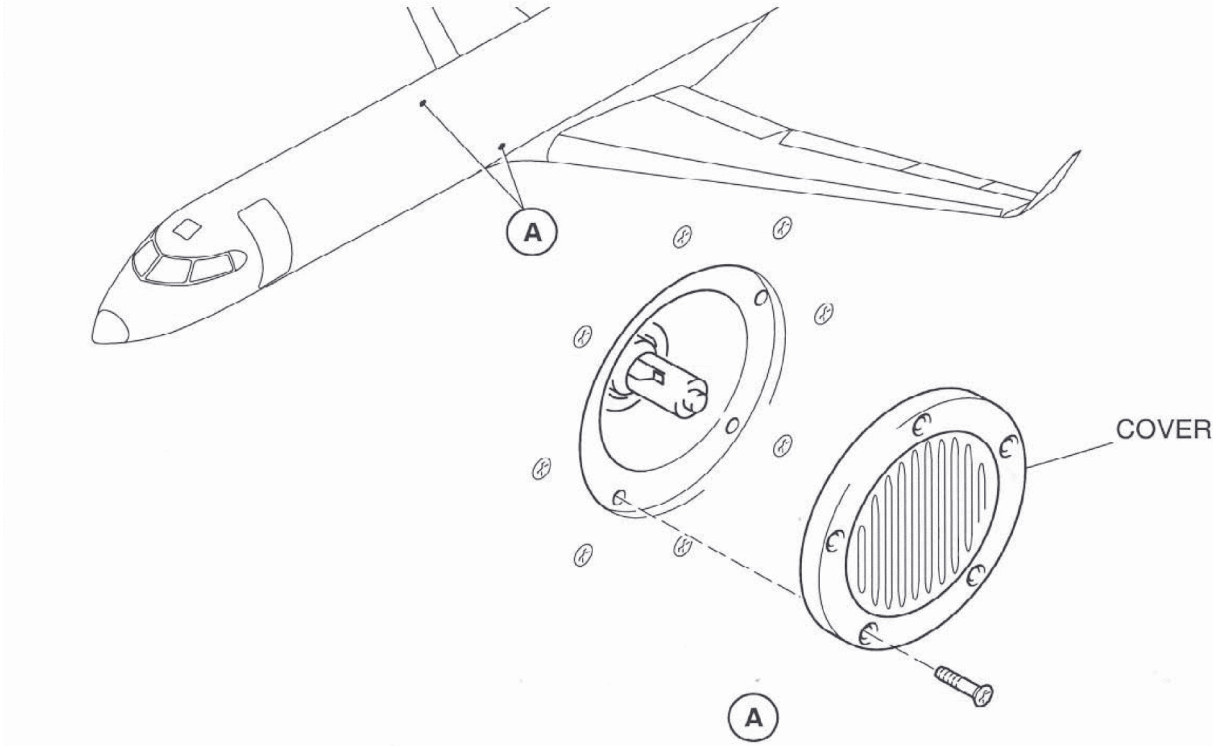
COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be missing with no performance penalty.

(Ref: Figure Item D)

*Only one flight is permitted, to an aerodrome where the necessary repairs or replacements can be made. This flight must not be carried out in known, forecast or anticipated lightning conditions.

33–43: Wing Inspection Light Covers



END

Remarks may be continued on next page!

8-33-44-01	Lower/ Upper Beacon (Red) Light Covers*

8-33-44-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
25 kg / cover	55 lb / cover

ENROUTE CLIMB	
54,5 kg / cover	120 lb / cover

LANDING WEIGHT	
25 kg / cover	55 lb / cover

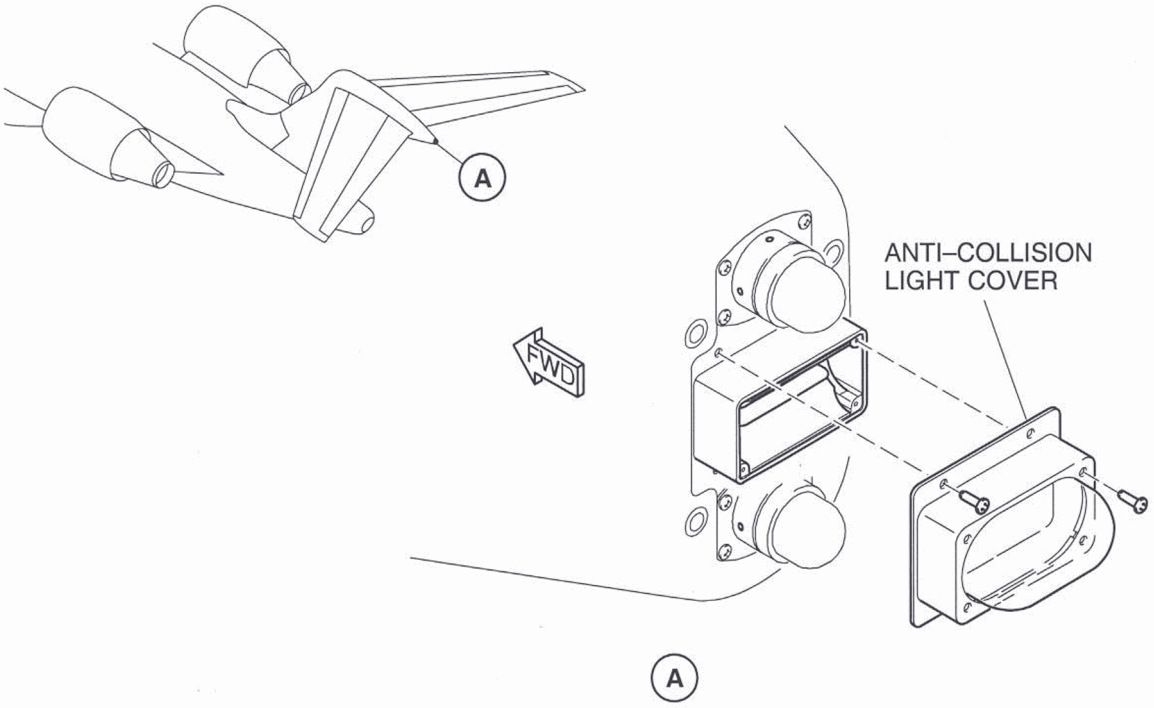
The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0.35 % on fuel used / cover

*Only one flight is permitted, to an airport where the necessary repairs or replacements can be made. This flight must not be carried out in known, forecast or anticipated lightning conditions.

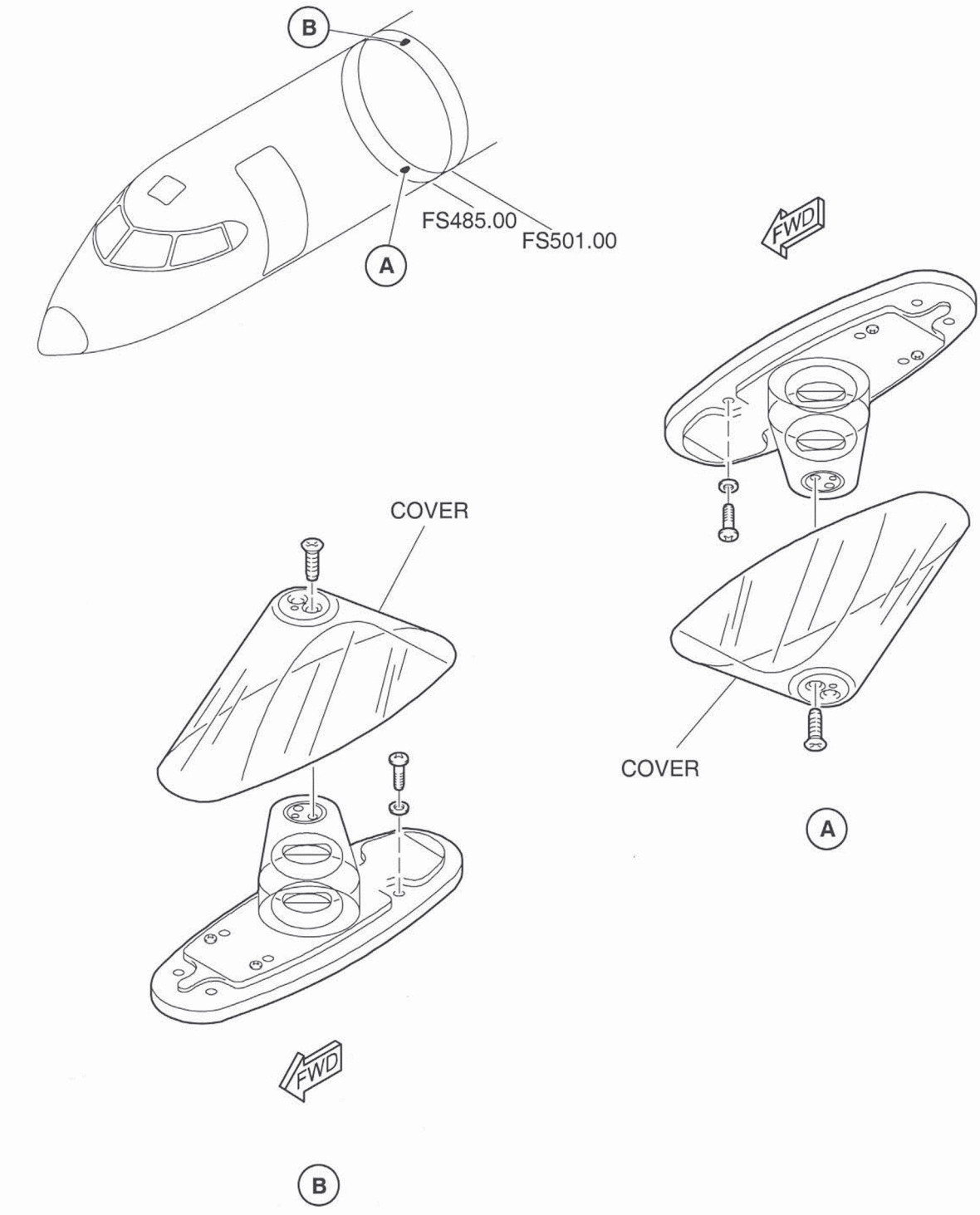
Remarks may be continued on next page!

33–44: Anti-Collision Light Cover, Vertical Stabilizer



Remarks may be continued on next page!

33–44: Beacon Light (Red) Covers, Upper / Lower



END

Remarks may be continued on next page!

8-33-46-01	Logo Light Covers*

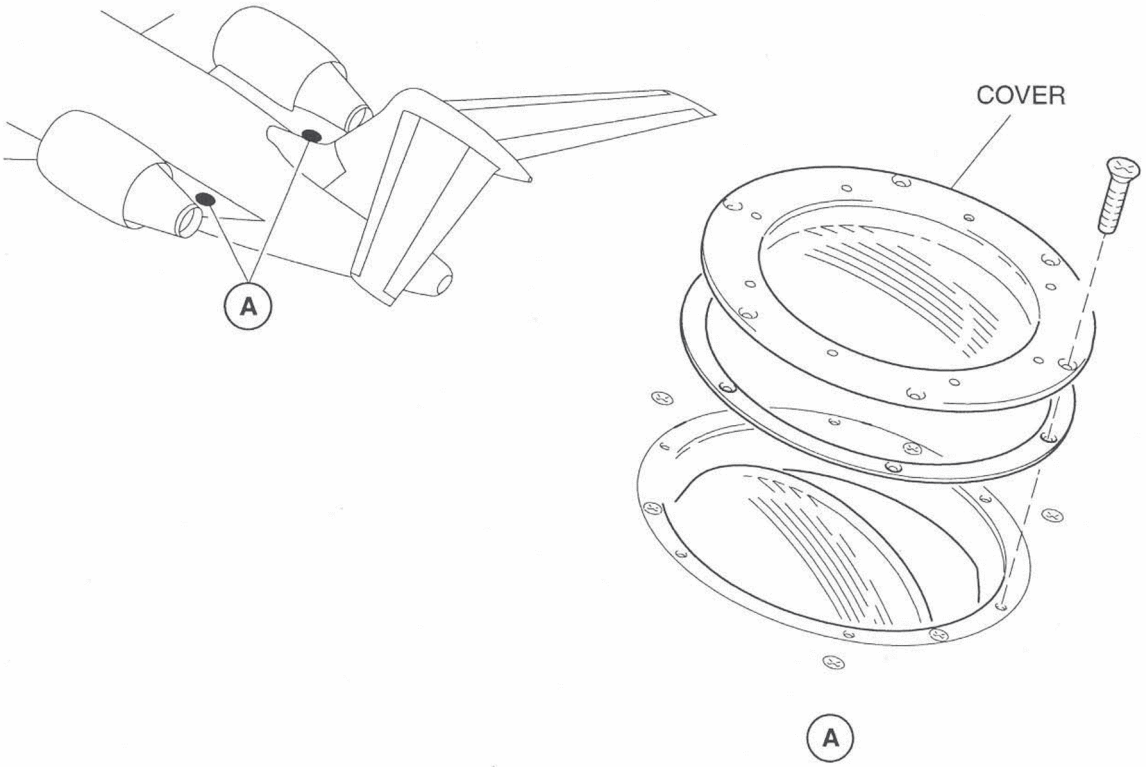
8-33-46-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
2	-	I	-

One or both may be missing with no performance penalty.

*Only one flight is permitted, to an aerodrome where the necessary repairs or replacements can be made. This flight must not be carried out in known, forecast or anticipated lightning conditions.

33–46: Logo Light Covers



Remarks may be continued on next page!

END

Remarks may be continued on next page!

8-33-50-01	Exterior Emergency Light Covers*

8-33-50-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
8	-	I	-

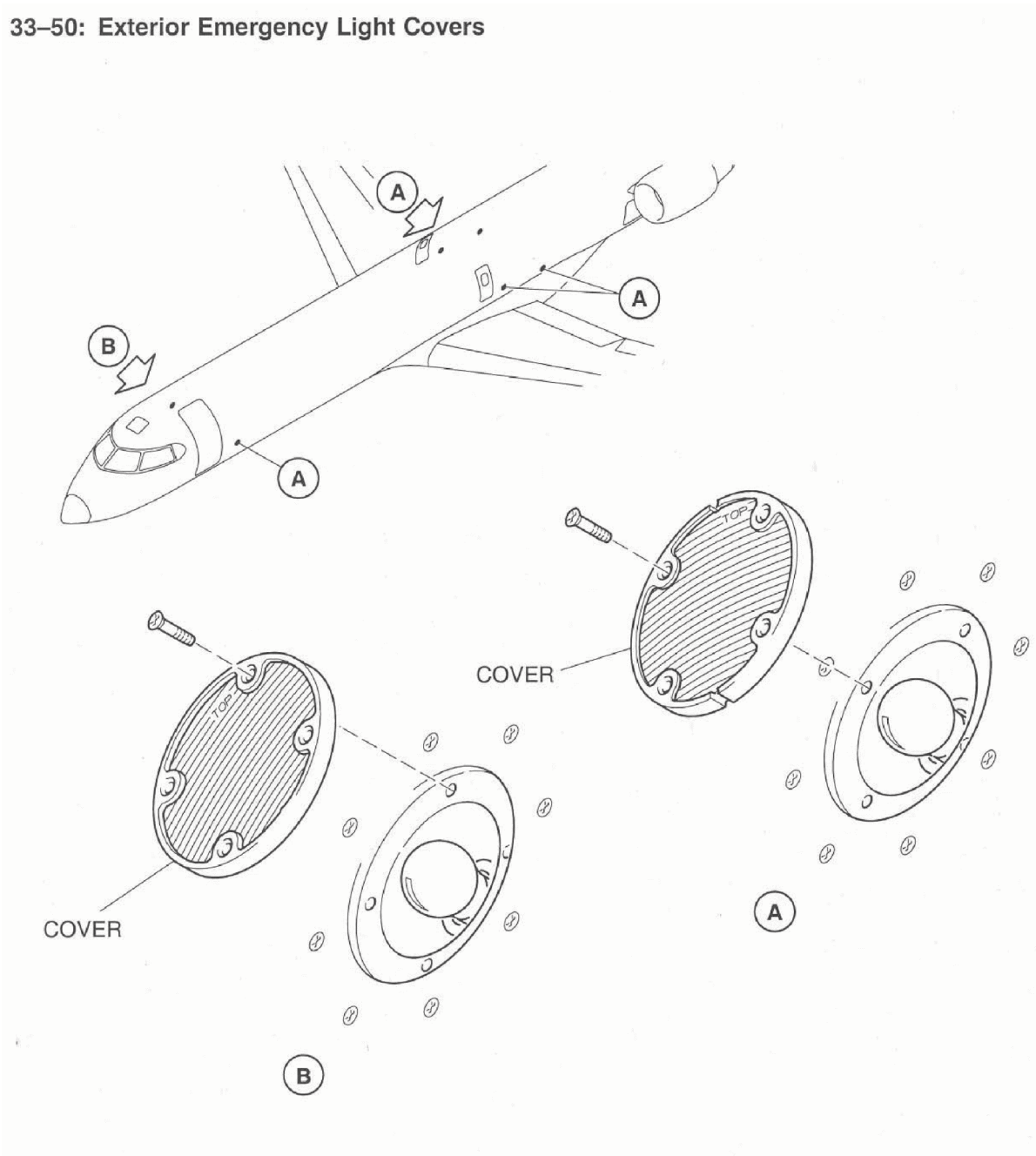
Any number or combination may be missing with no performance penalty.

Note: *The minimum number of lights required by the operating rules MUST be operative.*

*Only one flight is permitted, to an airport where the necessary repairs or replacements can be made. This flight must not be carried out in known, forecast or anticipated lightning conditions.

Remarks may be continued on next page!

33–50: Exterior Emergency Light Covers



END

Remarks may be continued on next page!

8-51 STRUCTURES - GENERAL

8-51-23-01	Aerodynamic Sealant

8-51-23-01-A

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
-	-	I	PERFO

Aerodynamic sealant may be missing on external surfaces provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
14 kg per every 3 metres or less missing	30 lb per every 10 feet or less missing

ENROUTE CLIMB	
27,5 kg per every 3 metres or less missing	60 lb per every 10 feet or less missing

LANDING WEIGHT	
14 kg per every 3 metres or less missing	30 lb per every 10 feet or less missing

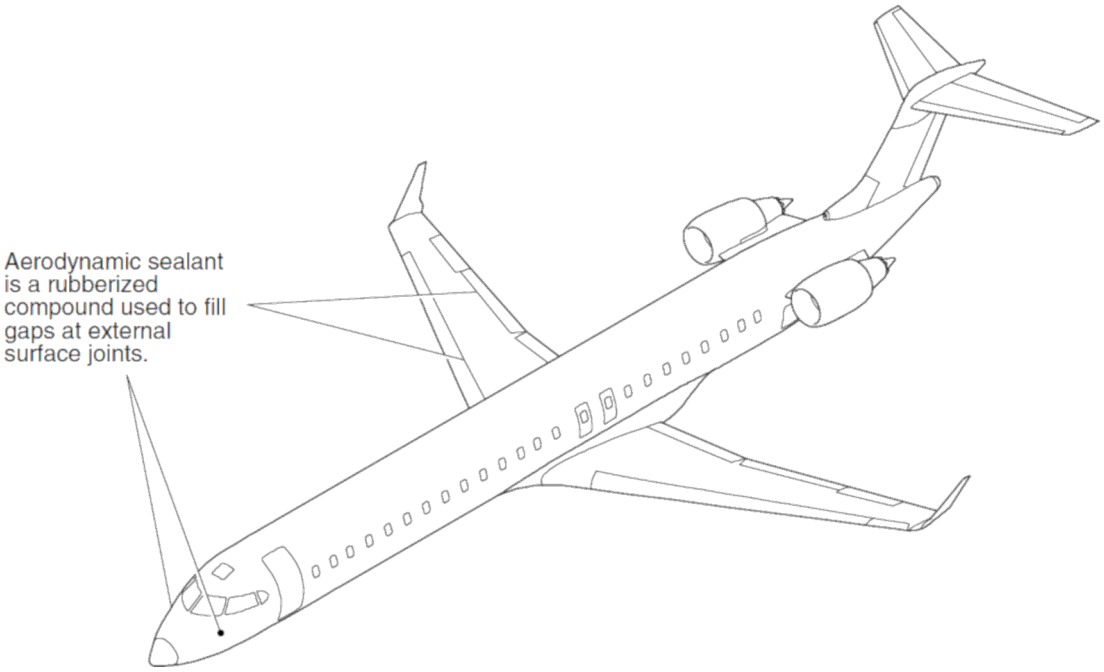
The mission fuel requirements are increased by:

FUEL CONSUMPTION
+ 0,20 % on fuel used per every 3 meter (10 feet) or less missing

Note: *Aerodynamic sealant must not be missing on the fuselage in the RVSM zones defined as the side surfaces of the forward fuselage between FS 185.50 and FS 220.00 and between WL 76.00 and WL100.00.*

Remarks may be continued on next page!

AERODYNAMIC SEALANT MUST BE INTACT AT ALL JOINTS
ON THE FUSELAGE IN THE RVSM ZONES.



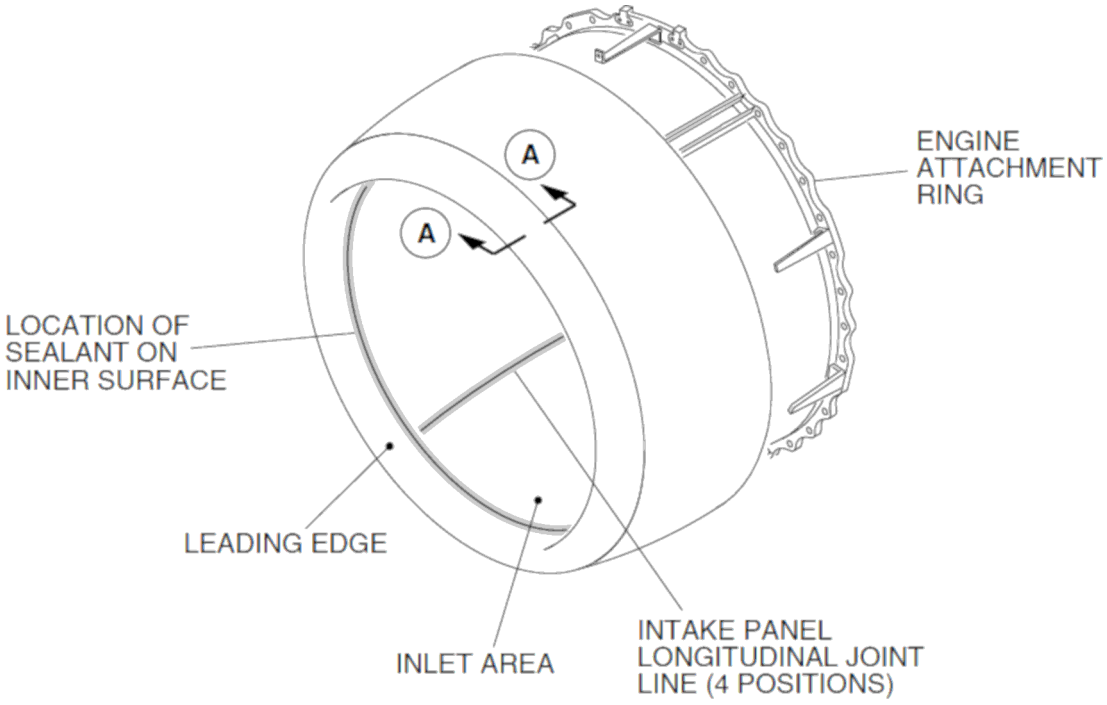
8-51-23-01-B Aerodynamic Sealant – Air Intake

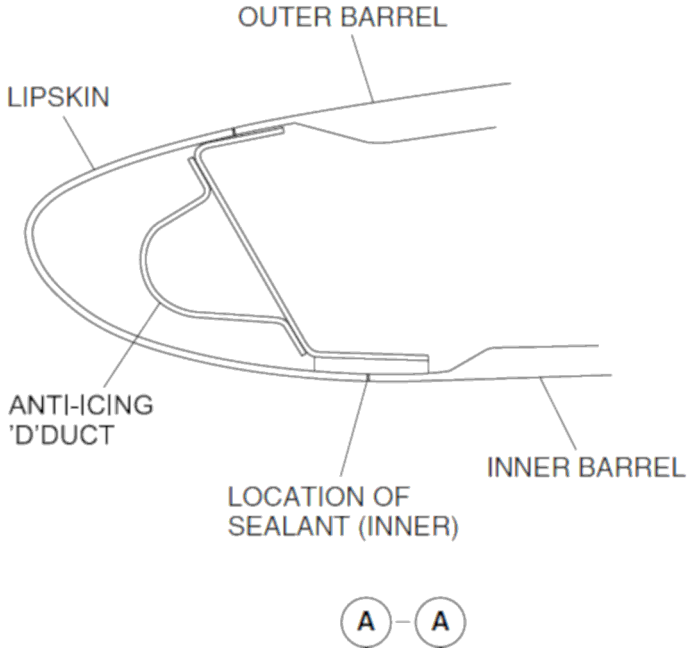
NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
-	-	I	-

A maximum cumulative of 61.0 centimetres (24.0 inches) (30.5 centimetres (12.0 inches) for the longitudinal joint as shown in page 08-01-51-4 and 30.5 centimetres (12 inches) as shown in page 08-01-51-5) of the engine inlet internal aerodynamic sealant may be missing provided that the total length of missing sealant at each joint is within the limits stipulated in page 08-01-51-4 and 08-01-51-5 with no impact on performance. These limits are per engine, for a total of up to 122.0 centimetres (48 inches) per aircraft, respecting the above restrictions for each engine.

Remarks may be continued on next page!

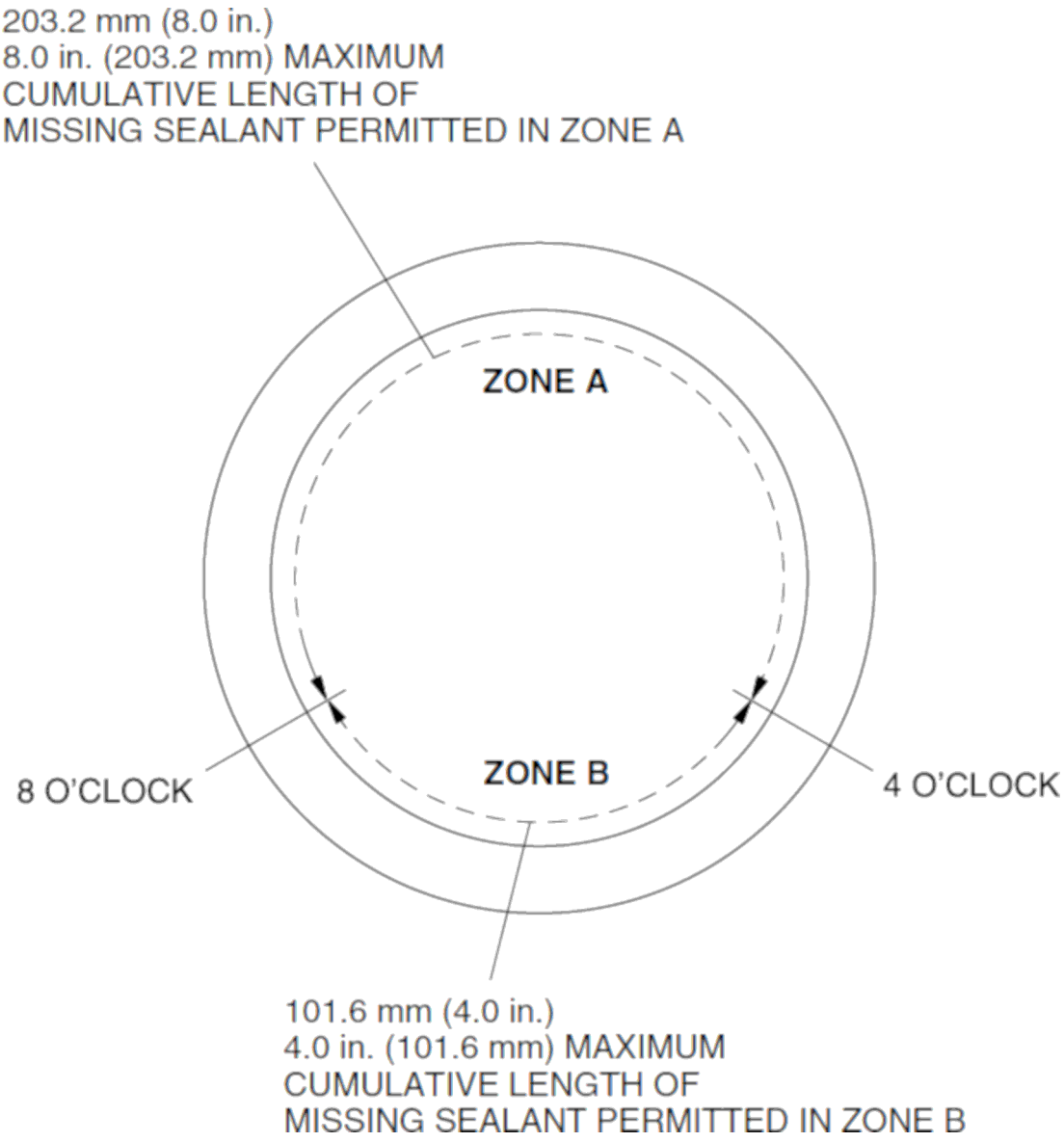
Aerodynamic Sealant – Air Intake





Remarks may be continued on next page!

Aerodynamic Sealant – Intake Permitted Zones



8-51-23-01-C Aerodynamic Sealant – Engine nozzles

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
-	-	I	-

A maximum cumulative of 30.5 centimetres (12.0 inches) (per engine, for a total of 61.0 centimetres 24.0 inches per aircraft) of the engine core cowl aerodynamic sealant may be missing with no impact on performance.

Remarks may be continued on next page!

8-51-23-01-D Aerodynamic Sealant – Pitot Static Probe

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
-	-	I	-

When sealant is missing, the aircraft is limited to non-RVSM airspace.

END

Remarks may be continued on next page!

8-52 DOORS

8-52-45-01	Low Pressure Ground Air Connection Panel Door (182BR)

8-52-45-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

END

Remarks may be continued on next page!

8-52-45-02	Aft Lavatory Service Door (196ER)

8-52-45-02

NUMBER INSTALLED	PROCE-DURE
1	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
29,5 kg / door	65 lb / door

ENROUTE CLIMB	
66 kg / door	145 lb / door

LANDING WEIGHT	
29,5 kg / door	65 lb / door

The mission fuel requirements is increased by:

FUEL CONSUMPTION
+ 0.40 % on fuel used / door

END

Remarks may be continued on next page!

8-52-45-03	Forward Waste Water Service (142BR)

8-52-45-03

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

END

8-52-45-04	Forward Potable Water Service (142AR)

8-52-45-04

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

END

8-52-45-05	AC Ground Power Door (122DR)

8-52-45-05

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

END

Remarks may be continued on next page!

8-52-45-06	Aft Potable Water Service Door (195EL)

8-52-45-06

NUMBER INSTALLED	PROCE-DURE
1	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
29,5 kg / door	65 lb / door

ENROUTE CLIMB	
66 kg / door	145 lb / door

LANDING WEIGHT	
29,5 kg / door	65 lb / door

The mission fuel requirements is increased by:

FUEL CONSUMPTION
+ 0.40 % on fuel used / door

END

Remarks may be continued on next page!

8-52-45-07	High Pressure Ground Air Connection Panel Door (311AL)

8-52-45-07

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

END

8-52-45-08	Deflector Around Forward and Center Cargo Doors

8-52-45-08

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

END

Remarks may be continued on next page!

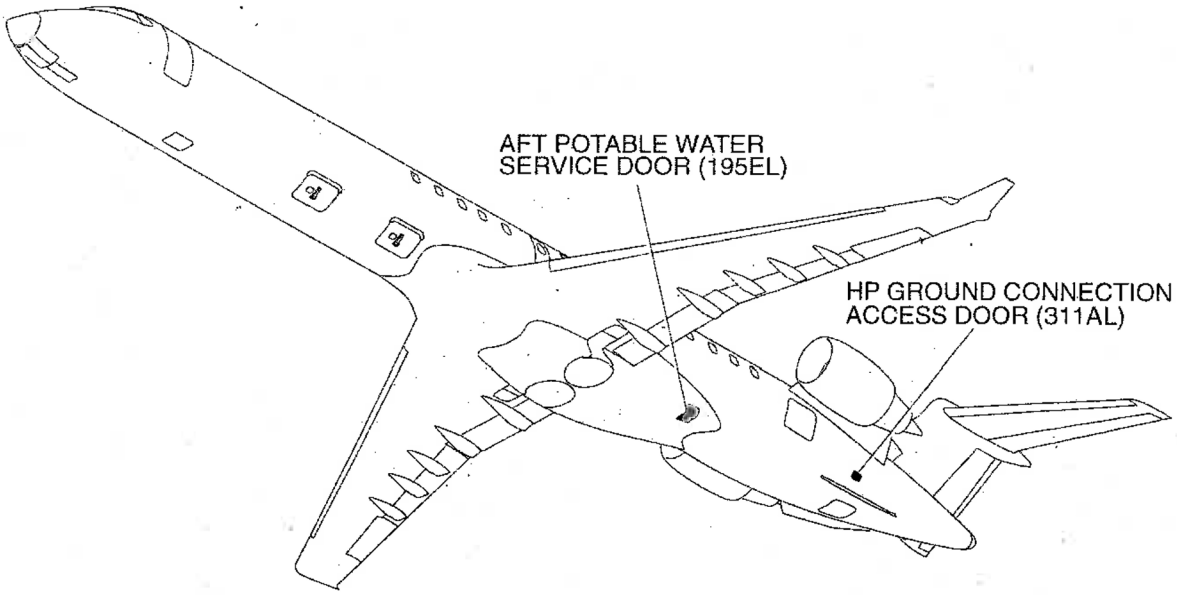
8-52-45-09	Weather Seal Around the Forward Cargo Door

8-52-45-09

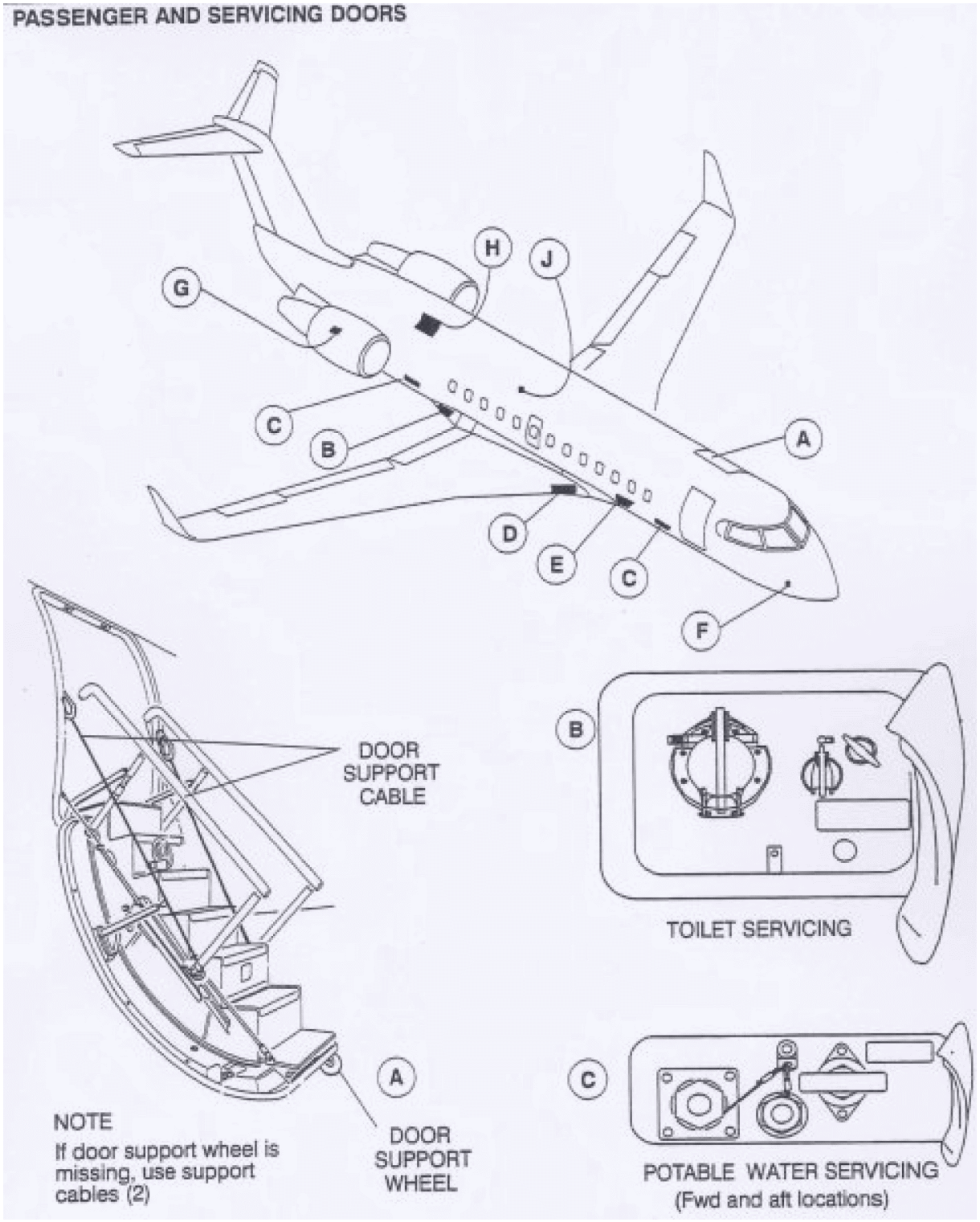
NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be missing with no performance penalty.



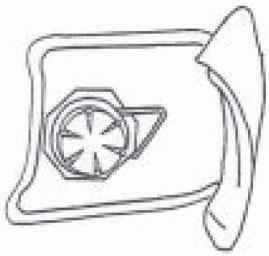
Remarks may be continued on next page!



Remarks may be continued on next page!

PASSENGER AND SERVICING DOORS (CONT'D)

D



PRESSURE REFUEL / DEFUEL ADAPTOR

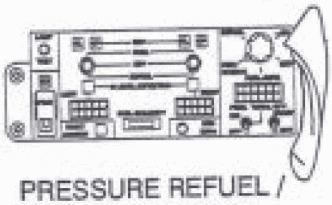
(At right wing root)

G

DC EXTERNAL POWER

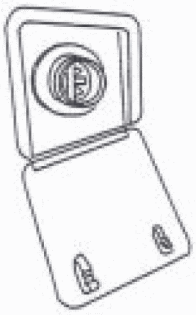
(Right aft fuselage, below engine pylon)

E



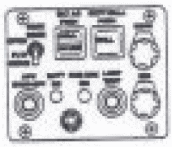
PRESSURE REFUEL / DEFUEL CONTROL

H

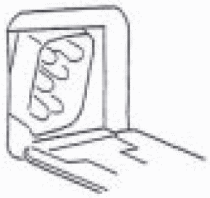


GROUND AIR CONNECTION

(Left aft fuselage, below engine pylon)



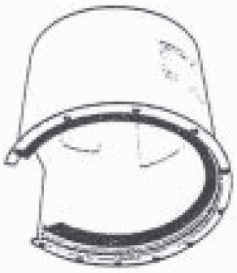
F



AC EXTERNAL POWER

(Right forward fuselage)

J



NO.3 HYDRAULIC SYSTEM SERVICING

(Access panels inside wheel

END

Remarks may be continued on next page!

8-53 FUSELAGE

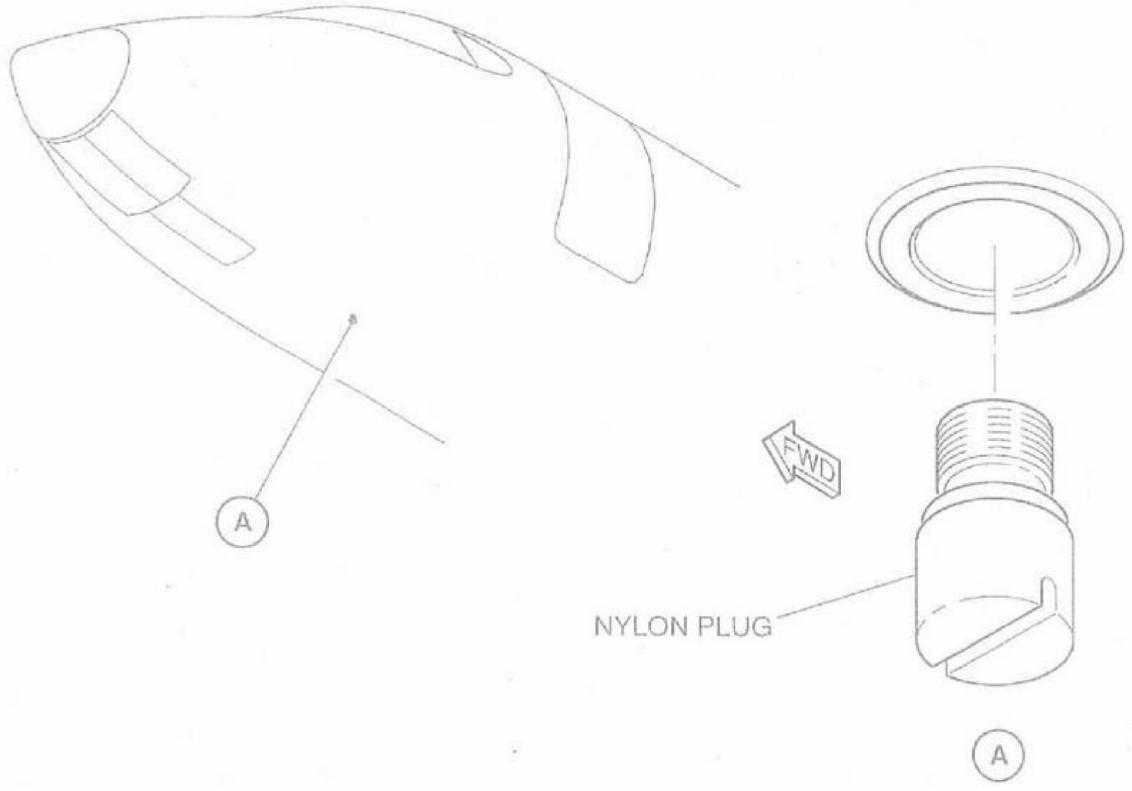
8-53-12-01	Forward Jacking Pad Nylon Plug

8-53-12-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
1	-	I	-

May be missing with no performance penalty.

53-12: Forward Jacking Pad Nylon Plug



Remarks may be continued on next page!

END

Remarks may be continued on next page!

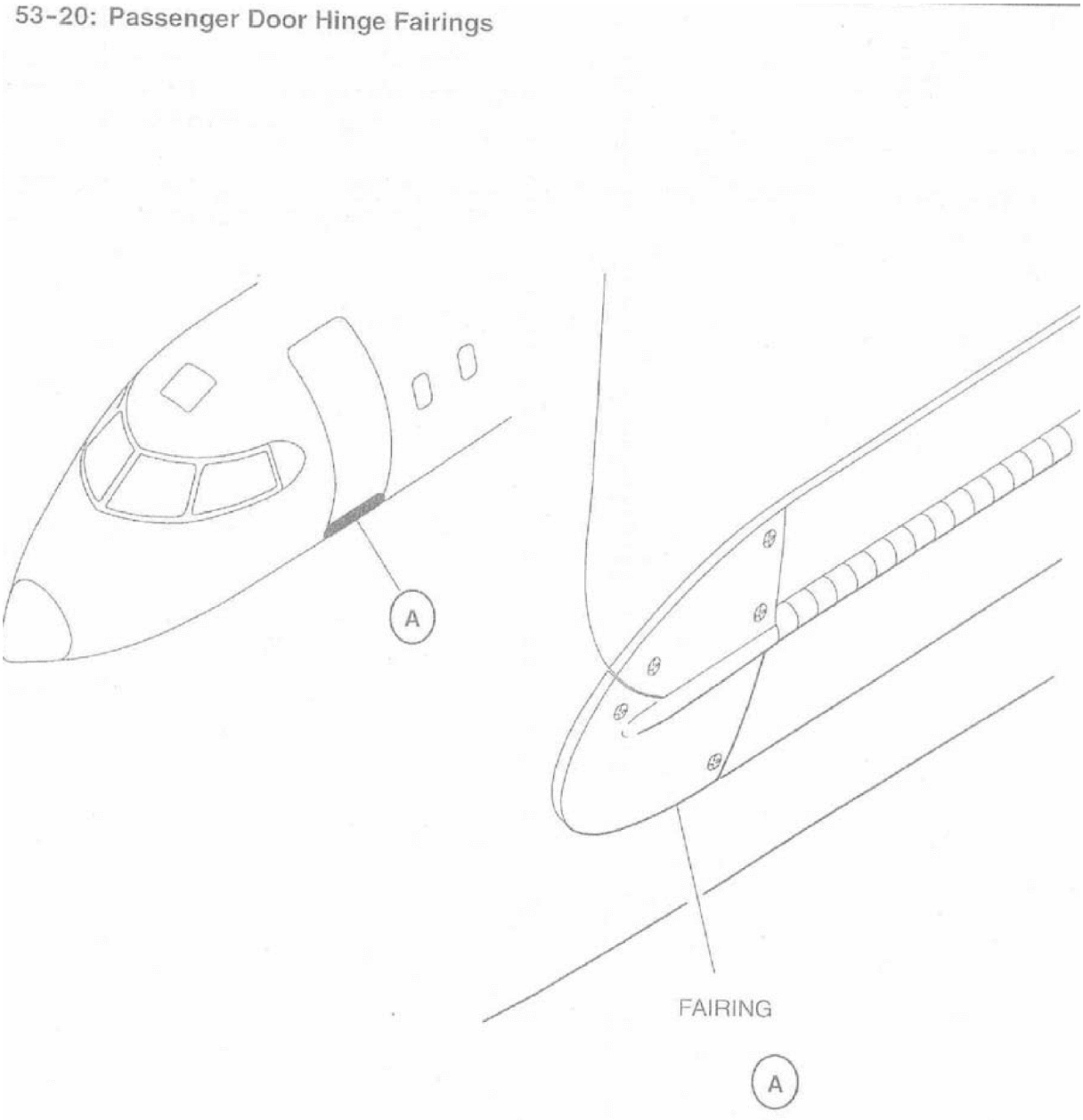
8-53-20-01	Passenger Door Hinge Fairing

8-53-20-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

Forward and / or aft fairing may be missing with no performance penalty.



Remarks may be continued on next page!

END

Remarks may be continued on next page!

8-53-82-01	Flap Stub Fairings

8-53-82-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
27,5 kg / fairing	60 lb / fairing

ENROUTE CLIMB	
61,5 kg / fairing	135 lb / fairing

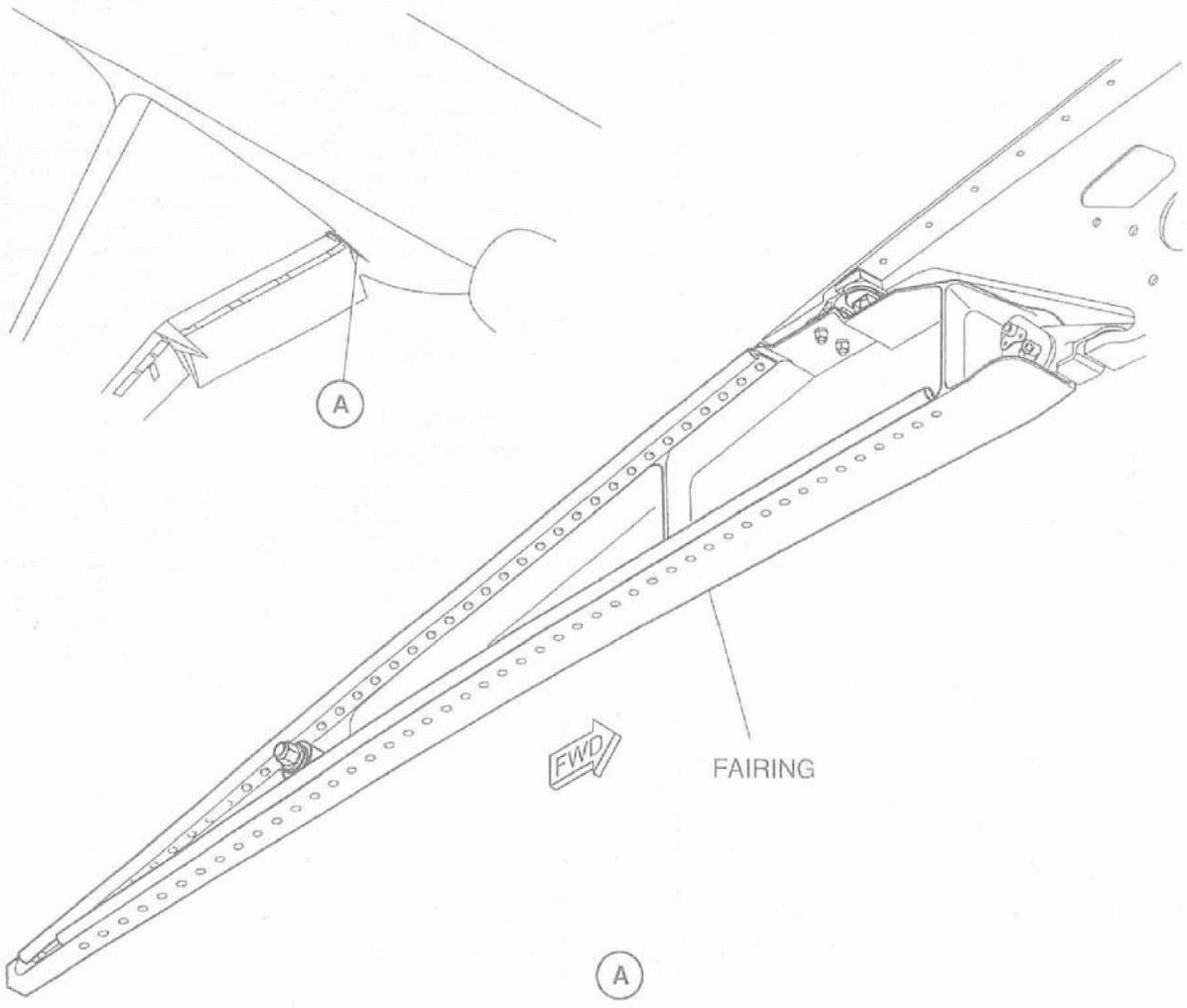
LANDING WEIGHT	
27,5 kg / fairing	60 lb / fairing

The mission fuel requirements is increased by:

FUEL CONSUMPTION
+ 2.0 % on fuel used / fairing

Remarks may be continued on next page!

53-82: Flap Stub Fairings



END

Remarks may be continued on next page!

8-53-83-01	Wheel Bin Brushes (3 Brushes per Wheel Bin)

8-53-83-01

NUMBER INSTALLED	PROCE-DURE
6	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
32 kg / brush	70 lb / brush

ENROUTE CLIMB	
70,5 kg / brush	155 lb / brush

LANDING WEIGHT	
32 kg / brush	70 lb / brush

The mission fuel requirements is increased by:

FUEL CONSUMPTION
+ 0.45 % on fuel used / brush

END

Remarks may be continued on next page!

8-53-83-02	Small 4th Wheel Bin Brush

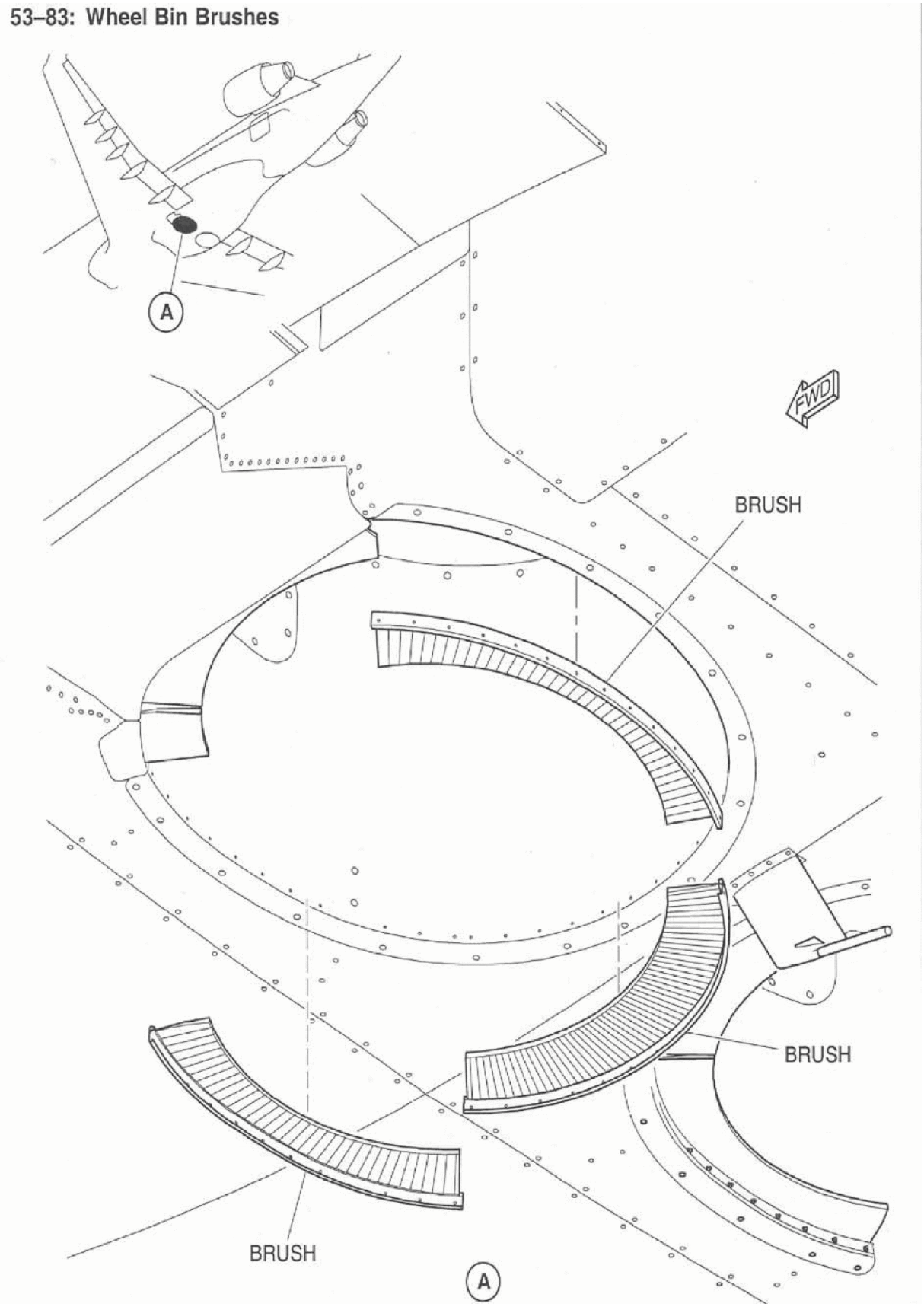
8-53-83-02

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
2	-	I	-

One or both may be missing with no performance penalty.

Remarks may be continued on next page!

53–83: Wheel Bin Brushes



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END

Remarks may be continued on next page!

8-55 STABILIZERS

8-55-32-01	Horizontal Stabilizer Root Seal Assembly

8-55-32-01

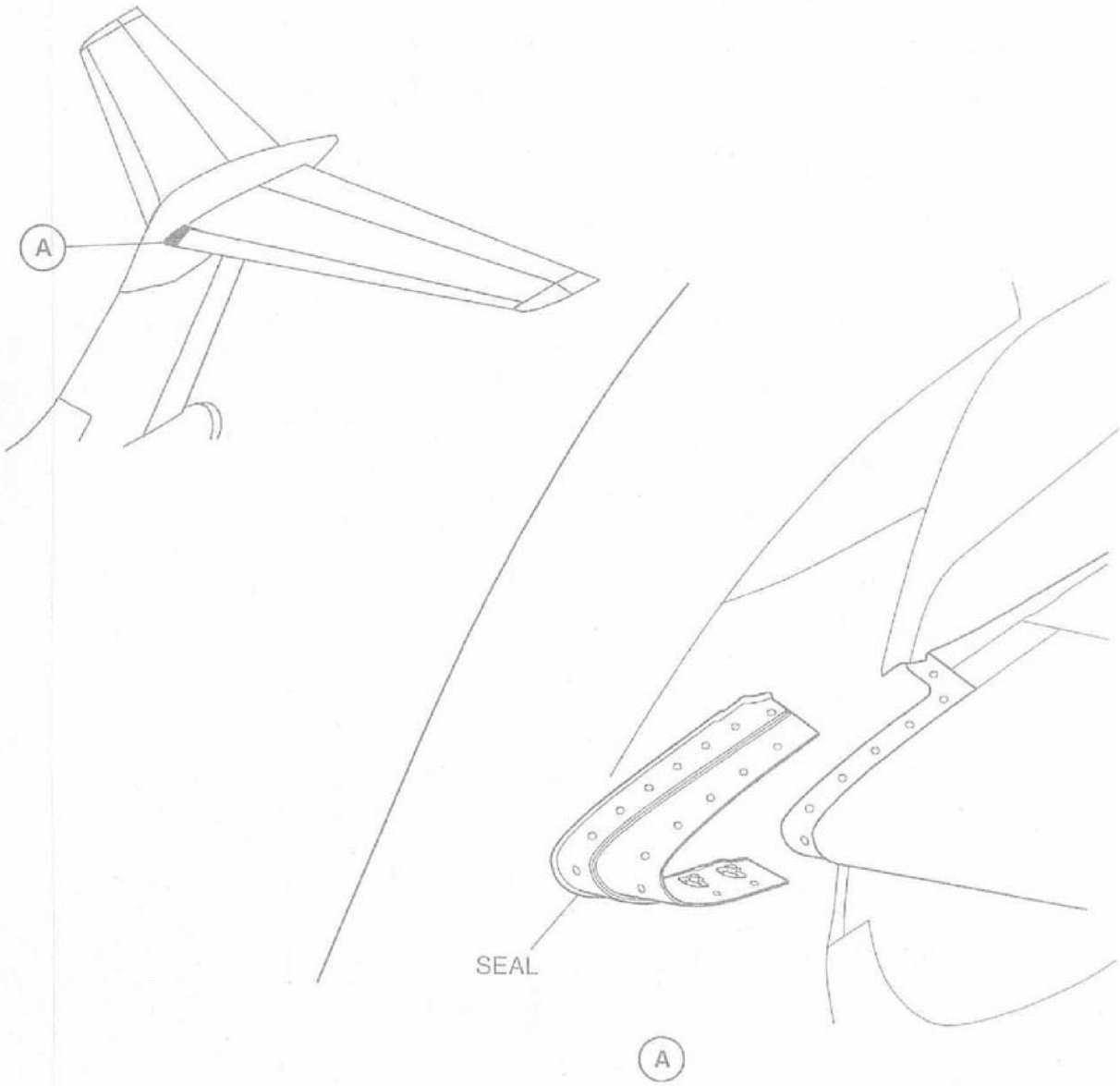
NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be missing with no performance penalty.

Remarks may be continued on next page!

55-32: Horizontal Stabilizer Root Seal Assembly



END

Remarks may be continued on next page!

8-57 WINGS

8-57-20-01	Wing Jacking Pad Nylon Plug

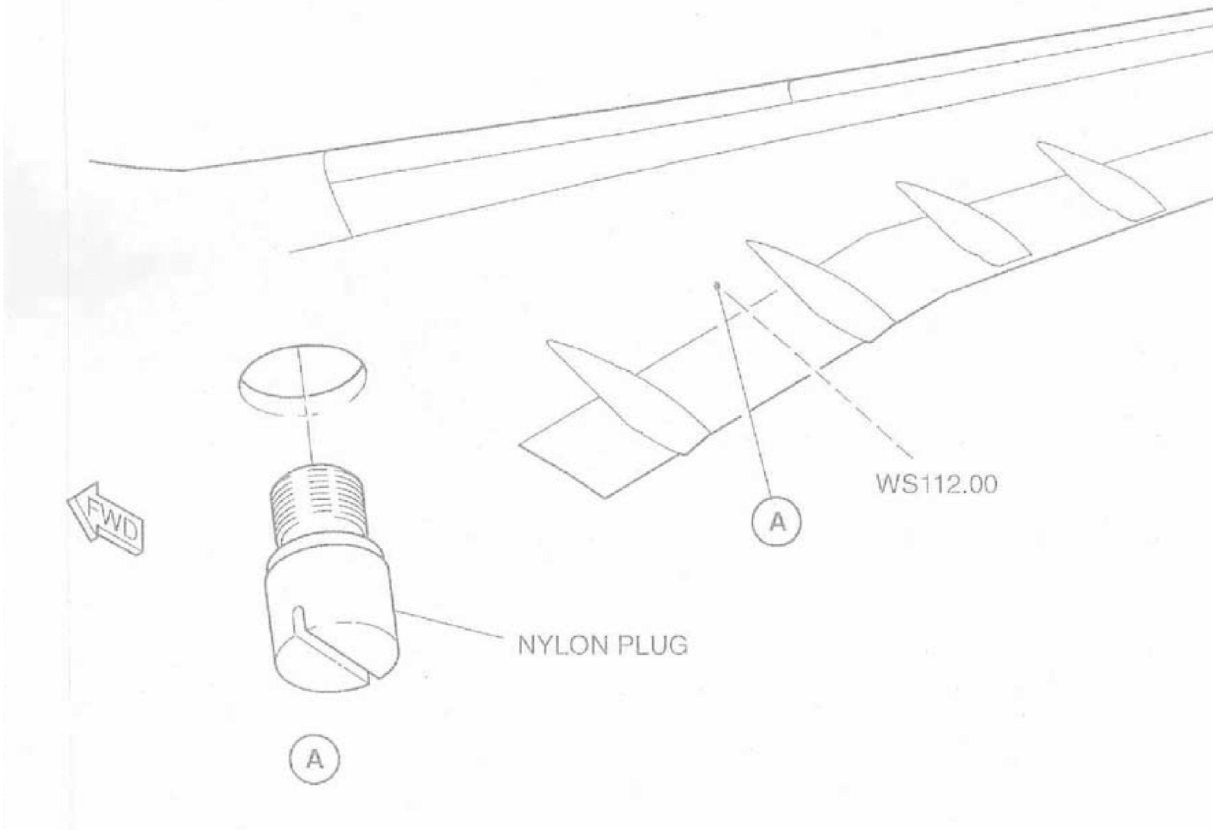
8-57-20-01

NUMBER INSTALLED	PROCE-DURE
2	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be missing with no performance penalty.

57-20: Wing Jacking Pad Nylon Plugs



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END

Remarks may be continued on next page!

8-57-21-01	Main Landing Gear Door Cut-out Seals

8-57-21-01

NUMBER INSTALLED	PROCE-DURE
see Note	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

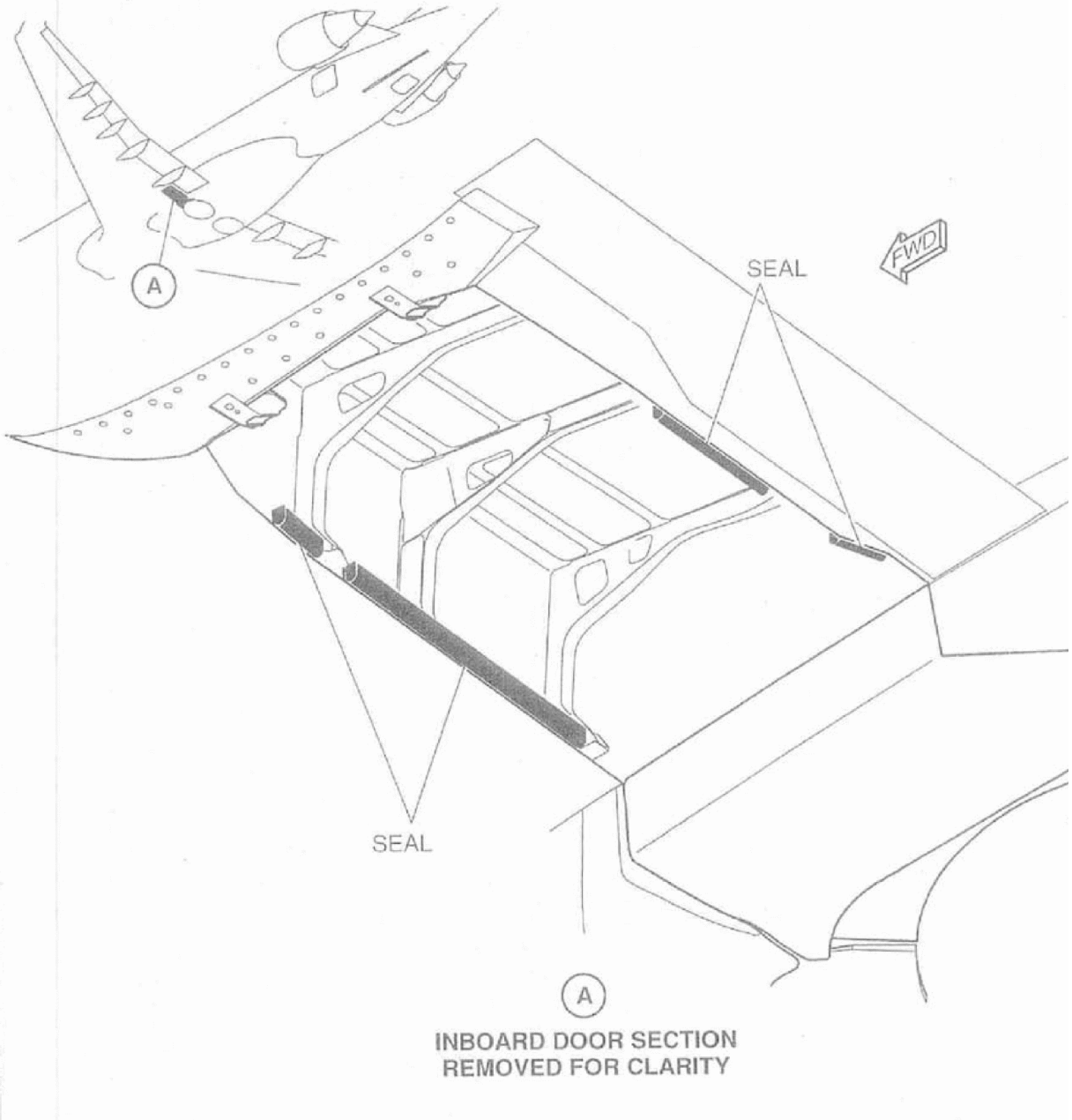
Any number or combination may be missing with no performance penalty.

Note: *The allowance is applicable to both configurations:*

- *Flat Seals (12 seals total)*
- *D-Seals (8 seals total)*

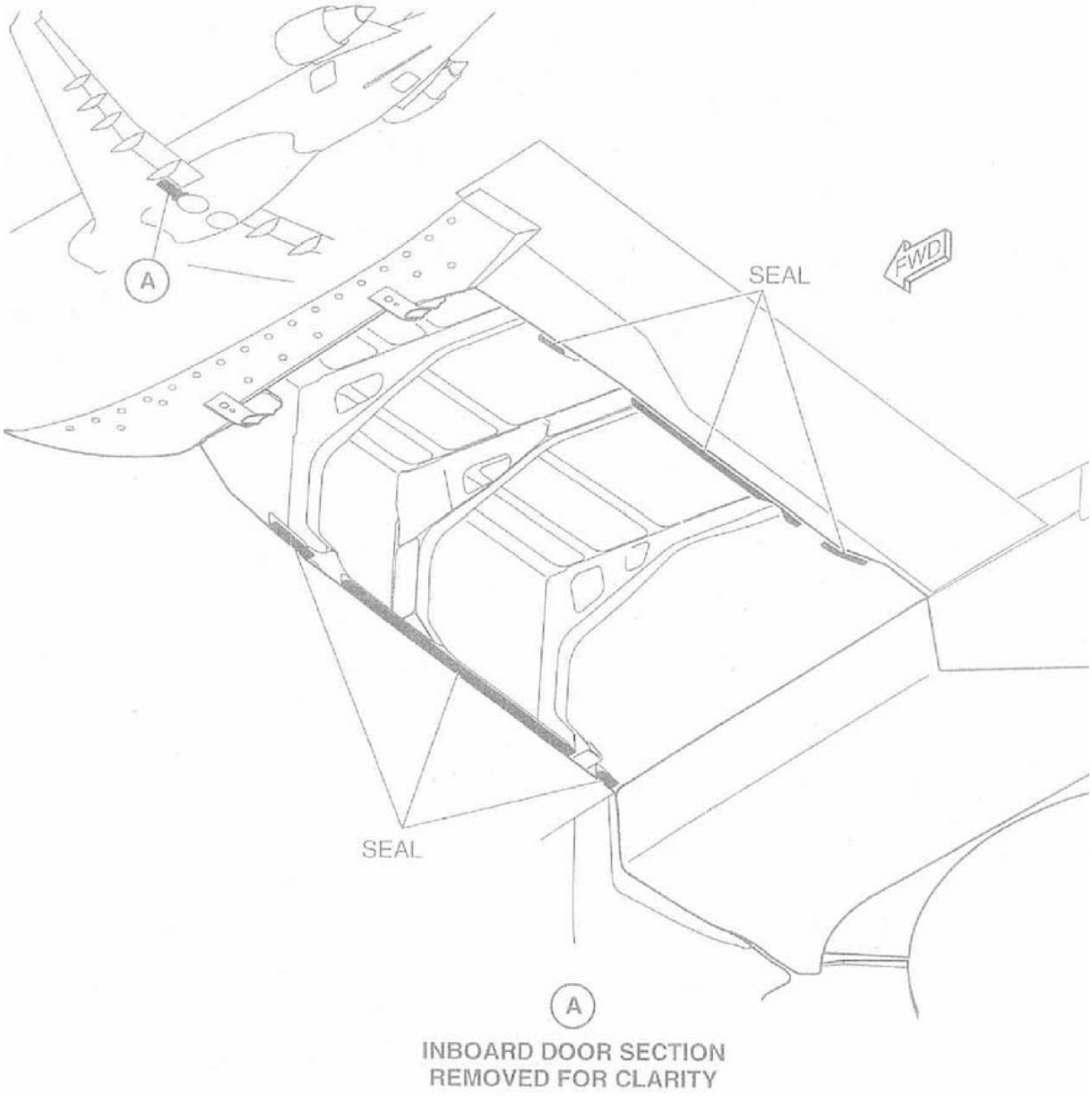
Remarks may be continued on next page!

57-21: Main Landing Gear Door Cut-Out Seals (Flat Seals)



Remarks may be continued on next page!

57-21: Main Landing Gear Door Cut-Out Seals (D-Seals)



END

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8-57-41-01	Left Hand or Right Hand Wing Slat Closing Plates

8-57-41-01

NUMBER INSTALLED	PROCE-DURE	COMPANY NOTES	
		CLASS.	OPS affected
-	-	I	-

Any number or combination may be missing with no performance penalty.

- Closing plate, telescopic anti-ice duct;
- Bracket, closing plate, telescopic anti-ice duct; and
- Closing plate, slat track

END

Remarks may be continued on next page!

8-57-41-01	Left Hand or Right Hand Wing Slat Seals

8-57-41-01

NUMBER INSTALLED	PROCE-DURE
-	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Any number or combination may be missing provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
327 kg / wing	720 lb / wing

ENROUTE CLIMB	
367 kg / wing	810 lb / wing

LANDING WEIGHT	
327 kg / wing	720 lb / wing

The mission fuel requirements is increased by:

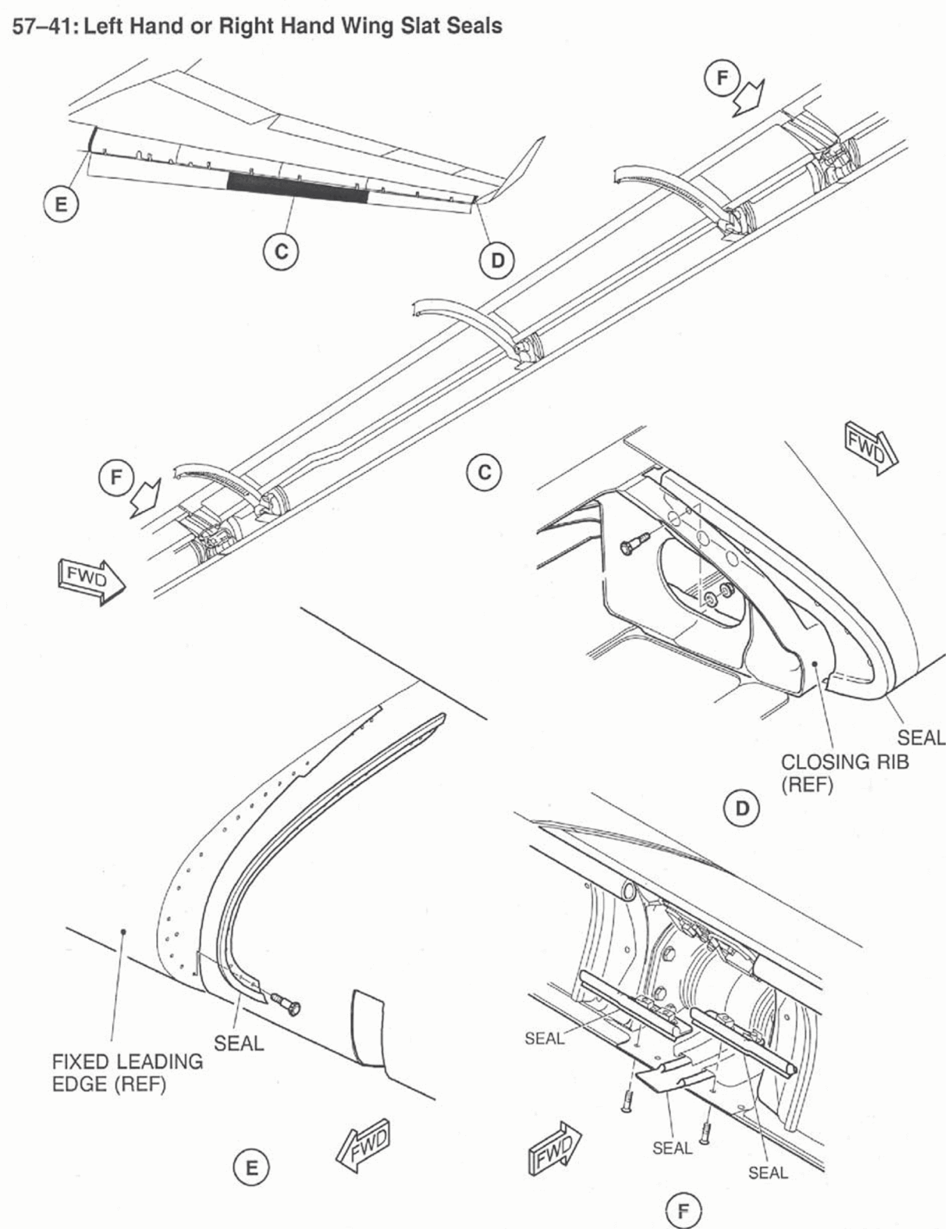
FUEL CONSUMPTION
+ 1.55 % on fuel used / wing

Note: *Reduce the climb ceiling obtained from the Flight Planning and Cruise Control Manual by 500 ft / wing.*

- Main slat seal between slat back-end and wing under slat surface;
- Dog bone seals;
- Seals between inboard and outboard slat and fixed leading edge; and
- Chord-wise slat seals fitted on the back face of the slat and sealing the opening made on the wing under slat surface for actuators.

