Air Inuit

Boeing 737-800



MINIMUM EQUIPMENT LIST (MEL)

Amendment 5

AILO-0903 (2026-01-08)

Transports Canada / Transport Canada

Aviation civile / Civil Aviation
700 Place Leigh-Capreol
Dorval (QC) H4Y 1G7

PAR COURRIEL

Le 13 mai 2026

Références :

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OBJET: APPROBATION DE LA LISTE D'ÉQUIPEMENT MINIMAL (MEL) B737-800

Bonjour,

La liste d'équipement minimal pour l'aéronef de type Boeing 737-800, mise à jour par la révision #5, datée du 8 janvier 2026, a été étudiée et répond aux exigences du manuel des politiques et procédures en matière de MMEL/MEL.

La MEL est approuvée conformément au paragraphe 605.07 (3) du RAC, pour l'utilisation par Air Inuit Ltée, sous réserve que Transports Canada puisse exiger des modifications ultérieures à la MEL du B737-800 en cas de modifications des exigences réglementaires et des normes de navigabilité.

La liste des pages en vigueur a été datée et approuvée et, avec la lettre d'approbation, elle fait partie de votre liste d'équipement minimal.

Veuillez recevoir nos salutations distinguées.

Richard, Caroline
Signé numériquement par Richard, Caroline
ND: C=CA, O=GC, OU=TC-TC, CN="Richard, Caroline"
Raison : Je suis l'auteur du document
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Canada

COMPANY CERTIFICATION

This AIR INUIT LTD-AIR INUIT LTEE, B737-800 Minimum Equipment List has been developed in accordance with FAA and Transport Canada approved documents. The changes contained in this revision reflect the most current information available up to and including:

- FAA MMEL Rev. #62, dated 28/11/2022
- Transport Canada MMEL Supplement, Rev. #39, dated December 19, 2025
- B737 DDG Rev. #58 dated Dec 12, 2022

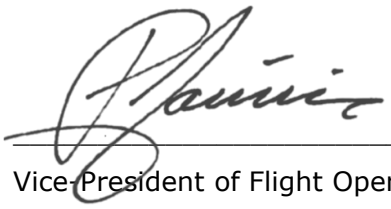
In the case of an amendment, it also indicates confirmation that the amendment has been incorporated into all applicable MELs. The continued approval of this MEL is contingent upon amendment incorporation within 30 days of the date of the amendment in the accompanying "Record of Amendments" sheet.

NOTE: A copy of this certification page and the original authorization letter to operate with an MEL from the regional coordinator must be on board the aircraft for this MEL to be valid.

Approved by:



FOR Vice-President of Maintenance



Vice-President of Flight Operations

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ATA Systems TOC

21 – Air Conditioning

- 21-01 Air Conditioning Packs
- 21-02 Pack Air Flow/Shutoff Valves
- 21-03 Pack Trip Warning Systems
- 21-05 Pack Ram Air Systems
- 21-07 RAM DOOR FULL OPEN Indicating Lights
- 21-10 Cabin Rate of Climb Indicator
- 21-11 Cabin Altitude Warning System
- 21-12 Cabin Altitude Indicator
- 21-13 Cabin Differential Pressure Indicator
- 21-14 Cabin Differential Pressure Indicator
- 21-15 Main Outflow Valve
- 21-16 Pressure Relief Valves
- 21-17 Temperature Indicators
- 21-18 Duct Overheat Warning Lights
- 21-19 Passenger Cabin Temperature Control Systems
- 21-21 Flight Deck Temperature Control Systems
- 21-26 Ground Preconditioned Air Connection Check Valve
- 21-27 Electrical/Electronic Equipment Cooling Blowers
- 21-31 Recirculation Fan(s)
- 21-32 Pack Temperature Control System(s) (Electronic Pack/Zone Controller or Pack Flow Controller)
- 21-33 Pack Temperature Control Valves
- 21-34 Standby Pack Temperature Control Valves
- 21-35 Trim Air Pressure Regulating and Shutoff Valve
- 21-36 Trim Air Modulating Valves
- 21-38 Outflow Valve Position Indicator
- 21-39 Trim Air Check Valves
- 21-40 Equipment Cooling Automatic Flow Control Valve/Overboard Exhaust Valve
- 21-41 Forward Entry Door Area Heater Systems (STC SA22-6)
- 21-42 Equipment Cooling Low Flow Detector Systems
- 21-43 Equipment Cooling Air Filter
- 21-44 Fan Bypass Check Valves

21-45 Air Distributor Riser Valves
21-49 Return Air Grille
21-50 Flight Deck Foot and Shoulder Heater Systems
21-56 Main Deck Cargo Compartment Air Shutoff Valve (STC SA25-72)

22 – Auto Flight
22-01 Autopilot Systems
22-02 Autopilot Disengaged Warning System
22-03 Yaw Damper
22-04 Autothrottle System
22-05 Mach Trim Systems
22-08 Autothrottle Disengage Lights
22-11 Autothrottle Disengage Lights
22-14 Mode Control Panel Selectors
22-15 Mode Control Panel Switches/Paddles
22-16 Mode Control Panel Windows
22-17 Takeoff/Go-Around (TO/GA) Switches
22-18 Mode Control Panel Switch Lights
22-19 Thrust Mode Annunciator/ Thrust Mode Display
22-20 Automatic Landing System

23 - Communications
23-01 Flight Deck Speakers
23-02 Passenger Address System
23-03 Communication Systems (VHF and UHF)
23-04 Crewmember Interphone System
23-06 Communication Systems (VHF and UHF)
23-09 ACARS System
23-10 Cockpit Voice Recorder System (CVR)
23-11 High Frequency (HF) Communication System
23-12 Emergency Locator Transmitter (ELT)
23-13 Flight Crew Audio Selector/Control Panels
23-14 Flight Deck Headsets Earphones/Headphones and Boom Microphones
23-16 Push-To-Talk (PTT) Switches
23-17 Flight Deck Hand Microphones
23-18 Satellite Communication System (SATCOM)

23-19 Alerting System (Audio/Visual)
23-20 Handset Systems

24 - Electrical Power
24-01 Engine Driven Generator Systems
24-02 APU Generator System
24-03 APU Generator System
24-07 Frequency Meter
24-08 AC Volts Indication
24-09 AC Ammeters
24-11 External Power System
24-12 GEN OFF BUS Lights
24-14 BAT DISCHARGE Light
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24-16 ELEC Light
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25 - Equipment/Furnishings
25-01 Megaphones
25-03 Flight Attendant Seat Assembly
25-05 Cargo Compartment Restraint Components – Main Deck
25-06 Passenger Seats
25-10 Non-essential Equipment and Furnishings (NEF)
25-11 Observer Seat(s)
25-12 Portable Flashlight Holders/Flashlights
25-16 Emergency Evacuation Signal System
25-17 Emergency Medical Equipment Equipment
25-18 Flotation Equipment (Crew and Passengers)
25-19 Dual Cockpit USB Power System
25-20 Exterior Lavatory Door Ashtrays
25-21 Flight Crew Seats
25-22 Galley/Lavatory Waste Receptacle Access Doors / Covers
25-24 Storage Bins/Cabin, Galley, and Lavatory Storage Compartments / Closets
25-31 Supernumerary Seats

25-33 Lavatory NO SMOKING Placards

26 – Fire protection

26-01 Engine and APU Fire Extinguisher Discharge Lights

26-02 Engine Overheat and Fire Detection Systems

26-03 Portable Fire Extinguishers

26-04 Wheel Well Fire Detection System

26-06 APU Fire Shutoff System

26-07 APU Fire Extinguisher System

26-08 APU Fire Detection System

26-09 ENGINE/APU FIRE EXTINGUISHER TEST SYSTEM (EXT TEST) (SQUIB TEST)

26-10 Fire Warning Bell

26-12 Wing-Body Overheat Detector System (Left)

26-13 Wing-Body Overheat Detector System (Right)

26-14 Main Deck Cargo Compartment Fire Detection/Suppression Systems

26-15 Lavatory Fire Extinguisher Systems

26-16 Lavatory Smoke Detection System

26-18 Wing-Body Overheat Test System

26-19 Lower Cargo Compartment Fire Detection / Suppression Systems

26-25 Engine Start Lever Fire Indication Lights

27 – Flight Controls

27-04 Leading Edge Flap/Slat Position Light Systems

27-07 Auto Speed Brake System

27-08 Flap Load Limiter System

27-10 FEEL DIFF PRESS Light System

27-11 Auto Slat Fail Light System

27-12 Auto Slat Systems

27-14 Rudder Trim Indicator

27-16 SPEED BRAKE / SPEEDBRAKES EXTENDED Light

27-17 Wheel to Rudder Interconnect System (WTRIS)

27-20 Speedbrake Load Alleviation System

27-21 STBY RUD ON Light

27-23 Elevator Tab Control Springs

27-24 Rudder Pedal Adjustment

28 – Fuel

28-01 Fuel Boost Pumps (Main Tanks)
28-02 Fuel Boost Pumps (Center Tank)
28-03 Fuel Boost Pump Low Pressure Warning Light Systems
28-04 APU Fuel Valve
28-05 Crossfeed VALVE OPEN Light
28-06 Flight Deck Fuel Quantity Indicators (Main Tanks)
28-07 Flight Deck Fuel Quantity Indicator (Center Tank)
28-08 Fuel Temperature Indicator
28-09 Fuel Quantity Totalizer
28-10 Pressure Fueling System
28-11 Fueling Bay Fuel Cap
28-12 Refueling Control Panel Quantity Indicators
28-16 Fuel Measuring Sticks/Dripsticks
28-17 Fuel Scavenge System
28-21 Fuel Quality Test Switches
28-22 FUEL/SPAR VALVE CLOSED Lights
28-25 Center Tank Fuel Boost Pump Automatic Shutoff System
28-26 Fuel Shutoff Valve Battery and Charger
29 - Hydraulic Power
29-02 System B Pumps
29-03 System Pressure Indications (A and B)
29-04 System A Pump Low Pressure Indication Systems
29-05 System B Pump Low Pressure Indication Systems
29-07 System A and B Overheat Light System
29-09 Hydraulic Quantity Low Level Light System (Standby System)
29-10 System A Pumps
29-11 System A Quantity Indication System (Flight Deck)
29-12 Standby System Low Pressure Light
29-13 Hydraulic Reservoir Pressurization System Sources
29-15 System B Quantity Indication System (Flight Deck)
29-16 Hydraulic Reservoir Air Pressure Indicator (Wheel Well)
29-17 Hydraulic Reservoir Quantity Indicator (Wheel Well)
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30 - Ice and Rain Protection

30-01 Wing Anti-Ice Valves

30-02 Wing Anti-Ice Valve Position Lights

30-03 Engine and Nose Cowl Anti-Ice Valves

30-04 Engine and Nose Cowl Anti-Ice Valve Position Lights or TAI Indications

30-05 Pitot/Static Probe Heaters

30-06 Vertical Stabilizer Pitot Heaters (Elevator and Rudder Feel Systems)

30-07 Total Air Temperature Probe Heater

30-08 Angle of Attack Sensor Heater(s)/Stall Warning System Sensor Heater(s)/Alpha Vane Heater(s)

30-09 Pitot, Pitot/Static and Temperature Probe Heater Lights

30-11 Electrically Heated Windshields

30-12 Windshield Defog System

30-13 Windshield Wiper System(s)

30-15 Windshield Perimeter Heater(s)

30-17 COWL ANTI-ICE Lights

30-18 Alpha Vane Heater Light Systems

30-19 Drain Mast Heaters

30-21 Control Stand Wing Anti-Ice Switches

30-22 Air Data Probe Heat Systems

31 - Indicating/Recording Systems

31-01 Clocks

31-02 Flight Data Recorder System (FDR)

31-08 Common Display System (CDS)

31-09 Remote Light Sensor System

31-10 Speed Reference Selector

31-14 TAKEOFF CONFIG Light

32 - Landing Gear

32-02 Antiskid System

32-03 Parking Brake Valve

32-04 Parking Brake Light

32-07 Automatic Brake System

32-08 Rudder Pedal Nose Wheel Steering System

32-10 Alternate Antiskid Valves

32-12 Nose Wheel Steering Switch

32-13 Hydraulic Brake Pressure Indication System

32-14 Gear Retraction Braking System

32-15 Landing Gear Selector Valve Bypass Module

32-16 Landing Gear Actuation System

32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU)

32-18 Landing Gear Alternate Extension System

32-19 Main Landing Gear Uplock Springs

32-20 Landing Gear Frangible Fitting

32-21 Flap Landing Warning Switch, S138

33 – Lights

33-01 Cockpit/Flight Deck/Flight Compartment and Instrument Lighting System

33-02 Cabin Interior Illumination

33-03 Passenger Lighted Information Signs and Notice System

33-04 Lower Cargo Compartment Light Systems (Fwd/Aft)

33-05 High Intensity or Strobe Lights System

33-06 Anti-Collision Beacons

33-07 Wing Illumination Lights

33-08 Landing Lights

33-09 Taxi Light

33-10 Runway Turn Off Lights

33-11 Wing Tip Position Lights

33-14 Exterior Emergency Lighting System

33-15 Interior Emergency Exit Lighting System

33-16 System Annunciator Lights, Left and Right (Pilot's Light Shield)

33-17 Flight Deck Master Lights Test and Individual Light's Press-to-Test Features

33-18 Wheel Well Lights

33-19 Floor Proximity Emergency Escape Path Marking System

33-20 LOGO Light System

33-21 Main Deck Cargo Compartment Lighting

33-23 Master Dim System

33-25 Service Area Light Systems (Nose, Electrical Equipment, Air Conditioning, Aft Accessory, APU, Tailcone Compartments, and Fueling Panel)

34 - Navigation

34-01 Mach/Airspeed Indications

34-02 Mach/Airspeed Warning Systems
34-03 Altimeter Vibrators
34-04 Static Air Temperature Indication
34-05 Total Air Temperature Indication
34-07 Standby Horizon Indicator
34-11 Standby Magnetic Compass
34-12 Flight Director Systems
34-13 Distance Measuring Equipment Systems
34-14 Marker Beacon Receiver System
34-15 Weather Radar
34-16 Radio Compass Systems (ADF)
34-17 VHF Navigation Systems (VOR / ILS)
34-18 ATC Transponders and Automatic Altitude Reporting System
34-20 Radio Altimeter Systems
34-23 True Airspeed Indication
34-25 Altitude Alerting System
34-26 Terrain Awareness and Warning System (TAWS)
34-32 Instrument Transfer Switching System
34-35 Inertial Reference Systems (IRS)
34-36 Flight Management Computer System (FMCS)
34-37 Windshear Warning and Flight Guidance System (Reactive)
34-38 Pitch Limit Indication (PLI)
34-40 Traffic Collision and Avoidance System (TCAS)
34-42 Radio Magnetic Indicators (RMI)
34-45 Global Positioning System (GPS)
34-48 EFIS Control Panel
34-49 Right IRS DC Power Supply System
34-54 Integrated Standby Systems
34-55 Vertical Situation Display (VSD) System
34-62 GNSS with LPV Approach / ADS-B Systems

35 - Oxygen

35-02 Passenger Service Units (PSUs)
35-03 Oxygen Pressure Indicators
35-04 Portable Oxygen Bottles or Units (including Masks and Hoses)

35-05 Passenger Oxygen System
35-06 Portable Protective Breathing Equipment (PBE)
36 - Pneumatics
36-01 Manifold Isolation Shutoff Valve
36-02 Ground Pneumatic Connector Check Valve
36-03 Pre-Cooler Control Valves
36-04 Pneumatic Pressure Indication Systems
36-05 Engine Bleed Air Shutoff Valves (PRSOV)
36-06 Dual Bleed Light System
36-08 Engine Bleed Trip Off Lights
36-09 High Stage Valves
38 - Water / Waste
38-01 Potable Water Systems
38-02 Lavatory Waste Systems
38-04 Floor Drain Shutoff Valve (STC SA25-72)
44 - CABIN SYSTEMS
44-20 RPM (Remote Power Unit)
46 - INFORMATION SYSTEMS
46-01 Electronic Flight Bag (EFB) System
47 - Inert Gas System
47-01 Nitrogen Generation System (NGS)
49 - Airborne Auxiliary Power
49-01 Auxiliary Power Unit (APU)
49-02 APU Annunciator LOW OIL PRESSURE and OVER SPEED Lights
49-04 APU Annunciator LOW OIL QUANTITY/MAINT Light
49-05 APU EGT Indicator
49-06 APU Inlet Door
49-07 APU Bleed Air Valve
49-08 APU DC Fuel Boost Pump
49-09 APU Surge Control System
49-12 APU Annunciator HIGH OIL TEMP / FAULT Light
49-15 Start Power Unit
49-16 Start Converter Unit
52 - Doors

52-03 Door Warning Light System

52-05 Left Main Cabin Door Pressure Stop Fittings

52-06 Lower Cargo Doors Pressure Stop Fittings

52-07 Entry/Service Door Hold-Open Latch Assemblies

52-09 Lower Cargo Doors Door Balance Mechanism

52-13 Main Cargo Door Lift/Operating Systems

52-14 Lower Cargo Doors Hold Open Mechanism/Device

52-15 Flight Lock System

52-16 Main Cabin Exit/Slide (All-Cargo Configuration)

52-17 Boeing / C&D Aerospace Enhanced Flight Deck Security Door Automatic Locking System (CAR 725.595)

52-18 Boeing / C&D Aerospace Enhanced Flight Deck Security Door Dead Bolt

52-20 Flight Deck Door Pressure Relief Panels

52-22 Flight Deck Door Hold Open Device (e.g., Door Stop, Foot Plunger)

52-23 Flight Deck Door Viewing Port

52-25 Cargo Door Exterior Handle Recess/Hinge Spring Assemblies

73 – Engine Fuel and Control

73-04 Fuel Filter Differential Pressure Warning Systems

73-05 Fuel Flow Indication Systems

73-06 Fuel Used Indicators

73-10 Fuel Control ENG VALVE CLOSED Indicating System

73-11 Electronic Engine Control (EEC)

73-12 Electronic Engine Control (EEC) Alternate Power Supply System

74 – Engine Ignition

74-01 Ignition Systems

77 – Engine Indicating

77-02 N1 Tachometers

77-05 Vibration Indicating Systems

77-09 Abnormal Start Indication Systems

78 – Engine Exhaust

78-01 Thrust Reverser Systems

78-07 REVERSER Lights (Aft Overhead Panel)

79 – Engine Oil

79-01 Oil Quantity Indication Systems

79-02 Oil Filter Bypass Warning Systems

79-04 Oil Low Pressure Warning Systems

80 - Starting

80-01 Starter Valve Open Indications

AMENDMENT PROCEDURE AND DISTRIBUTION

The FAA MMEL and the Transport Canada MEL supplement shall be reviewed on a quarterly basis or as amendments are received and the Air Inuit 737-800 MEL shall be amended as required to ensure it remains current.