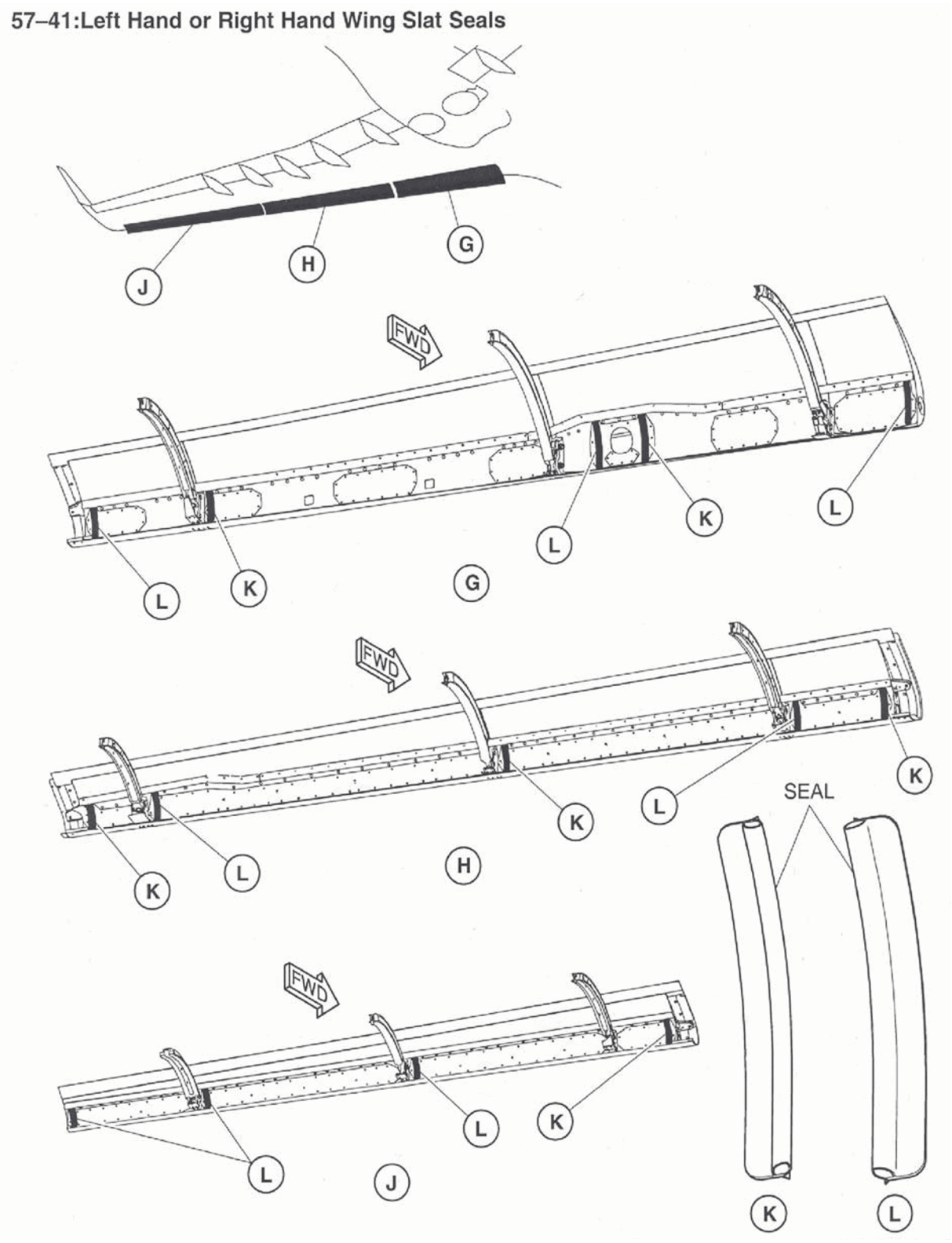
Remarks may be continued on next page!

57–41: Left Hand or Right Hand Wing Slat Seals



Remarks may be continued on next page!

57–41:Left Hand or Right Hand Wing Slat Seals



END

Remarks may be continued on next page!

8-78 EXHAUST

8-78-33-01	Transcowl Omega Seal

8-78-33-01

NUMBER INSTALLED	PROCE-DURE
4	-

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

One (1) or two (2) omega seals may be missing (see Notes 1-3) provided:

The performance limited weights are reduced by:

TAKE-OFF WEIGHT	
363 kg / missing omega seal	800 lb / missing omega seal

ENROUTE CLIMB	
560 kg / missing omega seal	1235 lb / missing omega seal

LANDING WEIGHT	
347 kg / missing omega seal	765 lb / missing omega seal

The mission fuel requirements is increased by:

FUEL CONSUMPTION
+ 1.0 % on fuel used / missing omega seal

Note: *Reduce climb Ceiling obtained from Flight Planning Cruise Control Manual (FPCCM) by 500 feet.*

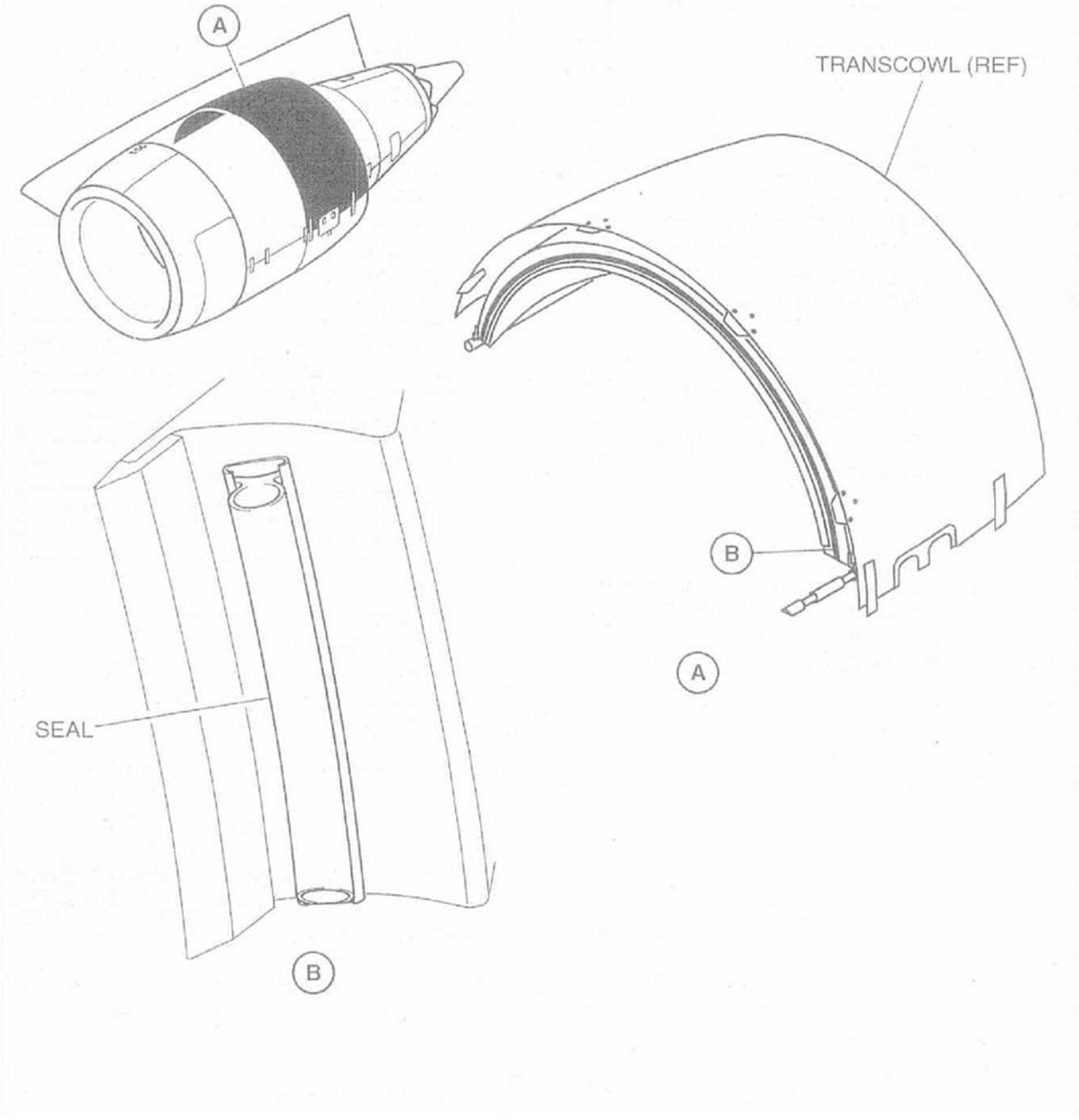
Note: *The penalties are for one (1) missing omega seal per propulsion system, with the other omega seal and the arrow head seals of that propulsion system inspected and in good condition.*

Note: *A maximum of one (1) omega seal missing perpropulsion system (i.e. 2 per aircraft) is allowable.*

Note: *CDL operation is not permitted for scenarios per taining to other combinations of missing omega seals.*

Remarks may be continued on next page!

78-33: Transcowl Omega Seals



END

Remarks may be continued on next page!

9-5 PREAMBLE *(revised: AUG 2023)*

INTRODUCTION *(REVISED: OCT 2021)*

The regulations require that all equipment installed on an aircraft in compliance with the Airworthiness Code and the Operating Requirements must be operative. However, the requirements also permit the use of a Minimum Equipement List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide an acceptable level of safety.

A Master Minimum Equipment List (MMEL) is developed by the Type Certificate Holder to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The EASA MMEL includes those items of equipment related to airworthiness and operating requirements and other items of equipment which EASA finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders.

The MMEL is the basis for development of the individual MEL, which take into consideration the operator's particular aircraft equipment configuration and operational conditions. Operator MELs, for administrative control, may include items not contained in the MMEL; however, relief for administrative control items must be approved by the Administrator. An operator’s MEL may differ in format from the MMEL, but cannot be less restrictive than the MMEL. The individual operator’s MEL, when approved and authorized, permits operation of the aircraft with inoperative equipment.

Equipment not required by the operation being conducted and equipment in excess of authority requirements is included in the MEL with appropriate conditions and limitations. The MEL must not deviate from the Airworthiness Directives or any other Mandatory Requirement. It is important to remember that all equipment related to the airworthiness and the operating regulations of the aircraft not listed on the MMEL **must** be operative.

If a failure occurs between the commencement of the flight (off-block) and the start of the take-off, any decision to continue the flight should be subject to pilot judgement and good airmanship. The pilot-in-command (commander) may refer to the MEL before any decision to continue the flight is taken.

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as necessary are specified in the MEL to ensure that an acceptable level of safety is maintained.

The MEL is intended to permit operation with inoperative items of equipment for a period of time until rectifications can be accomplished. It is important that rectifications be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability, the MMEL establishes limitations on the duration of, and conditions for operation with inoperative equipment. A one-time extension of the applicable rectification intervals B, C or D for the same duration as that specified in the MEL is permitted. The procedure is described in the Lufthansa Cityline CAME.

When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record/Logbook. The item is then either rectified or may be deferred per the MEL or other approval means acceptable to the competent authority prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative.

When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/Logbook entry, or other approved documentation is issued. Such documentation is required prior to operation with any item of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative systems or components must also be considered. Wherever possible, account has been taken in this MEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the interrelationships between those items and the effect on aircraft operation and crew workload must be considered.

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

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

Note: *The complete Dispatch Deviation Guide (DDG) is included in this CRJ MEL.*

CONTENTS OF MEL *(REVISED: JUN 2023)*

The MEL contains only those items of airworthiness significance which may be inoperative prior to dispatch, provided limitations and appropriate procedures are observed. Equipment obviously basic to airplane airworthiness such as wings, rudders, flaps, engines, landing gear, etc. is not listed and must be operative for all flights.

It is important to note that: ALL ITEMS WHICH ARE RELATED TO THE AIRWORTHINESS OF THE AIRPLANE AND NOT INCLUDED ON THE LIST ARE AUTOMATICALLY REQUIRED TO BE OPERATIVE.

Equipment obviously not required for safe operation of the airplane such as galley equipment, passenger convenience items, etc. is not listed.

MULTIPLE INOPERATIVE ITEMS *(REVISED: OCT 2021)*

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative items shall also be considered. Wherever possible, account has been taken in this MEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when oper-

ating with multiple inoperative items, the inter-relationships between those items and the effect on aircraft operation and crew workload shall be considered.

RECTIFICATION INTERVAL EXTENSIONS *(REVISED: OCT 2021)*

If in exceptional cases exceedance of rectification interval B, C, or D is unavoidable, under the responsibility of the Nominated Person Flight Operation (Flugbetriebsleiter MUC C/OF) the MEL Control Board may issue a permit for a one-time extension of the applicable interval of the same duration.

The Chief Technical Pilot shall maintain a record of such extensions and Maintenance Control is responsible for reporting them to the LBA within 10 calendar days.

DEFINITIONS *(REVISED: OCT 2021)*

1) **“ Affected ”** refers to the subject item of equipment (component, system or function) listed in the Item column.
2) **" Airplane Flight Manual (AFM) "** is the document required for type certification and approved by the Agency. The approved AFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.
3) **" Alphabetical Symbol "** indicates a proviso (condition or limitation) that must be complied with for operation with the listed item inoperative.
4) **" Alternate procedures are established and used "** or similar statement, means that alternate procedures (if applicable), to the affected process, must be drawn up by the operator 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.
5) **" 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 operator’s MEL level.
6) **" 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.
7) **" 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.
8) **" 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:
    1) Cargo handling equipment (unloaded, empty or with ballast);

2) 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*

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

9) **" Commencement of flight "** is the point when an aircraft begins to move under its own power for the purpose of preparing for take-off.

10) **" 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 MEL provisions, including any (M) and (O) procedures and observing the rectification interval.

11) **" Crew Member "** means a person assigned to duty in an aircraft during flight time.

12) **" Dash (-) "** 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.

Note: *Where the MEL shows a variable number installed, the MEL should reflect the actual number installed, as far as practical.*

13) **" 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.

14) **" Day of discovery "** means the calendar day that a malfunction was recorded in the aircraft maintenance record/ log book.

15) **" Deactivated " and " Secured "** means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator for inclusion to their MEL.

16) **" Deleted "** in the remarks column after a sequence item indicates that the item was previously listed but is now required to be operative if installed in the aircraft.

17) **" Engine Indicating Crew Alerting System (EICAS) "** that provides electronic messages refers to a system capable of providing different priority levels of system information messages (e.g., WARNING, CAUTION, ADVISORY and STATUS). Any airplane discrepancy message that affects dispatchability will be at the WARNING, CAUTION or STATUS level.

18) **" Extended Overwater Operations "** means operations over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline.

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

20) **“ Flight Crew Member "** means a crew member assigned to act as a pilot or flight engineer of an aircraft during flight time.

21) **“ 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 aircraft.
22) **" Icing Conditions "** means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s) as defined in the AFM/RFM.
23) **" If installed "** means that the equipment is either optional or is not required to be installed on all aircraft covered by the MEL.
24) **" Indication "** is where a number if parameters are reported on a line replaceable unit. To allow relief for individual parameters being inoperative rather than the entire unit, the word indication is used as opposed to indicator.
25) **" Indicator "** is a line replaceable unit. The parameters displayed can be analogue or digital. To allow relief for the line replaceable unit rather than the individual parameters we use the word indicator.
26) **" Inoperative "** means that the item does not accomplish its intended purpose or is not consistently functioning within its approved operating limits or tolerances.
27) **" Intended flight route "** corresponds to any point on the route including diversions to reach alternate aerodromes required to be selected by the operational rules.
28) **" 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.
29) **" Item "** means component, instrument, equipment, system or function.
30) **"(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.
31) **" Master Minimum Equipment List (MMEL) "** means a document approved by the Agency that establishes the aircraft equipment allowed to be inoperative under conditions specified therein for a specific type of aircraft.
32) **“ Maximum distance from an adequate aerodrome for two-engine aeroplanes "** as defined in **SPA.ETOPS CAT.OP.AH.140**
33) **" 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 authorises an operator to dispatch an aircraft with aircraft equipment inoperative as per CAT.IDE.A/H.105 or NCC.IDE.A/H.105 under the conditions specified therein.
34) **" NOTE "** provide additional information for flight crew or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compli-

ance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the dispatch conditions.

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

Note: *Where the MMEL shows a variable number installed, the MEL should reflect the actual number installed, as far as practical.*

36) **" 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.

Note: *Where the MMEL shows a variable number required for dispatch, the MEL should reflect the actual number required for dispatch, as far as practical, or an alternate means of configuration control approved by the competent authority.*

37) **" (O) "** indicates a requirement for a specific operational procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Unless otherwise specified in the Remarks or Exceptions or the procedure itself, the operations procedure must be performed on each flight made with the inoperative system or equipment. 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.*

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

39) **" 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.*

40) **"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.

1) Where a time period is specified in calendar days or flight days, the interval excludes the day of discovery.
2) 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.

41) **" Reduced Vertical Separation Minimum (RVSM) airspace "** means any airspace or route where aircraft are separated by 1000 feet vertically between FL 290 and FL 410. RVSM Operations means operations conducted in RVSM airspace.

42) **" 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.

43) **" Required Cabin Crew Seat "** is a seat in the aircraft cabin which meets the following conditions:

    1) Where the certification of the cabin requires this seat to be occupied by a qualified cabin crew member as specified in the Operations Manual;
    2) This seat is a part of the station to which a qualified cabin crew member is assigned for the flight; and
    3) The qualified cabin crew member assigned to the station is a member of the minimum cabin crew designated for the flight.

44) **" System "** means the group of directly related components which together perform a specified function; for example, the N2 Tachometer System would include the N2 indicator, tachometer generator and associated circuitry.

45) **" System & Sequence Numbers "** are based on Air Transport Association (ATA) Specification No. 100 and items are numbered sequentially.

46) **" Triple Asterisks (***) "** means that the item is either optional or is not required to be installed on all aircraft covered by the MMEL. This item may be included on the operator's MEL after the approving office has determined that the item has been installed on one or more of the operator's aircraft. The symbol, however, shall not be carried forward into the operator's MEL. It should be noted that neither this policy nor the use of this symbol provides authority to install or remove an item from an aircraft. The "***" symbol may be considered equivalent to the term "if installed".

47) **" Verified operative "** means that a visual inspection or test is required to confirm unit or system operation or condition, as applicable.

48) **" Vertical Change Bar "** A vertical bar in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

49) **" 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.

50) **" Visual Meteorological Conditions (VMC) "** means the atmospheric environment is such that would allow a flight to proceed under the visual flight rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.

51) **" Visual Flight Rules (VFR) "** is as defined by the Agency. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

LIMIT OF MEL APPLICABILITY *(REVISED: SEP 2007)*

The MEL is applicable up to the commencement of flight, however if a failure occurs during the taxi phase before the start of the take-off roll, any decision to continue the flight must be subject to flight crew judgment and good airmanship. The commander **may** refer to the MEL before any decision to continue the flight is taken.

REVISION STATUS OF MMEL *(REVISED: FEB 2024)*

This MEL includes EASA MMEL Revision No. 20 inclusive all EASA TRs up to No. 100 and EASA DDG Revision No.19.

9-6 HOW TO USE *(revised: NOV 1998)*

In compiling this MEL the following points are considered:

a) The MEL assumes that only one deficiency exists prior to the dispatch of the aeroplane. It is the Commander`s responsibility to consider carefully the significance of accepting more than one deficiency whether they be in the same system or in unrelated systems; a combination of deficiencies can easily constitute a hazard to flight safety even though the items concerned may individually be perfectly acceptable in an inoperative condition.

b) The decision of the Commander as to whether the aeroplane is safe for the proposed operation is **final**.

c) No aeroplane is to be flown with a deficiency which results in non-compliance with the aviation law and regulations under which the aeroplane is operating.

d) The omission of reference to any airworthiness items in this MEL implies that the item concerned is required to be operative before the aeroplane is dispatched.

9-7 REFERENCED MAINTENANCE PROCEDURES

(revised: JUN 2008)

The DDG MAINTENANCE (M) procedures give the appropriate steps to accomplish the maintenance procedure that is required by a proviso in a given item. However, for certain (M) procedures, due to the extent of the procedure (deactivation of a system for example), or as required in a step (to prepare the aircraft for maintenance, or to do a operation/ function check), an Aircraft Maintenance Manual (AMM) CSP B-001 TASK is referenced (refer to TASK XX-XX-XX-XXX-XXX).

9-8 USE OF WARNINGS, CAUTIONS AND NOTES

(revised: JUN 2008)

Warnings, cautions and notes are used in the DDG maintenance (M) procedures and the operation (O) procedures. The use of notes in the provisos are defined in the definitions of the approved MMEL. A description of warnings, cautions, and notes in the (M) and the (O) procedures are as follows:

1) - Calls attention to the use of materials, process, methods, procedures, or limits that must be followed precisely to avoid injury to persons.
   - Is located directly above the text to which it relates.
   - The text content is all upper case.
2) - Calls attention to methods and procedures that must be followed to avoid damage to equipment.
   - Is located directly above the text to which it relates.
   - The text content is all upper case.
3) - Calls attention to methods that make the job easier.
   - Is located following the text to which it relates.

9-9 ABBREVIATIONS AND ACRONYMS *(revised: NOV 1998)*

The following abbreviations and acronyms may be used on flight compartment displays, radio tuning units and the flight management system or may be found in this manual. Some abbreviations may appear in upper or lower case letters. Abbreviations which have limited usage are explained in the chapters where they are used.

A

A/C	Air Conditioning
A/G	Air / Ground
A/ICE	Anti-ice
A/P	Autopilot
A/S	Airspeed
A/SKID	Anti-skid
ABS	Absolute
AC	Alternating Current
ACARS	ARINC Communications Addressing and Reporting System
ACCEL	Acceleration, accelerate (d), accelerometers
ACM	Air Cycle Machine
ACMP	Alternating Current Motor Pump / Electric Hydraulic Pump
ACT	Active
ACU	Air Conditioning Unit
ADC	Air Data Computer
ADDR	Address
ADF	Automatic Direction Finder
ADG	Air Driven Generator
ADI	Attitude Director Indicator
ADS	Air Data System
AFCS	Automatic Flight Control System
AFT	Afterwards
AGL	Above Ground Level
AHC	Attitude Heading Computer
AHRS	Attitude Heading Reference System
AIL	Aileron

ALIGN	Aligning, alignment
ALPHA	alpha
ALT	Altitude, Altimeter
ALT	Altitude Hold (PFD/ FD)
ALT CAP	Altitude Capture (PFD/ FD)
ALT HOLD	Altitude Hold
ALTN	Alternate
ALTS	Select Altitude Arm/ Abort (PFD / FD)
AM	"Arbeitsmappe"
AMB	Ambient
AMP	Amperes
ANNUN	Annunciator
ANO	Air Navigation Orders
ANT	Antenna
AOA	Angle of Attack
AP	Autopilot
APC	Auxiliary Power Control
APP	Approach
APPROX	Approximately
APR	Automatic Performance Reserve
APU	Auxiliary Power Unit
ARINC	Aeronautical Radio Incorporated
ARP	Air Data Reference Panel
ASYM	Asymmetrical
ATA	Air Transport Association
ATC	Air Traffic Control
ATT	Attitude
ATTD	Attitude
ATTND	Attendant
AUTO	Automatic
AUTO BAL	Automatic Balance
AUTO XFER	Automatic Transfer
AUX	Auxiliary
AV	Avionics
AVAIL	Available

AZ	Azimuth
B	
B/AIR	Bleed Air
B/C	Back Course
B/CRS	Back Course
B/LEAK	Bleed Leak
BARO	Barometric
BAT	Battery
BATT	Battery
BDI	Bearing Distance Indicator
BFO	Beat Frequency Oscillator
BITE	Built-In-Test Equipment
BK	Brake
BLD	Bleed
BOOM	Headset microphone
BRG	Bearing
BRKR(s)	Breaker(s)
BRT	Bright
BTL	Bottle
BTMS	Brake Temperature Monitoring System
BTMU	Brake Temperature
BYPS	Bypass
C	
C	Center, Caution, Cabin
CAA	Civil Aviation Authority (UK)
CAL	Calibrate
CAP	Capture
CAPT	Captain
CAS	Calibrated Air Speed
CAT	Category
CAT II	Category II
CB, C/B	Circuit Breaker
CBP	Circuit Breaker Panel
CCW	Counter Clockwise
CDL	Configuration Deviation List

CDP	Compressor Discharge Pressure
CDU	Control Display Unit
CFM	Cubic Feet Per Minute
CG	Center of Gravity
CH	Chapter, Channel
CHAN	Channel
CHGR	Charger
CHR	Chronograph
CHRT	Chart
CK	Check
CKPT	Cockpit
CKT	Circuit
CLB	Climb
CLK	Clock
cm	Centimeters
CMD	Command
CMPS	Compass
CMPTR	Computer
CO2	Carbon Dioxide
COM	Communication
COMM	Communication
COMP	Compressor, Comparator
COMPT	Compartment
COND	Condition, Continued
CONFIG	Configuration
CONN	Connection
CONT	Control, Continuous, Contactor, Controller
COOL	Cooling
CORR	Correction
CPAM	Cabin Pressure Acquisition Module
CPLT	Copilot
CRS	Course
CRT	Cathode Ray Tube
CRZ	Cruise

CSD	Constant Speed Drive
CTR	Center
CVR	Cockpit Voice Recorder
CW	Clockwise
CYL	Cylinder
D	
DA	Drift Angle
DBA	Data Base Unit
DC	Direct Current
DCP	Display Control Panel
DCU	Data Concentrator Unit
DECEL	Decelerate (d)
DECR	Decrease
DEFL	Defuel
DEG	Degree
DEPR	Depressurize
DEPT	Departure
DEST	Destination
DET	Detector
DEV	Deviation
DFDAU	Digital Flight Data Acquisition Unit
DFDR	Digital Flight Data Recorder
DG	Directional Gyro
DH	Decision Height
DIFF	Differential
DIM	Dimming
DIR	Direct
DIS	Distance (to way point), Disconnect
DISC	Disconnect
DISCH	Discharge
DISP	Dispatch, Display
DIST	Distance
DME	Distance Measuring Equipment
DN	Down
DOT	Department of Transport (Canada)

DR	Door
E	
EAS	Equivalent Airspeed
ECAM	Electronic Centralized Aircraft Monitoring System
ECP	EICAS Control Panel
ECS	Environment Control System
ECU	Electronic Control Unit
ED	EICAS Dispaly
EDP	Engine Driven Pump Engine
	Primary Hydraulic Pump
EFIS	Electronic Flight Instrument System
EGT	Exhaust Gas Temperature
EICAS	Engine Indication and Crew Alerting System
EL	Elevation
ELEC	Electrical
ELEV	Elevator, Elevation
ELT	Emergency Locator Transmitter
EMER(G)	Emergency
ENG	Engine
EPC	External Power Contactor
EQUIP	Equipment
ERP	Eye Reference Position Datum
ESS	Essential
ET	Elapsed Time
ETA	Estimated Time of Arrival
EVAC	Evacuation
EXH	Exhaust
EXTIN	Extinguish(ed)
F	
F/CTL	Flight Controls
FAA	Federal Aviation Administration (USA)
FAIL	Failure
FCC	Flight Control Computer

FCU	Fuel Control Unit
FD, F/D	Flight Director
FDAU	Flight Data Acquisition Unit
FDR (Digital)	Flight Data Recorder (Digital)
FECU	Flaps Electronic Control Unit
FEED	Feeder
FF, F/F	Fuel Flow
FIRE BTL	Fire Bottle
FIREX	Fire Extinguisher
FL CH	Flight Level Change
FLD	Field
FLT	Flight
FLT DIR	Flight Director
FLUOR	Fluorescent
FM	Fan Marker
FMS	Flight Management System
FPM	Feet Per Minute
FREQ	Frequency
ft	feet, Foot
FW	Fire Wall
FWD	Forward
G	
G (+/-)	Receiver Gain
G/S	Glide slope
GA	Go-around
GAL	Gallon
GALY	Galley
GCS	Ground Clutter Suppression
GCU	Generator Control Unit
GE	General Electric
GEN	Generator
GLD	Ground Lift Dumping
GMT	Greenwich Mean Time
GND	Ground
GPM	Gallons Per Minute

GPWS	Ground Proximity Warning
GR	Gear
GRAV	Gravity
GS	Ground Speed
GUIDE	Guidance
GW	Gross Weight
H	
HDG	Heading
HDG HOLD	Heading Hold
HDG SEL	Heading Select
HEAT	Heater
HF	High Frequency (3-30 MHz)
Hg	Mercury
HI	High
HLDR	Holder
HOR, HORIZ	Horizontal
HOT	High Oil Temperature
HP	High Pressure
HP A	Hecto Pascal
HSI	Horizontal Situation Indicator
HSTA	Horizontal Stabilizer Trim
HSTCU	Horizontal Stabilizer Trim Control Unit
HTR	Heater
HUD	Heads-up Display
HYD	Hydraulics
Hz	Hertz
I	
IB, I/B, INBD	Inboard
I/C	Intercom, Inspection Check
IAPS	Integrated Avionics Processor System
IAS	Indicated Air Speed
ICAO	International Civil Aviation Organization
ICS	Idle Corrected Speed
ID	Identification
IDENT	Identification

IDG	Integrated Drive Generator
IFR	Instrument Flight Rules
IGN	Ignition
ILS	Instrument Landing System
IM	ILS Inner Marker
IMC	Instrument Meteorological Conditions
IMP.	Imperial
in.	Inch, Inches
in. Hg	Inches of Mercury
INCR	Increase
IND	Indication, Indicator
INFLT	In Flight
INHIB	Inhibit
INOP	Inoperative
INPH	Interphone
INSP	Inspection
INST(S)	Instrument(s)
INST, INSTR	Instrument
INT	Internal, Integral, Intersection
INTEG	Integral
IRS	Inertial Reference System
IRU	Inertial Reference Unit
ISA	International Standard Atmosphere
ISO	International Standard Organization
ISOL	Isolation, Isolated
ITT	Inter Turbine Temperature
J	
JAA	Joint Airworthiness Authority
K	
K, KT, KTS	Knots
kg	Kilogram(s)
kHz	Kilohertz
KIAS	Knots Indicated Airspeed
kW(s)	KiloWatt(s)
L	

L	Left, Landing
L/T	Landing / Taxi
LAV	Lavatory
lb	Pound(s)
LCN	Load Classification Number
LCV	Load Control Valve
LDG	Landing
LDG GR	Landing Gear
LDU	Lamp Driver Unit
LE	Leading Edge
LG	Leading Gear
LGC	Landing Gear Controller
LGW	Landing Gross Weight
LH	Left Hand
LIM	Limit
LK	Leak
LN	Left Nose
LNAV	Lateral Navigation
LOC	ILS Localizer
LOGO	Logo Graphic
LOM, MM	Compass Locator at Outer Marker
LOP	Low Oil Pressure
LP	Low Pressure
LPM	Liter Per Minute
LR	Left Rear
LRC	Long Range Cruise
LRU	Line Replaceable Unit
LSB	Lower Side Band
LT(s)	Light(s)
LW	Left Wing
LWD	Left Wing Down
LWR	Lower
M	
M	Mach Number
m	Meter

MAA	Maximum Authorized IFR Altitude
MAC	Mean Aerodynamic Chord
MAG	Magnetic
MAINT	Maintenance
MALF	Malfunction
MAB	Manual
MAP	Ground Map (WXR)
MAX	Maximum
MAZ	MLS Azimuth
MB	Millibars
MCA	Minimum Crossing Altitude
MCT	Maximum Continuous Thrust
MDA	Minimum Descent Altitude
MEA	Minimum Enroute IFR Altitude
MECH	Mechanic
MED	Medium
MEL	Minimum Equipment List
MFD	Multifunction Display
MGP	MLS Glideslope
MHz	Megahertz
MI	Miles
MIC	Microphone
MID AFT	Middle Afterward
MID FWD	Middle Forward
MILS	.001 of an inch
MIN	Minimum
MISC	Miscellaneous
MKR	Marker
MLG	Main Landing Gear
MLI	Magnetic Level Indicator
MLS	Microwave Landing System
MLW	Maximum Landing Weight
MM	ILS Middle Marker
MMEL	Master Minimum Equipment List

MMO	Maximum Operating Speed in Mach Number
MOCA	Minimum Obstruction Clearance Altitude
MOD	Module
MON	Monitor
MPH	Miles Per Hours
MRA	Minimum Reception Altitude
MSG	Message
MSL	Mean Sea Level
MTBF	Mean Time Before Failure
MTG	Miles to Go
MTOW	Maximum Take-off Weight
MTW	Maximum Taxi Weight
MZFW	Maximum Zero Fuel Weight
Misc	
%	Percent
&	and
°C	Degrees Centigrade
°F	Degrees Fahrenheit
N	
N/A	Not applicable
N1	Low Pressure Rotor
N2	High Pressure Rotor
NAV	Navigation
ND	Nose Down, Navigation Display
NDB (ADF)	Nondirectional Beacon (Automatic Direction Finder)
NEG	Negative
NEUT	Neutral
NL	Nose Left
NLG	Nose Landing Gear
NM	Nautical Mile(s)
No.	Number
NOPT	No Procedure Turn Required
NORM	Normal
NOSE	Nosewheel

NR	Nose Right
NU	Nose Up
O	
OAT	Outside Air Temperature
OB/OUTBD	Outboard
OBS	Observer
OEI	One Engine Inoperative
OEW	Operating Empty Weight
OH, OVHD	Overhead
OK	Okay
OM	ILS Outer Marker
OVBD	Overboard
OVHT, OH	Overheat
OVLSD	Overload
OVSP	Overspeed
OVTEMP	Over Temperature
OXY1 O2	Oxygen
P	
P#6	Panel 6
P/S	Pitot / Static
PA	Passenger Address
PASS	Passenger
PBE	Portable Breathing Equipment (Smoke Hood)
PCU	Power Control Unit
PF	Pilot Flying
PFD	Primary Flight Display
PLA	Power Lever Angle
PLT(s)	Pilot(s)
PNF	Pilot Not Flying
PNLS(s)	Panel(s)
PO	Outside Air Pressure
POS	Position
PPH	Pounds Per Hours
PRESS	Pressure, Pressurization

PRI	Primary
PRIM	Primary
PROC	Procedure
PROT	Protection
PROX	Proximity
PSEU	Proximity Sensor Electronics Unit
PSI	Pounds Per Square Unit
PSIG	Pounds Per Square Inch Gauge
PSS	Proximity Sensor System
PSU	Passenger Service Unit
PT2	Engine Inlet Pressure
PTCT	Protect
PTT	Push To Talk
PWR	Power
Q	
QAR	Quick Access Recorder
QEC	Quick Engine Change
QFE	Local Station Pressure
QNH	Altimeter Setting
QTY	Quantity
R	
R	Right
RA	Radio Altitude
RAI	Registro Aeronautico Italiano (Italy)
RAT	Ram Air Turbine
RCCB	Remote Controlled Circuit Breaker
RCDR	Recorder
RCVR	Receiver
RDR	Radar
REC	Receiver, Recorder
RECOG	Recognition
REF(s)	Reference(s)
REFL	Refuel
REV	Reverse
RH	Right Hand

RMI	Radio Magnetic Indicator
ROT	Rotation
RPM	Revolutions Per Minute
RT, R/T	Receiver - Transmitter
RTE	Route
RTE DATA	Route Data
RTO	Rejected Take-Off
RTU	Radio Tuning Unit
RUD	Rudder
RVR	Runway Visual Range
RVSR	Reverser
RW	Right Wing
RWD	Right Wing Down
RWY	Runway

S

S	Status
SAT	Static Air Temperature
SCAV	Scavenge
SEC	Second, Secondary
SECS	Spoiler Electronic Control System
SECU	Spoiler Electronic Control Unit
SEL	Select, Selector
SEL CAL	Selective Call
SENS	Sensitivity, Sensor
SERV, SVCE	Service
SMKG	Smoking
SOV	Shutoff Valve
SP, SPD	Speed
SPKR	Speaker
SPLR(s)	Spoiler(s)
SQL	Squelch
SSB	Single Side Band
STA	Station
STAB	Stabilizer
STAT	Status

STBY	Standby
STEER	Steering
SUPPL	Supply
SW(s)	Switches
SYN	Synchronize
SYNC	Synchronous
SYS, SYST	System
T	
T/C	Top of Climb
T/D	Top of Descent
T/R	Thrust Reverser
TACAN	UHF Tactical Air Navigation Aid
TAS	True Airspeed
TAT	Total Air Temperature
TCAS	Traffic Alert and Collision Avoidance System
TE	Trailing Edge
TEMP	Temperature
TGT	Target
TO, T/O	Take-off
TOL	Tolerance
TRB, TURB	Turbulence
TRK	Track
TRM	Trim
TRU	Transformer Rectifier Unit
TT2	Engine Inlet Temperature
U	
UNSCHD	Unscheduled
USB	Upper Side Band
USG	United States Gallons
UTIL	Utility
V	
V	Volt
VA	Design Maneuvering Speed
VB	Design Speed for Maximum Gust Intensity

VC	Design Cruising Speed
VD	Design Diving Speed
VDF/MDF	Demonstrated flight diving speed.
VF	Design Flap Speed
VDF/MFC	Maximum Speed for Stability Characteristics
VFE	Maximum Flap Extended Speed
VH	Maximum Speed in Level Flight with Maximum Continous Power
VLE	Maximum Landing Gear Extended Speed
VLO	Maximum Landing Gear Operating Speed
VLOF	Lift Off Speed
VMC	Minimum Control Speed with the Critical Engine Inoperative
VMO/MMO	Maximum Operating Limit Speed
VMU	Minimum Unstick Speed
VNE	Never-exceed Speed
VNO	Maximum Structural Cruising Speed
VR	Rotation Speed
VS	Stalling Speed or the Minimum Steady Flight Speed at which the Airplane is Controllable
VSO	Stalling Speed or the Minimum Steady Flight Speed in the Landing Configuration
VS1	Stalling Speed or the Minimum Steady Flight Speed Obtained in a Specific Configuration
VX	Speed for Best Angle of Climb
VY	Speed for Best Rate of Climb
V_1	Take-off Decision Speed (formerly Denoted as Critical Engine Failure Speed)
V2	Take-off Safety Speed
V2	Minimum Take-off Safety Speed
V/S	Vertical Speed

VERT	Vertical
VFR	Visual Flight Rules
VG	Vertical Gyro
VHF	Very High Frequency (30-300 mHz)
VIB	Vibration
VMC	Visual Meteorological Conditions
VNAV	Vertical Navigation
VOL	Volume
VOLT	Voltage
VOR	VHF Omnidirectional Range Station
VORTAC	VOR and TACAN Co-located
VSI	Vertical Speed Indicator
W	
W	Warning
W/C	Wind Component
W/S	Wind Shear
W/W	Wheel Well
WARN	Warning
WF	Runway Length Limited Weight
WGT	Weight
WHLS	Wheels
WIND	Window
WOW	Weight-On-Wheels
WPT(s)	Waypoint(s)
WRN	Warning
WS	Second Segment Limited Weight
WSHLD	Windshield
WX	Weather
WXR	Weather Radar
X	
X	Cross Transfer
XFER, XFR	Transfer
XFLOW	Cross Flow
XMIT	Transmit
XPNDR	Transponder

XTK	Cross Track
XWC	Cross Wind Component
Y	
YD, Y/D	Yaw Damper
Z	
ZFW	Zero Fuel Weight

9.MI MEL Items

9.MI.TOC TABLE OF CONTENTS

9-MI-21 AIR-CONDITIONING

9-MI-21-22 Passenger Compartment Distribution and Recirculation System *(revised: FEB 2017)*

9-MI-21-22-01	**Recirculation Fans** *(revised: FEB 2017)*

9-MI-21-22-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected fan(s) is deactivated,
2) Inlet Cargo Air SOV is operative or secured CLOSED,
3) AIR CONDITIONING Cargo switch is selected to OFF, and
4) Live animals are not carried in cargo compartment.

MAINTENANCE (M)

For an inoperative recirculation fan, do as follows:

1) Open and tag the circuit breaker that follows:

   For recirculation fan 1

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A5	RECIRC FAN 1	221

   For recirculation fan 2

CB PANEL	CB NO.	NAME	ZONE
CBP-2	A5	RECIRC FAN 2	222

2) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	B11	GALLEY HEATER	222

Note:

1) When the deactivation procedure is completed, the RECIRC FAN FAULT status message will show continuously on the EICAS secondary page if the RECIRC FAN switch is set to ON.

2) Because of the decreased airflow, deactivation of the Galley Heater is required to prevent over-heating.

Note: *Flight attendants are to be advised that the Galley Heater is inoperative.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-23 Ventilation *(revised: FEB 2017)*

9-MI-21-23-01	**FWD Exhaust Fan Galley** *(revised: FEB 2017)*

9-MI-21-23-01-A Galley

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided fan is deactivated.

MAINTENANCE (M)

A. For an inoperative forward exhaust fan, deactivate the fan as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	B8	GALLEY EXHAUST FAN	222

PLACARD (P)

OR

9-MI-21-23-01-B Galley / Lavatory

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided fan is deactivated.

MAINTENANCE (M)

A. For an inoperative forward exhaust fan, deactivate the fan as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	B8	GALLEY EXHAUST FAN	222

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-23 Ventilation *(revised: FEB 2017)*

9-MI-21-23-02	**Lavatory AFT Exhaust Fan** *(revised: FEB 2017)*

9-MI-21-23-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided fan is deactivated.

MAINTENANCE (M)

For an inoperative lavatory exhaust fan, deactivate it as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	B8	LAV EXHAUST FAN	221

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-24 Avionics / Equipment Display Cooling *(revised: FEB 2017)*

9-MI-21-24-02	**Display Units Supply Fans** *(revised: FEB 2017)*

9-MI-21-24-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided display check valve is verified operative.

MAINTENANCE (M)

A. Do the deactivation of the inoperative display cooling fan as follows:

1) Open and tag the circuit breaker that follows:

For Display Cooling Fan 1

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	U2	AVIONICS DISPLAY COOLING FAN 1	221

For Display Cooling Fan 2

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	B2	AVIONICS DISPLAY COOLING FAN 2	221

2) Start the Auxiliary Power Unit (APU) and/or the engine(s).
3) On the BLEED AIR panel, set the BLEED VALVES switch, the BLEED SOURCE switch and the ISOL switch as required to provide bleed air to the Air Conditioning System.
4) Set the L and/or R PACK switch to ON.
5) Set the DSPLY FAN switch to STDBY.
6) Make sure that the DISPLAY COOL caution message does not come into view on the EICAS primary page.

   Note: *If the DISPLAY COOL caution message comes into view on the EICAS after step (6) − dispatch is not permitted.*

7) Set the DSPLY FAN switch to the operative Display Cooling Fan as follows:
   a) For an inoperative FAN #1, set the switch to NORM (FAN #2).
   b) For an inoperative FAN #2, set the switch to GND ALTN (FAN #1)
8) Make sure that the DISPLAY COOL caution message does not come into view on the EICAS primary page.

   Note: *If the DISPLAY COOL caution message comes into view on the EICAS primary page, dispatch is not permitted.*

9) Configure the Air Conditioning Pack(s) as required.
10) If required, shut down the Auxiliary Power Unit (APU) and/or the engine(s).

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-24-02 Display Units Supply Fans

Remarks may be continued on next page!

PLACARD (P)

END

9-MI-21-24 Avionics / Equipment Display Cooling *(revised: FEB 2017)*

9-MI-21-24-03	**Exhaust Fan (Avionics Cooling)** *(revised: FEB 2017)*

9-MI-21-24-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided one Air Conditioning Pack is operative.

MAINTENANCE (M)

A. Do the deactivation of the inoperative exhaust fan as follows:

1) Open and tag the circuit breaker that follows:

For Avionic Fan 1 (flight)

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	V2	AVIONICS FAN 1	221

For Avionic Fan 2 (ground)

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A2	AVIONICS FAN 2	221

2) Set the AVIONICS FAN switch to the operative avionic exhaust fan (GND ALTN or FLT ALTN).

Note: *When the AVIONICS FAN switch is set to the operative avionic exhaust fan, itcan be approximately 60 seconds before the amber AVIONICS FAN caution messagegoes off.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-24 Avionics / Equipment Display Cooling *(revised: FEB 2017)*

9-MI-21-24-07	Ground Valve (Avionics Cooling) *(revised: JUN 2005)*

9-MI-21-24-07

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative CLOSED.

MAINTENANCE (M)

A. For a ground valve inoperative CLOSED, do as follows:

1) Do the deactivation of the Ground Valve (refer to TASK 21−24−18−040−801).

Note: *When the deactivation procedure is completed, the OVBD COOL FAIL status message will come into view continuously on the EICAS secondary page. When the passenger door is closed, the OVBD COOL caution message will then come into view continuously on the EICAS primary page.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-31 Cabin Pressure Control System *(revised: FEB 2017)*

9-MI-21-31-01	**Automatic Cabin Pressurization Controllers** *(revised: FEB 2017)*

9-MI-21-31-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Manual control system is verified operative, and
2) Cabin Pressure Controller Panel (CPCP) Pressure Monitoring Function of Cabin Pressure Monitoring Sub−system is operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-31-01 Automatic Cabin Pressurization Controllers

PLACARD (P)

OR

9-MI-21-31-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Cabin Pressure Controller Panel (CPCP) Pressure Monitoring Function of Cabin Pressure Monitoring Sub−system is operative,
2) Operations are conducted unpressurized at or below 10.000 ft MSL,
3) Cargo compartments are empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable), and
4) Take-offs and landings are not conducted on runways that may lead to imminent ditching.

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-31-01 Automatic Cabin Pressurization Controllers

PLACARD (P)

Remarks may be continued on next page!

END

9-MI-21-31 Cabin Pressure Control System *(revised: FEB 2017)*

9-MI-21-31-02	**EMER DEPRESS Switch Guard** *(revised: FEB 2017)*

9-MI-21-31-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be missing provided operations are conducted at or below 15,000 ft MSL

PLACARD (P)

OR

9-MI-21-31-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(O) (P)	I	-

May be missing provided:
1) Operations are conducted unpressurized at or below 10,000 ft MSL, and
2) Cargo compartments are empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable).

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-31-02 EMER DEPRESS Switch Guard

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-31 Cabin Pressure Control System *(revised: FEB 2017)*

9-MI-21-31-03	Cabin Pressure Control Manual Mode *(revised: FEB 2017)*

9-MI-21-31-03-A Cabin Pressure Control Manual Mode

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided Outflow Valve is considered inoperative.

PLACARD (P)

OR

9-MI-21-31-03-B MAN ALT Switch

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Pressure control is not selected to MAN,
2) EMER DEPRESS switch is selected ON,
3) Operations are conducted unpressurized at or below 10.000 ft MSL,
4) Cargo compartments are empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable), and
5) Extended overwater operations are prohibited.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Outflow Valve	21-32-01

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-31-03 Cabin Pressure Control Manual Mode

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-32 Valve, Relief *(revised: FEB 2017)*

9-MI-21-32-01	**Outflow Valves** *(revised: FEB 2017)*

9-MI-21-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected valve is secured OPEN,
2) Flotation valve is checked for integrity,
3) Operations are conducted unpressurized at or below 10.000 ft MSL, and
4) Cargo compartments are empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable).

MAINTENANCE (M)

A. For an outflow valve inoperative OPEN, do as follows:

1) Do the deactivation of the Outflow valve (refer to TASK 21−32−01−040−801).

   Note: *When the deactivation procedure is completed, the AUTO PRESS caution message will come into view continuously on the EICAS primary page.*

2) Do the detailed inspection of the Floatation Valve as follows:

   a) Examine the valve for cracks, deterioration, corrosion, and damage.
   b) Examine the valve hinge pin for cracks, deterioration, corrosion, damage and lubrication.
   c) If necessary, lubricate the valve hinge pin.
   d) Move the valve to close the outflow valve orifice.
   e) Make sure that the valve closes the outflow valve orifice.
   f) Release the valve.
   g) Make sure that the valve opens freely and fully.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-32 Valve, Relief

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-33 Pressure Indicating and Warning *(revised: FEB 2017)*

9-MI-21-33-01	**Cabin Pressure Monitoring Subsystem** *(revised: FEB 2017)*

9-MI-21-33-01 Cabin Pressure Control Panel (CPCP) pressure monitoring function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative as indicated by the "CPAM FAIL" status message provided:

1) Both Automatic Cabin Pressure Controllers are operative; and
2) Emergency depress system is verified operative,
3) Operations are conducted at or below FL 300, and
4) Repairs are made within one flight day.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-33-01 Cabin Pressure Monitoring Subsystem

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-40 Heating *(revised: FEB 2017)*

9-MI-21-40-01	**Galley Heating System** *(revised: FEB 2017)*

9-MI-21-40-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided the system is deactivated.

MAINTENANCE (M)

A. For an inoperative galley heating system, do as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	B11	GALLEY HEATER	222

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-50 Cooling *(revised: JUN 2008)*

9-MI-21-50-01	**Ground Air Conditioning Connector Cover** *(revised: JUN 2008)*

9-MI-21-50-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative or missing provided:

1) Connector check valve is verified CLOSED,
2) Operations are conducted at or below FL 250, and
3) Extended overwater operations are prohibited.

MAINTENANCE (M)

A. For an inoperativ or missing ground air conditioning connector cover, do as follows:

1) Open the access door that follows:

PANEL	NAME	REF
182BR	LP Ground Connection Access Door	

2) Make sure that the ground air conditioning check valve is CLOSED.

3) Close the access door that follows:

PANEL	NAME	REF
182BR	LP Ground Connection Access Door	

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-51 Air Conditioning System *(revised: JAN 2020)*

9-MI-21-51-01	**Air Conditioning Packs** *(revised: JAN 2020)*

9-MI-21-51-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

RH pack may be inoperative provided:

1) RH pack is selected OFF,
2) Operations are conducted at or below FL 250,
3) RAM Air SOV is either verified operative or deactivated OPEN,
4) Ground operation for Left Air Conditioning Pack is conducted using APU bleed,
5) Ground operations are not conducted in known or forecast icing conditions, and
6) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative).

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

OR

9-MI-21-51-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

RH pack may be inoperative provided:

1) RH pack is selected OFF,
2) Operations are conducted at or below FL 250,
3) RAM Air SOV is either verified operative or deactivated OPEN,
4) Ground operation for Left Air Conditioning Pack is conducted using engine bleed,
5) Operation is limited to temperature below ISA +35, and
6) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative).

OPERATIONS (O)

Remarks may be continued on next page!

Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

——————— OR ———————

9-MI-21-51-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

LH pack may be inoperative provided:
1) LH pack is selected OFF,
2) Operations are conducted at or below FL 250,
3) Ram Air SOV is either verified operative or deactivated OPEN,
4) Ground operation for Right Air Conditioning Pack is conducted using APU bleed,
5) Ground operations are not conducted in known or forecast icing conditions, and
6) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative).

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

——————— OR ———————

9-MI-21-51-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

LH pack may be inoperative provided:
1) LH pack is selected OFF,
2) Operations are conducted at or below FL 250,
3) Ram Air SOV is either verified operative or deactivated OPEN,
4) Ground operation for Right Air Conditioning Pack is conducted using engine bleed,
5) Operation is limited to temperature below ISA +35, and
6) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative).

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

OR

9-MI-21-51-01-E

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

RH pack may be inoperative provided:
1) RH pack is selected OFF,
2) Operations are conducted at or below FL 310,
3) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
4) Ram Air SOV is either verified operative or deactivated OPEN,
5) Ground operation for Left Air Conditioning Pack is conducted using APU bleed,
6) Ground operations are not conducted in known or forecast icing conditions,
7) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative), and
8) Operations are conducted in accordance with OM-B Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

OR

9-MI-21-51-01-F

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

RH pack may be inoperative provided:
1) RH pack is selected OFF,
2) Operations are conducted at or below FL 310,
3) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
4) Ram Air SOV is either verified operative or deactivated OPEN,

Remarks may be continued on next page!

5) Ground operation for Left Air Conditioning Pack is conducted using engine bleed,
6) Operation is limited to temperature below ISA +35,
7) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative), and
8) Operations are conducted in accordance with OM-B Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

OR

9-MI-21-51-01-G

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

LH pack may be inoperative provided:
1) LH pack is selected OFF,
2) Operations are conducted at or below FL 310,
3) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
4) Ram Air SOV is either verified operative or deactivated OPEN,
5) Ground operation for Right Air Conditioning pack is conducted using APU bleed,
6) Ground operations are not conducted in known or forecast icing conditions,
7) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative), and
8) Operations are conducted in accordance with OM-B Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-21-51-01-H

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

LH pack may be inoperative provided:

1) LH pack is selected OFF,
2) Operations are conducted at or below FL 310,
3) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
4) Ram Air SOV is either verified operative or deactivated OPEN,
5) Ground operation for Right Air Conditioning pack is conducted using engine bleed,
6) Operation is limited to temperature below ISA +35,
7) Operations are conducted in accordance with OM-B Supplement (Operations with Airplane Systems inoperative), and
8) Operations are conducted in accordance with OM-B Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

OR

9-MI-21-51-01-I

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both packs may be inoperative provided:

1) Both packs are selected OFF,
2) Ram Air SOV is either verified operative or deactivated OPEN,
3) Inlet Cargo Air SOV is operative or secured CLOSED,
4) AIR CONDITIONING Cargo switch is selected to OFF,
5) Live animals are not carried in cargo compartment,
6) Operations are conducted unpressurized at or below 10.000 ft MSL,
7) Cargo compartments are empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable), and
8) Extended overwater operations are prohibited.

OPERATIONS (O)

Remarks may be continued on next page!

Refer to MEL OPS PROC 9-21-51-01 Air Conditioning Packs

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-51 Air Conditioning System *(revised: JAN 2020)*

9-MI-21-51-02	**Flow Control Valve (FCV)** *(revised: NOV 2016)*

9-MI-21-51-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

RH FCV may be inoperative provided:

1) Valve is secured CLOSED,
2) RH pack is selected OFF,
3) Opposite Air Conditioning Pack is operative,
4) Operations are conducted at or below FL 250,
5) Ram Air SOV is either verified operative or deactivated OPEN, and
6) Operations are conducted in accordance with AFM Supplement (Performance Penalties for operation with Airplane Systems inoperative).

MAINTENANCE (M)

A. For an inoperative RH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the RH FCV in the CLOSED position (refer to the TASK21−53−14−040−801)

B. For an inoperative LH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the LH FCV in the closed position (refer to the TASK21−53−14−040−801)

C. For two inoperative (LH and RH) FCVs in the CLOSED position, do as follows:

1) Do the deactivation of the two FCVs in the closed position (refer to the TASK21−53−14−040−801)

Note:

a) If the Ram Air SOV is used to dispatch an aircraft, refer to item 21-52-01 "RamAir SOV" for related limitations and a maintenance procedure.

b) When the deactivation procedure is completed, the L(R) PACK caution message will come into view continuously on the EICAS primary display page and the pack symbol on the EICAS ECS synoptic page will become amber.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-02 Flow Control Valve (FCV)

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-21-51-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

RH FCV may be inoperative provided:

1) Valve is secured CLOSED,
2) RH pack is selected OFF,
3) Opposite Air Conditioning Pack is operative,
4) Operations are conducted at or below FL 310,
5) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
6) Ram Air SOV is either verified operative or deactivated OPEN,
7) Operations are conducted in accordance with AFM Supplement (Performance Penalties for operation with Airplane Systems inoperative), and
8) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

MAINTENANCE (M)

A. For an inoperative RH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the RH FCV in the CLOSED position (refer to the TASK21−53−14−040−801)

B. For an inoperative LH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the LH FCV in the closed position (refer to the TASK21−53−14−040−801)

C. For two inoperative (LH and RH) FCVs in the CLOSED position, do as follows:

1) Do the deactivation of the two FCVs in the closed position (refer to the TASK21−53−14−040−801)

Note:

a) If the Ram Air SOV is used to dispatch an aircraft, refer to item 21-52-01 "RamAir SOV" for related limitations and a maintenance procedure.

b) When the deactivation procedure is completed, the L(R) PACK caution message will come into view continuously on the EICAS primary display page and the pack symbol on the EICAS ECS synoptic page will become amber.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-02 Flow Control Valve (FCV)

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-21-51-02-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

LH FCV may be inoperative provided:

1) Valve is secured CLOSED,
2) LH pack is selected OFF,
3) Opposite Air Conditioning Pack is operative,
4) Operations are conducted at or below FL 250,
5) Ram Air SOV is verified operative, and
6) Operations are conducted in accordance with AFM Supplement (Performance Penalties for operation with Airplane Systems inoperative).

MAINTENANCE (M)

A. For an inoperative RH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the RH FCV in the CLOSED position (refer to the TASK21−53−14−040−801)

B. For an inoperative LH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the LH FCV in the closed position (refer to the TASK21−53−14−040−801)

C. For two inoperative (LH and RH) FCVs in the CLOSED position, do as follows:

1) Do the deactivation of the two FCVs in the closed position (refer to the TASK21−53−14−040−801)

Note:

a) If the Ram Air SOV is used to dispatch an aircraft, refer to item 21-52-01 "RamAir SOV" for related limitations and a maintenance procedure.

b) When the deactivation procedure is completed, the L(R) PACK caution message will come into view continuously on the EICAS primary display page and the pack symbol on the EICAS ECS synoptic page will become amber.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-02 Flow Control Valve (FCV)

PLACARD (P)

OR

9-MI-21-51-02-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

LH FCV may be inoperative provided:

1) Valve is secured CLOSED,
2) LH pack is selected OFF,

Remarks may be continued on next page!

3) Opposite Air Conditioning Pack is operative,
4) Operations are conducted at or below FL 310,
5) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
6) Ram Air SOV is verified operative,
7) Operations are conducted in accordance with AFM Supplement (Performance Penalties for operation with Airplane Systems inoperative), and
8) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

MAINTENANCE (M)

A. For an inoperative RH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the RH FCV in the CLOSED position (refer to the TASK21−53−14−040−801)

B. For an inoperative LH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the LH FCV in the closed position (refer to the TASK21−53−14−040−801)

C. For two inoperative (LH and RH) FCVs in the CLOSED position, do as follows:

1) Do the deactivation of the two FCVs in the closed position (refer to the TASK21−53−14−040−801)

Note:

a) If the Ram Air SOV is used to dispatch an aircraft, refer to item 21-52-01 "RamAir SOV" for related limitations and a maintenance procedure.

b) When the deactivation procedure is completed, the L(R) PACK caution message will come into view continuously on the EICAS primary display page and the pack symbol on the EICAS ECS synoptic page will become amber.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-02 Flow Control Valve (FCV)

PLACARD (P)

OR

9-MI-21-51-02-E

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both FCVs may be inoperative provided:

1) Both valves are secured CLOSED,
2) Both Air Conditioning Packs are selected OFF,
3) Operations are conducted unpressurized at or below 10.000 ft MSL,
4) Extended overwater operations are prohibited.

MAINTENANCE (M)

Remarks may be continued on next page!

A. For an inoperative RH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the RH FCV in the CLOSED position (refer to the TASK21−53−14−040−801)

B. For an inoperative LH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the LH FCV in the closed position (refer to the TASK21−53−14−040−801)

C. For two inoperative (LH and RH) FCVs in the CLOSED position, do as follows:

1) Do the deactivation of the two FCVs in the closed position (refer to the TASK21−53−14−040−801)

Note:

a) If the Ram Air SOV is used to dispatch an aircraft, refer to item 21-52-01 "RamAir SOV" for related limitations and a maintenance procedure.

b) When the deactivation procedure is completed, the L(R) PACK caution mes-sage will come into view continuously on the EICAS primary display page andthe pack symbol on the EICAS ECS synoptic page will become amber.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-02 Flow Control Valve (FCV)

PLACARD (P)

——————— OR ———————

9-MI-21-51-02-F

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both FCVs may be inoperative provided:

1) Both valves are secured CLOSED,
2) Both Air Conditioning Packs are selected OFF,
3) Ram Air SOV is either verified operative or deactivated OPEN,
4) Inlet Cargo Air SOV is operative or secured CLOSED,
5) AIR CONDITIONING Cargo switch is selected to OFF,
6) Live animals are not carried in cargo compartment,
7) Operations are conducted unpressurized at or below 10.000 ft MSL,
8) Cargo Compartments are empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable), and
9) Extended overwater operations are prohibited.

Note: *Operator MELs must define which items are approved for inclusion in the Fly Away Kits, and which materials can be used as ballast.*

MAINTENANCE (M)

A. For an inoperative RH FCV in the CLOSED position, do as follows:

Remarks may be continued on next page!

1) Do the deactivation of the RH FCV in the CLOSED position (refer to the TASK21−53−14−040−801)

B. For an inoperative LH FCV in the CLOSED position, do as follows:

1) Do the deactivation of the LH FCV in the closed position (refer to the TASK21−53−14−040−801)

C. For two inoperative (LH and RH) FCVs in the CLOSED position, do as follows:

1) Do the deactivation of the two FCVs in the closed position (refer to the TASK21−53−14−040−801)

Note:

a) If the Ram Air SOV is used to dispatch an aircraft, refer to item 21-52-01 "RamAir SOV" for related limitations and a maintenance procedure.

b) When the deactivation procedure is completed, the L(R) PACK caution mes-sage will come into view continuously on the EICAS primary display page andthe pack symbol on the EICAS ECS synoptic page will become amber.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-51-02 Flow Control Valve (FCV)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-51 Air Conditioning System *(revised: JAN 2020)*

9-MI-21-51-03	**Air Conditioning Pack "FAULT/ OFF Switch Lights" (light function only)** *(revised: FEB 2017)*

9-MI-21-51-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-51 Air Conditioning System *(revised: JAN 2020)*

9-MI-21-51-04	**Air Conditioning System** *(revised: NOV 2016)*

9-MI-21-51-04-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “L PACK FAULT” and/or “R PACK FAULT” status message(s) provided:

1) Associated pack discharge pressure sensor(s) is verified operative once each flight day, and
2) Automatic Mode of the associated Cockpit/Cabin Temperature Control System is operative and associated MAN mode is not selected.

Note:

Pack Discharge Temperature

Readout(s) and/or Cockpit TEMP

Readout(s) and/or Cabin TEMP

Readout(s) and/or Cockpit SEL

Readout(s) and/or Cabin SEL

Readout(s) may be replaced by amber dashes on the EICAS ECS Synoptic Page.

MAINTENANCE (M)

A. For an inoperative Air Conditioning System, do as follows:

1) Energize the aircraft electrical power systems.
2) On the FS 280.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD 1 or MFD 2.
3) On the MFD 1 (MFD 2), make sure that the MAINTENANCE MAIN MENU page is shown.
4) On the EICAS control panel (ECP), push the UP and DN push-buttons to move the cursor (>) to the CURRENT FAULTS line.

   Note: *The function of the push-buttons on the ECP is shown at the bottom of the MFD display.*
5) On the ECP, push the SEL push-button to make a selection of the CURRENT FAULTS page.
6) Wait for a minimum of one minute until all of the faults are shown.
7) On the ECP, push the UP and DN push-buttons to move the cursor (>) to the fault line related to the Air Conditioning System.
8) On the ECP, push the SEL push-button to get access to the ADVANCED DIAGNOSTICS page
9) On the ADVANCED DIAGNOSTICS page, do the following:

   a) Make sure that bit 28 is not set on label 351.

Remarks may be continued on next page!

10) Exit from the MDC as follows:
    a) On the ECP, push the MENU push-button to go back to the MAINTENANCE MAIN MENU page
    b) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF.
    c) Make sure that the navigation data is shown on the MFD 1 (MFD 2).
11) Remove all tools, equipment, and unwanted materials from the work area.
12) Remove the electrical power from the aircraft.

PLACARD (P)

OR

9-MI-21-51-04-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “L PACK FAULT” and/or “R PACK FAULT” status messages provided the associated Air Conditioning Pack(s) is considered inoperative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Air Conditioning Packs	21–51–01

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-52 Ram-Air System *(revised: JAN 2019)*

9-MI-21-52-01	**Ram Air SOV** *(revised: JAN 2019)*

9-MI-21-52-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative OPEN provided:

1) Ram Air SOV is deactivated OPEN,
2) LH Air Conditioning Pack is operative,
3) RH Air Conditioning Pack is selected OFF,
4) Operations are conducted at or below FL 250, and
5) Operations are conducted in accordance with AFM Supplement (Performance Penalties for operation with Airplane Systems inoperative).

MAINTENANCE (M)

A. For a ram air SOV inoperative OPEN with the left PACK, do as follows:

1) Do the deactivation of the ram air SOV (refer to TASK 21−52−00−040−801).

Note: *When the deactivation procedure is completed, the ram air SOV symbol will be shown in the closed position on the ECS synoptic page.*

B. For a ram air SOV inoperative OPEN with both PACKs, do as follows:

1) Do the deactivation of the ram air SOV (refer to TASK 21−52−00−040−801).

Note: *When the deactivation procedure is completed, the ram air SOV symbol will be shown in the closed position on the ECS synoptic page.*

2) Make sure that the cargo compartment is empty.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-52 Ram Air SOV

PLACARD (P)

OR

9-MI-21-52-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative OPEN provided:

1) Ram Air SOV is deactivated OPEN,
2) LH Air Conditioning Pack is operative,

Remarks may be continued on next page!

3) RH Air Conditioning Pack is selected OFF,
4) Operations are conducted at or below FL 310,
5) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
6) Operations are conducted in accordance with AFM Supplement (Performance Penalties for operation with Airplane Systems inoperative), and
7) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

MAINTENANCE (M)

A. For a ram air SOV inoperative OPEN with the left PACK, do as follows:

1) Do the deactivation of the ram air SOV (refer to TASK 21−52−00−040−801).

Note: *When the deactivation procedure is completed, the ram air SOV symbol will be shown in the closed position on the ECS synoptic page.*

B. For a ram air SOV inoperative OPEN with both PACKs, do as follows:

1) Do the deactivation of the ram air SOV (refer to TASK 21−52−00−040−801).

Note: *When the deactivation procedure is completed, the ram air SOV symbol will be shown in the closed position on the ECS synoptic page.*

2) Make sure that the cargo compartment is empty.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-52 Ram Air SOV

PLACARD (P)

OR

9-MI-21-52-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCEDURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative OPEN provided:
1) Ram Air SOV is deactivated OPEN,
2) RH and LH Air Conditioning Packs are selected OFF,
3) Inlet Cargo Air SOV is operative or secured CLOSED,
4) AIR CONDITIONING Cargo switch is selected to OFF,
5) Live animals are not carried in cargo compartment,
6) Operations are conducted unpressurized at or below 10,000 ft MSL.
7) Procedures are established and used to ensure the cargo compartments remain empty, or are verified to contain only empty cargo handling equipment , ballast sand (ballast may be load in ULDs),
8) EMER DEPRESS switch is selected ON.

Remarks may be continued on next page!

MAINTENANCE (M)

A. For a ram air SOV inoperative OPEN with the left PACK, do as follows:

1) Do the deactivation of the ram air SOV (refer to TASK 21−52−00−040−801).

Note: *When the deactivation procedure is completed, the ram air SOV symbol will be shown in the closed position on the ECS synoptic page.*

B. For a ram air SOV inoperative OPEN with both PACKs, do as follows:

1) Do the deactivation of the ram air SOV (refer to TASK 21−52−00−040−801).

Note: *When the deactivation procedure is completed, the ram air SOV symbol will be shown in the closed position on the ECS synoptic page.*

2) Make sure that the cargo compartment is empty.

OPERATIONS (O)

Refer to MEL OPS PROC 9-21-52 Ram Air SOV

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-52 Ram-Air System *(revised: JAN 2019)*

9-MI-21-52-02	**Air Conditioning Panel RAM AIR "OPEN" Switch Light (light function only)** *(revised: FEB 2017)*

9-MI-21-52-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative providedassociated Air Conditioning Pack isconsidered inoperative.

PLACARD (P)

END

9-MI-21-52 Ram-Air System *(revised: JAN 2019)*

9-MI-21-52-03	**Ram Air Regulating Valve (RARV)** *(revised: FEB 2016)*

9-MI-21-52-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided associated Air Conditioning Pack is considered inoperative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Air Conditioning Packs	21–51–01

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-55 Class-C Aft-Cargo-Compartment Conditioned-Air-System

(revised: FEB 2011)

9-MI-21-55-03	**Cargo Exhaust SOV** ***(revised: FEB 2011)***

9-MI-21-55-03-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative CLOSED provided:

1) SOV is secured CLOSED,
2) Live animals are not carried in cargo compartment, and
3) AIR CONDITIONING Cargo switch is selected to OFF.

MAINTENANCE (M)

A. For a cargo exhaust SOV inoperative CLOSED, do as follows:

a) Do the deactivation of the cargo exhaust SOV (refer to TASK 21−55−00−040−802).

Note: *When the deactivation procedure is completed, the AFT CARGO SOV status message will come into view continuously on the EICAS secondary page.*

PLACARD (P)

OR

9-MI-21-55-03-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative OPEN provided:

1) Aft Cargo compartment is empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable), and
2) AIR CONDITIONING Cargo switch is selected to OFF.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-55 Class-C Aft-Cargo-Compartment Conditioned-Air-System

(revised: FEB 2011)

9-MI-21-55-04	**Cargo Air SOV** ***(revised: FEB 2011)***

9-MI-21-55-04-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative CLOSED provided:

1) SOV is secured CLOSED,
2) Live animals are not carried in cargo compartment, and
3) AIR CONDITIONING Cargo switch is selected to OFF.

MAINTENANCE (M)

A. For a cargo air inlet SOV inoperative CLOSED, do as follows:

a) Do the deactivation of the conditioned−air SOV (refer to TASK 21−55−00−040−801).

Note: *When the deactivation procedure is completed, the AFT CARGO SOV status message will come into view continuously on the EICAS secondary page.*

PLACARD (P)

OR

9-MI-21-55-04-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative OPEN provided:

1) Aft cargo compartment is empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable), and
2) AIR CONDITIONING Cargo switch is selected to OFF.
3) Both Recirculation Fans are operative,
4) Both Air Conditioning Packs are operative,
5) Both Flow Control Valves are operative,
6) Both Pressure Regulating SOVs are operative, and
7) Both High Pressure Valves are operative.

PLACARD (P)

Remarks may be continued on next page!

END

9-MI-21-55 Class-C Aft-Cargo-Compartment Conditioned-Air-System

(revised: FEB 2011)

9-MI-21-55-05	**AFT Cargo Compartment Temperature Control System** *(revised: FEB 2011)*

9-MI-21-55-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Live animals are not carried in cargo compartment, and
2) AIR CONDITIONING cargo switch is selected to AIR or OFF.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-21-61 Temperature Control *(revised: FEB 2017)*

9-MI-21-61-01	**Cabin / Cockpit Temperature Control Systems** *(revised: FEB 2017)*

9-MI-21-61-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided associated Air Conditioning Pack is considered inoperative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-21-61-01 Cabin / Cockpit Temperature Control Systems

PLACARD (P)

OR

9-MI-21-61-01-A Automatic mode

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One automatic control may be inoperativeprovided:
1) Associated Manual control isoperative, and
2) Associated Duct TemperatureIndications are operative.

MAINTENANCE (M)

A. For a cockpit temperature control system with the automatic control inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	K7	CKPT TEMP SENS	221

3) On the AIR CONDITIONING control panel push the related CKPT MAN switch/ light and make sure that the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CKPT TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

Remarks may be continued on next page!

B. For a cabin temperature control system with the automatic control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flightattendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the forward cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	J1	FWD CABIN TEMP SENS	222

   For the aft cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-1	J1	AFT CABIN TEMP SENS	221

3) On the AIR CONDITIONING control panel, push the related CABIN MAN switch/ light and make sure the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CABIN TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

C. For a cabin/ cockpit temperature control system with one manual control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flight attendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

   For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the related automatic control is operative.
4) Make sure that the related duct temperature indication is operative.
5) Remove electrical power from the aircraft.