This MEL is distributed electronically via the MFI and on pilot EFBs. Any printed or personal copies are not controlled. The amendment number and amendment date are indicated on each page.

RECORD OF AMENDMENTS

Amendment	Date of Amendment	Date Published	Published by
Original	2024-05-31	2024-06-18	Technical Standards
1	2024-09-03	2024-10-03	Technical Standards
2	2025-04-23	2025-05-14	Technical Standards
3	2025-06-17	2025-09-04	Technical Standards
4	2025-10-14	2025-12-05	Technical Standards
5	2026-01-08		

SUMMARY OF CHANGES IN CURRENT AMENDMENT

When the MEL is amended, this section contains a list of changes made in the amendment as per the documents specified on the **Company Certification** page.

Item #	Description of Change
Company Certification, page 3	Updated revision and date of applicable Transport Canada MMEL Supplement (number 39).
Definitions	Updated multiple definitions.
21-01 Air Conditioning Packs	Added new item: 21-01-09.
21-10 Cabin Rate of Climb Indicator	Removed reference to AMM 21-00-00/901 from (M) Procedures.
21-14 Cabin Differential Pressure Indicator	Certain procedure(s) changed from (M) to (M#).
21-15 Main Outflow Valve	Certain procedure(s) changed from (M) to (M#).
21-16 Pressure Relief Valves	Certain procedure(s) changed from (M) to (M#).
21-17 Temperature Indicators	Updated number installed for item 21-17-03.
21-38 Outflow Valve Position Indicator	Certain procedure(s) changed from (M) to (M#).
21-40 Equipment Cooling Automatic Flow Control Valve/Overboard Exhaust Valve	Certain procedure(s) changed from (M) to (M#).
21-41 Forward Entry Door Area Heater Systems (STC SA22-6)	Revised description of Item 21-41-06. Added new item: 21-41-07 (including (M) procedure. Updated number installed for item 21-41-06 and placarding.
21-42 Equipment Cooling Low Flow Detector Systems	Certain procedure(s) changed from (M) to (M#).
21-43 Equipment Cooling Air Filter	Certain procedure(s) changed from (M) to (M#).
21-49 Return Air Grille	Certain procedure(s) changed from (M) to (M#).
21-56 Main Deck Cargo Compartment Air Shutoff Valve (STC SA25-72)	New item.
22-05 Mach Trim Systems	Certain procedure(s) changed from (M) to (M#).

Item #	Description of Change
23-02 Passenger Address System	Removed STC from main item. Added new item: 23-02-03.
23-03 Communication Systems (VHF and UHF)	Updated remark on main item (23-03).
23-04 Crewmember Interphone System	Added new item: 23-04-04. Multiple updates to Other Instructions and procedures.
23-10 Cockpit Voice Recorder System (CVR)	Removed reference to AMM 23-00-00/901 from (M) Procedure for item 23-10-02 CVR INOP. Procedure for items 21-10-02-01A and 21-10-02-01B changed from (M) to (M#).
23-11 High Frequency (HF) Communication System	Updated numbers installed/required.
23-12 Emergency Locator Transmitter (ELT)	Procedure(s) changed from (M) to (M#). Updated number(s) installed/required.
23-16 Push-To-Talk (PTT) Switches	Procedure(s) changed from (M) to (M#). Updated numbers installed.
23-17 Flight Deck Hand Microphones	Updated numbers installed.
23-19 Alerting System (Audio/Visual)	Deleted item: 23-19-01. Updated number installed for item 23-19-02-04B. Added new item: 23-19-03. Added applicability to Placarding. Updated (O) procedures.
23-20 Handset Systems	Deleted item: 23-20-01 Added new item: 23-20-03.
25-01 Megaphones	Updated number installed and added NOTE.
25-03 Flight Attendant Seat Assembly	Updated numbers installed/required.
25-04 Cabin Window Shades Applicable to: C-FTUW, CFTUY	Item removed completely.
25-05 Cargo Compartment Restraint Components – Main Deck	Added new item: 25-05-04.

Item #	Description of Change
25-11 Observer Seat(s)	Updated number installed for item 25-11-03.
25-12 Portable Flashlight Holders/Flashlights	Updated number installed for 25-12-01A.
25-17 Emergency Medical Equipment Equipment	Updated numbers installed/required and added Operations Notes.
25-18 Flotation Equipment (Crew and Passengers)	Revised NOTE in Remarks column (added applicable CARs regulation).
25-21 Flight Crew Seats	Certain procedure(s) changed from (M) to (M#).
25-24 Storage Bins/Cabin, Galley, and Lavatory Storage Compartments / Closets	Certain procedure(s) changed from (M) to (M#).
25-31 Supernumerary Seats	Certain procedure(s) changed from (M) to (M#). Updated number installed.
26-03 Portable Fire Extinguishers	Updated numbers installed/required. Added NOTE in Remarks. Added Operations Notes.
26-14 Main Deck Cargo Compartment Fire Detection/Suppression Systems	Added applicability for items 26-14 and 26-14-04. Added new item: 26-14-04-11. Removed (M) procedures. Added (M#) procedures for items 26-14-04-10 and 26-14-04-11.
26-16 Lavatory Smoke Detection System	Updated number installed for item 26-16-04.
26-19 Lower Cargo Compartment Fire Detection / Suppression Systems	Updated numbers installed for items 26-19 and 26-19-05.
27-07 Auto Speed Brake System	Certain procedure(s) changed from (M) to (M#).
27-11 Auto Slat Fail Light System	Certain procedure(s) changed from (M) to (M#).
27-20 Speedbrake Load Alleviation System	Certain procedure(s) changed from (M) to (M#).
27-23 Elevator Tab Control Springs	Certain procedure(s) changed from (M) to (M#).
28-05 Crossfeed VALVE OPEN Light	Removed reference to AMM 28-00-00/901 from (M) Procedures.
28-12 Refueling Control Panel Quantity Indicators	Certain procedure(s) changed from (M) to (M#).

Item #	Description of Change
28-16 Fuel Measuring Sticks/Dripsticks	Certain procedure(s) changed from (M) to (M#).
28-22 FUEL/SPAR VALVE CLOSED Lights	Removed reference to AMM 28-00-00/901 from (M) Procedures.
29-09 Hydraulic Quantity Low Level Light System (Standby System)	Certain procedure(s) changed from (M) to (M#).
29-11 System A Quantity Indication System (Flight Deck)	Certain procedure(s) changed from (M) to (M#).
29-13 Hydraulic Reservoir Pressurization System Sources	Certain procedure(s) changed from (M) to (M#).
29-15 System B Quantity Indication System (Flight Deck)	Certain procedure(s) changed from (M) to (M#).
30-01 Wing Anti-Ice Valves	Certain procedure(s) changed from (M) to (M#).
30-02 Wing Anti-Ice Valve Position Lights	Certain procedure(s) changed from (M) to (M#).
30-04 Engine and Nose Cowl Anti-Ice Valve Position Lights or TAI Indications	Updated numbers installed for items 30-04-02 and 30-04-04.
30-09 Pitot, Pitot/Static and Temperature Probe Heater Lights	Certain procedure(s) changed from (M) to (M#). Updated number installed for item 30-09-02-02A.
30-17 COWL ANTI-ICE Lights	Certain procedure(s) changed from (M) to (M#).
31-02 Flight Data Recorder System (FDR)	Revised Remarks for items 31-02-01 and 31-02-02. Added reference to Maintenance Notes.
32-03 Parking Brake Valve	Certain procedure(s) changed from (M) to (M#).
32-04 Parking Brake Light	Certain procedure(s) changed from (M) to (M#).
32-07 Automatic Brake System	Certain procedure(s) changed from (M) to (M#).
32-08 Rudder Pedal Nose Wheel Steering System	Certain procedure(s) changed from (M) to (M#).
32-12 Nose Wheel Steering Switch	Certain procedure(s) changed from (M) to (M#).
32-15 Landing Gear Selector Valve Bypass Module	Certain procedure(s) changed from (M) to (M#).
32-16 Landing Gear Actuation System	Certain procedure(s) changed from (M) to (M#).

Item #	Description of Change
32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU)	Certain procedure(s) changed from (M) to (M#).
32-18 Landing Gear Alternate Extension System	Certain procedure(s) changed from (M) to (M#).
32-19 Main Landing Gear Uplock Springs	Certain procedure(s) changed from (M) to (M#).
32-20 Landing Gear Frangible Fitting	Certain procedure(s) changed from (M) to (M#).
33-16 System Annunciator Lights, Left and Right (Pilot's Light Shield)	Updated numbers installed/required for item 33-16A.
33-21 Main Deck Cargo Compartment Lighting	Added STC numbers for items 33-21, 33-21-01-01 and 33-21-02-01. Changed Remarks for items 33-21-01-01A and 33-21-02-01A (from (M) to M#). Added new item: 33-21-01-02. Removed (M) procedures. Added (M#) procedures for sub-items of 33-21-01 and 33-21-02 and specified applicability. Added applicability to Operating Procedures.
34-08 Angle of Attack Indications	Item removed completely.
34-18 ATC Transponders and Automatic Altitude Reporting System	Added new note for item 34-18B. Updated numbers installed/required for items 34-18-02A and 34-18-02B.
34-20 Radio Altimeter Systems	Certain procedure(s) changed from (M) to (M#). Updated certain numbers installed.
34-25 Altitude Alerting System	Updated certain numbers installed.
34-26 Terrain Awareness and Warning System (TAWS)	Updated certain numbers installed.
34-36 Flight Management Computer System (FMCS)	Updated certain numbers installed.
34-53 Automatic Dependent Surveillance-Broadcast (ADS-B) System	Item removed completely.
34-62 GNSS with LPV Approach / ADS-B Systems	Multiple updates to item 34-62-03. Removed items 34-62-07, 34-62-08, 34-62-09.

Item #	Description of Change
35-05 Passenger Oxygen System	For item 35-05D, added STC number, revised applicability and number installed.
35-06 Portable Protective Breathing Equipment (PBE)	Added a sentence to Operating Procedures for 35-06B.
36-01 Manifold Isolation Shutoff Valve	Certain procedure(s) changed from (M) to (M#).
38-01 Potable Water Systems	Procedure changed from (M) to (M#). Number installed updated.
38-02 Lavatory Waste Systems	For item 38-02B, specify number required for particular aircraft.
38-04 Floor Drain Shutoff Valve (STC SA25-72)	New item.
44-20 RPM (Remote Power Unit)	Updated number installed.
49-04 APU Annunciator LOW OIL QUANTITY/MAINT Light	Certain procedure(s) changed from (M) to (M#).
49-06 APU Inlet Door	Certain procedure(s) changed from (M) to (M#).
49-07 APU Bleed Air Valve	Certain procedure(s) changed from (M) to (M#).
49-15 Start Power Unit	Certain procedure(s) changed from (M) to (M#).
52-03 Door Warning Light System	Added STC and applicability for item 52-03-05. Certain procedure(s) changed from (M) to (M#).
52-05 Left Main Cabin Door Pressure Stop Fittings	Certain procedure(s) changed from (M) to (M#).
52-13 Main Cargo Door Lift/Operating Systems	Added STC numbers and applicability for item 52-13-03.
52-15 Flight Lock System	Updated number installed and changed procedure from (M) to (M#) for item 52-15-03. Added new item 52-15-04. Added applicability for procedures. Added new (O) Procedure for item 52-15-04-02.
52-16 Main Cabin Exit/Slide (All-Cargo Configuration)	Updated numbers installed.

MEL HANDLING PROCEDURES

NOTE: Please ensure a copy of the company certification page is inserted in the front of this MEL. Failure to do so could result in the aircraft being grounded.

MEL Defect Deferral Procedures

1.1 - Defects and Their Control – General

All defects will be entered in the aircraft Journey Logbook. (If applicable interior cosmetic defects may be entered in a Cabin Defect Logbook.)

Prior to flight all defects shall be actioned and certified or deferred in accordance with the procedures set forth in the Flight Operations Manual (FOM), Maintenance Control Manual (MCM) and Minimum Equipment List (MEL).

For each aircraft a defect will have a unique number assigned to it for tracking purposes.

1.2 - Deferred Defect Restrictions

Any defect may be deferred provided it is included in the approved MEL and the aircraft must be operated in accordance with any conditions or limitations specified therein, including a configuration deviation list (CDL) items or an AFM Supplement Compatibility List.

Where the conditions or limitations specified in an MEL are in conflict with the requirements of an airworthiness directive, the airworthiness directive prevails.

If any doubt exists as to the deferral of an item, consultation between operations and maintenance is required.

1.3 - Deferring Procedures and Control – Maintenance

Once a defect has been established as being deferrable by the restrictions set forth in Section 1.2 above, the following procedures will be used.
(It is advisable that defects deferred by flight crew be reviewed by maintenance at the earliest opportunity.)

a) The defect will be entered in the Journey Logbook as "deferred in accordance with MEL ATA #..." and signed by a qualified AME.

b) A placard will be placed in the aircraft as described by the MEL.

c) The Journey Log must be checked to ensure that when operating with multiple inoperative items, the interrelationship between those items and the effect on aircraft operation and crew workload will be considered.

d) Where the MEL Item indicates a Mod Status choice it is necessary to refer to the "Mod Status" page found at the end of this section to determine which Mod applies to your aircraft.

e) The deferral will be tracked by Quality Assurance to ensure a timely rectification with regard to the categorization.

f) After defect rectification, remove the placard from the aircraft and:

Follow the procedures in the MCM for placarding control.

or

For multiple copy type Journey Logs, affix the placard to the maintenance copy of the defect rectification.

or

For single copy type Journey Logs (Queens Printer) affix the placard adjacent the maintenance rectification.

g) It is mandatory that all defects not cleared when the Journey Logbook expires be transferred to the new Journey Logbook with all details.

1.4 - Use of MEL - Flight Crew

Once a defect has been established as being deferrable by the restrictions set forth in Section 1.2, the Pilot-in-Command (PIC) may defer the defect in accordance with the MEL providing the following procedures are adhered to:

a) The Pilot-in-Command will enter the defect in the Journey Logbook.

b) The Pilot-in-Command will advise the Maintenance department as soon as practicable.

c) Where required the flight crew will adhere to all column 4 restrictions and perform (O) procedures as applicable.

d) Some (M) Procedures may be actioned and deferred by Flight Crews who have been trained and are current to do so under the authority of Air Inuit's "Elementary Work" approval.

e) Flight Crews may not perform Maintenance procedures if the defect involves an item designated in the MEL as **(M#)** which denotes MAINTENANCE PERSONNEL REQUIRED. The aircraft may not proceed until Maintenance carries out the required procedures in Section 1.3.

f) Where the MEL Item indicates a Mod Status choice it is necessary to refer to the "Mod Status" page found at the end of this section to determine which Mod applies to your aircraft.

g) The Journey Log must be checked by the Pilot-in-Command for multiple inoperative items. The interrelationship between those items and the resultant effect on aircraft operation and crew workload will be considered by the P-I-C before making a go I no-go decision.

h) Appropriate placard(s) will be installed by the flight crew in accordance with the instructions in the MEL.

i) The Pilot-in-Command will enter in the Journey Logbook, adjacent to the defect, under what authority the defect has been deferred i.e. "Deferred in accordance with MEL ATA Number…", time of day, signature and license number. The logpage shall be closed and signed by the Pilot-in-Command after a snag has been deferred. A new logpage will then be opened for the following flight(s). The snag and deferral must also be noted on the "backflap" (AILM-0456) of the logbook.

j) If any doubt exists, the pilot must consult Maintenance to confirm that the ATA item and procedure has been deferred correctly prior to subsequent dispatch.

k) The aircraft may proceed on a planned itinerary to a base where Maintenance will rectify or re-defer the defect in accordance with the procedures in the MCM.