D. For a cockpit temperature control system with the two temperature sensors inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

   For the right air conditioning controller,

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the automatic controls are operative.
4) Make sure that the duct temperature indications are operative.
5) Remove the electrical power from the aircraft.

PLACARD (P)

OR

9-MI-21-61-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both automatic controls may be inoperative provided:
1) Both Manual controls are operative, and
2) Both Duct Temperature indications are operative.

MAINTENANCE (M)

A. For a cockpit temperature control system with the automatic control inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	K7	CKPT TEMP SENS	221

3) On the AIR CONDITIONING control panel push the related CKPT MAN switch/ light and make sure that the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CKPT TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

B. For a cabin temperature control system with the automatic control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flightattendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

For the forward cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	J1	FWD CABIN TEMP SENS	222

For the aft cabin temperature sensor,

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1	J1	AFT CABIN TEMP SENS	221

3) On the AIR CONDITIONING control panel, push the related CABIN MAN switch/ light and make sure the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CABIN TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

C. For a cabin/ cockpit temperature control system with one manual control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flight attendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the related automatic control is operative.
4) Make sure that the related duct temperature indication is operative.
5) Remove electrical power from the aircraft.

D. For a cockpit temperature control system with the two temperature sensors inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the automatic controls are operative.
4) Make sure that the duct temperature indications are operative.
5) Remove the electrical power from the aircraft.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-21-61-01-C Manual mode

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One manual control may be inoperativeprovided:
1) Associated Automatic controls isoperative and
2) Associated Duct TemperatureIndication is operative.

MAINTENANCE (M)

A. For a cockpit temperature control system with the automatic control inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	K7	CKPT TEMP SENS	221

3) On the AIR CONDITIONING control panel push the related CKPT MAN switch/ light and make sure that the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CKPT TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

B. For a cabin temperature control system with the automatic control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flightattendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the forward cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	J1	FWD CABIN TEMP SENS	222

   For the aft cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-1	J1	AFT CABIN TEMP SENS	221

3) On the AIR CONDITIONING control panel, push the related CABIN MAN switch/ light and make sure the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CABIN TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

C. For a cabin/ cockpit temperature control system with one manual control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Remarks may be continued on next page!

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flight attendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

   For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the related automatic control is operative.
4) Make sure that the related duct temperature indication is operative.
5) Remove electrical power from the aircraft.

D. For a cockpit temperature control system with the two temperature sensors inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

   For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the automatic controls are operative.
4) Make sure that the duct temperature indications are operative.
5) Remove the electrical power from the aircraft.

PLACARD (P)

OR

9-MI-21-61-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both manual controls may be inoperative provided:
1) Both Automatic controls are operative and
2) Both Duct Temperature Indication are operative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #

Remarks may be continued on next page!

Air Conditioning Packs	21-51-01

MAINTENANCE (M)

A. For a cockpit temperature control system with the automatic control inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	K7	CKPT TEMP SENS	221

3) On the AIR CONDITIONING control panel push the related CKPT MAN switch/ light and make sure that the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CKPT TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

B. For a cabin temperature control system with the automatic control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flightattendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the forward cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	J1	FWD CABIN TEMP SENS	222

   For the aft cabin temperature sensor,

CB PANEL	CB NO.	NAME	ZONE
CBP-1	J1	AFT CABIN TEMP SENS	221

3) On the AIR CONDITIONING control panel, push the related CABIN MAN switch/ light and make sure the switch/ light comes on.
4) On the secondary EICAS display, make sure that the CABIN TEMP MAN status message comes on.
5) Remove electrical power from the aircraft.

C. For a cabin/ cockpit temperature control system with one manual control inoperative, do as follows:

FOR AIRCRAFT WITHOUT MODSUM 670T82449 (SB 670BA-21-034):

Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flight attendants are to be advised.*

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

   For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

Remarks may be continued on next page!

For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the related automatic control is operative.
4) Make sure that the related duct temperature indication is operative.
5) Remove electrical power from the aircraft.

D. For a cockpit temperature control system with the two temperature sensors inoperative, do as follows:

1) Energize the aircraft electrical power systems.
2) Open and tag the circuit breaker that follows:

For the left air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	T8	ACS L MAN	222

For the right air conditioning controller,

CB PANEL	CB NO.	NAME	ZONE
CBP-2	K6	ACS R MAN	222

3) Make sure that the automatic controls are operative.
4) Make sure that the duct temperature indications are operative.
5) Remove the electrical power from the aircraft.

PLACARD (P)

END

9-MI-21-61 Temperature Control *(revised: FEB 2017)*

9-MI-21-61-04	**Air Conditioning Panel CKPT/CABIN Temperature Control "MAN" Switch Lights (light function only)** *(revised: FEB 2017)*

9-MI-21-61-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22 AUTO FLIGHT

9-MI-22-10 Autopilot System *(revised: FEB 2017)*

9-MI-22-10-01	**Autopilot System** *(revised: NOV 2016)*

9-MI-22-10-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	RVSM

Except where enroute operations or approach procedures require its use, may be inoperative provided Altitude Alerting system is operative.

Note: *Autopilot is required for RVSM Operations.*

Note: *Relief for inoperative individual flight guidance operational modes is provided by MEL Item 22-10-02 Flight Directors.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-10 Autopilot System *(revised: FEB 2017)*

9-MI-22-10-02	**Flight Directors** *(revised: FEB 2017)*

9-MI-22-10-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	RVSM

Except where enroute operations or approach procedures require its use, may be inoperative provided Autopilot is considered inoperative.

Note: *Windshear escape guidance function will be available from the remaining flight director.*

Note: *The TOGA switches will not be affected by the inoperative Flight Director.*

Note: *Although take-off configuration warning system remains operative, "T/OCONFIG OK" advisory message is inhibited.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-22-10-02 Flight Directors

PLACARD (P)

OR

9-MI-22-10-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	RVSM

Except where enroute operations or approach procedures require its use, may be inoperative provided:

1) Autopilot is considered inoperative, and
2) TOGA switches are considered inoperative.

Note: *Windshear escape guidance will be inoperative. However, all remaining windshear functions will be available.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-22-10-02 Flight Directors

PLACARD (P)

Remarks may be continued on next page!

9-MI-22-10-02-C Flight Director Modes

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	-	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	RVSM

Except where enroute operations or approachprocedures require its use, individual flightdirector modes may be inoperative providedAltitude Alerting System is operative.

Note: *Flight director altitude hold mode is required for RVSM Operations.*

Note: *Any flight director mode which operates normally may be used.*

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Autopilot System	22-10-01
TOGA Switches	22-11-03

OPERATIONS (O)
Refer to MEL OPS PROC 9-22-10-02 Flight Directors

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-11 Automatic Flight Control System (AFCS) *(revised: FEB 2011)*

9-MI-22-11-01	**Autopilot Disconnect Switches (Control Wheel)** *(revised: FEB 2011)*

9-MI-22-11-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided
1) Autopilot is not used below 1,500 ft AGL,
2) Approach minimums do not require the use of autopilot, and
3) Pilot flying has the operative disconnect.

OPERATIONS (O)
Refer to MEL OPS PROC 9-22-11-01 Autopilot Disconnect Switches (Control Wheel)

PLACARD (P)

OR

9-MI-22-11-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided autopilot is not used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-22-11-01 Autopilot Disconnect Switches (Control Wheel)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-11 Automatic Flight Control System (AFCS) *(revised: FEB 2011)*

9-MI-22-11-02	**Flight Director Sync Switches** *(revised: MAY 2003)*

9-MI-22-11-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

PLACARD (P)

END

9-MI-22-11 Automatic Flight Control System (AFCS) *(revised: FEB 2011)*

9-MI-22-11-03	**Take-Off / Go-Around (TOGA) Switches (on Thrust Levers)** *(revised: JUN 2008)*

9-MI-22-11-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(O) (P)	I	-

Both may be inoperative provided alternate procedures are established and used.

Note: *All normal flight director modes are available.*

Note: *Windshear escape guidance is not affected by the loss of the TOGA function and remains operative during the approach and take-off phases of flight.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-22-11-03 Take-Off / Go-Around (TOGA) Switches (on Thrust Levers)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-12 Integrated Avionics Processor System (IAPS)

(revised: MAY 2004)

9-MI-22-12-01	**V-Speed Auto-Synchronization System** ***(revised: MAY 2003)***

9-MI-22-12-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided V-Speed settings are made manually by each pilot.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-12 Integrated Avionics Processor System (IAPS)

(revised: MAY 2004)

9-MI-22-12-02	**Integrated Avionics Processor System (IAPS) Input/ Output Concentrator (IOC)** ***(revised: APR 2006)***

9-MI-22-12-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	3	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One IAPS IOC may be inoperative provided remaining IOCs are verified operative before the first flight of the day.

Note: *"IAPS DEGRADED" status message will be displayed on EICAS.*

MAINTENANCE (M)

A. For an inoperative Integrated Avionics Processor System (IAPS) Input/ Output Concentrator (IOC), do as follows:

1) Energize the aircraft electrical power systems.
2) Make sure that the pilot and copilot display reversion control panels are set to the NORM position.
3) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to the MFD 1 or MFD 2.
4) On the MFD 1 (MFD 2), make sure that the MAINTENANCE MAIN MENU is shown.
5) On the EICAS control panel (ECP), push the UP and DN push-buttons to move the cursor (>) to the CURRENT FAULTS line.

   Note: *The function of the push-buttons on the ECP is shown at the bottom of the MFD display.*
6) On the ECP, push the SEL push-button to get access to the CURRENT FAULTS page.
7) Wait for a minimum of one minute until all of the faults are shown.
8) On the CURRENT FAULTS page, make sure that only one of the messages that follow is shown:

   Note: *On the ECP, push the UP and DN push-buttons to scroll the pages up or down.*

   - *IAPS IOC 1A*
   - *IAPS IOC 1B*
   - *IAPS IOC 2A*
   - *IAPS IOC 2B*
9) Exit from the MDC as follows:
   1) On the ECP, push the MENU push-button to go back to the MAINTENANCE MAINT MENU page.
   2) On the FS 280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF.
   3) Make sure that the navigation data is shown on the MFD 1 (MFD 2)
10) Remove all tools , equipment, and unwanted materials from the work area.
11) Remove the electrical power from the aircraft.

Remarks may be continued on next page!

OPERATIONS (O)

Refer to MEL OPS PROC 9-22-12-02 Integrated Avionics Processor System (IAPS) Input/ output Concentra-tor (IOC)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-21 Mach Trim *(revised: JAN 2001)*

9-MI-22-21-01	**Mach Trim System** *(revised: JAN 2001)*

9-MI-22-21-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Except where enroute operations require its use, may be inoperative provided operations are conducted at or below 250 KIAS / Mach 0.7 when autopilot is disengaged.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-22-22 Yaw Damping *(revised: FEB 2017)*

9-MI-22-22-01	**Yaw Dampers** *(revised: JUN 2018)*

9-MI-22-22-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided the affected damper is verified not engaged.

MAINTENANCE (M)

Make sure that the inoperative yaw damper pushbutton is not set on the YAW DAMPER control panel.

1) On the HYDRAULIC panel, set the ACMP 1, 2, and 3A switches to ON.
2) Set the rudder trim to zero.
3) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD 1 or MFD 2.
4) Make sure that the MAINTENANCE MAIN MENU page shows on the MFD.
5) On the EICAS control panel (ECP), push the UP and DN pushbuttons to move the cursor (>) to FCC DIAGNOSTICS.
6) On the ECP, push the SEL pushbutton to get access to the FCC DIAGNOSTICS page.
7) Make sure that the FCC DIAGNOSTICS page shows on the MFD.
8) Make a selection of the REPORT MODE page as follows:
    a) Make sure that the autopilot is disengaged.
    b) On the flight control panel (FCP), push and hold the left (right) FD pushbutton and two mode pushbutton at the same time for one second.

       Note: *The instructions for the FCP controls show on the MFD.*
    c) Make sure that the REPORT MODE page shows on the MFD.
9) Make a selection of the INPUT MODE page as follows:
    a) On the FCP, push two mode pushbuttons at the same time for one second.
    b) Make sure that the INPUT MODE page shows on the MFD.
10) On the FCP, pus a mode pushbutton to move the cursor to the next line.
11) Turn the VS/pitch wheel until the parameter RUDANA comes into view.
12) With the feet off the rudder pedals, make sure that the RUDANA value is ≤0.5° on the left and right columns.

    Note: *If the RUDANA value is >0.5°, it is not permitted to dispatch the aircraft.*
13) Exit from the diagnostics as follows:
    a) On the FCP, push and hold three mode pushbuttons at the same time for one second.
    b) On the display control panel (DCP), turn the FORMAT knob on detent.
    c) Make sure that the MAINTENANCE MAIN MENU page shows on the MFD 1 (MFD 2).
    d) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF.
    e) Make sure that the navigation data shows on the MFD 1 (MFD 2)

Remarks may be continued on next page!

14) On the HYDRAULIC panel, set the ACMP 1, 2, and 3A as required.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23 COMMUNICATIONS

9-MI-23-11 VHF Communication System *(revised: SEP 2004)*

9-MI-23-11-01	Communication System *(revised: SEP 2004)*

9-MI-23-11-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	3	2	(P)	I	-

Only VHF System #3, which is dedicated for the ACARS System, may be inoperative.

PLACARD (P)

END

9-MI-23-11 VHF Communication System *(revised: SEP 2004)*

9-MI-23-11-02	Audio Control Panel *(revised: AUG 2003)*

9-MI-23-11-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
B	3	2	(P)	I	-

One may be inoperative provided Audio Control Panel #1 is operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-22 AIRINC Communication Addressing and Reporting System (ACARS) *(revised: JAN 2020)*

9-MI-23-22-01	**Aircraft Communications Addressing and Reporting System (ACARS)** *(revised: FEB 2017)*

9-MI-23-22-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-22-01 Aircraft Communications Addressing and Reporting System (ACARS)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-22 AIRINC Communication Addressing and Reporting System (ACARS) *(revised: JAN 2020)*

9-MI-23-22-02	**Controller Pilot Data Link Communication (CPDLC)** *(revised: JAN 2020)*

9-MI-23-22-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative where routine procedures require its use provided alternate procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-22-02 Controller Pilot Data Link Communication (CPDLC)

PLACARD (P)

OR

9-MI-23-22-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided operating regulations do not require its use.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-22 AIRINC Communication Addressing and Reporting System (ACARS) *(revised: JAN 2020)*

9-MI-23-22-03	**Printer** *(revised: DEC 2014)*

9-MI-23-22-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-22 Printer

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-31 Passenger Address *(revised: FEB 2011)*

9-MI-23-31-01	**Passenger Address System** *(revised: FEB 2011)*

9-MI-23-31-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	1	0	(O) (P)	I	-

May be inoperative provided:

1) Aircraft crew are the only occupants of the aircraft,
2) Alternate procedures, are established and used, and
3) Repairs are made within one flight day.

Note: *For the purpose of this item "aircraft crew" is considered to be flight crew members, flight attendants, aircraft maintenance personnel and supervisory crew members.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-31 Passenger Address System

PLACARD (P)

OR

9-MI-23-31-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(O) (P)	I	-

May be inoperative provided:

1) Flight Attendant Call Switch Lights and Flight Attendant Audio Alerting System of Crewmember Interphone System are operative, and
2) Megaphone(s) is/are readily available and operates normally, and
3) Alternate normal and emergency procedures, are established and used.

Note: *Any station function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-31 Passenger Address System

PLACARD (P)

Remarks may be continued on next page!

9-MI-23-31-01-C Passenger Address "PA" Switch Lights (Interphone Control Unit and Flight Attendant Station) (lightfunction only)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Flight Attendant Call Switch Lights and Flight Attendant Audio Alerting System of Crewmember Interphone System are operative, and
2) Megaphone(s) is/are readily available and operates normally, and
3) Alternate, normal and emergency procedures are established and used.

Note: *Any station function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-31 Passenger Address System

PLACARD (P)

9-MI-23-31-01-D Lavatory Speakers

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Alternate, normally and emergency procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-31 Passenger Address System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-31 Passenger Address *(revised: FEB 2011)*

9-MI-23-31-02	**Flight Attendants Handsets** *(revised: APR 2006)*

9-MI-23-31-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	-	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Operative handset is located at an operative flight Attendant Seat Assembly, and
2) Alternate communications procedures for affected flight attendant station are established and used.

Note: *Any handset function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-31-02 Flight Attendants Handsets

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-32 Passenger Entertainment System (Boarding Music)

(revised: MAY 2007)

9-MI-23-32-01	**Prerecorded Announcement and Boarding Music System** ***(revised: MAY 2007)***

9-MI-23-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Refer to MEL OPS PROC 9-23-32-01 Prerecorded Announcement and Boarding Music System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-40 Interphone *(revised: OCT 2021)*

9-MI-23-40-01-01	**Crewmember Interphone System (Interphone Voice Communications Function)** *(revised: OCT 2021)*

9-MI-23-40-01-01-A Flight Deck to Cabin (Audio Control Panel(s) to Cabin)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCEDURE
B	3	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Either pilot or Co-pilot flight deck to cabin interphone voice communication function (two was) operates normally, and
2) Passenger Address System is verified operative prior to each flight, and
3) Alternate procedures for communications with cabin are established and used.

Note: *Any station function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

9-MI-23-40-01-01-B Cabin to Flight Deck (Flight Attendant Station(s) to Flight Deck)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCEDURE
B	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Cabin to Flight Deck Interphone voice communication function (two way) operates normally at least at one flight attendant stations,
2) Unaffected flight attendant station(s)has an operative Flight Attendant Sea tAssembly,
3) Unaffected flight attendant station(s)has an operative Flight Attendant Handset, and
4) Alternate communication procedures for the affected flight attendant station(s) are established and used.

Note: *Any station function(s) that operates normally may be used.*

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

OR

9-MI-23-40-01-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate communication procedures for the affected flight attendant station(s) are established and used.

Note: *Any station function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

9-MI-23-40-01-01-D Flight Deck to Ground (Audio Control Panel(s) to Ground)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

Note: *Any station function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

9-MI-23-40-01-01-F Ground to Flight Deck (Maintenance Interphone Station(s) to Flight Deck)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

OR

9-MI-23-40-01-01-G

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	4	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided procedures do not require its use.

Note: *Any stations function(s) that operates normally may be used.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-40 Interphone *(revised: OCT 2021)*

9-MI-23-40-01-02	Crewmember Interphone System (Interphone Alerting Function)

9-MI-23-40-01-02-A Flight Deck Call Switch Lights ("CALL" and "EMER")

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative the flight compartment audio alerting system (chime) is operative.

Note: *Flight deck audio alerting system(chime) must always be operative.*

Note: *Any Flight Deck Call Switch Lightfunction(s) that operates normally maybe used.*

PLACARD (P)

9-MI-23-40-01-02-B Flight Attendant Call Switch Lights ("ATT","FLT" and "EMERG") (light function only)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	3	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided passenger Address System is operative.

Note: *Any Flight Attendant Call Switch Light function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

9-MI-23-40-01-02-C Mid Cabin Flight Attendant Call Lights (Cockpit, Lavatory, Cabin)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	6	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided passenger Address System is operative.

Remarks may be continued on next page!

Note: *Any Flight Attendant Call Switch Light function(s) that operates normally may be used.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

9-MI-23-40-01-02-D Flight Attendant Audio Alerting System (Chime)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided Passenger Address System is operative.

Note: *Passenger to Attendant Call System is considered a passenger convenience item.*

PLACARD (P)

9-MI-23-40-01-02-E Mechanic Call Switch Lights (CKPT "CALL" and MECH "CALL")

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-40-01 Crewmember Interphone System

PLACARD (P)

OR

9-MI-23-40-01-02-F

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided proceduresdo not require its use.

Note: *Any Mechanic Call Switch Lightfunction(s) that operates normally may be used.*

Remarks may be continued on next page!

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-51 Audio Integrating System *(revised: FEB 2011)*

9-MI-23-51-01	**Hand Held Microphones** *(revised: MAY 2007)*

9-MI-23-51-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(P)	I	-

One may be inoperative provided associated boom microphone is operative and is used.

PLACARD (P)

OR

9-MI-23-51-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

Both may be inoperative provided:

1) Both boom microphones are operative, and
2) Spare boom microphone is available in flight compartment.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-51 Audio Integrating System *(revised: FEB 2011)*

9-MI-23-51-02	RT / IC Switches *(revised: FEB 2011)*

9-MI-23-51-02-A Pilot / Copilot

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	4	2	(P)	I	-

Two may be inoperative provided:

1) Switch is not failed in the transmit mode and
2) One RT / IC Switch operates normally for each crewmember and
3) Hand held microphone on affected side is operative.

PLACARD (P)

9-MI-23-51-02-B Observers RT / IC Switch

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
-	1	0	(P)	I	-

May be inoperative provided:

1) Switch is not failed in transmit mode, and
2) Observer`s Seat is not occupied.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-51 Audio Integrating System *(revised: FEB 2011)*

9-MI-23-51-03	**Flight Compartment Speakers** *(revised: JUN 2005)*

9-MI-23-51-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

One or both may be inoperative provided all flight crew members on flight deck utilize headsets.

PLACARD (P)

END

9-MI-23-51 Audio Integrating System *(revised: FEB 2011)*

9-MI-23-51-04	**Boom Microphones** *(revised: JUL 2003)*

9-MI-23-51-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	2	0	(P)	I	-

May be inoperative provided:
1) Flight Data Recorder is operative, and
2) Repairs are made within three calendar days.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-51 Audio Integrating System *(revised: FEB 2011)*

9-MI-23-51-05	**Headsets** *(revised: SEP 2005)*

9-MI-23-51-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	3	2	(P)	I	-

Any in excess of those required for each person on flight compartment duty may be inoperative.

PLACARD (P)

END

9-MI-23-51 Audio Integrating System *(revised: FEB 2011)*

9-MI-23-51-06	**Observers Audio Control Panel** *(revised: FEB 2011)*

9-MI-23-51-06

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
-	1	0	(P)	I	-

May be inoperative provided

Observer's Seat is not occupied.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-70 Flight Deck Door Surveillance System *(revised: NOV 2016)*

9-MI-23-70-01-01	**Cockpit Door Surveillance System (CDSS) (if installed and activated) — D-ACKA until D-ACKL** *(revised: NOV 2016)*

9-MI-23-70-01-01-A System

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Alternate procedures are established and used for ensuring the security of the area outside the flight deck door,
2) System is deactivated

MAINTENANCE (M)

Pull and collar the circuit breaker at CB panel 2. Placard CDSS ON / OFF switch on CM 1 sidepanel INOP.

OPERATIONS (O)

Refer to MEL OPS PROC 9-23-70-01 Cockpit Door Surveillance System (CDSS)

9-MI-23-70-01-01-B Monitor

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	1	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One monitor may be inoperative. Verify no video image on monitor. Placard INOP label on the top edge of the inoperative monitor. Do not place label on screen.

9-MI-23-70-01-01-C CABIN READY function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(O)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided Interphone system is operative. Placard CABIN READY switch INOP.

OPERATIONS (O)

Remarks may be continued on next page!

Refer to MEL OPS PROC 9-23-70-01 Cockpit Door Surveillance System (CDSS)

END

Remarks may be continued on next page!

9-MI-23-70 Flight Deck Door Surveillance System *(revised: NOV 2016)*

9-MI-23-70-01-02	Cockpit Door Surveillance System (CDSS) (if installed and activated) — D-ACNA until D-ACNX

9-MI-23-70-01-02-A Video Display Unit

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) People in the vicinity of the door are identified using peephole and interphone.

OPERATIONS (O)

Refer to MEL OPS PROC 9-23-70-01 Cockpit Door Surveillance System (CDSS)

PLACARD (P)

9-MI-23-70-01-02-B Mode 1, Camera 1

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) The camera is considered inoperative,
2) People in the vicinity of the door are identified using peephole and/ orinter-phone.

OPERATIONS (O)

Refer to MEL OPS PROC 9-23-70-01 Cockpit Door Surveillance System (CDSS)

PLACARD (P)

OR

9-MI-23-70-01-02-C Mode 2, Camera 2

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) The camera is considered inoperative,

Remarks may be continued on next page!

2) People in the vicinity of the door are identified using peephole and interphone.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-70-01 Cockpit Door Surveillance System (CDSS)

PLACARD (P)

OR

9-MI-23-70-01-02-D Mode 3, Camera 3

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) The camera is considered inoperative,
2) People in the vicinity of the door are identified using peephole and interphone.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-70-01 Cockpit Door Surveillance System (CDSS)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-71 Cockpit Voice Recording System *(revised: JUN 2005)*

9-MI-23-71-01	Cockpit Voice Recorder (CVR) *(revised: JUN 2005)*

9-MI-23-71-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Flight Data Recorder is operative,
2) Aircraft is not operated for more than eight consecutive flights, and
3) Repairs are made within three calendar days.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-23-81 System, Radio Tuning *(revised: FEB 2011)*

9-MI-23-81-01	#2 Radio Tuning Unit (RTU) *(revised: FEB 2011)*

9-MI-23-81-01-A Without ModSum 670T122173 or 670T31608 (CTL-23 (Standby Unit) installed)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided:

1) COM/ NAV tuning unit is operative,
2) Cross-side tuning from RTU #1 is operative,
3) For a single HF installation operations do not require the use of HF, and
4) RUT #2 is de-selected using its RTUINHIBIT switch to ensure cross-side tuning by RTU #1.

PLACARD (P)

OR

9-MI-23-81-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(O) (P)	I	-

May be inoperative provided:

1) Backup tuning control on at least one FMS is operative,
2) Cross-side tuning from RTU #1 is operative,
3) For single HF installation, operations do not require the use of HF, and
4) RTU #2 is de-selected using its RTUINHIBIT switch to ensure cross-side tuning by RTU #1.

OPERATIONS (O)
Refer to MEL OPS PROC 9-23-81 #2 Radio Tuning Unit (RTU)

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-23-81-01-C With ModSum 670T122173 or 670T31608 (CTL-23 (Standby Tuning Unit) not installed))

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Cross-side tuning from RTU #1 is operative,
2) Backup tuning control on at least one FMS is operative,
3) For single HF installation, operations do not require the use of HF, and
4) RTU #2 is de-selected using its RTUINHIBIT switch to ensure cross-side tuning by RTU #1

OPERATIONS (O)

Refer to MEL OPS PROC 9-23-81 #2 Radio Tuning Unit (RTU)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24 ELECTRICAL POWER

9-MI-24-11 Electrical Power Generation System (EGPS) *(revised: FEB 2017)*

9-MI-24-11-01	**Integrated Drive Generator (IDG) Systems** *(revised: FEB 2017)*

9-MI-24-11-01-A Constant Speed Drives(CSD), Generator Control Unit (GCU)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:
1) Respective GEN 1/2 switch is selected to OFF / RESET,
2) Respective IDG is disconnected,
3) APU generator is operated continuously throughout flight,
4) AFM performance corrections for APU ON are applied,
5) Operations are conducted at or below FL 260, and
6) Repairs are made within 100 flight hours (cumulative).

PLACARD (P)

OR

9-MI-24-11-01-B Generators

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperativ provided:
1) Respective GEN 1/2 switch is selected to OFF/ RESET,
2) APU generator is operated continuously throughout flight,
3) AFM performance corrections for APU ON are applied, and
4) Operations are conducted at or below FL 260.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-11 Electrical Power Generation System (EGPS) *(revised: FEB 2017)*

9-MI-24-11-02	IDG 1/2 "FAULT / DISC" Switch/ Lights *(revised: MAY 2003)*

9-MI-24-11-02 IDG 1/2 "FAULT/ DISC" Switch / Lights (light function only)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-22 Auxiliary Power Unit AC Generation System *(revised: MAY 2007)*

9-MI-24-22-01	**APU Generator System** *(revised: MAY 2007)*

9-MI-24-22-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) IDG 1 and IDG 2 are operative,
2) APU GEN switch is selected to OFF/ RESET.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-23 Emergency AC-Generation System *(revised: FEB 2011)*

9-MI-24-23-01	**Air Driven Generator (ADG) Auto-Deploy System** *(revised: FEB 2024)*

9-MI-24-23-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided system is deactivated.

OPERATIONS (O)

Refer to MEL OPS PROC 9-24-23-01 Air Driven Generator (ADG) Auto-Deploy System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-24 AC-Power Generation Monitoring System *(revised: MAY 2003)*

9-MI-24-24-01	**AUTO XFER "FAIL/ OFF" Switch Lights** *(revised: MAY 2003)*

9-MI-24-24-01 AUTO XFER "FAIL/OFF" Switch Lights (light function only)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-31 DC Static Conversation System *(revised: FEB 2011)*

9-MI-24-31-01	**Transformer Rectifier Units (TRUs)** *(revised: FEB 2011)*

9-MI-24-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	4	3	(M) (P)	I	-

MAINTENANCE (M)

A. For an inoperative TRUs, do the deactivation as follows:

1) Energize the aircraft electrical power systems
2) Open and collar the circuit breaker for the inoperative TRU as follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	B5	TRU 1	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T2	ESS TRU 1	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T5	ESS TRU 2B	221
CBP-2	C5	ESS TRU 2A	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	B5	TRU 2	222

3) On the EICAS control panel, push the ELEC switch two times to get to the DC ELECTRICAL synoptic page on the EICAS secondary page..
4) Make sure that the deactivated TRU indication is not green.

   Note: *When TRU 1 or 2 is deactivated, the right side passenger Reading Lights are inoperative. Tell the flight attendants.*
5) If TRU FAN FAIL status message shows on the EICAS secondary page, do as follows:
   a) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD 1 or MFD 2.
   b) On the multifunction display (MFD), make sure that the MAINTENANCE MAIN MENU page shows.
   c) On the EICAS control panel (ECP), push the UP and DN pushbuttons to move the cursor (>) to the CURRENT FAULTS line.

      Note: *The function of the pushbuttons on the EICAS control panel shows at the bottom of the MFD display.*

Remarks may be continued on next page!

d) On the ECP, push the SEL pushbutton to get access to the CURRENT FAULTS page.

e) Determine the failed TRU cooling fan which will be indicated by FAN/OVERHEAT SW message.

f) If cooling fan of TRU 1 found to be inoperative in combination with TRU 2 FAIL status message;

OR

If cooling fan of TRU 2 found to be inoperative in combination with TRU 1 FAIL status message;

OR

If cooling fan of ESS TRU 1 found to be inoperative in combination with ESS TRU 2 FAIL status message;

OR

If cooling fan of ESS TRU 2 found to be inoperative in combination with ESS TRU 1 FAIL status message;

g) Open forward doors for stationary ground operations when temps >30 degrees C.

6) For any other combination − no limitations.

7) Remove electrical power from the aircraft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-31 DC Static Conversation System *(revised: FEB 2011)*

9-MI-24-31-02	**TRU Cooling Fans** *(revised: FEB 2011)*

9-MI-24-31-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

MAINTENANCE (M)

A. For a failed TRU cooling fan, do as follows:

1) Energize the aircraft electrical power systems.
2) On the FS"80.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD1 or MFD2.
3) On the multifunctional display (MFD), make sure that the MAINTENANCE MAIN MENU page shows.
4) On the EICAS control panel (ECP), push the UP and DN pushbuttons to move the cursor (>) to the CURRENT FAULTS line.

   Note: *The function of the pushbuttons on the EICAS control panel shows at the bottom of the MFD display.*
5) Determine the failed TRU cooling fan which will be indicated by FAN/OVERHEAT SW message
6) Exit the MDC as follows:
   a) On the ECP, push the DOORS pushbutton as required to go back to the MAINTENANCE MAIN MENU page.
   b) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF.
   c) Make sure that the navigation data shows on the MFD 1 or MFD 2.
7) Remove electrical power from the aircraft.
8) During ground operations when the ambient temperature is >86 degrees F(30 degrees C), open the two forward equipment doors (211AL and 212AR) for any of the combinations that follow:

   If TRU 1 cooling fan failed and TRU 2 FAIL status message is shown on the EICAS

   OR

   If TRU 2 cooling fan failed and TRU 1 FAIL status message is shown,

   OR

   If ESS TRU 2 cooling fan failed and ESS TRU 2 FAIL message is shown.

   OR

   If ESS TRU 2 cooling fan failed and ESS TRU 1 FAIL message is shown.

   Note: *There are no limitations for all other combinations.*
9) Before flight, close the two forward equipment doors (211AL and 212AR)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-32 Battery System *(revised: FEB 2017)*

9-MI-24-32-01	**Main Battery** *(revised: FEB 2017)*

9-MI-24-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) A reliable and functioning time−piece is readily available (a wristwatch is acceptable).
2) Flight Data Recorder is considered inoperative, and
3) Repairs are made within one flight day.

Note: *Clocks will be inoperative.*

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Flight Data Recorder (FDR)	31-31-01

Note:

1) The SSPC (Solid State Power Controller) P/N 310CZ01Y00 may have been installed temporarily in lieu of P/N P700-A154-E002 in K101 (JB5) position. Master MEL/DDG item 24-32-01 (Main Battery) must not be applied when SSPC P/N310CZ01Y00 is installed in K101 (JB-5).

2) Operators are responsible for tracking the aircraft not eligible for their MEL(24-32-01), relative to NOTE 1.

MAINTENANCE (M)

For an inoperative main battery, do as follows:

1) Do the procedure to disconnect the main battery (refer to Task 24−32−00−040−801).

Note: *When the deactivation procedure is completed, the MAIN BATT OFF caution message may show continuously on the EICAS primary page. The cockpit dome light (DS70) will be inoperative. Refer to item 33–13–01 for possible relief.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-32 Battery System *(revised: FEB 2017)*

9-MI-24-32-02	**Main Battery Charger** *(revised: FEB 2011)*

9-MI-24-32-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Main battery is considered inoperative,
2) A reliable and functioning time−piece is readily available (a wristwatch is acceptable),
3) Flight data recorder is considered inoperative, and
4) Repairs are made within one flight day.

Note: *Clocks will be inoperative.*

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Main Battery	24-32-01
Flight Data Recorder (FDR)	31-31-01

Note: *When the deactivation procedure is completed, the MAIN BATT CHGR status message will show continuously on the EICAS secondary page.*

MAINTENANCE (M)

A. For an inoperative main battery charger, do as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	C5	MAIN BATTERY CHARGER	221

Note: *When the deactivation procedure is completed, the MAIN BATT CHGR status message will show continuously on the EICAS secondary page.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-41 External AC System *(revised: FEB 2017)*

9-MI-24-41-01	External AC Power "AVAIL/ IN USE" Switch Light (Overhead Panel) (light function only) *(revised: FEB 2017)*

9-MI-24-41-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

9-MI-24-41 External AC System *(revised: FEB 2017)*

9-MI-24-41-02	External AC Power "AVAIL/ IN USE" Switch Light (Service Panel) (light function only) *(revised: FEB 2017)*

9-MI-24-41-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-41 External AC System *(revised: FEB 2017)*

9-MI-24-41-03	External AC Power System *(revised: MAY 2003)*

9-MI-24-41-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-51 AC Electrical Power Center *(revised: FEB 2017)*

9-MI-24-51-01	**AC ESS XFER "ALTN" Switch / Light (light function only)** *(revised: FEB 2017)*

9-MI-24-51-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-24-61 DC Electrical Power Distribution *(revised: JAN 2001)*

9-MI-24-61-02	**DC Utility Bus** *(revised: JAN 2001)*

9-MI-24-61-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided cabin right side of reading lights are considered inoperative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25 EQUIPMENT / FURNISHING

9-MI-25-00 Equipment / Furnishings General *(revised: APR 2006)*

9-MI-25-00-01	**"Fasten Seat Belt While Seated" Placards** *(revised: APR 2006)*

9-MI-25-00-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	-	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or more placards may be illegible or missing provided a legible sign or placard is readable from each occupied passenger seat.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-11 Pilot / Copilot Seat *(revised: MAY 2007)*

9-MI-25-11-01	**Pilot Seat** *(revised: MAY 2007)*

9-MI-25-11-01-A Lumbar support

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(M) (P)	I	-

May be inoperative in the lowest position provided seat is acceptable to the affected crewmember.

MAINTENANCE (M)

A. For an inoperative pilot and / or co-pilot seat, do as follows:

1) For an inoperative pilot and / or co-pilot seat arm rest, do as follows:
   a) Secure the inoperative arm rest in the upright position
2) For an inoperative pilot and / or co-pilot seat height adjustment, do as follows:
   a) Secure the inoperative seat in a vertical position that is satisfactory to the crewmember
   b) Make sure that the fore / aft mechanism is operative.
3) For an inoperative pilot and / or co-pilot seat fore / aft adjustment, do as follows:
   a) Secure the inoperative seat in a forward / aft position that is satisfactory to the crew member.
   b) Make sure that the height adjustment mechanism is operative.

PLACARD (P)

9-MI-25-11-01-B Arm Rests

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	4	0	(M) (P)	I	-

May be inoperative or missing provided:
1) Egress is not impaired, and
2) Seat is acceptable to the affected crewmember.

MAINTENANCE (M)

A. For an inoperative pilot and / or co-pilot seat, do as follows:

1) For an inoperative pilot and / or co-pilot seat arm rest, do as follows:
   a) Secure the inoperative arm rest in the upright position
2) For an inoperative pilot and / or co-pilot seat height adjustment, do as follows:

Remarks may be continued on next page!

a) Secure the inoperative seat in a vertical position that is satisfactory to the crewmember
b) Make sure that the fore / aft mechanism is operative.

3) For an inoperative pilot and / or co-pilot seat fore / aft adjustment, do as follows:

a) Secure the inoperative seat in a forward / aft position that is satisfactory to thecrew member.
b) Make sure that the height adjustment mechanism is operative.

PLACARD (P)

9-MI-25-11-01-C Height Adjustments

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Seat is secured in vertical position acceptable to affected crewmember,
2) Fore / Aft Adjustment is verified operative,
3) Egress is not impaired, and
4) If HGS is installed and required for flight, the vertical position of the seat must be acceptable to affected crewmember.

MAINTENANCE (M)

A. For an inoperative pilot and / or co-pilot seat, do as follows:

1) For an inoperative pilot and / or co-pilot seat arm rest, do as follows:

a) Secure the inoperative arm rest in the upright position

2) For an inoperative pilot and / or co-pilot seat height adjustment, do as follows:

a) Secure the inoperative seat in a vertical position that is satisfactory to the crew member
b) Make sure that the fore / aft mechanism is operative.

3) For an inoperative pilot and / or co-pilot seat fore / aft adjustment, do as follows:

a) Secure the inoperative seat in a forward / aft position that is satisfactory to the crew member.
b) Make sure that the height adjustment mechanism is operative.

PLACARD (P)

OR

9-MI-25-11-01-D Fore / Aft Adjustments

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

Remarks may be continued on next page!

1) Seat is secured in fore / aft position acceptable to affected crew member,
2) Height Adjustment is verified operative, and
3) Egress is not impaired.

MAINTENANCE (M)

A. For an inoperative pilot and / or co-pilot seat, do as follows:

1) For an inoperative pilot and / or co-pilot seat arm rest, do as follows:
   a) Secure the inoperative arm rest in the upright position
2) For an inoperative pilot and / or co-pilot seat height adjustment, do as follows:
   a) Secure the inoperative seat in a vertical position that is satisfactory to the crewmember
   b) Make sure that the fore / aft mechanism is operative.
3) For an inoperative pilot and / or co-pilot seat fore / aft adjustment, do as follows:
   a) Secure the inoperative seat in a forward / aft position that is satisfactory to the crew member.
   b) Make sure that the height adjustment mechanism is operative.

PLACARD (P)

OR

9-MI-25-11-01-E Recline Adjustments

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
B	2	0	(P)	I	-

May be inoperative provided backrest is secured in position acceptable to affected crew member.

PLACARD (P)

OR

9-MI-25-11-01-F Thigh Supports

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

May be inoperative provided seat is acceptable to affected crew member.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-12 Seat, Observer *(revised: FEB 2011)*

9-MI-25-12-01	**Observer Seat (including seat belt and shoulder harness)** *(revised: FEB 2011)*

9-MI-25-12-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or more may be inoperative provided the seat is not required and is correctly stowed.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-18 Miscellaneous Equipment *(revised: DEC 2013)*

9-MI-25-18-01	**Cockpit Sunvisors** *(revised: DEC 2013)*

9-MI-25-18-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(P)	I	-

May be inoperative provide affected sunvisor does not obstruct either pilot`s field of view for take-off and landing.

PLACARD (P)

OR

9-MI-25-18-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

May be inoperative or removed provided:.

1) Affected sunvisor does not abstruct either pilot' field of view for take-off and landing and
2) Aircraft is operated at night.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-18 Miscellaneous Equipment *(revised: DEC 2013)*

9-MI-25-18-02	**Cockpit Chart Holders** *(revised: FEB 2011)*

9-MI-25-18-02-A Control Column and Window

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	4	2	(P)	I	-

One holder may be inoperative or missing on each side provided the holder is acceptable to affected crewmember.

PLACARD (P)

9-MI-25-18-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	1	(P)	I	-

One holder may be inoperative or missing provided the EFB on the same side is operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-21 Seats, Passenger *(revised: FEB 2011)*

9-MI-25-21-01	**Passenger Seats** *(revised: FEB 2011)*

9-MI-25-21-01 Passenger Seats

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Seat does not block nor restrict access to an emergency exit,
2) Seat does not restrict any passenger from access to the main aisle, and
3) Affected seat(s) is not used and is blocked and placarded "DO NOT OCCUPY".

Note: *A seat with an inoperative seat belt and / or shoulder harness is considered inoperative.*

Note: *Affected seat(s) may include the seat(s) behind and /or adjacent outboard seat(s).*

OPERATIONS (O)
Refer to MEL OPS PROC 9-25-21-01 Seats, Passenger

PLACARD (P)

OR

9-MI-25-21-01-A Recline Mechanism

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative and seat occupied provided seat is secured in the up-right position.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-25-21-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative and seat occupied provided seat is secured in the up-right position.

MAINTENANCE (M)

A. For an inoperative seat back recline mechanism, do as follows.

1) Do the deactivation of the Passenger Seat Recline Mechanism in the Upright Position (refer to TASK 25-21-00-040-805).

B. For an inoperative armrest with a recline mechanism, remove the recline control button as follows:

1) Make sure that the backrest is in the up-right position.
2) Press to release the lock and raise the armrest to the vertical position.
3) To get access to the recline control button, remove the appropriate cover parts.

   Note: *Parts may be different for each seat models.*
4) Remove the recline control button from its hole and put it into the armrest structure below the escutcheon.
5) Install the cover parts that were previously removed.

PLACARD (P)

OR

9-MI-25-21-01-C Underseat Baggage Restraining Bars

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative or missing provided:
1) Baggage is not stowed under seat orbank of seat,
2) Seat back is placarded "DO NOTSTOW BAGGAGE UNDER THIS SEAT", and
3) Restraining bar does not restrict any passenger from access to the main aircraft aisle or emergency exit, and
4) Procedures are established to alert crew members of an inoperative or missing restraining bar.

OPERATIONS (O)
Refer to MEL OPS PROC 9-25-21-01 Seats, Passenger

PLACARD (P)

Remarks may be continued on next page!

OR

9-MI-25-21-01-D Armrest

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

MAINTENANCE (M)

A. For an inoperative seat back recline mechanism, do as follows.

1) Do the deactivation of the Passenger Seat Recline Mechanism in the Upright Position (refer to TASK 25-21-00-040-805).

B. For an inoperative armrest with a recline mechanism, remove the recline control button as follows:

1) Make sure that the backrest is in the up-right position.
2) Press to release the lock and raise the armrest to the vertical position.
3) To get access to the recline control button, remove the appropriate cover parts.

   Note: *Parts may be different for each seat models.*
4) Remove the recline control button from its hole and put it into the armrest structure below the escutcheon.
5) Install the cover parts that were previously removed.

PLACARD (P)

OR

9-MI-25-21-01-E Armrest with Recline Mechanism

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative or missing and seat occupied provided:

1) Armrest does not block an emergency exit,
2) Armrest does not restrict any passenger from access to the main aircraft aisle, and
3) If armrest is missing, seat is securedin the full upright position.

MAINTENANCE (M)

A. For an inoperative seat back recline mechanism, do as follows.

1) Do the deactivation of the Passenger Seat Recline Mechanism in the Upright Position (refer to TASK 25-21-00-040-805).

Remarks may be continued on next page!

B. For an inoperative armrest with a recline mechanism, remove the recline control button as follows:

1) Make sure that the backrest is in the up-right position.
2) Press to release the lock and raise the armrest to the vertical position.
3) To get access to the recline control button, remove the appropriate cover parts.

   Note: *Parts may be different for each seat models.*
4) Remove the recline control button from its hole and put it into the armrest structure below the escutcheon.
5) Install the cover parts that were previously removed.

PLACARD (P)

OR

9-MI-25-21-01-F Armrest without Recline Mechanism

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative or missing and seat occupied provided:
1) Armrest does not block an emergency exit, and
2) Armrest does not restrict any passenger from access to the main aircraft aisle.

PLACARD (P)

OR

9-MI-25-21-01-G Downlock Mechanism

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative and seat occupied provided:
1) Armrest does not block an emergency exit, and
2) Armrest does not restrict any passenger from access to the main aircraft aisle.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-22 Seat, Flight Attendant *(revised: DEC 2014)*

9-MI-25-22-01	**Fight Attendant Seats** *(revised: DEC 2014)*

9-MI-25-22-01 Flight Attendant Seat Assembly

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One seat or seat assembly may be inoperative provided:

1) Affected seat position or seat assembly is not occupied,
2) **If CA 1 seat is defect/ inoperable:**

   • CA2 seat must be intact and occupied; PA and Interphone at CA2 station must also be intact.

   • CA1 occupies passenger "aisle" -seat in the first seat row.

   • CA2 is responsible for the announcements.

   If CA 2 seat is defect/ inoperable:

   • CA1 seat must be intact and occupied; PA and Interphone must also be intact.

   • CA2 occupies a passenger aisleseat (C or D) in the last seat row.
3) A folding type seat is stowed or secured in retracted position,
4) If CA1 seat is defect / inoperable there is only one passenger flight from abroad permitted. Domestic flights are permitted to a technical basis (CGN,FRA, MUC) only, provided the crew is the only occupant on board. If CA2 seat is defect / inoperable the seat has to be repaired within 3 calendar days.

   Note: *Inoperative automatic stow feature of a folding seat renders the seat inoperative.*

   Note: *A seat position with a missing or inoperative safety belt (includings houlder harness) or headrest renders the seat inoperative.*

Sign the defect as INOP.

MAINTENANCE (M)

A. for an inoperative Required Flight Attendant Seat, do as follows:

1) Make sure that the Flight attendant seat bottom retracts automatically to the stow position.
2) Put a DO NOT OCCUPY placard on the inoperative flight attendant seat.
3) If the seat bottom does not automatically retract, for fixed Flight attendant seat, with the use of the seat belt and shoulder harness secure the seat bottom in the folded position, for stowable Flight attendant seat manually lift the seat bottom to the vertical position while moving the seat to the stowed and secured position.

Remarks may be continued on next page!

4) If the seat cannot be secured in the retracted position, remove the Flight Attendant seat (refer to the AMM TASK 25-22-01-000-801, Fwd Seat, AMM TASK 25-22-01-000-802, Aft seat, or AMM TASK 25-22-01-000-803, Third Seat).

5) Install the FOR FLIGHT ATTENDANT USE ONLY placard on the passenger seat designated for flight attendant use.

Note: *Flight Attendant displaced by inoperative seat occupies the passenger seat which is most accessible to the inoperative seat, so as to most effectively perform assigned duties.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-22-01 Flight Attendant Seats

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-23 Overhead Storage Compartments *(revised: FEB 2011)*

9-MI-25-23-01	**Overhead Stowage Bins(s) / Cabin and Galley** *(revised: FEB 2011)*

9-MI-25-23-01-A Overhead Stowage Bin(s) / Cabin and Galley Storage Compartment / Closets

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	-	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Procedures are established to secure compartment CLOSED,
2) Associated bin/ compartments/ closet is prominently placarded DO NOT USE,
3) Any emergency equipment located in affected bin/ compartment/ closet is considered inoperative, and
4) Affected bin/ compartment/ closet is not used for storage of any item(s) except for those permanently affixed.

Note: *If not partitions are installed, the entire overhead storage compartment is considered to be one bin.*

Note: *An inoperative lid / door latch renders the door inoperative.*

MAINTENANCE (M)

A. For an inoperative overhead stowage bin, do as follows.

1) Make sure that the overhead bin door is securely closed (refer to AMM TASK 25-23-01-000-801)

B. For an inoperative overhead bin/ compartment/ closet door(s), do as follows:

1) Remove door as per applicable vendor CMM.

C. For an inoperative Overhead Storage Bin(s)/ Cabin and Galley Storage Compartment/ Closets, with emergency equipment installed, consider that emergency equipment inoperative and apply associated limitation for that emergency equipment.

Note: *If there is no relief for a particular emergency equipment, dispatch is not permitted.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-23-01-A Overhead Stowage Bin(s) / Cabin and Galley

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-25-23-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	-	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected bin/ compartment/ closet door(s) is removed,
2) Associated bin/ compartment/ closet is not used for storage of any item exceptthose permanently affixed,
3) Associated bin/ compartment/ closet is prominently placarded DO NOT USE,
4) Procedures are established and used to alert crew members and passengers of inoperative bins/ compartments/ closets, and
5) Passengers are briefed that associated bin/ compartment/ closet is not used.

Note:

1) If no partitions are installed, the entire overhead storage compartment is considered one binor compartment.

2) Any emergency equipment located in the associated compartment (permanently affixed) is available for use.

3) Any operative lid/ door latch renders the lid/ door inoperative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Overhead Storage Compartment	25-23-01

MAINTENANCE (M)

A. For an inoperative overhead stowage bin, do as follows.

1) Make sure that the overhead bin door is securely closed (refer to AMM TASK 25-23-01-000-801)

B. For an inoperative overhead bin/ compartment/ closet door(s), do as follows:

1) Remove door as per applicable vendor CMM.

C. For an inoperative Overhead Storage Bin(s)/ Cabin and Galley Storage Compartment/ Closets, with emergency equipment installed, consider that emergency equipment inoperative and apply associated limitation for that emergency equipment.

Note: *If there is no relief for a particular emergency equipment, dispatch is not permitted.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-23-01-B Overhead Stowage Bin(s) / Cabin and Galley

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-32 Galley Equipment *(revised: MAR 2006)*

9-MI-25-32-01	**Galley Waste Receptacle Access Doors** *(revised: MAR 2006)*

9-MI-25-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Container is empty and the access is secured to prevent waste introduction into the compartment, and
2) Procedures are established to ensure that sufficient galley waste receptacles are available to accommodate all waste that may be generated on a flight.

MAINTENANCE (M)

Make sure that the affected container(s) is empty and secured to prevent waste introduction into compartment.

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-32-01 Galley Waste Receptacle Access Doors

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-40 Lavatory (FWD, AFT) *(revised: FEB 2017)*

9-MI-25-40-01	**Exterior Lavatory Door Ashtray** *(revised: FEB 2017)*

9-MI-25-40-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	-	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-40 Lavatory (FWD, AFT) *(revised: FEB 2017)*

9-MI-25-40-02	**Lavatory Waste Compartment Access Door/ Flap Assembly** *(revised: FEB 2011)*

9-MI-25-40-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Lavatory waste receptacle is empty,
2) Waste compartment access is secured to prevent waste introduction,
3) Waste compartment is placarded "INOPERATIVE - DO NOT USE",
4) Lavatory Smoke Detection System operates normally, and
5) Alternate procedures are established to dispose of waste generated by lavatory use.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Lavatory Fire Extinguishing System	26-26-01

MAINTENANCE (M)

A. For an inoperative lavatory waste−flap assembly, do as follows:

a) Make sure that the lavatory waste container is empty.
b) Secure the waste−flap assembly to prevent waste introduction into container.
c) Do the operational test of the aft lavatory smoke detector (refer to TASK 26−16−00−710−801).

OR

Do the operational test of the forward lavatory smoke detector (refer to TASK 26−16−00−710−802).

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-40-02 Lavatory Waste Compartment Access Door/ Flap Assembly

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-40 Lavatory (FWD, AFT) *(revised: FEB 2017)*

9-MI-25-40-03	**Lavatory NO SMOKING Placard** *(revised: MAY 2007)*

9-MI-25-40-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
-	-		(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Must be installed and legible.

Note: *A temporary placard may be used to dispatch an aircraft to a station where normal placards are available.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-42 Lavatory Equipment *(revised: FEB 2011)*

9-MI-25-42-01	**Lavatory Door Springs** *(revised: FEB 2011)*

9-MI-25-42-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative or missing provided:

1) Door is verified operative (open and close) without interference.
2) Associated lavatory door is locked before each take-off and landing, and
3) Alternate procedures to close door(s) when required are established and used.

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-42-01 Lavatory Door Springs

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-51 Baggage Bay Equipment *(revised: FEB 2024)*

9-MI-25-51-01	**Baggage Retrieval Modules** *(revised: FEB 2017)*

9-MI-25-51-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
D	2	0	(M) (P)	I	-

One or both may be inoperative provided affected module(s) is/ are secured at the bulkhead position.

MAINTENANCE (M)

For an inoperative baggage retrieval system, do as follows:

1) Secure the cargo retrieval system at the bulkhead position (refer to TASK 25−51−02−040−801)

PLACARD (P)

END

9-MI-25-51 Baggage Bay Equipment *(revised: FEB 2024)*

9-MI-25-51-02	**Cargo Compartment Door Restraint Nets (including associated equipment)** *(revised: FEB 2024)*

9-MI-25-51-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be damaged or missing provided affected cargo is empty.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-51 Baggage Bay Equipment *(revised: FEB 2024)*

9-MI-25-51-03	**Aft Cargo Compartment Dividing Nets (including associated equipment)** *(revised: MAY 2007)*

9-MI-25-51-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Note: *Associated equipment includes Quick Release Attachments, Anchor Plates, Net Posts, Narrow-Hooks, and Floor Pan Fitting Rings / Posts.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-51 Baggage Bay Equipment *(revised: FEB 2024)*

9-MI-25-51-04	**Fwd Cargo Compartment Dividing Nets (including associated equipment)** *(revised: APR 2006)*

9-MI-25-51-04 Middle Nets attached to door restrain nets

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
D	2	0	(P)	I	-

PLACARD (P)

9-MI-25-51-04-A Divider Net (located between fwd cargo compartment doors)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be damaged or missing provided fwd cargo compartment is empty.

PLACARD (P)

OR

9-MI-25-51-04-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be damaged or missing provided baggage load in the fwd cargo compartment does not exceed 850 lb.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-25-51-04-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be damaged or missing provided cargo in the fwd cargo compartment is secured.

Associated equipment includes Quick Release Attachments, Snap Latches, Anchor Plates and Floor Pan Fitting Rings/ Posts.

MAINTENANCE (M)

A. Make sure that the cargo in the forward compartment is correctly attached.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-52 Baggage Bay Compartment Lining *(revised: JUN 2008)*

9-MI-25-52-01	**Class "C" Cargo C Compartment Liner** *(revised: JUN 2008)*

9-MI-25-52-01 Cargo Compartment Liners and Floor Panels

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be damaged, (punctured, torn or deformed) provided the cargo compartment is empty. (For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable).

OPERATIONS (O)
Refer to MEL OPS PROC 9-25-23 Overhead Storage Compartments

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-60 Emergency Equipment *(revised: MAY 2007)*

9-MI-25-60-01	**Handcuffs** *(revised: MAY 2007)*

9-MI-25-60-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be missing.

Note: *Do not leave a CLH Technical Station when replacement can be made.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-MI-25-61-01	**Megaphones** *(revised: FEB 2011)*

9-MI-25-61-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any in excess of those required by Regulations may be inoperative or missing provided:

1) Inoperative megaphone is removed from the passenger cabin and its location is placarded INOPERATIVE, or it is removed from the installed location, secured out of sight and the megaphone and its installed location are placarded INOPERATIVE.
2) Required distribution is maintained, and
3) Procedures are established to alert crew members of an inoperative or missing megaphone.

MAINTENANCE (M)

A. For an inoperative megaphone, do as follows:

1) Remove the megaphone from the cabin.

OR

2) If the megaphone is not removed from the cabin, secure it in a location that it cannot be mistaken for a functional megaphone.

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-61-01 Megaphones

PLACARD (P)

OR

9-MI-25-61-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Aircraft crews are on the flight deck, and
2) No passengers are carried.

Note: *For the purpose of this item "aircraft crew" is considered to be flight attendants, aircraft maintenance personnel and supervisory crew members.*

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-25-61-01 Megaphones

PLACARD (P)

END

9-MI-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-MI-25-61-02	**First Aid Kits** *(revised: AUG 2023)*

9-MI-25-61-02 Consisting of 'doctors kit' and 'first aid kit'

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

As soon as the case has been opened it shall be replaced within 3 flight days. Refer to OM-B 10.1.7 Medical Equipment.

OPERATIONS (O)
Refer to MEL OPS PROC 9-25-61-02 9-25-61-02 First Aid Kits

PLACARD (P)

END

9-MI-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-MI-25-61-03	**Fire Protection Gloves** *(revised: FEB 2017)*

9-MI-25-61-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	5	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-MI-25-61-04	**Flight Attendant Flashlights / Flashlight Holders** *(revised: JUN 2008)*

9-MI-25-61-04-A Flashlights

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	-	0	(O) (P)	I	-

May be inoperative or missing provided a flashlight of equivalent characteristics is readily available.

OPERATIONS (O)
Refer to MEL OPS PROC 9-25-61-04 Flight Attendant Flashlights / Flashlight Holders

PLACARD (P)

OR

9-MI-25-61-04-B Flashlight Holders

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	-	0	(M) (O) (P)	I	-

May be inoperative or missing provided alternate stowage means are provided.

MAINTENANCE (M)

A. For an inoperative or missing flashlight holder, do as follows:

1) If the flashlight is equipped with an ON/ OFF switch/ light, do as follows:
   a) A suitable alternate flashlight stowage location must be identified.
   b) For a passenger cabin flashlight, the stowage location selected must be immediately accessible to the flight attendant to the seat with the inoperative or missing flashlight holder.

   Note: *Do not stow the flashlight in a passenger back seat pocket.*
2) If the flashlight is not equipped with an ON/ OFF switch, do as follows:
   a) Keep the flashlight in the flashlight holder.
   b) If the flashlight holder is missing, do as follows:
   - Replace the flashlight with a flashlight that has equivalent characteristics, that is in good condition, has fresh batteries, and is functioning properly.
   - A suitable alternate flashlight stowage location must be identified.

Remarks may be continued on next page!

- For a passenger cabin flashlight, the stowage location selected must be immediately accessible to the flight attendant to the seat with the inoperative or missing flashlight holder.

  Note: *Do not stow the flashlight in a passenger back seat pocket.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-61-04 Flight Attendant Flashlights / Flashlight Holders

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-62 Emergency Locator Transmitter (ELT) System

(revised: DEC 2014)

9-MI-25-62-01	**Emergency Locator Transmitter (ELT)** ***(revised: DEC 2014)***

9-MI-25-62-01-A Emergency Locator Transmitter (ELT)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided repairs are made within 6 consecutive flights or 25 flights hours whichever occurs first.

PLACARD (P)

OR

9-MI-25-62-01-B Portable ELT

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-64 Flotation Equipment *(revised: OCT 2021)*

9-MI-25-64-01	**Flotation Equipment (Crew and Passenger)** *(revised: OCT 2021)*

9-MI-25-64-01-A Crew Life Vests

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	5	-	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any in excess of those required may be inoperative or missing, provided:
1) Required distribution is maintained,
2) Inoperative life jacket and its installed location are placarded inoperative,
3) Inoperative life jacket is secured out of sight, and
4) Procedures are established and used to alert crew members of inoperative or missing equipment.

MAINTENANCE (M)

To provide instructions to placard the inoperative life jacket and its installed location and to secure the inoperative life jacket in an out of sight location and to placard affected seat, as applicable.

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-64-01 Life Vests (Crew and Passenger)

PLACARD (P)

9-MI-25-64-01-B Passenger Life Vests

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	90	-	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any in excess of those required may be inoperative or missing, provided:
1) Required distribution is maintained,
2) Inoperative life jacket and its installed location are placarded inoperative,
3) Inoperative life jacket is secured out of sight, and
4) Procedures are established and used to alert crew members of inoperative or missing equipment.

MAINTENANCE (M)

To provide instructions to placard the inoperative life jacket and its installed location and to secure the inoperative life jacket in an out of sight location and to placard affected seat, as applicable.

OPERATIONS (O)

Refer to MEL OPS PROC 9-25-64-01 Life Vests (Crew and Passenger)

Remarks may be continued on next page!

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-25-70 Accessory Compartments *(revised: MAY 2007)*

9-MI-25-70-01	**Passenger Convenience Items** *(revised: MAY 2007)*

9-MI-25-70-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Passenger convenience items, as expressed in this MEL, are those related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ashtrays, stereo equipment, overhead reading lamps. Items addressed elsewhere in this document shall not be included. (M) and (O) procedures may be required and included in the air carrier‘s appropriate document.

Note: *Lavatory door ashtrays are not considered convenience items.*

Note: *Galleys equipment restraining devices such as latches, etc. must be serviceable or the compartment must not be used for storage and placarded INOPERATIVE − DO NOT USE.*

Note: *Audio or audio−visual entertainment equipment which is used as the sole means of providing safety briefings and demonstrations is not considered a passenger convenience item.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26 FIRE PROTECTION

9-MI-26-00 Fire Protection *(revised: JAN 2020)*

9-MI-26-00-01	**FIDEEX System** *(revised: JAN 2020)*

9-MI-26-00-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “FIRE SYS FAULT” status message.

Note: *All FIDEEX System failures causing “FIRE SYS FAULT” status message must be repaired within 10 days after appearing of this message on EICAS.*

PLACARD (P)

END

9-MI-26-00 Fire Protection *(revised: JAN 2020)*

9-MI-26-00-02	**FIDEEX Control Unit ARINC Communication** *(revised: FEB 2017)*

9-MI-26-00-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided FIRE DETECTION / FIREX MONITOR Pilot Initiated Test is performed prior to each flight.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-11 Engine Fire / Overheat Detection System *(revised: DEC 2002)*

9-MI-26-11-01	**Engine Fire Detection Loops** *(revised: DEC 2003)*

9-MI-26-11-01-A Left

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
-	2	1	-	I	-

Note: *Item included for clarification only. Relief for single left Engine Fire Detection Loop failure is covered by item 26−00−01.*

OR

9-MI-26-11-01-B Right

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
-	2	1	-	I	-

Note: *Item included for clarification only. Relief for single right Engine Fire Detection Loop failure is covered by item 26−00−01.*

END

Remarks may be continued on next page!

9-MI-26-12 Auxiliary Power Unit (APU) Fire Detection System

(revised: NOV 2016)

9-MI-26-12-01	**APU Fire Detection Loops** ***(revised: NOV 2016)***

9-MI-26-12-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
-	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Note: *Item included for clarification only. Relief for single APU Fire Loop failure is covered by item 26−00−01.*

PLACARD (P)

OR

9-MI-26-12-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both loops A and B may be inoperative, provided the APU is considered inoperative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Auxiliary Power Unit (APU)	49–10–01

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-14 Main Landing Gear Overheat Detection and Warning System

(revised: FEB 2011)

9-MI-26-14-01	**Main Landing Gear Bay Overheat Detection System** ***(revised: FEB 2013)***

9-MI-26-14-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) MLG BAY OVHT warning message is not displayed,
2) EICAS Brake Temperature Monitoring Readouts are operative,
3) Landing Gear is left extended for a minimum of ten minutes after take-off,
4) Take-off performance is in accordance with OM Supplement (Flight with Landing Gear Down), and
5) Take-off is not conducted in icing conditions.

Note: *In case of engine failure after V_1, performance is the prime consideration and landing gear should be retracted normally until performance penalty with gear down is not a problem.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-26-14-01 Main Landing Gear Bay Overheat Detection System

PLACARD (P)

OR

9-MI-26-14-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) System is deactivated,
2) EICAS Brake Temperature Monitoring Readouts are operative,
3) Landing gear is left extended for a minimum of ten minutes after take-off,
4) Take-off performance is in accordance with OM Supplement (Flight with Landing Gear Down), and
5) Take-off is not conducted in icing conditions.

Remarks may be continued on next page!

Note: *In case of engine failure after V_1, performance is the prime consideration and landing gear should be retracted normally until performance penalty with gear down is not a problem.*

MAINTENANCE (M)

A. For an inoperative Main Landing Gear Bay Overheat Detection System, with the MLG BAY OVHT warning message that shows on the EICAS primary page, do as follows:

1) Open and collar the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N9	MLG BAY OVHT DET	222

B. For a Main Landing Gear Bay Overheat Detection System inoperative, do as follows:

1) Make sure that the ground lock pins are installed in the landing gears (refer to TASK 10-11-00-400-801 and 10-11-00-400-802).
2) Make sure that the lock pins are secured for the flight and that the REMOVE BEFORE FLIGHT warning flags are removed or secured.

Note: *If a MLG BAY OVHT warning message is also shown on the EICAS, deactivate Main Landing Gear Bay Overheat Detection System per Step A.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-26-14-01 Main Landing Gear Bay Overheat Detection System

PLACARD (P)

OR

9-MI-26-14-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) Operations are conducted in accordance with OM Supplement (Flight with Landing Gear Down),
2) Ground lock pins are installed to ensure that three landing gears are locked down throughout flight,
3) Operations are not conducted in known or forecast icing conditions,
4) In-flight performance information given in the Flight Planning and Cruise Control Manual is used,
5) Extended overwater operations are prohibited,
6) Both headsets are worn, and
7) Repairs are made within one calendar day.

MAINTENANCE (M)

Remarks may be continued on next page!

A. For an inoperative Main Landing Gear Bay Overheat Detection System, with the MLG BAY OVHT warning message that shows on the EICAS primary page, do as follows:

1) Open and collar the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N9	MLG BAY OVHT DET	222

B. For a Main Landing Gear Bay Overheat Detection System inoperative, do as follows:

1) Make sure that the ground lock pins are installed in the landing gears (refer to TASK 10-11-00-400-801 and 10-11-00-400-802).
2) Make sure that the lock pins are secured for the flight and that the REMOVE BEFORE FLIGHT warning flags are removed or secured.

Note: *If a MLG BAY OVHT warning message is also shown on the EICAS, deactivate Main Landing Gear Bay Overheat Detection System per Step A.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-15 Aft Cargo Smoke Detection System *(revised: NOV 2016)*

9-MI-26-15-01	**Cargo Compartment Smoke Detectors** *(revised: NOV 2016)*

9-MI-26-15-01-A FWD Cargo

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
-	3	2	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Note: *Item included for clarification only. Relief for single Fwd Cargo Compartment Smoke Detector failure is covered by item 26−00−01.*

PLACARD (P)

OR

9-MI-26-15-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided fwd cargo compartment is empty. For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable.

MAINTENANCE (M)

A. For forward cargo smoke detector(s) inoperative, do as follows:

1) Do the procedure to deactivate the forward cargo smoke detector system (refer to Task 26−17−00−040−801).

B. For aft cargo smoke detector(s) inoperative, do as follows:

2) Do the procedure to deactivate the aft cargo smoke detector system (refer to Task 26−15−00−040−801).

PLACARD (P)

9-MI-26-15-01-C AFT Cargo

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
-	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Remarks may be continued on next page!

Note: *Item included for clarification only. Relief for single Aft Cargo Compartment Smoke Detector failure is covered byitem 26−00−01.*

PLACARD (P)

OR

9-MI-26-15-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided aft cargo compartment is empty. For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non−magnetic metals (such as lead) is acceptable.

MAINTENANCE (M)

A. For forward cargo smoke detector(s) inoperative, do as follows:

1) Do the procedure to deactivate the forward cargo smoke detector system (refer to Task 26−17−00−040−801).

B. For aft cargo smoke detector(s) inoperative, do as follows:

2) Do the procedure to deactivate the aft cargo smoke detector system (refer to Task 26−15−00−040−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-16 Lavatory Smoke Detection System *(revised: AUG 2011)*

9-MI-26-16-01	Lavatory Smoke Detection System *(revised: AUG 2011)*

9-MI-26-16-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

For each lavatory, the lavatory smoke detection system may be inoperative provided:

1) Lavatory is not used by passengers for any purpose,
2) Lavaotory waste receptacle is empty,
3) Lavatory door is locked CLOSED and placarded "INOPERATIVE DO NOT ENTER",
4) Access to waste receptacle from outside the lavatory must be secured CLOSED and placarded "INOPERATIVE - DO NOT USE",
5) Lavatory is used only by aircraft crew, and
6) In-flihgt service waste bags are not stored in the lavatory.

Note: *For the purpose of this item "aircraft crew" is considered to be flight crew members, flight attendants, aircraft maintenance personnel and supervisory crew members.*

Note: *The above-mentioned provisos are not intended to preclude crew member lavatory inspections, which must be detailed in the (O) procedures.*

MAINTENANCE (M)

A. For an inoperative lavatory smoke detection system and to use the lavatory, do as follows:

1) Remove the waste bin to get access to the fire−extinguisher.
2) Do a visual inspection of the fusible plug on the fire extinguisher to make sure that the extinguisher has not previously been used.
3) Check the pressure gauge and make sure it is in the normal pressure range.

B. For an inoperative lavatory smoke detection system, and an inoperative lavatory fire extinguishing system do as follows:

1) Make sure that the lavatory waste bin is empty.
2) Close and lock the lavatory door.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-26-16-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

For each lavatory, the lavatory smoke detection system may be inoperative for non-passenger carrying operations provided:

1) Aircraft crews are the only occupants of the aircraft,
2) Occupants are briefed as to which smoke detection system(s) is/ are inoperative, and
3) In-flight service waste bags are not stored in the lavatory.

Note: *The above mentioned provisos are not intended to preclude crew member lavatory inspections which must be detailed in the (O) procedures.*

Note: *For the purpose of this item "aircraft crew" is considered to be flight attendants, aircraft maintenance engineers and supervisory crew members.*

1) Put a LAVATORY SMOKE DETECTION SYSTEM INOPERATIVE placard adjacent to the EICAS primary page.
2) Put an INOPERATIVE - DO NOT USE placard on the waste bin flap door.
3) Put an INOPERATIVE - DO NOT ENTER placard on the lavatory door.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-22 Auxiliary Power Unit (APU) Fire Extinguishing System

(revised: FEB 2011)

9-MI-26-22-01	**APU Fire Extinguishing System** ***(revised: FEB 2011)***

9-MI-26-22-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided APU is considered inoperative.

PLACARD (P)

OR

9-MI-26-22-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) APU is used on ground (for engine start only),
2) APU access doors are opened,
3) APU is visually monitored,
4) APU Fire Detection System is operative,
5) APU is pneumatically loaded only, and
6) Total APU operating time shall not exceed 5 minutes.

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Auxiliary Power Unit (APU)	49–10–01

MAINTENANCE (M)

A. For an APU Fire Extinguishing System inoperative, and to use the APU for engine start, do as follows:

1) Do an Operational Check of the APU Fire Detection System as follows:
   a) Connect electrical power to the aircraft.
   b) On the Fire Detection/FIREX Monitor control panel, push and release the TEST switch.
   c) In less than five seconds, make sure that lights and message come on as follow:

Remarks may be continued on next page!

1- The switches that follow on the left and right glareshield panels:

- MASTER WARNING (and flashes)
- LH ENG FIRE PUSH
- BOTTLE 1 ARMED AND PUS TO DISCH
- RH ENG FIRE PUSH
- BOTTLE 2 ARMED PUSH TO DISCH

2- The switches that follow on the CARGO FIREX control panel:

- AFT CARGO SMOKE PUSH
- FWD CARGO SMOKE PUSH
- BOTTLED ARMED PUSH TO DISCH

3- The green advisory message FIRE SYS OK on the EICAS secondary page.

d) After approximately 15 seconds, make sure that these lights go off.

e) Make sure that the caution messages that follow do not show on the EICAS primary page:

- AFT CARGO DET
- AFT CARGO SQB1
- AFT CARGO SQB2
- APU FIRE FAIL
- APU SQB
- APU BTL LO
- CARGO BTL LO
- FIRE SYSTEM FAULT
- FWD CARGO DET
- FWD CARGO SQB1
- FWD CARGO SQB2
- L ENG FIRE FAIL
- L ENG SQB
- R ENG FIRE FAIL
- R ENG SQB

f) Make sure that the status messages that follow do not show on the EICAS secondary page:

- FIRE SYS FAULT
- L ENG SQB
- R ENG SQB.

2) Make sure the circuit breakers that follow are closed:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	N10	APU FUEL PUMP	221
CBP-1	N11	APU ECU PRIM	221
CBP-1 LOWER	R9	FUEL SOV APU	221
CBP-5	A6	APU ECU SEC	311
CBP-5	B1	APU DOOR ACT	311

3) Open the APU access door 361AB and 362AB.

4) Start the APU and let it run for a minimum of 5 minutes.

Remarks may be continued on next page!

5) While the APU is operating on the ground, qualified personnel must visually monitor the APU for condition (no smoke or fire condition).
6) Make sure that the APU does not operate for more than 5 minutes.
7) Qualified personnel must be readily available to communicate with the flight crew using a suitable headset in the event of a required shutdown.
8) Qualified personnel must be readily available with portable fire extinguishers
9) Start the engine with the APU.
10) Shut down the APU.
11) Close the APU access door 361AB and 362AB.
12) Remove the electrical power from the APU.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-23 Portable Fire Extinguishing System *(revised: FEB 2017)*

9-MI-26-23-01	**Portable Fire Extinguishers** *(revised: FEB 2017)*

9-MI-26-23-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	4	4	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any in excess of those required by Regulations may be inoperative or missing provided:

1) The inoperative fire extinguisher is removed from the passenger cabin or flight compartment and its location is placarded “INOPERATIVE”, or it is removed from the installed location, secured out of sight and the fire extinguisher and its installed location are placarded INOPERATIVE,
2) Required distribution is maintained, and
3) Procedures are established to alert crew members of missing or inoperative fire extinguishers.