1.4.1 Deferring a Snag by Flight Crew

When deferring a snag, a cabin snag or an NEF item in accordance with point "i" above:

a) Write the detailed snag on the log page Detailed Defect Report section.

b) Example: Fight deck parking brake pressure indicator U/S

c) Defer the snag "In Accordance With (IAW) MEL# / NEF #....."

Example: Deferred in accordance with MEL ATA 32-01 Category C, signature and license number

d) Sign your name with your license number.

e) Enter the same information on the Journey Log backflap and add the log page as a reference.

f) Enter the Log number and MEL# on the red sticker (found in the AFM sleeve) and place it where it can be seen in the cockpit (beside the indicator).

g) Advise Maintenance and Dispatch of the deferred snag.

1.5 - Journey Logbook Procedures

"0" and "M" Procedures

PRIOR TO EACH DEPARTURE:

Where an "0" and/or "M" Procedure is required PRIOR TO EACH DEPARTURE, the Pilot-in-Command will ensure all required actions are completed in accordance with the MEL.

PRIOR TO EACH FLIGHT DAY:

Where an "0" and/or "M" Procedure is required PRIOR TO EACH FLIGHT DAY, the Pilot-in-Command will ensure all required actions are completed in accordance with the MEL.

NOTE: This MEL was developed with the Canadian Aviation Regulations (CARs). There is no guarantee that this document will meet foreign regulations, and it is recommended that prior to operating in foreign airspace that operators review any MEL deferred items. Likewise reference to specific Air Operator Certificate – Special Authorization(s) and airspace authority, such as RVSM, is necessary to determine if conflict with MEL deferred items exists.

1.6 - MEL Item Repair Interval Self-Extension Program

Air Inuit may self-extend the repair interval for Category B and C items contained within the MEL one time and shall notify the Transport Canada Principal Maintenance Inspector (PMI) or Principal Operations Inspector (POI) responsible for the operator within one working day when this action is taken and the reason it was required.

As certain items qualify for time-limited dispatch as specified in the Type Certificate Data Sheets, the MMEL and TC Supplement shall be verified prior to extending a repair interval to ensure the item does not bear the remark "And no extensions are authorized.

Refer to Maintenance Control Manual AILM-0450.1 for additional information.

1.7 - Non-Essential Equipment and Furnishings (NEF)

Non-Essential Equipment and Furnishings (NEF) (formerly known as Passenger Convenience Items) are items installed on an aircraft which are not required by the applicable certification design standards or operating rules. These items form part of the original type certification, supplemental type certificate, or other form of modification. However, if they are inoperative, damaged or missing, they have no effect on the safe operation of the aircraft under all operational conditions.

NEF for Air Inuit aircraft are listed in the Air Inuit Non-Essential Equipment and Furnishings (NEF) List (AILM-0473), which is available in the Master File Index (MFI) and on pilot Electronic Flight Bags (EFB). Flight crews can consult the NEF List to determine the (M) and (O) procedures that apply to NEF on their aircraft.

The NEF List can be amended at any time with the approval of the Vice President of Flight Operations, the Chief Pilot for the aircraft type, the Vice President of Maintenance, or the Maintenance QA Manager. If an item is missing from the NEF List, submit a completed AILM-0473.1 form to the Chief Pilot who will follow up with the Maintenance QA Manager.

NEF items may be installed in all areas of the aircraft, including but not limited to passenger compartment, flight deck, service areas, cargo and avionic bays, crew rest areas, lavatories, and galley areas.

NEF items CANNOT include:

- Items already identified in the MEL or configuration deviation list (CDL) of the applicable aircraft
- Items required to be functional to meet an operating rule or certification design standard
- Items identified in the instructions for continued airworthiness developed by the manufacturer, airworthiness directives or operator’s approved maintenance program where instructions are provided for but not limited to:
    - Operational wear or damage limits
    - Fuel/hydraulic leak rates
    - Oil consumption limits
    - Missing paint or protective coatings, etc.
- Items that require the implementation of an operational (O) procedure that could cause an unacceptable increase in workload and possible interference with crew members
- Administrative control items (ACI’s) as these items are for tracking and informational purposes only and do not provide for a deferral authority

1.8 - Failures between start of taxi and takeoff

If a defect is discovered after pushback but before take-off, the Flight Crew will contact Dispatch and/or Maintenance.

- If MEL relief is not available, or includes an M# procedure, the Flight Crew shall return to the apron/gate and enter the defect in the logbook.
- If MEL relief is available, the Flight Crew shall enter the defect in the logbook, defer the defect and placard the item, and complete the appropriate M or O procedure.

1.9 - Failures after take-off

If the Flight crew becomes aware of a defect after the start of takeoff, once takeoff power is set, no MEL action is required, until the completion of the next landing. The defect shall be dealt with as an in-flight failure. It may be prudent to consider requirements of the MEL as the defect may affect dispatch from the destination airport. During the flight, the flight crew must advise flight dispatch of the defect. This will allow timely coordination for maintenance activities prior to and after the arrival of the aircraft.

PREAMBLE

All equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Rules must be operative. However, section 605.07 of the Canadian Aviation Regulations (CARs), permits the publication of a Master Minimum Equipment List (MMEL) where compliance with certain equipment requirementsis not necessary 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 the required level of safety.

A Master Minimum Equipment List (MMEL) is developed by Transport Canada, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The approved MMEL includes those items of equipment related to airworthiness and operating regulations and other items of equipment Transport Canada finds may be inoperative and yet maintain the required level of safety by applying appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. The MMEL is the basis for development of individual operator MELs 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. An operator's MEL may differ in format from the MMEL but cannot be less restrictive than the MMEL. The individual operator's MEL, when approved, permits operation of the aircraft with inoperative equipment.

Equipment not required by the operation being conducted and equipment in excess of the requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from the Aircraft Flight Manual Limitations, Emergency Procedures or with Airworthiness Directives. It isimportant to remember that all equipment related to the airworthiness and operating regulations of the aircraft not listed on the MMEL must be operative.

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

The MEL is intended to permit operation with inoperative items of equipment for a period until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity. To maintain the required level of safety and reliability the MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record/ Journey Logbook. The item is then either repaired or deferred as per the MEL. Alternatively, the aircraft must follow sections 605.08 (2) or 605.09 (2) of the CARs which specify the requirements for operating an aircraft subject to the conditions of a flight permit and the subordinate position of a MEL with regard to an Airworthiness Directive (AD) for the same Item. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in a safe condition for operation with items of equipment inoperative. [See section 605.08 (1) of the CARs]

Operators are responsible for exercising the necessary operational control to ensure that the required level of safety is maintained. 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 repair program including the parts, personnel, facilities, procedures, and schedules to ensure timely repair.

When using the MEL, compliance with the stated intent of the preamble, definitions, and the conditions and limitations specified in the MEL is required.

NOTES AND DEFINITIONS

Definitions

1.0 System Definitions

System numbers are based on the Air Transport Association (ATA) Specification and items are numbered sequentially.

a) "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.

b) "Number Installed" (Column 2) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.

Triple Asterisk "***" symbol in Column 1 indicates an item which is not required by regulation, but which may have been installed on some models of aircraft covered by this 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".

c) "Number Required for Dispatch" (Column 3) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.

NOTE: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by Transport Canada.

d) "Remarks or Exceptions" (Column 4) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.

e) "Provisos" are indicated by a number or a lower-case letter in "Remarks or Exceptions". Provisos are conditions or limitations that must be complied with for operation with the listed instruments or equipment item inoperative.

f) A vertical bar (change 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.

g) "Approved" means approved by the Minister.

h) "Master Minimum Equipment List" means a document approved by the Minister that establishes the aircraft equipment allowed to be inoperative under conditions specified therein for a specific type of aircraft.

i) "Minimum Equipment List" means a document approved by the Minister or Authorized Delegate that authorizes an operator to dispatch an aircraft with aircraft equipment inoperative under the conditions specified therein.

j) "Minister" means the Minister of Transport.

2.0 "Administrative Control Items" means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator's MEL provided no relief is granted, or provided conditions and limitations are contained in an approved document such as the Structural

Repair Manual. If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to Transport Canada. If the request results in review and approval, the item becomes an MMEL item rather than an administrative control item.

3.0 "Aeroplane/Rotorcraft Flight Manual" (AFM/RFM) is the document required for type certification and approved by Transport Canada. The approved AFM/RFM for the specific aircraft is listed on the applicable Type Certification Data Sheet.

4.0 "As Required by Regulations" "As required by 14 CFR", and other similar statements mean that the listed item is subject to certain provisions (restrictive or permissive) expressed in such regulations as the Canadian Aviation Regulations, Federal Aviation Regulations or the Airworthiness Manual etc. Unless the MMEL provides otherwise, the items specified by these requirements must be operative.

5.0 "Canadian Aviation Regulations" (CAR) means the applicable portions of the Canadian Aviation Act and Canadian Aviation Regulations.

6.0 Considered Inoperative. The phrase, "Considered Inoperative", as used in the provisos, means that an instrument and equipment item must be treated for dispatch, taxi and flight purposes as though it were inoperative. The item will not be used or operated until the original deferred item is repaired. Additional actions include documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures and observing the repair category.

7.0 "Dash" "-" symbol in Column 2 and/or Column 3 indicates a variable number (quantity) of the item installed or required for dispatch. This is common when a fleet MEL is used since aircraft of the same make and model may have differing numbers of specific instrument and/or equipment items installed.

8.0 "Day of discovery" is the calendar day an equipment/instrument malfunction was recorded in the aircraft maintenance record/logbook. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment, and is applicable to all MMEL items in categories A, B, C, and D.

9.0 "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.

10.0 "Deactivated and/or Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of deactivating and/or securing will be established by the operator for inclusion in his/her MEL.

11.0 "Engine Indicating Crew Alerting System (EICAS), Electronic Centralized Aircraft MMEL/MEL Policy and Procedures Manual Appendix A 50 Monitoring System (ECAM) or similar systems" that provide electronic messages refer to a system capable of providing different priority levels of systems information messages (e.g., Warning, Caution, Advisory, Status and Maintenance). An airplane discrepancy message may or may not affect dispatchability. Refer to the specific MMEL for the aircraft type.

12.0 "Excess Items" means those items installed that are excess to the requirements.

13.0 "Extended Operations (ETOPS)" means an aeroplane flight operation, other than an all-cargo operation in an aeroplane with more than two engines, on a route containing a point that is farther from an adequate aerodrome than the distance that can be flown (at an approved one-engine-inoperative cruise speed under standard conditions in still air) in 60 minutes for a two-engine aeroplane or 180 minutes for an aeroplane with more than two engines.

14.0 "Flight" means a movement of the aircraft that includes one take-off and one landing.

15.0 "Flight Day" means a 24 hour period (from midnight to midnight) either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

16.0 "Icing Conditions" means an atmospheric environment that may cause ice to form on the aircraft (structural) or in the engine(s).

17.0 "Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

18.0 Inoperative components of an inoperative system:
Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).

19.0 "Is not used" in the provisos, remarks, or exceptions for an MMEL item may specify that another item relieved in the MMEL "is not used." In such cases, crewmembers should not activate, actuate, or otherwise utilize that component or system under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operational requirements must be complied with, and 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 crewmembers that a component or system is not to be used under normal operations.

20.0 "(M)" symbol 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. Procedures requiring specialized knowledge or skill or requiring the use of tools or test equipment should be accomplished by Maintenance personnel (see (M#) Symbol below). 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.

21.0 "(M#") symbol indicates a requirement for Maintenance personnel to accomplish the maintenance procedure(s).

22.0 "Maintenance Instruction" Indicates maintenance instructions that must be accomplished prior to operation with the listed item inoperative, as per "(M)" procedure above.

23.0 "Non-Essential Equipment and Furnishings (NEF)" are items installed on an aircraft which are not required by the applicable certification design standards or operating rules. These items form part of the original type certification, supplemental type certificate, or other form of modification and if

inoperative, damaged, or missing would have no effect on the safe operation of the aircraft under all operational conditions.

24.0 "Notes" in Column 4 provide additional information for crewmember or maintenance consideration. Notes are used to identify applicable material, which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Additional notes may be amended, deleted, or added to the MEL by the aircraft operator, as appropriate. Notes are not a part of the provisos.

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

NOTE: The (M) and (O) symbols are required in the operator's MEL unless otherwise authorized by Transport Canada.

26.0 "Operative" means a system and /or component will accomplish its intended purpose and is consistently functioning normally within its design operating limit(s) and tolerance(s). When a MMEL item specifies that an item of equipment must be operative, it does not mean that its operational status must be verified; it is to be considered operative unless reported or known to be malfunctioning. When an MMEL item specifies that an item of equipment must be verified operative, it means that it must be checked out and confirmed operative at the interval(s) specified for the MMEL item. When an MMEL item specifies that an item of equipment must be verified but no interval is specified, verification is only required at the time of deferral.

27.0 Other terminology sometimes used interchangeably with "operative" within the MMEL is "operates normally", "fully operative" and "considered operative". The aircraft operator's MEL may incorporate standardized terminology of the aircraft operator's choice to specify that an item of equipment must be operative, provided that the aircraft operator's MEL definitions indicate that the selected "operative" terminology means that the required item of equipment will accomplish its intended purpose and is consistently functioning normally within its design operating limits (s) and tolerance(s).

28.0 "Passenger Convenience Items" means those items related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.

29.0 "Placarding". Each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment 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.

30.0 "Repair Intervals": All users of an MEL must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators:

i) **Category A.** Items in this category shall be repaired within the time interval specified in the "Remarks or Exceptions" column of the operator's approved MEL. Whenever the

proviso in the "Remarks or Exceptions" column of the MMEL states cycles or flight time, the time interval begins with the next flight. Whenever the time interval is listed as flight days, the time interval begins on the flight day following the day of discovery.

ii) **Category B.** Items in this category shall be repaired within three (3) consecutive calendar days, excluding the day of discovery. For example, if it were discovered at 10 a.m. on January 26, the three-day interval would begin at 0000 on January 27 and end at 2359 on January 29.

Category C. Items in this category shall be repaired within ten (10) consecutive calendar days, excluding the day of discovery. For example, if it were discovered at 10 a.m. on January 26 the ten day interval would begin at 0000 on January 27 and end at 2359 on February 5.

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

31.0 "Visual Flight Rules" (VFR) is as defined in the CARs. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

32.0 "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.

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

MOD STATUS

ATA	MODIFICATION	C-FTUW MSN 40852	C-FTUY MSN 40853	C-FTUZ MSN 40855
23	SA22-29 - Universal CVR with Internal RIPS	X	X	X
23	O-LSA24-053 - Iridium S200 SatPhone Install	X	X	X
23	P-LSA25-031D - Pax Breifing System Installation	X	X	
25	SA22-6 (ST0269LA) - AEI Passenger to Freighter conversion	X	X	X
25	ST02691LA - Ventura Aerospace 9G Barrier Wall	X	X	X
25	ST02692LA - Ancra Cargo Loading system	X	X	X
25	ST02605LA - Ancra Window Plugs	X	X	X
25	ST01184LA - Lower Cargo C class	X	X	X
25	P-LSA23-0178 Issue 1 - Cabin Combi configuration with Class C cargo	X	X	
25	SA13-44 - Issue 2 Installation, Quality Aircraft Interiors O2 Cylinder	X	X	
25	O-LSA25-070/D - Activation of Wi-Fi system and Wi-Fi TPED	X	X	
25	MAC/978 iss 39 - Cockpit USB Installation EASA Minor Mod	X	X	X
25	SA09-28 iss.6 - Under seat USB charge ports	X	X	
25	SA24-2 - Installation of Bucher 16G ATS Stretcher	X	X	
25	P-LSA24-021/D Iss 1Air Inuit Interior Modifications (G1 and equipment)	X	X	
25	(NAPA P-25-0067) - Installation of Cabin Equipment			
25	G1 Galley Modification			X
25	Cockpit Emergency Equipment Installation			X
26	ST04791NY - Conversion to Siemens Smoke detectors upper deck	X	X	X

ATA	MODIFICATION	C-FTUW MSN 40852	C-FTUY MSN 40853	C-FTUZ MSN 40855
33	10059799 R.4 - SSUL SAFTGLO Photoluminescent Floor Prox Emergency	X	X	
34	ST01268LA - Installation of Enhanced Airborne Dataloader (EADL)	X	X	X
34	SA19-31 Iss 2 - Installation of GNSS with LPV Approach/ADS-B system	X	X	X
35	Installation of O2 Bottles in Lavatories as part of Cabin Equipment STC	X	X	
44	Q-LSA25-041/D - SpaceX onboard internet installation IAW AILM 452	X	X	
57	SA03-38 (ST00830SE) - Installation of Split Scimitar Winglets	X	X	X

LIST OF EFFECTIVE PAGES

Introduction LEP

Topic	Page	Amendment	Date
Cover Page	1	Amendment 5	2026-01-08
Transport Canada Approval Letter	2	Amendment 5	2026-01-08
Company Certification	3	Amendment 5	2026-01-08
Table of Contents	4	Amendment 5	2026-01-08
	5	Amendment 5	2026-01-08
	6	Amendment 5	2026-01-08
	7	Amendment 5	2026-01-08
	8	Amendment 5	2026-01-08
	9	Amendment 5	2026-01-08
	10	Amendment 5	2026-01-08
	11	Amendment 5	2026-01-08
	12	Amendment 5	2026-01-08
	13	Amendment 5	2026-01-08
	14	Amendment 5	2026-01-08
	15	Amendment 5	2026-01-08
Amendment Procedure	16	Amendment 5	2026-01-08
Record of Amendments	16	Amendment 5	2026-01-08
Summary of Changes in Current Amendment	17	Amendment 5	2026-01-08
	18	Amendment 5	2026-01-08
	19	Amendment 5	2026-01-08
	20	Amendment 5	2026-01-08
	21	Amendment 5	2026-01-08
MEL Handling Procedures	22	Amendment 5	2026-01-08
	23	Amendment 5	2026-01-08
	24	Amendment 5	2026-01-08
	25	Amendment 5	2026-01-08
	26	Amendment 5	2026-01-08
Preamble	27	Amendment 5	2026-01-08
	28	Amendment 5	2026-01-08

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Topic	Page	Amendment	Date
Notes and Definitions	29	Amendment 5	2026-01-08
	30	Amendment 5	2026-01-08
	31	Amendment 5	2026-01-08
	32	Amendment 5	2026-01-08
	33	Amendment 5	2026-01-08
Mod Status	34	Amendment 5	2026-01-08
	35	Amendment 5	2026-01-08
LIST OF EFFECTIVE PAGES - Introduction	36	Amendment 5	2026-01-08
	37	Amendment 5	2026-01-08
LIST OF EFFECTIVE PAGES – ATA Systems	38	Amendment 5	2026-01-08
	39	Amendment 5	2026-01-08
	40	Amendment 5	2026-01-08
	41	Amendment 5	2026-01-08
	42	Amendment 5	2026-01-08
	43	Amendment 5	2026-01-08
	44	Amendment 5	2026-01-08
	45	Amendment 5	2026-01-08
	46	Amendment 5	2026-01-08
	47	Amendment 5	2026-01-08
	48	Amendment 5	2026-01-08
	49	Amendment 5	2026-01-08
	50	Amendment 5	2026-01-08
	51	Amendment 5	2026-01-08
	52	Amendment 5	2026-01-08
	53	Amendment 5	2026-01-08
	54	Amendment 5	2026-01-08
	55	Amendment 5	2026-01-08
	56	Amendment 5	2026-01-08
	57	Amendment 5	2026-01-08
	58	Amendment 5	2026-01-08
	59	Amendment 5	2026-01-08

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ATA Systems LEP

21 - Air Conditioning

Item	Page	Amendment	Date
21-01	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
21-02	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
21-03	1	Original	2024-05-31
21-05	1	Original	2024-05-31
	2	Original	2024-05-31
21-07	1	Original	2024-05-31
21-10	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
21-11	1	Original	2024-05-31
	2	Original	2024-05-31
21-12	1	Original	2024-05-31
	2	Original	2024-05-31
21-13	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
21-14	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
	5	Amendment 5	2026-01-08
21-15	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
21-16	1	Amendment 5	2026-01-08

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	2	Amendment 5	2026-01-08
21-17	1	Amendment 5	2026-01-08
21-18	1	Original	2024-05-31
21-19	1	Original	2024-05-31
	2	Original	2024-05-31
21-21	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
21-26	1	Original	2024-05-31
	2	Original	2024-05-31
21-27	1	Original	2024-05-31
	2	Original	2024-05-31
21-31	1	Original	2024-05-31
21-32	1	Original	2024-05-31
21-33	1	Original	2024-05-31
	2	Original	2024-05-31
21-34	1	Original	2024-05-31
	2	Original	2024-05-31
21-35	1	Original	2024-05-31
21-36	1	Original	2024-05-31
	2	Original	2024-05-31
21-38	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
21-39	1	Original	2024-05-31
	2	Original	2024-05-31
21-40	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
21-41	1	Amendment 5	2026-01-08
21-42	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
21-43	1	Amendment 5	2026-01-08

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21-44	1	Original	2024-05-31
21-45	1	Amendment 4	2025-10-14
	2	Amendment 4	2025-10-14
21-49	1	Amendment 5	2026-01-08
21-50	1	Original	2024-05-31
21-56	1	Amendment 5	2026-01-08

22 - Auto Flight

Item	Page	Amendment	Date
22-01	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
22-02	1	Original	2024-05-31
	2	Original	2024-05-31
22-03	1	Original	2024-05-31
22-04	1	Original	2024-05-31
22-05	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
22-08	1	Original	2024-05-31
22-11	1	Original	2024-05-31
22-14	1	Original	2024-05-31
22-15	1	Original	2024-05-31
	2	Original	2024-05-31
22-16	1	Original	2024-05-31
	2	Original	2024-05-31
22-17	1	Original	2024-05-31
22-18	1	Original	2024-05-31
	2	Original	2024-05-31
22-19	1	Original	2024-05-31
22-20	1	Original	2024-05-31

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23 - Communications

Item	Page	Amendment	Date
23-01	1	Original	2024-05-31
	2	Original	2024-05-31
23-02	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
23-03	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
23-04	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
23-06	1	Original	2024-05-31
23-09	1	Original	2024-05-31
	2	Original	2024-05-31
23-10	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
23-11	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
23-12	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
23-13	1	Original	2024-05-31
23-14	1	Original	2024-05-31
23-16	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
23-17	1	Amendment 5	2026-01-08
23-18	1	Original	2024-05-31
23-19	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
	5	Amendment 5	2026-01-08

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Item	Page	Amendment	Date
23-20	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08

24 - Electrical Power

Item	Page	Amendment	Date
24-01	1	Original	2024-05-31
	2	Original	2024-05-31
24-02	1	Original	2024-05-31
24-03	1	Original	2024-05-31
24-07	1	Original	2024-05-31
24-08	1	Original	2024-05-31
24-09	1	Original	2024-05-31
24-11	1	Original	2024-05-31
24-12	1	Original	2024-05-31
24-14	1	Original	2024-05-31
24-15	1	Original	2024-05-31
24-16	1	Original	2024-05-31
	2	Original	2024-05-31
24-17	1	Original	2024-05-31
24-18	1	Original	2024-05-31
24-19	1	Original	2024-05-31

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25 - Equipment / Furnishings

Item	Page	Amendment	Date
25-01	1	Amendment 5	2026-01-08
25-03	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
25-05	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
25-06	1	Amendment 2	2025-04-23
	2	Amendment 2	2025-04-23
25-10	1	Original	2024-05-31
25-11	1	Amendment 5	2026-01-08
25-12	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
25-16	1	Original	2024-05-31
25-17	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
25-18	1	Amendment 5	2026-01-08
25-19	1	Original	2024-05-31
25-20	1	Original	2024-05-31
25-21	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
25-22	1	Original	2024-05-31
	2	Original	2024-05-31
25-24	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
25-31	1	Amendment 5	2026-01-08
25-33	1	Original	2024-05-31

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26 - Fire Protection

Item	Page	Amendment	Date
26-01	1	Original	2024-05-31
26-02	1	Original	2024-05-31
26-03	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
26-04	1	Original	2024-05-31
	2	Original	2024-05-31
26-06	1	Original	2024-05-31
	2	Original	2024-05-31
26-07	1	Original	2024-05-31
	2	Original	2024-05-31
26-08	1	Original	2024-05-31
	2	Original	2024-05-31
26-09	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
26-10	1	Original	2024-05-31
26-12	1	Original	2024-05-31
	2	Original	2024-05-31
26-13	1	Original	2024-05-31
	2	Original	2024-05-31
26-14	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
26-15	1	Amendment 4	2025-10-14
	2	Amendment 4	2025-10-14
26-16	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
26-18	1	Original	2024-05-31
26-19	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08

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	5	Amendment 5	2026-01-08
26-25	1	Original	2024-05-31

27 - Flight Controls

Item	Page	Amendment	Date
27-04	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
27-07	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
27-08	1	Original	2024-05-31
27-10	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
27-11	1	Amendment 5	2026-01-08
27-12	1	Original	2024-05-31
	2	Original	2024-05-31
27-14	1	Original	2024-05-31
27-16	1	Original	2024-05-31
	2	Original	2024-05-31
27-17	1	Original	2024-05-31
27-20	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
27-21	1	Original	2024-05-31
	2	Original	2024-05-31
27-23	1	Amendment 5	2026-01-08
27-24	1	Original	2024-05-31

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28 - Fuel

Item	Page	Amendment	Date
28-01	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
28-02	1	Amendment 4	2025-10-14
	2	Amendment 4	2025-10-14
	3	Amendment 4	2025-10-14
28-03	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
28-04	1	Original	2024-05-31
28-05	1	Amendment 5	2026-01-08
28-06	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
	5	Original	2024-05-31
28-07	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
28-08	1	Original	2024-05-31
28-09	1	Original	2024-05-31
28-10	1	Original	2024-05-31
	2	Original	2024-05-31
28-11	1	Original	2024-05-31
28-12	1	Amendment 5	2026-01-08
28-16	1	Amendment 5	2026-01-08
28-17	1	Original	2024-05-31
28-21	1	Original	2024-05-31
28-22	1	Amendment 5	2026-01-08

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Item	Page	Amendment	Date
	2	Amendment 5	2026-01-08
28-25	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
28-26	1	Original	2024-05-31

29 - Hydraulics

Item	Page	Amendment	Date
29-02	1	Original	2024-05-31
29-03	1	Original	2024-05-31
	2	Original	2024-05-31
29-04	1	Original	2024-05-31
	2	Original	2024-05-31
29-05	1	Original	2024-05-31
	2	Original	2024-05-31
29-07	1	Original	2024-05-31
29-09	1	Amendment 5	2026-01-08
29-10	1	Original	2024-05-31
29-11	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
29-12	1	Original	2024-05-31
29-13	1	Amendment 5	2026-01-08
29-15	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
29-16	1	Original	2024-05-31
29-17	1	Original	2024-05-31
29-18	1	Original	2024-05-31

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30 - Ice and Rain Protection

Item	Page	Amendment	Date
30-01	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
30-02	1	Amendment 5	2026-01-08
30-03	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
30-04	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
30-05	1	Original	2024-05-31
	2	Original	2024-05-31
30-06	1	Original	2024-05-31
30-07	1	Original	2024-05-31
	2	Original	2024-05-31
30-08	1	Original	2024-05-31
30-09	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
30-11	1	Original	2024-05-31
	2	Original	2024-05-31
30-12	1	Original	2024-05-31
30-13	1	Original	2024-05-31
	2	Original	2024-05-31
30-15	1	Original	2024-05-31
30-17	1	Amendment 5	2026-01-08
30-18	1	Original	2024-05-31
	2	Original	2024-05-31
30-19	1	Original	2024-05-31
30-21	1	Original	2024-05-31
30-22	1	Original	2024-05-31

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31 - Indicating / Recording Systems

Item	Page	Amendment	Date
31-01	1	Original	2024-05-31
31-02	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
31-08	1	Original	2024-05-31
	2	Original	2024-05-31
31-09	1	Original	2024-05-31
31-10	1	Original	2024-05-31
31-14	1	Original	2024-05-31

32 - Landing Gear

Item	Page	Amendment	Date
32-02	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
32-03	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
32-04	1	Amendment 5	2026-01-08
32-07	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
32-08	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
32-10	1	Original	2024-05-31
	2	Original	2024-05-31
32-12	1	Amendment 5	2026-01-08
32-13	1	Original	2024-05-31
32-14	1	Original	2024-05-31
32-15	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
32-16	1	Amendment 5	2026-01-08

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Foxit PDF Editor Version: 13.1.7

Item	Page	Amendment	Date
32-17	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
32-18	1	Amendment 5	2026-01-08
32-19	1	Amendment 5	2026-01-08
32-20	1	Amendment 5	2026-01-08
32-21	1	Original	2024-05-31
	2	Original	2024-05-31

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33 - Lights

Item	Page	Amendment	Date
33-01	1	Original	2024-05-31
	2	Original	2024-05-31
33-02	1	Amendment 4	2025-10-14
33-03	1	Amendment 4	2025-10-14
	2	Amendment 4	2025-10-14
	3	Amendment 4	2025-10-14
33-04	1	Amendment 4	2025-10-14
33-05	1	Original	2024-05-31
33-06	1	Original	2024-05-31
33-07	1	Original	2024-05-31
33-08	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
33-09	1	Original	2024-05-31
33-10	1	Original	2024-05-31
33-11	1	Original	2024-05-31
33-14	1	Original	2024-05-31
	2	Original	2024-05-31
33-15	1	Original	2024-05-31
33-16	1	Amendment 5	2026-01-08
33-17	1	Original	2024-05-31
33-18	1	Original	2024-05-31
33-19	1	Amendment 4	2025-10-14
	2	Amendment 4	2025-10-14
33-20	1	Original	2024-05-31
33-21	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
33-23	1	Original	2024-05-31
33-25	1	Original	2024-05-31

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34 - Navigation

Item	Page	Amendment	Date
34-01	1	Original	2024-05-31
34-02	1	Original	2024-05-31
	2	Original	2024-05-31
34-03	1	Original	2024-05-31
34-04	1	Original	2024-05-31
	2	Original	2024-05-31
34-05	1	Original	2024-05-31
	2	Original	2024-05-31
34-07	1	Original	2024-05-31
34-11	1	Original	2024-05-31
34-12	1	Original	2024-05-31
34-13	1	Original	2024-05-31
34-14	1	Original	2024-05-31
34-15	1	Amendment 3	2025-06-17
	2	Amendment 3	2025-06-17
	3	Amendment 3	2025-06-17
34-16	1	Original	2024-05-31
34-17	1	Original	2024-05-31
	2	Original	2024-05-31
34-18	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
34-20	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
34-23	1	Original	2024-05-31
34-25	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
34-26	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08

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Item	Page	Amendment	Date
34-32	1	Original	2024-05-31
34-35	1	Original	2024-05-31
	2	Original	2024-05-31
34-36	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
34-37	1	Original	2024-05-31
34-38	1	Original	2024-05-31
34-40	1	Original	2024-05-31
	2	Original	2024-05-31
34-42	1	Original	2024-05-31
34-45	1	Original	2024-05-31
	2	Original	2024-05-31
34-48	1	Original	2024-05-31
34-49	1	Original	2024-05-31
34-54	1	Original	2024-05-31
34-55	1	Amendment 4	2025-10-14
34-62	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08

35 - Oxygen

Item	Page	Amendment	Date
35-02	1	Amendment 4	2025-10-14
	2	Amendment 4	2025-10-14
35-03	1	Original	2024-05-31
	2	Original	2024-05-31
35-04	1	Original	2024-05-31
	2	Original	2024-05-31
35-05	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08

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35-06	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08

36 - Pneumatics

Item	Page	Amendment	Date
36-01	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
36-02	1	Original	2024-05-31
	2	Original	2024-05-31
36-03	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
36-04	1	Original	2024-05-31
36-05	1	Original	2024-05-31
	2	Original	2024-05-31
36-06	1	Original	2024-05-31
36-08	1	Original	2024-05-31
	2	Original	2024-05-31
36-09	1	Original	2024-05-31
	2	Original	2024-05-31

38 - Water / Waste

Item	Page	Amendment	Date
38-01	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
38-02	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
38-04	1	Amendment 5	2026-01-08