MAINTENANCE (M)

A. For the removal of the portable fire extinguisher(s), do as follows:

1) Remove the inoperative fire extinguisher(s) from the flight compartment and/or the cabin compartment.
2) Put the inoperative fire extinguisher(s) out of view, and make sure that you do not use it. (them).

OPERATIONS (O)

Refer to MEL OPS PROC 9-26-23-01 Portable Fire Extinguishing

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-25 Cargo Compartment Fire Extinguishing System

(revised: FEB 2017)

9-MI-26-25-01	**Cargo Compartment Fire Extinguishing System** ***(revised: FEB 2017)***

9-MI-26-25-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided cargo compartment is empty.

(For ballast purposes, use of bags (made of fiberglass or kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-25 Cargo Compartment Fire Extinguishing System

(revised: FEB 2017)

9-MI-26-25-02	**Cargo Compartment Fire Extinguisher Squibs** ***(revised: DEC 2002)***

9-MI-26-25-02-A FWD Squibs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

All may be inoperative provided fwd cargo compartment is empty. (For ballast purposes, use of bags sand or ingots of non − magnetic metals (such as lead) is acceptable).

PLACARD (P)

OR

9-MI-26-25-02-B AFT Squibs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

All may be inoperative provided aft cargo compartment is empty. (For ballast purposes, use of bags sand or ingots of non − magnetic metals (such as lead) is acceptable).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-26-26 Lavatory Firex Panel *(revised: FEB 2017)*

9-MI-26-26-01	**Lavatory Fire Extinguishing System** *(revised: FEB 2017)*

9-MI-26-26-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(M) (O) (P)	I	-

May be inoperative provided Lavatory Smoke Detection System operates normally.

MAINTENANCE (M)

A. For an inoperative lavatory fire extinguishing system, do as follows:

1) Do the procedure for the operational test of the smoke−detection system for the affected lavatory:
   a) For the Aft Lavatory (Refer to TASK 26-16-00-710-801).
   b) For the Forward Lavatory (Refer to TASK 26-16-00-710-802).

B. For an inoperative lavatory fire extinguishing system and an inoperative lavatory smoke detection system, do as follows:

1) In the lavatory, open the waste bin access door and make sure that the waste bin is empty.
2) Close the waste bin. access door.
3) Close and lock the lavatory door.

OPERATIONS (O)

Refer to MEL OPS PROC 9-26-26-01 Lavatory Fire Extinguishing System

PLACARD (P)

OR

9-MI-26-26-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(M) (O) (P)	I	-

May be inoperative provided:

1) Lavatory is not used by passengers for any purpose,
2) Lavatory waste receptacle is empty,
3) Lavatory door is locked CLOSED and placarded "INOPERATIVE - DO NOT ENTER",
4) Access to waste receptacle from outside the lavatory must be secured CLOSED and placarded "INOPERATIVE - DO NOT USE", and

Remarks may be continued on next page!

5) Lavatory is used only by aircraft crew.

Note: *For the purpose of this item "aircraft crew" is considered to be flight attendants, aircraft maintenance engineers and supervisory crew members.*

MAINTENANCE (M)

A. For an inoperative lavatory fire extinguishing system, do as follows:

1) Do the procedure for the operational test of the smoke−detection system for the affected lavatory:
   a) For the Aft Lavatory (Refer to TASK 26-16-00-710-801).
   b) For the Forward Lavatory (Refer to TASK 26-16-00-710-802).

B. For an inoperative lavatory fire extinguishing system and an inoperative lavatory smoke detection system, do as follows:

1) In the lavatory, open the waste bin access door and make sure that the waste bin is empty.
2) Close the waste bin. access door.
3) Close and lock the lavatory door.

OPERATIONS (O)
Refer to MEL OPS PROC 9-26-26-01 Lavatory Fire Extinguishing System

PLACARD (P)

OR

9-MI-26-26-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative for non-passenger carrying operations provided:
1) Aircraft crews are the only occupants of the aircraft, and
2) Occupants are briefed as to which lavatory fire extinguishing system(s) is / are inoperative

Note: *The above mentioned provisos are not intended to preclude crew member lavatory inspections which must be detailed in the (O) procedures.*

Note: *For the purpose of this item "aircraft crew" is considered to be flight attendants, aircraft maintenance engineers and supervisory crew members.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-26-26-01 Lavatory Fire Extinguishing System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27 FLIGHT CONTROLS

9-MI-27-00 PULL & TURN *(revised: FEB 2011)*

9-MI-27-00-01	PULL & TURN Placards *(revised: FEB 2011)*

9-MI-27-00-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

May be illegible or missing provided a readily visible label stating PULL & TURN is installed.

Note: *The installed alternative PULL & TURN placard must not be easily erased, disfigures, or obscured.*

PLACARD (P)

END

9-MI-27-12 Aileron Trim System *(revised: AUG 2003)*

9-MI-27-12-01	Aileron Trim System *(revised: JAN 2001)*

9-MI-27-12-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(P)	I	-

May be inoperative provided:
1) Autopilot is operative,
2) X-Flow Pump is operative,
3) Aileron trim system is centered.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-15 Aileron Control Surface System *(revised: FEB 2011)*

9-MI-27-15-01	**EICAS L / H and R / H Aileron Control Surface Position Indication** *(revised: FEB 2002)*

9-MI-27-15-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided visual inspection of the affected control surface for correct operation is made before each departure.

MAINTENANCE (M)

For an inoperative EICAS aileron control surface position indication, do a visual check of the aileron control surface movement as follows:

1) Energize the aircraft electrical power systems.
2) Pressurize hydraulic system 3.

   Note: *Two qualified persons are required for this check, one to move the controls in the cockpit, the other to view the control surface movement.*
3) Turn the pilot`s control wheel fully left.
4) Make sure the left aileron control surface moves to the fully up position, and the right control surface moves to the fully down position.
5) Turn the pilot`s control wheel fully right.
6) Make sure the left aileron control surface moves to the fully down position, and the right aileron control surface moves to the fully up position.
7) Remove hydraulic pressure from system 3.
8) Remove electrical power from the aircraft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-15 Aileron Control Surface System *(revised: FEB 2011)*

9-MI-27-15-02	**Aileron Flutter Dampers** *(revised: FEB 2011)*

9-MI-27-15-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	2	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One per surface may indicate low reservoir fluid provided:

1) Each individual PCU is verified operative prior to further flight, and
2) Repairs are made within one calendar day.

OPERATIONS (O)

Refer to MEL OPS PROC 9-27-15-02 Aileron Flutter Dampers

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-24 Rudder Control Surface System *(revised: JUN 2008)*

9-MI-27-24-02	**Rudder Pedal Adjustment Systems** *(revised: JUN 2008)*

9-MI-27-24-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Pedals are in position acceptable to affected crewmember,
2) EICAS Rudder Control Surface Position Indication is operative, and
3) Rudder and brake pedals are checked for full and unrestricted movement at both pilot stations.

OPERATIONS (O)

Refer to MEL OPS PROC 9-27-24-02 Rudder Pedal Adjustment Systems

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-35 Stall Protection System (SPS) *(revised: DEC 2002)*

9-MI-27-35-01	**Stall Warning Switch Lights (light function only)** *(revised: DEC 2002)*

9-MI-27-35-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided shaker and pusher are checked operative prior to each flight.

OPERATIONS (O)
Refer to MEL OPS PROC 9-27-35-01 Stall Warning Switch Lights (light function only)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-51 Control and Indication System *(revised: FEB 2017)*

9-MI-27-51-02	**Slat Flap System** *(revised: FEB 2017)*

9-MI-27-51-02-A Flap Subsystem

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

System redundancy may be degraded as indicated by “FLAPS HALFSPEED” status message provided:

1) “SLATS HALFSPEED” and “FLAPSFAULT” status messages are not displayed, and
2) Use performance correction according workpad.

Note: *Flaps will operate at half speed.*

PLACARD (P)

OR

9-MI-27-51-02-B Slat Subsystem

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

System redundancy may be degraded asindicated by “SLATS HALFSPEED” statusmessage provided:

1) “FLAPS HALFSPEED” and “FLAP FAULT” status messages are not displayed, and
2) Use performance correction according workpad.

Note: *Slats will operate at half speed.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-27-51-02 Slat Flap System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-51 Control and Indication System *(revised: FEB 2017)*

9-MI-27-51-04	**Slat Disconnect Detection System** *(revised: FEB 2016)*

9-MI-27-51-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative as indicated by “SLATS FAULT” status message provided:

1) Slats are inspected once each flight day to ensure no mechanical disconnect is present,
2) Slats are inspected before next flight to ensure no mechanical disconnect is present if 0g or negative g is encountered as result of pilot maneuvering in last flight, and
3) Repairs are made within three flight days.

MAINTENANCE (M)

A. For an inoperative Slat Disconnect Detection System, do as follows:

Before the first flight after the failure occurred and then, once each flight day, do as follows:

1) Connect the electrical power to the aircraft.
2) Set the SLATS FLAPS control lever to 20.

   Note: *To extend the SLATS to 25°*

3) Manually push the SLAT panels in the retract direction to check the backlash.
4) Compare the position of the striker pin to the disconnect detector arm to make sure the striker pin does not engage the lower or upper lower arm of the detector.
5) Have a qualified person do a general visual inspection of the Slat Interconnect assemblies for satisfactory condition and security.
6) Set the SLATS FLAPS control lever to 0.

   Note: *To retract the SLATS to 0°*

7) Have a qualified person do a visual check to make sure the misalignment of the slat edge with the fixed leading edge does not exceed 0.20 inch.
8) Remove all tools, equipment, and unwanted materials from the work area.
9) Remove the electrical power from the aircraft.

OPERATIONS (O)

Refer to MEL OPS PROC 9-27-51 Slat Disconnect Detection System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-51 Control and Indication System *(revised: FEB 2017)*

9-MI-27-51-05	**Flap System** *(revised: FEB 2017)*

9-MI-27-51-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	1	(P)	I	-

System redundancy may be degraded as indicated by "FLAP FAULT" status message.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-60 Spoilers *(revised: FEB 2017)*

9-MI-27-60-01	**EICAS Ground Spoilers Control Surface Position Indications** *(revised: FEB 2017)*

9-MI-27-60-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any may be inoperative, provided:

1) GLD auto and manual modes are visually verified operative prior to each take-off, and
2) GLD spoilers are verified stowed before each take-off.

MAINTENANCE (M)

Do a visual check of the ground spoiler operation in the GLD auto and manual mode as follows:

Note: *During this check, have a qualified person visually make sure that the ground spoilers are in the correct position.*

1) Energize the aircraft electrical power systems.
2) Make sure both engine thrust levers are at idle.
3) Make sure that the flight spoiler control lever is at the 0 position.
4) On the SPOILERS control panel, make sure that the GND LIFT DUMPING switch is in the AUTO position.
5) Pressurize hydraulic systems 1, 2 and 3.
6) On the SPOILERS control panel, set the GND LIFT DUMPING switch to MAN ARM.
7) Make sure the ground spoilers extend.
8) On the SPOILERS control panel, set the GND LIFT DUMPING switch to AUTO.
9) Make sure the ground spoilers retract.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-65 Ground Spoiler Surface System *(revised: FEB 2017)*

9-MI-27-65-01	**Ground Spoilers (Inboard or Outboard Pair)** *(revised: FEB 2017)*

9-MI-27-65-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

One pair of Ground Spoilers Inboard (IB) or Outboard (OB) may be inoperative in the RETRACTED position provided:

1) All MFS and the remaining ground spoiler pair is operative in GLD AUTO and manual ARM modes,
2) Affected inboard or outboard Ground Spoiler pair is secured stowed,
3) Both surface of the inoperative pair are verified fully retracted prior to each flight,
4) Both Thrust Reversers are operative,
5) No other GS, MFS status message are displayed, and
6) Use performance correction according workpad.

MAINTENANCE (M)

For ALL AIRCRAFT:

A. For an inoperative Ground Spoilers (inboard or Outboard Pair), do as follows:

Before the first flight after the failure occurred

1) Have a qualified person do a visual check of the defective ground spoiler (GS) to make sure that it is in the fully retracted position.
2) Do the deactivation of the defective GS pair as follows:
   a) If the inboard GS pair is defective, do the deactivation of the inboard GS pair (refer to TASK 27−65−01−040−801).

      Note: *When the deactivation procedure is completed, the IB GND SPLRS caution message may show.*

   b) If the outboard GS pair is defective, do the deactivation of the outboard GS pair (refer to TASK 27−65−05−040−801).

      Note: *When the deactivation procedure is completed, the OB GND SPLRS caution message may show.*
3) Do an operational test of the spoilers in the GLD auto and Manual Mode as follows:
   a) Connect the electrical power to the aircraft.
   b) Obey all the hydraulic safety precautions.
   c) Obey all the hydraulic technical precautions.
   d) On the HYDRAULIC panel, set the ACMP 1, 2 and 3A switches to ON.
   e) Make sure that the circuit breakers that follow are closed:

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1	F1	SSCU 1 CH A	221
CBP-2	F1	SSCU 1 CH B	222
CBP-2 LOWER	R3	SSCU 2 CH A	222
CBP-2 LOWER	R4	SSCU 2 CH B	222

f) Install warning placards on the spoilers to give warnings about the spoiler movement.

Warning: *Make sure that persons and equipment are not near the Flight Control surfaces. Flight Control movement can cause injury to persons and damage to the equipment.*

g) Do an operational test of the GND LIFT DUMPING switch as follows:

- On the center pedestal, set the GND LIFT DUMPING switch to MAN ARM and make sure that you get the result that follows:
  - The spoilers move to the fully extended position, but not the defective GS.
  - On the EICAS FLIGHT CONTROL SD synoptic page, the spoiler position displays move to the fully extended position, but not the defective GS.
  - On the EICAS status page, the green GLD MAN ARM advisory message comes into view.
  - On the EICAS status page, the amber IB or OB GND SPLRS caution message comes into view.
- Have a qualified person do a visual check as follows:
  - Make sure that the defective GS pair are fully retracted, and
  - Make sure that the functional GS pair and Multi Function Spoilers (MFS) are in the fully extended position.
- On the center pedestal, set the GND LIFT DUMPING switch to MAN DISARM and make sure that you get the results that follows:
  - The spoilers move to the fully retracted position.
  - On the EICAS FLIGHT CONTROLS synoptic page, the spoiler position displays move to the fully retracted position.
  - On the EICAS status page, the green GLD MAN ARM advisory message goes out of view
  - On the EICAS status page, the green GND SPLR DEPLOY advisory message goes out of view
  - On the EICAS status page, the amber IB or OB GND SPLRS caution message comes into view.
- Have a qualified person do a visual check to make sure that the spoilers are in the fully retracted position.
- On the center pedestal, set the GND LIFT DUMPING switch to AUTO.

h) Do the operational test of the defective GS as follows:

- Attach a force gauge to the trailing edge of the defective GS pair.
- Pull on the trailing edge of the defective GS pair with a force of 40 to 50 lbs (18 to 23 kg) for 15 to 30 seconds in the direction to extend the surface.
- Make sure that the defective GS pair does not move under the applied force.

i) Remove all tools, equipment, and unwanted materials from the work area.

j) Remove the hydraulic pressure as follows:

Remarks may be continued on next page!

- If the outboard GS is defective, remove hydraulic pressure No. 1 and No. 2.
- If the inboard GS is defective, remove hydraulic pressure No. 3.

k) Remove electrical power from the aircraft

l) Remove the warning placard from the spoilers

For A/c without ModSum 670T31194 (Pre SB670BA-27-045)

B. Do as follows:

1) No action required.

For A/c with ModSum 670T31194 (Post SB670BA-27-045)

C. Make sure that spoiler/ stabilizer subsystem faults are not present as follows:

1) After the failure occurred, and each flight day after the failure occurred, do as follows:

a) Energize the aircraft electrical power systems.

b) Reset the circuit breakers that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	F1	SSCU 1 CH A	221
CBP-2	F1	SSCU 1 CH B	222
CBP-2 LOWER	R3	SSCU 2 CH A	222
CBP-2 LOWER	R4	SSCU 2 CH B	222

c) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD 1 (MFD 2).

d) On the multifunction display (MFD1 or MFD2), get access to the MAINTENANCE MAIN MENU page.

e) On the ECP, push the UP and DN pushbuttons to move the cursor (>) to the ATA INDEX line.

f) Push the SEL pushbutton to make a selection of the ATA INDEX page.

g) Make sure that the ATA INDEX page shows on the MFD.

h) On the ECP, push the FUEL pushbutton to get access to the ATA INDEX second page.

i) Make sure that the ATA INDEX second page shows on the MFD.

j) On the ECP, push the UP or DN pushbuttons to move the cursor (>) to the ATA 27-60 SPOILERS line.

k) On the ECP, push the SEL pushbutton to make sure that the spoilers line replaceable units (LRUs) show on the MFD.

l) On the ECP, push the UP or DN pushbuttons to move the cursor (>) to LRU SSCU 1 EXT.

m) On the ECP, push the SEL pushbutton to make a selection of SSCU 1 EXT.

n) Make sure that bits 16 and/or 17 are not set to 1 on labels 355A or/and 355B (if bits 16 and/or 17 are not set to 1 on labels 355A or/and 355B, dispatch is not permitted).

o) On the ECP, push the DOORS pushbutton to get access to LRU SSCU 2 EXT.

p) On the ECP, push the SEL pushbutton to make a selection of SSCU 2 EXT.

q) Make sure that bits 16 and/or 17 are not set to 1 on labels 355A or/and 355B (if bits 16 and/or 17 are set to 1 on label 355A or/and 355B, dispatch is not permitted).

r) Exit from the MDC as follows:

1 On the ECP, push the MENU pushbutton to go back to the MAIN MENU page.

Remarks may be continued on next page!

2 On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF.

3 Make sure that the navigation data is shown on the MFD 1 (MFD 2).

s) Remove electrical power from the aircraft.

OPERATIONS (O)

Refer to MEL OPS PROC 9-27-65 Ground Spoilers (Inboard or Outboard Pair)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-27-65 Ground Spoiler Surface System *(revised: FEB 2017)*

9-MI-27-65-02	**Spoiler and Stabilizer Control System (SSCS)** *(revised: OCT 2012)*

9-MI-27-65-02-A SSCU 1 Channels

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(P)	I	-

May be inoperative as indicated by “SSCU1 FAULT” status message provided bothSSCU 2 Channels are operative.

PLACARD (P)

OR

9-MI-27-65-02-B SSCU 2 Channels

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(P)	I	-

May be inoperative as indicated by “SSCU2 FAULT” status message provided both SSCU 1 Channels are operative.

PLACARD (P)

9-MI-27-65-02-C Spoiler/ Stabilizer Subsystem

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	1	(P)	I	-

System redundancy may be degraded asindicated by "SPLR/ STAB FAULT" status message provided both SSCU 1 Channels and both SSCU 2 Channels are operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28 FUEL

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-01	**APU Fuel Feed SOV** *(revised: FEB 2017)*

9-MI-28-13-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative CLOSED provided, APU is considered inoperative.

PLACARD (P)

OR

9-MI-28-13-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative OPEN provided:
1) APU is used for engine starting on ground only,
2) APU is shutdown after one engine start,
3) APU is not used in flight,
4) APU Fire Detection System is operative and
5) APU Fire Extinguishing System is operative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Auxiliary Power Unti (APU)	49–10–01

MAINTENANCE (M)

A. For an APU Fuel Feed SOV inoperative CLOSED, do as follows:

1) Do the procedure to deactivate the APU as follows:
   a) On the APU control panel, set the APU PWR FUEL switch to OFF.
   b) Open and tag the circuit breakers that follow:

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1	N10	APU FUEL PUMP	221
CBP-1	N11	APU ECU PRIM	221
CBP-1 LOWER	R9	FUEL SOV APU	221

Note: *When the deactivation procedure is completed, the APU EGT and RPM indications can come out of view, the APU DOOR indication can become dashed (----) on the EICAS status page, and the Load Control Valve (LCV) symbol can come out of view on the ECS synoptic page.*

B. For an APU Fuel Feed SOV inoperative OPEN, and to use the APU to start an engine on the ground, do as follows:

1) Do an Operational Check of the APU Fire Detection System as follows:

a) Connect electrical power to the aircraft.

b) On the Fire Detection/FIREX Monitor control panel, push and release the TEST switch.

c) In less than five seconds, make sure that lights and message come on as follow:

1 The switches that follow on the left and right glareshield panels:

- MASTER WARNING (and flashes)
- LH ENG FIRE PUSH
- BOTTLE 1 ARMED AND PUSH TO DISCH
- APU FIRE PUSH
- BOTTLE ARMED PUSH TO DISCH
- RH ENG FIRE PUSH
- BOTTLE 2 ARMED PUSH TO DISCH.

2 The switches that follow on the CARGO FIREX control panel:

- AFT CARGO SMOKE PUSH
- FWD CARGO SMOKE PUSH
- BOTTLED ARMED PUSH TO DISCH

3 -The green advisory message FIRE SYS OK on the EICAS secondary page.

d) After approximately 15 seconds, make sure that these lights go off.

e) Make sure that the caution message that follow do not show on the EICAS primary page:

- AFT CARGO DET
- AFT CARGO SQB1
- AFT CARGO SQB2
- APU FIRE FAIL
- APU SQB
- APU BTL LO
- CARGO BTL LO
- FIRE SYSTEM FAULT
- FWD CARGO DET
- FWD CARGO SQB1
- FWD CARGO SQB2
- L ENG FIRE FAIL

Remarks may be continued on next page!

- L ENG SQB
- R ENG FIRE FAIL
- R ENG SQB.

f) Make sure that the status massages that follow do not show on the EICAS secondary page:

- FIRE SYS FAULT
- L ENG SQB
- R ENG SQB.

2) Make sure that the APU Fire Extinguishing System is operational.

3) Make sure that the circuit breakers that follow are closed:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	N10	APU FUEL PUMP	221
CBP-1	N11	APU ECU PRIM	221
CBP-1 LOWER	R9	FUEL SOV APU	221

4) Open the Aft Equipment Compartment Door 311BB.

5) Make sure that the circuit breakers that follow are closed:

CB PANEL	CB NO.	NAME	ZONE
CBP-5	A6	APU ECU SEC	311
CBP-5	B1	APU DOOR ACT	311

6) Close the Aft Equipment Compartment Door 311BB.

7) Connect electrical power to the aircraft.

8) On the EICAS control panel (ECP), push the FUEL pushbutton.

9) On the EICAS fuel synoptic page, make sure that the APU SOV legend is OPEN.

10) On the ECP, push the STAT pushbutton to go back to the EICAS secondary page.

11) Start the APU.

12) Start the engine.

13) Shut down the APU.

14) Remove electrical power from the aircraft.

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-13-01 APU Fuel Feed SOV

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-02	XFLOW AUTO OVERRIDE "MAN" Switch Light (light function only) *(revised: FEB 2017)*

9-MI-28-13-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-03	XFLOW L/ R "ON / FAIL" Switch Lights (light function only) *(revised: FEB 2017)*

9-MI-28-13-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-04	GRAVITY XFLOW "FAIL / OPEN" Switch Light (light function only) *(revised: FEB 2017)*

9-MI-28-13-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-07	**Transfer Ejectors (Center Tank)** *(revised: FEB 2017)*

9-MI-28-13-07-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Center tank is empty, and
2) EICAS Center Tank Fuel Quantity Readout is operative.

MAINTENANCE (M)

A. For an inoperative center fuel tank transfer ejector, do as follows:

1) Connect electrical power to the aircraft.
2) Make sure that the center tank is empty or contains less than 500 lbs (227 kg).
3) If the center fuel tank quantity is greater than 500 lbs (227 kg), defuel the center tank as follows:
   a) Do the suction defueling procedure
      OR
      Do the gravity defueling procedure.
   b) Remove the electrical power from the aircraft.

PLACARD (P)

OR

9-MI-28-13-07-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Center tank contains less than 500pounds of fuel at dispatch,
2) Fuel Imbalance between wing tanks isless than 300 lbs at dispatch,
3) Remaining fuel in center tank isconsidered unusable,
4) Aircraft range is limited accordingly,
5) EICAS Center Tank Fuel QuantityReadout is operative, and
6) Flight crew monitors center tank fuelquantity for proper transfer.

MAINTENANCE (M)

Remarks may be continued on next page!

A. For an inoperative center fuel tank transfer ejector, do as follows:

1) Connect electrical power to the aircraft.
2) Make sure that the center tank is empty or contains less than 500 lbs (227 kg).
3) If the center fuel tank quantity is greater than 500 lbs (227 kg), defuel the center tank as follows:
    a) Do the suction defueling procedure
    OR
    Do the gravity defueling procedure.
    b) Remove the electrical power from the aircraft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-08	**Fuel Transfer SOVs (Center Tank)** *(revised: FEB 2017)*

9-MI-28-13-08-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative CLOSED provided:

1) Center Tank is empty,
2) Opposite Transfer Ejector (Center Tank) is operative, and
3) EICAS CENTER TANK Fuel Quantity Readout is operative.

MAINTENANCE (M)

A. For an inoperative center fuel tank transfer SOV in the CLOSED position, do as follows:

1) Make sure that the center tank is empty or contains less than 500 pounds (227 kg).
2) If the center fuel tank quantity is greater than 500 lbs (227 kg), do as follows:
   a) Do the suction defueling procedure
   OR
   Do the gravity defueling procedure.

B. For two inoperative center fuel tank transfer SOV in the OPEN position, do as follows:

1) Make sure that the center tank is empty,
2) If the center tank is empty, do as follows:
   a) Do the suction defueling procedure
   OR
   Do the gravity defueling procedure.

PLACARD (P)

OR

9-MI-28-13-08-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative CLOSED provided:

1) Center tank contains less than 500 pounds of fuel at dispatch,
2) Opposite Transfer Ejector (Center Tank) is operative,
3) Fuel Imbalance between wing tanks is less than 300 lbs at dispatch,
4) Remaining fuel in center tank is considered unusable,

Remarks may be continued on next page!

5) Aircraft range is limited accordingly,
6) EICAS Center Tank Fuel Quantity Readout is operative, and
7) Flight crew monitors center tank fuel quantity for proper transfer.

MAINTENANCE (M)

A. For an inoperative center fuel tank transfer SOV in the CLOSED position, do as follows:

1) Make sure that the center tank is empty or contains less than 500 pounds (227 kg).
2) If the center fuel tank quantity is greater than 500 lbs (227 kg), do as follows:
   a) Do the suction defueling procedure
   OR
   Do the gravity defueling procedure.

B. For two inoperative center fuel tank transfer SOV in the OPEN position, do as follows:

1) Make sure that the center tank is empty,
2) If the center tank is empty, do as follows:
   a) Do the suction defueling procedure
   OR
   Do the gravity defueling procedure.

PLACARD (P)

OR

9-MI-28-13-08-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative OPEN provided center tank is empty.

MAINTENANCE (M)

A. For an inoperative center fuel tank transfer SOV in the CLOSED position, do as follows:

1) Make sure that the center tank is empty or contains less than 500 pounds (227 kg).
2) If the center fuel tank quantity is greater than 500 lbs (227 kg), do as follows:
   a) Do the suction defueling procedure
   OR
   Do the gravity defueling procedure.

B. For two inoperative center fuel tank transfer SOV in the OPEN position, do as follows:

1) Make sure that the center tank is empty,
2) If the center tank is empty, do as follows:
   a) Do the suction defueling procedure
   OR

Remarks may be continued on next page!

Do the gravity defueling procedure.

PLACARD (P)

END

9-MI-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-MI-28-13-10	**XFlow Pump** *(revised: FEB 2011)*

9-MI-28-13-10

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) All EICAS Fuel Tank Quantity Readouts are operative, and
2) Gravity crossflow SOV is verified operative.

MAINTENANCE (M)

A. For an inoperative XFLOW PUMP, do as follows:

1) Open and tag the circuit breakers that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	S5	CROSSFLOW PUMP	221
CBP-2 LOWER	R7	CROSSFLOW PUMP CONT	222

Note: *When the deactivation procedure is completed, the XFLOW PUMP caution message will come into view continuously on the EICAS primary page and the XFLOW PUMP symbol will be shown amber on the Fuel synoptic page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-13-10 XFlow Pump

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-23 Standby Fuel Feed System *(revised: DEC 2013)*

9-MI-28-23-01	**Fuel Boost Pumps** *(revised: DEC 2013)*

9-MI-28-23-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Inoperative boost pump is deactivated, and
2) XFlow Pump is operative.

MAINTENANCE (M)

A. For an inoperative fuel boost pumps, do as follows:

1) Energize the aircraft electrical power systems.
2) On the FUEL panel, set the affected L(R) BOOST PUMP switch to INOP.
3) Open and tag the circuit breakers that follow:

a) For an inoperative L BOOST PUMP, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M6	L FUEL PUMP	221

b) For an inoperative R BOOST PUMP, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	G9	R FUEL PUMP	222

Note: *When the deactivation procedure is completed, the "L (R) FUEL PUMP" caution message will show continuously on the EICAS primary page.*

4) Remove the electrical power from the aircraft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-23 Standby Fuel Feed System *(revised: DEC 2013)*

9-MI-28-23-02	**Fuel Boost Pumps "ON / INOP" Switch Lights (light function only)** *(revised: MAY 2007)*

9-MI-28-23-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-24 APU Fuel Feed System *(revised: FEB 2017)*

9-MI-28-24-03	**APU Fuel Pump** *(revised: FEB 2011)*

9-MI-28-24-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided APU is considered inoperative.

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Auxiliary Power Unit (APU)	49–10–01

MAINTENANCE (M)

MAINTENANCE (M)

For an inoperative APU fuel pump, do as follows:

1) Open and tag the inoperative APU fuel pump circuit breaker that follows:

CB PANEL	**CB NO.**	**NAME**	**ZONE**
CBP-1	N10	APU FUEL PUMP	221

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-24 APU Fuel Feed System *(revised: FEB 2017)*

9-MI-28-24-04	APU PWR FUEL "PUMP FAIL / SOV FAIL" Switch Lights (light function only) *(revised: FEB 2017)*

9-MI-28-24-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-25 Pressure Refuel / Defuel System *(revised: JUN 2019)*

9-MI-28-25-01	External Single Point Pressure Refueling System (Refuel/ Defuel Control Panel) *(revised: FEB 2017)*

9-MI-28-25-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided Internal Single Point Pressure Refueling System is operative.

PLACARD (P)

OR

9-MI-28-25-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided gravity refueling procedures are used.

Note: *Refer to OM for reduced fuel quantity available when using gravity refueling.*

PLACARD (P)

OR

9-MI-28-25-01-01-A Automatic Mode

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided manual orgravity refueling procedure is used.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-28-25-01-01-B Manual Mode

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided automatic orgravity refueling procedure is used.

PLACARD (P)

OR

9-MI-28-25-01-02-A Fuel Quantity Display Indication

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) Manual or gravity refueling procedure is used, and
2) All EICAS Fuel tank Quantity Readouts are operative.

PLACARD (P)

OR

9-MI-28-25-01-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) Manual or gravity refueling procedure is used, and
2) All MLIs are operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-25 Pressure Refuel / Defuel System *(revised: JUN 2019)*

9-MI-28-25-02	**Refuel / Defuel Adapter Cap** *(revised: FEB 2017)*

9-MI-28-25-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative (missing) provided:

1) Pressure-refueling adapter door is not missing,
2) Refuel / Defuel adapter is visually checked for contamination prior to each refueling, and
3) No leakage can be detected after refueling is complete.

MAINTENANCE (M)

For a missing refuel / defuel adapter cap, do as follows:

1) Make sure the refuel / defuel adapter is clean of any contamination before you connect the fuel nozzle.
2) After the refueling or defueling is complete, make sure that there is no fuel leakage at the refuel / defuel adapter.
3) Make sure that the check V/ V is closed.
4) On the refuel / defuel panel, make sure that the refuel / defuel shutoff valves are shown in the closed position.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-25 Pressure Refuel / Defuel System *(revised: JUN 2019)*

9-MI-28-25-03	**Refuel SOVs** *(revised: JUN 2019)*

9-MI-28-25-03-A Wing

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative CLOSED provided Gravity Refueling procedures are used for the affected tank(s).

Note: *Refer to OM for reduced fuel quantity available when using gravity refueling.*

MAINTENANCE (M)

For an inoperative Wing Refuel SOV, do as follows:

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIR-CRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

1) Do the procedure for gravity refueling.
2) Connect electrical power to the aircraft.
3) Open the access door that follow:

PANEL	NAME	REFERENCE
192AR	Refuel/ Defuel Control Panel Door	

4) On the refuel/ defuel panel, set the MODE SELECTOR switch to OFF.
5) Set the refuel SOV switches to OFF.
6) Set the AUTO START switch to OFF.
7) Make sure that the Refuel SOV is in the CLOSED position as follows:
   a) On the refuel/ defuel panel, set the POWER switch to ON.
   b) Make sure that the POWER ON indication light comes ON.
   c) Press and hold the LAMP TEST button.
   d) Make sure that all the SOV indicator CL lights and all the SOV indicator OP lights come ON.
   e) Release the LAMP TEST button.
   f) Make sure that all the SOV indicator CL lights stay ON and that all the indicator OP lights go OFF.

      Note: *When a refuel SOV is inoperative CLOSED, the associated CL indication light will be ON.*
   g) Set the MODE SELECTOR switch to FUEL AUTO.
   h) Make sure that all the SOV indicator CL lights are ON and that all the SOV indicator OP lights are OFF.
   i) Set the MODE SELECTOR switch to OFF.

Remarks may be continued on next page!

j) On the refuel/ defuel panel, set the POWER switch to OFF.
k) Close the access door.

PLACARD (P)

9-MI-28-25-03-B Center

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided center tank remains empty once remaining fuel is consumed.

END

Remarks may be continued on next page!

9-MI-28-25 Pressure Refuel / Defuel System *(revised: JUN 2019)*

9-MI-28-25-04	**High Level Sensors** *(revised: FEB 2017)*

9-MI-28-25-04-A Wing

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Gravity refueling procedures are usedfor affected wing tank,
2) All EICAS Fuel Tank Quantity Readouts are operative,
3) XFlow pump is operative,
4) Both Transfer Ejectors are operative,and
5) Both Transfer SOVs are operative.

Note: *Refer to OM B, 1.8.2. for reduced fuel quantity available when using gravity refueling.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-28-25-04 High Level Sensors

PLACARD (P)

9-MI-28-25-04-B Center

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided center tank remains empty.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-25 Pressure Refuel / Defuel System *(revised: JUN 2019)*

9-MI-28-25-05	**Internal Single Point Pressure Refueling System (Refuel/ Defuel Control Panel)** *(revised: FEB 2017)*

9-MI-28-25-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-40 Indicating System *(revised: FEB 2017)*

9-MI-28-40-01	**EICAS Bulk Fuel Temperature Indication** *(revised: FEB 2017)*

9-MI-28-40-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) TAT is used as an indication of fuel temperature,
2) TAT is monitored during flight,
3) For the first Flight of the day, the ambient overnight temperatures were above -29°C for A/C last fueled with Jet A or above -36°C for A/C last fueled with Jet A-1, and
4) On subsequent flights, when refueling activities are to be conducted, local temperatures are to be above -25°C for A/C using Jet A or above -32°C for A/C using Jet A-1 for at least 10 hours prior to the re-fueling.

OPERATIONS (O)
Refer to MEL OPS PROC 9-28-40-01 EICAS Bulk Fuel Temperature Indication

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-MI-28-41-01	**EICAS Fuel Tank Quantity Readouts (Left, Right and Total)** *(revised: FEB 2017)*

9-MI-28-41-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	3	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One main fuel tank quantity readout plus total quantity readout may be inoperative provided:

1) Both LH and RH tanks are completely filled and
2) XFLOW auto−override is selected to MANUAL
3) Airplane is refueled using Signle Point Pressure Refueling System,
4) Associated High Level Sensor is operative,
5) Opposite side Transfer Ejector is operative, and
6) Opposite side Fuel Transfer SOV is operative.

MAINTENANCE (M)

A. For an inoperative left (right) and total fuel tank EICAS quantity readout, do as follows:

1) Fill the left and right fuel tanks as follows:

   Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/OR DAMAGE TO EQUIPMENT:*

   a) Do the automatic pressure refueling procedure.

      OR

      Do the manual pressure refueling procedure

2) Energize the aircraft electrical power systems.
3) On the FUEL panel, push in the XFLOW AUTO OVERRIDE switch to MANUAL.
4) On the FUEL panel, make sure that the XFLOW AUTO OVERRIDE switch shows MAN.

   Note: *The AUTO XFLOW INHIB status message will go out of view from the EICAS secondary page.*

5) Remove electrical power from the aircraft.

B. For an inoperative left (right) and total fuel tank EICAS quantity readouts, with the left (right) fuel tank in use at less than a full level, do as follows:

1) Energize the aircraft electrical power systems.
2) On the FUEL panel, push in the XFLOW AUTO OVERRIDE switch to MANUAL.
3) On the FUEL panel, make sure that the XFLOW AUTO OVERRIDE switch shows MAN.
4) On the FUEL panel, make sure that the XFLOW L and R switch / lights do not show ON or FAIL.

Remarks may be continued on next page!

Note: *The AUTO XFLOW INHIB status message will go out of view from the EICAS secondary page.*

5) Remove electrical power from the aircraft.
6) Fill the left (right) fuel tank to the necessary level as follows:

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

a) Do the manual pressure refueling procedure

OR

Do the gravity refueling procedure.

7) To make sure that you get the necessary left (right) fuel tank level, do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-41-01 EICAS Fuel Tank Quantity Readouts (Left, Right and Total)EICAS Fuel Tank Quantity Readouts (Left, Right and Total)

PLACARD (P)

OR

9-MI-28-41-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCEDURE
B	3	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One main fuel tank quantity readout plus total quantity readout may be inoperative provided:

1) Total fuel carried includes at least 15% more than the fuel load required for the planned flight,
2) Manual or gravity refueling mode is used,
3) MLIs are used to verify main tank quantities before each flight,
4) XFLOW auto−override is selected to MANUAL,
5) Associated High Level Sensor is operative,
6) Opposite side Transfer Ejector is operative, and
7) Opposite side Fuel Transfer SOV is operative.

Note: *Refer to OM for reduced fuel quantity available when using gravity refuelling.*

Caution: *ENSURE OM MLI CHART, LBS OR KG COLUMN, IS USED AS APPLICABLE.*

MAINTENANCE (M)

A. For an inoperative left (right) and total fuel tank EICAS quantity readout, do as follows:

1) Fill the left and right fuel tanks as follows:

Remarks may be continued on next page!

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/OR DAMAGE TO EQUIPMENT:*

a) Do the automatic pressure refueling procedure.

OR

Do the manual pressure refueling procedure

2) Energize the aircraft electrical power systems.
3) On the FUEL panel, push in the XFLOW AUTO OVERRIDE switch to MANUAL.
4) On the FUEL panel, make sure that the XFLOW AUTO OVERRIDE switch shows MAN.

Note: *The AUTO XFLOW INHIB status message will go out of view from the EICAS secondary page.*

5) Remove electrical power from the aircraft.

B. For an inoperative left (right) and total fuel tank EICAS quantity readouts, with the left (right) fuel tank in use at less than a full level, do as follows:

1) Energize the aircraft electrical power systems.
2) On the FUEL panel, push in the XFLOW AUTO OVERRIDE switch to MANUAL.
3) On the FUEL panel, make sure that the XFLOW AUTO OVERRIDE switch shows MAN.
4) On the FUEL panel, make sure that the XFLOW L and R switch / lights do not show ON or FAIL.

Note: *The AUTO XFLOW INHIB status message will go out of view from the EICAS secondary page.*

5) Remove electrical power from the aircraft.
6) Fill the left (right) fuel tank to the necessary level as follows:

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

a) Do the manual pressure refueling procedure

OR

Do the gravity refueling procedure.

7) To make sure that you get the necessary left (right) fuel tank level, do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-41-01 EICAS Fuel Tank Quantity Readouts (Left, Right and Total)EICAS Fuel Tank Quantity Readouts (Left, Right and Total)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-MI-28-41-02	**EICAS Fuel Tank Quantity Readout (Center and Total)** *(revised: FEB 2017)*

9-MI-28-41-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Center fuel tank remains empty,
2) Left and Right EICAS Fuel Tank Quantity Readouts are operative, and
3) MLI is used to verify that center tank is empty once each flight day.

MAINTENANCE (M)

A. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank empty, do as follows:

1) Remove all the fuel from the center tank as follows:

   Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

   a) Do the suction defueling procedure

      OR

      Do the gravity defueling procedure.

2) Once each flight day, make sure that the center tank is empty as follows:

   a) Do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

B. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank full, do as follows:

1) Fill the center tank as follows:

   Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

   a) Do the automatic pressure refueling

      OR

      Do the manual pressure refueling procedure.

C. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank in use at a less than full level, do as follows:

1) Fill the center fuel tank to the necessary level as follows:

Remarks may be continued on next page!

a) Do the automatic pressure refueling

OR

Do the manual refueling procedure.

Note: *The MLIs can be used for refueling calculations.*

2) Make sure that the fuel in the center tank is at the correct level as follows:

a. Do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

3) Advise the flight crew of the center tank fuel quantity.

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-41-02 EICAS Fuel Tank Quantity Readout (Center and Total)

PLACARD (P)

OR

9-MI-28-41-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Center fuel tank is completely filled,
2) Left and Right EICAS Fuel Tank Quantity Readouts are operative, and
3) Aircraft is refueled using Single Point Pressure Refueling System.

MAINTENANCE (M)

A. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank empty, do as follows:

1) Remove all the fuel from the center tank as follows:

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

a) Do the suction defueling procedure

OR

Do the gravity defueling procedure.

2) Once each flight day, make sure that the center tank is empty as follows:

a) Do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

B. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank full, do as follows:

1) Fill the center tank as follows:

Remarks may be continued on next page!

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

a) Do the automatic pressure refueling

OR

Do the manual pressure refueling procedure.

C. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank in use at a less than full level, do as follows:

1) Fill the center fuel tank to the necessary level as follows:

a) Do the automatic pressure refueling

OR

Do the manual refueling procedure.

Note: *The MLIs can be used for refueling calculations.*

2) Make sure that the fuel in the center tank is at the correct level as follows:

a. Do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

3) Advise the flight crew of the center tank fuel quantity.

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-41-02 EICAS Fuel Tank Quantity Readout (Center and Total)

PLACARD (P)

OR

9-MI-28-41-02-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCEDURE
B	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Center fuel tank is refueled using Single Point Pressure Refueling System,
2) MLI is used to verify Center Tank quantity prior to each flight, and
3) Left and Right EICAS Fuel Tank Quantity Readouts are operative.

MAINTENANCE (M)

A. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank empty, do as follows:

1) Remove all the fuel from the center tank as follows:

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

a) Do the suction defueling procedure

Remarks may be continued on next page!

OR

Do the gravity defueling procedure.

2) Once each flight day, make sure that the center tank is empty as follows:

a) Do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

B. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank full, do as follows:

1) Fill the center tank as follows:

Warning: *MAKE SURE THERE IS NO MORE THAN 2500 POUNDS (1134 KG) OF IMBALANCE BETWEEN THE MAIN TANKS WHEN YOU DO THE REFUEL/ DEFUEL PROCEDURE. THE AIRCRAFT CAN MOVE AND CAUSE INJURY TO PERSONS AND/ OR DAMAGE TO EQUIPMENT.*

a) Do the automatic pressure refueling

OR

Do the manual pressure refueling procedure.

C. For an inoperative EICAS center and total fuel tank quantity readout, with the center fuel tank in use at a less than full level, do as follows:

1) Fill the center fuel tank to the necessary level as follows:

a) Do the automatic pressure refueling

OR

Do the manual refueling procedure.

Note: *The MLIs can be used for refueling calculations.*

2) Make sure that the fuel in the center tank is at the correct level as follows:

a. Do the magnetic level indicator (MLI) check procedure (refer to TASK 12−11−28−750−802).

3) Advise the flight crew of the center tank fuel quantity.

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-41-02 EICAS Fuel Tank Quantity Readout (Center and Total)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-MI-28-41-03	Fuel Computer Channels (FQGC) *(revised: FEB 2011)*

9-MI-28-41-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Remaining fuel in center tank is considered unusable,
2) Center tank contains less than 500 pounds of fuel at dispatch, and
3) Gravity crossflow SOV is verified operative.

OPERATIONS (O)

Refer to MEL OPS PROC 9-28-41-03 Fuel Computer Channels (FQGC)

PLACARD (P)

END

9-MI-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-MI-28-41-04	Magnetic Level Indicators *(revised: FEB 2017)*

9-MI-28-41-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	5	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided EICAS Fuel Tank Quantity Readouts are operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-MI-28-41-05	**Fuel Pitch and Roll Inclinometers** *(revised: MAR 2006)*

9-MI-28-41-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided all EICAS Fuel Tank Quantity Readouts (Left, Right, Center and Total) are operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29 HYDRAULIC POWER

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-01	**Engine Driven Pumps (EDP) (System 1 and 2)** *(revised: DEC 2013)*

9-MI-29-11-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Same side Hydraulic AC Motor Pump (ACMP) is operated continuously during flight,
2) All Hydraulic AC Motor Pumps (ACMP) are operative,
3) Affected pump is mechanically removed and a blanking plate is installed,
4) Flexible hydraulic lines at the pylon quick−disconnects are disconnected, capped and stowed, and
5) Repairs are made within one flight day

MAINTENANCE (M)

A. For an inoperative EDP, do as follows:

1) Do the deactivation of the EDP (refer to the AMM TASK 29−11−01−040−801–A01/A02).

Note: *When the deactivation procedure is completed, the HYD EDP 1A (HYD EDP 2A) caution message will show continuously on the EICAS primary page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-29-11-01 Engine Driven Pumps (EDP) (System 1 and 2)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-03	**Hydraulic Heat Exchanger Cooling Fan** *(revised: MAY 2003)*

9-MI-29-11-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided hydraulic temperature of #1 and #2 systems on the synoptic page is monitored not to exceed 96°C during ground operation.

PLACARD (P)

END

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-04	**Hydraulic Switches "AUTO" Function (AC Motor Pumps)** *(revised: MAY 2003)*

9-MI-29-11-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any or all may be inoperative provided switches are manually selected on before take-off and landing.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-05	**Hydraulic Accumulator Pressure Gauges (Systems 1,2 and 3)** ***(revised: DEC 2002)***

9-MI-29-11-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	3	0	(M) (P)	I	-

Any or all may be inoperative provided accumulator pre-charge pressure is checked using a suitable ground gauge.

MAINTENANCE (M)

Before next flight after failure occurrence, make sure that the precharge pressure of the accumulator is in the limits. If necessary, do the servicing (refer to TASK 12−12−29−614−801).

PLACARD (P)

END

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-06	**Hydraulic Accumulators (Systems 1 and 2)** ***(revised: DEC 2013)***

9-MI-29-11-06

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-07	**Return Manifold Filter - Differential Pressure Indicators** *(revised: AUG 2003)*

9-MI-29-11-07

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	3	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided:

1) Filter element is verified free of any metal contaminant; and
2) Repairs are made within one calendar day.

MAINTENANCE (M)

A. For an inoperative hydraulic system 1 and/or 2 return filter differential pressure indicator, do as follows:

1) Make sure that the affected hydraulic system return filter is free of metal contamination as follows:
   a) Do the procedure to remove the filter (refer to TASK 29−11−46−000−801).
   b) Make sure that the filter is free of metal contamination.
   c) Do the procedure to install the filter (refer to TASK 29−11−46−400−801).

B. For an inoperative hydraulic system 3 return filter differential pressure indicator, do as follows:

1) Make sure that affected hydraulic system return filter is free of metal contamination as follows:
   a) Do the procedure to remove the filter (refer to TASK 29−12−40−000−801).
   b) Make sure that the filter is free of metal contamination.
   c) Do the procedure to install the filter (refer to TASK 29−12−40−400−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-MI-29-11-08	**Hydraulic Firewall SOVs (Systems 1 and 2)** *(revised: FEB 2017)*

9-MI-29-11-08

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(M) (M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected hydraulic firewall SOV is deactivated,
2) Same side Engine Driven Pump (EDP) is considered inoperative,
3) Engine Driven Pump (EDP) on the opposite side is operative, and
4) Repairs are made within one flight day.

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Engine Driven Pump (EDP)	29–11–01

MAINTENANCE (M)

For an inoperative system hydraulic firewall SOV, do as follows:

1) Open and tag the circuit breaker that follows for the No. 1 Hydraulic System:

CB PANEL	**CB NO.**	**NAME**	**ZONE**
CBP-1 LOWER	R6	HYD SOV L ENG	221

OR

Open and tag the circuit breaker that follows for the No. 2 Hydraulic System:

CB PANEL	**CB NO.**	**NAME**	**ZONE**
CBP-1 LOWER	R5	HYD SOV R ENG	221

MAINTENANCE (M)

For an inoperative system hydraulic firewall SOV, do as follows:

a) Open and tag the circuit breaker that follows for the No. 1 Hydraulic System:

CB PANEL	**CB NO.**	**NAME**	**ZONE**
CBP-1 LOWER	R6	HYD SOV L ENG	221

OR

Open and tag the circuit breaker that follows for the No. 2 Hydraulic System:

CB PANEL	**CB NO.**	**NAME**	**ZONE**
CBP-1 LOWER	R5	HYD SOV R ENG	221

Remarks may be continued on next page!

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-12 Hydraulic System No.3 *(revised: FEB 2024)*

9-MI-29-12-01	**Hydraulic AC Motor Pump (ACMP) 3A** *(revised: FEB 2024)*

9-MI-29-12-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Hydraulic AC Motor Pumps (ACMP) 3B is operated, continuously during flight,
2) All other hydraulic pumps are operative, and
3) CAT II and CAT III A operations are prohibited, and
4) Use appropriate performance correction according workpad or iPad, and
5) Repairs are made within one flight day.

MAINTENANCE (M)

A. For an inoperative system ACMP 3A, do as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	F14	HYD SYST AC PUMP CONT 3A	222

OPERATIONS (O)

Refer to MEL OPS PROC 9-29-12-01 Hydraulic AC Motor Pump (ACMP) 3A

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-31 Pressure Transducer Indicating System *(revised: FEB 2017)*

9-MI-29-31-01	**EICAS Hydraulic Pressure Readouts** *(revised: FEB 2017)*

9-MI-29-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	3	0	(O) (P)	I	-

All may be inoperative provided associated pressure switches are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-29-31-01 EICAS Hydraulic Pressure Readouts

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-32 Quantity Indicating System *(revised: FEB 2017)*

9-MI-29-32-01	**EICAS Hydraulic Reservoir Quantity Readouts (System 1, 2, and 3)** *(revised: FEB 2017)*

9-MI-29-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided quantity in associated reservoirs is checked on reservoir sight glass, before each departure.

OPERATIONS (O)
Refer to MEL OPS PROC 9-29-32-01 EICAS Hydraulic Reservoir Quantity Readouts (System 1, 2, and 3)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-29-34 Pressure Switch Indicating System *(revised: FEB 2017)*

9-MI-29-34-01	**Hydraulic Pump Low Pressure Switches (System 1, 2, and 3)** *(revised: FEB 2017)*

9-MI-29-34-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	6	3	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Three may be inoperative provided:

1) At least one Low Pressure Switch is operative for each hydraulic system,
2) Associated Hydraulic Pressure and Quantity Readouts are monitored during flight.

OPERATIONS (O)

Refer to MEL OPS PROC 9-29-34-01 Hydraulic Pump Low Pressure Switches (System 1, 2, and 3)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30 ICE AND RAIN PROTECTION

9-MI-30-12 Wing Anti-Ice Control and Indication *(revised: OCT 2021)*

9-MI-30-12-01	**Wing Anti-Ice Modulating and SOVs** *(revised: FEB 2017)*

9-MI-30-12-01-A Wing Anti-Ice Modulating and SOVs (Wing and Anti-Ice Valve)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both may be inoperative provided:

1) Valves are secured CLOSED,
2) Operations are not conducted in known or forecast icing conditions, and
3) Both Ice Detection Systems are operative.

MAINTENANCE (M)

For inoperative wing anti−ice SOV, do as follows:

1) Deactivate the wing anti−ice modulating and SOV in the CLOSED position (refer to Task 30−12−00−040−801).

Note: *When the deactivation procedure is completed, the WING A/I FAULT status message will show continuously on the EICAS secondary page.*

PLACARD (P)

OR

9-MI-30-12-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative CLOSED provided:

1) Wing Cross Bleed Valve is operative,
2) Wing cross bleed selector switch is selected to the opposite side (FROM LEFT or FROM RIGHT), and
3) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operations with Airplane Systems Inoperative).

   Note: *Activate Item in Performance Software.*

Remarks may be continued on next page!

MAINTENANCE (M)

For inoperative wing anti−ice SOV, do as follows:

1) Deactivate the wing anti−ice modulating and SOV in the CLOSED position (refer to Task 30−12−00−040−801).

Note: *When the deactivation procedure is completed, the WING A/I FAULT status message will show continuously on the EICAS secondary page.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-12 Wing Anti-Ice Control and Indication *(revised: OCT 2021)*

9-MI-30-12-04	**Wing Anti-Ice Temperature Sensor Elements** *(revised: FEB 2013)*

9-MI-30-12-04-A Inboard / Outboard

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	8	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) Wing Anti−Ice System is selected OFF,
2) Operations are not conducted in known or forecast icing conditions,and
3) Both Ice detection systems are operative.

Note: *Caution message(s) will revert to a status "WING A/I FAULT" upon selection of Wing Anti−Ice system to OFF.*

PLACARD (P)

9-MI-30-12-04-B Inboard

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	2	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Two elements in one sensor pair may be inoperative provided:

1) Wing Cross Bleed Valve is operative,
2) Wing cross bleed selector switch is selected to the opposite side (FROMLEFT or FROM RIGHT), and
3) Use performance corrections according workpad.

PLACARD (P)

OR

9-MI-30-12-04-C Outboard

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	4	2	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

One element per sensor pair may be inoperative.

Remarks may be continued on next page!

OPERATIONS (O)

Refer to MEL OPS PROC 9-30-12-04 Wing Anti-Ice Temperature Sensor Elements

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-12 Wing Anti-Ice Control and Indication *(revised: OCT 2021)*

9-MI-30-12-05	**Wing Cross Bleed Valve (Anti-Ice)** *(revised: FEB 2017)*

9-MI-30-12-05-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) Both Wing Anti−Ice Modulating SOV‘s are operative,
2) Wing Cross Bleed Valve is secured closed,
3) Operations are not conducted in known or forecast icing conditions, and.
4) Both Ice Detection Systems are operative.

MAINTENANCE (M)

A. If the Wing Cross Bleed (Isolation) Valve fails in the CLOSED position, do as follows:

1) Deactivate the Wing Isolation shutoff valve in the CLOSED position (refer to TASK 30−12−00−040−802).

B. If the Wing Cross Bleed (Isolation) Valve fails in the OPEN position, do as follows:

1) Deactivate the Wing Isolation shutoff valve in the OPEN position (refer to TASK 30−12−00−040−802).

Note: *After the deactivation procedure is completed, the Wing Cross Bleed Valve (Anti−Ice) symbol will come into view in the closed position on the EICAS synoptic page. When the wing anti−ice is reconfigured as per limitations of the “OPEN” case and the wing anti−ice is selected ON, only the selected side of the wing anti−ice will be shown as heated on the EICAS synoptic page, where in fact both sides are heated.*

PLACARD (P)

OR

9-MI-30-12-05-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative OPEN provided:

1) Wing cross bleed valve is secured open, and
2) Operations are conducted in accordance with AFM Supplement (Operations with Airplane Systems Inoperative).

Note: *Activate Item in Performance Software.*

Remarks may be continued on next page!

MAINTENANCE (M)

A. If the Wing Cross Bleed (Isolation) Valve fails in the CLOSED position, do as follows:

1) Deactivate the Wing Isolation shutoff valve in the CLOSED position (refer to TASK 30−12−00−040−802).

B. If the Wing Cross Bleed (Isolation) Valve fails in the OPEN position, do as follows:

1) Deactivate the Wing Isolation shutoff valve in the OPEN position (refer to TASK 30−12−00−040−802).

Note: *After the deactivation procedure is completed, the Wing Cross Bleed Valve (Anti−Ice) symbol will come into view in the closed position on the EICAS synoptic page. When the wing anti−ice is reconfigured as per limitations of the "OPEN" case and the wing anti−ice is selected ON, only the selected side of the wing anti−ice will be shown as heated on the EICAS synoptic page, where in fact both sides are heated.*

PLACARD (P)

END

9-MI-30-12 Wing Anti-Ice Control and Indication *(revised: OCT 2021)*

9-MI-30-12-06	**Anti-Ice / Bleed Leak Detection Controller (AILC) Channels** *(revised: OCT 2021)*

9-MI-30-12-06

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-22 Engine Cowl Anti-Ice Control and Indication *(revised: FEB 2017)*

9-MI-30-22-01	**Engine Cowl Anti-Ice SOVs** *(revised: FEB 2017)*

9-MI-30-22-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Valve is secured CLOSED,
2) Both Ice Detection Systems are operative,
3) Operations are not conducted in known or forecast icing conditions, and
4) Operations are conducted in accordance with OM B, 1.9.6.3. Limitations.

MAINTENANCE (M)

For an inoperative engine cowl anti−ice SOV, do as follows:

1) Do the deactivation of engine cowl anti−ice SOV (refer to the AMM TASK 30−22−00−040−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-22 Engine Cowl Anti-Ice Control and Indication *(revised: FEB 2017)*

9-MI-30-22-03	**Cowl Anti-Ice Double Wall Duct Pressure Transducer** *(revised: FEB 2011)*

9-MI-30-22-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Associated Engine Cowl Anti−ice SOV is selected OFF and considered inoperative,
2) Both Ice Detection Systems are operative, and
3) Operations are not conducted in known or forecast icing conditions.

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Engine Cowl Anti-Ice SOV	30–22–01

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-31 Air Data Probes and Sensors Anti-Ice System

(revised: FEB 2017)

9-MI-30-31-01	**Probe Heaters** ***(revised: FEB 2017)***

9-MI-30-31-01-A Pitot / Static Probes Heaters

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Except where enroute operations require its use, one may be inoperative provided:

1) Remaining pitot /static probe heater is verified operative before each flight,
2) Standby Pitot Head Heater is operative,
3) Operations are not conducted in visible moisture (including standing water and slush) in any form,
4) Operations are not conducted in known or forecast icing conditions,
5) Both Ice Detection Systems are operative, and
6) Operations are conducted in day VMC only.

MAINTENANCE (M)

A. Do a deactivation of the inoperative probe heater as follows:

1) For an inoperative pitot static probe heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T7	HEATERS PITOT L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A14	HEATERS PITOT R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

2) For an inoperative static port heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S1	HEATERS STATIC L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G14	HEATERS STATIC R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

3) If AOA HEAT caution message shows on the EICAS primary page, on ground or in flight, open and tag the circuit breaker for the inoperative angle of attack vane heater that follows:

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T8	HEATERS AOA L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A13	HEATERS AOA R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

4) For an inoperative TAT heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A12	HEATERS TAT	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

5) For an inoperative standby pitot head heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T9	HEATERS PITOT STBY	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

6) For an inoperative Engine T2 Probe Heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S8	T2 HEATER L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N8	T2 HEATER R	222

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-30-31-01 Probe Heaters

PLACARD (P)

OR

9-MI-30-31-01-B Static Port Heaters

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Except where enroute operations require its use, one may by inoperative provided:

1) Operations are not conducted in visible moisture (including standing water and slush) in any form,

Remarks may be continued on next page!

2) Operations are not conducted in anyform,
3) Both Ice Detection Systems are operative, and
4) Operations are conducted in day VMC only.

MAINTENANCE (M)

A. Do a deactivation of the inoperative probe heater as follows:

1) For an inoperative pitot static probe heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T7	HEATERS PITOT L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A14	HEATERS PITOT R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

2) For an inoperative static port heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S1	HEATERS STATIC L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G14	HEATERS STATIC R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

3) If AOA HEAT caution message shows on the EICAS primary page, on ground or in flight, open and tag the circuit breaker for the inoperative angle of attack vane heater that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T8	HEATERS AOA L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A13	HEATERS AOA R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

4) For an inoperative TAT heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A12	HEATERS TAT	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

5) For an inoperative standby pitot head heater, open and tag the circuit breaker that follows:

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T9	HEATERS PITOT STBY	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

6) For an inoperative Engine T2 Probe Heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S8	T2 HEATER L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N8	T2 HEATER R	222

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

PLACARD (P)

OR

9-MI-30-31-01-C Angle-of-Attack Vane Heaters

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Operations are not conducted in visible moisture (including standing water and slush) in any form,
2) Operations are not conducted in known or forecast icing conditions,
3) Both Ice Detection Systems are operative, and
4) Operations are conducted in day VMC conditions only.

MAINTENANCE (M)

A. Do a deactivation of the inoperative probe heater as follows:

1) For an inoperative pitot static probe heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T7	HEATERS PITOT L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A14	HEATERS PITOT R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

Remarks may be continued on next page!

2) For an inoperative static port heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S1	HEATERS STATIC L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G14	HEATERS STATIC R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

3) If AOA HEAT caution message shows on the EICAS primary page, on ground or in flight, open and tag the circuit breaker for the inoperative angle of attack vane heater that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T8	HEATERS AOA L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A13	HEATERS AOA R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

4) For an inoperative TAT heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A12	HEATERS TAT	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

5) For an inoperative standby pitot head heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T9	HEATERS PITOT STBY	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

6) For an inoperative Engine T2 Probe Heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S8	T2 HEATER L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N8	T2 HEATER R	222

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

PLACARD (P)

Remarks may be continued on next page!

9-MI-30-31-01-D Probe Heater

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Operations are not conducted in visible moisture (including standing water and slush) in any form,
2) Operations are not conducted in known or forecast icing conditions,
3) Both Ice Detection Systems are operative,
4) Operations are conducted in day VMC conditions only, and
5) Both engines T2 sensors and T2 heaters are operative.

MAINTENANCE (M)

A. Do a deactivation of the inoperative probe heater as follows:

1) For an inoperative pitot static probe heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T7	HEATERS PITOT L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A14	HEATERS PITOT R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

2) For an inoperative static port heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S1	HEATERS STATIC L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G14	HEATERS STATIC R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

3) If AOA HEAT caution message shows on the EICAS primary page, on ground or in flight, open and tag the circuit breaker for the inoperative angle of attack vane heater that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T8	HEATERS AOA L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A13	HEATERS AOA R	221

Remarks may be continued on next page!

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

4) For an inoperative TAT heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A12	HEATERS TAT	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

5) For an inoperative standby pitot head heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T9	HEATERS PITOT STBY	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

6) For an inoperative Engine T2 Probe Heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S8	T2 HEATER L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N8	T2 HEATER R	222

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

PLACARD (P)

OR

9-MI-30-31-01-E Standby Pitot Head Heater

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

1) Operations are not conducted in visible moisture (including standing water and slush), in any form,
2) Operations are not conducted in known or forecast icing conditions,
3) Both Ice Detection Systems are operative, and
4) Operations are conducted in day VMC only.

MAINTENANCE (M)

A. Do a deactivation of the inoperative probe heater as follows:

1) For an inoperative pitot static probe heater, open and tag the circuit breaker that follows:

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T7	HEATERS PITOT L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A14	HEATERS PITOT R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

2) For an inoperative static port heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S1	HEATERS STATIC L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G14	HEATERS STATIC R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

3) If AOA HEAT caution message shows on the EICAS primary page, on ground or in flight, open and tag the circuit breaker for the inoperative angle of attack vane heater that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T8	HEATERS AOA L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A13	HEATERS AOA R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

4) For an inoperative TAT heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A12	HEATERS TAT	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

5) For an inoperative standby pitot head heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T9	HEATERS PITOT STBY	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

6) For an inoperative Engine T2 Probe Heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S8	T2 HEATER L	222

Remarks may be continued on next page!

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N8	T2 HEATER R	222

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

PLACARD (P)

9-MI-30-31-01-F Engine T2 Probe Heater

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Operations are not conducted in visible moisture (including standing water and slush) in any form,
2) Operations are not conducted in known or forecast icing conditions,
3) Both ice detections Systems are operative, and
4) Operations are conducted in day VMC conditions only.

MAINTENANCE (M)

A. Do a deactivation of the inoperative probe heater as follows:

1) For an inoperative pitot static probe heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T7	HEATERS PITOT L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A14	HEATERS PITOT R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

2) For an inoperative static port heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S1	HEATERS STATIC L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G14	HEATERS STATIC R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

3) If AOA HEAT caution message shows on the EICAS primary page, on ground or in flight, open and tag the circuit breaker for the inoperative angle of attack vane heater that follows:

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T8	HEATERS AOA L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A13	HEATERS AOA R	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

4) For an inoperative TAT heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	A12	HEATERS TAT	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

5) For an inoperative standby pitot head heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T9	HEATERS PITOT STBY	221

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

6) For an inoperative Engine T2 Probe Heater, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S8	T2 HEATER L	222

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N8	T2 HEATER R	222

Note: *After the deactivation procedure is completed, the L(R) PITOT HEAT caution message will show continuously on the EICAS primary page.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-31 Air Data Probes and Sensors Anti-Ice System

(revised: FEB 2017)

9-MI-30-31-02	**Air Data Sensor Heater Controllers** ***(revised: FEB 2016)***

9-MI-30-31-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	3	2	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Operations are not conducted in visible moisture (including standing water and slush) in any form,
2) Operations are not conducted in known or forecast icing conditions,
3) Both Ice Detection Systems are operative, and
4) Operations are conducted in day VMC only.

MAINTENANCE (M)

A. Do a deactivation of the inoperative heater controller as follows:

1) For an inoperative Air Data Sensor Heater Controller 1, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S2	HEATERS ADS CONT 1	222

Note: *When the deactivation procedure is completed, the L PITOT HEAT, L STATIC HEAT and L AOA HEAT caution message will come into view continuously on the EICAS primary page.*

2) For an inoperative Air Data Sensor Heater Controller 2, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G13	HEATERS ADS CONT 2	221

Note: *When the deactivation procedure is completed, the R PITOT HEAT, R STATIC HEAT and R AOA HEAT caution messages will show continuously on the EICAS primary page.*

3) For an inoperative Air Data Sensor Heater Controller 3, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2 LOWER	S3	HEATERS ADS CONT STBY	222

Note: *When the deactivation procedure is completed, the STBY PITOT HEAT and TAT PROBE HEAT caution messages will show continuously on the EICAS primary page.*

PLACARD (P)

Remarks may be continued on next page!

END

Remarks may be continued on next page!

9-MI-30-41 Windshield and Side Window Anti-Ice System

(revised: OCT 2021)

9-MI-30-41-01	**Windshield and Side Window Anti-Ice Controllers** ***(revised: FEB 2017)***

9-MI-30-41-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	3	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Operations are not conducted in known or forecast icing conditions; and
2) Pilot`s (left) side window heating is operative.

MAINTENANCE (M)

A. Do the deactivation of the inoperative controller as follows:

1) For a left Windshield Anti−Ice Controller inoperative, open and tag the breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G12	HEATERS CONT L WSHLD	221
CBP-1	A10	HEATERS L WSHLD	221
CBP-1	A11	HEATERS L WSHLD	221

Note: *After the deactivation procedure is completed, the LWSHLD HEAT caution message will show on the EICAS primary page.*

2) For a right Side Window Anti−Ice Controller inoperative, open and tag the breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	G14	HEATERS CONT R WIND	222
CBP-2	C7	HEATERS R WINDSHLD	222

Note: *After the deactivation procedure is completed, the R WINDOW HEAT caution message will show on the EICAS primary page.*

3) For a right Windshield Anti−Ice Controller inoperative, open and tag the breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	G13	HEATERS CONT R WIND	222
CBP-2	A10	HEATERS R WINDSHLD	222
CBP-2	A11	HEATERS R WINDSHLD	222

Note: *After the deactivation procedure is completed, the R WSHLD HEAT caution message will show on the EICAS primary page.*

B. Make sure that heating on the pilot‘s side window is operative as follows:

1) On the ANTI−ICE control panel, push the TEST push-button for less than one second.

Remarks may be continued on next page!

2) On the EICAS primary page, make sure that the L WINDOW HEAT caution message shows for approximately 10 seconds and then goes off.

PLACARD (P)

OR

9-MI-30-41-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	2	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Two may be inoperative provided:
1) Flight is not conducted in known or forecast icing conditions and
2) Pilot's side window heating is operative and
3) Both Ice Detection Systems are operative.

MAINTENANCE (M)

A. Do the deactivation of the inoperative controller as follows:

1) For a left Windshield Anti−Ice Controller inoperative, open and tag the breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G12	HEATERS CONT L WSHLD	221
CBP-1	A10	HEATERS L WSHLD	221
CBP-1	A11	HEATERS L WSHLD	221

Note: *After the deactivation procedure is completed, the LWSHLD HEAT caution message will show on the EICAS primary page.*

2) For a right Side Window Anti−Ice Controller inoperative, open and tag the breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	G14	HEATERS CONT R WIND	222
CBP-2	C7	HEATERS R WINDSHLD	222

Note: *After the deactivation procedure is completed, the R WINDOW HEAT caution message will show on the EICAS primary page.*

3) For a right Windshield Anti−Ice Controller inoperative, open and tag the breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	G13	HEATERS CONT R WIND	222
CBP-2	A10	HEATERS R WINDSHLD	222
CBP-2	A11	HEATERS R WINDSHLD	222

Note: *After the deactivation procedure is completed, the R WSHLD HEAT caution message will show on the EICAS primary page.*

B. Make sure that heating on the pilot's side window is operative as follows:

1) On the ANTI−ICE control panel, push the TEST push-button for less than one second.

Remarks may be continued on next page!

2) On the EICAS primary page, make sure that the L WINDOW HEAT caution message shows for approximately 10 seconds and then goes off.

PLACARD (P)

END

9-MI-30-41 Windshield and Side Window Anti-Ice System

(revised: OCT 2021)

9-MI-30-41-02	**LH Side Window Heating System** ***(revised: OCT 2021)***

9-MI-30-41-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected anti-ice controller is deactivated,
2) Operations are not conducted in known or forecast icing conditions,
3) Pilot's and co-pilot's windshield and (Right) side window heating are operative, and
4) Repairs are made within 1 flightday.

MAINTENANCE (M)

A. Do a deactivation of the inoperative LH side window anti-ice controller as follows:

1) Open and collar the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	U10	HEATER L WIND	221
CBP-2	S4	HEATER CONT L WIND	222

OPERATIONS (O)

Refer to MEL OPS PROC 9-30-41-02 9-30-41-02 LH Side Window Heating System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-42 Windshield Wiper System *(revised: JAN 2020)*

9-MI-30-42-01	**Windshield Wipers** *(revised: JAN 2020)*

9-MI-30-42-01-A Windshield Wipers

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

One or both may be inoperative provided operations are not conducted in known or forecast precipitation within 5 miles of airport of take−off or intended landing.

PLACARD (P)

9-MI-30-42-01-B INT Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided FAST or SLOW function is operative.

PLACARD (P)

OR

9-MI-30-42-01-C SLOW Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided FAST or SLOW function is operative.

PLACARD (P)

OR

9-MI-30-42-01-D FAST Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

Remarks may be continued on next page!

May be inoperative provided FAST or SLOW function is operative.

PLACARD (P)

OR

9-MI-30-42-01-E-1 OFF - PARK Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided

a) Wipers can be parked out of pilot's view, and
b) Operations are conducted in accordance with OM-B limitations.

OPERATIONS (O)
Refer to MEL OPS PROC 9-30-42-01 Windshield Wipers

PLACARD (P)

OR

9-MI-30-42-01-E-2 OFF - PARK Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided

a) Wipers are deactivated and placed in the PARK position, and
b) Operations are not conducted in precipitation within 5 miles of airport of take-off or intended landing.

MAINTENANCE (M)

Do a deactivation of the inoperative windshield wiper as follows:

(1) For an inoperative pilot windshield wiper, open and tag the circuit breaker that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	G5	Wiper PILOT	221

(2) For an inoperative co-pilot windshield wiper, open and tag the circuit breaker that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	G5	Wiper C/PLT	222

Remarks may be continued on next page!

(3) Remove the wiper arm and manually reposition and install the wiper arm in the PARK position blade assembly (AMM 30–42–09).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-71 Drain Mast Heater *(revised: OCT 2021)*

9-MI-30-71-02	**Drain Mast Heater** *(revised: OCT 2021)*

9-MI-30-71-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Associated sink is not used and
2) Sink and/or coffee water supply is turned off.

MAINTENANCE (M)

A. For an inoperative forward drain mast heater, do as follows:

1) Drain the forward water system refer to TASK 12–18–38–613–801).
2) On the forward galley POTABLE WATER SYSTEM control panel, put the FWD ON/OFF switch to OFF.
3) On the POTABLE WATER SYSTEM panel, open and tag the circuit breaker that follow:

   - FWD DRAIN MAST

4) Put the forward galley manual water supply SOV to CLOSED.
5) If the aircraft has a forward lavatory, put the forward lavatory manual water supply SOV to CLOSED.