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44 - CABIN SYSTEMS

Item	Page	Amendment	Date
44-20	1	Amendment 5	2026-01-08

46 - INFORMATION SYSTEMS

Item	Page	Amendment	Date
46-01	1	Amendment 4	2025-10-14

47 - Inert Gas System

Item	Page	Amendment	Date
47-01	1	Original	2024-05-31

49 - Airborne Auxiliary Power

Item	Page	Amendment	Date
49-01	1	Original	2024-05-31
	2	Original	2024-05-31
49-02	1	Original	2024-05-31
49-04	1	Amendment 5	2026-01-08
49-05	1	Original	2024-05-31
49-06	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
49-07	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
49-08	1	Original	2024-05-31
49-09	1	Original	2024-05-31
	2	Original	2024-05-31
49-12	1	Original	2024-05-31
49-15	1	Amendment 5	2026-01-08
49-16	1	Original	2024-05-31
	2	Original	2024-05-31

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52 - Doors

Item	Page	Amendment	Date
52-03	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
	5	Amendment 5	2026-01-08
	6	Amendment 5	2026-01-08
	7	Amendment 5	2026-01-08
	8	Amendment 5	2026-01-08
52-05	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
	4	Amendment 5	2026-01-08
52-06	1	Original	2024-05-31
	2	Original	2024-05-31
52-07	1	Original	2024-05-31
52-09	1	Original	2024-05-31
52-13	1	Amendment 5	2026-01-08
52-14	1	Original	2024-05-31
52-15	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
	3	Amendment 5	2026-01-08
52-16	1	Amendment 5	2026-01-08
	2	Amendment 5	2026-01-08
52-17	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31
	4	Original	2024-05-31
52-18	1	Original	2024-05-31
52-20	1	Original	2024-05-31
52-22	1	Original	2024-05-31
52-23	1	Amendment 4	2025-10-14

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Item	Page	Amendment	Date
52-25	1	Original	2024-05-31

73 - Engine Fuel and Control

Item	Page	Amendment	Date
73-04	1	Original	2024-05-31
	2	Original	2024-05-31
73-05	1	Original	2024-05-31
73-06	1	Original	2024-05-31
73-10	1	Original	2024-05-31
73-11	1	Original	2024-05-31
73-12	1	Original	2024-05-31

74 - Engine Ignition

Item	Page	Amendment	Date
74-01	1	Original	2024-05-31
	2	Original	2024-05-31
	3	Original	2024-05-31

77 - Engine Indicating

Item	Page	Amendment	Date
77-02	1	Original	2024-05-31
77-05	1	Original	2024-05-31
77-09	1	Original	2024-05-31

78 – Engine Exhaust

Item	Page	Amendment	Date
78-01	1	Original	2024-05-31
	2	Original	2024-05-31
78-07	1	Original	2024-05-31

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79 - Engine Oil

Item	Page	Amendment	Date
79-01	1	Original	2024-05-31
79-02	1	Original	2024-05-31
	2	Original	2024-05-31
79-04	1	Original	2024-05-31

80 - Starting

Item	Page	Amendment	Date
80-01	1	Original	2024-05-31
	2	Original	2024-05-31
80-02	1	Original	2024-05-31
80-03	1	Original	2024-05-31

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21 – AIR CONDITIONING

21-01 Air Conditioning Packs

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-01	Air Conditioning Packs				
21-01-08	All Cargo Configuration (STC ST02690LA) **Applicable to: C-FTUZ**				
21-01-08A	One Pack Inoperative Flight altitude remains at or below FL250	C	2	1	(O) Except for ETOPS, one may be inoperative provided flight altitude remains at or below FL 250.
21-01-08B	Both Packs Inoperative	C	2	0	(M)(O) Except for ETOPS, may be inoperative provided: a) Flight is conducted in an unpressurized configuration, and b) Procedures are established and used to ensure main deck cargo compartment and lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.
21-01-09	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
21-01-09A	Right Pack Inoperative	C	2	1	(O) Right pack may be inoperative provided flight altitude remains at or below FL 250.

21-01-09B	Left Pack Inoperative	C	2	1	(O) Left pack may be inoperative provided: a) Flight altitude remains at or below FL250, and b) Procedures are established and used to ensure main deck cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker adjacent to associated Pack Selector Switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

21-01-08A: One Pack Inoperative

(L) or (R) PACK INOP. LIMIT ALTITUDE TO FL 250.

21-01-08B: Both Air Conditioning Packs Inoperative

BOTH PACKS INOP. LIMIT ALTITUDE TO 10,000 FT.

21-01-09A: Right Pack Inoperative OR 21-01-09B: Left Pack Inoperative

(L) or (R) PACK INOP. LIMIT ALTITUDE TO FL 250

(M) MAINTENANCE PROCEDURES:

21-01-08B: Both Packs Inoperative

Manually position the outflow valve in the full open position.

Position the Pressurization Mode selector to MAN.

Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

21-01-08A: One Pack Inoperative

1. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   a) Determine V1 (MCG) based on engine bleed for packs OFF.
   b) Determine takeoff performance based on packs AUTO.

2. Limit altitude to FL 250.
3. Position the associated PACK switch to OFF.
4. Position the ISOLATION VALVE switch to CLOSE after starting engines.
5. If desired, for increased air flow when the flaps are extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   a) Right Pack Inoperative:
      i) Do the Supplementary Procedure - Air Systems "No Engine Bleed Takeoff and Landing" (Refer to the Flight Crew Operations Manual).

         NOTE: Keep the pack switch for the right (inoperative) pack in the OFF position and the ISOLATION VALVE switch in the CLOSE position.

   b) Left pack inoperative – PRIOR to takeoff or landing:
      i) Engine No. 1 BLEED air switch to OFF
      ii) R PACK switch to AUTO
      iii) L PACK switch to OFF
      iv) ISOLATION VALVE switch to OPEN
      v) Engine No. 2 BLEED air switch to OFF
      vi) APU BLEED air switch to ON.
   c) Left pack inoperative - AFTER takeoff or landing:
      vii) APU BLEED air switch to OFF
      viii) Engine No. 2 BLEED air switch to ON
      ix) ISOLATION VALVE switch to CLOSE
      x) Engine No. 1 BLEED air switch to ON.

<u>21-01-08B: Both Packs Inoperative</u>

Main deck cargo compartment must be or verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits.

1. Limit altitude to 10,000 ft. for crew without oxygen.
2. Flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the fully open position.
4. Position the ISOLATION VALVE switch to CLOSE after starting engines.
5. To improve main cargo compartment and crew compartment temperatures:
   a) If possible, pre-condition the cabin to a low temperature prior to dispatch. A low initial cabin temperature will result in a lower peak temperature.
   b) Maintain the highest allowable flight altitude
   c) Minimize cabin heat by pulling the shades down and turning off unnecessary lights.
   d) Position RECIRC FAN switch to AUTO.

NOTE 1: Prolonged operation at TAT below 10 degrees C / 50 degrees F can cause freezing of unheated water systems located in the aft lower lobe (if installed).

NOTE 2: Operation at TAT above 32 degrees C / 90 degrees F is not recommended due to the resulting high temperatures in the main cargo compartment and crew cabin.

21-01-09A: Right Pack Inoperative OR 21-01-09B: Left Pack Inoperative

1. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   a) Determine V1 (MCG) based on engine bleed for packs OFF.
   b) Determine takeoff performance based on packs AUTO.
2. Limit altitude to FL 250.
3. Position the associated PACK switch to OFF.
4. Position the ISOLATION VALVE switch to CLOSE after starting engines.
5. If desired, for increased air flow when the flaps are extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   a) Right Pack Inoperative:
      i) Do the Supplementary Procedure - Air Systems "No Engine Bleed Takeoff and Landing" (Refer to the Flight Crew Operations Manual).

      NOTE: Keep the pack switch for the right (inoperative) pack in the OFF position and the ISOLATION VALVE switch in the CLOSE position.

   b) Left pack inoperative – PRIOR to takeoff or landing:
      i) Engine No. 1 BLEED air switch to OFF
      ii) R PACK switch to AUTO
      iii) L PACK switch to OFF
      iv) ISOLATION VALVE switch to OPEN
      v) Engine No. 2 BLEED air switch to OFF
      vi) APU BLEED air switch to ON.
   c) Left pack inoperative - AFTER takeoff or landing:
      i) APU BLEED air switch to OFF
      ii) Engine No. 2 BLEED air switch to ON
      iii) ISOLATION VALVE switch to CLOSE

21-02 Pack Air Flow/Shutoff Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-02	Pack Air Flow/Shutoff Valves	C	2	0	(M#)(O) May be inoperative deactivated closed.
21-02-01	High Flow Mode	C	2	0	
21-02-02	APU High Flow Mode	C	2	0	
21-02-04	Position Indicator Switch Discrete Signal				
21-02-04A		C	2	1	(O) May be inoperative failed open provided both air conditioning packs operate normally.
21-02-04B		C	2	1	O) May be inoperative failed closed provided both air conditioning packs operate normally.

PLACARDING:

Apply sticker adjacent to the affected pack switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One Pack Shutoff Valve Inoperative:

  (L) (R) PACK INOP. LIMIT ALTITUDE TO FL 250
- Condition 2 - Two Pack Shutoff Valves Inoperative:

  BOTH PACKS INOP. LIMIT ALTITUDE TO 10,000 FT.
- Condition 3 - High Flow Modes / Position Signal Discrete Inoperative:

  (L)(R)(BOTH)(APU) HIGH FLOW MODE(S) INOP

  or

  (L)(R) POSITION INDICATOR SWITCH DISCRETE SIGNAL FAILED (OPEN/CLOSED)

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

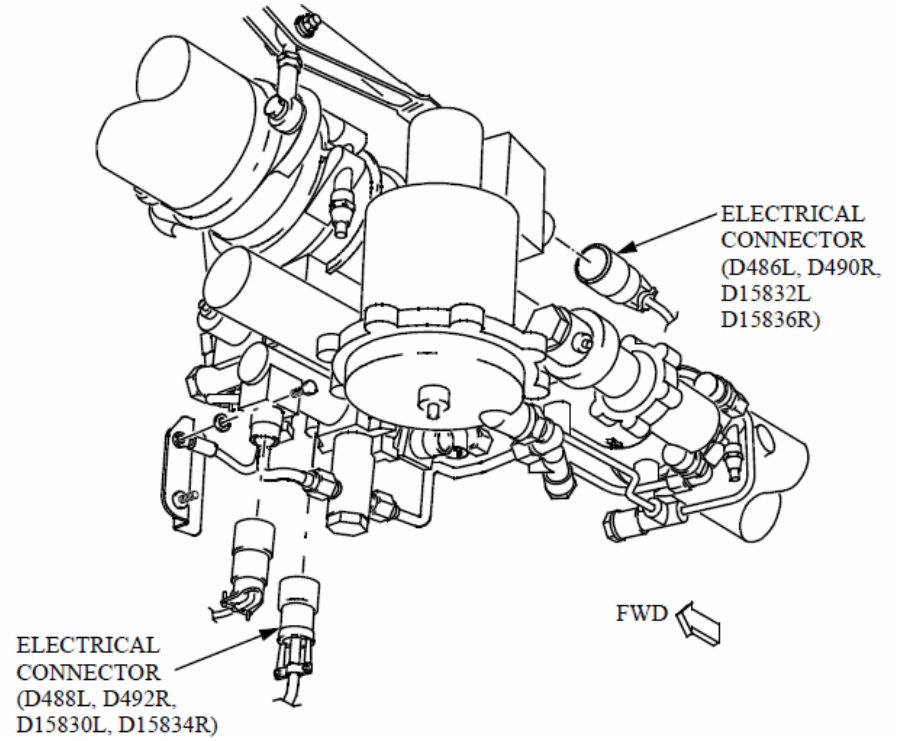
21-02 Deactivated Closed:

NOTE: For a pack airflow shutoff valve deactivated closed, the associated pack is considered inoperative. The airplane must also be dispatched using MEL item 21-01.

Deactivate and close the associated flow control and shutoff valve(s) (AMM 21-00-00/901):

1. Remove pressure from the pneumatic system.
2. Gain access to the inoperative flow control and shutoff valve located in the air conditioning bay.
3. For the left flow control and shutoff valve, disconnect, cap and stow the D488 or D15830 electrical connector.
4. For the right flow control and shutoff valve, disconnect, cap and stow the D492 or D15834 electrical connector.
5. If the left flow control and shutoff valve limit switch has failed in the OPEN position:
   a) Disconnect the electrical connector D486 or D15832.
   b) Insert a jumper between pins 1 and 3.
   c) Make sure there is continuity to airplane ground at pin 3.
   d) Cap and stow connector D486 or D15832.
6. If the right flow control and shutoff valve limit switch has failed in the OPEN position:
   a) Disconnect the electrical connector D490 or D15836.
   b) Insert a jumper between pins 1 and 3.
   c) Make sure there is continuity to airplane ground at pin 3.
   d) Cap and stow connector D490 or D15836.
7. Push in the manual control shaft. If already in, pull out and push back in to verify that the plunger is in.
8. If both flow control and shutoff valves are inoperative:
   a) Manually position the outflow valve in the full open position:
      i) Position the Pressurization Mode selector to MAN.
      ii) Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.
   b) Open and collar the P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.
   c) Position one of the PACK switches in HIGH.
   d) For passenger cabin telecommunications system installed, open and collar P6-1 Panel circuit breaker ENTERTAINMENT PASS TEL CTU.

Continued...



(O) OPERATIONS PROCEDURES:

21-02 Deactivated Closed:

1. For a pack airflow shutoff valve deactivated closed, the associated pack is considered inoperative. The airplane must also be dispatched using MEL item 21-01.

21-02-04A Position Indicator Switch Discrete Signal Failed Open:

1. Normal takeoff, engine BLEED air switches ON:
   a) Discrete failed open (pack ON signaled to EEC/FMC):
      i) Normal engine bleed on takeoff N1 target displayed.
      ii) Airplane performance dispatch is calculated assuming packs ON.
2. No engine bleed takeoff:
   a) Discrete failed open (pack ON signaled to EEC/FMC):
      i) No engine bleed takeoff N1 target displayed.
      ii) Airplane performance dispatch is calculated assuming packs OFF.
3. In-Flight:
   a) Discrete failed open (pack ON signaled to EEC/FMC):
      i) Normal engine bleed on N1 target displayed.

Continued...

21-02-04B Position Indicator Switch Discrete Signal Failed Closed:

1. Normal takeoff, engine BLEED air switches ON:
   a) Discrete failed closed (pack OFF signaled to EEC/FMC)
      i) FMC target will be too high, resulting in engine overboost and increased likelihood of EGT or N2 exceedance.
         a) Do not use autothrottle.
         b) Manually calculate and set takeoff N1 based on engine bleeds on.
         c) Airplane performance dispatch is calculated assuming packs ON.
2. No engine bleed takeoff:
   a) Discrete failed closed (pack OFF signaled to EEC/FMC):
      i) A no engine bleed takeoff is not allowed.
3. In-Flight:
   a) Discrete failed closed (pack OFF signaled to EEC/FMC):
      i) FMC target will be too high, resulting in engine overboost and increased likelihood of EGT or N2 exceedance.
         a) Do not use autothrottle.
         b) Manually calculate and set N1 based on engine bleeds on.
         c) Observe normal engine bleed on for en-route climb and go-around AFM performance limits.

21-03 Pack Trip Warning Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-03	Pack Trip Warning Systems	C	2	0	(M)(O) May be inoperative provided associated pack is not used.

NOTE: MEL item 21-01 restrictions for inoperative pack(s) must be observed.

PLACARDING:

Apply sticker adjacent to associated Pack Selector Switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1: One Air Conditioning Pack Inoperative:

  (L) (R) PACK INOP. LIMIT ALTITUDE TO FL 250

- Condition 2 - Both Air Conditioning Packs Inoperative:

  BOTH PACKS INOP. UNPRESSURIZED FLIGHT

(M) MAINTENANCE PROCEDURES:

Use MEL item 21-01 (M) procedure for one or two packs inoperative, as applicable.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Use MEL item 21-01 (O) procedure for one or two packs inoperative, as applicable.

21-05 Pack Ram Air Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-05	Pack Ram Air Systems	C	2	0	(M#)(O) May be inoperative in FLIGHT OPEN position provided: a) Operations are not conducted on runways covered with slush or on gravel runways, and b) Associated pack is not operated during takeoff or landing on wet runways or runways with standing water.

PLACARDING:

Apply sticker adjacent to associated pack switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L)(R)(BOTH) PACK RAM AIR SYSTEM(S) INOP IN FLIGHT OPEN POSITION

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Deactivate the ram air modulating system in the flight open position (AMM 21-00-00/901).

1. Open and collar the associated circuit breakers:
   a) AIR CONDITIONING RAM AIR MOD LEFT(RIGHT)
   b) AIR CONDITIONING RAM AIR MOD CONT L(R)
2. Open the associated ram air actuator panel.
3. Disconnect and stow the electrical connector.
4. Remove bolt, washers and nut that connect the actuator rod end to the bellcrank.
5. Disconnect the actuator rod end from bell crank and reinstall and tighten the bolt, washers and nut in the bellcrank.
6. Rotate the bellcrank to align the rigging pin holes on the shaft assembly with the holes on the bearing housing support.
7. Install a bolt (BACB30UU3P36D or equivalent) through the rigging pin holes.

Continued...

8. Install a nut (BACN10JD3 or equivalent) and cotter pin (BACP18BC01D06P or equivalent) on bolt.
9. Use safety wire to secure the actuator rod end to the attached bolt in the bellcrank.
10. Close the ram air actuator panel.
11. Close the associated circuit breakers:
    a) AIR CONDITIONING RAM AIR MOD LEFT(RIGHT)
    b) AIR CONDITIONING RAM AIR MOD CONT L(R)

(O) OPERATIONS PROCEDURES:

NOTE: With the ram air modulating system deactivated, the AIR COND light and the associated PACK light may or may not illuminate during Master Caution recall. If illuminated, the AIR COND and associated PACK light will extinguish when reset.

1. During takeoff and landing when operating on wet runways or on runways with standing water:
    a) Position associated PACK switch(es) to OFF.
    b) Position the ISOLATION VALVE switch to CLOSE.
2. When dispatching with one operating pack supplied by engine bleed air on takeoff:
    a) Determine V1(MCG) based on engine bleed for packs OFF.
    b) Determine takeoff performance based on packs AUTO.
3. For each inoperative Pack Ram Air System, use these performance penalties to account for the increased drag with the ram air inlet door inoperative in the FLIGHT OPEN position:

MODEL	ENROUTE CLIMB	FUEL MILEAGE
-800	140lb (64 kg)	0.4%

NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor.

Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

21-07 RAM DOOR FULL OPEN Indicating Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-07	RAM DOOR FULL OPEN Indicating Lights	C	2	0	

PLACARDING:

Apply sticker on or adjacent to affected indicating light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L) (R) OR (BOTH) RAM DOOR FULL OPEN INDICATING LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

21-10 Cabin Rate of Climb Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-10	Cabin Rate of Climb Indicator				
21-10-02	Digital Control System	C	1	0	May be inoperative provided AUTO and ALTN control modes operate normally.
21-10-02-03		C	1	0	(M)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). c) Outflow valve is positioned to 25% open position, and d) Recirculation fan(s) operates normally except for -800BCF airplane. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker adjacent to Cabin Rate of Climb Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Pressurized Flight:

  CABIN RATE OF CLIMB INDICATOR INOP

- Condition 2 - Un-pressurized Flight:

  CABIN RATE OF CLIMB INDICATOR INOP - DO NOT PRESSURIZE

(M) MAINTENANCE PROCEDURES:

Configure the airplane for unpressurized flight.

1. Manually position the outflow valve in the 25% open position:
   a) Position the Pressurization Mode selector to MAN.
   b) Hold the VALVE toggle switch in the OPEN or CLOSE position until valve position indicator indicates 25% open.
2. Open and collar P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the 25% open position.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   a) Determine V1(MCG) based on engine bleed for packs OFF.
   b) Determine takeoff performance based on packs AUTO.
6. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
7. Operators must establish and use procedures to verify the lower forward cargo compartment remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) and/or fly away kits (Engine Covers, Tool Kit and Strap Kit).

NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

21-11 Cabin Altitude Warning System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-11	Cabin Altitude Warning System	C	1	0	May be inoperative provided flight altitude remains at or below 10,000 ft. MSL.
21-11-01	High Altitude Warning System	C	1	0	May be inoperative provided procedures do not require its use.
21-11-02	CABIN ALTITUDE Light				
21-11-02-03		C	2	1	(O) May be inoperative provided: a) Associated TAKEOFF CONFIG warning light operates normally; and b) Before engine start for the first flight of the day, or following any change of either flight crew member, the flight crew performs a briefing on cabin altitude warning indications and procedures.

PLACARDING:

Apply sticker to pressurization control panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Cabin Altitude Warning System Inop:

  CABIN ALTITUDE WARNING SYSTEM INOP, DO NOT EXCEED 10,000 FT

- Condition 2 - Cabin Altitude Warning Light Inop:

  CABIN ALTITUDE WARNING LIGHT INOP, TAKEOFF BRIEFING REQUIRED

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTES:

Advise Dispatch. Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Cabin altitude warning indications and procedures must be included in the takeoff briefing conducted by the flight crew before engine start. This briefing must include the following:

Whenever the intermittent warning horn sounds in flight at an airplane flight altitude above 10,000 feet MSL:

1. Immediately don oxygen masks and set regulators to 100%.
2. Establish crew communications.
3. Do the Cabin Altitude Warning or Rapid Depressurization non-normal checklist.

Both pilots must verify on the overhead Cabin Altitude panel that the cabin altitude is stabilized below 10,000 feet before removing oxygen masks. Whenever the intermittent warning horn sounds on the ground, confirm the airplane is properly configured for takeoff.

21-12 Cabin Altitude Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-12	Cabin Altitude Indicator				
21-12-02	Digital Control System	C	1	0	May be inoperative provided: a) Cabin differential pressure indicator operates normally, and b) A chart is provided to crew to convert differential pressure to cabin altitude.
21-12-02-03		C	1	0	(M)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). c) Outflow valve is positioned to 25% open position, and d) Recirculation fan(s) operates normally except for -800BCF airplane. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING

Apply sticker adjacent to Cabin Altitude Indicator.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

- Condition 1 - Pressurized Flight:

  CABIN ALTITUDE INDICATOR INOP. USE CHART TO DETERMINE CABIN ALTITUDE

- Condition 2 - Un-pressurized Flight:

  CABIN ALTITUDE INDICATOR INOP - DO NOT PRESSURIZE

(M) MAINTENANCE PROCEDURES

21-12-02-03: Unpressurized Flight

Use MEL item 21-10-02-03 (M) procedure.

(M#) MAINTENANCE PROCEDURES

None required.

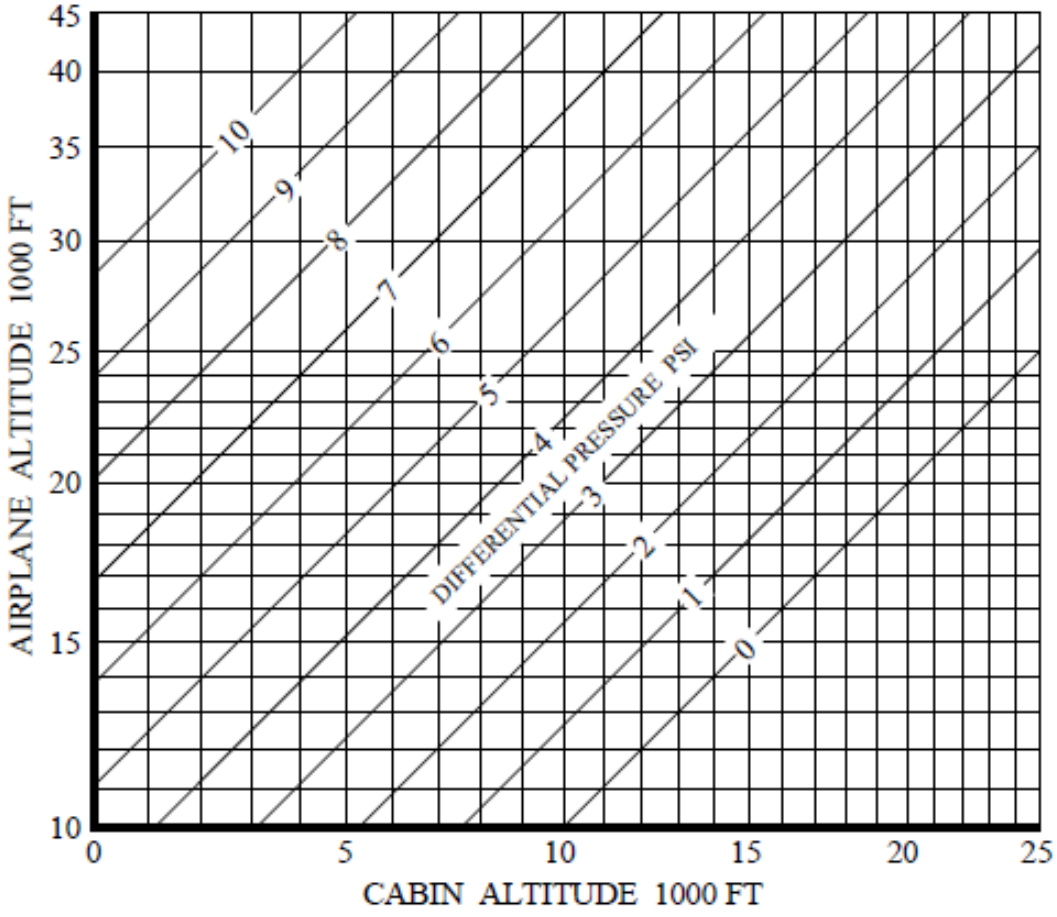
(O) OPERATIONS PROCEDURES

21-12-02-03: Unpressurized Flight

Use MEL item 21-10-02-03 (O) procedure.

OPERATIONS NOTE

The chart below can be used to convert differential pressure to cabin altitude:



21-13 Cabin Differential Pressure Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-13	Cabin Differential Pressure Indicator				
21-13-02		C	1	0	May be inoperative provided: a) Cabin altitude indicator operates normally, and b) A chart is provided to crew to convert cabin altitude to differential pressure.
21-13-02-03		C	1	0	(M)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). c) Outflow valve is positioned to 25% open position, and d) Recirculation fan(s) operates normally except for -800BCF airplane. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING

Apply sticker adjacent to Cabin Differential Pressure Indicator.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

- Condition 1 - Pressurized Flight:

  CABIN DIFFERENTIAL PRESSURE INDICATOR INOP. USE CHART TO DETERMINE CABIN PRESSURE

- Condition 2 - Un-pressurized Flight:

  CABIN DIFFERENTIAL PRESSURE INDICATOR INOP - DO NOT PRESSURIZE

(M) MAINTENANCE PROCEDURES

21-13-02-03 Unpressurized flight

Use MEL item 21-10-02-03 (M) procedure.

(M#) MAINTENANCE PROCEDURES

None required.

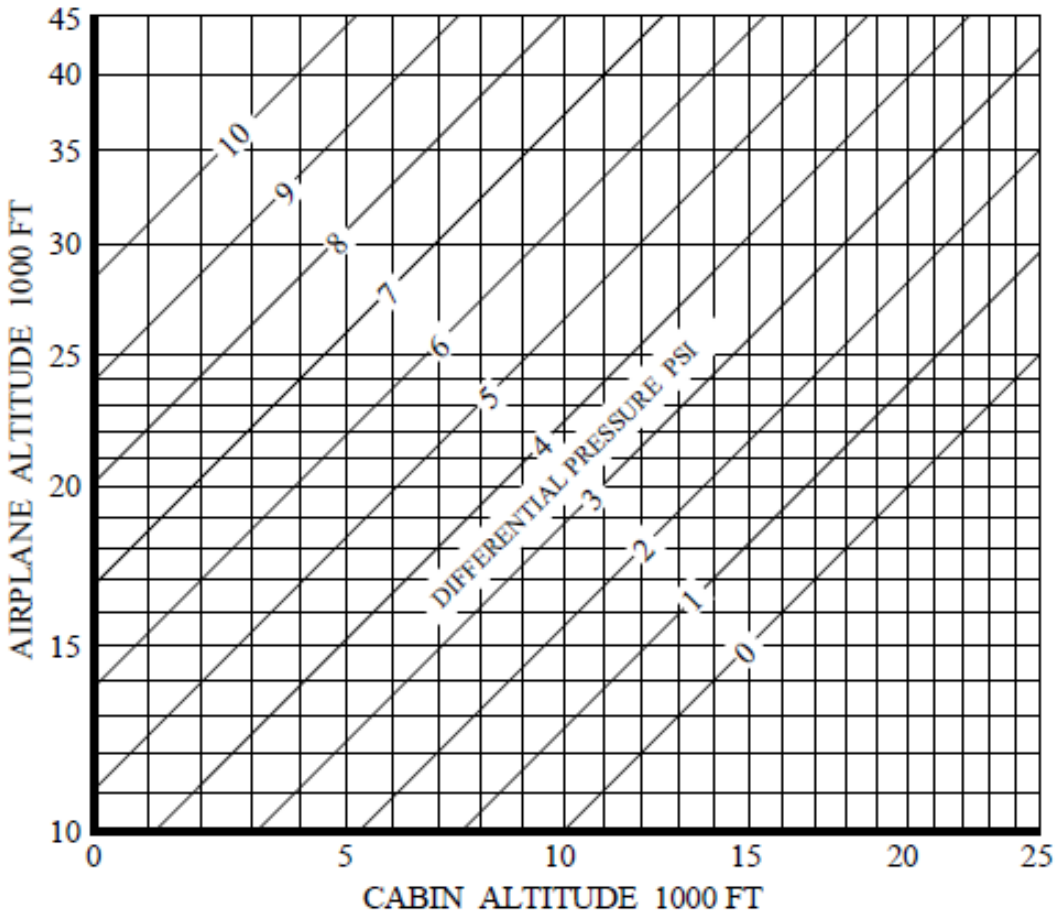
(O) OPERATIONS PROCEDURES

21-13-02-03 Unpressurized flight

Use MEL item 21-10-02-03 (O) procedure.

OPERATIONS NOTE

The chart below can be used to convert cabin altitude to differential pressure:


AIRPLANE ALTITUDE 1000 FT
45
40
35
30
25
20
15
10
0
5
10
15
20
25
CABIN ALTITUDE 1000 FT
DIFFERENTIAL PRESSURE PSI
10
9
8
7
6
5
4
3
2
1
0

21-14 Cabin Differential Pressure Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-14	Cabin Pressure Control System				
21-14-03	Digital Control System Automatic Modes	C	2	1	(M)(O) May be inoperative provided: a) Manual mode operates normally, and b) Inoperative controller is deactivated.
21-14-03-03		C	2	0	(M#)(O) May be inoperative for unpressurized flight provided: a) Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), b) Outflow valve is deactivated in 25% open position or removed, c) Recirculation fans operate normally, and d) Extended overwater flight is prohibited. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

Continued...

21-14-04	Digital Control System Manual Mode			
21-14-04-03	C	1	0	(M#) (O) May be inoperative for unpressurized flight provided: a) Procedures are established and used to ensure lower forward cargo compartment and main deck cargo compartment remain empty or are verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits (Engine Covers, Tool Kit and Strap Kit), b) Outflow valve is deactivated in 25% open position or removed, c) Recirculation fan(s) operate normally, and d) Extended overwater flight is prohibited. NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

NOTE: Some DCPCS faults indicated by an AUTO FAIL Light are recoverable. Momentarily re-position the Pressurization Mode Selector to MAN and then back to AUTO. If the AUTO FAIL light remains extinguished with the Pressurization Mode Selector in AUTO, the fault has been corrected and the controller is operating normally.

PLACARDING

Apply sticker adjacent to affected Pressurization Mode Selector position(s).

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

- Condition 1 - Automatic Mode Inoperative

  ONE AUTOMATIC CABIN PRESSURE CONTROL SYSTEM MODE INOP - USE ALTN MODE

- Condition 2 - Automatic Pressurization System Modes Inoperative

  CABIN PRESSURIZATION SYSTEM INOP. DO NOT PRESSURIZE.

- Condition 3 – Pressurization Control Manual Mode Inoperative

  CABIN PRESSURIZATION SYSTEM INOP. DO NOT PRESSURIZE.

MAINTENANCE (M)

21-14-03 One Automatic Modes Inoperative - Pressurized Flight Permitted:

Deactivate the inoperative cabin pressure controller (AMM 21-00-00/901):

1. Open and collar the associated P6-4 panel circuit breaker:

   PRESSURIZATION CONTROL-AUTO 1 or AUTO 2.

(M#) MAINTENANCE PROCEDURES

21-14-03-03 Automatic Modes Inoperative - Unpressurized Flight:

1. Configure airplane for unpressurized flight (AMM 21-00-00/901):
   a) Manually position the outflow valve in the 25% open position:
      i) Position the Pressurization Mode selector to MAN.
      ii) Hold the VALVE toggle switch in the OPEN or CLOSE position until valve position indicator indicates 25% open.
      iii) Open and collar these P6-4 panel circuit breakers:
         a) A/C OVERBOARD EXH VALVE RECONFIG CONT.
         b) PRESSURIZATION CONTROL AUTO 1
         c) PRESSURIZATION CONTROL AUTO 2
   b) If the outflow valve cannot be positioned to the 25% open position:
      i) Open and collar these P6-4 panel circuit breakers:
         a) PRESSURIZATION CONTROL MANUAL
         b) PRESSURIZATION CONTROL AUTO 1
         c) PRESSURIZATION CONTROL AUTO 2
         d) PRESSURIZATION CONTROL IND
         e) PRESSURIZATION CONTROL LCD LTG
      ii) Remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.
      iii) Open and collar this P6-4 panel circuit breaker:
         a) A/C OVERBOARD EXH VALVE RECONFIG CONT.