B. For an inoperative aft drain mast heater, do as follows:

1) Drain the aft water system (refer to TASK 12−18−38−613−803).
2) On the forward galley POTABLE WATER SYSTEM control panel, put the AFT ON/OFF switch to OFF.
3) On the POTABLE WATER SYSTEM panel, open and tag the circuit breaker that follow:

   - AFT DRAIN MAST

4) If the aircraft has an aft galley, put the aft galley manual water supply SOV to CLOSED.
5) If the aircraft has an aft lavatory, put the aft lavatory manual water supply SOV to CLOSED.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-30-81 Ice Detection System General *(revised: OCT 2021)*

9-MI-30-81-01	**Ice Detection Systems** *(revised: OCT 2021)*

9-MI-30-81-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(M) (P)	I	-

One may be inoperative provided wing and cowl anti−ice systems are turned ON when icing conditions as defined in the OM exist or are anticipated.

MAINTENANCE (M)

A. For one inoperative ice detection system, do as follows:

1) For the left ice detector (ice detector 1) inoperative, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T11	ICE DET 1	221

Note: *When the deactivation procedure for the left ice detector is completed, the ICE DET 1 FAIL status message will show continuously on the EICAS secondary page.*

2) For the right ice detector (ice detector 2) inoperative, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	A14	ICE DET 2	222

Note: *When the deactivation procedure for the right ice detector is completed, the ICE DET 2 FAIL status message will show continuously on the EICAS secondary page.*

Once per flight day

B. When the deactivation for one inoperative ice detector is completed, make sure that the remaining ice detector operates as follows:

Caution: *WEAR PROTECTIVE GLOVES WHEN YOU HOLD THE ICE DETECTOR STRUT AND REMOVE YOUR HAND IMMEDIATELY WHEN THE ICE CAUTION MESSAGE SHOWS ON THE EICAS. THE ICE DETECTOR GETS VERY HOT AND CAN CAUSE BURNS.*

Caution: *DO NOT USE TOOLS WHEN YOU DO THE HOLD TEST; OTHERWISE YOU CAN DAMAGE THE ICE DETECTOR.*

1) Hold the operative ice detector probe located at FS229.00.
2) Make sure that the ICE caution message shows on the EICAS primary page.
3) If the ICE message does not show on the EICAS primary page, do the alternate procedure that follows:

Note: *The alternate procedure is effective for ALL aircraft Pre or Post ModSum 670T11824.*

Left ice detector inoperative

a) When the left ice detector is inoperative, make sure that the right ice detector is operative as follows:

Remarks may be continued on next page!

1) Make sure that circuit breaker T11 located on CBP-1 LOWER for system 1 is pulled and tagged
2) Open the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

3) At EICAS routing unit 1 (JB8), find connector JB8J8.
4) Remove the protective cap from connector JB8J8.
5) At JB8J8, insert a GND signal at pins 60 and 63.
6) Do the ice detection system test as follows:
    1) On the ANTI-ICE control panel, push the ICE switch/ light.
    2) Make sure that the ICE caution message shows on the EICAS primary page during the test cycle.

    Note: *If the ICE caution message does not show, refer to the limitation for both ice detection systems inoperative.*
7) At JB8J8, remove the jumper from pins 60 and 63.
8) Install the protective cap on the connector JB8J8.
9) Close the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

Right ice detector inoperative

b) When the right ice detector is inoperative, make sure that the left ice detector is operative as follows:
    1) Make sure that circuit breaker A14 located on CBP-2 for system 2 is pulled and tagged.
    2) Open the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

    3) At EICAS routing unit 2 (JB9), find connector JB9J8.
    4) Remove the protective cap from connector JB9J8.
    5) At JB9J8, insert a GND signal at pins 60 and 63.
    6) Do the ice detection system test as follows:
        1) On the ANTI-ICE control panel, push the ICE switch/light.
        2) Make sure that the ICE caution message shows on the EICAS primary page during the test cycle.

        Note: *If the ICE caution message does not show, refer to the limitation for both ice detection systems inoperative.*
    7) At JB9J8, remove the jumper from pins 60 and 63.
    8) Install the protective cap on the connector JB9J8.
    9) Close the access door that follows:

Remarks may be continued on next page!

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

C. For both ice detectors inoperative, do as follows:

1) For the left and right ice detectors (ice detector 1 and ice detector 2) inoperative, open and tag the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T11	ICE DET 1	221
CBP-2	A14	ICE DET 2	222

Note: *When the deactivation procedure for both ice detectors is completed, the ICE DET FAIL caution message will show continuously on the EICAS primary page.*

PLACARD (P)

OR

9-MI-30-81-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Operations are not conducted in known or forecast icing conditions, and
2) Wing and cowl anti−ice systems are turned ON when icing conditions as defined in the OM exist or are anticipated, or when any ice build−up on the aircraft is observed.

MAINTENANCE (M)

A. For one inoperative ice detection system, do as follows:

1) For the left ice detector (ice detector 1) inoperative, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T11	ICE DET 1	221

Note: *When the deactivation procedure for the left ice detector is completed, the ICE DET 1 FAIL status message will show continuously on the EICAS secondary page.*

2) For the right ice detector (ice detector 2) inoperative, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	A14	ICE DET 2	222

Note: *When the deactivation procedure for the right ice detector is completed, the ICE DET 2 FAIL status message will show continuously on the EICAS secondary page.*

Once per flight day

Remarks may be continued on next page!

B. When the deactivation for one inoperative ice detector is completed, make sure that the remaining ice detector operates as follows:

Caution: *WEAR PROTECTIVE GLOVES WHEN YOU HOLD THE ICE DETECTOR STRUT AND REMOVE YOUR HAND IMMEDIATELY WHEN THE ICE CAUTION MESSAGE SHOWS ON THE EICAS. THE ICE DETECTOR GETS VERY HOT AND CAN CAUSE BURNS.*

Caution: *DO NOT USE TOOLS WHEN YOU DO THE HOLD TEST; OTHERWISE YOU CAN DAMAGE THE ICE DETECTOR.*

1) Hold the operative ice detector probe located at FS229.00.
2) Make sure that the ICE caution message shows on the EICAS primary page.
3) If the ICE message does not show on the EICAS primary page, do the alternate procedure that follows:

   Note: *The alternate procedure is effective for ALL aircraft Pre or Post ModSum 670T11824.*

   Left ice detector inoperative

   a) When the left ice detector is inoperative, make sure that the right ice detector is operative as follows:

      1) Make sure that circuit breaker T11 located on CBP-1 LOWER for system 1 is pulled and tagged
      2) Open the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

      3) At EICAS routing unit 1 (JB8), find connector JB8J8.
      4) Remove the protective cap from connector JB8J8.
      5) At JB8J8, insert a GND signal at pins 60 and 63.
      6) Do the ice detection system test as follows:

         1) On the ANTI-ICE control panel, push the ICE switch/ light.
         2) Make sure that the ICE caution message shows on the EICAS primary page during the test cycle.

            Note: *If the ICE caution message does not show, refer to the limitation for both ice detection systems inoperative.*

      7) At JB8J8, remove the jumper from pins 60 and 63.
      8) Install the protective cap on the connector JB8J8.
      9) Close the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

   Right ice detector inoperative

   b) When the right ice detector is inoperative, make sure that the left ice detector is operative as follows:

      1) Make sure that circuit breaker A14 located on CBP-2 for system 2 is pulled and tagged.
      2) Open the access door that follows:

PANEL	NAME	REFERENCE

Remarks may be continued on next page!

811	Main Avionics Compartment	

3) At EICAS routing unit 2 (JB9), find connector JB9J8.
4) Remove the protective cap from connector JB9J8.
5) At JB9J8, insert a GND signal at pins 60 and 63.
6) Do the ice detection system test as follows:
    1) On the ANTI-ICE control panel, push the ICE switch/light.
    2) Make sure that the ICE caution message shows on the EICAS primary page during the test cycle.

    Note: *If the ICE caution message does not show, refer to the limitation for both ice detection systems inoperative.*
7) At JB9J8, remove the jumper from pins 60 and 63.
8) Install the protective cap on the connector JB9J8.
9) Close the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

C. For both ice detectors inoperative, do as follows:

1) For the left and right ice detectors (ice detector 1 and ice detector 2) inoperative, open and tag the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T11	ICE DET 1	221
CBP-2	A14	ICE DET 2	222

Note: *When the deactivation procedure for both ice detectors is completed, the ICE DET FAIL caution message will show continuously on the EICAS primary page.*

PLACARD (P)

OR

9-MI-30-81-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCEDURE
A	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:
1) Operations are conducted during the day,
2) Wing and cowl anti−ice systems are turned ON when icing conditions as defined in the OM exist or are anticipated, or when any ice build−up on the aircraft is observed, and
3) Repairs are made within one flight day.

Remarks may be continued on next page!

A. Put an ICE DETECTION SYSTEM INOPERATIVE placard on the ANTI−ICE panel.

For any or all inoperative ice detection systems:

Note:

1) *When the deactivation procedure for ice detector 1 is completed, the "ICE DET 1FAIL" status message will be displayed continuously on the EICAS secondary page.*
2) *When the deactivation procedure for ice detector 2 is completed, the "ICE DET 2FAIL" status message will be displayed continuously on the EICAS secondary page*
3) *When the deactivation procedure for both ice detectors is completed, the "ICE DETFAIL" caution message will be displayed continuously on the EICAS primary page*
4) *When the deactivation procedure for one or both ice detectors is completed, the"ICE" caution message will not come into view in the EICAS primary page duringthe ice detection systems test.*
5) *When both ice detection systems are inoperative, the "ICE" caution message willnot come into view on the EICAS primary page if icing condition is present.*

MAINTENANCE (M)

A. For one inoperative ice detection system, do as follows:

1) For the left ice detector (ice detector 1) inoperative, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T11	ICE DET 1	221

Note: *When the deactivation procedure for the left ice detector is completed, the ICE DET 1 FAIL status message will show continuously on the EICAS secondary page.*

2) For the right ice detector (ice detector 2) inoperative, open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	A14	ICE DET 2	222

Note: *When the deactivation procedure for the right ice detector is completed, the ICE DET 2 FAIL status message will show continuously on the EICAS secondary page.*

Once per flight day

B. When the deactivation for one inoperative ice detector is completed, make sure that the remaining ice detector operates as follows:

Caution: *WEAR PROTECTIVE GLOVES WHEN YOU HOLD THE ICE DETECTOR STRUT AND REMOVE YOUR HAND IMMEDIATELY WHEN THE ICE CAUTION MESSAGE SHOWS ON THE EICAS. THE ICE DETECTOR GETS VERY HOT AND CAN CAUSE BURNS.*

Caution: *DO NOT USE TOOLS WHEN YOU DO THE HOLD TEST; OTHERWISE YOU CAN DAMAGE THE ICE DETECTOR.*

Remarks may be continued on next page!

1) Hold the operative ice detector probe located at FS229.00.
2) Make sure that the ICE caution message shows on the EICAS primary page.
3) If the ICE message does not show on the EICAS primary page, do the alternate procedure that follows:

Note: *The alternate procedure is effective for ALL aircraft Pre or Post ModSum 670T11824.*

Left ice detector inoperative

a) When the left ice detector is inoperative, make sure that the right ice detector is operative as follows:

1) Make sure that circuit breaker T11 located on CBP-1 LOWER for system 1 is pulled and tagged
2) Open the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

3) At EICAS routing unit 1 (JB8), find connector JB8J8.
4) Remove the protective cap from connector JB8J8.
5) At JB8J8, insert a GND signal at pins 60 and 63.
6) Do the ice detection system test as follows:

1) On the ANTI-ICE control panel, push the ICE switch/ light.
2) Make sure that the ICE caution message shows on the EICAS primary page during the test cycle.

Note: *If the ICE caution message does not show, refer to the limitation for both ice detection systems inoperative.*

7) At JB8J8, remove the jumper from pins 60 and 63.
8) Install the protective cap on the connector JB8J8.
9) Close the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

Right ice detector inoperative

b) When the right ice detector is inoperative, make sure that the left ice detector is operative as follows:

1) Make sure that circuit breaker A14 located on CBP-2 for system 2 is pulled and tagged.
2) Open the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

3) At EICAS routing unit 2 (JB9), find connector JB9J8.
4) Remove the protective cap from connector JB9J8.
5) At JB9J8, insert a GND signal at pins 60 and 63.
6) Do the ice detection system test as follows:

1) On the ANTI-ICE control panel, push the ICE switch/light.

Remarks may be continued on next page!

2) Make sure that the ICE caution message shows on the EICAS primary page during the test cycle.

Note: *If the ICE caution message does not show, refer to the limitation for both ice detection systems inoperative.*

7) At JB9J8, remove the jumper from pins 60 and 63.
8) Install the protective cap on the connector JB9J8.
9) Close the access door that follows:

PANEL	NAME	REFERENCE
811	Main Avionics Compartment	

C. For both ice detectors inoperative, do as follows:

1) For the left and right ice detectors (ice detector 1 and ice detector 2) inoperative, open and tag the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	T11	ICE DET 1	221
CBP-2	A14	ICE DET 2	222

Note: *When the deactivation procedure for both ice detectors is completed, the ICE DET FAIL caution message will show continuously on the EICAS primary page.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31 INDICATING/ RECORDING SYSTEMS

9-MI-31-14 Panels / Glareshield *(revised: MAY 2003)*

9-MI-31-14-01	**Master Warning Switch / Lights (Glareshield) (light function only)** *(revised: MAY 2003)*

9-MI-31-14-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(P)	I	-

PLACARD (P)

END

9-MI-31-14 Panels / Glareshield *(revised: MAY 2003)*

9-MI-31-14-02	**Master Caution Switch / Lights (Glareshield) (light function only)** *(revised: MAY 2003)*

9-MI-31-14-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31-21 Clock System *(revised: NOV 2016)*

9-MI-31-21-01	**Clocks** *(revised: NOV 2016)*

9-MI-31-21-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(P)	I	-

PLACARD (P)

OR

9-MI-31-21-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	2	0	(O) (P)	I	-

Both may be inoperative provided:

1) Both pilot and co−pilot have ready access to a reliable timepiece which display seconds (a wristwatch is acceptable),
2) FDR is considered inoperative, and
3) Repairs are made within three flight days.

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Flight Data Recorder (FDR)	31–31–01

OPERATIONS (O)
Refer to MEL OPS PROC 9-31-21-01 Clocks

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31-31 Flight Data Recorder (FDR) System *(revised: FEB 2024)*

9-MI-31-31-01	**Flight Data Recorder (FDR)** *(revised: JUN 2019)*

9-MI-31-31-01-A Flight Data Recorder

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	1	0	(P)	I	-

May be inoperative provided:

1) Cockpit voice recorder (CVR) is verified operative; and
2) Repairs are made within three flight days.

PLACARD (P)

OR

9-MI-31-31-01-B DFDR Recording Parameters required by Regulations

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	1	0	(P)	I	-

Up to three digital recording parameters may be inoperative provided:

1) Cockpit Voice Recorder (CVR) is operative, and
2) Repairs are made within twenty calendar days.

Note: *Parameters required by Regulations can be found in AMC1 CAT.IDE.A.190 Flight data recorder.*

PLACARD (P)

OR

9-MI-31-31-01-C DFDR Recording Parameters not requiredby Regulations

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	1	0	(P)	I	-

May be inoperative provided repairs are made before the completion of the next heavy maintenance visit.

Remarks may be continued on next page!

Note: *Parameters required by Regulations can be found in AMC1 CAT.IDE.A.190 Flight data recorder.*

PLACARD (P)

END

9-MI-31-31 Flight Data Recorder (FDR) System *(revised: FEB 2024)*

9-MI-31-31-02	**Quick Access Recorder (QAR)** *(revised: FEB 2024)*

9-MI-31-31-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	1	0	(M) (P)	I	-

MAINTENANCE (M)

A. For a QAR inoperative, do as follows:

The FDR can be used for the purpose of flight data monitoring.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31-41 Engine Indication and Crew Alerting System (EICAS)

(revised: SEP 2017)

9-MI-31-41-02	EICAS Control Panel (ECP) Discrete Buttons *(revised: MAY 2003)*

9-MI-31-41-02 EICAS Control Panel (ECP) Discrete Buttons 1) ECS 2) HYD 3) ELEC 4) FUEL 5) F/CTL 6) A/ICE 7) DOORS 8) SEL 9) MENU 10) UP 11) DN

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Each may be inoperative provided PRIM, STAT, CAS and STEP buttons are verified operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31-41 Engine Indication and Crew Alerting System (EICAS)

(revised: SEP 2017)

9-MI-31-41-03	**Lamp Drive Unit Channels** ***(revised: JAN 2001)***

9-MI-31-41-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One channel may be inoperative provided:

1) Affected channel is deactivated and
2) Remaining channel is tested operative.

MAINTENANCE (M)

For an inoperative lamp drive unit channel, deactivate it as follows:

a) Open and collar the circuit breaker for the inoperative lamp drive unit as follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	H5	EICAS LDU L	221

OR

CB PANEL	CB NO.	NAME	ZONE
CBP-2	Q9	EICAS LDU R	222

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31-41 Engine Indication and Crew Alerting System (EICAS)

(revised: SEP 2017)

9-MI-31-41-04	**Data Concentration Units (DCU) Fans** ***(revised: DEC 2002)***

9-MI-31-41-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(P)	I	-

PLACARD (P)

END

9-MI-31-41 Engine Indication and Crew Alerting System (EICAS)

(revised: SEP 2017)

9-MI-31-41-05	**AUDIO WARNING DCU 1/2/3 Switch Guards** ***(revised: APR 2006)***

9-MI-31-41-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(P)	I	-

May be inoperative provided DCU associated with operative switch guard is operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-31-61 Electrical Flight Display System *(revised: SEP 2017)*

9-MI-31-61-01	**EICAS Display Units (EDS#1 or ED#2)** *(revised: SEP 2017)*

9-MI-31-61-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Note: *When ED #1 is inoperative, the EICAS primary page information will automatically show on ED #2, which becomes the EICAS Primary page. Thus, the EICAS COMP INOP caution message may appear on ED #2 EICAS Primary page.*

Note: *On the source selector panel, set the EICAS source selector to the functioning ED.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32 LANDING GEAR

9-MI-32-30 Landing Gear Extension and Retraction System

(revised: FEB 2011)

9-MI-32-30-01	**Landing Gear Retraction System** ***(revised: FEB 2011)***

9-MI-32-30-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) Operations are conducted in accordance with OM Supplement (Flight with Landing Gear Down),
2) Operations are not conducted in known or forecast icing conditions,
3) Ground lock pins are installed to ensure that all three landing gears are locked down throughout flight,
4) Inflight performance information given in Flight Planning and Cruise Control Manual is used,
5) Extended overwater operations are prohibited,
6) Both headsets are worn,
7) Flight Compartment and Cabin Interphone systems are operative.
8) Both Flap Channels of the Slat Flap Electronic Control Unit are operative,
9) Both Flap Power Drive Unit Motors are operative,
10) Both Slat Channels of the Slat Flap Electronic Control Unit are operative,
11) Both Slat Power Drive Unit Motors are operative
12) Cat II and Cat III A operations are prohibited, and
13) Repairs are made within one calendar day.

MAINTENANCE (M)

For an inoperative landing gear retraction system, do as follows:

1) On the LDG GEAR control panel make sure the landing gear selection handle is in the DN position.
2) On the EICAS primary display, make sure that the 3 gear DN green indications are shown.
3) Install the landing gear ground lock safety pins in the nose and both of the main landing gear (refer to the AMM Task 10−11−00−400−801 and 10−11−00−400−802).

OPERATIONS (O)

Refer to MEL OPS PROC 9-32-30-01 Landing Gear Retraction System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-31 Landing Gear Control System *(revised: DEC 2002)*

9-MI-32-31-01	**Landing Gear Selector Handle Anti-Retraction Mechanism** *(revised: DEC 2002)*

9-MI-32-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative in the LOCKED position (down) provided downlock release mechanism is verified operative.

MAINTENANCE (M)

For an inoperative landing gear selector handle anti−retraction mechanism, do as follows:

1) Energize the aircraft electrical power systems.
2) On the LDG GEAR control panel make sure the landing gear selection handle is in the DN position.
3) On the EICAS primary display, make sure that the 3 gear DN green indications are shown.
4) Install the landing gear ground lock safety pins in the nose and both of the main landing gear (refer to the AMM Task 10−11−00−400−801 and 10−11−00−400−802).
5) On the HYDRAULIC control panel, make sure that the switches for ACMP 2, 3A and 3B are in the OFF position.
6) On the EICAS control panel, press the HYD discrete button. On the secondary EICAS screen make sure that the system 2 and 3 hydraulic pressure is 0 psi.
7) On the LDG GEAR control panel, push the DN LCK REL button and move the selector handle to the UP position. Make sure that the selector handle moves freely.
8) Move the selector handle to the DN position. Make sure that the handle moves freely and that the handle locks in the DN position.
9) Pressurize the hydraulic system 3. On the EICAS primary display, make sure that the 3 gear DN green indications are shown. Depressurize hydraulic system 3.
10) Remove the landing gear ground lock safety pins from the nose and both of the main landing gear (refer to the AMM Task 10−11−00−000−801 and 10−11−00−000−802).
11) Remove electrical power from the aircraft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-40 Landing Gear Wheels and Brakes *(revised: JUN 2008)*

9-MI-32-40-01	**Tire Pressure Indicator** *(revised: JUN 2008)*

9-MI-32-40-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	6	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

MAINTENANCE (M)

A. For an inoperative tire pressure indicator, do as follows:

1) Make sure that the tire is at the correct pressure as follows:

a) Do the Servicing of the Tires (refer to TASK 12-12-32-610-806).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-42 Nose Landing Gear Wheel and Tire Assembly

(revised: APR 2006)

9-MI-32-42-01	**Nose Wheel Spin Down Straps** ***(revised: APR 2006)***

9-MI-32-42-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Straps are removed, and
2) Nose wheel tires are visually checked for damage.

MAINTENANCE (M)

A. For an inoperative Nose Wheel Spin Down Strap, do as follows:

a) Remove both Nose Wheel Spin Down Straps (refer to TASK 32−42−03−000−802).

b) Do a Visual Inspection of the nosewheel and Tire Assembly (refer to TASK 32−42−01−210−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-43 Brake System *(revised: MAY 2003)*

9-MI-32-43-01	**Brake Accumulator Pressure Gauges** *(revised: MAY 2003)*

9-MI-32-43-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be inoperative provided accumulator pre−charge pressure is checked using a suitable pressure gauge.

MAINTENANCE (M)

For an inoperative brake accumulator pressure gauge, do as follows:

a) Make sure that the affected brake accumulator(s) pre-charge is serviceable, do the procedure for deactivation of the brake accumulator pressure gauge (refer to the AMM TASK 32−43−00−040−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-44 Anti-Skid Control System *(revised: FEB 2017)*

9-MI-32-44-01	**Anti-Skid (System) Channels** *(revised: FEB 2017)*

9-MI-32-44-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Either the inboard or outboard channel may be inoperative provided:

1) Nosewheel steering is operative,
2) Both pairs of ground spoilers are operative,
3) Both thrust reversers are operative,
4) Both inboard and outboard wheel brakes are verified operative,
5) Both EICAS Brake Temperature Monitor Readouts associated with the operative anti−skid channel are operative,
6) Reduced thrust take−off operations are prohibited,
7) Take−off is not conducted from a wet runway,
8) Take−off or landing is not conducted from a contaminated runway, and
9) For Ferry Flights only.

Note: *Activate item in Performance Software.*

MAINTENANCE (M)

A. For an inoperative anti-skid system channel, do as follows:

1) Do the operational test of the brake system as follows:

a) Connect electrical power to the aircraft.
b) Pressurize hydraulic system No. 2 for the outboard brakes.
c) Pressurize hydraulic system No.3 for the inboard brakes.
d) On the EICAS control panel, push the HYD pushbutton.
e) Make sure that the HYDRAULIC synoptic page shows on the ED#2.
f) Make sure that the brake pressure indications are 3000 psi (20684kPa).
g) On the LDG GEAR control panel, set the ANTI SKID switch to OFF.
h) Push and release the pilot`s brake pedal.
i) Make sure that the discs on each brake unit compress and release.
j) Push and release the copilot`s brake pedal.
k) Make sure that the discs on each brake unit compress and release.
l) Release hydraulic pressure of systems No. 2 and No. 3.
m) On the LDG GEAR control panel, set the ANTI SKID switch to ARMED.
n) On the EICAS control panel, push the STAT pushbutton.
o) Make sure that the Status page shows on the ED#2.
p) Remove the electrical power from the aircraft, as required.

OPERATIONS (O)

Remarks may be continued on next page!

Refer to MEL OPS PROC 9-32-44-01 Anti-Skid (System) Channels

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-45 Parking Brake System *(revised: FEB 2017)*

9-MI-32-45-01	**Parking Brake Handle Locking Positions (clockwise and counter-clockwise)** *(revised: FEB 2017)*

9-MI-32-45-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Parking brake system is verified operative,
2) Remaining locking position is verified operative before each flight, and
3) Inoperative locking position is legibly placarded.

OPERATIONS (O)

Refer to MEL OPS PROC 9-32-45-01 Parking Brake Handle Locking Positions (clockwise and counter-clock-wise)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-46 Brake Temperature Monitoring System *(revised: JAN 2020)*

9-MI-32-46-01	**EICAS Brake Temperature Monitoring System Readouts** *(revised: JAN 2020)*

9-MI-32-46-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	4	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided:

1) Quick turn around landing weight charts are used, and
2) Minimum brake cooling times are observed.

MAINTENANCE (M)

For an EICAS Brake Temperature Monitoring Readout that is intermittent, not accurate, or inoperative, deactivate the applicable sensor as follows:

(1) Disconnect the applicable BTMS thermocouple connector as follows:

(a) For a right inboard sensor (TC06), connector TC06P1,

(b) For a right outboard sensor (TC07), connector TC07P1,

(c) For a left inboard sensor (TC08), connector TC08P1, and/ or

(d) For a left outboard sensor (TC09), connector TC09P1.

(2) Cap the applicable harness connector with a metal dust cap.

Note: *Use metal dust cap (D38999/32W09N or D38999/32W9N) or (D38999/32W09R or D38999/32W9R) for harness plugs TC6P1, TC7P1, TC8P1, and/ or TC9P1.*

(3) Stow the steel rope with lacing tape or cable tie, or cut and discard steel rope from metal cap.

(4) Stow connector to its own harness tubing using lacing tape or cable ties (MS3367).

(5) Cap the applicable thermocouple connector with a metal dust cap.

Note: *Use metal dust cap (D38999/33W09N or D38999/33W9N) or (D38999/33W09R or D38999/33W9R) for thermocouple jacks TC6J1, TC7J1, TC8J1, and/or TC9J1.*

(6) Cut and discard steel rope from metal cap.

Note:

1. *If metal dust cap are unavailable it is permitted, as an alternate method, to cap the applicable harness connector or thermocouple connector with hi−temp sleeve and lacing tape (Refer to Electrical/Electronic Components Standard Practices Manual (CSP BC−115), SPM 20−12−05, figure 2).*
2. *Use any shrinkable hi−temp sleeve that can withstand temperature up to 275°F (135°C) minimum and lacing tape that can withstand temperature up to 350°F (177°C) minimum (Refer to Electrical/Electronic Components Standard Practices Manual (CSP BC−115), SPM 20–12–05, for sleeve and lacing tape selection).*

(7) Make sure that the secured harness cannot catch with landing gear parts.

PLACARD (P)

Remarks may be continued on next page!

END

Remarks may be continued on next page!

9-MI-32-46 Brake Temperature Monitoring System *(revised: JAN 2020)*

9-MI-32-46-02	A/ SKID Sub-System *(revised: FEB 2017)*

9-MI-32-46-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative as indicated by “A/SKID FAULT” status message on EICAS.

MAINTENANCE (M)

Make sure that bit 20 (SPINDOWN FAIL) on label 350A and 350B is not set to 1 as follows:

Note: *If bit 20 is set to 1, dispatch is not permitted.*

1) Energize the electrical power systems.
2) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD 1 or MFD 2.
3) On the mutlifunction display (MFD), make sure that the MAINTENANCE MAIN MENU page shows.
4) On the ECP, push the UP and DN push-buttons to move the cursor (>) to the LRU INDEX line.
5) On the ECP, push the SEL push-button to get access to the LRU INDEX page.
6) On the ECP, push-button to get access to the A/SKID CTRL UNIT operation page.
7) On the ECP, push the HYD push-button to move the cursor (>) next to label 350A.
8) On the ECP, push the SEL push-button to get access to label 350A.
9) On the DATA READER page, do as follows:
    a) Make sure that bit 20 is not set to 1 on labels 350A.
10) On the ECP, push the DOOR push-button to go back to the LRU OPERATION page.
11) On the ECP, push the SEL push-button to move the cursor (>) next to label 350B.
12) On the ECP, push the SEL push-button to get access to label 350B.
13) On the DATA READER page, do as follows:
    a) Make sure that bit 20 is not set to 1 on labels 350B.
14) Exit the MDC as follows:
    a) On the ECP, push the DOORS push-button as required to go back to the MAINTENANCE MAIN MENU page.
    b) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF.
    c) Make sure that the navigation data shows on the MFD 1 (MFD 2)
15) Remove electrical power from the aircraft.

OPERATIONS (O)

Refer to MEL OPS PROC 9-32-46-02 A/ SKID Sub-System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-47 Brake Pressure Monitoring System *(revised: FEB 2011)*

9-MI-32-47-01	**EICAS Brake Pressure Readouts** *(revised: FEB 2011)*

9-MI-32-47-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Brake accumulator(s) nitrogen pressure is checked prior to the first flight of the day;
2) Capability of brake accumulators to retain adequate hydraulic fluid for brakes is verified prior to the first flight of the day; and
3) EICAS hydraulic pressure readouts are operative.

MAINTENANCE (M)

A. For an inoperative EICAS brake pressure readout, do the step that follows before the first flight of the day:

1) Pressurize hydraulic system No.2.
2) Pressurize hydraulic system No. 3.
3) Release hydraulic pressure of system No.2 to 0 psi without using the pilot or copilot brake pedals.
4) Release hydraulic pressure of system No. 3 to 0 psi without using the pilot or copilot brake pedals.
5) Fifteen minutes after release of the hydraulic pressure, record the brake accumulator hydraulic pressure from the brake accumulator gauge.
6) Make sure that the pressure is more than 2.500 psi to show proper brake hydraulic pressure and fluid retention.

Note: *A minimum hydraulic pressure of 1.800 psi is required at the accumulator to provide at least six firm brake applications after loss of hydraulic system power.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-50 Steering System *(revised: FEB 2012)*

9-MI-32-50-01	**Nosewheel Steering** *(revised: FEB 2012)*

9-MI-32-50-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Solenoid selector valve is not failed OPEN,
2) Landing gear selector valve is verified operative,
3) Nosewheel steering system is selected OFF,
4) Take−off or landing on contaminated runway is prohibited,
5) Both pairs of Ground Spoilers are operative, and
6) For Ferry Flights only
7) max. Crosswind component for take−off and landing is 15 knots
8) Use performance correction according workpad
9) For ferry flights only.

Note: *NOTE Asymmetric brakes rather than asymmetric thrust should be used to maintain directional control as required at low speed end of the roll.*

MAINTENANCE (M)

A. For an inoperative nosewheel steering, do as follows:

1) Energize the aircraft electrical power systems.
2) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to MFD 1 or MFD 2.
3) On the MFD, make sure that the MAINTENANCE MAIN MENU page shows.
4) On the EICAS control panel (ECP), push the UP and DN push-button to move the cursor (>) to the CURRENT FAULTS line.

   Note: *The function of the push-button on the EICAS control panel shows at the bottom of the MFD display.*
5) On the ECP, push the SEL push-button to get access to the CURRENT FAULTS page.
6) Wait for a minimum of one minute until all of the faults show.
7) On the MFD, look for the NWS SOLENOID VALVE FAIL message
8) If the message NWS SOLENOID VALVE FAIL message shows on the MFD, do as follows:
   a) Make sure that the solenoid selector valve has not failed in the open position as follows:
      - 1 Do the special inspection of the nosewheel steering solenoid−selector−valve (refer to TASK 32−51−00−280−801).

        Note: *This special inspection is to make sure that the nosewheel steering solenoid−selector−valve has not failed in the open position and that it is free to move from the left and the right in free−castering mode.*
      - 2 Make sure that the N/W STRG switch is set to OFF.

Remarks may be continued on next page!

9) Do the operational test of the brake system (refer to TASK 32−43−00−710−801).
10) Exit from the MDC as follows:
    a) On the ECP, push the MENU push-button to go back to the MAINTENANCE MAIN MENU page.
    b) On the FS280.00 bulkhead panel behind the pilot seat, set the MAINT switch to OFF
    c) Make sure that the navigation data shows on the MFD 1 (MFD 2).
11) Verify that the Landing Gear Selector Valve is operative as follows:
    a) Remove the hydraulic pressure from system No.3 (refer to TASK 12−00−06−862−804).
    b) Manually move one of the main landing gear uplocks to the locked position.
    c) Make sure that the LDG GEAR control handle is in the DN position.
    d) Pressurize the hydraulic system No.3 (refer to TASK 12−00−06−862−803).
    e) Make sure that the uplock unlocks.
12) Remove all tools, equipment, and unwanted materials from the work area.

OPERATIONS (O)

Refer to MEL OPS PROC 9-32-50-01 Nosewheel Steering

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-32-60 Proximity Sensing System *(revised: FEB 2016)*

9-MI-32-60-01	**Proximity Sensing System** *(revised: FEB 2016)*

9-MI-32-60-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “PROX SYS FAULT 2” status message.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33 LIGHTS

9-MI-33-11 Panel Floodlighting System *(revised: AUG 2003)*

9-MI-33-11-01	**Cockpit / Flight Deck / Flight Compartment and Instrument Lightning Systems (excluding EFIS)** *(revised: AUG 2003)*

9-MI-33-11-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Individual lights may be inoperative provided remaining lights are:

1) Sufficient to clearly illuminate all required instruments, controls and other devices for which it is provided,
2) Positioned so that direct rays are shielded from flight crew members eyes, and
3) Lighting configuration and intensity is acceptable to flight crew.

PLACARD (P)

9-MI-33-11-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-13 Miscellaneous Lighting System *(revised: MAY 2003)*

9-MI-33-13-01	**Cockpit Dome Light** *(revised: MAY 2003)*

9-MI-33-13-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-21 Passenger Compartment Lights *(revised: AUG 2023)*

9-MI-33-21-01	**Cabin Interior Lights** *(revised: AUG 2023)*

9-MI-33-21-01-A A/C with Fluorescent Lights

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	-	-	(P)	I	-

All sidewall downwash lights and up to 50% of ceiling lights may be inoperative provided:

1) No more than two adjacent and no opposite ceiling lights may be inoperative,
2) Cabin interior light brightness control is operative or failed in bright state,
3) Sufficient lighting is operative for cabin crew to perform required duties, and
4) Lighting configuration at dispatch is acceptable to the flight crew.

PLACARD (P)

OR

9-MI-33-21-01-B A/C with LED Lights

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	-	-	(O) (P)	I	-

Up to 50% of total length of ceiling upwash lights and of sidewall downwash lights may be inoperative provided:

1) Inoperative lighting configuration is verified acceptable,
2) Brightest state of cabin interior light brightness control is available.
3) Sufficient lighting is operative for cabin crew to perform required duties, and
4) Lighting configuration at dispatch is acceptable to the flight crew.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-21-01 Cabin Interior Lights

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-21 Passenger Compartment Lights *(revised: AUG 2023)*

9-MI-33-21-02	**Stair Lights** *(revised: MAR 2007)*

9-MI-33-21-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	3	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-23 Flight Attendant, Dome and Boarding Lights *(revised: DEC 2002)*

9-MI-33-23-02	**Entrance Lights** *(revised: DEC 2002)*

9-MI-33-23-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	3	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided sufficient lighting for cabin crew is available to perform required duties.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-24 Ordinance Signs *(revised: FEB 2011)*

9-MI-33-24-01	**Passenger Notice System (No Smoking / Fasten Seat Belts)** *(revised: OCT 2012)*

9-MI-33-24-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Aircraft crew are the only occupants of the aircraft,
2) Alternate procedures are established and used, and
3) Repairs are made within one flight day.

Note: *For the purpose of this item "aircraft crew" is considered to be flight crew members, flight attendants, aircraft maintenance personnel and supervisory crew members.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-24-01 Passenger Notice System (No Smoking / Fasten Seat Belts)

PLACARD (P)

OR

9-MI-33-24-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) PA system is operative, and
2) Procedures are established and used to alert flight attendants and notify passengers when seat belts are to be fastened and smoking is prohibited

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-24-01 Passenger Notice System (No Smoking / Fasten Seat Belts)

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-33-24-01-C Automatic Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(O) (P)	I	-

May be inoperative provided:
1) Manual control function is verified operative, and
2) Alternate procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-24-01 Passenger Notice System (No Smoking / Fasten Seat Belts)

PLACARD (P)

9-MI-33-24-01-D No Smoking / Fasten Seat Belt Signs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	-	0	(O) (P)	I	-

May be inoperative provided:
1) PA system is operative, and
2) Procedures are established and used to alert flight attendants and notify passengers when seat belts are to be fastened and smoking is prohibited.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-24-01 Passenger Notice System (No Smoking / Fasten Seat Belts)

PLACARD (P)

OR

9-MI-33-24-01-E

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	-	-	(O) (P)	I	-

One or more may be inoperative provided passenger or flight attendant seats from which a sign is illegible or missing shall not be occupied and must be blocked and placarded “DO NOT OCCUPY”.

A. For an inoperative automatic passenger notice system, do as follows:
1) Put a PASSENGER NOTICE SYSTEM (NO SMOKING/FASTEN SEAT BELTS) AUTOMATIC SYSTEM INOPERATIVE placard on the PASS SIGNS / EMER LTS control panel.

Remarks may be continued on next page!

2) Put a PASSENGER NOTICE SYSTEM (NO SMOKING/FASTEN SEAT BELTS) MANUAL SYSTEM INOPERATIVE placard on the PASS SIGNS / EMER LTS control panel.

B. For an inoperative manual passenger notice system, do as follows:

1) Put a PASSENGER NOTICE SYSTEM (NO SMOKING/FASTEN SEAT BELTS) MAN- UAL SYSTEM INOPERATIVE placard on the PASS SIGNS / EMER LTS control panel.

- Put a SEAT POSITION XX NO SMOKING / FASTEN SEAT BELT INOPERATIVE

  placard on the PASS SIGNS / EMER LTS control panel.
- Put a SIGN INOPERATIVE placard on the affected NO SMOKING / FASTEN SEAT BELT sign(s)

2) When an alternative procedure is not used, do as follows:

- Put a SEAT POSITION XX NO SMOKING/ FASTEN SEAT BELT INOPERATIVE

  placard on the PASS SIGNS / EMER LTS control panel.
- Put a SIGN INOPERATIVE placard on the affected NO SMOKING / FASTEN SEAT BELT sign(s)
- Put a DO NOT OCCUPY placard on the passenger seat (as applicable), and/or flight attendant seat (as applicable), and/or on the lavatory door (as applicable).

  Note: *If the flight attendant seat is affected, refer to item 25−22−01, Flight Attendant Seats, for the dispatch limitations.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-33-24-01 Passenger Notice System (No Smoking / Fasten Seat Belts)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-31 Service Lights *(revised: MAY 2007)*

9-MI-33-31-01	**Service Lights** *(revised: MAY 2007)*

9-MI-33-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
D	1	0	(P)	I	-

Put an INOP label on the appropriate SERVICE LIGHT panel.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-32 Maintenance Lights *(revised: MAY 2007)*

9-MI-33-32-01	**Maintenance Lights** *(revised: MAY 2007)*

9-MI-33-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-41 Landing and Taxi Lights *(revised: MAY 2007)*

9-MI-33-41-01	**Landing Lights** *(revised: JUN 2018)*

9-MI-33-41-01-A Nose Light

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(P)	I	-

May be inoperative provided:
1) Both wing landing lights are operative, and
2) Both taxi / recognition lights are operative.

PLACARD (P)

OR

9-MI-33-41-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided aircraft is not operated at night.

PLACARD (P)

9-MI-33-41-01-C Wing Lights

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

Both may be inoperative provided aircraft is not operated at night.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-33-41-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	1	(P)	I	-

One may be inoperative provided the associated taxi/recognition light is operative.

PLACARD (P)

END

9-MI-33-41 Landing and Taxi Lights *(revised: MAY 2007)*

9-MI-33-41-02	**Taxi / Recognition Lights** *(revised: MAY 2007)*

9-MI-33-41-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

Both may be inoperative provided two landing lights are operative.

PLACARD (P)

OR

9-MI-33-41-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

Both may be inoperative provided aircraft is not operated at night.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-42 Navigation Lights System *(revised: DEC 2013)*

9-MI-33-42-01	**Navigation Lights** *(revised: DEC 2013)*

9-MI-33-42-01-A Wing Tip Position Light Bulbs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	4	2	(O) (P)	I	-

One light bulb may be inoperative at each wing tip provided remaining light bulb is verified operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-42-01 Navigation Lights

PLACARD (P)

OR

9-MI-33-42-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	4	0	(P)	I	-

All may be inoperative provided aircraft is not operated at night.

Not required.

PLACARD (P)

9-MI-33-42-01-C Aft Position Light Bulbs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(O) (P)	I	-

One light bulb may be inoperative provided remaining light bulb is verified operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-42-01 Navigation Lights

PLACARD (P)

Remarks may be continued on next page!

OR

9-MI-33-42-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided aircraft is not operated at night.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-43 Wing Inspection Lights *(revised: MAY 2007)*

9-MI-33-43-01	Wing Inspection Lights *(revised: MAY 2007)*

9-MI-33-43-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	0	(P)	I	-

Both may be inoperative provided:

1) Ground de−icing procedures do not require their use, and
2) A portable lamp/light of adequate capacity for wing and/or control surface inspection is available for night operations in icing conditions.

PLACARD (P)

OR

9-MI-33-43-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
D	2	0	(P)	I	-

Both may be inoperative provided aircraft is not operated at night.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-44 Anti-Collision and Beacon Lights *(revised: FEB 2012)*

9-MI-33-44-01	**High Intensity Anti-Collision Strobe Lights** *(revised: MAY 2007)*

9-MI-33-44-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided aircraft is not operated at night.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-44 Anti-Collision and Beacon Lights *(revised: FEB 2012)*

9-MI-33-44-02	**Low Intensity Red Beacon Lights** *(revised: FEB 2012)*

9-MI-33-44-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided all High Intensity Anti-Collision Strobe Lights are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-44-01 Low Intensity Red Beacon Lights

PLACARD (P)

OR

9-MI-33-44-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) Aircraft is not operated at night and
2) All High Intensity Anti−Collision Strobe Lights are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-44-01 Low Intensity Red Beacon Lights

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-46 Logo Lights *(revised: MAY 2007)*

9-MI-33-46-01	Tail Flood Lights (Logo Lights) *(revised: MAY 2007)*

9-MI-33-46-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-51 Emergency Lights *(revised: FEB 2011)*

9-MI-33-51-01	Cabin Emergency Lights *(revised: FEB 2011)*

9-MI-33-51-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	-	0	(O) (P)	I	-

May be inoperative provided:

1) Aircraft crew are the only occupants of the aircraft,
2) No crew occupies area of affected lights,
3) Alternate procedures are established and used, and
4) Repairs are made within one calendar day.

Note: *For the purpose of this item "aircraft crew" is considered to be crew members, flight attendants, aircraft maintenance personnel and supervisory crew members..*

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-51-01 Cabin Emergency Lights

PLACARD (P)

9-MI-33-51-01-B Ceiling Level Emergency Floodlights

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	8	5	(P)	I	-

Three lights may be inoperative provided they are not adjacent to each other.

PLACARD (P)

9-MI-33-51-01-C Floor Level Emergency Floodlights

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	-	I	-

Remarks may be continued on next page!

9-MI-33-51-01-D Lighted Ceiling ExitSigns

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	3	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Each exit locator may have 50% of its internal lights inoperative, except that tip lights in exit sign must be operative.

PLACARD (P)

9-MI-33-51-01-E (Curved Signs) Lighted Exit Signs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	6	6	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Each exit sign may have 50% of its internal lights inoperative.

PLACARD (P)

OR

9-MI-33-51-01-F (Curved Signs) Lighted Floor Level Exit Signs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	6	6	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

9-MI-33-51-01-G Photolumescent Floor Proximity Emergency Escape Path Marking System Strip / Tape (A/C with ModSum TC601R101452, or TC601R101462, or TC601R101520)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be damaged or segment(s) missing provided:

1) Length of the affected section (s) does not exceed 8 in. (20cm).
2) Affected section(s) is not attached to the overwing exit marker cross sections,
3) Overwing exit marker cross sections are not affected,

Remarks may be continued on next page!

4) Interval between affected sections on the same side is not less than 128 in. (326cm),
5) Interval between affected sections on the opposite sides is not less than 60 in. (153cm), and
6) Maximum total length of the affected sections on both sides does not exceed 72 in. (220cm).

Note: *For the purpose of this item, the term "damaged" implies a degradation of the path marking system strip/tape that prevents the system to perform its intended functions (permanent stain masking system strip/tape).*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-33-51 Emergency Lights *(revised: FEB 2011)*

9-MI-33-51-02	**Exterior Emergency Lights** *(revised: FEB 2011)*

9-MI-33-51-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	-	0	(O) (P)	I	-

All may be inoperative provided aircraft is not operated at night.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-51-02 Exterior Emergency Lights

PLACARD (P)

9-MI-33-51-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	8	6	(O) (P)	I	-

Forward overwing emergency light on each side of the aircraft may be inoperative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-33-51-02 Exterior Emergency Lights

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34 NAVIGATION

9-MI-34-12 Standby Pneumatics Instruments *(revised: MAY 2017)*

9-MI-34-12-01	**ISI (Integrated Standby Instruments)** *(revised: MAY 2017)*

9-MI-34-12-01-A NAV Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

OR

9-MI-34-12-01-B Attitude Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) Operations are conducted in day VMC, and
2) Source selector is selected to NORMAL with each side fed from its on−side AHRS/IRS.

PLACARD (P)

OR

9-MI-34-12-01-C STD Button

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided ISI BARO knob operates normally.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-12-01 ISI (Integrated Standby Instruments)

PLACARD (P)

Remarks may be continued on next page!

END

Remarks may be continued on next page!

9-MI-34-14 Altitude Alerting System *(revised: AUG 2003)*

9-MI-34-14-01	**Altitude Alerting System** *(revised: AUG 2003)*

9-MI-34-14-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	RVSM

Except where enroute operations require its use, may be inoperative provided:

1) Autopilot with altitude hold is operative, and
2) Aeroplanes are not operated under RVSM.
3) Repairs are made within three calendar days.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-21 Attitude Heading Reference System (AHRS) Fans

(revised: DEC 2014)

9-MI-34-21-01	**Attitude Heading Reference System (AHRS) Fans** *(revised: DEC 2014)*

9-MI-34-21-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

END

Remarks may be continued on next page!

9-MI-34-22 Standby Compass System *(revised: MAY 2003)*

9-MI-34-22-01	**Non-stabilized Standby Magnetic Compass Indicator** *(revised: MAY 2003)*

9-MI-34-22-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Any combination of two Gyro or INS (IRU) Stabilized Compass Systems operate normally, and
2) Operations are conducted with Dual Independent Navigation Capability and under Positive Radar Control by ATC on the enroute portion of the flight.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-22-01 Non-stabilized Standby Magnetic Compass Indicator

PLACARD (P)

OR

9-MI-34-22-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative for flights that are entirely within areas of magnetic unreliability provided at least two Stabilized Directional Gyro Systems are installed, operative and used in conjunction with approved Free Gyro Navigation Techniques.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-22-01 Non-stabilized Standby Magnetic Compass Indicator

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-25 Electronic Flight Instruments System (EFIS) *(revised: SEP 2019)*

9-MI-34-25-01	Source Selector Panel Switches *(revised: SEP 2019)*

9-MI-34-25-01-A ATTD / HDG, DSPLCONT

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
-	-		-	I	-

Relief deleted.

9-MI-34-25-01-B AIR DATA

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
-	-		-	I	-

Relief deleted.

END

Remarks may be continued on next page!

9-MI-34-32 Head-Up Guidance System (HGS) *(revised: JUN 2008)*

9-MI-34-32-01	**Head-up Guidance System** *(revised: JUN 2008)*

9-MI-34-32-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided routine procedures do not require its use.

MAINTENANCE (M)

For an inoperative head−up guidance system, deactivate as follows:

1) Open and collar the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	D10	HGS CMPTR	
CBP-1	D11	HGS CTRL	

2) If the combiner unit is not already stowed, release the stowage/ release handle and put the combiner unit into the stowed position.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-41 Weather Radar System *(revised: MAY 2017)*

9-MI-34-41-01	**Weather Radar System** *(revised: MAY 2017)*

9-MI-34-41-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

The system may be inoperative provided the weather reports or forecasts available to the commander indicate that cumulo−nimbus clouds or other potentially hazardous weather conditions, which could be detected by the system(s) when in working order, are unlikely to be encountered on the intended route or any planned diversion therefrom.

CAT.IDE.A.160 Airborne weather radar equipment

1) An operator shall not operate:
   - A pressurized aeroplane; or
   - An unpressurized aeroplane which has a maximum certificated take−off mass of more than 5.700 kg; or
   - An unpressurized aeroplane having a maximum approved passenger seating configuration of more than 9 seats after 1 April 1999, unless it is equipped with airborne weather radar equipment whenever such an aeroplane is being operated at night or in instrument meteorological conditions in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable with airborne weather radar, may be expected to exist along the route.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-41 Weather Radar System *(revised: MAY 2017)*

9-MI-34-41-02	**Weather Radar Control Panel** *(revised: MAY 2003)*

9-MI-34-41-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-42 Ground Proximity Warning System (GPWS) *(revised: MAR 2019)*

9-MI-34-42-01	**Ground Proximity Warning System** *(revised: MAR 2019)*

9-MI-34-42-01-A Ground Proximity Warning System

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided repairs are made within 6 consecutive flights or 25 hours or 2 calendar days whichever occurs first.

Note: *The GPWS is considered inoperative if any of the Terrain Avoidance Modes 1−4 or the Test Mode is inoperative.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-42-01 Ground Proximity Warning System

PLACARD (P)

OR

9-MI-34-42-01-B Glideslope Deviation(Mode 5)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

OR

9-MI-34-42-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided operations are conducted in day VMC conditions only.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-34-42-01-D Advisory Callouts(Mode 6)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

Note: *Check OM limitations for approach minimums.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-42-01 Ground Proximity Warning System

PLACARD (P)

OR

9-MI-34-42-01-E Windshear Mode(Mode 7)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-42-01 Ground Proximity Warning System

PLACARD (P)

OR

9-MI-34-42-01-F Terrain Awarenessand Warning System(TAWS)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) GPWS is operative, and
2) Repairs are made within ten calendar days.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-34-42-01-G Runway Awarenessand Advisory System(RAAS) (if installed)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
GPWS	34-42-01

PLACARD (P)

END

9-MI-34-42 Ground Proximity Warning System (GPWS) *(revised: MAR 2019)*

9-MI-34-42-02	**GRND PROX TERRAIN Switch Guard** *(revised: MAR 2006)*

9-MI-34-42-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-42 Ground Proximity Warning System (GPWS) *(revised: MAR 2019)*

9-MI-34-42-03	**GRND PROX FLAP Switch Guard** *(revised: MAR 2006)*

9-MI-34-42-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) System Modes 1−4 are considered inoperative, and
2) Repairs are made within 6 consecutive flights or 25 flight hours or 2 calendar days whichever occurs first.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-43 Traffic Alert and Collision Avoidance System (TCAS)

(revised: FEB 2024)

9-MI-34-43-01	**Traffic Alert and Collision Avoidance System (TCAS II)** ***(revised: FEB 2024)***

9-MI-34-43-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
A	1	0	(O) (P)	I	-

May be inoperative for a maximum of 3 calendar days provided the system is de-activated and secured.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)

PLACARD (P)

9-MI-34-43-01-B Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Displays

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(O) (P)	I	-

May be inoperative provided:
1) TA and RA elements and audio functions are operative on flying pilot side, and
2) TA and RA display indications are visible to the non-flying pilot.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)

PLACARD (P)

OR

9-MI-34-43-01-C Resolution Advisory (RA) Display System(s)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(O) (P)	I	-

One may be inoperative on non-flying pilot side.

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)

PLACARD (P)

OR

9-MI-34-43-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) All Traffic Alert (TA) display elements and voice command audio functions are operative, and
2) TA only mode is selected by the crew.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)

PLACARD (P)

OR

9-MI-34-43-01-E Traffic Alert (TA) Display System(s)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided all installed RA dispaly and audio functions are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-43-01 Traffic Alert and Collision Avoidance System (TCAS II)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-44 Radio Altimeter System *(revised: FEB 2024)*

9-MI-34-44-01	**Radio Altimeter** *(revised: FEB 2024)*

9-MI-34-44-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Approach minimums are not dependent on its use, and
2) Spoiler/Stabilizer Subsystem of SSCS is considered inoperative

Note: *SPLR/STAB FAULT status message will be displayed on EICAS.*

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Spoiler/ Stabilizer Subsystem	27–65–02

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-44-01 Radio Altimeter

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-44 Radio Altimeter System *(revised: FEB 2024)*

9-MI-34-44-02	**Radio Altimeter Test Switches** *(revised: FEB 2017)*

9-MI-34-44-02-A Single RadioAltimeter Installation

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(P)	I	-

One may be inoperative provided RADALT test function on the operative side is performed prior to each flight.

PLACARD (P)

OR

9-MI-34-44-02-B Dual Radio Altimeter Installation

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(P)	I	-

One may be inoperative provided:

1) RAD ALT test function on the operative side is performed prior to each flight, and
2) Associated Radio Altimeter with the operative test switch is operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-45 Inertial Reference System (IRS) *(revised: FEB 2017)*

9-MI-34-45-01	**IRS FAN** *(revised: FEB 2017)*

9-MI-34-45-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-50 Dependent Position Determining *(revised: OCT 2021)*

9-MI-34-50-01	**Long Range Navigation Systems (Navigation function only, GPS)** *(revised: OCT 2021)*

9-MI-34-50-01-A INS/ IRS (Navigation Function only)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Procedures do not require its use,
2) Affected IRS Navigation Function is disabled through FMS, and
3) For any IRS in ATT mode, the associated Flight Director Modes are considered inoperative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-50-01-A INS/ IRS (Navigation Function only)

PLACARD (P)

OR

9-MI-34-50-01-B GPS

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be inoperative provided:

1) The navigation systems required for each segment of the intended flight route are operative, and
2) Alternate procedures are established and used, where applicable.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-50-01-B GPS

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-51 VHF Navigation System *(revised: OCT 2021)*

9-MI-34-51-01	**Marker Beacon System** *(revised: FEB 2017)*

9-MI-34-51-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative for IFR operations provided approach procedures do not require marker fixes.

PLACARD (P)

OR

9-MI-34-51-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative for VFR operations.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-51 VHF Navigation System *(revised: OCT 2021)*

9-MI-34-51-02	VHF Navigation Systems (ILS/ VOR) *(revised: OCT 2021)*

9-MI-34-51-02-A VHF Navigation Systems (ILS)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	0	(O) (P)	I	-

One or more may be inoperative provided:

1) The navigation systems required for each segment of the intended flight route are operative, and
2) Alternate procedures are established and used, where applicable.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-51-02-A VHF Navigation Systems (ILS)

PLACARD (P)

OR

9-MI-34-51-02-B VHF Navigation Systems (VOR)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(O) (P)	I	-

One or more may be inoperative provided:

1) The navigation systems required for each segment of the intended flight route are operative, and
2) Alternate procedures are established and used, where applicable.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-51-02-B VHF Navigation Systems (VOR)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-52 Automatic Direction Finder System (ADF) *(revised: OCT 2021)*

9-MI-34-52-01	Automatic Direction Finder (ADF) *(revised: OCT 2021)*

9-MI-34-52-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(O) (P)	I	-

One or more may be inoperative provided:

1) The navigation systems required for each segment of the intended flight route are operative, and
2) Alternate procedures are established and used, where applicable.

OPERATIONS (O)

Refer to MEL OPS PROC 9-34-52-01 Automatic Direction Finder

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-53 Distance Measuring Equipment Systems (DME)

(revised: OCT 2021)

9-MI-34-53-01	**Distance Measuring Equipment (DME) Systems** ***(revised: OCT 2021)***

9-MI-34-53-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided the navigation systems required for each segment of the intended flight route are operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-54 Air Traffic Control (ATC) (Mode S) Transponder System

(revised: OCT 2021)

9-MI-34-54-01	**ATC Transponders and Automatic Altitude Reporting Systems** ***(revised: OCT 2021)***

9-MI-34-54-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	RVSM

One may be inoperative.

Note:

1) *An SSR transponder with an operative Mode S function is defined as a transponder which can provide, at least, Elementary Surveillance capability.*
2) *Elementary Surveillance (ELS) capability (Mode S including Aircraft Identification and Pressure Altitude Reporting) is required in European Mode S designated airspace.*
3) *Altitude reporting, provided by an SSR transponder Mode S function, is required for ACAS II operation. Refer to item 34-40 for flight with ACAS II inoperative.*
4) *Altitude reporting, provided by an SSR transponder Mode S function, is required for flight into RVSM airspace.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-54 Air Traffic Control (ATC) (Mode S) Transponder System

(revised: OCT 2021)

9-MI-34-54-02	**Automatic Dependent Surveillance – Broadcast** *(revised: OCT 2021)*

9-MI-34-54-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
D	2	0	(P)	I	-

One or more extended squitter transmissions may be inoperative when not required for the intended flight route.

PLACARD (P)

OR

9-MI-34-54-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

One or more extended squitter transmissions may be inoperative when required for the intended flight route.

Note: *For operations in the Single European Sky, enhanced surveillance capability cannot remain inoperative more than 3 consecutive days.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-61 Flight Management System *(revised: FEB 2017)*

9-MI-34-61-01	**Flight Management System (FMS)** *(revised: FEB 2017)*

9-MI-34-61-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Except where enroute operations require its use, all may be inoperative provided:

1) Alternate procedures are established and used.
2) Alternate means for initializing IRS is available for IRS equipped aircraft, and
3) Both RTUs are operative.

Note: *According FSAV (Verordnung über die Flugsicherungsausrüstung der Luftfahrzeuge) only one FMS P-RNAV equipment is necessary to fulfill enroute and approach requirements.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-61-01 Flight Management System (FMS)

PLACARD (P)

9-MI-34-61-01-B Navigation Databases

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be out of currency provided:

1) Current Aeronautical Charts are used to verify Navigation Fixes prior to dispatch,
2) Procedures are established and used to verify status and suitability of Navigation Facilities used to define route of flight, and
3) Approach Navigation Radios are manually tuned and identified.

OPERATIONS (O)
Refer to MEL OPS PROC 9-34-61-01 Flight Management System (FMS)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-34-61 Flight Management System *(revised: FEB 2017)*

9-MI-34-61-02	**FMS/ MDC Data Loader** *(revised: FEB 2017)*

9-MI-34-61-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35 OXYGEN

9-MI-35-10 Crew Oxygen System *(revised: MAY 2017)*

9-MI-35-10-01	Observer`s Oxygen System *(revised: FEB 2011)*

9-MI-35-10-01-A Observer`s Oxygen Item

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided. Observer's seat is not occupied.

PLACARD (P)

OR

9-MI-35-10-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided the flight is not conducted above 10,000 ft pressure altitude.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-10 Crew Oxygen System *(revised: MAY 2017)*

9-MI-35-10-2	**OXY LO PRESS - Caution Message** *(revised: MAY 2017)*

9-MI-35-10-2

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be displayed provided:

1) Oxygen pressure is checked to be above minimum required oxygen pressure before each flight,
2) Crew Oxygen Pressure Readout is verified operative,
3) Crew oxygen pressure is monitored during flight, and
4) Crew oxygen flow and masks are checked.

OPERATIONS (O)

Refer to MEL OPS PROC 9-35-10-02 OXY LO PRESS - Caution Message

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-11 Crew Oxygen Supply *(revised: DEC 2002)*

9-MI-35-11-02	**Oxygen Pressure Switch** *(revised: DEC 2002)*

9-MI-35-11-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Oxygen cylinder pre−charged pressure is checked prior to each flight,
2) Oxygen cylinder control valve is verified open prior to each flight, and
3) Pilot and Copilot masks are verified operative prior to each flight.

MAINTENANCE (M)

For an inoperative oxygen pressure switch, do as follows:

Before each flight:

1) On the GROUND SERVICE panel or the BOTTLE PRESSURE GAUGE, make sure that the oxygen pressure is serviceable (refer to the AMM Task 12−16−35−614−801).
2) Make sure that the oxygen pressure indication on the EICAS status page is the same as the bottle pressure gauge.
3) Make sure that the regulator lever on the oxygen cylinder is set to ON.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-12 Crew Oxygen Servicing *(revised: FEB 2011)*

9-MI-35-12-01	**Flight Crew Oxygen Pressure** *(revised: FEB 2011)*

9-MI-35-12-01-A EICAS Readout

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided groundservice panel pressure gauge or bottlepressure gauge is operative and checkedprior to each flight.

MAINTENANCE (M)

A. For an inoperative EICAS oxygen pressure readout, do as follows:

Before each flight:

1) Visually check on the GROUND SERVICE panel, or the BOTTLE PRESSURE GAUGE, that the oxygen pressure is within the permissible range for dispatch.

B. For the inoperative ground service panel pressure gauge, do as follows:

Before each flight

1) On the oxygen bottle pressure gauge, visually check the flight crew oxygen pressure to be within the permissible range for dispatch.

C. For an inoperative Ground Service Panel Pressure Gauge, if required, deactivate Capillary Sensing Line(s), as follows:

1) Remove and discard the Crew Oxygen Capillary-Line that connects the bottle fitting port with the tee junction/fitting (refer to TASK 35-13-01-000-803).
2) Remove and discard the affected Crew Oxygen Capillary-Lines (refer to TASK 35-13-01-000-803).
3) Put the approved cap, or an appropriate alternative cap, on the high pressure fitting port that is on the oxygen cylinder regulator.
4) When required, put a dust cap(s) on the open fitting of the union.
5) Disconnect the electrical connector A21P from the transducer A21.
6) Put caps on the transducer and electrical connector.
7) Stow the electrical connector.
8) Pressurize the crew oxygen system (refer to TASK 35-10-00-862-802).
9) Do a leakage test of the crew oxygen system (refer to TASK 35-10-00-790-801).

OPERATIONS (O)

Refer to MEL OPS PROC 9-35-12-01 Flight Crew Oxygen Pressure

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-35-12-01-B Ground Service Panel Pressure Gauge

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

May be inoperative provided EICAS readout is operative and checked prior to each flight.

PLACARD (P)

OR

9-MI-35-12-01-C Bottle Pressure Gauge

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

9-MI-35-12 Crew Oxygen Servicing *(revised: FEB 2011)*

9-MI-35-12-02	**High Pressure Discharge Indicator** *(revised: MAY 2007)*

9-MI-35-12-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(O) (P)	I	-

May be damaged or missing provided:
1) Two pressure indications are verified operative after failure occurrence, and
2) Crew oxygen bottle pressure is checked within limits before each flight.

OPERATIONS (O)
Refer to MEL OPS PROC 9-35-12-02 High Pressure Discharge Indicator

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-20 Passenger Oxygen System *(revised: FEB 2017)*

9-MI-35-20-01	**Passenger Oxygen System** *(revised: FEB 2016)*

9-MI-35-20-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(O) (P)	I	-

May be inoperative provided:

1) All components of cabin pressurization warning and indicating systems are operative,
2) Operations are conducted so that minimum enroute altitude is at or below 13,000 feet MSL,
3) Operations are conducted at or below FL 250,
4) Portable oxygen units are provided for all crew members and for 10 percent of the passengers, for half an hour (supplemental oxygen),
5) Operational procedures are established to ensure that passengers are appropriately briefed to accommodate revised equipment, and
6) Both Air Conditioning Packs are verified operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-35-20-01 Passenger Oxygen System

PLACARD (P)

OR

9-MI-35-20-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(P)	I	-

May be inoperative provided flight is conducted at or below 10,000 ft MSL.

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-35-20-01-C Automatic Deployment System

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Manual deployment system is operative, and
2) Operations are conducted at or below FL 300.

MAINTENANCE (M)

A. For an inoperative automatic deployment of the passenger oxygen system, do as follows:

1) Open and collar the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	P9	PASS OXYGEN AUTO DEPLOY R	222
CBP-2	P10	PASS OXYGEN AUTO DEPLOY L	222

2) Do the operational test of the manual deployment system of the passenger oxygen system (refer to the AMM Task 35−20−00−710−803).

B. For an inoperative passenger oxygen system PSU(s), do as follows:

1) Energize the aircraft electrical power system.
2) On the PASS OXY switch/ light, make sure the ON light is OFF. On the EICAS primary display, make sure the PASS OXY ON caution message is not shown. If the light is ON and the message is shown, reset the passenger oxygen system to remove these indications.

   Note: *Do not reset the passenger oxygen system by pressing the PASS OXY switch / light, this will deploy the PSU oxygen masks.*

3) To reset the passenger oxygen system, open then close the circuit breakers that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	P9	PASS OXYGEN AUTO DEPLOY R	222
CBP-2	P10	PASS OXYGEN AUTO DEPLOY L	222

4) Remove electrical power from the aircraft.
5) Block the affected seat(s) as described in the proviso. To do this, extend two pieces of tape from one arm rest to the other in such a way as to produce a X.
6) If the lavatory PSU is inoperative, close and lock the lavatory door.

C. For an inoperative automatic opening feature of door latches, do as follows:

1) Confirm that the inoperative door is unlatched.
2) Close the inoperative door.
3) Secure it with adhesive tape.
4) Make sure there is a sufficient quantity of tape that hangs to give the seat occupant access to the oxygen mask.

Remarks may be continued on next page!

PLACARD (P)

9-MI-35-20-01-D Passenger Service Units (PSU)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Individual PSUs may be inoperative with no flight altitude restriction provided:

1) Associated seats are blocked and placarded to prevent occupancy,
2) PSUs for flight attendant locations operate normally, and
3) No more than two consecutive banks of seats and their adjacent banks of seats have an inoperative PSU (forward and aft, left and right).

MAINTENANCE (M)

A. For an inoperative automatic deployment of the passenger oxygen system, do as follows:

1) Open and collar the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	P9	PASS OXYGEN AUTO DEPLOY R	222
CBP-2	P10	PASS OXYGEN AUTO DEPLOY L	222

2) Do the operational test of the manual deployment system of the passenger oxygen system (refer to the AMM Task 35−20−00−710−803).

B. For an inoperative passenger oxygen system PSU(s), do as follows:

1) Energize the aircraft electrical power system.
2) On the PASS OXY switch/ light, make sure the ON light is OFF. On the EICAS primary display, make sure the PASS OXY ON caution message is not shown. If the light is ON and the message is shown, reset the passenger oxygen system to remove these indications.

   Note: *Do not reset the passenger oxygen system by pressing the PASS OXY switch / light, this will deploy the PSU oxygen masks.*

3) To reset the passenger oxygen system, open then close the circuit breakers that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	P9	PASS OXYGEN AUTO DEPLOY R	222
CBP-2	P10	PASS OXYGEN AUTO DEPLOY L	222

4) Remove electrical power from the aircraft.
5) Block the affected seat(s) as described in the proviso. To do this, extend two pieces of tape from one arm rest to the other in such a way as to produce a X.
6) If the lavatory PSU is inoperative, close and lock the lavatory door.

C. For an inoperative automatic opening feature of door latches, do as follows:

1) Confirm that the inoperative door is unlatched.

Remarks may be continued on next page!

2) Close the inoperative door.
3) Secure it with adhesive tape.
4) Make sure there is a sufficient quantity of tape that hangs to give the seat occupant access to the oxygen mask.

OPERATIONS (O)
Refer to MEL OPS PROC 9-35-20-01 Passenger Oxygen System

PLACARD (P)

——————— OR ———————

9-MI-35-20-01-E Automatic Opening Feature of Door Latches

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	-	-	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) The door is confirmed inoperative unlatched,
2) The door is secured closed,
3) The PSU oxygen system is operative,
4) The flight remains at or below FL300,
5) The manual deployment system isoperative,
6) No more than two consecutive banks of seats and their adjacent banks of seats have an inoperative automatic opening feature, and
7) Occupants are briefed on oxygen mask access.

Note: *The method of door closure must not hinder ready access to the first aid oxygen outlet.*

A. For an inoperative passenger oxygen system, do as follows:
1) Put a PASSENGER OXYGEN SYSTEM INOPERATIVE placard below the PASS OXY switch/ light.

B For an inoperative passenger oxygen system automatic deployment function, do as follows:
1) Put an AUTOMATIC DEPLOYMENT INOPERATIVE placard below the PASS OXY switch.

C. For an inoperative passenger oxygen system PSU, do as follows:
1) Put a PSU INOPERATIVE placard on the affected PSU(s) and a DO NOT OCCUPY SEAT placard on the affected seat(s), or a LAVATORY INOPERATIVE placard on the lavatory door, as applicable.

D. For an inoperative automatic opening feature of door latches, do as follows:
1) Put an AUTOMATIC OPENING OF DOOR LATCHES INOPERATIVE placard on the affected PSU(s).

Remarks may be continued on next page!

MAINTENANCE (M)

A. For an inoperative automatic deployment of the passenger oxygen system, do as follows:

1) Open and collar the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	P9	PASS OXYGEN AUTO DEPLOY R	222
CBP-2	P10	PASS OXYGEN AUTO DEPLOY L	222

2) Do the operational test of the manual deployment system of the passenger oxygen system (refer to the AMM Task 35−20−00−710−803).

B. For an inoperative passenger oxygen system PSU(s), do as follows:

1) Energize the aircraft electrical power system.
2) On the PASS OXY switch/ light, make sure the ON light is OFF. On the EICAS primary display, make sure the PASS OXY ON caution message is not shown. If the light is ON and the message is shown, reset the passenger oxygen system to remove these indications.

   Note: *Do not reset the passenger oxygen system by pressing the PASS OXY switch / light, this will deploy the PSU oxygen masks.*
3) To reset the passenger oxygen system, open then close the circuit breakers that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	P9	PASS OXYGEN AUTO DEPLOY R	222
CBP-2	P10	PASS OXYGEN AUTO DEPLOY L	222

4) Remove electrical power from the aircraft.
5) Block the affected seat(s) as described in the proviso. To do this, extend two pieces of tape from one arm rest to the other in such a way as to produce a X.
6) If the lavatory PSU is inoperative, close and lock the lavatory door.

C. For an inoperative automatic opening feature of door latches, do as follows:

1) Confirm that the inoperative door is unlatched.
2) Close the inoperative door.
3) Secure it with adhesive tape.
4) Make sure there is a sufficient quantity of tape that hangs to give the seat occupant access to the oxygen mask.

OPERATIONS (O)

Refer to MEL OPS PROC 9-35-20-01 Passenger Oxygen System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-20 Passenger Oxygen System *(revised: FEB 2017)*

9-MI-35-20-02	**Passenger Oxygen (Masks Deployed) "ON" Light** *(revised: FEB 2017)*

9-MI-35-20-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-20 Passenger Oxygen System *(revised: FEB 2017)*

9-MI-35-20-03	**Lavatory Passenger Oxygen System** *(revised: FEB 2017)*

9-MI-35-20-03-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(O) (P)	I	-

May be inoperative provided:

1) Lavatory is not used for any purpose, and
2) Lavatory door is locked and placarded “INOPERATIVE - DO NOT ENTER”.

OPERATIONS (O)
Refer to MEL OPS PROC 9-35-20-03 Lavatory Passenger Oxygen System

PLACARD (P)

OR

9-MI-35-20-03-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(O) (P)	I	-

May be inoperative provided flight is conducted at or below FL250.

Note: *These provisos are not intended to preclude lavatory inspections by a crew member.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-35-20-03 Lavatory Passenger Oxygen System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-30 Portable Oxygen and Masks *(revised: FEB 2012)*

9-MI-35-30-30	Portable Oxygen and Masks *(revised: FEB 2012)*

9-MI-35-30-30

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

All may be inoperative provided:

1) A cabin crew is not required.

OR

2) The aeroplane is not operated above 25,000 ft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-31 Flight Compartment and Cabin *(revised: FEB 2017)*

9-MI-35-31-01	**Portable Oxygen Dispensing Units** *(revised: FEB 2017)*

9-MI-35-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	-	-	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any in excess of those required by Regulations may be inoperative provided:

1) Inoperative unit is removed from passenger cabin and its location is placarded INOPERATIVE, or it is removed from the installed location, secured out of sight and the unit and its installed location are placarded INOPERATIVE,
2) Required distribution is maintained, and
3) Procedures are established to alert crew members of inoperative or missing equipment.

MAINTENANCE (M)

For an inoperative portable oxygen dispensing unit, do as follows:

1) Put a PORTABLE OXYGEN DISPENSING UNIT(S) INOPERATIVE placard on the portable oxygen dispensing unit.
2) Put a PORTABLE OXYGEN DISPENSING UNIT(S) INOPERATIVE placard on the mounting bracket.
3) Remove the out of service portable oxygen dispensing unit in a place where it will not be used by mistake, until it can be removed from the aircraft at the next available maintenance base.

OPERATIONS (O)

Refer to MEL OPS PROC 9-35-31-01 Portable Oxygen Dispensing Units

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-35-31 Flight Compartment and Cabin *(revised: FEB 2017)*

9-MI-35-31-02	**Protective Breathing Equipment** *(revised: FEB 2017)*

9-MI-35-31-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	4	3	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Any in excess of those required by Regulations may be missing or inoperative provided:

1) Required distribution of operative units is maintained throughout the aircraft,
2) Inoperative PBE unit is removed from passenger cabin and its location is placarded INOPERATIVE, or it is removed from installed location, secured out of sight and the PBE unit and its installed location are placarded INOPERATIVE, and
3) Procedures are established to alert crew members of inoperative or missing equipment.