Continued...

21-14-04-03 Manual Mode Inoperative - Unpressurized Flight:

Configure airplane for unpressurized flight (AMM 21-00-00/901):

1. Position the outflow valve in the 25% open position:
   a) Set parking brake.
   b) Start both engines (AMM 71-00-00/201).
   c) Run the engines for two minutes to allow them to stabilize.
   d) Advance thrust levers as necessary to make sure that N1 is greater than 60% and N2 is greater than 89%.
   e) Monitor the outflow valve position indicator as it goes to the closed position.
   f) When the outflow valve is in the 25% position, open and collar these P6-4 panel circuit breakers:
      1. PRESSURIZATION CONTROL AUTO 1
      2. PRESSURIZATION CONTROL AUTO 2
   g) Retard thrust levers and shut down both engines.
   h) Open and collar this P6-4 panel circuit breaker:
      1. A/C OVERBOARD EXH VALVE RECONFIG CONT
2. If the outflow valve cannot be positioned to the 25% open position:
   a) Open and collar these P-6 panel circuit breakers:
      1. PRESSURIZATION CONTROL MANUAL
      2. PRESSURIZATION CONTROL AUTO 1
      3. PRESSURIZATION CONTROL AUTO 2
      4. PRESSURIZATION CONTROL IND
      5. PRESSURIZATION CONTROL LCD LTG
   b) Remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.
   c) Open and collar this P6-4 panel circuit breaker:
      1. A/C OVERBOARD EXH VALVE RECONFIG CONT

Continued...

OPERATIONS (O)

21-14-03 One Automatic Modes Inoperative - Pressurized Flight Permitted:

1. Normal operation of manual mode may be confirmed as follows:
   a) Position the Pressurization Mode Selector to MAN.
   b) Use the VALVE toggle switch to observe that the outflow valve position indicator moves to full open, to full closed and then back to full open.
2. Position the Pressurization Mode Selector to ALTN prior to dispatch.

NOTE: Subsequent illumination of the AUTO FAIL light during flight requires positioning the Pressurization Mode Selector to MAN for manual mode operation.

21-14-03-03 Automatic Modes Inoperative - Unpressurized Flight:

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   a) Determine V1(MCG) based on engine bleed for packs OFF.
   b) Determine takeoff performance based on packs AUTO.
6. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
7. During the walk around, flight crew will verify the lower forward cargo compartment is empty or only contains empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit).

21-14-04-03 Manual Mode Inoperative - Unpressurized Flight:

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   a) Determine V1(MCG) based on engine bleed for packs OFF.
   b) Determine takeoff performance based on packs AUTO.
6. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
7. During the walk around, flight crew will verify the cargo hold is empty or only contains empty cargo handling equipment.

21-15 Main Outflow Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-15	Main Outflow Valve				
21-15-02	Digital Control System Outflow Valve Automatic Mode Actuators				
21-15-02-02		C	2	1	One may be inoperative provided manual mode actuator operates normally.
21-15-02-04		C	2	0	(M#)(O) May be inoperative for unpressurized flight provided: a) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), b) Outflow valve is deactivated in 25% open position or removed, c) Recirculation fan(s) operates normally except for -800BCF airplane, and d) Extended overwater flight is prohibited. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

21-15-03	Digital Control System Outflow Valve Manual Mode Actuator				
21-15-03-03		C	1	0	(M#)(O) May be inoperative for unpressurized flight provided: a) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), b) Outflow valve is deactivated in 25% open position or removed, c) Recirculation fans operate normally, and d) Extended overwater flight is prohibited. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker adjacent to affected Pressurization Mode Selector.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One Outflow Valve Automatic Mode Actuator Inoperative

  OUTFLOW VALVE AUTOMATIC MODE ACTUATOR INOP

- Condition 2 - One or Both Outflow Valve Automatic Modes Inoperative - Unpressurized Flight Only

  OUTFLOW VALVE - OPERATE UNPRESSURIZED - EXTENDED OVERWATER FLIGHT PROHIBITED

- Condition 3 - Outflow Valve Manual Mode Inoperative - Unpressurized Flight Only

  OUTFLOW VALVE INOP - OPERATE UNPRESSURIZED - EXTENDED OVERWATER FLIGHT PROHIBITED

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE (M) PROCEDURES

21-15-02-04:

Use MEL item 21-14-03-03 (M) procedure.

21-15-03-03:

Use MEL item 21-14-04-03 (M) procedure.

OPERATIONS (O) PROCEDURES

21-15-02-04:

Use MEL item 21-14-03-03 (O) procedure.

21-15-03-03:

Use MEL item 21-14-04-03 (O) procedure.

21-16 Pressure Relief Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-16	Pressure Relief Valves				
21-16-02	Digital Control System	C	2	1	(M#) One may be inoperative closed for pressurized flight.
21-16-02-03		C	2	0	(M#)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), c) Outflow valve is positioned to 25% open position, and d) Recirculation fan(s) operates normally except for -800BCF airplane. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker adjacent to Cabin Altitude/Differential Pressure Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One Pressure Relief Valve Inoperative

  ONE PRESSURE RELIEF VALVE INOP

- Condition 2 - Both Pressure Relief Valves Inoperative - Unpressurized Flight Only

  PRESSURE RELIEF VALVES INOP - OPERATE UNPRESSURIZED

MAINTENANCE (M) PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

21-16-02 Pressurized Flight

Install a blanking plate in place of the inoperative pressure relief valve (AMM 21-00-00/901):

1. Remove the aft bulkhead liner in the aft cargo compartment.
2. Remove the pressure relief valve (AMM 21-32-01/401).
3. Retain the clamp and the gasket.
4. Using the gasket as a template, make a blanking plate from 0.125 - 0.1875 inch (3.17 - 4.76 mm) 2024 T3 aluminum to seal the pedestal. Make sure holes are drilled through the blanking plate to accept locating pins and ambient sense tube.
5. Apply lubricant to both sides of the gasket.
6. Install the gasket, blanking plate, and clamp on the pedestal.
7. Put an airtight cap on the ambient sense tube.
8. Install the aft bulkhead liner in the aft cargo compartment.

21-16-02-03 Unpressurized Flight:

Use MEL item 21-10-02-03 (M) procedure.

(O) OPERATIONS PROCEDURES

21-16-02-03 Unpressurized Flight:

Use MEL item 21-10-02-03 (O) procedure.

21-17 Temperature Indicators

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-17	Temperature Indicators				
21-17-02	Supply Duct	C	3	0	May be inoperative provided associated ZONE TEMP light operates normally.
21-17-03	Pass Cabin	C	2	0	
21-17-04	Pack	C	2	0	

PLACARDING:

Apply sticker adjacent to affected Temperature Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(SUPPLY DUCT) (PASS CABIN) (PACK) TEMPERATURE INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

21-18 Duct Overheat Warning Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-18	Duct Overheat Warning Lights				
21-18-02	ZONE TEMP	C	3	0	May be inoperative provided associated supply duct temperature indicator operates normally.

PLACARDING:

Apply sticker adjacent to affected DUCT OVERHEAT WARNING Light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

DUCT OVERHEAT WARNING LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

21-19 Passenger Cabin Temperature Control Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-19	Passenger Cabin Temperature Control Systems				
21-19-02	FWD/AFT				
21-19-02-01		C	2	0	(O) May be dispatched with faults indicated by ZONE TEMP Light(s) during Master Caution recall provided associated temperature control system is checked to operate normally before each takeoff.
21-19-02-02					
21-19-02-02A	Trim Air PRSOV Remains CLOSED	C	2	0	(M)(O) May be inoperative provided Trim Air Pressure Regulating and Shutoff Valve remains CLOSED.
21-19-02-02B	Trim Air Modulating Valve Deactivated CLOSED	C	2	0	(M#)(O) May be inoperative provided associated Trim Air Modulating Valve is deactivated CLOSED.

PLACARDING:

Apply sticker adjacent to Passenger Cabin Temperature Control selector(s) or TRIM AIR Switch(es) as applicable.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One or Both System(s) ZONE TEMP Faults

  PASSENGER CABIN TEMPERATURE CONTROL SYSTEM FAULT - CHECK BEFORE FLIGHT

- Condition 2 - One or Both Trim Air Modulating Valve(s) Inoperative

  TRIM AIR MODULATING VALVE(S) INOP

MAINTENANCE (M) PROCEDURES

21-19-02-02A Trim Air Pressure Regulating and Shutoff Valve remains CLOSED

Position the TRIM AIR switch to OFF.

(M#) MAINTENANCE PROCEDURES:

21-19-02-02B Trim Air Modulating Valve Deactivated CLOSED

Deactivate trim air modulating valve(s) (locked closed) (AMM 21-00-00/901):

1. Position the FWD CAB and/or AFT CAB Temperature Selector to OFF.
2. Locate the associated trim air modulating valve(s) in the right ECS bay.
3. Turn the manual override until the visual position indicator shows the full closed position.
4. Disconnect and stow the electrical connector from the valve(s).
5. Position the associated Temperature Selector(s) to the normal temperature range.

(O) OPERATIONS PROCEDURES

21-19-02-01

Check normal operation of the associated temperature control system before each takeoff:

1. Make sure that the passenger cabin temperature is stabilized between 70 - 80 degrees F (21 - 27 degrees C).
2. Position the AIR TEMP source selector to SUPPLY DUCT - FWD or SUPPLY DUCT - AFT.
3. Rotate the associated temperature selector fully clockwise (W).
4. Observe the Air Temperature indicator and check that the temperature increases.
5. Rotate the associated temperature selector fully counter clockwise (C).
6. Observe the Air Temperature indicator and check that the temperature decreases.

21-19-02-02A

1. Operate with TRIM AIR switch OFF.
2. Use normal procedures to operate the temperature selectors.

21-19-02-02B

Use normal procedures to operate the temperature selectors.

With a trim air modulating valve deactivated, the associated FWD CAB or AFT CAB ZONE TEMP light will illuminate during Master Caution recall and will extinguish when Master Caution is reset.

21-21 Flight Deck Temperature Control Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-21	Flight Deck Temperature Control Systems				
21-21-02	Primary/Backup Modes				
21-21-02-01		C	2	1	(O) One may be inoperative provided remaining temperature control is verified to operate normally.
21-21-02-02					
21-21-02-02A	Trim Air PRSOV Remains CLOSED	C	2	0	(M)(O) May be inoperative provided Trim Air Pressure Regulating and Shutoff Valve remains CLOSED.
21-21-02-02B	Trim Air Modulating Valve Deactivated CLOSED	C	2	0	(M#)(O) May be inoperative provided associated Trim Air Modulating Valve is deactivated CLOSED.

PLACARDING:

Apply sticker adjacent to Passenger Cabin Temperature Control selector(s) or TRIM AIR Switch(es) as applicable.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One (Primary)(Backup) Flight Deck Temperature Control System Inop

  ONE FLIGHT DECK TEMPERATURE CONTROL SYSTEM INOP - CHECK BEFORE FLIGHT.

- Condition 2 - One or Both Trim Air Modulating Valve(s) Inoperative

  TRIM AIR MODULATING VALVE(S) INOP

MAINTENANCE (M) PROCEDURES

21-21-02-02A Trim Air PRSOV Remains CLOSED

Position the TRIM AIR switch to OFF.

(M#) MAINTENANCE PROCEDURES:

21-21-02-02B Trim Air Modulating Valve Deactivated CLOSED

Deactivate flight deck trim air modulating valve (locked closed) (AMM 21-00-00/901).

1. Position the CONT CAB Temperature Selector to OFF.
2. Locate the flight deck trim air modulating valve in the left ECS bay.
3. Turn the manual override until the visual position indicator shows the full closed position.
4. Disconnect and stow the electrical connector from the valve.
5. Position the CONT CAB Temperature Selector to the normal temperature range.

(O) OPERATIONS PROCEDURES

21-21-02-01

For initial dispatch with one flight deck temperature control system inoperative, verify normal operation of the remaining flight deck temperature control system (Primary or Back-up):

1. Push the left or right system annunciator panel on the glare shield and observe that these lights illuminate:
   a) ZONE TEMP for the CONT CAB Temperature Selector
   b) AIR COND
   c) MASTER CAUTION.
2. Push the left or right MASTER CAUTION light and observe that these lights extinguish:
   a) ZONE TEMP for the CONT CAB Temperature Selector
   b) AIR COND
   c) MASTER CAUTION.
3. Verify that the flight deck supply duct temperature responds to the Temperature Selector:
   a) Position the AIR TEMP source selector to SUPPLY DUCT - CONT CAB.
   b) Rotate the CONT CAB Temperature Selector to the full clockwise position (full warm).
   c) Observe the Air Temperature indicator and check that the temperature increases.
   d) Rotate the CONT CAB Temperature Selector to the full counter clockwise position (full cold).
   e) Observe the Air Temperature indicator and check that the temperature decreases.
4. Use normal procedures to operate the temperature selectors.

Continued...

21-21-02-02A Trim Air PRSOV Remains CLOSED

1. Operate with TRIM AIR switch OFF.
2. Use normal procedures to operate the temperature selectors. If a comfortable flight deck temperature cannot be maintained with the CONT CAB zone temperature selector in the normal range, position the CONT CAB zone temperature selector to OFF.

21-21-02-02B Trim Air Modulating Valve Deactivated CLOSED

Use normal procedures to operate the temperature selectors. If a comfortable flight deck temperature cannot be maintained with the CONT CAB zone temperature selector in the normal range, position the CONT CAB zone temperature selector to OFF.

With the flight deck trim air modulating valve deactivated, the associated CONT CAB ZONE TEMP light will illuminate during Master Caution recall and will extinguish when Master Caution is reset.

21-26 Ground Preconditioned Air Connection Check Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-26	Ground Preconditioned Air Connection Check Valve	C	1	0	May be inoperative closed.
21-26-02	Digital Control System				
21-26-02-03		C	1	0	(M)(O) May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), c) Outflow valve is positioned to 25% open position, and d) Recirculation fan(s) operates normally except for -800BCF airplane. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker to Pressurization Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Pressurized Flight

  GROUND PRECONDITIONED AIR CONNECTION CHECK VALVE INOP CLOSED.

- Condition 2 - Un-pressurized Flight

  GROUND PRECONDITIONED AIR CONNECTION CHECK VALVE INOP - DO NOT PRESSURIZE

(M) MAINTENANCE PROCEDURES

Use MEL item 21-10-02-03 (M) procedure.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Use MEL item 21-10-02-03 (O) procedure.

21-27 Electrical/Electronic Equipment Cooling Blowers

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-27	Electrical/Electronic Equipment Cooling Blowers				
21-27-03	CDS	B	4	3	(M) One fan may be inoperative provided: a) All remaining fans are verified to operate normally, and b) Both low flow detectors are verified to operate normally.

PLACARDING:

Apply sticker adjacent to associated Equipment Cooling Switch position.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NORMAL or ALTERNATE) (SUPPLY or EXHAUST) EQUIPMENT COOLING BLOWER INOP

(M) MAINTENANCE PROCEDURES

Verify the remaining fans and the two low flow detectors operate normally (AMM 21-00-00/901):

1. Make sure the low-flow detector and the remaining fan operate normally for the supply system or exhaust system (with the inoperative fan):
   a) Position the associated EQUIP COOLING SUPPLY or EXHAUST switch to the operative fan position (NORM or ALTN).
   b) Make sure the associated equipment cooling supply or exhaust OFF light extinguishes.
2. Verify the fans and the low-flow detector of the supply or exhaust system with the two fans operative, operate normally:
   a) Do these steps when the supply system has both fans operative:
      i) Position the EQUIP COOLING SUPPLY switch to NORM.
      ii) Open P6-4 panel circuit breaker EQPT COOLING SUPPLY FAN CONT-NORMAL.
      iii) Make sure the equipment cooling supply OFF light illuminates.
      iv) Position the EQUIP COOLING SUPPLY switch to ALTN.
      v) Make sure the equipment cooling supply OFF light extinguishes.
      vi) Open P6-4 panel circuit breaker EQPT COOLING SUPPLY FAN CONTROL-ALTN.
      vii) Make sure the equipment cooling supply OFF light illuminates.
      viii) Close the two P6-4 panel circuit breakers.

ix) Make sure that the equipment cooling supply OFF light extinguishes.
x) Position the EQUIP COOLING SUPPLY switch to NORM.

b) Do these steps when the exhaust system has both fans operative:
i) Position the EQUIP COOLING EXHAUST switch to NORM.
ii) Open P6-4 panel circuit breaker EQPT COOLING EXH FAN CONT-NORMAL.
iii) Make sure the equipment cooling exhaust OFF light illuminates.
iv) Position the EQUIP COOLING EXHAUST switch to ALTN.
v) Make sure the equipment cooling exhaust OFF light extinguishes.
vi) Open P6-4 panel circuit breaker EQPT COOLING EXH FAN CONTROL-ALTN.
vii) Make sure the equipment cooling exhaust OFF light illuminates.
viii) Close the two P6-4 panel circuit breakers.
ix) Make sure that the equipment cooling exhaust OFF light extinguishes.
x) Position the EQUIP COOLING EXHAUST switch to NORM.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

(O) OPERATIONS NOTE

1. If the equipment cooling supply OFF light illuminates during flight (both supply fans inoperative), continued flight beyond 30 minutes can result in loss of the Captain’s Display Units (DU) and the lower center DU.
2. If the equipment cooling exhaust OFF light illuminates during flight (both exhaust fans inoperative), continued flight beyond 30 minutes can result in loss of the First Officer’s Display Units (DU) and the upper center DU.