OPERATIONS (O)

Refer to MEL OPS PROC 9-35-31-02 Protective Breathing Equipment

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-36 PNEUMATICS

9-MI-36-11 6 TH Stage Bleed Air System *(revised: FEB 2017)*

9-MI-36-11-02	**Pressure Regulating Shut-Off Valve (PRSOV)** *(revised: FEB 2017)*

9-MI-36-11-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) Associated PRSOV is secured CLOSED,
2) Opposite HPV is operative,
3) Opposite Engine Cowl Anti−Ice SOV is operative,
4) APU is operative.
5) APU Load Control Valve is operative.
6) Operations are conducted at or below FL 250,
7) Operations are not conducted in known or forecast icing conditions, and
8) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative).

MAINTENANCE (M)

Do the deactivation of PRSOV (refer to the AMM Task 36−12−01−040−801).

Note: *When the deactivation is completed, the L (R) ENG BLEED caution message will show continuously on the EICAS primary page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-36-11-02 Pressure Regulating Shut-Off Valve (PRSOV)

PLACARD (P)

OR

9-MI-36-11-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative provided:

1) Associated PRSOV is secured CLOSED,
2) Opposite HPV is operative,

Remarks may be continued on next page!

3) Opposite Engine Cowl Anti−Ice SOV is operative,
4) APU is operative.
5) APU Load Control Valve is operative.
6) Operations are conducted at or below FL 310,
7) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
8) Operations are not conducted in known or forecast icing conditions,
9) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative), and
10) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

Note: *Activate item in Performance Software.*

MAINTENANCE (M)

Do the deactivation of PRSOV (refer to the AMM Task 36−12−01−040−801).

Note: *When the deactivation is completed, the L (R) ENG BLEED caution message will show continuously on the EICAS primary page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-36-11-02 Pressure Regulating Shut-Off Valve (PRSOV)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-36-11 6 TH Stage Bleed Air System *(revised: FEB 2017)*

9-MI-36-11-03	**High Pressure Valve (HPV)** *(revised: JUN 2018)*

9-MI-36-11-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	(O) (M) (P)	I	PERFO

May be inoperative provided:

1) Associated HPV is secured CLOSED,
2) Opposite Engine Cowl Anti−Ice SOV is operative.
3) APU is operative,
4) APU Load Control Valve is operative,
5) Operation are conducted at or below FL 250,
6) Operations are not conducted in known or forecast icing conditions, and
7) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative).

OPERATIONS (O)

Refer to MEL OPS PROC 9-36-11-03 High Pressure Valve (HPV)

MAINTENANCE (M)

A. Do the deactivation of the HPV (refer to Task 36−12−05−040−801).

PLACARD (P)

END

9-MI-36-11 6 TH Stage Bleed Air System *(revised: FEB 2017)*

9-MI-36-11-04	**Pack Inlet Pressure Sensors** *(revised: JUN 2018)*

9-MI-36-11-04

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-36-12 10 TH Stage Bleed Air System *(revised: FEB 2016)*

9-MI-36-12-02	**Bleed Air ISOL Valve (Cross-Bleed Valve)** *(revised: FEB 2016)*

9-MI-36-12-02-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative OPEN provided:
1) ISOL valve is secured OPEN,
2) Bleed source selector switch is selected either to L ENG or R ENG,
3) Bleed valves selector switch is selected to MANUAL,
4) PRSOV and HPV on selected side are operative,
5) Operations are conducted at or below FL 250,
6) Operations are not conducted in known or forecast icing conditions, and
7) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative).

MAINTENANCE (M)

A. Do the deactivation of the Bleed Air ISOL Valve (Cross−Bleed Valve) (refer to TASK 36−12−00−040−802).

Note: *When the deactivation procedure is completed, the ISOL FAIL caution and ISOL OPEN status messages will come into view on the EICAS primary and secondary pages. Also, the Bleed Air ISOL (cross bleed) Valve symbol will be shown amber and in the open position on the ECS synoptic page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-36-12-02 Bleed Air ISOL Valve (Cross-Bleed Valve)

PLACARD (P)

OR

9-MI-36-12-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

May be inoperative OPEN provided:
1) ISOL valve is secured OPEN,
2) Bleed source selector switch is selected either to L ENG or R ENG,
3) Bleed valves selector switch is selected to MANUAL,
4) PRSOV and HPV on selected side are operative,

Remarks may be continued on next page!

5) Operations are conducted at or below FL 310,
6) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
7) Operations are not conducted in known or forecast icing conditions,
8) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative), and
9) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Dispatch in Single Pack Configuration).

MAINTENANCE (M)

A. Do the deactivation of the Bleed Air ISOL Valve (Cross−Bleed Valve) (refer to TASK 36−12−00−040−802).

Note: *When the deactivation procedure is completed, the ISOL FAIL caution and ISOL OPEN status messages will come into view on the EICAS primary and secondary pages. Also, the Bleed Air ISOL (cross bleed) Valve symbol will be shown amber and in the open position on the ECS synoptic page.*

OPERATIONS (O)

Refer to MEL OPS PROC 9-36-12-02 Bleed Air ISOL Valve (Cross-Bleed Valve)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-36-21 Bleed Air Leak Detection and Warning System

(revised: FEB 2016)

9-MI-36-21-06	**Air Leak Detection System** ***(revised: FEB 2016)***

9-MI-36-21-06-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

System redundancy may be degraded as indicated by “DUCT MON FAULT” status message.

PLACARD (P)

9-MI-36-21-06-B Anti-Ice Loops

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A and B) may be inoperative provided:

1) Wing ANTI−ICE switch is selected OFF, and
2) Operations are not conducted in known or forecast icing conditions.

PLACARD (P)

OR

9-MI-36-21-06-C Cowl Loops – Left

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A or B) may be inoperative provided:

1) At least one Right Cowl Loop is operative,
2) Right cowl Anti−Ice SOV is operative,
3) Right PRSOV is operative,
4) Right HPV is operative,
5) Left cowl ANTI−ICE switch is selected OFF, and
6) Operations are not conducted in known or forecast icing conditions

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-36-21-06 Air Leak Detection System

PLACARD (P)

OR

9-MI-36-21-06-D Cowl Loops – Right

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A and B) may be inoperative provided:
1) At least one Left Cowl Loop is operative,
2) Left Cowl Anti−Ice SOV is operative,
3) Left PRSOV is operative,
4) Left HPV is operative,
5) Right cowl ANTI−ICE switch is selected OFF, and
6) Operations are not conducted in known or forecast icing conditions.

PLACARD (P)

9-MI-36-21-06-E Bleed Loops – Left

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A and B) may be inoperative provided:
1) At least one Right Bleed Loop (A and B) is operative,
2) Right PRSOV is operative,
3) Right HPV is operative,
4) Right Air Conditioning Pack is operative,
5) Bleed source selector switch is selected to the R ENG,
6) Bleed Air ISOL Valve is operative and selected CLOSED,
7) Bleed valves selector switch is selected to MANUAL
8) APU is operative,
9) APU Load Control Valve is operative
10) Cross bleed start procedure is not used for engine start,
11) Operations are conducted at or below FL 250,
12) Operations are not conducted in known or forecast icing conditions, and
13) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative).

OPERATIONS (O)

Remarks may be continued on next page!

Refer to MEL OPS PROC 9-36-21-06 Air Leak Detection System

PLACARD (P)

OR

9-MI-36-21-06-F Bleed Loops – Left

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A and B) may be inoperative provided:

1) At least one Right Bleed Loop (A and B) is operative,
2) Right PRSOV is operative,
3) Right HPV is operative,
4) Right Air Conditioning Pack is operative,
5) Bleed source selector switch is selected to the R ENG,
6) Bleed Air ISOL Valve is operative and selected CLOSED,
7) Bleed valves selector switch is selected to MANUAL
8) APU is operative,
9) APU Load Control Valve is operative,
10) Cross bleed start procedure is not used for engine start,
11) Operations are conducted at or below FL 310,
12) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
13) Operations are not conducted in known or forecast icing conditions,
14) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative), and
15) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Distpach in Single Pack Configuration).

OPERATIONS (O)

Refer to MEL OPS PROC 9-36-21-06 Air Leak Detection System

PLACARD (P)

OR

9-MI-36-21-06-G Bleed Loops – Right

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A and B) may be inoperative provided:

1) At least one Left Bleed Loop (A and B) is operative,

Remarks may be continued on next page!

2) Left PRSOV is operative,
3) Left HPV is operative,
4) Left Air Conditioning Pack is operative,
5) Bleed source selector switch is selected to the L ENG,
6) Bleed Air ISOL Valve is operative and selected CLOSED,
7) Bleed valves selector switch is selected to MANUAL,
8) APU is operative,
9) APU Load Control Valve is operative,
10) Cross bleed start procedure is not used for engine start,
11) Operations are conducted at or below FL 250,
12) Operations are not conducted in known or forecast icing conditions, and
13) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative).

OPERATIONS (O)
Refer to MEL OPS PROC 9-36-21-06 Air Leak Detection System

PLACARD (P)

OR

9-MI-36-21-06-H Bleed Loops – Right

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

Both Loops (A and B) may be inoperative provided:
1) At least one Left Bleed Loop (A and B) is operative,
2) Left PRSOV is operative,
3) Left HPV is operative,
4) Left Air Conditioning Pack is operative,
5) Bleed source selector switch is selected to the L ENG,
6) Bleed Air ISOL Valve is operative and selected CLOSED,
7) Bleed valves selector switch is selected to MANUAL,
8) APU is operative,
9) APU Load Control Valve is operative,
10) Cross bleed start procedure is not used for engine start,
11) Operations are conducted at or below FL 310,
12) Maximum number of cabin occupants (including Flight Attendants) is equal to or less than 82,
13) Operations are not conducted in known or forecast icing conditions,
14) Operations are conducted in accordance with AFM Supplement (Performance Penalties for Operation with Airplane Systems inoperative), and
15) Operations are conducted in accordance with AFM Supplement (Air-conditioning – Airplane Distpach in Single Pack Configuration).

Remarks may be continued on next page!

OPERATIONS (O)
Refer to MEL OPS PROC 9-36-21-06 Air Leak Detection System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-38 WATER AND WASTE

9-MI-38-10 Potable Wash / Water System *(revised: FEB 2011)*

9-MI-38-10-01	**Potable Water Systems** *(revised: FEB 2011)*

9-MI-38-10-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Appropriate procedures are established to deactivate applicable system components to prevent its user or servicing, and
2) Tank is drained and inspected to ensure no leakage.

Note: *"Diagnostic" light may be illuminated when one or both potable water system is inoperative.*

Note: *(O) procedure addresses other means for water provision for crew members as well as the need to advise of system status during crew changes.*

MAINTENANCE (M)

A. For an inoperative forward potable water system, do as follows:

1) Drain the forward water system (refer to TASK 12−18−38−613−801).
2) On the galley POTABLE WATER SYSTEM control panel, push the FWD ON/OFF switch to OFF.
3) Do the leak test of the aft potable wash/water system (refer to TASK 38−10−00−790−801).

B. For an inoperative aft potable water system, do as follows:

1) Drain the aft water system (refer to TASK 12−18−38−613−803).
2) On the galley POTABLE WATER SYSTEM control panel, push the AFT ON/OFF switch to OFF.
3) Do the leak test of the forward potable wash/water system (refer to TASK 38−10−00−790−802).

OPERATIONS (O)

Refer to MEL OPS PROC 9-38-10-01 Potable Water Systems

PLACARD (P)

9-MI-38-10-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Individual components may be inoperative provided:

1) Associated components are deactivated or isolated, and

Remarks may be continued on next page!

2) Associated system components are verified not to have leaks.

Note: *Any portion of system which operates normally may be used.*

MAINTENANCE (M)

A. For an inoperative forward potable water system, do as follows:

1) Drain the forward water system (refer to TASK 12−18−38−613−801).
2) On the galley POTABLE WATER SYSTEM control panel, push the FWD ON/OFF switch to OFF.
3) Do the leak test of the aft potable wash/water system (refer to TASK 38−10−00−790−801).

B. For an inoperative aft potable water system, do as follows:

1) Drain the aft water system (refer to TASK 12−18−38−613−803).
2) On the galley POTABLE WATER SYSTEM control panel, push the AFT ON/OFF switch to OFF.
3) Do the leak test of the forward potable wash/water system (refer to TASK 38−10−00−790−802).

OPERATIONS (O)

Refer to MEL OPS PROC 9-38-10-01 Potable Water Systems

PLACARD (P)

9-MI-38-10-01-C SubsystemComponents /Functions

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative as indicated by the“Diagnostic” light on the Potable Water-Control Panel provided both AFT and FWDPotable Water Systems are verified operative.

OPERATIONS (O)

Refer to MEL OPS PROC 9-38-10-01 Potable Water Systems

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-38-30 Waste Disposal *(revised: AUG 2011)*

9-MI-38-30-01	**Lavatory Waste System** *(revised: AUG 2011)*

9-MI-38-30-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Procedures are established to deactivate system components,
2) Waste is drained, and system is inspected for leakage, and
3) Lavatory door is locked closed and placarded INOPERATIVE − DO NOT ENTER.

Note: *1. (O) procedure addresses other means for water provision for crew members as well as the need to advise of system status during crew changes.*

MAINTENANCE (M)

A. For an inoperative individual lavatory waste component(s), do as follows:

1) Operator to establish appropriate procedure to deactivate applicable system component(s).

B. For an inoperative forward waste water system, do as follows:

1) Drain the forward waste water system (refer to TASK 12-18-38-613-802).
2) Make sure the toilet lid is secured closed.
3) Lock the forward lavatory door.
4) Do a visual check of the associated system.

B. For an inoperative aft waste water system, do as follows:

1) Drain the aft waste water system (refer to TASK 12−18−38−613−804).
2) Make sure the toilet lid is secured closed.
3) Lock the aft lavatory door.

PLACARD (P)

9-MI-38-30-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Procedures are established to deactivate system components,
2) Waste is drained, and system is inspected for leakage,

Remarks may be continued on next page!

3) Lavatory door is locked closed and placarded INOPERATIVE − DO NOT ENTER, and
4) There is at least one serviceable lavatory on the aircraft.

MAINTENANCE (M)

A. For an inoperative individual lavatory waste component(s), do as follows:

1) Operator to establish appropriate procedure to deactivate applicable system component(s).

B. For an inoperative forward waste water system, do as follows:

1) Drain the forward waste water system (refer to TASK 12-18-38-613-802).
2) Make sure the toilet lid is secured closed.
3) Lock the forward lavatory door.
4) Do a visual check of the associated system.

B. For an inoperative aft waste water system, do as follows:

1) Drain the aft waste water system (refer to TASK 12−18−38−613−804).
2) Make sure the toilet lid is secured closed.
3) Lock the aft lavatory door.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-38-30 Waste Disposal *(revised: AUG 2011)*

9-MI-38-30-02	**Lavatory Service Indicator Lights** *(revised: MAY 2007)*

9-MI-38-30-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	-	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

Note: *Waste tanks require a precharge of 8.7 L (2.3 US gallons)*

MAINTENANCE (M)

**ON AIRCRAFT Msn 7003−7067, 7069−7509 Pre SB 601R−24−102

Not required.

Note: *Operators should develop their own procedure to fill up waste tank with flushing liquid. The tank is to be filled through the toilet bowl in the lavatory with the precharge volume of liquid.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-45 CENTRAL MAINTENANCE SYSTEMS

9-MI-45-45 Central Maintenance Diagnostic System *(revised: FEB 2011)*

9-MI-45-45-01	**Maintenance Diagnostic Computer (MDC)** *(revised: MAY 2003)*

9-MI-45-45-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

PLACARD (P)

END

9-MI-45-45 Central Maintenance Diagnostic System *(revised: FEB 2011)*

9-MI-45-45-02	**MAINT Switch Guard** *(revised: FEB 2011)*

9-MI-45-45-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative, broken or missing.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-46 INFORMATION SYSTEMS

9-MI-46-10 Information Systems EFB *(revised: OCT 2021)*

9-MI-46-10-02	**EFB Docking Station Functions** *(revised: OCT 2021)*

9-MI-46-10-02-A Video Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	-	I	-

One or both may be inoperative, provided alternate operational procedure according OM-A is applied

OR

9-MI-46-10-02-B Charging Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	1	-	I	-

One may be inoperative provided the battery of the connected EFB Processing Unit is charged sufficiently for the next flight.

END

Remarks may be continued on next page!

9-MI-46-10 Information Systems EFB *(revised: OCT 2021)*

9-MI-46-10-03	**Data Transfer** *(revised: JUN 2010)*

9-MI-46-10-03-A Video Transfer Function

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be inoperative

OR

9-MI-46-10-03-B Data Transfer between Avionics and EFB

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	2	1	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be inoperative.

Crew Operating Procedure

The EFB does not receive and can therefore not process or show any aircraft parameters. E.g. the aircraft position symbol can not be displayed on an EFB chart. Pilots may need to type in parameters manually.

END

Remarks may be continued on next page!

9-MI-46-20 EFB Systems (Class 2) *(revised: OCT 2021)*

9-MI-46-20-01	**Electronic Flight Bag (EFB) Systems (Class 2)** *(revised: OCT 2021)*

9-MI-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	0	(M) (O) (P)	I	-

May be inoperative provided alternate procedures are established and used where operating procedures are dependant upon the use of the affected EFB.

Note: *Any EFB function which operates normally may be used.*

MAINTENANCE (M)

A. For an inoperative Mounting Device (including the Electronic Display Unit (EDU)), do as follows:

1) Secure the affected Mounting Device (including the Electronic Display Unit (EDU)) by an alternate means, or

2) Remove the affected Mounting Device (including the Electronic Display Unit (EDU)) from the aircraft.

B. For an inoperative Data Connectivity, do as follows:

1. An alternative means of data connectivity is established.

C. For an inoperative Power Connection, do as follows:

1) An alternative means of power source is established.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

OR

9-MI-46-20-01-01-A Mounting Device (including Electronic Display Unit (EDU))

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	2	1	(M) (O) (P)	I	-

May be inoperative provided associated EDU and hardware is secured by an alternate means or removed from the aircraft.

MAINTENANCE (M)

Remarks may be continued on next page!

A. For an inoperative Mounting Device (including the Electronic Display Unit (EDU)), do as follows:

1) Secure the affected Mounting Device (including the Electronic Display Unit (EDU)) by an alternate means, or
2) Remove the affected Mounting Device (including the Electronic Display Unit (EDU)) from the aircraft.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

OR

9-MI-46-20-01-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Associated EDU and hardware is secured by an alternate means or removed from the aircraft, and
2) Alternate procedures are established and used where operating procedures are dependant upon the use of the affected EFB.

MAINTENANCE (M)

A. For an inoperative Mounting Device (including the Electronic Display Unit (EDU)), do as follows:

1) Secure the affected Mounting Device (including the Electronic Display Unit (EDU)) by an alternate means, or
2) Remove the affected Mounting Device (including the Electronic Display Unit (EDU)) from the aircraft.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

OR

9-MI-46-20-01-02-A Data Connectivity

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided an alternative means of data connectivity is used.

MAINTENANCE (M)

Remarks may be continued on next page!

B. For an inoperative Data Connectivity, do as follows:

1. An alternative means of data connectivity is established.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

OR

9-MI-46-20-01-02-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used where operating procedures are dependant upon the use of the affected EFB.

Note: *Any EFB function which operates normally may be used.*

MAINTENANCE (M)

B. For an inoperative Data Connectivity, do as follows:

1. An alternative means of data connectivity is established.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

OR

9-MI-46-20-01-03-A Power Connection

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided an alternative power source is available and can be used for the planned duration of use of the affected EFB.

MAINTENANCE (M)

C. For an inoperative Power Connection, do as follows:

1) An alternative means of power source is established.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

Remarks may be continued on next page!

OR

9-MI-46-20-01-03-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided alternate procedures are established and used.

MAINTENANCE (M)

C. For an inoperative Power Connection, do as follows:

1) An alternative means of power source is established.

OPERATIONS (O)

Refer to MEL OPS PROC 9-46-20-01 Electronic Flight Bag (EFB) Systems (Class 2)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-49 AIRBORNE AUXILIARY POWER

9-MI-49-10 Power Plant *(revised: FEB 2024)*

9-MI-49-10-01	**Auxiliary Power Unit (APU)** *(revised: FEB 2024)*

9-MI-49-10-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) APU is deactivated,
2) Intake door is visually verified CLOSED,
3) Both Integrated Drive Generators (IDG) are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-49-10-01 Auxiliary Power Unit (APU)

PLACARD (P)

OR

9-MI-49-10-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) APU is deactivated,
2) Aircraft speed is limited to 220 knots, and
3) Both Integrated Drive Generators (IDG) are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-49-10-01 Auxiliary Power Unit (APU)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-49-14 APU Air Intake and Supply *(revised: JUN 2019)*

9-MI-49-14-01	**APU Air Intake Door Linear Actuator** *(revised: JUN 2019)*

9-MI-49-14-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) APU is not used,
2) Aircraft speed is limited to 220 knots,
3) Both Integrated Drive Generators (IDG) are operative.

PLACARD (P)

OR

9-MI-49-14-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Intake door is deactivated CLOSED, and
2) APU is considered inoperative.

MAINTENANCE (M)

A. For an inoperative APU air intake door linear actuator with the door in the closed position, do as follows:

1) Do the procedure to deactivate the APU with the intake door closed (refer to the AMM Task 49−10−00−040−801).

B. For an inoperative APU air intake door linear actuator with the door in the open position, do as follows:

1) Do the deactivation of the intake door linear actuator (refer to Task 49−14−00−040−801).

PLACARD (P)

OR

Remarks may be continued on next page!

9-MI-49-14-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Intake door is deactivated OPEN,
2) APU is operated continuously during flight or aircraft speed is limited to 220 knots if APU is OFF,
3) Increase trip fuel by 120 kg per flight hour,

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Auxiliary Power Unit (APU)	49–10–01

MAINTENANCE (M)

A. For an inoperative APU air intake door linear actuator with the door in the closed position, do as follows:

1) Do the procedure to deactivate the APU with the intake door closed (refer to the AMM Task 49−10−00−040−801).

B. For an inoperative APU air intake door linear actuator with the door in the open position, do as follows:

1) Do the deactivation of the intake door linear actuator (refer to Task 49−14−00−040−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-49-43 APU Switching *(revised: MAY 2003)*

9-MI-49-43-01	**APU START/ STOP "START/ AVAIL" Switch Light (light function only)** *(revised: FEB 2016)*

9-MI-49-43-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-49-51 Bleed Air Supply *(revised: OCT 2021)*

9-MI-49-51-01	APU LCV (Load Control Valve) *(revised: JAN 2001)*

9-MI-49-51-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative closed provided bleed valves are selected to “MANUAL” on the bleed air control panel.

Note: *The APU is available as a source of electrical power only if required.*

MAINTENANCE (M)

For an inoperative APU LCV, do as follows:

1) Do the procedure to deactivate the APU LCV in the closed position (refer to the AMM Task 49−51−00−040−801)

PLACARD (P)

END

9-MI-49-51 Bleed Air Supply *(revised: OCT 2021)*

9-MI-49-51-02	APU Surge Control Valve *(revised: OCT 2021)*

9-MI-49-51-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative CLOSED provided:
1) APU is not operated above 17,000 ft, and
2) Operations are not dependent on use of APU.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-49-61 APU Engine Control *(revised: FEB 2011)*

9-MI-49-61-01	Electronic Control Unit *(revised: FEB 2011)*

9-MI-49-61-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided APU is considered inoperative.

Considered Inoperative Reference Information

Title	MMEL/ DDG Item #
Auxiliary Power Unit (APU)	49–10–01

PLACARD (P)

END

9-MI-49-61 APU Engine Control *(revised: FEB 2011)*

9-MI-49-61-02	APU Subsystem *(revised: DEC 2002)*

9-MI-49-61-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative as indicated by “APU FAULT” status message on ground provided:

1) APU is operative (start and shutdown normally), and
2) Flight operations are not dependent on use of APU.

OPERATIONS (O)

Refer to MEL OPS PROC 9-49-61-02 APU Subsystem

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-52 DOORS

9-MI-52-11 Passenger Door *(revised: FEB 2024)*

9-MI-52-11-01	**Passenger Door Power Assist System** *(revised: FEB 2016)*

9-MI-52-11-01-A Power Assist Subsystem

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Door is verified manually operative (opens and closes) without any interference,
2) Counterbalance Forward and Aft sides are operative, and
3) Alternate procedures are established and used.

MAINTENANCE (M)

A. For an inoperative passenger door power assist system, do as follows:

1) Do the deactivation of the power assist motor (refer to TASK 52−11−00−040−801).

PLACARD (P)

OR

9-MI-52-11-01-B Counterbalance Subsystem – Forward Side

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Door is verified manually operative (opens and closes) without any interference,
2) Counterbalance Forward and Aft sides are operative, and
3) Alternate procedures are established and used.

MAINTENANCE (M)

A. For an inoperative passenger door power assist system, do as follows:

1) Do the deactivation of the power assist motor (refer to TASK 52−11−00−040−801).

PLACARD (P)

Remarks may be continued on next page!

OR

9-MI-52-11-01-C Counterbalance Subsystem – Aft Side

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Door is verified manually operative (opens and closes) without any interference,
2) Counter balance Forward side is operative, and
3) Alternate procedures to control manually the support wheel or to support door with cable kit are established and used.

MAINTENANCE (M)

A. For an inoperative passenger door power assist system, do as follows:

1) Do the deactivation of the power assist motor (refer to TASK 52−11−00−040−801).

PLACARD (P)

END

9-MI-52-11 Passenger Door *(revised: FEB 2024)*

9-MI-52-11-05	**Passenger Door Handrail Quick-Release Pins** *(revised: JUN 2005)*

9-MI-52-11-05

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be missing provided the associated cable is stowed.

MAINTENANCE (M)

A. Stow the affected Passenger Door Handrail Quick−Release Pin cable with a tie cable.

END

Remarks may be continued on next page!

9-MI-52-21 Overwing Emergency Exit *(revised: FEB 2024)*

9-MI-52-21-01	**Doors and Overwing Emergency Exits** *(revised: FEB 2024)*

9-MI-52-21-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	6	5	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One overwing emergency exit or one door may be inoperative provided:

1) Only aircraft crew are carried,
2) Affected door or emergency exit is verified CLOSED LATCHED, and LOCKED before each departure,
3) Aircraft crew are advised of the nature (emergency exit availability) and extent of the unserviceability and that evacuation procedures do not include affected exit though opposite exit may be used,
4) A conspicuous sign or placard indicating that the exit is inoperative, is attached to the exit,
5) Emergency exit signs and lights associated with the inoperative exit are obscured, and
6) Repairs are made within three flight days.

Note: *1. A maximum number of 7 crewmembers are permitted. They have to be seated on the designated crew seats first. Surplus crewmembers have to be seated in accordance to the weight and balance limitations.*

Note: *2. For purposes of this item, "aircraft crew" is considered to be flight crew members, flight attendants, aircraft maintenance personnel and supervisory crew members.*

Note: *3. Exit locator signs and emergency aisle path markings, which are shared between two exits, must not be obscured.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-21-01 Doors and Overwing Emergency Exits

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-52-31 Aft Baggage Bay Door *(revised: SEP 2017)*

9-MI-52-31-01	**Balance Springs** *(revised: SEP 2017)*

9-MI-52-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided door is verified operative (opens and closes) without any interference.

One leg only is allowed to FRA or MUC.

Note: *Door may close faster.*

Note: *The cargo compartment door may not stay open with only one balance spring assembly operative.*

Technician staff is neccessary to secure the cargo door open during baggage loading/ unloading.

MAINTENANCE (M)

For an inoperative Aft Cargo Compartment Door Balance Spring, do as follows:

1) Do the deactivation of the Aft-Baggage-Bay Door Balance-Spring-Assembly (refer to AMM TASK 52-31-17-040-801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-52-35 Fwd Baggage Bay Door *(revised: FEB 2017)*

9-MI-52-35-01	**Forward Cargo Compartment Door Protector Kit** *(revised: FEB 2017)*

9-MI-52-35-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected protector kit is removed,
2) Associated vent flap mechanism is visually inspected for damage and checked for correct operation, and
3) Associated cargo compartment or sub−compartment remains empty.

MAINTENANCE (M)

A. If the forward baggage−bay is empty, do as follows:

1) Remove the affected forward baggage-bay protector kit (refer to TASK 52−35−31−000−801).
2) Do a detailed inspection of the forward baggage−bay door (refer to TASK 52−35−00−220−805).
3) Do an operational test of the forward baggage−bay door (refer to TASK 52−35−00−710−801).

B. If the forward baggage−bay is used, do as follows:

1) Remove the affected forward baggage-bay protector kit (refer to TASK 52−35−31−000−805).
2) Do a detailed inspection of the forward baggage−bay door (refer to TASK 52−35−00−220−805).
3) Do an operational test of the forward baggage−bay door (refer to TASK 52−35−00−710−801).
4) When the forward baggage−bay is filled, do as follows:
    a) Make sure that the cargo in the forward baggage−bay is correctly attached.
    b) Do a general visual inspection of the forward cargo compartment restraint nets and attachments (refer to TASK 25−51−01−220−802).
    c) Make sure that the cargo cannot touch the forward baggage−bay door or its mechanism.

C. If the center baggage−bay is empty, do as follows:

1) Remove the center baggage−bay door protector kit (refer to TASK 52−35−31−000−801).
2) Do a detailed inspection of the center baggage−bay door (refer to TASK 52−35−00−220−805)
3) Do an operational test of the center baggage−bay door (refer to TASK 52−35−00−710−801)

D. If the center baggage−bay is used, do as follows:

1) Remove the center baggage−bay door protector kit (refer to TASK 52−35−31−000−801).
2) Do a detailed inspection of the center baggage−bay door (refer to TASK 52−35−00−220−805)
3) Do an operational test of the center baggage−bay door (refer to TASK 52−35−00−710−801)
4) When the center baggage−bay is filled, do as follows:
    a) Make sure that the cargo in the center cargo compartment is correctly attached.

Remarks may be continued on next page!

b) Do a general visual inspection of the center cargo compartment restraint nets and attachments (refer to TASK 25−51−01−220−802).

c) Make sure that the cargo cannot touch the center baggage−bay door or its mechanism.

PLACARD (P)

OR

9-MI-52-35-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
D	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Affected protector kit is removed,
2) Associated vent flap mechanism is visually inspected for damage and checked for correct operation, and
3) Associated cargo compartment door restraint nets are verified operative and properly installed after every cargo/baggage loading.

MAINTENANCE (M)

A. If the forward baggage−bay is empty, do as follows:

1) Remove the affected forward baggage-bay protector kit (refer to TASK 52−35−31−000−801).
2) Do a detailed inspection of the forward baggage−bay door (refer to TASK 52−35−00−220−805).
3) Do an operational test of the forward baggage−bay door (refer to TASK 52−35−00−710−801).

B. If the forward baggage−bay is used, do as follows:

1) Remove the affected forward baggage-bay protector kit (refer to TASK 52−35−31−000−805).
2) Do a detailed inspection of the forward baggage−bay door (refer to TASK 52−35−00−220−805).
3) Do an operational test of the forward baggage−bay door (refer to TASK 52−35−00−710−801).
4) When the forward baggage−bay is filled, do as follows:
   a) Make sure that the cargo in the forward baggage−bay is correctly attached.
   b) Do a general visual inspection of the forward cargo compartment restraint nets and attachments (refer to TASK 25−51−01−220−802).
   c) Make sure that the cargo cannot touch the forward baggage−bay door or its mechanism.

C. If the center baggage−bay is empty, do as follows:

1) Remove the center baggage−bay door protector kit (refer to TASK 52−35−31−000−801).
2) Do a detailed inspection of the center baggage−bay door (refer to TASK 52−35−00−220−805)
3) Do an operational test of the center baggage−bay door (refer to TASK 52−35−00−710−801)

D. If the center baggage−bay is used, do as follows:

1) Remove the center baggage−bay door protector kit (refer to TASK 52−35−31−000−801).
2) Do a detailed inspection of the center baggage−bay door (refer to TASK 52−35−00−220−805)
3) Do an operational test of the center baggage−bay door (refer to TASK 52−35−00−710−801)

Remarks may be continued on next page!

4) When the center baggage−bay is filled, do as follows:

a) Make sure that the cargo in the center cargo compartment is correctly attached.

b) Do a general visual inspection of the center cargo compartment restraint nets and attachments (refer to TASK 25−51−01−220−802).

c) Make sure that the cargo cannot touch the center baggage−bay door or its mechanism.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-52-51 Flight Deck Access System (FDAS) *(revised: OCT 2004)*

9-MI-52-51-01	**Flight Deck Access System FDAS** *(revised: OCT 2004)*

9-MI-52-51-01-A Automatic Locking System

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(M) (O)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Automatic locking system is deactivated,
2) Door Dead Bolt operates normally and is used to lock and unlock the door,
3) Repairs are made within ten flightdays.

Note: *In case of using the dead bolt for locking and unlocking in flight, the placard "FOR GROUND USE ONLY" may be ignored.*

MAINTENANCE (M)

1) **Automatic Locking System**

   Pull and collar the FDAS circuit breaker. Position the FDAS switch at the Door Control Module (DCM) to the OFF position (up−guard extended) and placard it with an INOP label.

2) **Flight Deck Access Panel System - Keypad, Door Chime**

   For deactivating the keypad:

   a) Open the circuit breaker for the flight deck door lock,
   b) Remove the keypad,
   c) Disconnect the electrical connector from the keypad,
   d) Install the keypad,
   e) Close the circuit breaker for the flight deck door lock,
   f) Placard the keypad with an INOP label.

3) **Flight Deck door Control Selector**

   For deactivation the keypad:

   a) Open the circuit breaker for the flight deck door lock,
   b) Remove the keypad,
   c) Disconnect the electrical connector from the keypad,
   d) Install the keypad,
   e) Close the circuit breaker for the flight deck door lock,
   f) Place an INOP label near the flight deck door control selector.

OPERATIONS (O)

Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

OR

Remarks may be continued on next page!

9-MI-52-51-01-B Flight Deck Access PanelSystem – Keypad, Door Chime

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (O)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided keypad is deactivated.

MAINTENANCE (M)

1) **Automatic Locking System**
   Pull and collar the FDAS circuit breaker. Position the FDAS switch at the Door Control Module (DCM) to the OFF position (up−guard extended) and placard it with an INOP label.
2) **Flight Deck Access Panel System - Keypad, Door Chime**
   For deactivating the keypad:
   a) Open the circuit breaker for the flight deck door lock,
   b) Remove the keypad,
   c) Disconnect the electrical connector from the keypad,
   d) Install the keypad,
   e) Close the circuit breaker for the flight deck door lock,
   f) Placard the keypad with an INOP label.
3) **Flight Deck door Control Selector**
   For deactivation the keypad:
   a) Open the circuit breaker for the flight deck door lock,
   b) Remove the keypad,
   c) Disconnect the electrical connector from the keypad,
   d) Install the keypad,
   e) Close the circuit breaker for the flight deck door lock,
   f) Place an INOP label near the flight deck door control selector.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

9-MI-52-51-01-C LEDs

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	3	0	(O)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

Remarks may be continued on next page!

9-MI-52-51-01-D Door Bell Mode

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(O)	I	-

May be inoperative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

OR

9-MI-52-51-01-E Door Bell Mode – Flight Deck DOOR LOCK FAIL Light

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(O)	I	-

May be inoperative provided automatic lock controls are verified to operate normally.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

OR

9-MI-52-51-01-F Door Bell Mode – Flight Deck Door AUTO UNLK Light

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	1	0	(O)	I	-

May be inoperative provided:
1) Automatic lock controls are verified to operate normally, and
2) Door chime operates normally.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

OR

Remarks may be continued on next page!

9-MI-52-51-01-G Door Bell Mode – Flight Deck Door Lock Control Selector

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	1	0	(M) (O)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:
1) Keypad is deactivated, and
2) Automatic lock is verified to operate normally.

MAINTENANCE (M)

1) **Automatic Locking System**
   Pull and collar the FDAS circuit breaker. Position the FDAS switch at the Door Control Module (DCM) to the OFF position (up−guard extended) and placard it with an INOP label.
2) **Flight Deck Access Panel System - Keypad, Door Chime**
   For deactivating the keypad:
   a) Open the circuit breaker for the flight deck door lock,
   b) Remove the keypad,
   c) Disconnect the electrical connector from the keypad,
   d) Install the keypad,
   e) Close the circuit breaker for the flight deck door lock,
   f) Placard the keypad with an INOP label.
3) **Flight Deck door Control Selector**
   For deactivation the keypad:
   a) Open the circuit breaker for the flight deck door lock,
   b) Remove the keypad,
   c) Disconnect the electrical connector from the keypad,
   d) Install the keypad,
   e) Close the circuit breaker for the flight deck door lock,
   f) Place an INOP label near the flight deck door control selector.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-51-01 Flight Deck Access System FDAS

9-MI-52-51-01-H Door Bell Mode – Flight Deck Door Panel Pressure Relief hatches

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	0	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

One or both may be inoperative in the latched position provided, repairs are made within two flight days.

Remarks may be continued on next page!

9-MI-52-51-01-I Door Bell Mode – Flight Deck Door Dead Bolt

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Automatic lock controls operate normally from the fligh compartmentin side, and
2) Repairs are made within two flightdays.

OR

9-MI-52-51-01-J Door Bell Mode – Flight Deck Door Latch

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Door Dead Bolt operates normally andis used to lock and unlock the door.
2) Repairs are made within ten flightdays.

END

Remarks may be continued on next page!

9-MI-52-70 Door Warning System *(revised: JUN 2019)*

9-MI-52-70-01	**Passenger Door Indication System** *(revised: FEB 2017)*

9-MI-52-70-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One passenger door EICAS caution message may be continuously displayed provided before each flight:

1) Door is CLOSED, LATCHED and LOCKED,
2) Internal green witness marks on four door latch pins are aligned,
3) Green witness marks on the two upper roll latches are aligned,
4) Green witness mark on the upper lock on the upper roll shaft is aligned,
5) Door lock flag indicator indicates LOCKED,
6) External handle is verified STOWED,
7) External pressure vent flap is verified fully CLOSED,
8) No door warning EICAS messages are displayed, and
9) Ground Valve (Avionics Cooling) is considered inoperative, and
10) Repairs are made within three flight days.

Considered Inoperative Reference Information

Title	**MMEL/ DDG Item #**
Ground Valve (Avionics Cooling)	21–24–07

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-70-01 Passenger Door Indication System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-52-70 Door Warning System *(revised: JUN 2019)*

9-MI-52-70-02	**Avionic Compartment Door Indication System** *(revised: FEB 2017)*

9-MI-52-70-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided before each flight:
1) Door is CLOSED, LATCHED and LOCKED, and
2) Handle is verified STOWED.

PLACARD (P)

END

9-MI-52-70 Door Warning System *(revised: JUN 2019)*

9-MI-52-70-03	**Overwing Emergency Exits Indication System** *(revised: FEB 2017)*

9-MI-52-70-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided before each flight:
1) Door is CLOSED, LATCHED and LOCKED, and
2) External push plate is verified FLUSH.

OPERATIONS (O)
Refer to MEL OPS PROC 9-52-70-03 Overwing Emergency Exits Indication System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-52-70 Door Warning System *(revised: JUN 2019)*

9-MI-52-70-04	**Cargo Compartment Door Indication System** *(revised: FEB 2011)*

9-MI-52-70-04-A FWD (with modsum 670T31862)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided before each flight:
1) Door is verified CLOSED, LATCHED and LOCKED,
2) Handle is verified STOWED,
3) External pressure vent flap is verified CLOSED, and
4) Gap between door and fuselage is verified not present.

PLACARD (P)

OR

9-MI-52-70-04-B CTR (with modsum 670T31862)

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided before each flight:
1) Door is verified CLOSED, LATCHED and LOCKED,
2) Handle is verified STOWED,
3) External pressure vent flap is verified CLOSED, and
4) Gap between door and fuselage is verified not present.

PLACARD (P)

OR

9-MI-52-70-04-C AFT

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided before each flight:
1) Door is verified CLOSED, LATCHED and LOCKED, and

Remarks may be continued on next page!

2) Handle is verified STOWED.

PLACARD (P)

END

9-MI-52-70 Door Warning System *(revised: JUN 2019)*

9-MI-52-70-05	**Service Door Indication System** *(revised: JUN 2019)*

9-MI-52-70-05 Service Door Indication FWD

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided before each flight:

1) Door is CLOSED, LATCHED and LOCKED,
2) Handle is verified STOWED,
3) External pressure vent flap is verifiedCLOSED, and
4) Ground Valve (Avionics Cooling) is considered inoperative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-73 ENGINE FUEL AND CONTROL

9-MI-73-21 FADEC *(revised: JUN 2008)*

9-MI-73-21-01	**Fuel Authority Digital Engine Control System (FADEC)** *(revised: FEB 2013)*

9-MI-73-21-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “L FADEC FAULT 1” status message provided:

1) “R FADEC FAULT 1” status message is not displayed, and
2) Repairs are made within 10 days.

PLACARD (P)

OR

9-MI-73-21-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “R FADEC FAULT 1” status message provided:

1) “L FADEC FAULT 1” status message is not displayed, and
2) Repairs are made within 10 days.

PLACARD (P)

OR

9-MI-73-21-01-C

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Remarks may be continued on next page!

System redundancy may be degraded as indicated by “L FADEC FAULT 1” and “R FADEC FAULT 1” status message provided:

1) Specific FADEC faults listed in the maintenance procedure are verified not present on both engines simultaneously, and
2) Repairs are made within 10 days.

MAINTENANCE (M)

A. After the failure occurred, make sure that non−dispatchable engine FADEC failures are not present as follows:

1) On the FS280.00 bulkhead panel behind the pilot seat, set the MAIN switch to MFD1 or MFD2.
2) On the multifunction display (MFD 1 or MFD2), make sure that the MAINTENANCE MAIN MENU page shows.
3) On the Engine Control Panel (ECP), push the UP or DN push-button to move the cursor (>) to the CURRENT FAULTS line.

   Note: *The function of the push-button on the ECP shows at the bottom of the MFD display.*
4) On the ECP, push the SEL push-button to make a selection of the CURRENT FAULTS page.
5) Wait for a minimum of one minute until all of the faults show.
6) Make sure that the messages for both engine FADEC do not show at the same time, as follows:

   Note: *Dispatch is not permitted if the same messages shows for both engine FADEC.*

   a) Look for the VGAL LRU messages as follows:

MDC Message	LRU	ATA Chapter
LVDT OUT OF RANGE CH A	VGAL (L VG ACTUATOR)	71-00
LVDT OUT OF RANGE CH B	VGAL (L VG ACTUATOR)	71-00
LVDT CH A/B DISAGREE	VGAL (L VG ACTUATOR)	71-00

   b) Look for the VGAR LRU messages as follows:

MDC Message	LRU	ATA Chapter
LVDT OUT OF RANGE CH A	VGAL (R VG ACTUATOR)	71-00
LVDT OUT OF RANGE CH B	VGAL (R VG ACTUATOR)	71-00
LVDT CH A/B DISAGREE	VGAL (R VG ACTUATOR)	71-00

7) Make sure that the same messages for both engine FADEC do not show at the same time, as follows:

   Note: *Dispatch is not permitted if the same messages show for both engine FADEC.*

   a) Look for the L MAIN FUEL PUMP messages as follows:

MDC Message	LRU	ATA Chapter
N2 OUT OF RANGE CH A and B	L MAIN FUEL PUMP	71-00
N2 CH A/B DISAGREE	L MAIN FUEL PUMP	71-00

   b) Look for the R MAIN FUEL PUMP messages as follows:

Remarks may be continued on next page!

MDC Message	LRU	ATA Chapter
N2 OUT OF RANGE CH A and B	R MAIN FUEL PUMP	71-00
N2 CH A/B DISAGREE	R MAIN FUEL PUMP	71-00

8) On the ECP, push the DOORS push-button to go back to the MAINTENANCE MAIN MENU page.
9) On the ECP, push the UP or DN push-button to move the cursor (>) to the ATA INDEX line.
10) Push the SEL push-button to make a selection of the ATA INDEX line.
11) On the ATA INDEX page, get access to the ATA INDEX second page.
12) Through the ATA 71−00 page, select the LRU alternatively, VGAL and VGAR.
13) Make sure that any of these bits are not set to 1 on the label for both engines.

Note: *Dispatch is not permitted if any of these bits are set to 1 on the same label for both engines FADEC.*

a) Look for the bits and labels for the VGAL LRU as follows:

LABEL	BIT	LRU	ATA CHAPTER
355A	19	VGAL (L VG ACTUATOR)	71-00
355B	19	VGAL (L VG ACTUATOR)	71-00
355A	24	VGAL (L VG ACTUATOR)	71-00
355B	24	VGAL (L VG ACTUATOR)	71-00

b) Look for the bits and labels for the VGAR LRU as follows:

LABEL	BIT	LRU	ATA CHAPTER
355A	19	VGAR (R VG ACTUATOR)	71-00
355B	19	VGAR (R VG ACTUATOR)	71-00
355A	24	VGAR (R VG ACTUATOR)	71-00
355B	24	VGAR (R VG ACTUATOR)	71-00

14) Through the ATA 71−00 page, select the LRU alternatively, L MAIN FUEL PUMP and R MAIN FUEL PUMP.
15) Make sure that the bit is not set to 1 on the label on both engine.

Note: *If the same bit is set to 1 on the same label for both engine FADEC, dispatch is not permitted.*

a) Look for the bits and labels for LRU, L MAIN FUEL PUMP as follows:

LABEL	BIT	LRU	ATA CHAPTER
353A	14	L MAIN FUEL PUMP	71-00
353B	14	L MAIN FUEL PUMP	71-00
353A	16	L MAIN FUEL PUMP	71-00
353B	16	L MAIN FUEL PUMP	71-00

b) Look for the bits and labels for LRU, R MAIN FUEL PUMP as follows:

LABEL	BIT	LRU	ATA CHAPTER
353A	14	R MAIN FUEL PUMP	71-00
353B	14	R MAIN FUEL PUMP	71-00

Remarks may be continued on next page!

LABEL	BIT	LRU	ATA CHAPTER
353A	16	R MAIN FUEL PUMP	71-00
353B	16	R MAIN FUEL PUMP	71-00

16) Exit from the MDC as follows:

a) On the ECP, push the MENU push-button to go back to the MAIN MENU page.
b) On the FS280.00 bulkhead behind the pilot seat, set the MAINT switch to OFF.
c) Make sure that the navigation data shows on the MFD 1 (MFD 2).

PLACARD (P)

OR

9-MI-73-21-01-D

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “L FADEC FAULT 2” status message provided repairs are made within 30 days.

PLACARD (P)

OR

9-MI-73-21-01-E

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	1	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

System redundancy may be degraded as indicated by “R FADEC FAULT 2” status message provided repairs are made within 30 days.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-73-31 FUEL LOW PRESSURE INDICATING SYSTEMS

(revised: FEB 2016)

9-MI-73-31-03	**Fuel Low Pressure Indicating Systems** ***(revised: FEB 2016)***

9-MI-73-31-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	-

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided:

1) Both Fuel Boost Pumps are operative,
2) Monitor fuel level and quantity during flight, and
3) Repairs are made within two days.

Note: *Fuel system check valve test (First flight of the day – Before Engine Shutdown) is waived for the inoperative fuel low pressure indication.*

END

Remarks may be continued on next page!

9-MI-74 IGNITION

9-MI-74-11 Ignition System *(revised: FEB 2011)*

9-MI-74-11-01	**Ignition Systems** *(revised: FEB 2011)*

9-MI-74-11-01-A Systems

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	1	(O) (P)	I	-

One may be inoperative provided both B Systems are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-74-11 Ignition System

PLACARD (P)

OR

9-MI-74-11-01-B Systems

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
B	2	0	(O) (P)	I	-

Both may be inoperative provided both A Systems are operative.

OPERATIONS (O)
Refer to MEL OPS PROC 9-74-11-01 Ignition System

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-74-30 Ignition Switching *(revised: JAN 2001)*

9-MI-74-30-02	IGNITION CONT "ON" Switch Light *(revised: JAN 2001)*

9-MI-74-30-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-76 ENGINE CONTROLS

9-MI-76-10 Power Control System *(revised: JAN 2001)*

9-MI-76-10-02	SYNC SEL Switch *(revised: JAN 2001)*

9-MI-76-10-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	1	0	(P)	I	-

PLACARD (P)

END

9-MI-76-11 Throttle Control System *(revised: DEC 2014)*

9-MI-76-11-03	Throttle Lever (FADEC) RVDTs *(revised: DEC 2014)*

9-MI-76-11-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	4	2	(P)	I	-

One per throttle lever may be inoperative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-77 ENGINE INDICATING

9-MI-77-31 Engine Vibration Monitoring System *(revised: SEP 2005)*

9-MI-77-31-01	**Engine Vibration Monitoring Systems** *(revised: SEP 2005)*

9-MI-77-31-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
B	2	1	(P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative provided:

1) Flight is not conducted in known or forecast icing conditions and
2) Both Ice Detection System are operative.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-78 EXHAUST

9-MI-78-30 Thrust Reverser *(revised: FEB 2017)*

9-MI-78-30-01	**Thrust Reverser Systems** *(revised: FEB 2017)*

9-MI-78-30-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	PERFO

One may be inoperative provided:

1) There is no structural damage to thrust reverser system beyond approved acceptable damage limits,
2) Inoperative thrust reverser is deactivated, stowed and locked in the forward thrust position, and
3) Operation on wet and contaminated RWYs needs performance correction.

Note: *After the deactivation procedure the L(R) REV UNSAFE or L(R) REV UNLOCK caution message may continuously or intermittently be displayed.*

Note:

1) The inoperative thrust reverser system switch must be kept to OFF, as required by the Maintenance procedure.

2) See OM-B, 1.6.4 Limitation on Contaminated Runway.

MAINTENANCE (M)

A. For a thrust reverser system inoperative, do as follows:

1) Do the deactivation of the thrust reverser (refer to TASK 78-30-00-040-801).

Note: *1. When the deactivation procedure is completed, the L (R) REV UNSAFE, or L (R) REV UNLOCKED, or L (R) REV INOP caution message may show continuously or intermittently on the EICAS primary page and the L (R) REV FAULT status message may show continuously or intermittently on the EICAS secondary page during aircraft operation, and the T/O CONFIG OK advisory message may not show on the EICAS secondary page before Take-off.*

Note: *2. The red REV icon may show in the engine N1 gauge of the inoperative thrust reverser.*

2) If there is structural damage on the affected thrust reverser, make sure that it is within approved serviceable damage limits.

Note: *Refer to the Structure Repair Manual (SRM), CSP B-008, TASK 54-24-00- Thrust Reverser Structure.*

3) If applicable, make sure that damage does not exceed the limits stated in the various related REO`s, example: REO 670-78-34-378- Wear Limits for Upper and Lower Torque Box Frames.

PLACARD (P)

Remarks may be continued on next page!

END

Remarks may be continued on next page!

9-MI-79 OIL

9-MI-79-12 Oil Replenishment System *(revised: FEB 2017)*

9-MI-79-12-01	Oil Replenishment System *(revised: FEB 2017)*

9-MI-79-12-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES	
				CLASS.	OPS affected
D	1	0	(M) (P)	I	-

May be inoperative provided alternate method for checking engine oil levels and servicing engine oil is established and used.

MAINTENANCE (M)

Do the servicing of the engine oil tank (refer to AMM Task 79−10−00−612−801).

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-79-21 Engine Oil Detection Panel *(revised: FEB 2017)*

9-MI-79-21-01	**Engine Oil Filter Impending Bypass and Chip Detector Panel (Engine Oil Detection Panel)** *(revised: FEB 2017)*

9-MI-79-21-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	1	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative provided the approved maintenance procedure is accomplished and does not exceed 100 flight hours in between.

MAINTENANCE (M)

For an inoperative Engine Oil Filter Impending Bypass and Chip Detector Panel, do as follows:

1) Open the access panel as follows:

ACCESS	DESIGNATION
311BB	Aft equipment-compartment door

2) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-5	B2	ENG OIL IND	311

3) Remove the Engine Oil Detection Panel as follows:
   a) Remove the screws and washers that attach the panel.
   b) Carefully pull the panel and disconnect the electrical connector A150P1.
4) With engine at idle, at the Engine Oil Detection Panel connector A150P1, check the continuity of the Oil Filter Impending Bypass Switch and the continuity of the Chip Detector as follows:
   a) Use a multimeter to check continuity between pins.
   b) Make sure that the circuits that follow read OPEN:

      Right engine

      1) 1. Between pin L and pin K, for the Oil Impending Bypass Switch.
      2) 2. Between pin A and pin K, for the Oil Chip Detector.

      Left engine

      1) 3. Between pin E and pin K, for the Oil Impending Bypass Switch.
      2) 4. Between pin F and pin K, for the Oil Chip Detector.
5) If the continuity does not read open, investigate the cause in accordance with the AMM.
6) If the continuity reads open, continue with the procedure.
7) Put caps on connector and receptacle A150P1.
8) Stow connector A150P1.
9) Install the Engine Oil Detection Panel as follows:
   1) Attach the panel to the enclosure with the washers and the screws.

Remarks may be continued on next page!

10) Close the access panel that follows:

ACCESS	DESIGNATION
311BB	Aft equipment-compartment door

Note: *When the circuit breaker CBP-5 B2 is open the Oil Replenishment System and the optional Remote Oil Replenishment System will be inoperative.*

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-79-30 Oil Indicating System *(revised: FEB 2017)*

9-MI-79-30-01	**Low Oil Pressure Switch** *(revised: FEB 2017)*

9-MI-79-30-01-A

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative OPEN provided:
1) Both oil pressure readouts are verified operative, and
2) Repairs are made within one flight day.

OPERATIONS (O)
Refer to MEL OPS PROC 9-79-30-01 Low Oil Pressure Switch

PLACARD (P)

OR

9-MI-79-30-01-B

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
A	2	1	(O) (M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

May be inoperative CLOSED provided:
1) Both oil pressure readouts are verified operative,
2) Inoperative Low Oil Pressure Switch is deactivated, and
3) Repairs are made within one flight day.

Note: *Aural warning "Engine Oil" will not be functional.*

OPERATIONS (O)
Refer to MEL OPS PROC 9-79-30 Oil Indicating System

MAINTENANCE (M)

A. For an inoperative engine low oil pressure switch, do as follows:

1) For the left engine, open and tag the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M1	L ENG OIL PRESS	221
CBP-1	M5	ENG START L	221

Remarks may be continued on next page!

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	U7	ENG IGN A	221
CBP-2	Q1	EICAS DCU 1	222
CBP-2	Q2	EICAS DCU 2	222
CBP-2 LOWER	S5	THRUST REV 1	222
CBP-2 LOWER	U8	EICAS DCU 1	222

OR

2) For the right engine, open and tag the circuit breakers that follow:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M4	ENG START R	221
CBP-1 LOWER	U7	ENG IGN A	221
CBP-2	Q1	EICAS DCU 1	221
CBP-2	Q2	EICAS DCU 2	222
CBP-2 LOWER	S6	THRUST REV 2	222
CBP-2 LOWER	U8	EICAS DCU 1	222
CBP-2 LOWER	S7	R ENG OIL PRESS	222

3) Open the Aft Equipment Compartment Door 311BB.
4) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-5	B10	ENG IGN B	311

5) Open the engine cowlings (refer to TASK 71-10-00-010-801).
6) Disconnect the W5 green cable P36 from the oil pressure switch S19 as follows:

Caution: *DO NOT TRY TO LOOSEN THE HEX FLAT OR THE BACKSHELL, AND DO NOT USE AN UNAUTHORIZED TOOL TO LOOSEN THE KNURLED COUPLING. OTHERWISE, YOU MAY CAUSE DAMAGE TO THE ELECTRICAL CABLE.*

   a) Hold the hex flat and use soft−jaw pliers to fully loosen the knurled coupling of the cable.
   b) Install protective covers on all of the connector/connection.
   c) Stow and secure the electrical connector.

7) Close the engine cowlings (refer to TASK 71−10−00−410−801).
8) Remove tags and close the circuit breakers that were previously opened.
9) Close the aft equipment compartment door 311BB.

PLACARD (P)

Remarks may be continued on next page!

END

Remarks may be continued on next page!

9-MI-79-30 Oil Indicating System *(revised: FEB 2017)*

9-MI-79-30-03	**Engine Oil Level Indications** *(revised: FEB 2017)*

9-MI-79-30-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	0	(M) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

Both may be inoperative provided:

1) Engine oil reservoir is refilled within the permissible time interval, and
2) There is no evidence of excessive oil consumption.

MAINTENANCE (M)

A. For an inoperative oil level indication system, do as follows:

1) Open and tag the circuit breakers that follow:

a) For the left engine:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M5	ENG START L	221
CBP-1 LOWER	U7	ENG IGN A	221
CBP-2 LOWER	S5	THRUST REV 1	221

b) Open the Aft Equipment Compartment Door 311BB.

c) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-5	B10	ENG IGN B	311

OR

d) For the right engine:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M4	ENG START R	221
CBP-1 LOWER	U7	ENG IGN A	221
CBP-2 LOWER	S6	THRUST REV 2	222

e) Open the Aft Equipment Compartment Door 311BB.

f) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-5	B10	ENG IGN B	311

2) Open the access door that follows:

a) For the left engine, open the Nacelle access door (Panel 434CT).

OR

Remarks may be continued on next page!

b) For the right engine, open the Nacelle access door (Panel 444CT).

3) Connect electrical power to the aircraft.

Warning: *ENGINE OIL IS TOXIC AND FLAMMABLE. USE PERSONAL PROTECTION EQUIPMENT. USE IN A WELL-VENTED AREA:*

Caution: *ADD A MAXIMUM OF 2.0 U.S. QUARTS (1.9 l) TO THE ENGINE OIL TANK AT ONE TIME . AN INCORRECT QUANTITY OF OIL CAN CAUSE DAMAGE TO THE ENGINE.*

Caution: *DO NOT ADD MORE THAN 8 QUARTS (7.6 LITERS) OF OIL TO AN ENGINE THAT DOES NOT HAVE OIL IN THE OIL SYSTEM. OTHERWISE, ENGINE DAMAGE MAY OCCUR.*

4) Remove the fill cap on the oil tank upper adapter as follows:

a) Lift the handle to a vertical position
b) Turn the handle in a counterclockwise (CCW) direction.
c) Remove the fill cap.

5) Visually examine the oil level in the oil tank upper adapter for a full condition

Note: *If serviceable, the oil tank indicator (A87) can be used, as applicable, to check the engine oil level.*

6) If the oil level is not satisfactory, do as follows:

a) Refill a required amount of oil until you see the oil level in the oil tank upper adapter.
b) Record the oil level.
c) Install the filler cap as follows:

1) If necessary, lift the handle to a vertical position. Turn the handle CCW.
2) Put the fill cap on the oil tank upper adapter.
3) Turn the handle in a clockwise (CW) direction.
4) Lower the handle to a horizontal position.

d) For the left engine, close the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M5	ENG START L	221

e) For the right engine, close the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	M4	ENG START R	221

f) Motor the engine at 28% N2 for 30 seconds.
g) Wait for two minutes before you examine the oil level.
h) Remove the fill cap on the oil tank upper adapter as follows:

1) Lift the handle to a vertical position.
2) Turn the handle in a counterclockwise (CCW) direction.
3) Remove the fill cap.

i) Visually examine the oil level in the oil tank upper adapter for a too full condition.

Note: *If serviceable, the oil tank indicator (A87) can be used, as applicable, to check the engine oil level.*

7) If the oil level is not satisfactory, repeat steps (4), (5) and (6).

8) If the oil level is satisfactory, do as follows:

a) Make appropriate records of the oil level.
b) Install the filler cap as follows:

Remarks may be continued on next page!

1) If necessary, lift the handle to a vertical position. Turn the handle CCW.
2) Put the fill cap on the oil tank upper adapter.
3) Turn the handle in a clockwise (CW) direction.
4) Lower the handle to a horizontal position.

c) Make sure that the filler cap is installed correctly.

9) Close the circuit breakers that follow:

a) For the left engine

CB PANEL	CB NO.	NAME	ZONE
CBP- 1 LOWER	U7	ENG IGN A	221
CBP-2 LOWER	S5	THRUST REV 1	222
CBP-5	B10	ENG IGN B	311

b) For the right engine

CB PANEL	CB NO.	NAME	ZONE
CBP- 1 LOWER	U7	ENG IGN A	221
CBP-2 LOWER	S6	THRUST REV 2	222
CBP-5	B10	ENG IGN B	311

10) Close the access door that follows:

a) For the left engine, close the Nacelle access door (Panel 434CT).

OR

For the right engine, close the Nacelle access door (Panel 444CT).

b) Close the Aft Equipment Compartment Door 311BB.

11) Remove electrical power from the aircraft.

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-80 STARTING

9-MI-80-10 Cranking *(revised: FEB 2017)*

9-MI-80-10-01	**Engine "STOP" Switch Lights (light function only)** *(revised: FEB 2017)*

9-MI-80-10-01

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

Both may be inoperative provided N2 is monitored.

PLACARD (P)

END

9-MI-80-10 Cranking *(revised: FEB 2017)*

9-MI-80-10-02	**Engine "START" Switch Lights (light function only)** *(revised: FEB 2017)*

9-MI-80-10-02

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE	COMPANY NOTES CLASS.	COMPANY NOTES OPS affected
C	2	0	(P)	I	-

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-80-11 Starter Air Valve (SAV) *(revised: FEB 2017)*

9-MI-80-11-03	Starter Air Valve (SAV) *(revised: FEB 2017)*

9-MI-80-11-03

RECTIFICATION INTERVAL	NUMBER INSTALLED	NUMBER REQUIRED	PROCE-DURE
C	2	1	(M) (O) (P)

COMPANY NOTES	
CLASS.	OPS affected
I	-

One may be inoperative CLOSED provided alternate starting procedures are established and used.

MAINTENANCE (M)

Do the manual operation of the starter control valve (refer to TASK 80−11−03−980−801).

OPERATIONS (O)

Refer to MEL OPS PROC 9-80-11-03 Starter Air Valve (SAV)

PLACARD (P)

END

Remarks may be continued on next page!

9-MI-95 EICAS MESSAGES

General

A. The following information is presented to assist maintenance personnel in understanding the source or cause of EICAS messages, and their possible impact to MEL/DDG items.

B The Engine Indication and Crew Alerting System (EICAS) provides a display of the aircraft/engine parameters, alert messages of aircraft/engine abnormal condition, status of aircraft/engine systems.

C. There are four classes of EICAS messages that appear on the primary and secondary pages:

- Warning messages indicate operational or system conditions that require immediate corrective action. They are the highest priority message and always appear in red at the top of the primary page. All warning messages cause the MASTER WARNING lights to flash, accompanied with an aural alert (unique tone or triple chime) and a voice advisory.
- Caution messages indicate operational or system conditions that require prompt corrective action. They are displayed in amber below the warning level messages and cause the amber MASTER CAUTION lights to flash.
- Advisory messages are used to show the current normal airplane configuration or system status and do not indicate any equipment faults. Advisories appear as green messages at the top of the message stack on the EICAS secondary page.
- Status messages indicate that abnormal conditions may exist or that a low priority failure may have occurred and that time available corrective action may be required. Status messages appear as white messages below the advisory messages on the EICAS secondary page.

All Warning, Caution and some Status messages affect aircraft dispatch. The conditions causing these messages must be corrected prior to flight or the MEL/DDG must be consulted to determine if dispatch is possible. All Advisory and some Status messages do not affect aircraft dispatch.

How to use the EICAS MESSAGE LIST

The EICAS MESSAGE LIST that follows provides a quick cross−reference between EICAS messages and MEL/DDG items which may provide dispatch relief.

This list shall be used for guidance purposes only, and does not cover all possible combinations of system and/or component failures that may cause an EICAS message.

A description of the EICAS MESSAGE LIST columns are as follows:

1) EICAS DISPLAY MESSAGE column:

   a) In this column the EICAS messages are shown. The messages are grouped into their respective message classes (as shown in the CLASS column) and are presented within these classes in alphabetic order.

b) Messages that are unique due to an aircraft modification have a description of the modification following the message in parenthesis (e.g. APR ARM (Aircraft with 2 DCUs)).

2) CLASS column:

a) In this column the class of the listed EICAS message is given. The classes are Warning (W), Caution (C), Advisory (A), and Status (S).

3) EICAS LOGIC/REMARK(S) column:

a) The EICAS LOGIC portion of this column provides a description of the condition(s) that result in or contribute to the displayed message.

b) The REMARK(S) portion of this column may also provide some additional information to the flight crew to help clear the corresponding EICAS message.

4) SEE MMEL ITEM FOR POSSIBLE RELIEF column:

a) There are four possible recommendations given in this column, they are as follows:

- No Dispatch: No dispatch permitted until maintenance action has corrected the fault.
- XX−XX−XX: This MEL/DDG item (e.g. 22−10−01) should be consulted when the associated EICAS message is displayed.

  Note: *An EICAS message that may have more than one possible equipment failure will have multiple MEL/DDG items listed in this column.*
- Return to Gate: The referenced MEL/DDG item(s) requires that a maintenance (M) and/or operations (O) procedure and/or some other action (as described in the Remarks or Exception column of the referenced MEL/DDG Item) must be done before the aircraft is dispatched.
- N/A: Not applicable to the MMEL. This message may be caused by a system response to a flight crew action or the result of a normal/abnormal system configuration.

Normal flight crew procedures require checking all displayed EICAS messages during cockpit preparation to determine if the aircraft can be dispatched. EICAS messages may be displayed when a system and/or component failure has been reported. Information to help the flight crew or maintenance personnel address any EICAS message is given as follows:

a) Warning messages must always receive immediate attention and the corresponding OM procedures must be accomplished. Caution and Status messages may not require flight crew action during cockpit preparations since these messages may indicate systems not yet properly configured, and as such, should go out of view as the cockpit preparations are completed.

b) If any EICAS massages remain indicated after cockpit preparations, the MEL/DDG may be consulted to determine possible dispatch relief. The DDG EICAS MESSAGE LIST will provide a quick cross−reference of the displayed EICAS message to a MEL/DDG item that may provide dispatch relief.

***Note:** 1. If you do not choose to use any MEL/DDG relief, maintenance must be accomplished to rectify a system or a component failure before the aircraft is dispatched*

***Note:** 2. Some status messages displayed on the EICAS secondary display after the cockpit preparations have been completed may indicate an aircraft system configuration rather than a failure (e.g. NO SMOKING, APU LCV OPEN). No MEL/DDG consultation is required for these messages. The N/A symbol usually stays beside these messages in the D column of the EICAS MESSAGE LIST.*

***Note:** 3. Some EICAS messages indicate that an aircraft system configuration or aircraft system failure may be caused by the following:*

- *Flight/maintenance crew actions that are done to con− figure an aircraft system per a MEL/DDG item requirement. Any EICAS status messages associated with these actions will have “N/A” or the MEL/DDG item in the SEE MMEL ITEM FOR POSSIBLE RELIEF column.*
- *Flight/maintenance crew inadvertent actions. To clear an EICAS status message caused by an inadvertent action, check that the cockpit controls are configured correctly, the MEL/DDG must be consulted to determine if aircraft dispatch is possible.*

c) If MEL/DDG relief is referenced for a given EICAS message (multiple references in the EICAS MESSAGE LIST are possible), confirm that the failure that caused the EICAS message is applicable to the referenced MEL/DDG Item(s). Then make sure that the limitations of any provisos, maintenance (M) procedure requirements, and/or the operations (O) procedure requirements (if applicable) can be, and are accomplished before the aircraft is dispatched.

d) If MEL/DDG relief is not available for an EICAS message then maintenance must be accomplished to rectify a system or a component failure before the aircraft is dispatched.

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
AFCS MSGS FAIL	W	No valid automatic flight control system (AFCS) message data available from either IAPS side (left or right)	No Dispatch
ANTI-ICE DUCT	W	Leaks found from either left or right fuselage or wing anti-ice ducts.	No Dispatch
APU FIRE	W	APU fire detection (temperature 238°C overall or > 358°C at a distance of 1 foot)	No Dispatch
APU OVERSPEED	W	APU turbine speed > 107%	49-10-01
APU OVERTEMP	W	Either of the following conditions occur: • APU EGT >730°C when APU n > 87% or • APU EGT > 850°C at any time	49-10-01
BRAKE OVHT	W	Any left or right, inboard or outboard brake overheat condition is found.	No Dispatch
CABIN ALT	W	Cabin altitude ≥ 10.000 feet.	No Dispatch
CONFIG AILERON	W	All the conditions that follow are present: • Aileron trim > ± 1.0 degree and on ground • Both engines N1 > 70% • No thrust reverser command	No Dispatch
CONFIG AP	W	All the conditions that follow are present: • Autopilot engaged and on ground • Both engines N1 > 70% • No thrust reverser command	No Dispatch
CONFIG FLAPS	W	All the conditions that follow are present: • Flaps not in take-off range and on ground • Both engines N1 > 70% • No thrust reverser command	No Dispatch
CONFIG RUDDER	W	All the conditions that follow are present: • Rudder trim > ± 1.0 degree and on ground • Both engines N1 > 70% • No thrust reverser command	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
CONFIG SPLRS	W	All the conditions that follow are present: • Spoilers not in take-off configuration (all down) and on ground • Aircraft in take-off configuration	No Dispatch
CONFIG STAB	W	All the conditions that follow are present: • Stabilizer position not in green band (either engaged channel) or both channels are inoperative, and on the ground • Aircraft in take-off configuration	No Dispatch
CONT IGNITION	W	Left and right ignition systems and B are on.	No Action required.
DIFF PRESS	W	Cabin different pressure > 8.6 psi.	No Dispatch
EMER PWR ONLY	W	Air driven generator (ADG) is deployed and no power is available from AC bus 1 or 2	No Dispatch
ENGINE OVERSPD	W	Either left or right engine fan speed (N1 or N2)) is greater than the N1or N2 red line limit.	No Dispatch
GEAR DISAGREE	W	Disagreement found between landing gear handle and actual gear position with time delays to prevent warning for normal operation.	32-30-01 32-50-01
L BLEED DUCT	W	Leak found in left cowl anti-ice duct.	No Dispatch
L COWL A/I DUCT	W	Left cowl anti-ice duct pressure <-3.12 psi or >53.1 psi and the battery bus is energized.	30-22-03
L ENG FIRE	W	L engine fire condition is found (temperature > 262°C overall or > 358°C at a distance of 1 foot)	No Dispatch
L ENG OIL PRESS	W	L engine low oil pressure condition is found (<25 psi related to sump)	79-30-01
L REV DEPLOYED	W	L thrust reverser deployed, not stowed, or unlocked.	78-30-01
MLG BAY OVHT	W	Main landing gear bay overheat is found.	No Dispatch
NOSE DOOR OPEN	W	Nose compartment door open for more than 10 seconds or when IAS >250 knots.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
PARKING BRAKE	W	Parking brake set while the aircraft is in the air, or if both engines N1 > 70'%	No Dispatch
PASSENGER DOOR	W	Passenger door unlocked or not confirmed ready.	No Dispatch
PILOT INITIATED TEST	W	Pilot initiated test of the fire protection system.	No Dispatch
R BLEED DUCT	W	Leak found in the right bleed anti-ice duct.	No Dispatch
R COWL A/I DUCT	W	Leak found in the right bleed anti-ice duct.	No Dispatch
R ENG FIRE	W	R engine fire condition is found (temperature > 262°C overall or > 358°C at a distance of 1 foot)	No Dispatch
R ENG OIL PRESS	W	R engine low oil pressure condition is found (<25 psi related to sump)	79-30-01
R REV DEPLOYED	W	R thrust reverser deployed, not stowed, or unlocked.	78-30-01
SMOKE AFT CARGO	W	Smoke detected in the aft cargo compartment.	26-15-01
SMOKE AFT LAV	W	Smoke detected in the aft lavatory.	26-16-01
SMOKE FWD CARGO	W	Smoke detected in the forward cargo compartment.	26-15-01
WING OVHT	W	Left or right anti-ice overheat condition is found.	30-12-01
A/I SKID INBD	C	Fault found in the antiskid inboard system.	32-44-01
A/SKID OUTBD	C	Fault found in the anti-skid outboard system.	32-44-01
AC 1 AUTOXFER	C	Bus tie contactor 1 failed.	No Dispatch
AC 2 AUTOXFER	C	Bus tie contactor 2 failed.	No Dispatch
AC BUS 1	C	Generator line contactor 2 (GLC) not valid (powered.)	No Dispatch
AC BUS 2	C	Generator line contactor 1 (GLC) not valid (powered.)	No Dispatch
AC ESS BUS	C	AC essential bus is off or failed.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
AC SERV BUS	C	AC service bus is off or failed when AC bus 2 is power.	No Dispatch
ADS-B OUT FAIL	C	Indicates ADS-B Out function failure of the active ATC or invalid data of GPS and/or GPS failure.	34-54-02
AFT CARGO DET	C	Fault found in aft cargo smoke-detection system.	26-15-01
AFT CARGO DOOR	C	Aft cargo door unsafe.	52-70-04
AFT CARGO OVHT	C	Cargo overheat, temperature > 24°C.	21-55-05
AFT CARGO SQB 1	C	Aft cargo fire bottle squib 1 is inoperative.	26-25-02
AFT CARGO SQB 2	C	Aft cargo fire bottle squib 2 is inoperative.	26-25-02
ALT LIMITER	C	Altitude limitation function inoperative when system is operating in AUTO or NORMAL mode or loss of C CPCP pressure sensor.	No Dispatch
ANTI-ICE DUCT	C	Bleed shut down after bleed leak was detected and system is not selected off.	N/A
ANIT-ICE LOOP	C	Anti-ice loop is off or failed.	36-21-06
AP PITCH TRIM	C	Autopilot pitch trim failure alert detected by any IAPS quadrant.	22-10-01
AP TRIM IS LWD	C	Mistrim condition found by any IAPS quadrant in roll axis (left wing down).	22-10-01
AP TRIM IS ND	C	Mistrim condition found by any IAPS quadrant in pitch axis (nose down).	22-10-01
AP TRIM IS NU	C	Mistrim condition found by any IAPS quadrant in pitch axis (nose up).	22-10-01
AP TRIM IS RWD	C	Mistrim condition found by any IAPS quadrant in roll axis (right wing down).	22-10-01
APR CMD SET	C	Automatic performance reserve command set.	No Dispatch
APU BATT OFF	C	APU battery not available (28V DC is not present)	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
APU BLEED ON	C	APU load control valve open and barometric altitude > 15000 ft, or Cabin ventilation flow fails below flow schedule during take-off on APU Bleed operation.	N/A
APU BTL LO	C	APU fire bottle at low pressure.	26-22-01
APU DOOR OPEN	C	APU door failed open.	49-14-01
APU ECU FAIL	C	Fault found in APU electronic control unit.	49-61-01
APU FAULT	C	Fault detected in APU that is not an overspeed nor an overtemperature, but causes a protective shutdown.	49-10-01
APU FIRE FAIL	C	Fault found in APU fire detection system.	26-12-01
APU GEN OFF	C	APU generator is off line and APU turbine speed > 95%	24-22-01
APU GEN OVLD	C	Overload condition found in APU generator control unit (load > 35kVA)	N/A
APU LCV CLSD	C	APU load control valve closed when commanded open.	49-51-01
APU LCV OPEN	C	APU load control valve open when commanded closed.	49-51-01
APU PUMP	C	APU fuel pump pressure is low.	28-24-03
APU SOV FAIL	C	APU shutoff valve not detected open or shut (5 seconds delay)	28-13-01
APU SOV OPEN	C	APU SOV not closed when APU fire condition is found (10 second delay)	N/A
APU SQB	C	APU fire extinguisher squibs did not pass the pilot initiated test. (Fire extinguisher inoperative).	26-22-01
AUTO PRESS	C	The two automatic pressurization systems or the two ARINC 429 buses are failed, and CABIN PRESS MAN is not selected.	21-31-01 21-32-01
AV BAY DOOR	C	Avionics bay door unsafe.	52-70-02
AVIONICS FAN	C	Avionic fan has failed or there is a low air flow is exists in the exhaust duct.	21-24-03

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
BATTERY BUS	C	Battery bus not powered.	No Dispatch
BLEED MISCONFIG	C	Inadequate bleed configuration (including APU Bleed) in manual mode.	N/A
BULK FUEL TEMP	C	Bulk fuel temperature > - 40°C	N/A
CABIN ALT	C	Cabin altitude greater than 8,500 ft and less than 10,000 ft (Unless taking off and landing at higher altitudes).	No Dispatch
CARGO BTL LO	C	Cargo fire bottle at low pressure	26-25-01
CTR CARGO DOOR (with ModSum 670T31862/SB 670BA-53-037)	C	Center cargo door unsafe.	No Dispatch
CTR CARGO DOOR (with ModSum 670T31862/SB 670BA-53-037)	C	Center cargo door unsafe.	52-70-04
DC BUS 1	C	DC bus 1 is not powered, when either AC bus is powered.	No Dispatch
DC BUS 2	C	DC bus 2 is not powered, when either AC bus is powered.	No Dispatch
DC EMER BUS	C	DC emergency bus is not powered.	No Dispatch
DC ESS BUS	C	Essential dc bus is not powered.	No Dispatch
DC SERV BUS	C	DC service bus is not powered, when dc bus 2 is powered.	No Dispatch
DISPLAY COOL	C	Cockpit display unit fan 1 or 2 failed or low airflow to displays.	21-24-02
EFIS COMP INOP	C	EFIS comparator not receiving information	No Dispatch
EFIS COMP MON	C	Master caution set on either PFD output.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
ELEVATOR SPLIT	C	Airspeed < 250 knots and split between L and R elevator is < 6 degrees or Airspeed > 250 knots and split between L and R elevator < 3 degrees.	No Dispatch
ELT ON	C	Emergency locator transmitter is on.	No Dispatch
EMER DEPRESS	C	Emergency depressurization is selected. ***Note:*** *MMEL reliefs which require the aircraft to be operated unpressurized while that relief is in effect can result in the posting of this message.*	N/A
EMER LTS OFF	C	Emergency lights are off.	No Dispatch
ENG BTL 1 LO	C	Engine fire bottle 1 at low pressure	No Dispatch
ENG BTL 2 LO	C	Engine fire bottle 2 at low pressure.	No Dispatch
FIRE SYS FAULT	C	Fire system digital bus invalid.	26-00-02
FLAPS FAIL	C	Failure of both flap channels	No Dispatch
FLT SPLR DEPLOY	C	All the conditions that follow are present: • Any flight spoiler deployed (angle > 3 degrees) or flight spoiler handle set at > 5 degrees • Aircraft is in air • Radio altitude is between 10 and 300 feet, or radio altitude > 10 feet and any engine N1 speed > 79%	No Dispatch
FUE CH 1/2 FAIL	C	Failure of both fuel computer channels	No Dispatch
FUEL IMBALANCE	C	Fuel imbalance greater than 800 lb detected by fuel computer.	N/A
FWD CARGO DET	C	Fault found in forward cargo smoke - detection system.	26-15-01
FWD CARGO DOOR (without ModSum 670T31862/SB 670BA-53-037)	C	Forward cargo door unsafe.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
FWD CARGO DOOR (without ModSum 670T31862/SB 670BA-53-037)	C	Forward cargo door unsafe.	52-70-04
FWD CARGO SQB 1	C	Forward cargo fire bottle squib 1 is inoperative.	26-25-02
FWD CARGO SQB 2	C	Forward cargo fire bottle squib 2 is inoperative.	26-25-02
FWD SERVICE DOOR	C	FWD service door is unlocked or the outer handle is not stowed.	52-21-01 52-70-05
GEN 1 OFF	C	Generator 1 off-line when left engine is running.	24-11-01
GEN 2 OFF	C	Generator 2 off-line when right engine is running.	24-11-01
GEN 1 OVLD	C	Overload condition found in generator control unit 1 (load >35kVA).	N/A
GEN 2 OVLD	C	Overload condition found in generator control unit 2 (load >35kVA).	N/A
GLD NOT ARMED	C	All conditions that follow are present: • Ground lift dump not armed • Aircraft in landing configuration or on ground with both engines N1 speed >70%	N/A
GLD UNSAFE	C	All conditions that follow are present: • Ground lift dumper is in a condition which can go to inadvertent deployment • Ground lift dumper is not manually disarmed	N/A
GND SPLR DEPLOY	C	Any ground spoiler deployed in the air and above 10 feet above ground level (AGL) (radio altimeter).	27-65-01
HYD 1 HI TEMP	C	High temperature condition (temperature > 96°C) is found in hydraulic system 1.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
HYD 2 HI TEMP	C	High temperature condition (temperature > 96°C) is found in hydraulic system 2.	No Dispatch
HYD 3 HI TEMP	C	High temperature condition (temperature > 96°C) is found in hydraulic system 3.	No Dispatch
HYD 1 LO PRESS	C	The engine driven pump 1 and electric pump 1B are at low pressure.	No Dispatch
HYD 2 LO PRESS	C	The engine driven pump 2 and electric pump 2B are at low pressure.	No Dispatch
HYD 3 LO PRESS	C	The electric pumps 3A and 3B are at low pressure.	No Dispatch
HYD EDP 1A	C	All conditions that follow are present: • Engine driven pump 1 is at low pressure • Left hydraulic SOV not closed. • Left engine is running • Electrical pump 1B is not at low pressure.	29-11-01 29-34-01
HYD EDP 2A	C	All conditions that follow are present: • Engine driven pump 2 is at low pressure • Right hydraulic SOV not closed. • Right engine is running • Electrical pump 2B is not at low pressure.	29-11-01 29-34-01
HYD PUMP 1B	C	All the conditions that follow are present (5 second time delay): • Electric pump 1B is at low pressure and engine driven pump 1 is not at low pressure • AC bus 2 is energized • Electric pump switch 1B is on or flaps are > 0 degrees	29-34-01
HYD PUMP 2B	C	All the conditions that follow are present (5 second time delay): • Electric pump 2B is at low pressure and engine driven pump 2 is not at low pressure • AC bus 1 is energizes • Electric pump switch 2B is on or flaps are >0 degrees	29-34-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
HYD PUMP 3A	C	All the conditions that follow are present (5 second time delay): • Electric pump 3A is at low pressure • AC bus 2 is on • Electric pump 3A is selected on • Electric pump 3B is not at low pressure	29-12-01 29-34-01
HYD PUMP 3B	C	All the conditions that follow are present (5 second time delay): • Electric pump 3B is at low pressure • AC bus 1 is on • Electric pump 3B is selected on, • Flaps >0 degree and either main generator is on-line.	29-34-01
HYD SOV 1 OPEN	C	Hydraulic SOV 1 not closed and left engine fire condition is found (10 seconds time delay)	N/A
HYD SOV 2 OPEN	C	Hydraulic SOV 2 not closed and left engine fire condition is found (10 seconds time delay)	N/A
IB BRAKE PRESS	C	Inboard brake pressure <1800 psi and DC bus 2 powered.	No Dispatch
IB FLT SPLRS	C	Loss of inboard PLD.	
IB GND SPLRS	C	Either or both inboard ground spoilers are inoperative.	27-65-01
IB SPOILERONS	C	Loss of inboard roll assist.	
ICE	C	Either of the following conditions occur: • Icing found by either system 1 or 2 and left or right wing sufficient heat not found • Left or right engine running with cowl anti-ice not selected on.	No Dispatch
ICE DET FAIL	C	Ice detector failed.	30-81-01
IDG 1	C	Integrated drive generator 1 oil pressure low or oil temperature >160°C when left engine operates and IDG 1 is not disconnected.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
IDG 2	C	Integrated drive generator 2 oil pressure low or oil temperature >160°C when left engine operates and IDG 1 is not disconnected.	No Disptach
ISOL FAIL	C	Failure of the cross-bleed valve either open or closed	36-12-02
L AFT EMER DOOR	C	Left aft overwing emergency door open.	52-21-01 52-70-03
L AOA HEAT	C	Left angle of attack vane heater off or failed.	30-31-01 30-31-02
L BLEED LOOP	C	Loss of both left engine bleed air leak detection loops during power-up test.	36-21-06
L BLEED DUCT	C	Indicates respective bleed shutdown after bleed leak detected and system has not been reconfigured.	N/A
L COWL A/I	C	Fault detected in left cowl anti-ice system (3 second time delay)	30-22-01
L COWL A/I OPEN	C	Cowl A/I SOV open when switch is OFF and air is present.	30-22-01
L COWL LOOP	C	Loss of both left cowl bleed air leak detection loops during power-up test.	36-21-06
L EMER DOOR	C	Left overwing emergency door open.	52-70-03 52-21-01
L ENG BLEED	C	Bleed HI pressure detected due to failure of HPSOV or PRSOV or controller failure.	36-11-02 36-11-03
L ENG DEGRADED	C	Degraded engine performance.	No Dispatch
L ENG FLAMEOUT	C	Left engine flameout.	No Dispatch
L ENG SOV FAIL	C	Left engine (fuel) SOV is not in commanded position after (5 second time delay).	No Dispatch
L ENG SOV OPEN	C	Left engine (fuel) SOV not confirmed closed and left engine fire condition is found (10 second time delay).	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
L ENG SQB	C	Left engine fire bottle 1 or 2 squib test failed.	No Dispatch
L ENG SRG CLSD	C	Left engine Operability Bleed Valve failed closed.	No Dispatch
L ENG SRG OPEN	C	Left engine Operability Bleed Valve failed open.	No Dispatch
L ENG TAT HEAT	C	The FADEC has detected a dual failure in the engine T2 heater system.	30-31-01
L FADEC	C	Combination of FADEC faults that could affect inflight engine performance.	No Dispatch
L FADEC OVHT	C	Left FADEC overheat.	No Dispatch
L FIRE FAIL	C	Fault is found in left engine fire detection system.	No Dispatch
L FUEL FILTER	C	Left fuel filter in or almost in bypass mode.	No Dispatch
L FUEL LO PRESS	C	Left engine inlet fuel pressure is low when left engine fuel SOV is not confirmed closed (4 second time delay)	No Dispatch
L FUEL LO TEMP	C	Left fuel temperature <5°C when left engine is running.	N/A
L FUEL PUMP	C	Left fuel boost-pump fault (low pressure) found or pump not selected on (5 second time delay)	28-23-01
L FWD EMER DOOR	C	Left FWD overwing emergency door open.	52-21-01 52-70-03
L MAIN EJECTOR	C	Left main ejector low pressure with left engine running.	No Dispatch
L PACK AUTOFAIL	C	Failure of L Pack in automatic mode, and system is not in Manual mode.	21-61-01
L PACK	C	Left pack failed (latched until left pack select off then on).	21-51-01 21-51-02
L PACK TEMP	C	Left pack failed (not high-pressure event or latched condition).	21-51-01
L PITOT HEAT	C	Left pitot heat off or failed.	30-31-01 30-31-02

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
L REV INOP	C	Left thrust reverser unlocked and either of the following conditions occurs: • Left thrust reverser arm command and left engine running • Hydraulic system 1 pressure < 2000 psi.	78-30-01
L REV UNLOCKED	C	Left thrust reverser unlocked and either of the following conditions occurs: • Left thrust reverser unlocked and not armed • No valid deployment command set.	78-30-01
L REV UNSAFE	C	Left thrust reverser unsafe to arm (deploy command set but not armed or unlocked)	78-30-01
L SCAV EJECTOR	C	Left scavenge ejector at low pressure when left engine is running.	No Dispatch
L START ABORT	C	Left engine start aborted by the FADEC.	N/A
L START VALVE	C	The FADEC has commanded an engine start and the ATS valve has not opened.	80-11-03
L STATIC HEAT	C	Left static heat off or failed.	30-31-01 30-31-02
L THROTTLE	C	Left throttle fault detected.	No Dispatch
L WINDOW HEAT	C	Either overwing or no heat is present in left side window or test signal is present for more than 10 seconds.	30-41-01
L WING A/I	C	Both of the conditions that follow are present: • Left wing anti-ice fault when selected on (low pressure) • No left sufficient heat is found (temperature < 88°C)	30-12-01 30-12-04
L WSHLD HEAT	C	Overheat or no heat found in left windshield or test signal is present for more than 10 seconds, and AC bus 1 on.	30-41-01
L XFER SOV	C	Left power transfer SOV failure.	28-13-08
LOW FUEL	C	FQGC indicates low fuel	N/A
MACH TRIM	C	Mach trim is not engaged.	22-21-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
MAIN BATT OFF	C	Main battery is not available (28V DC is not present)	24-32-01
MLG OVHT FAIL	C	Fault is found in overheat detection system of main landing-gear bay.	26-14-01
NO STRTR CUTOUT	C	Left or right starter cutout failure.	No Dispatch
OB BRAKE PRESS	C	Outboard brake pressure <1800 psi and DC bus 2 powered.	No Dispatch
OB FLT SPLRS	C	Loss of outboard PLD.	29-31-01
OB GND SPLRS	C	Either or both outboard ground spoilers failed.	27-65-01 29-31-01
OB SPOILERONS	C	Outboard spoilers are inoperative (loss of outboard roll assist).	29-31-01
OVBD COOL	C	Outboard avionics cooling SOV not closed and passenger door locked (closed) (10 second time delay).	21-24-07
OXY LO PRESS	C	Larger crew oxygen bottle pressure <960 psi (display) or small crew oxygen bottle pressure <1410 psi (displayed). ***Note:*** *If the message shows on EICAS because of an actual low pressure and not because of a fault, refer to FCOM 1 (CSP-C-013), section 09-20 OXYGEN - Dispatch Requirements Charts, to dispatch the aircraft.*	35-11-02 35-12-01
PARK BRAKE SOV	C	Parking brake SOV is failed open and inboard brake pressure >800 psi.	No Dispatch
PASS OXY ON	C	Passenger oxygen system has been activated.	N/A
PAX DR LATCH	C	Passenger door pin/cam unlatched and door safe.	52-70-01 52-21-01
PAX DR OUT HNDL	C	Passenger door safe and outer handle unlocked (5 second time delay)	52-70-01 52-21-01
PITCH FEEL	C	Failure of the pitch feel system.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
PROX SYS CHAN	C	Proximity system channel failure and PSEU - 1 or PSEU - 2 bus fail.	No Dispatch
PROX SYSTEM	C	Proximity system failure and PSEU - 1 or PSEU - 2 bus fail.	No Dispatch
R AFT EMER DOOR	C	Right overwing emergency door open.	52-21-01 52-70-03
R AOA HEAT	C	Right angle of attack vane heater failed with AC bus 1 on.	30-31-01 30-31-02
R BLEED LOOP	C	Loss of both right engine bleed air leak detection loops during power-up test.	36-21-06
R BLEED DUCT	C	Indicated respective bleed shutdown after bleed leak detected and system has not been reconfigured.	N/A
R COWL A/I	C	Fault detected in right cowl anti-ice system (3 second time delay)	30-22-01
R COWL A/I OPEN	C	Cowl A/I SOV open when switch is OF and air is present.	30-22-01
R COWL LOOP	C	Loss of both left cowl bleed air leak detection loops during power-up test.	36-21-08
R EMER DOOR	C	Right overwing emergency door open.	52-70-03
R ENG BLEED	C	Bleed HI pressure detected due to failure of HPSOV or PRSOV or controller failure.	36-11-02 36-11-03
R ENG DEGRADED	C	Degraded engine performances	No Dispatch
R ENG FLAMEOUT	C	Right engine flameout	No Dispatch
L ENG SOV CLSD	C	All the conditions that follow are present: • Left engine (fuel) SOV confirmed closed, • No left engine fire, • No left ENG SOV CLSD advisory indication.	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
R ENG SOV CLSD	C	All the conditions that follow are present: • Right engine (fuel) SOV confirmed closed, • No right engine fire, • No right ENG SOV CLSD advisory indication.	N/A
R ENG SOV FAIL	C	Right engine (fuel) SOV not confirmed position (5 second time delay)	No Dispatch
R ENG SOV OPEN	C	Right engine (fuel) SOV not confirmed closed and right engine fire condition is found (10 second time delay)	N/A
R ENG SQB	C	Right engine fire bottle 1 or 2 squib test failed.	No Dispatch
R ENG SRG CLSD	C	Right engine Operability Bleed Valve failed closed.	No Dispatch
R ENG SRG OPEN	C	Right engine Operability Bleed Valve failed open.	No Dispatch
R ENG TAT HEAT	C	The FADEX has detected a duel failure in the engine T2 heater system.	30-31-01
R FADEC	C	Combination of FADEC fault that could affect inflight engine performance.	No Dispatch
R FADEC OVHT	C	Right FADEC overheat.	No Dispatch
R FIRE FAIL	C	Fault is found in right engine fire detection system.	No Dispatch
R FUEL FILTER	C	Right fuel filter in or almost in bypass mode.	No Dispatch
R FUEL LO PRESS	C	Right engine inlet fuel pressure is low when right engine fuel SOV is not confirmed closed (4 second time delay)	No Dispatch
R FUEL LO TEMP	C	Right fuel temperature <5°C when right engine is running.	N/A
R FUEL PUMP	C	Right fuel boost-pump fault (low pressure) found or pump not selected on (5 second time delay)	28-23-01
R FWD EMER DOOR	C	Right FWD overwing emergency door open.	52-21-01 52-70-03

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
R MAIN EJECTOR	C	Right main ejector low pressure with right engine running.	No Dispatch
R PACK AUTOFAIL	C	Failure of R Pack in automatic mode, and system is not in Manual mode.	21-61-01
R PACK	C	Right pack failed (latched until right pack select off then on)	21-51-01 21-51-02
R PACK TEMP	C	Right pack failed (not high-pressure or latched condition)	21-51-01
R PITOT HEAT	C	Right pitot heat off or failed.	30-31-01 30-31-02
R REV INOP	C		78-30-01
R REV UNLOCKED	C		78-30-01
R REV UNSAFE	C	Right thrust reverser unsafe to arm (deploy command set but not armed or unlocked)	78-30-01
R SCAV EJECTOR	C	Right scavenge ejector at low pressure when right engine is running.	No Dispatch
R START ABORT	C	Right engine start aborted by the FADEC.	N/A
R START VALVE	C	The FADEC has commanded an engine start and the ATS valve has not opened.	80-11-03
R STATIC HEAT	C	Right static heat off or failed.	30-31-01 30-31-02
R THROTTLE	C	Right throttle fault detected.	No Dispatch
R WINDOW HEAT	C	Either overheat or no heat is present in right side window or test signal is present for more than 10 seconds.	30-41-01
R WING A/I	C	Both of the conditions that follow are present: • Right wing anti-ice fault when selected on (low pressure) • No right sufficient heat found (temperature <8°C)	30-12-01 30-12-04

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
R WSHLD HEAT	C	Overheat or no heat found in right windshield or test signal present for more than 10 seconds, and AC bus 1 on.	30-41-01
R XFER SOV	C	Right power transfer SOV failure.	28-13-08
RUD LIMITER	C	Loss of the rudder limiting function.	No Dispatch
SERVICE DOOR	C	Service door is unlocked or the handle is not stowed.	52-70-05 52-21-01
SLATS FAIL	C	Failure of both slat channels.	No Dispatch
SPOILERONS ROLL	C	Either of the two conditions that follow occurs (20 seconds time delay). • Roll control is disconnected and neither pilot or copilot roll authority is selected. • Roll control is disconnected and both pilot and copilot roll authority is selected.	No Dispatch
STAB TRIM	C	The stab trim channels 1 and 2 are not engaged.	No Dispatch
STAB TRIM LIMIT	C	The stab trim is ≥ 14 units.	No Dispatch
STALL FAIL	C	Pusher is deactivated or has failed or one channel of the stall protection computer has failed or angle of attack sensor is failed.	No Dispatch
STBY PITOT HEAT	C	Standby pitot heat off or failed.	30-31-01 30-31-02
STEERING INOP	C	Steering system fault is found or system switched off.	32-50-01
TAT PROBE HEAT	C	Total air temperature (TAT) probe heater failed and AC bus 1 on.	30-31-01 30-31-02
WING A/I SNSR	C	Fault is found in wing anti-ice sensor.	30-12-04
WING XBLEED	C	Wing cross bleed failure.	30-12-05
WOW INPUT	C	Weight on wheel input fault.	No Dispatch
WOW OUTPUT	C	Weight on wheels output do not agree.	No Dispatch
XFLOW PUMP	C	Left and right cross flow pump failure.	28-13-10
XPDR FAIL	C	Indicates failure of the active transponder.	34-54-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
YAW DAMPER	C	Both yaw dampers are not engaged, or all IAPS input busses are invalid.	No Dispatch
ADS HEAT TEST OK	A	The air data system heaters for TAT sensor, standby pitot port, left pitot port, left static port, left AOA sensor right pitot port, right static port, and right AOA sensor tested OK.	N/A
APU SOV CLSD	A	APU SOV confirmed closed after APU fire conditions is found (latched until opened).	N/A
COWL A/I ON	A	Left engine running, left cowl anti-ice on, right engine running, right cowl anti-ice on and wing anti-ice off.	N/A
CPLT ROLL CMD	A	Copilot roll authority selected.	N/A
ENGS HI PWR SCHED	A	FADEC is sending the MCT ON signal.	N/A
FDR EVENT	A	FDR EVENT switch pressed.	N/A
FIRE SYS OK	A	System in test, no failures detected.	N/A
FLAPS EMER	A	Emergency flap switch on.	N/A
FLT SPLT DEPLOY	A	All the conditions that follow are present: • Any flight spoiler deployed (angle >3 degrees) or flight spoiler lever >5 degrees • Radio altitude > 300 feet • Both engines N1 < or = 79%	N/A
GND SPLR DEPLOY	A	All the conditions that follow are present: • Any ground spoiler deployed • Radio altitude ≤ 10 feet • Main landing gear weight-on-wheels	N/A
GLD MAN ARM	A	Ground lift dump manually armed	N/A
GRAV XFLOW OPEN	A	Gravity cross flow valve confirmed open.	N/A
HYD SOV 1 CLSD	A	Hydraulic SOV 1 closed.	N/A
HYD SOV 2 CLSD	A	Hydraulic SOV 2 closed.	N/A
ICE	A	Ice detected by both ice detectors, wing and cowl anti-ice on and both engines running.	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
L AUTO IGNITION	A	Left engine ignition commanded by FADEC.	N/A
L COWL A/I ON	A	Left engine running and left cowl anti-ice system on.	N/A
L ENG SOV CLSD	A	All the conditions that follow are present: • Left engine (fuel) SOV confirmed closed. • Left engine has a fire condition (latched until left engine fuel SOV not confirmed closed.)	N/A
L FUEL PUMP ON	A	Left fuel pump on.	N/A
L REV ARMED	A	Left thrust reverser armed.	N/A
PARKING BRAKE ON	A	Parking brake set, aircraft on the ground and either engine N1 < 70%	N/A
PLT ROLL CMD	A	Pilot roll authority selected.	N/A
R AUTO IGNITION	A	Right engine ignition commanded by FADEC.	N/A
R COWL A/I ON	A	Right engine running and right cowl anti-ice system on.	N/A
R ENG SOV CLSD	A	All the conditions that follow are present: • Right engine (fuel) SOV confirmed closed • Right engine has a fire condition (latched until right engine fuel SOV not confirmed closed.)	N/A
R FUEL PUMP ON	A	Right fuel pump on	N/A
R REV ARMED	A	Right thrust reverser armed.	N/A
SELCAL HF	A	SELCAL code sent to HF.	N/A
SELCAL HF 1	A	SELCAL code sent to HF 1	N/A
SELCAL HF 2	A	SELCAL code sent to HF 2	N/A
SELCAL VHF 1	A	SELCAL code sent to VHF number 1	N/A
SELCAL VHF 2	A	SELCAL code sent to VHF number 2	N/A
SELCAL VHF 3	A	SELCAL code sent to VHF number 3	N/A
SPLT / STAB IN TEST	A	Spoiler and stabilizer systems are under test.	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
T/O CONFIG OK	A	All the conditions that follow are present: • Airplane is on ground • Both engines running • Thrust reversers not deployed. • Autopilot not engages • Flaps and spoilers are in take-off position • Parking brake not set • Rudder trim ≤ ± 11.0 degree • Aileron trim ≤ ± 11.0 degree • Stabilizer trim is in the green band.	N/A
WING A/I ON	A	Wing anti-ice system on.	N/A
WING / COWL A/I ON	A	Wing and cowl anti-ice system on.	N/A
A/ SKID FAULT	S	Loss of redundancy of A/Skid-BTMS Control unit- loss of IOC input, spin down fail, loss of internal communication	32-46-02
AC 1 AUTOXFER OFF	S	AC 1 auto transfer is inhibited (auto off relay 1 is grounded)	N/A
AC 2 AUTOXFER	S	AC 2 auto transfer is inhibited (auto off relay 2 is grounded)	N/A
AC ESS ALTN	S	AC essential bus-tie contactor is in alternate position.	N/A
ACARS CALL	S	ACARS received SELCAL uplink.	N/A
ACARS MESSAGE	S	ACARS has received a message.	N/A
ACARS NOCOM	S	ACARS is in NO COMM	23-22-01
ADG AUTO FAIL	S	ADCU or up-lock solenoid failed or ADCU is unpowered with 3 seconds delay.	24-23-01
ADG FAIL	S	Fault found in air driven generator.	No Dispatch
ADS-B OUT 1 FAIL	S	Indicates failure of the ADS-B section of transponder 1 that does not affect the MODE-S operation. Displayed only when ATC 2 is selected and serviceable or, when ATC SEL is on STBY.	34-54-02

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
ADS-B OUT 2 FAIL	S	Indicates failure of the ADS-B section of transponder 2 that does not affect the MODE-S operation. Displayed only when ATC 1 is selected and serviceable or, when ATC SEL is on STBY.	34-54-02
AFT CARGO SOV	S	Cargo Air SOV failure.	21-55-03 21-55-04
APU ALT LIMIT	S	Surge control valve failed.	49-51-02
APU BATT CHGR	S	APU battery charger is overheating or not charging.	No Dispatch
APU FAULT	S	Fault found in auxiliary power unit.	49-61-02
APU IN BITE	S	Auxiliary power unit undergoing Built in Test.	N/A
APU LCV OPEN	S	APU load control valve open on command.	N/A
APU SOV OPEN	S	APU fuel feed SOV confirmed open.	N/A
APU START	S	APU start in progress	N/A
AUTO PRESS 1 FAIL	S	Fault found on automatic pressurization system 1 or ARINC 429 bus failed.	N/A
AUTO PRESS 2 FAIL	S	Fault found on automatic pressurization system 2 or ARINC 429 bus failed.	21-31-01
AUTO PRS 1/2 FAIL	S	ARINC bus from the active channel is lost if Cabin Pressurization is in Manual mode.	21-31-01
AUTO XFLOW INHIB	S	The fuel computer will inhibit auto cross-flow if one of the following failures is detected: • L or R MAIN QTY IND failure detected, • Cross-flow pump fails, • The cross-flow pump is running in the wrong direction.	28-13-10- 28-41-01
BLEED XFLOW INHIB	S	The fuel computer will inhibit auto cross-flow if one of the following failures is detected: • L or R MAIN QTY IND failure detected, • Cross-flow pump fails • The cross-flow pump is running in the wrong direction.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
BLEED CLSD	S	All Bleeds (L/R Engine and APU) CLOSED.	N/A
BLEED MANUAL	S	Bleed System in MANUAL mode.	N/A
CABIN ALT WARN HI	S	T/O or landing at high altitude > 8000 ft.	N/A
CABIN PRESS MAN	S	Cabin pressurization is in manual control.	N/A
CABIN TEMP MAN	S	Cabin temperature in manual control.	N/A
CAS MISCOMP	S	Miscompare of Warning, Caution, Status, Advisory or Aural between DCUs for > 20 seconds.	No Dispatch
CKPT TEMP MAN	S	Cockpit temperature in manual control.	N/A
CONT IGNITION	S	Left and right ignition systems A and B are on.	N/A
CPAM FAIL	S	Cabin pressure acquisition module (CPAM) or ARINC 429 bus failed.	21-33-01
DATALINK FAIL	S	Data Concentrator Unit (DCU) detects data link failure with Communication Monitoring Unit (CMU).	23-22-01
DC CROSS TIE CLSD	S	DC Cross-tie contactor energized.	No Dispatch
DC ESS TIE CLSD	S	DC tie contactor 3 (dc essential bus) is energized. ***Note:*** *MMEL item 24-31-01 allowing aircraft operation with a TRU failed, while that relief is in effect can result in the posting of this message.*	N/A
DC MAIN TIE CLSD	S	DC main tie contactor energized. ***Note:*** *MMEL item 24-31-01 allowing aircraft operation with a TRU failed, while that relief is in effect can result in the posting of this message.*	N/A
DCU 1 AURAL INOP	S	DCU fault affecting aural card, aural warn card fault, or left DCU aural disable input open.	31-41-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
DCU 2 AURAL INOP	S	DCU fault affecting aural card, aural warn card fault, or left DCU aural disable input open.	
DCU 1 INOP	S	Self detected internal fault, or fault detected by other DCU's.	
DCU 2 INOP	S	Self detected internal fault, or fault detected by other DCU's.	
DUCT MON FAULT	S	Fault found in the duct monitor.	30-12-06 36-21-06
EMER LTS ON	S	Emergency lights are on, and power supply > 4.5V	N/A
ENG SYNC OFF	S	Engine synchronization deselected by crew.	N/A
ESS TRU 1 FAIL	S	ESS TRU 1< 18V and AC ESS BUS powered or Ess Tie contactor closed and ESS TRU 1 load < 3.7A	24-31-01
ESS TRU 2 FAIL	S	Either of the conditions that follow are present. • ESS TRU 2 < 18V and AC BUS 2 powered and ESS TRU 2 contactor not closed • ESS TRU 2 contactor closed and AC ESS BUS powered. • ESS TRU 2 load < 3.7A and ESS TIE contactor closed.	24-31-01
ESS TRU 2 XFER	S	Essential transformer rectifier unit (TRU) 2 transfer contactor energized.	No Dispatch
FD 1 FAIL	S	Left flight director failure.	22-10-02
FD 2 FAIL	S	Right flight director failure.	22-10-02
FDR ACCEL FAIL	S	Triaxial accelerometer out of tolerance on ground with parking brake set and dc bus 1 on (latched until FDR event switch is pushed for more than 2 seconds)	31-31-01
FDR FAIL	S	Flight data recorder failure.	31-31-01
FIRE SYS FAULT	S	Fire system fault detected, pilot initiated test (PIT) failure detected, or pilot initiated test (PIT) miscompare detected.	26-00-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
FLAP FAULT	S	Fault found in flap system.	27-51-05
FLAPS HALFSPEED	S	Either flap channel 1 or 2 failed (not both) (flaps will move at half speed)	27-51-02
FLUTTER DAMPER	S	Left or right ailerons flutter damper failure (low reservoir pressure)	27-15-02
FUEL CH 1 FAIL	S	Either of the conditions that follow occurs: • Fault is found in fuel-quantity computer channel 1 • ARINC 429 bus is not valid	28-41-03
FUEL CH 2 FAIL	S	Either of the conditions that follow occurs: • Fault is found in fuel-quantity computer channel 2 • ARINC 429 bus is not valid	28-41-03
FUEL QTY DEGRADED	S	Error in the attitude input to the fuel quantity gauging computer.	No Dispatch
GLD MAN DISARM	S	Ground lift dump manually disarmed.	N/A
GPWS FAIL	S	Ground proximity warning system (GPWS) fault detected.	34-42-01
GRAV XFLOW FAIL	S	Gravity crossflow valve not confirmed to be opened or closed (failed) after 5 second time delay.	No Dispatch
GS CANCEL	S	GPWS glideslope cancel mode selected.	N/A
HGS FAIL	S	Head-up guidance system fault detected.	34-32-01
HORN MUTED	S	Landing gear horn muted by crew.	N/A
IAPS DEGRADED	S	IOC bus failure, on ground, and both PSEUs invalid.	22-12-02
IAPS OVERTEMP	S	Overtemperature condition found by any IAPS quadrant.	No Dispatch
IB FLT SPLR FAULT	S	Loss of redundancy found in inboard flight spoilers for inboard PLD.	No Dispatch
IB GND SPLR FAULT	S	Loss of redundancy found in inboard ground spoilers with no major failure.	27-65-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
IB SPLRONS FAULT	S	Loss of redundancy found in inboard ground spoilers for inboard roll assist.	No Dispatch
ICE DET 1 FAIL	S	Ice detector 1 failed but ice detector 2 has not failed.	30-81-01
ICE DET 2 FAIL	S	Ice detector 2 failed but ice detector 1 has not failed.	30-81-01
IDG 1 DISC	S	Integrated drive generator (IDG) 1 is disconnected (IDG 1 voltage <1.3 V) and left engine N2 >15%	No Dispatch
IDG 2 DISC	S	Integrated drive generator (IDG) 2 is disconnected (IDG 2 voltage <1.3 V) and left engine N2 >15%	No Dispatch
IRS 1 IN ATT	S	IRS 1 in attitude mode.	N/A
IRS 2 IN ATT	S	IRS 2 in attitude mode.	N/A
IRS 1 OVERTEMP	S	IRS 1 overheat	No Dispatch
IRS 2 OVERTEMP	S	IRS 2 overheat	No Dispatch
ISOL CLOSED	S	Cross bleed valve fully closed	N/A
ISOL OPEN	S	Cross bleed valve fully open	N/A
L AUTO XFLOW ON	S	Auto fuel crossflow activated and left cross flow on.	N/A
L COWL A/I DUCT	S	Fault detected in left cowl anti-ice system (3 second time delay)	30-22-01
L ENG BLEED CLSD	S	L Engine Bleed not selected LH PRSOV and HPSOV closed either in auto or manual.	N/A
L ENG BLEED SNSR	S	Loss of redundancy of L Bleed system, Pack Inlet Pressure sensor fail.	36-11-04
L ENG SHUTDOWN	S	Power lever at shut off.	N/A
L ENG SQB	S	Left engine fire bottles 1 and 2 squib inoperative.	No Dispatch
L ENGINE START	S	Left engine start in progress	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
L FADEC FAULT 1	S	Fault found in left FADEC ***Note:*** *If the message L FADEC FAULT 1 and R FADEC FAULT 1 appear simultaneously, return to gate. Maintenance check of the MDC is required.*	73-21-01
L FADEC FAULT 2	S	Fault found in left FADEC.	73-21-01
L IGN A FAULT	S	Fault found in left engine ignition A.	74-11-01
L IGN B FAULT	S	Fault found in left engine ignition B.	74-11-01
L ITT EXCEED B	S	FADEC detected ITT B exceedance.	No Dispatch
L ITT EXCEED B1	S	FADEC detected ITT B 1 exceedance	No Dispatch
L ITT EXCEED C	S	FADEC detected ITT C exceedance	No Dispatch
L MLG FAULT	S	Fault in left main landing retraction actuator shuttle valve.	No Dispatch
L OIL LEVEL LO	S	Left engine oil level low.	Refer to Oil Level Indication and Duration Table QRH, Vol. 2 Status Section.
L PACK FAULT	S	Fault found in left pack	21-51-04
L PACK OFF	S	Left pack switched off.	N/A
L RARV FAULT	S	Left Ram Air Regulating Valve failed.	21-52-03
L REV FAULT	S	Fault found in right thrust reverser.	78-30-01
L THROTTLE FAULT	S	Single L Throttle RVDT is faulty.	76-11-03
L VIB FAULT	S	Fault found in left engine vibration sensor	77-31-01
L XFLOW ON	S	Left crossflow on and auto fuel cross flow not activated.	N/A
MAIN BATT CHGR	S	Main battery charger is not charging.	24-32-02
MAN XFLOW	S	Auto xflow override activated in either fuel channel 1 or 2.	N/A
MDC FAULT	S	MDC has detected an internal fault or has stopped sending valid data.	45-45-01

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
MLG FAULT	S	PSEU has detected a fault with the Main Landing Gear shuttle valve.	No Dispatch
NO SMOKING	S	NO SMOKING signs selected on or cabin altitude is greater than 14000 feet.	N/A
OB FLT SPLRS FAULT	S	Loss of redundancy found in outboard flight spoilers with no major failure.	No Dispatch
OB GND SPLR FAULT	S	Loss of redundancy found in outboard ground spoilers with no major failure.	27-65-01
OB SPLRONS FAULT	S	Loss of redundancy found in outboard ground spoilers for outboard roll assist.	No Dispatch
OUTFLOW VLV OPEN	S	Outflow Valve is full open position.	N/A
OVBD COOL FAIL	S	Overboard avionics - cooling SOV closed and passenger door unlocked (open) (10 second time delay)	21-24-07
PITCH FEEL FAULT	S	Loss of pitch feel control	No Dispatch
PROX SYS FAULT 1	S	Any one input or output related to a critical aircraft system failed or unreasonable.	No Dispatch
PROX SYS FAULT 2	S	Any one sensor or discrete input or output (non-critical) failed or unreasonable and PROX SYS FAULT 1 is not posted.	No Dispatch
R AUTO XFLOW ON	S	Auto fuel crossflow activated and right cross flow on.	N/A
R COWL A/I SNSR	S	Right cowl anti-ice duct pressure < -3.12 psi or > 53.1 psi and the battery bus is energized.	30-22-03
R ENG BLEED SNSR	S	Right cowl anti-ice duct pressure < -3.12 psi or > 53.1 psi and the battery bus is energized.	36-11-04
R ENG BLEED CLSD	S	R Engine Bleed not selected RH PRSOV and HPSOV closed either in auto or manual.	N/A
R ENG SHUTDOWN	S	Power lever at shut off.	N/A
R ENG SQB	S	Right Engine fire bottles 1 and 2 squibs inoperative.	No Dispatch

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
R ENGINE START	S	Right engine start in progress.	N/A
R FADEC FAULT 1	S	Fault found in left FADEC. ***Note:*** *If the message L FADEC FAULT 1 and R FADEC FAULT 1 appear simultaneously, return to gate. Maintenance check of the MDC is required.*	73-21-01
R FADEC FAULT 2	S	Fault found in right FADEC.	73-21-01
R IGN A FAULT	S	Fault found in right engine ignition A.	74-11-01
R IGN B FAULT	S	Fault found in right engine ignition B.	74-11-01
R ITT EXCEED B	S	FADEC detected ITT B exceedance	No Dispatch
R ITT EXCEED B1	S	FADEC detected ITT B 1 exceedance	No Dispatch
R ITT EXCEED C	S	FADEC detected ITT C exceedance	No Dispatch
R MLG FAULT	S	Fault in right main landing gear retraction actuator shuttle valve	No Dispatch
R OIL LEVEL LO	S	Right engine oil level low.	Refer to Oil Level Indication and Duration Table, QRH, Vol. 2, Status Section.
R PACK FAULT	S	Fault found in right pack	21-51-04
R PACK OFF	S	Right pack switched off.	N/A
R RARV FAULT	S	Right Ram Air Regulation Valve failed.	No Dispatch
R REV FAULT	S	Fault found in right thrust reverser.	78-30-01
R THROTTLE FAULT	S	Single R Throttle RVDT is faulty.	76-11-03
R VIB FAULT	S	Fault found in right engine vibration sensor.	77-31-01
R XFLOW ON	S	Right crossflow on and auto fuel cross flow not activated.	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
R RAM AIR OPEN	S	Ran Air SOV open ***Note:*** *MMEL reliefs which require the aircraft to be operated unpressurized while that relief is in effect can result in the posting of this message.*	N/A
RECIRC FAN FAULT	S	Either one or both of the recirculation fans have failed.	21-22-01
RECIRC FAN OFF	S	Recirculation fans switched off.	N/A
RUD LIMIT FAULT	S	Loss of redundancy for RTL control.	No Dispatch
SEAT BELTS	S	SEAT BELT signs selected on.	N/A
SHAKER ADVANCED	S	Stick shaker firing angle advanced in the SPC (stall protection computer)	No Dispatch
SLAT FAULT	S	Fault found in slat system.	27-51-04
SLATS HALFSPEED	S	Either slat channel 1 or 2 failed (not both) (slats will move at halfspeed)	27-51-02
SPEED REFS INDEP	S	Pilot and copilot V-speed selection not synchronized.	22-12-01
SPLR / STAB FAULT	S	One module in each SSCU has failed or the SPOST has not run for more than five consecutive times or problems identified during SPOST which impact the safety of the system.	27-65-02 34-44-01
SSCU 1 FAULT	S	SSCU 1 fault.	27-65-02
SSCU 2 FAULT	S	SSCU 2 fault.	27-65-02
STAB CH 1 INOP	S	Horizontal stabilizer trim control unit (HSTCU) (STAB TRIM) channel 1 not engaged with channel 2 engaged.	No Dispatch
STAB CH 2 INOP	S	HSTCU (STAB TRIM) channel 1 not engaged with channel 2 engaged.	No Dispatch
STAB FAULT	S	Loss of redundancy for the stabilizer trim.	No Dispatch
STEERING DEGRADED	S	NWS operating in secondary mode and not steering inoperative.	N/A

MESSAGE	CL.	CONDITION(S)	REFER TO MEL ITEM FOR POSSIBLE RELIEF
TERRAIN FAIL	S	Enhanced GPWS terrain awareness failure.	34-42-01
TERRAIN OFF	S	Enhanced GPWS terrain awareness inhibited.	N/A
TERRAIN NOT AVAIL	S	Enhanced GPWS terrain awareness display not available.	34-42-01
TRU 1 FAIL	S	Either of the conditions that follow are present: - TRU 1 < 18V and AC BUS 1 powered. - Main Tie contactor closed and TRU 2 load < 3.7A	24-31-01
TRU 2 FAIL	S	Either of the conditions that follow are present: - TRU 2 < 18V and AC BUS 1 powered - Main Tie contactor closed and TRU 2 load < 3.7A	24-31-01
TRU FAN FAIL	S	Fan failed from any of 4 TRUs	24-31-02
VHF 3 VOICE	S	VHF 3 is being used for voice.	N/A
WINDSHEAR FAIL	S	Windshear detected subsystem (in GPWS) has failed or windshield guidance has failed.	34-42-01
WING A/I FAULT	S	Fault found in wing anti-ice system.	30-12-04 30-12-06
WING XBLEED	S	Wing cross bleed open.	N/A
XPDR 1 INOP	S	Indicates transponder 1 failure.	N/A
XPDR 2 INOP	S	Indicates transponder 2 failure.	N/A
YD 1 INOP	S	Yaw damper channel 1 is off or failed, but not yaw damper channel 2.	22-22-01
YD 2 INOP	S	Yaw damper channel 2 is off or failed, but not yaw damper channel 1.	22-22-01

9.MO MEL Operational Procedures

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9-MO-21 AIR-CONDITIONING

9-21-24 Avionics / Equipment Display Cooling *(revised: FEB 2017)*

9-21-24-02	**Display Units Supply Fans** *(revised: FEB 2017)*

A. For an inoperative FAN #1 (in flight fan), do as follows:
On ground:

1) Set the DSPLY FAN switch to NORM (FAN #2).
In flight:
2) Set the DSPLY FAN switch to FLT ALTN (FAN #2)
On ground:

B. For an inoperative FAN #2 (on ground fan), do as follows:

1) Set the DSPLY FAN switch to GRND ALTN (FAN #1)
In flight:
2) Set the DSPLY FAN switch to NORM (FAN #1)

END

9-21-31 Cabin Pressure Control System *(revised: FEB 2017)*

9-21-31-01	**Automatic Cabin Pressurization Controllers** *(revised: FEB 2017)*

Operational procedure for one CPC inoperative:

1) On the CABIN PRESS control panel (CPCP), select the PRESS CONT switch to MAN.
2) Make sure that the CABIN PRESS MAN status message shows on the EICAS secondary page.
3) On the CPCP, select the MAN RATE selector to the full INCR (+) position.
4) On the CPCP, select the MAN ALT switch to DN to close the outflow valve.
5) Make sure that the OUTFLOW VLV OPEN status message does not show on the EICAS secondary page.
6) On the CPCP, select the MAN ALT switch to UP to open the outflow valve.
7) Make sure that the status OUTFLOW VLV OPEN status message shows on the EICAS secondary page.
8) On the CPCP, select the MAN ALT switch to HOLD.
9) On the CPCP, select the PRESS CONT switch to deselect the MAN mode.
10) Make sure that the CABIN PRESS MAN status message does not show on the EICAS secondary page.
11) On the CPCP, select the MAN RATE selector to the position required for flight.

Operational procedures for both CPCs inoperative:

A. FOR UNPRESSURIZED FLIGHT PROCEDURES WITH AIR CONDITIONING PACKS OPERATIVE, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and / or R PACK switches	• Press (L and/ or R PACK OFF light out). • L and/ or R PACK OFF status message out.
(2) EMER DEPRESS switch	• Press (EMER DEPR light on). • EMER DEPRESS caution message on.

After take-off:

(3) Airplane altitude	• 10.000 feet maximum.

B. FOR UNPRESSURIZED FLIGHT PROCEDURES WITH PACKS INOPERATIVE, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and R PACKs switches	• Press (L and R PACK OFF lights on). • L and R PACK OFF status messages on.
(2) EMER DEPRESS switch	• Press (EMER DEPR light on). • EMER DEPR caution message on.
(3) RAM AIR switch	• Press (RAM AIR OPEN light on). • RAM AIR OPEN status message on.

(4) RECIRC FAN switch	• Select to OFF.
(5) AIR CONDITIONING CARGO switch	• Select to OFF.

Note: *The Before Take-off procedure above will make the Galley Heater inoperative. Flight attendants are to be advised.*

After take-off:

(6) Airplane altitude	• 10,000 ft maximum
(7) Airspeed	• Not less than 210 KIAS recommended during cruise to provide sufficient airflow to passengers within the cabin.

C. IN CASE OF PLANNED DITCHING DURING UNPRESSURIZED FLIGHT, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

With PACKs operative, do as follows:

(1) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).

With PACKs inoperative, do as follows:

(1) RAM AIR switch	• Press (RAM AIR OPEN light out). • RAM AIR OPEN status message not shown.
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

D. IN CASE OF PLANNED DITHCING DURING UNPRESSURIZED FLIGHT, DO AS FOLLOWS.

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

With PACKs operative, do as follows:

(1) EMER DEPRESS switch	• Press (EMER DEPRESS light off). • EMER DEPRESS caution message not shown.
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

With PACKs inoperative, do as follows:

(1) RAM AIR switch	• Press (RAM AIR OPEN light off). • RAM AIR OPEN status message not shown.
(2) EMER DEPRESS switch.	• Press (EMER DEPRESS light out). • EMER DEPRESS caution message not shown.
(3) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

END

9-21-31 Cabin Pressure Control System *(revised: FEB 2017)*

9-21-31-02	**EMER DEPRESS Switch Guard** *(revised: FEB 2017)*

A. FOR UNPRESSURIZED FLIGHT PROCEDURES WITH AIR CONDITIONING PACKS AVAILABLE (OPERATIVE); DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and / or R PACK switches	• Press (L and/ or R PACK OFF light out). • L and/ or R PACK OFF status message out.
(2) EMER DEPRESS switch	• Press (EMER DEPR light on). • EMER DEPRESS caution message not shown.

B. FOR UNPRESSURIZED FLIGHT PROCEDURES WITH AIR CONDITIONING PACKS INOPERATIVE; DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and R PACKs switches	• Press (L and R PACK OFF lights on). • L and R PACK OFF status messages on.
(2) EMER DEPRESS switch	• Press (EMER DEPR light on). • EMERG DEPRESS caution message on.
(3) RAM AIR switch	• Press (RAM AIR OPEN light on). • RAM AIR OPEN status message on.
(4) RECIRC FAN switch	• Select to OFF.
(5) AIR CONDITIONING CARGO switch	• Select to OFF.

Note: *The Before Take-off procedure above will make the Galley Heater inoperative. Flight attendants are to be advised.*

After take-off:

(6) Airplane altitude	• 10,000 ft maximum
(7) Airspeed	• Not less than 210 KIAS recommended during cruise to provide sufficient airflow to passengers within the cabin.

C. IN CASE OF PLANNED DITCHING DURING UNPRESSURIZED FLIGHT, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

With PACKs operative, do as follows:

(1) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-013).	

With PACKs inoperative, do as follows:

(1) RAM AIR switch	• Press (RAM AIR OPEN light out). • RAM AIR OPEN status message not shown.
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

D. IN CASE OF PLANNED DITCHING DURING UNPRESSURIZED FLIGHT, DO AS FOLLOWS.

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

With PACKs operative, do as follows:

(1) EMER DEPRESS switch	• Press (EMER DEPRESS light off). • EMER DEPRESS caution message not shown.
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-013).	

With PACKs inoperative, do as follows:

(1) RAM AIR switch	• Press (RAM AIR OPEN light off). • RAM AIR OPEN status message not shown.
(2) EMER DEPRESS switch.	• Press (EMER DEPRESS light out). • EMER DEPRESS caution message not shown.
(3) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-013).	

END

9-21-31 Cabin Pressure Control System *(revised: FEB 2017)*

9-21-31-03 Cabin Pressure Control Manual Mode *(revised: FEB 2017)*

A. For unpressurized flight procedures with packs operative, do as follows:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and / or R PACKs switches	• Press (L and/ or R PACK OFF light out). • L and/ or R PACK OFF status message out.
(2) EMER DEPRESS switch	• Press (EMER DEPRESS light on). • EMER DEPRESS caution message on.

After take-off:

(3) Airplane altitude	- 10,000 feet maximum.

B. For unpressurized flight procedures with air conditioning packs inoperative, do as follows:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and R PACK switches	• Press (L and R PACK OFF lights on). • L and R PACK OFF status messages on.
(2) EMER DEPRESS switch	• Press (EMER DEPRESS light on). • EMER DEPRESS caution message on.
(3) RAM AIR switch	• Press (RAM AIR OPEN light on). • RAM AIR OPEN status message on.
(4) RECIRC FAN switch	• Select to OFF.
(5) AIR CONDITIONING CARGO switch	• Select to OFF.

Note: *The Before Take-off procedure above will make the Galley Heater inoperative. Flight attendants are to be advised.*

After take-off:

(6) Airplane altitude	• 10,000 ft maximum.
(7) Airspeed	• Not less than 210 KIAS recommended during cruise to provide sufficient airflow to passengers within the cabin.

END

9-21-32 Valve, Relief *(revised: FEB 2017)*

9-21-32-01	**Outflow Valves** *(revised: FEB 2017)*

A. FOR UNPRESSURIZED FLIGHT PROCEDURES WITH PACKS OPERATIVE, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before Take−off

(1) L and/ or R PACK switches	• Press (L and/ or R PACK OFF light out). • L and/ or R PACK OFF status message out.
(2) EMER DEPRESS switch	• Press (EMER DEPRESS light on). • EMER DEPRESS caution message on.

After take-off:

(3) Airplane altitude	• 10,000 feet maximum.

B. FOR UNPRESSURIZED FLIGHT PROCEDURES WITH PACKS INOPERATIVE, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

Before take-off:

(1) L and R PACK switches	• Press (L and R PACK OFF lights on). • L and R PACK OFF status messages on.
(2) EMER DEPRESS switch	• Press (EMER DEPRESS light on). • EMER DEPRESS caution message on.
(3) RAM AIR switch	• Press (RAM AIR OPEN light on). • RAM AIR OPEN status message on.
(4) RECIRC FAN switch	• Select to OFF.
(5) AIR CONDITIONING CARGO switch	• Select to OFF.

Note: *The Before Take-off procedure above will make the Galley Heater inoperative. Flight attendants are to be advised.*

After take-off:

(6) Airplane altitude	• 10,000 ft maximum.
(7) Airspeed	• Not less than 210 KIAS recommended during cruise to provide sufficient airflow to passengers within the cabin.

C. IN CASE OF UNPLANNED DITCHING DURING UNPRESSURIZED FLIGHT, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

With PACKs operative, do as follows:

(1) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP B−012).

With PACKs inoperative, do as follows:

(1) RAM AIR switch	• Press (RAM AIR OPEN light out). • RAM AIR OPEN status message not shown.
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP B−012).	

D. IN CASE OF PLANNED DITCHING DURING UNPRESSURIZED FLIGHT, DO AS FOLLOWS:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

With PACKs operative, do as follows:

(1) EMER DEPRESS switch	• Press (EMER DEPRESS light off). • EMER DEPRESS caution message not shown.
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

With PACKs inoperative, do as follows:

(1) RAM AIR switch	• Press (RAM AIR OPEN light off). • RAM AIR OPEN status message not shown.
(2) EMER DEPRESS switch	• Press (EMER DEPRESS light out). • EMER DEPRESS caution message not shown.
(3) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

END

9-21-33 Pressure Indicating and Warning *(revised: FEB 2017)*

9-21-33-01	**Cabin Pressure Monitoring Subsystem** *(revised: FEB 2017)*

A. Before take-off, do as follows:

1) Push the PRESS CONT switch on the CABIN PRESS Control Panel to select MAN.
2) Make sure that the CABIN PRESS MAN Status message shows on the EICAS Secondary Page.
3) Select the MAN ALT Switch to DN to close the outflow valve.
4) Make sure that the Outflow VLV OPEN status message does not show on the EICAS Secondary page.
5) Push the EMER DEPRESS switch.
6) Make sure that the EMER DEPRESS caution message shows on the EICAS Primary Page.
7) Make sure that the OUTFLOW VLV OPEN status message shows on the EICAS Secondary Page.
8) Push the EMERG DEPRESS switch.
9) Make sure that the EMER DEPRESS caution message goes out of view from the EICAS Primary Page.
10) Push the PRESS CONT switch on the CABIN PRESS Control Panel to deselect the MAN mode.
11) Make sure that the CABIN PRESS MAN Status message goes out of view from the EICAS Secondary Page.

B. Procedure for subsequent failure of both CPCs:

1) Do the Manual Pressurization Control Procedure as per ABNORMAL PROCEDURES, Air-Conditioning, Bleed and Pressurization, Pressurization System, Manual Pressurization Control Procedure (CSP B-012 CRJ700 or CSP C-012 CRJ900)

END

9-21-51 Air Conditioning System *(revised: FEB 2017)*

9-21-51-01	**Air Conditioning Packs** *(revised: NOV 2016)*

A. For the left PACK inoperative, do as follows:

1) Press out the left PACK switch to OFF.
2) Verify that the L PACK OFF status message shows on the EICAS secondary page.

   Note: *If the L PACK OFF status message does not show, refer to 21-51-02 "Flow Control Valve" for possible relief. The corresponding limitations must be observed and the corresponding (M) Maintenance Procedure (FCV secured closed) must be performed before dispatch.*
3) Press in the RAM AIR switch to open the Ram Air SOV.
4) Verify that the Ram Air SOV legend is OPEN on the ECS page and that the RAM AIR OPEN status message shows on the EICAS secondary page.
5) Press out the RAM AIR switch to close the Ram Air SOV.
6) Verify that the Ram Air SOV legend is CLOSED on the ECS page and that the RAM AIR OPEN status message does not show on the EICAS secondary page.

B. For the right PACK inoperative and the Ram Air SOV operative, do as follows:

1) Press out the right PACK switch to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
2) Verify that the R PACK OFF status message shows on the EICAS secondary page.

   Note: *If the R PACK OFF status message does not show, refer to 21-5-102 "Flow Control Valve" for possible relief. The corresponding limitations must be observed and the corresponding (M) Maintenance Procedure (FCV secured closed) must be performed before dispatch.*
3) Push in the RAM AIR switch to open the Ram Air SOV.
4) Verify that the Ram Air SOV legend is OPEN on the ECS page and the RAM AIR OPEN status message shows on the EICAS secondary page.
5) Push out the RAM AIR switch to close the Ram Air SOV.
6) Verify that the Ram Air SOV legend is CLOSED on the ECS page and that the RAM AIR OPEN status message does not show on the EICAS secondary page.

C. For the right PACK inoperative and the Ram Air SOV inoperative, do as follows:

1) Press out the right PACK switch to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
2) Verify that the R PACK OFF status message shows on the EICAS secondary page.

   Note: *If the R PACK OFF status message does not show refer to 21-51-02 "Flow Control Valve (FCV)" for possible relief. The corresponding (M) Maintenance Procedure (FCV secured closed) must be performed before dispatch.*
3) Make sure that the limitations 21-52-01 "Ram Air SOV" are observed and that the corresponding Maintenance (M) and Operations (O) procedures are performed.

D. During a one PACK operation, if the remaining PACK causes the presentation of the "L(R) PACK TEMP" and/or "L(R) PACK" caution messages on the EICAS primary page, do as follows:

1) Perform an unpressurized procedure as per OM ABNORMAL PROCEDURES Air-Conditioning, Bleed and Pressurization (CSP C-012).

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitudes is between 8,500 ft and 10,000 ft and when manual mode of pressurization control is selected.*

E. For both Packs inoperative, do as follows:

Before take-off:

(1) L and R PACKs switches	Press (L and R PACK OFF lights on, and L and R PACK OFF status messages on).

Note:

1) *If the R PACK OFF status message does not appear, refer to 21−51−02 “Flow Control Valve” for possible relief. The corresponding limitations must be observed and the corresponding (M) Maintenance Procedure (FCV secured closed) must be performed before dispatch.*
2) *Selection of the right Air Conditioning Pack to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*

(2) EMER DEPRESS switch	Press (EMER DEPRESS light on, and EMER DEPRESS caution message on).
(3) RAM AIR switch	Press (RAM AIR OPEN light on, and RAM AIR OPEN status message on).
(4) RECIRC FAN switch	Select to OFF.

After take-off:

(5) Airplane altitude	10,000 feet maximum.
(6) Airspeed	Not less than 210 KIAS recommended during cruise to provide sufficient airflow to passengers within the cabin.

F. For both Packs inoperative, in case of unplanned ditching, perform as follows:

(1) RAM AIR switch	Press (RAM AIR OPEN light off, RAM AIR OPEN status message disappears).
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

G. For both Packs inoperative, in case of planned ditching, perform as follows:

(1) RAM AIR switch	Press (RAM AIR OPEN light off, RAM AIR OPEN status message disappears).
(2) EMER DEPRESS switch	Press (EMER DEPRESS light out, EMER DEPRESS caution message not shown).
(3) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

END

9-21-51 Air Conditioning System *(revised: FEB 2017)*

9-21-51-02	**Flow Control Valve (FCV)** *(revised: NOV 2016)*

A. For the left FCV inoperative, do as follows:

1) Press out the left PACK switch to OFF.
2) Verify that the L PACK OFF status message shows on the EICAS secondary page.
3) Press in the RAM AIR switch to open the Ram Air SOV.
4) Verify that the Ram Air SOV legend is OPEN on the ECS page and that the RAM AIR OPEN status message shows on the EICAS secondary page.
5) Press out the RAM AIR switch to close the Ram Air SOV.
6) Verify that the Ram Air SOV legend is CLOSED on the ECS page and that the RAM AIR OPEN status message does not show ont he EICAS secondary page.

B. For the right FCV inoperative and the Ram Air SOV operative, do as follows:

1) Press out the right PACK switch to OFF.

   Note: *Selection of the right Air Conditioning Pack to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
2) Verify that the R PACK OFF status message shows on the EICAS secondary page.
3) Push in the RAM AIR switch to open the Ram Air SOV.
4) Verify that the Ram Air SOV legend is OPEN on the ECS page and the RAM AIR OPEN status message shows on the EICAS secondary page.
5) Push out the RAM AIR switch to close the Ram Air SOV.
6) Verify that the Ram Air SOV legend is CLOSED on the ECS page and that the RAM AIR OPEN status message does not show on the EICAS secondary page.

C. For the right FCV inoperative and the Ram Air SOV inoperative, do as follows:

1) Press out the right PACK switch to OFF.

   Note: *Selection of the right Air Conditioning Pack to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
2) Verify that the R PACK OFF status message shows on the EICAS secondary page.
3) Make sure that the limitations 21-52-01 "Ram Air SOV" are observed and that the corresponding Maintenance (M) and Operations (O) procedures are performed.

D. During a one PACK operation, if the remaining PACK causes the presentation of the "L(R) PACK TEMP" and/or "L (R) TEMP" caution message on EICAS primary page, do as follows:

1) Perform an unpressurized procedure as per OM ABNORMAL PROCEDURES Air-Conditioning, Bleed and Pressurization (CSP C-012).

   Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8,500 ft and 10,000 ft and when manual mode pressurization control is selected.*

E. For both PACKS inoperative, do as follows:

Before take-off

(1) L and R PACKs switches	Press (L and R PACK OFF lights on, and L and R PACK OFF status messages on).

Note: *Selection of the right Air Conditioning Pack to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*

(2) EMER DEPRESS switch	Press (EMER DEPRESS light on, and EMER DEPRESS caution message on).
(3) RAM AIR switch	Press (RAM AIR OPEN light on, and RAM AIR OPEN status message on).
(4) RECIRC FAN switch	Select to OFF.
(5) AIR CONDITIONING Cargo switch	Select to OFF.

After Take-off

(6) Airplane altitude	10,000 ft maximum.
(7) Airspeed	Not less than 210 KIAS recommended during cruise to provide sufficient airflow to passengers within the cabin.

F. For both Packs inoperative, in case of unplanned ditching, perform as follows:

(1) RAM AIR switch	Press (RAM AIR OPEN light off, RAM AIR OPEN status message disappears).
(2) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

G. For both FCVs inoperative, in case of planned ditching, perform as follows:

(1) RAM AIR switch	Press (RAM AIR OPEN light off, RAM AIR OPEN status message disappears).
(2) EMER DEPRESS switch	Press (EMER DEPRESS light out, EMER DEPRESS caution message not shown).
(3) Perform ditching procedure as per OM EMERGENCY PROCEDURES Ditching and Forced Landing (CSP C-012).	

END

9-21-52 Ram-Air System *(revised: JAN 2019)*

9-21-52	**Ram Air SOV** *(revised: JAN 2019)*

OPERATIONS (O)

A. For pressurized operations using single left PACK, do as follows:

Note: *On ground, during hot weather operation and with the APU selected ON, high temperature in the R pack discharge duct may be reached while associated Flow Control Valve (FCV) is closed and same side pack is OFF with the other pack selected ON. When the FCV is closed there is a small normal and acceptable leakage of bleed air through the butterfly of the FCV. This leakage is sufficient to induce a flow of bleed air through the inoperative pack and increase the Supply Duct Temperature shown on the ECS synoptic page. This condition is normal and the aircraft can be dispatched.*

(1) **On the AIR-CONDITIONING panel:**

L PACK switch..... ON	• L PACK OFF light out. • L PACK OFF status messages out.
R PACK switch..... OFF	• R PACK OFF light on. • R PACK OFF status message on.
Airplane altitude..... .....not above	• 25000 ft. (If total number of cabin occupants ≥83) • 31000 ft. (If total number of cabin occupants ≤82)

IN FLIGHT

(2) During single pack operation, if the left pack causes the presentation of a L PACK TEMP and/or L PACK caution message, do the related OM-B abnormal procedure, then do as follows:

(a) Do the Unpressurized Flight Procedure (PACKs off) procedure as per OM-B ABNORMAL PROCEDURES Air-Conditioning System.

B. For unpressurized operations with both PACKs selected OFF, do as follows:

Note: *If taking off and landing at higher altitudes, the CABIN ALT caution message will be posted when the cabin altitude is between 8500 ft and 10000 ft and when manual mode of pressurization control is selected.*

Note: *The procedure will make the Galley Heater inoperative. Flight attendants are to be advised.*

(1) Do the Unpressurized Flight Procedure (PACKs off) procedure as per OM-B ABNORMAL PROCEDURES Air-Conditioning System.

(2) In case of ditching during unpressurized operations, do as follows:

(a) Set the EMER DEPRESS switch to off.

(b) Do the Ditching and Forced Landing procedure as per OM-B EMERGENCY PROCEDURES.

END

9-21-61 Temperature Control *(revised: FEB 2017)*

9-21-61-01	**Cabin / Cockpit Temperature Control Systems** *(revised: FEB 2017)*

A. For the left PACK inoperative, do as follows:

1) Select the left PACK to OFF.
2) Make sure that the L PACK OFF status message shows on the EICAS secondary page.
3) If the L PACK OFF status message does not show, deactivate the left Flow Control Valve (FCV) (refer to item 21-51-02).
4) On the co-pilot's Display reversionary control panel, set the selector switch to PFD 2.
5) On the EICAS control panel (ECP), push the ECS pushbutton to get access to the ECS synoptic page.
6) On the AIR-CONDITIONING control panel, lift the guard and push the RAM AIR switch to OPEN.
7) Make sure that the Ram air legend shows open on the ECS synoptic page.
8) Make sure that the RAM AIR OPEN message shows on the EICAS secondary page.
9) On the AIR-CONDITIONING control panel, lift the guard and push the RAM AIR switch to CLOSE.
10) Make sure that the Ram air legend shows closed on the ECS synoptic page.
11) Make sure that the RAM AIR OPEN message does not show on the EICAS secondary page.
12) On the co-pilot's Display reversionary control panel, set the selector switch to NORM.

B. For the right PACK inoperative, do as follows:

1) Select the Right PACK to OFF.

   Note: *Selection of the right PACK to OFF will make the Galley Heater inoperative. Flight attendants are to be advised.*
2) Make sure that the R PACK OFF status message shows on the EICAS secondary page.
3) If the R PACK OFF status message does not show, deactivate the right Flow Control Valve (FCV). (refer to item 21–51–01)
4) On the co-pilot's Display reversionary control panel, set the selector switch to PFD 2.
5) On the EICAS control panel (ECP), push the ECS pushbutton to get access to the ECS synoptic page.
6) On the AIR-CONDITIONING control panel, lift the guard and push the RAM AIR switch to OPEN.
7) Make sure that the Ram air legend shows open on the ECS synoptic page.
8) Make sure that the RAM AIR OPEN message shows on the EICAS secondary page.
9) On the AIR-CONDITIONING control panel, lift the guard and push the RAM AIR switch to CLOSE.
10) Make sure that the Ram air legend shows closed on the ECS synoptic page.
11) Make sure that the RAM AIR OPEN message does not show on the EICAS secondary page.
12) On the co-pilot's Display reversionary control panel, set the selector switch to NORM.

C. For the right PACK inoperative and Ram Air SOV inoperative, do as follows:

1) Select the right PACK to OFF.

   Note: *Selection of the right Air Conditioning Pack to OFF will make the Galley Heater inoperative. Flight attendants are to be advised.*
2) Make sure that the R PACK OFF status message shows on the EICAS secondary page.
3) If the R PACK OFF status message does not show, deactivate the right Flow Control Valve (FCV). (refer to item 21–51–02)
4) Make sure that limitations are observed and that the Maintenance procedure is performed as per Item Ram Air SOV, 21-52-01

D. For a one PACK operation, if the remaining PACK causes the presentation of the L(R) PACK TEMP and/or L(R) PACK caution message on EICAS primary page, do as follows:

1) Do the OM ABNORMAL PROCEDURES, Air-Conditiong, Bleed and Pressurization, Air-Conditioning System, Unpressurized Flight Procedure (PACKs OFF) (CRJ700: CSP B-012 or CRJ900: CSP C-012).

END

9-MO-22 AUTO FLIGHT

9-22-10 Autopilot System *(revised: FEB 2017)*

9-22-10-02	**Flight Directors** *(revised: FEB 2017)*

A. For one flight Director inoperative, do as follows:

1) Pilot controlling the aircraft has an operative Flight Director, or
2) Refer to OM-B, 2.2.18.3, ‘Flight Directors/ Toga Switches INOP’ Supplementary Pro-cedure.

B. For both Flight Directors inoperative, do as follows:

1) Refer to OM-B, 2.2.18.3, ‘Flight Directors/ Toga Switches INOP’ Supplementary Pro-cedure.

Note: *The windshear “eyebrows” (pitch limit indication from the GPWS) will appear onboth PFDs to indicate the required pitch attitude to achieve a safe alpha margin escape.Excessive pitch rates may activate the stall protection system.*

END

9-22-11 Automatic Flight Control System (AFCS) *(revised: FEB 2024)*

9-22-11-01	**Autopilot Disconnect Switches (Control Wheel)** *(revised: FEB 2011)*

A. For operations with one control wheel autopilot disconnect switch inoperative.

1) Pusher of the stall protection system can be disengaged using the control wheel disconnect button.
2) With the autopilot engaged, the pilot controlling the aircraft has the operative control wheel disconnect button.

B. For operations with both control wheel Autopilot Disconnect Switches inoperative,

1) Before first flight after failure occurrence:
    a) Initiates STALL test.
    b) Ensure that the stick pusher can be disconnected using Left (Right) Autopilot / Stall Pusher Disconnect Switch on the control wheel.
    c) Perform the same procedure for the second Autopilot / Stall Pusher Disconnect Switch.

END

9-22-11 Automatic Flight Control System (AFCS) *(revised: FEB 2024)*

9-22-11-03	**Take-Off / Go-Around (TOGA) Switches (on Thrust Levers)** *(revised: FEB 2024)*

A. For one TOGA switch inoperative, do as follows:

1) The PF has to use the remaining TOGA switch.

B. For both TOGA switches inoperative, do as follows:

1) Refer to the FCOM, Section 07-20 SUPPLEMENTARY PROCEDURES Flight Directors/TOGA Switches Inoperative.
2) Go-around procedure with both TOGA switches inoperative is conducted using the fixed target pitch attitude of 8 degrees.

END

9-22-12 Integrated Avionics Processor System (IAPS) *(revised: MAY 2004)*

9-22-12-02	**Integrated Avionics Processor System (IAPS) Input/ output Concentra-tor (IOC)** *(revised: APR 2006)*

A. If IOC 1A is inoperative, be alert that NWS can revert to a free castoring mode during taxiing when NLG strut is fully extended. Therefore, do as follows:

1) Aft CG loading shall be minimized.
2) Asymmetric brakes should be used to maintain directional control, as required.
3) Additional turning distance may be required.
4) Avoid T/R use during taxiing.

END

9-MO-23 COMMUNICATIONS

9-23-22 AIRINC Communication Addressing and Reporting System (ACARS) *(revised: FEB 2024)*

9-23-22-01	**Aircraft Communications Addressing and Reporting System (ACARS)** *(revised: FEB 2024)*

A. Any means of communication may be used.

END

9-23-22 AIRINC Communication Addressing and Reporting System (ACARS) *(revised: FEB 2024)*

9-23-22-02	**Controller Pilot Data Link Communication (CPDLC)** *(revised: JAN 2020)*

As CPDLC is not available ATC permits the use of voice coummunication.

END

9-23-22 AIRINC Communication Addressing and Reporting System (ACARS) *(revised: FEB 2024)*

9-23-22	**Printer** *(revised: DEC 2014)*

Operation with inoperative printer is possible using alternative procedures like station printed loadsheet or loadsheet on workpad.

END

9-23-31 Passenger Address *(revised: FEB 2024)*

9-23-31	**Passenger Address System** *(revised: FEB 2024)*

A. For an inoperative passenger address system, do as follows:

1) Normal procedures: Before take-off, cabin crew will make a direct voice communication with all passengers. All preflight announcements will be completed prior to take-off. All in-flight announcements are made by direct voice communications with passengers.

   Emergency procedures: Cockpit crew uses interphone system to notify flight attendant. If necessary, all emergency ground and in-flight announcements will be made by direct voice communications with passengers.

2) Check that flight compartment / cabin interphone system is fully operational.

3) Check that megaphones are available and operative.

END

9-23-31 Passenger Address *(revised: FEB 2024)*

9-23-31-02	**Flight Attendants Handsets** *(revised: FEB 2024)*

A. Make sure that the one forward handset is available.

The cockpit crew informs the cabin crew before the flight.

END

9-23-32 Passenger Entertainment System (Boarding Music)

(revised: MAY 2007)

9-23-32-01	**Prerecorded Announcement and Boarding Music System** *(revised: MAY 2007)*

Use Passenger Address System for announcements.

END

9-23-40 Interphone *(revised: OCT 2016)*

9-23-40-01	**Crewmember Interphone System** *(revised: OCT 2021)*

A. Observe marshalling signals. Refer to OM-A.

B. Communications with the cabin are conducted from the non−affected Audio Control Panel.

END

9-23-70 Flight Deck Door Surveillance System *(revised: NOV 2016)*

9-23-70-01	**Cockpit Door Surveillance System (CDSS)** *(revised: NOV 2016)*

a) D-ACKA until D-ACKL

Use interphone system for entry request and CABIN READY report. Refer to OM, A Chap-ter 10 - Security.

b) D-ACNA until D-ACNX

Pilots should use the “peephole” in the cockpit door and/ or interphone to identify the person outside.

END

9-23-81 System, Radio Tuning *(revised: FEB 2011)*

9-23-81	**#2 Radio Tuning Unit (RTU)** *(revised: FEB 2011)*

First Flight of the day.

A. For an RTU #2 inoperative, make sure that the radio tuning function of the FMS is operative as follows:

1) Make sure that the FMS TUNE INHIBIT switch is off.
2) Set both RTU #1 and RTU #2 INHIBIT switches on.
3) Make sure that the radios can be tuned from at least one FMS CDU.
4) Set RTU #1 and RTU #2 INHIBIT switches off.

END

9-MO-24 ELECTRICAL POWER

9-24-11 Electrical Power Generation System (EGPS) *(revised: FEB 2017)*

9-24-11-01	**Integrated Drive Generator (IDG) Systems** *(revised: FEB 2016)*

For an inoperative Constant Speed Drive, do as follows:

Warning: *MAKE A LOGBOOK ENTRY OF THE PERIOD OF TIME THAT THE ENGINE IS OPERATED WITH THE IDG DISCONNECTED. WHEN THE TOTAL LOGGED TIME IS MORE THAN 100 HOURS, THE IDG MUST BE REMOVED AND EXAMINED BY AN AUTHORIZED REPAIR FACILITY. IF YOU DO NOT DO THIS, DAMAGE TO THE IDG CAN OCCUR.*

1) Before associated engine start, momentary press in the respective IDG 1/2 DISC switch.
2) During the associated engine start, make sure that once above the 20% N2 the "IDG 1/2 DISC" EICAS status message and the respective DISC light come on.

Note: *If the EICAS status message and the respective DISC do not show during the engine start, the affected IDG disconnect mechanism has failed, the engine start has to be aborted, and the aircraft must not be dispatched.*

END

9-24-23 Emergency AC-Generation System *(revised: FEB 2017)*

9-24-23-01	**Air Driven Generator (ADG) Auto-Deploy System** *(revised: FEB 2024)*

For an inoperative ADG Automatic Deploy System, do as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-2	N6	ADG DEPLOY - AUTO	222

Note: *When the deactivation procedure is completed, the ADG AUTO FAIL status message will show continuously on the EICAS secondary page.*

END

9-MO-25 EQUIPMENT / FURNISHING

9-25-21 Seats, Passenger *(revised: FEB 2011)*

9-25-21-01	**Seats, Passenger** *(revised: FEB 2011)*

A. For an inoperative Passenger Seat, do as follows:

1) Make sure the folding armrests are in the down position.
2) Extend two pieces of tape from one armrest to the other in such a way as to produce an X.

B. For an inoperative underseat baggage restraint bar, do as follows:

1) Make sure that the damaged restraining bar does not create a safety concern, call maintenance crew if required.

END

9-25-22 Seat, Flight Attendant *(revised: DEC 2014)*

9-25-22-01	**Flight Attendant Seats** *(revised: DEC 2014)*

A. For an inoperative Required Flight Attendant Seat, do as follows:

1) Make sure that the Flight attendant seat bottom retract automatically to the stow position.
2) If the seat bottom does not automatically retract, for fixed Flight attendant seat, with the use of the seat belt and shoulder harness secure the seat bottom in the folded position, for stowable Flight attendant seat manually lift the seat bottom to the vertical position while moving the seat to the stowed and secured position.

Note: *Flight Attendant displaced by inoperative seat occupies the passenger seat which is most accessible to the inoperative seat, so as to most effectively perform assigned duties.*

END

9-25-23 Overhead Storage Compartments *(revised: AUG 2023)*

9-25-23-01-A	**Overhead Stowage Bin(s) / Cabin and Galley** *(revised: AUG 2023)*

If no maintenance staff is available, the flight crew has to secure the unserviceable bin, compartment or closet in the closed position with masking tape and must put an INOPERATIVE − DO NOT USE placard on it.

The flight crew shall inform the passengers of the inoperative bin/ compartment or closet.

The commander has to brief the cabin crew accordingly and whether any emergency equipment cannot be used.

END

9-25-23 Overhead Storage Compartments *(revised: AUG 2023)*

9-25-23-01-B	**Overhead Stowage Bin(s) / Cabin and Galley** *(revised: AUG 2023)*

The flight crew shall inform the passengers of the inoperative and unusable bin/ compartment or closet.

The commander has to brief the cabin crew accordingly and whether any emergency equipment can not be used.

END

9-25-32 Galley Equipment *(revised: FEB 2024)*

9-25-32-01	**Galley Waste Receptacle Access Doors** *(revised: FEB 2024)*

The cockpit crew informs the cabin crew about the inoperative Galley Waste Receptable Access Door before departure to ensure that sufficiant galley waste receptables are available to accommodate all waste that may be generated on a flight.

END

9-25-40 Lavatory (FWD, AFT) *(revised: FEB 2024)*

9-25-40-02	**Lavatory Waste Compartment Access Door/ Flap Assembly** *(revised: FEB 2024)*

A. For an inoperative lavatory waste−flap assembly, do as follows:

During the preflight cabin check:

1) Make sure that the lavatory waste container is empty and that the waste−flap assemblyis secured to prevent waste introduction into the compartment.

   During flight:

2) The cockpit crew informs the cabin crew about the inoperative Lavatory Waste Compartment Access Door before departure. The cabin crew must inspect the lavatory at a regular interval according to OM-A.

END

9-25-42 Lavatory Equipment *(revised: FEB 2024)*

9-25-42-01	**Lavatory Door Springs** *(revised: FEB 2024)*

A. The cockpit crew informs the cabin crew about the inoperative Lavatory Door Spring before departure. The cabin crew must close lavatory door(s) when required.

END

9-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-25-61-01	**Megaphones** *(revised: FEB 2011)*

A. Crewmembers are made aware of the inoperative or missing megaphone(s) and its location.

END

9-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-25-61-02	**First Aid Kits** *(revised: AUG 2023)*

The commander has to alert the flight crew about the condition of the FAK.

END

9-25-61 Portable Emergency Equipment *(revised: MAY 2017)*

9-25-61-04	**Flight Attendant Flashlights / Flashlight Holders** *(revised: JUN 2008)*

A. For an inoperative or missing flashlight, do as follows:

1) The flight crew shall verify that any flashlight to be in lieu of an inoperative or missing flashlight is of equivalent characteristics (i.e. having a ruggedized, electrically insulated exterior, uses two "D" size batteries, and has a shatter - resistant lens and reflector) that is in good condition, has fresh batteries, and is functioning properly. This flashlightis not to be stowed in a passenger seat back pocket.
2) For rechargeable flashlight, the crew must verify the flashlight operates normally and that the batteries have been freshly charged before the first flight of the day.

B. For an inoperative or missing flashlight holder, do as follows:

1) The flight crew shall verify the flashlight has been stowed in an appropriate location,
2) For a passenger cabin flashlight, the flight attendant is informed as to the stowed lo-cation of that flashlight. The flashlight is not to be stowed in a passenger back seat pocket.

END

9-25-64 Floating Equipment *(revised: OCT 2021)*

9-25-64-01	**Life Vests (Crew and Passenger)** *(revised: OCT 2021)*

Refer to OM-B 10.1 Survival and Emergency Equipment.

END

9-MO-26 FIRE PROTECTION

9-26-14 Main Landing Gear Overheat Detection and Warning System

(revised: FEB 2011)

9-26-14-01	**Main Landing Gear Bay Overheat Detection System** ***(revised: FEB 2013)***

A. For a Main Landing Gear Bay Overheat Detection System inoperative, do as follows:

1) After lift off, check the EICAS BTMS readouts to ensure that the BTMS level is the same or less than at brake release.
2) After 10 minutes, before retracting the gears, make sure the BTMS level is less than at brake release.

Note: *Because the landing gear must remain extended for the first 10 minutes of the flight, tap the brakes briefly after lift-off to stop tire rotation. Failure to do this could result in a GLD UNSAFE caution message being displayed.*

END

9-26-16 Lavatory Smoke Detection System *(revised: AUG 2011)*

9-26-16-01	**Lavatory Smoke Detection System** ***(revised: AUG 2011)***

A. For an inoperative lavatory smoke detection system and an operative lavatory fire extinguishing system, do as follows:

During flight:

1) At 30 minutes intervals, inspect the lavatory and make sure it is not used for any stowage.

B. For an inoperative lavatory smoke detection system, and an inoperative lavatory fire extinguishing system, do as follows:

Before first flight of the day:

1) Make sure that the flight crew members have been briefed.
2) Close and lock the lavatory door.

For an all cargo operations, do as follows:

1) Operator to define crew operational procedure to brief the crew members of the inop-erative lavatory smoke detection system.

END

9-26-23 Portable Fire Extinguishing System *(revised: OCT 2021)*

9-26-23-01	**Portable Fire Extinguishing** ***(revised: OCT 2021)***

Refer to OM-B 10.1.4.2 Fire Extinguisher - Halon.

END

9-26-26 Lavatory Firex Panel *(revised: FEB 2024)*

9-26-26-01	Lavatory Fire Extinguishing System *(revised: FEB 2024)*

A. For an inoperative lavatory fire extinguishing system and an operative lavatory smoke detection system, do as follows:

During flight:

1) The cabin crew must inspect the lavatory at a regular interval according to OM-A.

B. For an inoperative lavatory fire extinguishing system and an inoperative lavatory smoke detection system, do as follows:

During the preflight cabin check:

1) Make sure that the lavatory waste bin is empty,
2) Make sure the lavatory is not used for any purpose, and
3) Close and lock the lavatory door.

   During flight:

   The cabin crew must inspect the lavatory at a regular interval according to OM-A.

END

9-MO-27 FLIGHT CONTROLS

9-27-15 Aileron Control Surface System *(revised: FEB 2024)*

9-27-15-02	**Aileron Flutter Dampers** *(revised: FEB 2024)*

A. For an inoperative aileron flutter dampers, do as follows:

Note: *Two persons (one in Flight Deck, another − on ground) are required to perform this procedure:*

1) Make sure that the aircraft is energized with AC electrical power.
2) Pressurize hydraulic system 1 and 2 (or 3).

   Note: *Do this check two times, once with the hydraulic systems 1 and 2 pressurized and again with only hydraulic system 3 pressurized. This will make sure that the PCUs for each aileron are checked individually.*
3) On the EICAS control panel (ECP), push the F/CTL pushbutton to get access to the FLIGHT CONTROLS synoptic page on the EICAS secondary page.
4) Monitor the movement of the control wheel and aileron surface as follows:
   a) Move the pilot and co-pilot control wheels full left and full right and make sure that the aileron movement is smooth and continuous.
   b) On the EICAS secondary page, make sure that the aileron indication moves to LWD and RWD.
   c) Release the control wheel and make sure that the control wheel and aileron indi- cation return back to neutral.
   d) If the EICAS aileron control surface position indication is inoperative, do as follows:
      1. - Use personnel as required to do the visual check of the aileron surfaces.
      2. - Use an external headset or a suitable communication procedure to communi- cate to the flight deck.
      3. - The flight crew must receive a clear positive confirmation by any means of communication that the aileron surface has full free movement up and down.
      4. - When the control wheel is released, make sure that the control wheel and the aileron surfaces return to neutral.
5) Depressurize hydraulic system 1 and 2.
6) Pressurize hydraulic system 3.
7) Do this check again with only system 3 pressurized.
8) Configure the aircraft for flight as required.

END

9-27-24 Rudder Control Surface System *(revised: JUN 2008)*

9-27-24-02	**Rudder Pedal Adjustment Systems** *(revised: JUN 2008)*

A. For an inoperative rudder pedal adjustment system, do as follows at both pilot stations:

1) On the EICAS Control Panel (ECP), push the F/CTL push-button to get access to the FLIGHT CONTROLS synoptic page on the EICAS secondary page.
2) Make sure that the pilot and co-pilot rudder pedals move fully and are not restricted in their movement as follows:
    a) Look at the FLIGHT CONTROL synoptic page
    b) Push on the left rudder pedal to its maximum deflection
    c) On FLIGHT CONTROL synoptic page, make sure that the Rudder Position Indicator shows that the rudder deflects to the left with freedom and at full range.
    d) Push on the right rudder pedal to its maximum deflection
    e) On FLIGHT CONTROL synoptic page, make sure that the Rudder Position Indicator shows that the rudder deflects to the right with freedom and at full range.
3) On the ECP, push the STAT push-button to go back to the EICAS secondary page.

END

9-27-35 Stall Protection System (SPS) *(revised: DEC 2002)*

9-27-35-01	**Stall Warning Switch Lights (light function only)** *(revised: DEC 2002)*

A. For a Stall Warning Switch Light inoperative, do as follows:

1) Before each flight, perform Operational Test of the Stall Protection System to ensure that the shaker and pusher are operative.

    Note: *Only on STALL light will be flashing during this test.*

END

9-27-51 Control and Indication System *(revised: FEB 2017)*

9-27-51-02	**Slat Flap System** *(revised: FEB 2017)*

A. Not required.

Note:

1) *The landing gear indication (GEAR), the slats and flaps indication (SLATS/FLAPS),and the brake temperature icon (BRAKE TEMP) will show on the EICAS primaryand secondary pages for the entire flight.*
2) *When the aircraft is dispatched with one filed FLAP or SLAT channel, where the system is already in HALFSPEED mode, the FLAP and/or SLAT position value and indicator bar on the EICAS display can go from green to white when a “surface miscompare / mismatch” condition is found. This indicates a minor electrical out-of-rig condition of a FLAP or SLAT BPSU. There is no associated EICAS status or caution messages with a white position indication and it does not prevent aircraft dispatch.*

END

9-27-51 Control and Indication System *(revised: FEB 2017)*

9-27-51	**Slat Disconnect Detection System** *(revised: FEB 2016)*

A. Make an entry into the log book for acceleration of 0g or less encountered in flight as result of extreme manoeuvring; e.g. collision avoidance or deep dive due to cabin depressurization. Maintenance visual check is required in those cases.

END

9-27-65 Ground Spoiler Surface System *(revised: FEB 2017)*

9-27-65	**Ground Spoilers (Inboard or Outboard Pair)** *(revised: FEB 2017)*

A. Prior to each flight, do a visual check of the affected ground spoiler pair to make sure they are fully retracted.

B. Flight Crew to observe performance limitations as the result of inoperative ground spoiler pair.

END

9-MO-28 FUEL

9-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-28-13-01	**APU Fuel Feed SOV** *(revised: FEB 2017)*

For an inoperative APU fuel feed SOV OPEN and APU is used to start an engine, do as follows:

1) Before APU start, make sure that the APU SOV OPEN status message shows on the EICAS secondary page.
2) Once the APU is switched off, make sure the APU PUMP caution message does not show on the EICAS primary page

END

9-28-13 Transfer and Cross Flow System *(revised: FEB 2017)*

9-28-13-10	**XFlow Pump** *(revised: FEB 2011)*

A. For a XFLOW Pump inoperative, do as follows:

1) On the EICAS Control Panel (ECP), push the FUEL pushbutton to access the FUEL SYNOPTIC page.
2) Press in the GRAVITY XFLOW switch/light on the FUEL control panel.
3) On the FUEL synoptic page, make sure that the gravity crossflow valve legend is OPEN. Otherwise, dispatch is not permitted.
4) Configure the gravity crossflow valve as required.

Note: *The gravity crossflow is sensitive to sideslip.*

B. On ground, during single engine operation, do as follows:

1) Select the gravity crossflow to correct excessive fuel imbalance.

END

9-28-25 Pressure Refuel / Defuel System *(revised: FEB 2017)*

9-28-25-04	**High Level Sensors** *(revised: FEB 2017)*

If the EICAS fuel quantity indication fails in−flight on the affected side and the Center Tank contains 800 pounds of fuel or more, do as follows:

1) Open the Gravity/ Crossflow valve.
2) If an imbalance condition is noticed:
    a) Use a steady heading sideslip to accelerate gravity crossflow operation.
    OR
    b) Fly wing low on the side with the lower tank quantity.
3) Close Gravity crossflow valve when Center Tank Fuel Quantity reaches zero and no imbalance condition presents.

END

9-28-40 Indicating System *(revised: FEB 2017)*

9-28-40-01	**EICAS Bulk Fuel Temperature Indication** *(revised: FEB 2017)*

Flight operations must be performed above − 40 degrees C TAT. If TAT Is −40 degrees C or below, do as follows:

1) Descent to warmer air mass.
2) Increase air speed during descent.

END

9-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-28-41-01	**EICAS Fuel Tank Quantity Readouts (Left, Right and Total)EICAS Fuel Tank Quantity Readouts (Left, Right and Total)** *(revised: FEB 2017)*

A. If required, use Manual Power Crossflow or Gravity Crossflow to correct the imbalance.

Note:

a) Auto crossflow is inhibited when Left or Right Tank Fuel Quantity Readout is inoperative.

b) The power crossflow rate is 54 ppm. It may be used when correcting fuel imbalance using power crossflow. For example, if 300 pounds have to be transferred, use power crossflow for 5.5 minutes.

B. Maintain an in−flight fuel log as follows:

1) Record [”INITIAL FUEL LOAD”] (1) and operative fuel quantity indications in the 0 + 00 column. Each 30 minutes do the steps as follows:

2) Record fuel remaining in the tanks with operative gauges, on the “L” and “C” or “R” and “C” [Fuel Remaining in tanks”] lanes.

   a) Compute [”TOTAL (operative Quantity Readout)”] (2) and record on the line provided.

   b) Record “Engine Fuel Used” from the fuel used indications.

   c) Compute “APU fuel used” and record on line provided.

   d) Compute “TOTAL FUEL USED” (3).

   e) Add [TOTAL (operative Quantity Readout)] and [”TOTAL FUEL USED”] (3) to acquire [TOTAL FUEL USED ACCOUNTED FOR (2) + (3)] (4)

   f) Subtract [”TOTAL FUEL USED ACCOUNTED FOR (2) + (3)”] from [INITIAL FUEL LOAD] (1) to acquire [”FUEL REMAINING IN AFFECTED TANK (1) − (4)”] (5).

(1)	INITIAL FUEL LOAD							
Time in Flight		0+0 0	0+3 0	1+0 0	1+3 0	2+0 0	2+3 0	3+0 0
Fuel Remaining in Tanks with Operative Quantity Readouts	L R C							
(2)	TOTAL (Operative Quantity Readouts)							
Engine Fuel Used	L R							
APU Fuel Used (225 lb (120 kg)/hr x hr)								
(3)	TOTAL FUEL USED							
(4)	TOTAL FUEL USED ACCOUNTED FOR (line 2 + line 3)							
(5)	FUEL REMAINING IN AFFECTED TANK (line 1 - line 4)							

In flight Fuel Log - Table 28-1

END

9-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-28-41-02	**EICAS Fuel Tank Quantity Readout (Center and Total)** *(revised: FEB 2017)*

A. Sum the left and right fuel tank quantity (shown on the Left and Right EICAS Fuel Tank Quantity Readouts) to determine the total fuel quantity on board instead of using the Fuel Used Indication.

Note: *This is true once the center tank fuel is used, which occur early into the cruise portion of the flight even with a full fuel load and can be confirmed once both main (wing)fuel loads are less than 6900 lbs.*

END

9-28-41 Fuel Quantity Gauging System *(revised: FEB 2017)*

9-28-41-03	**Fuel Computer Channels (FQGC)** *(revised: FEB 2011)*

A. For a Fuel Computer Channel inoperative, do as follows:

Note: *The "FUEL CH 1 (2) FAIL" status message will come into view continuously on the EICAS secondary page.*

1) On the EICAS Control Panel (ECP), push the FUEL push-button to access the FUEL SYNOPTIC page.
2) Press in the GRAVITY XFLOW switch on the FUEL control panel.
3) On the FUEL SYNOPTIC page, make sure that the gravity crossflow valve legend is OPEN. Otherwise, dispatch is not permitted.
4) Configure the gravity cross flow valve as per normal procedure.

Note: *Gravity crossflow is sensitive to sideslip.*

END

9-MO-29 HYDRAULIC POWER

9-29-11 Hydraulic System No.1 and No.2 *(revised: FEB 2017)*

9-29-11-01	**Engine Driven Pumps (EDP) (System 1 and 2)** *(revised: DEC 2013)*

A. On the HYDRAULIC control panel, select toggle switch (ACMP) of the affected side to ON.

Note: *The EDP Output Flow Line associated to the removed EDP may appear green on the EICAS Hydraulic Synoptic Page.*

END

9-29-12 Hydraulic System No.3 *(revised: JUN 2008)*

9-29-12-01	**Hydraulic AC Motor Pump (ACMP) 3A** *(revised: MAR 2007)*

A. For an inoperative ACMP 3A, do as follows:

1) On the HYDRAULIC control panel, do as follows:

   a) Set the 3A switch to OFF.

   b) Set the 3B switch to ON.

   Note: *The Landing Gear operates slower than normal with the ACMP 3A pump inoperative and the GEAR DISAGREE warning message may come into view on the EICAS primary page. If the message comes out of view in 20 seconds, no action is required.*

END

9-29-31 Pressure Transducer Indicating System *(revised: FEB 2017)*

9-29-31-01	**EICAS Hydraulic Pressure Readouts** *(revised: FEB 2017)*

A. For an inoperative EICAS hydraulic pressure readout (system 1) do as follows:

1) Start the left engine.
2) On the HYDRAULIC control panel select the ACMP 1B switch to ON.
3) On the EICAS primary display, make sure that the caution messages that follow do not show:
    a) HYD EDP 1A
    b) HYD PUMP 1B
4) Keep the ACMP 1B switch to ON throughout the flight.

B. For an inoperative EICAS hydraulic system pressure readout (system 2) do as follows:

1) Start the right engine.
2) On the HYDRAULIC control panel select the ACMP 2B switch to ON.
3) On the EICAS primary display, make sure that the caution messages that follow do not show:
    a) HYD EDP 2A
    b) HYD PUMP 2B
4) Keep the ACMP 2B switch to ON throughout the flight.

C. For an inoperative EICAS hydraulic system pressure readout (system 3) do as follows:

1) On the HYDRAULIC control panel set the ACMP 3A switch to ON.
2) On the HYDRAULIC control panel select the ACMP 3B switch to ON.
3) On the EICAS primary display, make sure that the caution messages that follows do not show:
    a) HYD EDP 3A
    b) HYD PUMP 3B
4) Keep the ACMP 3B switch to ON throughout the flight.

END

9-29-32 Quantity Indicating System *(revised: FEB 2017)*

9-29-32-01	**EICAS Hydraulic Reservoir Quantity Readouts (System 1, 2, and 3)** *(revised: FEB 2017)*

A. For an inoperative EICAS hydraulic reservoir quantity readout, system 1 (and/or 2), do as follows:

Before each flight

Warning: *OBEY ALL THE HYDRAULIC SAFETY PRECAUTIONS WHEN YOU DO WORK ON THE HYDRAULIC SYSTEM AND/OR A HYDRAULIC SYSTEM COMPONENT. IF YOU DO NOT DO THIS, YOU CAN CAUSE INJURIES TO PERSONS AND/OR DAMAGE TO EQUIPMENT.*

1) Pressurize the affected hydraulic system.
2) Open the aft equipment compartment door 311BB.
3) Make sure the sight glass on the affected hydraulic quantity transmitter(s) indicates hydraulic fluid level(s) within the limits shown in the table below.

HYDRAULIC SYSTEM	COOL FLUID QUANTITY LIMITS	HOT FLUID QUANTITY LIMITS
System No. 1	34 - 55 %	55 - 81 %
* The cool fluid quantity limits are to be used when hydraulic fluid temperature is equal to or less than 80°F (27°C) as indicated on the EICAS hydraulic synoptic page. ** The hot fluid quantity limits are to be used when hydraulic fluid temperature is equal to or greater than 80°F (27°C) as indicated on the EICAS hydraulic synoptic page.		

HYDRAULIC SYSTEM	COOL FLUID QUANTITY LIMITS	HOT FLUID QUANTITY LIMITS
System No. 2	29 - 46 %	46 - 68 %
* The cool fluid quantity limits are to be used when hydraulic fluid temperature is equal to or less than 80°F (27°C) as indicated on the EICAS hydraulic synoptic page. ** The hot fluid quantity limits are to be used when hydraulic fluid temperature is equal to or greater than 80°F (27°C) as indicated on the EICAS hydraulic synoptic page.		

4) Remove the hydraulic pressure from the affected hydraulic system.
5) Close the aft equipment compartment door 311BB.

B. For an inoperative system 3 EICAS hydraulic reservoir quantity readout, do as follows:

Before each flight

Warning: *OBEY ALL THE HYDRAULIC SAFETY PRECAUTIONS WHEN YOU DO WORK ON THE HYDRAULIC SYSTEM AND/OR A HYDRAULIC SYSTEM COMPONENT. IF YOU DO NOT DO THIS, YOU CAN CAUSE INJURIES TO PERSONS AND/OR DAMAGE TO EQUIPMENT.*

1) Pressurize the hydraulic system 3.
2) Open the access panel 196CR.
3) Make sure the sight glass of the affected hydraulic quantity transmitter(s) indicates hydraulic fluid level(s) within the limits shown in the table below.

HYDRAULIC SYSTEM	COOL FLUID QUANTITY LIMITS	HOT FLUID QUANTITY LIMITS
System No.3	31 - 51 %	51 - 72 %
* The cool fluid quantity limits are to be used when hydraulic fluid temperature is equal to or less than 80°F (27°C) as indicated on the EICAS hydraulic synoptic page.		

HYDRAULIC SYSTEM	COOL FLUID QUANTITY LIMITS	HOT FLUID QUANTITY LIMITS
** The hot fluid quantity limits are to be used when hydraulic fluid temperature is equal to or greater than 80°F (27°C) as indicated on the EICAS hydraulic synoptic page		

4) Remove the hydraulic pressure from system 3.

5) Close the access panel 196CR.

END

9-29-34 Pressure Switch Indicating System *(revised: FEB 2017)*

9-29-34-01	**Hydraulic Pump Low Pressure Switches (System 1, 2, and 3)** *(revised: FEB 2017)*

A. Before each engine start, for an inoperative hydraulic pump low pressure switch, do as follows:

1) If the aircraft is dispatched with an inoperative low pressure switch associated with HYD PUMP 1B caution message that shows continuously on the EICAS primary page and regardless of the ACMP 1B switch position, do as follows:

   a) Set the ACMP 1B switch to ON.

   b) On the EICAS control panel (ECP), push the HYD push-button to show the hydraulic synoptic page.

   c) On the hydraulic synoptic page, observe system 1 hydraulic pressure readout.

   - If the pressure is within limits, set the ACMP 1B switch as required.
   - If the pressure is not within limits (ACMP 1B is inoperative), no dispatch permitted.

   d) On the ECP, push on the STAT push-button to show the STATUS page on the EICAS secondary display.

2) If the aircraft is dispatched with an inoperative low pressure switch associated with HYD PUMP 2B caution message that shows continuously on the EICAS primary page, regardless of the ACMP 2B switch position, do as follows:

   a) Set the ACMP 2B switch to ON.

   b) On the EICAS control panel (ECP), push the HYD pushbutton to show the hydraulic synoptic page.

   c) On the hydraulic synoptic page, observe system 2 hydraulic pressure readout.

   - If the pressure is within limits, set the ACMP 2B switch as required
   - If the pressure is not within limits (ACMP 2B is inoperative), no dispatch permitted.

   d) On the ECP, push on the STAT pushbutton to show the STATUS page on the EICAS secondary page.

3) If the aircraft is dispatched with an inoperative low pressure switch associated with HYD PUMP 3A caution message that shows continuously on the EICAS primary page, regardless of the ACMP 3A switch position, do as follows:

   a) Set the ACMP 3A switch to ON

   b) Set the ACMP 3B switch to OFF.

   c) On the EICAS control panel (ECP), push the HYD pushbutton to show the hydraulic synoptic page.

   d) On the hydraulic synoptic page, observe system 3 hydraulic pressure readout.

   - If the pressure is within limits, set and keep the ACMP 3B switch to ON throughout the flight.
   - If the pressure is not within limits (ACMP 3A is inoperative), refer to item

     29–11–01

     for possible relief.

   e) On the ECP, push on the STAT pushbutton to show the STATUS page on the EICAS secondary page.

4) If the aircraft is dispatched with an inoperative low pressure switch associated with HYD PUMP 3B caution message that shows continuously on the EICAS primary page, regardless of the ACMP 3B switch position, do as follows:

   a) Set the ACMP 3A switch to OFF.

   b) Set the ACMP 3B switch to ON.

c) On the EICAS control panel (ECP), push the HYD push-button to show the hydraulic synoptic page.

d) On the hydraulic synoptic page, observe system 3 hydraulic pressure readout.

- If the pressure is within limits, set and keep the ACMP 3B switch to ON throughout the flight.
- If the pressure is not within limits (ACMP 3A is inoperative), refer to item 29–11–01

e) On the ECP, push on the STAT push-button to show the STATUS page on the EICAS secondary page.

B. After both engines start, for any hydraulic pump low pressure switches inoperative, do as follows:

1) If the aircraft is dispatched with an inoperative low pressure switches associated with HYD EDP 1A caution message that shows continuously on the EICAS primary page after engine start, do as follows:

a) Set ACMP 1B switch to OFF.

b) On the EICAS control panel (ECP), push the HYD push-button to show the hydraulic synoptic page.

c) On the hydraulic synoptic page, observe system 1 hydraulic pressure readout.

- If the pressure is within limits, set and keep the ACMP 1B switch to ON throughout the flight.
- If the pressure is not within limits (EDP 1A is inoperative), refer to item 29–11–01

d) On the ECP, push on the STAT pushbutton to show the STATUS page on the EICAS secondary page.

2) If the aircraft is dispatched with an inoperative low pressure switches associated with HYD EDP 2A caution message is continuously displayed on EICAS after engine start, do as follows:

a) Set the ACMP 2B switch to OFF.

b) On the EICAS control panel (ECP), push the HYD push-button to show the hydraulic synoptic page.

c) On the hydraulic synoptic page, observe system 2 hydraulic pressure readout.

- If the pressure is within limits, set and keep the ACMP 2B switch to ON throughout flight.
- If the pressure is not within limits (EDP 2A is inoperative), refer to item 29–11–01

d) On the ECP, push on the STAT push-button to show the STATUS page on the EICAS secondary page.

END

9-MO-30 ICE AND RAIN PROTECTION

9-30-12 Wing Anti-Ice Control and Indication *(revised: FEB 2017)*

9-30-12-04	**Wing Anti-Ice Temperature Sensor Elements** *(revised: FEB 2013)*

OPERATIONS (O)

Operational Procedure for the Sub-item 3 “OUTBOARD”:

For a subsequent in-flight failure of the remaining Outboard sensing element a WING A/I SENSOR caution EICAS message will show, requiring the crew to switch the wing anti-ice system to OFF and exit icing conditions.

Note: *When the wing anti-ice system is OFF, the message becomes a WING A/I FAULT status message.*

END

9-30-31 Air Data Probes and Sensors Anti-Ice System *(revised: FEB 2017)*

9-30-31-01	**Probe Heaters** *(revised: FEB 2017)*

For an inoperative pitot/ static Probe Heater, do as follows:

Before Take−off

(1)	
PROBE switches Select to ON (or make sure the switches are selected ON).	
(2)	
Make sure that no message related to operative pitot/ static Probe Heater is displayed on EICAS.	
(3)	
PROBE switches	As required.

END

9-30-41 Windshield and Side Window Anti-Ice System *(revised: OCT 2021)*

9-30-41-02	**LH Side Window Heating System** *(revised: OCT 2021)*

The crew, if required, alternate control of the airplane during approch to give each pilot the ability to wipe condensation from any window on their side for landing.

END

9-30-42 Windshield Wiper System *(revised: JAN 2020)*

9-30-42-01	**Windshield Wipers** *(revised: JAN 2020)*

If the windshield wipers are failed in a position other than PARK position, the airplane speed must not exceed as per the OM-B – LIMITATIONS – Operating Speeds – WINDSHIELD WIPER OPERATION.

END

9-30-81 Ice Detection System General *(revised: FEB 2012)*

9-30-81-01	**Ice Detection Systems** *(revised: FEB 2012)*

A. For any inoperative ice detection systems:

Note:

1) *When the deactivation procedure for ice detector 1 is completed, the "ICE DET 1 FAIL" status message will be displayed continuously on the EICAS secondary page.*
2) *When the deactivation procedure for ice detector 2 is completed, the "ICE DET 2 FAIL" status message will be displayed continuously on the EICAS secondary page.*
3) *When the deactivation procedure for both ice detectors is completed, the "ICE DET FAIL" caution message will be displayed continuously on the EICAS primary page.*
4) *When the deactivation procedure for one or both ice detectors is completed, the "ICE" caution message will not come into view in the EICAS primary page during the ice detection systems test.*
5) *When both ice detection systems are inoperative, the "ICE" caution message will not come into view on the EICAS primary page if icing condition is present.*

END

9-MO-31 INDICATING/ RECORDING SYSTEMS

9-31-21 Clock System *(revised: NOV 2016)*

9-31-21-01	**Clocks** *(revised: NOV 2016)*

Enter time into FMS and MDC (if required).

END

9-MO-32 LANDING GEAR

9-32-30 Landing Gear Extension and Retraction System *(revised: FEB 2011)*

9-32-30-01	**Landing Gear Retraction System** *(revised: FEB 2011)*

Use performance correction according workpad.

Note: *Because the landing gear must extended for the first 10 minutes of the flight, tapthe brakes briefly after lift-off to stop tire rotation. Failure to do this could result in a GLDUNSAFE caution message being displayed.*

END

9-32-44 Anti-Skid Control System *(revised: FEB 2017)*

9-32-44-01	**Anti-Skid (System) Channels** *(revised: FEB 2017)*

A. If an A/ SKID INBD caution message or an A/ SKID OUTBD caution message is displayed on the EICAS, perform the following procedure before the first flight of a day:

1) Make sure the wheel chocks are in position.
2) On the HYDRAULIC control panel, select toggle switch 2 and toggle switch 3A and/ or 3B to ON.
3) Release Parking brake
4) Apply brakes pedals for 20 seconds.
5) Make sure the PARKING BRAKE ON green message does not appear on EICAS.
6) Remove the wheel chocks if not required.

B. For subsequent failure in flight, do as follows:

Aircraft is dispatched with "A/ SKID INBD" Caution message.

1) If Hydraulic System # 2 fails in flight, select ANTI SKID toggle switch to OFF.

   OR

   Aircraft is dispatched with "A/ SKID OUTBD" Caution message.

   2)If Hydraulic System # 3 fails in flight, select ANTI SKID toggle switch to OFF.

Note: *Refer to OM-B, Chapter 03 ABNORMAL PROCEDURES, LANDING GEAR,WHEEL AND BRAKE SYSTEM (A /SKID INBD and A/ SKID OUTBD) for landingdistance.*

END

9-32-45 Parking Brake System *(revised: FEB 2017)*

9-32-45-01	**Parking Brake Handle Locking Positions (clockwise and counterclock-wise)** *(revised: FEB 2017)*

A. Once after the failure occurred, make sure that the parking brake system is operative as follows:

1) On the EICAS Control Panel/ ECP) push the HYD push-button to show the hydraulic synoptic page.
2) On the hydraulic page, make sure that the INBD BRAKES and OUTBD BRAKES hydraulic pressure is within limits.
3) On the ECP, push the STAT push-button to go back to the EICAS secondary page.
4) On the EICAS secondary page, make sure that the PARKING BRAKE ON advisory message does not show.
5) Set the parking brake with the remaining operative position of the parking brake han- dle.
6) Make sure that the PARKING BRAKE ON advisory message shows on the EICAS secondary page.
7) Release the parking brake.
8) Make sure that the PARKING BRAKE ON advisory message does not show on the EICAS secondary page

B. Before each flight, make sure that the remaining operative position of the parking brake handle operates as follows:

1) Push down and hold the brake pedals.
2) Pull out the parking brake handle to its maximum.
3) Turn the parking brake handle 90 degrees towards the operative locking position (clockwise or counter−clockwise) and release.
4) Make sure that the parking brake handle is locked and extended to its maximum.
5) Release the brake pedals and make sure one more time that the parking brake handle is locked.

C. Procedures are established to alert the flight crew about the inoperative locking position (clock-wise or counter-clockwise) of the parking brake handle on the first flight of the day and for all the other flight crews.

Note:

1) Make sure that there are wheel chocks at the main wheels because the aircraft can move and cause injury to persons and/or damage to equipment.
2) While applying or removing the parking brake, do not turn the parking brake handle until it is fully pulled out because the internal locking device can be damaged.
3) When the parking brake handle is in the extended and locked position, do not turn it more than 90 degrees because the internal locking device can be damaged.

END

9-32-46 Brake Temperature Monitoring System *(revised: FEB 2017)*

9-32-46-02	A/ SKID Sub-System *(revised: FEB 2017)*

For an inoperative A/SKID Sub-system, do as follows:

Before the first flight after the failure occurred

1) Make sure that the wheel chocks are in position
2) On the HYDRAULIC control panel, set the toggle switches 2, 3A and/or 3B to ON.
3) Set Parking brake.
4) Make sure the PARKING BRAKE ON advisory message appears on EICAS secondary page.

   Note: *If the PARKING BRAKE ON advisory message does not show on the EICAS secondary page after step (3), dispatch is not permitted.*
5) Configure Parking Brake as appropriate.

   Each flight
6) Do not apply brakes before touch down.

END

9-32-50 Steering System *(revised: FEB 2012)*

9-32-50-01	Nosewheel Steering *(revised: FEB 2012)*

A. Airports where ramp congestion may require towing from ramp/gate to initial taxiway and from final taxiway to ramp/gate must be identified by the Operators. Corresponding operational procedures for aircraft towing must be used in these airports.

END

9-MO-33 LIGHTS

9-33-21 Passenger Compartment Lights *(revised: FEB 2011)*

9-33-21-01	**Cabin Interior Lights** *(revised: FEB 2011)*

A. For A/c with Fluorescent Lights, do as follows:

1) No action required.

B. For A/C with LED Lights, do as follows:

1) For inoperative ceiling lights:
   a) Make sure that no more than 50% of the total length of four adjacent ceiling up- wash LED light strips are inoperative.
   b) Make sure that no more than 50% of total length of two opposite ceiling upwash LED light strips are inoperative.
2) For inoperative sidewall lights:
   a) Make sure that no more than 50% of the total length of four adjacent sidewall downwash LED light strips are inoperative.
   b) Make sure that no more than 50% of the total length of two opposite sidewall downwash LED light strips are inoperative.

END

9-33-24 Ordinance Signs *(revised: FEB 2011)*

9-33-24-01	**Passenger Notice System (No Smoking / Fasten Seat Belts)** *(revised: OCT 2012)*

A. For an inoperative passenger notice system and no smoking/fasten seat belt signs and operations carried out with only aircraft crew on board, do as follows:

1) On the PASS SIGNS / EMER LTS control panel, select the NO SMKG and the SEAT BLTS switch to OFF position.
2) Make sure that the NO SMOKING and FASTEN SEAT BELTS ordinance lights in the cabin, galley(s), and lavatory(s) are off.
3) On the PASS SIGNS / EMER LTS control panel, set the NO SMKG and the SEAT BLTS switch to ON position.
4) Make sure that the NO SMOKING and FASTEN SEAT BELTS ordinance lights in the cabin, galley(s), and lavatory(s) come on.
5) On the PASS SIGNS / EMER LTS control panel, set the NO SMKG and the SEAT BLTS switch as required.
6) Use the manual control function of the passenger notice system to alert flight atten- dants and notify passengers when the seat belts should be fastened and smoking prohibited.

D. For individual No Smoking / Fasten Seat Belt Signs inoperative, do as follows:

1) Use the PA to alert flight attendants and notify passengers when seat belts should be fastened and smoking prohibited.

OR

2) Install the "D NOT OCCUPY" placard on the affected seat. Block the affected seat by putting the armrests of the affected seat to the down position and extending two pieces of tape from one armrest to the other to make an "X".

Note: *If the flight attendant seat is affected, the dispatch limitations for the MMEL item 25-22-01 Flight Attendant Seats are to be applied for dispatch or another set of dispatch limitations is used.*

END

9-33-42 Navigation Lights System *(revised: DEC 2013)*

9-33-42-01	**Navigation Lights** *(revised: DEC 2013)*

A. To verify the proper number of operational navigation lights, proceed as follows:

1) Energize the aircraft electrical power systems.
2) On the EXTERNAL LTS panel, put the NAV switch to ON.
3) Make sure there is at least one operational navigation lights at each location.
4) On the EXTERNAL LTS panel, put the NAV switch to OFF.
5) Remove the electrical power from the aircraft.

END

9-33-44 Anti-Collision and Beacon Lights *(revised: FEB 2012)*

9-33-44-01	Low Intensity Red Beacon Lights *(revised: FEB 2012)*

Use high-intensity anti-collision strobe lights from before engine start until after engine shutdown.

END

9-33-51 Emergency Lights *(revised: FEB 2024)*

9-33-51-01	Cabin Emergency Lights *(revised: FEB 2024)*

A. The PIC briefs the cabin crew about the inoperative lights.

The LFA is responsible for the positioning of the aircraft crew in the area most accessible to exits with operative Emergency Lights.

END

9-33-51 Emergency Lights *(revised: FEB 2024)*

9-33-51-02	Exterior Emergency Lights *(revised: FEB 2024)*

The PIC briefs the cabin crew about the inoperative lights.

END

9-MO-34 NAVIGATION

9-34-12 Standby Pneumatics Instruments *(revised: MAY 2017)*

9-34-12-01	**ISI (Integrated Standby Instruments)** *(revised: MAY 2017)*

A. For an inoperative STD button. Do as follows:

1) When required, manually set the standard pressure reference (29.92 inHg / 1013 hPa) using the BARO knob.

END

9-34-22 Standby Compass System *(revised: MAY 2003)*

9-34-22-01	**Non-stabilized Standby Magnetic Compass Indicator** *(revised: MAY 2003)*

Ensure that the planned routing complies with qualifying conditions.

END

9-34-42 Ground Proximity Warning System (GPWS) *(revised: MAR 2019)*

9-34-42-01	**Ground Proximity Warning System** *(revised: MAR 2019)*

General

Flight crew awareness of aircraft configuration, altitude, flight path and attitude is essential. Flight crew shall use all available systems like A/P, F/D, ILS, FMS and so on (appropriate level of automation).

Pay particular attention to descent profiles, MEA and MSA.

Adivsory callouts (Mode 6)

May be inoperative provided callouts will be done by PM as described in the OM.

Winds shear (Mode 7)

As part of the flight crew briefing prior departure and approach the flight crew shall review the standard operating procedures (SOP) for wind shear recognition, avoidance and recovery as outlined in the OM.

Warning: *DO NOT TAKEOFF OR LAND INTO KNOWN OR FORECAST WIND SHEAR CONDITIONS.*

END

9-34-43 Traffic Alert and Collision Avoidance System (TCAS)

(revised: JAN 2019)

9-34-43-01	**Traffic Alert and Collision Avoidance System (TCAS II)** ***(revised: FEB 2024)***

A. For an inoperative TCAS system, deactivate it as follows:

1) Open and tag the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1 LOWER	V10	TCAS	221

Note: *When the deactivation procedure is completed, the TCAS DISPLAY FAIL amber message will show continuously on the MFDs, FMS Map, and TCAS Map, and the TCAS RA FAIL amber message will show on the PFDs.*

B. For an inoperative combined TA and RA dual displays, or an inoperative RA display, and/ or TA display, do as follows:

(1) Monitor the operative indications and advisories and respond as appropriate.

END

9-34-44 Radio Altimeter System *(revised: JAN 2019)*

9-34-44-01	**Radio Altimeter** ***(revised: FEB 2024)***

For an inoperative radio altimeter, deactivate it as follows:

1) Open and tag the circuit breaker for the inoperative radio altimeter that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	J4	RAD ALT 1	221

Note: *After the deactivation of the defective radio altimeter, the SPLR/ STAB FAULT status message will show continuously on the EICAS secondary page and the RA red flag will show continuously on the PFD that is on the same side as the defective radio altimeter.*

END

9-34-50 Dependent Position Determining *(revised: OCT 2021)*

9-34-50-01-A	INS/ IRS (Navigation Function only) *(revised: FEB 2017)*

A. For each IRS with inoperative Long Range Navigation Function, do as follows:

1) On the IRS control panel, select the applicable IRS switch to NAV.
2) Enter the present position into the FMS.
3) If the alignment is successful but the IRS is known to drift excessively, do as follows:
    a) On the FMS INDEX page, push the IRS CTL pushbutton.
    b) On the IRS CTL page, disable the applicable IRS.
4) If the alignment in the NAV mode fails, do as follows:
    a) Set the affected IRS to ATT.
    b) Enter the present Heading on the IRS CTL page.
    c) When an IRS is aligned in ATT mode, the IRS 1 (2) IN ATT status message will show on the EICAS secondary page.
5) Make sure that the "EFIS COMP MON" caution message does not show on the EICAS secondary page. Otherwise, dispatch is not permitted.

Note:

a) The IRS Long Range Navigation Function should not be disabled by aligning the IRS in ATT unless alignment in NAV mode fails. ATT mode is only to be used if alignment in NAV mode is impossible, ex. if alignment in NAV mode fails or the IRS experiences a power interruption in flight.

b) Provided both IRSs are aligned in NAV mode, the Autopilot and Flight Directors will be un-affected by disabling the IRS Navigation Function.

c) If an IRS is ATT mode:

- *The Flight Director, for the affected side only, will be inoperative (replaced by a red boxed "FD"), and the applicable capture annunciator will be lined out in red in some vertical and lateral modes. The specific list of affected modes varies de- pending on aircraft type and configuration.*
- *The Autopilot can always be engaged and will follow the selected source. If the selected vertical or lateral source is lined out in red, the flight crew shall select the XFR switch to source the autopilot from the unaffected source.*
- *Operations which require both Flight Directors to be operational will be impacted. Ex: Cat II approach.*

d) . If both IRSs are in ATT, the Autopilot should not be used in modes where the Flight Director is unavailable

END

9-34-50 Dependent Position Determining *(revised: OCT 2021)*

9-34-50-01-B	**GPS** *(revised: OCT 2021)*

B. Refer to OM-A Chapter 8 OPERATING PROCEDURES.

If both GPS are inoperative: Dispatch is allowed only if navigation, departure, approach and landing procedures are not based on the use of GPS.

END

9-34-51 VHF Navigation System *(revised: OCT 2021)*

9-34-51-02-A	**VHF Navigation Systems (ILS)** *(revised: OCT 2021)*

Refer to OM-A Chapter 8 OPERATING PROCEDURES.

- Both ILS may be inoperative under IFR operations provided approaches and missed approaches where navigation is based on ILS are not included in the flight plan.

END

9-34-51 VHF Navigation System *(revised: OCT 2021)*

9-34-51-02-B	**VHF Navigation Systems (VOR)** *(revised: OCT 2021)*

Refer to OM-A Chapter 8 OPERATING PROCEDURES.

- Both VOR may be inoperative provided the navigation systems required for each segment of the intended flight route are operative and, under IFR operations, approaches and missed approaches where navigation is based on VOR are not included in the flight plan.

END

9-34-52 Automatic Direction Finder System *(revised: OCT 2021)*

9-34-52-01	**Automatic Direction Finder** *(revised: OCT 2021)*

Refer to OM-A Chapter 8 OPERATING PROCEDURES.

Both ADF may be inoperative under IFR operations provided approaches and missed approaches where navigation is based on ADF are not included in the flight plan.

END

9-34-61 Flight Management System *(revised: FEB 2024)*

9-34-61-01	**Flight Management System (FMS)** *(revised: FEB 2024)*

A. If both FMS are inoperative, do as follows:

1) Align the IRS with the EICAS MENU page using the ECP

B. If both IRS are in NAV mode:

1) Enter the aircraft current position.

C. If both IRS are in ATT mode:

1) Enter the aircraft current Heading

Note: *If both FMS have failed, it is not necessary to realign both IRS prior to the next flight, provided electrical power is not removed from the aircraft and the IRSs remain on.*

D. If the navigation databases are out of currency:

1) Make sure that procedures do not depend on data amended in current revision cycle.
   Use current navigation information to verify navigation fixes, coordinates, frequency, status (as applicable) and suitability of navigation facilities for the indended route, arrival and approach.
   Manually tune and identify the departure, arrival and approach NAVAIDs.

E. If a single FMS is inoperative (or erroneous), use operative FMS as NAV source for Flight Director and prior to engaging autopilot as follwos:

1) On operative FMS verify that INDEP mode is active via INDEX −> FMS CTL page.
2) Make sure the inoperative or erroneous FMS is not selected as NAV source.
3) If FMS is the required NAV source, do as follows:
   (a) If FMS1 is failed, select FMS2 NAV source on both PFDs using DCPs.
   (b) If FMS2 is failed, select FMS1 NAV source on both PFDs using DCPs.

END

9-MO-35 OXYGEN

9-35-10 Crew Oxygen System *(revised: MAY 2017)*

9-35-10-02	**OXY LO PRESS - Caution Message** *(revised: MAY 2017)*

Before each flight

A. Using the EICAS Oxygen Readout, establish the required quantity of oxygen, as per Table 1, necessary to do an emergency descent followed by a continuous cruise at 10,000 feet with normal (N) mask setting (122.333 and CAT.IDE.A.235).

Use the tables below as follows:

- If oxygen pressure is greater than that given in Table 1, then there is enough oxygen to perform an emergency descent from 41,000 feet to 10,000 feet in 10 minutes, followed by 110 minutes of cruise at 10,000 feet.
- If oxygen pressure is between the values given in Table 1 and 2, then there is enough oxygen to cruise at 10,000 feet for 15 minutes in an unpressurized cabin.
- If oxygen pressure is lower than that given in Table 2, the oxygen bottle has to be refilled.

Note: *The EICAS indication of the oxygen pressure is corrected for OAT.*

Table 1

	Number of Crew	50 cu. FT. Oxygen Bottle		77 cu. FT. Oxygen Bottle	
		TO <8000 ft	TO ≥ 8000 ft	TO < 8000 ft	TO ≥ 8000 ft
Minimum Pressure (psi)	2 Crew	1180	1220	810	840
	3 Crew	1630	1680	1110	1140

Table 2 defines the oxygen system pressure as indicated on the EICAS which corresponds to the quantity of oxygen necessary to perform an unpressurized continuous cruise at 10,000 feet for 15 minutes with normal (N) mask setting (CAT.IDE.A.245).

Table 2

	Number of Crew	50 cu. FT. Oxygen Bottle	77 cu. FT. Oxygen Bottle
Minimum Pressure (psi)	2 Crew	378	291
	3 Crew	436	349

Before each flight

B. At each pilot position, do the crew oxygen and masks check as follows:

1) Set the INT SVC switch to I/ C
2) Select the SPKR switch and adjust volume for oxygen flow test.
3) Select the MASK/ BOOM test switch to MASK and adjust volume for oxygen flow.
4) Set the regulator flow selector to 100%.
5) Push the PRESS TO TEST AND RESET lever to listen for oxygen flow sound through speaker, check that the flow indicator shows a yellow cross, then turns black and that the bag inflates
6) Set the I/ C switch as required and maintain PRESS TO TEST AND RESET lever pushed.
7) Push the emergency flow control switch and check that the flow indicator shows a yellow cross.

8) Release the emergency flow control switch and check that the flow indicator turns black. Maintain PRESS TO TEST AND RESET lever pushed.
9) Squeeze the mask operating levers (red) and check harness inflation and observe flow indicator shows yellow cross.
10) Release PRESS TO TEST AND RESET and mask operating levers
11) Check on the EICAS the oxygen pressure (Refer to FCOM, Section 09-20 EMER- GENCY EQUIPMENT - Oxygen.)

C. Monitor the flight crew oxygen pressure. If oxygen in use of leak suspected, initiated descent to a safe altitude.

D. After failure occurred, verify on two means of indication that crew oxygen bottle show the same pressure value. EICAS Readout my be used with either Ground Service panel Pressure Gauge or Bottle Pressure Gauge.

END

9-35-12 Crew Oxygen Servicing *(revised: FEB 2011)*

9-35-12-01	**Flight Crew Oxygen Pressure** *(revised: FEB 2011)*

A. If Crew Oxygen System is used in flight, do as follows:

1) Initiate descent to 10.000 feet or lowest safe altitude whichever is higher.

END

9-35-12 Crew Oxygen Servicing *(revised: FEB 2011)*

9-35-12-02	**High Pressure Discharge Indicator** *(revised: MAY 2007)*

After the failure occurred

A. Verify on two means of indication that crew oxygen bottle pressure is within limits. Ground Service Panel Pressure Gauge, Bottle Pressure Gauge or EICAS Readout my be used.

Before each flight

B. Check that crew oxygen bottle pressure is within limits.

END

9-35-20 Passenger Oxygen System *(revised: FEB 2024)*

9-35-20-01	**Passenger Oxygen System** *(revised: FEB 2024)*

A. For an inoperative passenger oxygen system, do as follows:

1) The PIC must inform the cabin crew about the inoperative system. The cabin crew informs and briefes all passengers about the inoperative passenger oxygen system and the revised equipment.

B. For an inoperative passenger service unit (PSU)s, do as follows:

1) Flight attendant(s) to be advised of inoperative PSU(s) location.

C. For an inoperative automatic opening feature of door latches, do as follows:

1) Flight attendant(s) to be advised about location of modules with inoperative automatic opening feature and to make sure that occupants are briefed on oxygen mask access.

END

9-35-20 Passenger Oxygen System *(revised: FEB 2024)*

9-35-20-03	**Lavatory Passenger Oxygen System** *(revised: FEB 2017)*

Operator to define crew operational procedures to carry out lavatory inspections at regular interval.

END

9-35-31 Flight Compartment and Cabin *(revised: FEB 2024)*

9-35-31-01	**Portable Oxygen Dispensing Units** *(revised: FEB 2017)*

Operator to define Crew Operational procedures to alert crew members of missing portable oxygen dispensing unit. A minimum of one unit is necessary for each cylinder, otherwise refer to OM–B 9.35.30.01.

Refer to OM-B 10.2.1.

END

9-35-31 Flight Compartment and Cabin *(revised: FEB 2024)*

9-35-31-02	**Protective Breathing Equipment** *(revised: FEB 2024)*

The PIC must inform the cabin crew about the missing PBE.

END

9-MO-36 PNEUMATICS

9-36-11 6TH Stage Bleed Air System *(revised: FEB 2017)*

9-36-11-02	**Pressure Regulating Shut-Off Valve (PRSOV)** *(revised: FEB 2017)*

Before Taxi:

If both PACKS are operative;

OR

If a PACK is inoperative on the same side as the inoperative PRSOV, do as follows:

1) Select the BLEED SOURCE switch to the operative bleed side (associated with operative PRSOV).
2) Select the ISOL switch to CLSD.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the PACK located on the inoperative bleed side (associated with inoperative PRSOV) to OFF.

   Note: *Selection of the right Pack to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
5) Select the Air Conditioning Pack located on the operative bleed side to ON.

If a Pack is inoperative on the opposite side of the inoperative PRSOV, do as follows:

1) Select the BLEED SOURCE switch to the operative bleed side (associated with operative PRSOV).
2) Select the ISOL switch to OPEN.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the inoperative PACK to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
5) Select the operative PACK to ON.

For a subsequent failure in flight:

If the remaining PRSOV or HPV on the operative bleed side fails (indicated by a L(R) ENG BLEED caution message), do as follows:

1) Initiate descent to FL250 or below.
2) Select the BLEED SOURCE switch to APU.
3) ISOL switch − As required.
4) Select both PACKS to ON (if aircraft has been dispatches with both PACKS operative).
5) Leave icing condition.

If the engine on the operative bleed side fails, do as follows:

1) Follow either the OM ABNORMAL PROCEDURES Starter−Assisted APU Bleed Relight (CSP B−012). OM ABNORMAL PROCEDURES Windmilling Relight (CSP B−012).**OR**
2) If the engine relight is not successful, select the BLEED SOURCE switch to APU,
3) ISOL switch − As required,
4) Select both PACKS to ON (if aircraft has been dispatched with both PACKS operative), and
5) Leave icing condition.

If the engine on the inoperative bleed side fails, do as follwos:

1) Folow either the OM ABNORMAL PROCEDURES Starter- Assisted Cross Bleed Relight (CSP C-012)

OR

OM ABNORMAL PROCEDURES Starter-Assisted APU Bleed Relight (CSP C-012),

OR

OM ABNORMAL PROCEDURES Windmilling Relight (CSP C-012).

If the operative PACK on the operative bleed side fails, do as follows:

1) Select the failed PACK to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*

2) Select the ISOL switch to OPEN.
3) Select the remaining PACK to ON.

END

9-36-11 6TH Stage Bleed Air System *(revised: FEB 2017)*

9-36-11-03	High Pressure Valve (HPV) *(revised: FEB 2016)*

Note: *APU bleed is inhibited if the anti−ice system is on.*

Before Taxi:

If both PACKS are operative;

OR

If a PACK is inoperative on the same side as the inoperative HPV, do as follows:

1) Select the BLEED SOURCE switch to the operative bleed side (associated with operative HPV).
2) Select the ISOL switch to CLSD.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the PACK located on the affected bleed side (associated with failed HPV) to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
5) Select the PACK located on the operative bleed side to ON.

If a PACK is inoperative on the opposite side of the inoperative HPV, do as follows:

1) Select the BLEED SOURCE switch to the operative bleed side (associated with operative HPV).
2) Select the ISOL switch to OPEN.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the inoperative PACK to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
5) Select the operative PACK to ON.

For a subsequent failure in flight:

If the remaining HPV or PRSOV on the operative bleed side fails (indicated by a L(R) ENG BLEED caution message), do as follows:

1) Initiate descent to FL250 or below,
2) Select the BLEED SOURCE switch to APU.
3) ISOL switch − As required.
4) Select both PACKS to ON (if aircraft has been dispatched with both PACKS operative).
5) Leave icing condition.

If the engine on the operative bleed side fails, do as follows:

1) Follow either the OM ABNORMAL PROCEDURES Starter−Assisted APU Bleed Relight (CSP B−012). OM ABNORMAL PROCEDURES Windmilling Relight (CSP B−012).**OR**
2) If the engine relight is not successful, select the BLEED SOURCE switch to APU,
3) ISOL switch − As required,
4) Select both PACKS to ON (if aircraft has been dispatched with both PACKS operative), and
5) Leave icing condition.

If the engine on the inoperative bleed side fails, do as follows:

1) Follow either the OM ABNORMAL PROCEDURES Starter − Assisted Cross Bleed Relight (CSP B−012), OR OM ABNORMAL PROCEDURES Starter − Assisted APU Bleed Relight (CSP B−012), OR OM ABNORMAL PROCEDURES Windmilling Relight (CSP B−012).

If the operative PACK on the operative bleed side fails, do as follows:

1) Select the failed PACK to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*

2) Select the ISOL switch to OPEN.
3) Select the remaining PACK to ON.
4) For aircraft which has inoperative Air Conditioning Pack that is located on the cross−side with inoperative HPV, do as follows:

   1) Select the BLEED SOURCE switch to the operative bleed side (associated with operative HPV).
   2) Select the ISOL switch to OPEN.
   3) Select the BLEED VALVES switch to MANUAL.
   4) Select the operative Air Conditioning PACK to ON.

   For a subsequent failure in flight, do as follows:

5) In case of a subsequent failure of the PRSOV or HPV (indicated by the L(R) ENG BLEED caution message) on the operative bleed side resulting in a total engine bleed loss, APU may be used as a bleed source for the rest of the flight.
6) In case of a subsequent failure of the engine on the operative bleed side resulting in a total engine bleed loss, follow either the Starter−Assisted APU Bleed Relight or Windmill Relight OM Abnormal Procedure. If the relight procedure was not successful, the APU may be used as a bleed source for the rest of the flight.
7) In case of a subsequent failure of the Air Conditioning Pack located on the operative bleed side, the opposite Air Conditioning Pack may be used (if the aircraft was dispatched with both Air Conditioning Packs operative), provided the ISOL valve is selected open.

END

9-36-12 10THStage Bleed Air System *(revised: FEB 2016)*

9-36-12-02	**Bleed Air ISOL Valve (Cross-Bleed Valve)** *(revised: FEB 2016)*

Before Taxi:

If both PACKS are operative,

OR

If a PACK is inoperative on the same side as the inoperative bleed side, do as follows:

1) Select the BLEED SOURCE switch as required (L ENG or to R ENG).
2) Select the ISOL switch to OPEN.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the PACK located on the inoperative bleed side to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
5) Select the PACK located on the operative bleed side to ON.

If a PACK is inoperative on the same side as the operative bleed side, do as follows:

1) Select the BLEED SOURCE switch as required (L ENG or to R ENG).
2) Select the ISOL switch to OPEN.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the PACK located on the operative bleed side to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
5) Select the PACK located on the inoperative bleed side to ON.

B. For a subsequent failure in flight: If the PRSOV or HPV on the operative bleed side fails, (indicated by a L(R) ENG BLEED caution message), do as follows:

1) Select the BLEED SOURCE switch to the opposite engine or APU, whichever is available

   Note: *If the opposite engine is selected, the ISOL switch should be kept in the OPEN position since the ISOL valve is secured OPEN. That will prevent the BLEED MISCONFIG caution message from appearing on the EICAS.*
2) If the APU is selected as a bleed source, initiate descent to FL250 or below.
3) Select both PACKS to ON (if aircraft has been dispatched with both PACKS operative).
4) Leave icing condition.

If the operative PACK on the operative bleed side fails, do as follows:

1) Select the failed PACK to OFF.

   Note: *Selection of the right PACK to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*
2) Select the ISOL switch to OPEN.
3) Select the remaining PACK to ON.

END

9-36-21 Bleed Air Leak Detection and Warning System *(revised: FEB 2016)*

9-36-21-06	Air Leak Detection System *(revised: FEB 2016)*

For both inoperative Bleed Loops, do as follows:

Before Taxi, do as follows:

1) Select the BLEED SOURCE switch to the operative side.
2) Select the ISOL switch to CLSD.
3) Select the BLEED VALVES switch to MANUAL.
4) Select the Air Conditioning Pack on the affected side (associated with failed Bleed Leak Detection Loops) to OFF.

   Note: *Selection of the right Air Conditioning Pack to OFF renders the Galley Heater inoperative. Flight attendants are to be advised.*

5) Select the operative Air Conditioning Pack to ON.

   For a subsequent failure in flight, do as follows:

6) For a subsequent failure of both Bleed Leak Detection Loop (indicated by a L(R) BLEED LOOP caution message), PRSOV or HPV (indicated by the L(R) ENG BLEED caution message) on the operative side resulting in engine bleed shut down, APU may be used as a bleed source for the rest of the flight.
7) For a subsequent failure of an engine, follow either Starter−Assisted APU Bleed Relight or Windmill Relight OM Abnormal Procedure. If engine fails on the operative side and the relight procedure was not successful, the APU may be used as a bleed source for the rest of the flight.
8) For a subsequent failure of the Air Conditioning Pack on the operative side, complete flight unpressurized.

END

9-MO-38 WATER AND WASTE

9-38-10 Potable Wash / Water System *(revised: FEB 2024)*

9-38-10-01	**Potable Water Systems** *(revised: FEB 2024)*

A. For an inoperative potable water system, do as follows:

1) Consider ordering water by Catering.
2) The system status is displayed in the HIL. In case of crew change the leaving crew informs the new crew about the system status if neccessary.
3) Consider using disinfectant wipes if necessary.

END

9-MO-46 INFORMATION SYSTEMS

9-46-20 EFB Systems (Class 2) *(revised: OCT 2021)*

9-46-20-01	**Electronic Flight Bag (EFB) Systems (Class 2)** *(revised: OCT 2021)*

Please proceed according to: OM A 8.9.3 Minimum Dispatch Policy

END

9-MO-49 AIRBORNE AUXILIARY POWER

9-49-10 Power Plant *(revised: OCT 2021)*

9-49-10-01	**Auxiliary Power Unit (APU)** *(revised: FEB 2024)*

For an inoperative APU, do as follows:

1) Do the procedure to deactivate the APU as follows:
   a) On the APU control panel, set the APU PWR FUEL switch/ light to OFF.
   b) Open and collar the circuit breaker that follows:

CB PANEL	CB NO.	NAME	ZONE
CBP-1	N10	APU FUEL PUMP	221
CBP-1	N11	APU ECU PRIM	221
CBP-1 LOWER	R9	FUEL SOV APU	221

Note: *When the deactivation procedure is completed, the APU EGT and RPM indications can come out of view, the APU Door indication can become dashed (−−−), on the EICAS status page, and the Load Control Valve (LCV) symbol can come out of view, on the ECS synoptic page.*

1)

END

9-49-61 APU Engine Control *(revised: OCT 2021)*

9-49-61-02	**APU Subsystem** *(revised: OCT 2021)*

Do the APU stopping procedure as follows:

1) Select the “START/STOP” switch/light to shut down the APU.
2) Make sure the “DOOR CLSD” status message appears on the EICAS secondary page.
3) Select PWR/FUEL switch to shut down the APU pump.

END

9-MO-52 DOORS

9-52-21 Overwing Emergency Exit *(revised: FEB 2024)*

9-52-21-01	**Doors and Overwing Emergency Exits** *(revised: FEB 2024)*

A. The PIC must inform the cabin crew about the inoperative door or overwing emergency exit.

B. All doors and emergency exits with the exception of the inoperative one may be used for evacuation.

Before each departure:

C. For an inoperative passenger door, do as follows:

1) Make sure that the PASSENGER DOOR warning message and the PAX DR LATCH, PAX DR OUT HNDL caution messages do not show on the EICAS primary page.
2) Make sure that the passenger door is in the closed position with the interior lever and exterior handle in the locked position

D. For an inoperative galley service door, do as follows:

1) Make sure that the SERVICE DOOR caution message does not show on the EICAS primary page.
2) Make sure that the galley service door is in the closed position with the interior and exterior handles in the locked position.

E. For an inoperative overwing emergency exit, do as follows:

1) Make sure that the L (R) FWD EMER DOOR and/or L (R) AFT EMER DOOR caution messages do not show on the EICAS primary page.
2) Make sure that the overwing emergency exit doors are in the closed position with the interior handle in the locked position and the exterior push plate closed.

END

9-52-51 Flight Deck Access System (FDAS) *(revised: OCT 2004)*

9-52-51-01	Flight Deck Access System FDAS *(revised: OCT 2004)*

1) **Automatic Locking System**

Use dead bolt for locking and unlocking the door. Use Interphone System for entry request. If only one pilot is remaining on the flight deck a cabin crew member must be present. Refer to OM, A Chapter 10.4 − Security.

2) **Flight Deck Access Panel System − Keypad, Door Chime, LED‘s and Door Bell Mode**

Use Interphone system. If only one pilot is remaining on the flight deck a cabin crew member must be present (for Keypad INOP operation only). Refer to OM, A Chapter 10.4. − Security.

3) **Flight Deck DOOR LOCK FAIL Light and Flight Deck DOOR LOCK UNLK Light**

For verifying automatic lock controls are operating normally:

a) With airplane powered, position personnel on both sides of the flight deck door.
b) Position the Door Lock Control Selector to AUTO and verify the flight deck door can not be opened from cabin side.
c) Position the Door Lock Control Selector to UNLK and verify the flight deck door can be opened from cabin side.
d) Position the Door Lock Control Selector to AUTO.
e) Enter keypad code and verify the door chime sounds.
f) Position the Door Lock Control Selector to DENY.
g) Verify the flight deck door can not be opened from cabin side.
h) Verify Door Chime operates normally.

4) **Flight Deck DOOR LOCK FAIL Light and Flight Deck DOOR LOCK UNLK Light**

For verifying automatic lock is operating normally:

a) With airplane powered, position personnel on both sides of the flight deck door.
b) Position the Door Lock Control Selector to AUTO and verify the flight deck door can not be opened from cabin side.
c) Position the Door Lock Control Selector to UNLK and verify the flight deck door can be opened from cabin side.
d) Position the Door Lock Control Selector to AUTO.
e) Enter keypad code and verify the door chime sounds.
f) Position the Door Lock Control Selector to DENY.
g) Verify the flight deck door can not be opened from cabin side.
h) Verify Door Chime operates normally.

5) **Flight Deck Door Lock Control Selector**

For verifying automatic lock is operating normally:

a) With airplane powered, position personnel on both sides of the flight deck door.
b) Verify the flight deck door can not be opened from cabin side.
c) Position the chime control module power switch to the off position (up−guard extended)
d) Verify the flight deck door can be opened from cabin side.
e) Position the chime control module power switch to the on position (down−guard closed).
f) Verify the flight deck door can not be opened from cabin side.

Use Interphone system. If only one pilot is remaining on the flight deck a cabin crew member must be present (for Keypad INOP operation only). Refer to OM, A Chapter 10.4. − Security.

END

9-52-70 Door Warning System *(revised: FEB 2017)*

9-52-70-01	Passenger Door Indication System *(revised: FEB 2017)*

Before each flight:

A. Make sure that the passenger door is CLOSED, LATCHED, and LOCKED as follows:

1) Make sure the passenger door is in the closed position, with the inner handle fully down in the stowed detente.
2) Check the four latch pin indicator windows to make sure that the latch pin green witness marks are aligned.
3) Check the two upper roll latches to make sure that the green witness marks are aligned.
4) Check the upper lock on the upper roll shaft to make sure that the green witness marks are aligned.
5) Check that the LOCKED / UNLCKD indicator shows LOCKED

B. Make sure that the passenger door pressure vent flap is closed.

END

9-52-70 Door Warning System *(revised: FEB 2017)*

9-52-70-03	Overwing Emergency Exits Indication System *(revised: FEB 2017)*

A. Close the affected Overwing Emergency Exit from the inside as follows:

1) Manually lift the overwing emergency exit hatch in front of its opening, and set it on its hinge supports
2) Push the upper part of the hatch fully outward to squeeze the seal.
3) Make sure that the door mechanism latches fully as the door seal is squeezed.
4) Push the hatch inner handle fully outward to confirm it is fully latched.
5) Have a qualified crew member to verify that the external push plate is flush.

END

9-MO-74 IGNITION

9-74-11 Ignition System *(revised: FEB 2011)*

9-74-11-01	**Ignition System** *(revised: FEB 2011)*

A. For an inoperative ignition system(s), do as follows before engine start:

1) When ready to start the affected engine, do as follows:

a) On the ENGINE/ START and /IGNITION control panel, push the IGNITION switch.

Note: *The switch will come on and the CONT IGNITION status message will show on the EICAS secondary page.*

b) On the ENGINE/ START and IGNITION control panel, push the affected engine (L or R) START switch.

Note: *The L (R) ENGINE START status message will show on the EICAS secondary page.*

2) When N2 reaches 20%, RPM and ITT is below 120°C, do as follows:

a) Advance affected engine L (R) thrust lever to IDLE

Note: *Fuel flow increasing and L (R) AUTO IGNITION advisory message shows on the EICAS secondary page.*

b) Check engine indications on the EICAS primary page.

c) On the ENGINE/ START and/ IGNITION control panel, push the IGNITION switch.

Note: *The switch will go out and the CONT IGNITION status message will come out of view from the EICAS secondary page*

END

9-MO-79 OIL

9-79-30 Oil Indicating System *(revised: FEB 2017)*

9-79-30-01	**Low Oil Pressure Switch** *(revised: FEB 2017)*

A. Since the oil pressure switch might have failed closed, “L(R) ENG OIL PRESS” warning message may be displayed on EICAS.

B. When the oil pressure switch is deactivated, do not expect the aural warning “Engine Oil”.

C. Oil pressure readout color is to be used for monitoring during the flight.

END

9-MO-80 STARTING

9-80-11 Starter Air Valve (SAV) *(revised: FEB 2017)*

9-80-11-03	**Starter Air Valve (SAV)** *(revised: FEB 2017)*

A. Before departure, do as follows

1) Establish communication between flight deck and ground.
2) On the EICAS control panel (ECP), press the ECS pushbutton to get access to the Environment Control System (ECS) synoptic page.
3) Make sure sufficient start air pressure is available.
4) Announce “Open Starter Air Valve” to the maintenance crew.
5) Select the affected engine START switch.
6) When N2 reaches 20%, advance Thrust Lever to IDLE.
7) At 50% N2, announce “Close Starter Air Valve” to the maintenance crew.
8) Monitor engine indication to be within limits during start.

B. For a subsequent in−flight failure of the affected engine, do as follows:

1) If an in−flight engine restart is necessary, do as follows:
    a) OM-B, Chapter 3 ABNORMAL PROCEDURES, Single Engine Procedures, Windmilling Relight.

END