21-31 Recirculation Fan(s)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-31	Recirculation Fan(s)				
21-31-04					
21-31-04A		C	2	1	Left fan may be inoperative provided left pack is operating when OAT is above 100 °F (38 °C).
21-31-04B		C	2	1	Right fan may be inoperative provided: a) Left pack is operating when OAT is above 100 °F (38 °C), and b) Flight is conducted pressurized.
21-31-04C		C	2	0	May be inoperative provided: a) OAT remains below 100 °F (38 °C), and b) Flight is conducted pressurized.

PLACARDING:

Apply sticker adjacent to affected RECIRC FAN switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) RECIRCULATION FAN(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE:

Position the associated RECIRC FAN switch(es) to OFF.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

21-32 Pack Temperature Control System(s) (Electronic Pack/Zone Controller or Pack Flow Controller)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-32	Pack Temperature Control System(s) (Electronic Pack/Zone Controller or Pack Flow Controller)	C	4	2	(O) One system (primary or standby) on each pack may be inoperative provided remaining system on associated pack is checked to operate normally.

PLACARDING:

Apply sticker adjacent to affected PACK light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT) PACK TEMPERATURE CONTROL SYSTEM INOP

(O) OPERATIONS PROCEDURES

For initial dispatch, do these steps to check normal operation of one of the temperature control systems (Primary or Standby):

1. To recall, push the left or right system annunciator panel on the glareshield and observe that these lights illuminate:
   a) AIR COND
   b) MASTER CAUTION
   c) Associated PACK light
2. To reset, push a MASTER CAUTION light on the glareshield and observe that these lights extinguish:
   a) AIR COND
   a) MASTER CAUTION
   b) Associated PACK light

21-33 Pack Temperature Control Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-33	Pack Temperature Control Valves				
21-33A		C	2	0	(O) May be inoperative closed provided associated Standby Pack Temperature Control Valve(s) is verified to operate normally.
21-33B		C	2	0	(M#)(O) May be inoperative provided: a) Associated Temperature Control Valve is deactivated closed. b) Associated Standby Pack Temperature Control Valve(s) is verified to operate normally.
21-33C		C	2	0	(M)(O) May be inoperative provided associated pack is considered inoperative. **NOTE:** Refer to MEL Item 21-01, Air Conditioning Packs.

PLACARDING:

Apply sticker adjacent to affected PACK Switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) PACK TEMPERATURE CONTROL VALVE(S) INOP

(M) MAINTENANCE PROCEDURES

21-33C Pack Not Used

Use MEL item 21-01 (M) procedure for one or two packs inoperative, as applicable.

(M#) MAINTENANCE PROCEDURES:

21-33B Deactivated Closed

Deactivate and lock the associated Pack Temperature Control Valve closed.

NOTE: The associated inoperative temperature control valve could be stuck in the open position. To help prevent excess hot air from entering into the air distribution system resulting in a hot cabin temperature, the associated temperature control valve can be manually closed.

1. Disconnect and stow the electrical connector from the associated Pack Temperature Control Valve.
2. Turn the manual override on the associated Pack Temperature Control Valve until the visual position indicator shows the full closed position.

(O) OPERATIONS PROCEDURES

21-33A Inoperative Closed and 21-33B Deactivated Closed

For initial dispatch, check normal operation of the standby temperature control system for the associated pack.

1. To recall, push the left or right system annunciator panel on the glareshield and observe that these lights illuminate:
   a) AIR COND
   b) MASTER CAUTION
   c) Associated PACK light
2. To reset, push a MASTER CAUTION light on the glareshield and observe that these lights extinguish:
   a) AIR COND
   b) MASTER CAUTION
   c) Associated PACK light.

21-33C Pack Not Used

Use MEL item 21-01 (O) procedure for one or two packs inoperative, as applicable.

21-34 Standby Pack Temperature Control Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-34	Standby Pack Temperature Control Valves				
21-34A		C	2	0	(O) May be inoperative provided associated Pack Temperature Control Valve(s) is checked to operate normally.
21-34B		C	2	0	(M)(O) May be inoperative provided associated pack is not used.

PLACARDING:

Apply sticker adjacent to affected PACK Switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) STANDBY PACK TEMPERATURE CONTROL VALVE(S) INOP

(M) MAINTENANCE PROCEDURES

Use MEL item 21-01 (M) procedure for one or two packs inoperative, as applicable.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

21-34A Pack Temperature Valve Operates Normally

For initial dispatch, check normal operation of the primary temperature control system for the associated pack.

1. To recall, push the left or right system annunciator panel on the glareshield and observe that these lights illuminate:
   a) AIR COND
   b) MASTER CAUTION
   c) Associated PACK light

Continued...

2. To reset, push a MASTER CAUTION light on the glareshield and observe that these lights extinguish:
   a) AIR COND
   b) MASTER CAUTION
   c) Associated PACK light.

21-34B Pack Not Used

Use MEL item 21-01 (O) procedure for one or two packs inoperative, as applicable.

21-35 Trim Air Pressure Regulating and Shutoff Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-35	Trim Air Pressure Regulating and Shutoff Valve				
21-35-01		C	1	0	(M#) May be inoperative secured closed.

PLACARDING:

Apply sticker adjacent to TRIM AIR switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TRIM AIR VALVE INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Secure the trim air pressure regulating and shutoff valve closed (AMM 21-00-00/901).

1. Position the TRIM AIR switch to OFF.
2. Get access to the trim air pressure regulating and shutoff valve in the right ECS bay (next to the keel beam, inboard of the air cycle machine).
3. Turn the manual override hex on the shutoff valve until the visual position indicator shows the full closed position.
4. Open and collar P6-4 panel circuit breaker AIR CONDITIONING TRIM AIR PRESS.

(O) OPERATIONS PROCEDURES

None required.

21-36 Trim Air Modulating Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-36	Trim Air Modulating Valves				
21-36-01					
21-36-01A		C	3	0	(M#)(O) May be inoperative closed.
21-36-01B		C	3	0	(O) May be inoperative in any position provided Trim Air Pressure Regulating and Shutoff Valve remains closed.

PLACARDING:

Apply sticker adjacent to affected zone temperature selector.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CONT CAB)(FWD CAB)(AFT CAB) TRIM AIR MODULATING VALVE(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Secure the trim air modulating valve(s) closed (AMM 21-00-00/901).

1. Position the associated CONT CAB, FWD CAB or AFT CAB temperature selector to OFF.
2. Disconnect and stow the electrical connector from the inoperative valve.

NOTE: The valve for the flight deck is in the left ECS bay. The valves for the forward and aft passenger cabin are in the right ECS bay.

3. Turn the manual override on the associated Trim Air Modulating valve until the visual position indicator shows the full closed position.
4. Position the associated temperature selector back to the normal operating range.

(O) OPERATIONS PROCEDURES

21-36-01A Inop Closed

Use normal procedures to operate the temperature selectors.

With a trim air modulating valve closed, the associated CONT CAB, FWD CAB or AFT CAB ZONE TEMP light will illuminate during Master Caution recall and will extinguish when Master Caution is reset.

21-36-01B Trim Air PRSOV Remains Closed

1. Operate with TRIM AIR switch OFF.

Use normal procedures to operate the temperature selectors.

21-38 Outflow Valve Position Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-38	Outflow Valve Position Indicator	C	1	0	(M#)(O) May be inoperative provided: a) Valve is verified to be operating normally. b) For -800BCF, procedures are established and used to ensure main deck cargo compartment remain empty, or are verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker adjacent to outflow valve indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

OUTFLOW VALVE POSITION INDICATOR INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Check normal operation of the outflow valve actuators (AMM 21-00-00/901):

1. Supply electrical power (AMM 24-22-00)
2. Make sure that these P6-4 panel circuit breakers are closed:
   a) PRESSURIZATION CONTROL LCD LTG
   b) PRESSURIZATION CONTROL AUTO 1
   c) PRESSURIZATION CONTROL AUTO 2
   d) PRESSURIZATION CONTROL MANUAL
   e) PRESSURIZATION CONTROL IND

3. Verify visually that the outflow valve is in the fully opened position.
4. Operate Outflow Valve in Manual Mode:
   a) Position the Pressurization Mode selector to MAN.
   b) Make sure that the MANUAL light illuminates.
   c) Hold the Outflow Valve switch in the CLOSE position for approximately 30 seconds.
   d) Visually verify the outflow valve moves to the fully closed position.
   e) Position the Pressurization Mode selector to AUTO.
   f) Make sure that the MANUAL light extinguishes.
   g) Visually verify that the outflow moved to the fully opened position.

(O) OPERATIONS PROCEDURES

If procedures call for the outflow valve to be positioned in the full open or closed position, hold the Outflow Valve switch to OPEN or CLOSE for approximately 40 seconds.

21-39 Trim Air Check Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-39	Trim Air Check Valves	C	2	1	(M#) One may be inoperative provided associated valve is deactivated closed.

PLACARDING:

Apply sticker adjacent to TRIM AIR Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT) TRIM AIR CHECK VALVE INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Configure inoperative valve in the closed position (AMM 21-00-00/901):

1. Do one of the following:
   a) Obtain Blank-Off Plate, Trim Air Check Valve (part number A21015-8).
   b) Fabricate a blanking plate with the following specifications:
      i) Materials:
         a) Titanium 6AL-4V per MIL-T-9046 Type 3 Comp C
         b) Inconel 718 per AMS 5596
         c) 301 CRES per MIL-S-5059 1/2, 3/4, or Fullhard
      ii) Dimensions:
         a) Diameter - 3.00 (+0.10 or -0.00) inches
         b) Thickness - 0.040 inch
2. Supply electrical power to the airplane (AMM 24-22-00/201).

Continued...

WARNING

REMOVE THE PRESSURE FROM THE PNEUMATIC SYSTEM. PRESSURE IN THE PNEUMATIC SYSTEM CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

3. Remove the pressure from the pneumatic system per AMM 36-00-00/201.
4. Position these switches on the P5-10 Air Conditioning panel to OFF and attach DO-NO-OPERATE tags:
   a) BLEED 1
   b) BLEED 2
   c) BLEED APU
5. Gain access to the inoperative trim air check valve.
6. Modify the Ducting:
   a) Loosen clamp on forward side of the inoperative trim air check valve.
   b) Move clamp forward on to duct.
   c) Install the blanking plate between the duct assembly and the inoperative trim air check valve.

      NOTE: Install on the downstream side of the inoperative trim air check valve.
   d) Move clamp backward on to check valve.
   e) Tighten the nut on the clamp to 55 pound-inches (6.2 newton-meters).

      NOTE: The clamp must be evenly located on the valve and duct flanges.
7. Perform a Leakage Test:
   a) Remove the DO-NO-OPERATE tags from the BLEED 1, BLEED 2 and BLEED APU switches. Put the switches in their usual positions.
   b) Supply pneumatic power per AMM 36-00-00/201.
   c) Position the associated PACK switch to AUTO.
   d) Position the TRIM AIR switch to OFF.
   e) Check valve flange for leakage.
      i) Diffused leakage is acceptable.
      ii) Jet blast leakage must be repaired by joint or clamp realignment.
8. Put the airplane back to its usual condition:
   a) Close the access panel(s).
   b) Remove pneumatic power per AMM 36-00-00/201.
   c) Remove electrical power (AMM 24-22-00/201).

(O) OPERATIONS NOTE

A blanking plate installed on one of the two trim air check valves does not affect normal pack operation.

21-40 Equipment Cooling Automatic Flow Control Valve/Overboard Exhaust Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-40	Equipment Cooling Automatic Flow Control Valve/Overboard Exhaust Valve				
21-40-02	Digital Control System				
21-40-02-03		C	1	0	(M#)(O) May be inoperative in open position provided: a) Flight is conducted in an unpressurized configuration, b) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), c) Outflow valve is positioned to 25% open position, and d) Recirculation fan(s) operates normally. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.
21-40-02-05		C	1	0	(M#)(O) Except for ER operations, may be inoperative provided: a) Actuator is verified to be in smoke position, and b) Both packs operate normally.

PLACARDING:

Apply sticker adjacent to Pressurization Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Equipment Cooling Automatic Flow Control Valve Inoperative

  OPERATE UNPRESSURIZED
- Equipment Cooling Automatic Flow Control Valve Inoperative in Smoke Position

  BOTH PACKS REQUIRED

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

21-40-02-03 Equipment Cooling Automatic Flow Control Valve Inoperative OPEN

Use MEL item 21-10-02-03 (M) procedure.

21-40-02-05 Equipment Cooling Automatic Flow Control Valve - Inoperative in Smoke Position

Verify that the Overboard Exhaust valve is in the SMOKE position. If the valve has not failed in the SMOKE position, use this procedure to position and deactivate the valve in the SMOKE position (AMM 21-00-00/901):

1. Put the airplane in the air mode with the BITE in the Proximity Switch Electronics Unit (PSEU) (AMM 32-09-00).
2. Position one of the PACK switches to HIGH.
3. Position the R RECIRC FAN to OFF.
4. After 10 seconds, open and collar P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.
5. Disconnect, cap and stow electrical connector D11880 on the Overboard Exhaust valve.
6. Verify that the valve is in the SMOKE position.
7. Close P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.

(O) OPERATIONS PROCEDURES

21-40-02-03 Equipment Cooling Automatic Flow Control Valve Inoperative OPEN

Use MEL item 21-10-02-03 (O) procedure.

21-40-02-05 Equipment Cooling Automatic Flow Control Valve - Inoperative in Smoke Position

Both air conditioning packs are required to maintain pressurization when the valve is failed with actuator in the smoke position. Descent may be required if an air conditioning pack fails enroute.

21-41 Forward Entry Door Area Heater Systems (STC SA22-6)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-41					
21-41-06	Forward Entry Door Area Heater Systems (STC SA22-6) **Applicable to: C-FTUZ**	D	1	0	(M) May be inoperative deactivated. **NOTE:** Overwing and Aft Entry Door Heater Systems are removed entirely by SA22-6.
21-41-07	Entry Door Area and Overwing Emergency Exit hatch Area Heater Systems (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**	D	2	0	(M) May be inoperative deactivated. **NOTE:** Forward Overwing Exit Hatch Area Heater Systems are removed entirely by STC SA25-72.

PLACARDING:

Apply sticker adjacent to affected Entry Door or Overwing Emergency Exit Hatch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L)(R) ENTRY DOOR AREA and/or (L)(R) OVERWING EMERGENCY EXIT HATCH AREA HEATER SYSTEMS INOP

(M) MAINTENANCE PROCEDURES

21-41-06 Forward Entry Door Area Heater Systems (STC SA22-6)

To deactivate the inoperative forward entry door heater system, open and collar the FWD DOOR AREA HEATER circuit breaker (D9 on the P91 Power Distribution Panel).

21-41-07 Forward Entry Door Area Heater Systems (STC SA25-72)

To deactivate the inoperative Fwd entry door and overwing emergency exit hatch area heater systems, open and collar the FWD DOOR AREA HEATER circuit breaker (D9 on the P91 Power Distribution Panel).

To deactivate the inoperative Aft entry door area heater system, open and collar the AFT DOOR AREA HEATER circuit breaker (D7 on the P91 Power Distribution Panel).

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

21-42 Equipment Cooling Low Flow Detector Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-42	Equipment Cooling Low Flow Detector Systems	B	2	1	(M#)(O) One may be inoperative provided associated fans (supply or exhaust) are verified to operate normally.

PLACARDING:

Apply sticker adjacent to affected Cooling OFF Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

EQUIPMENT COOLING LOW FLOW DETECTOR INOP

(M) MAINTENANCE PROCEDURES

None required.

Continued...

(M#) MAINTENANCE PROCEDURES

Verify associated fan operates normally (AMM 21-00-00/901).

1. Verify normal operation of the cooling system fans with the inoperative detector.
   a) Supply system low flow detector inoperative
      i) Make sure the normal supply fan operates by feeling the selected fan motor for vibration.
      ii) Select the alternate supply fan and repeat.
   b) Exhaust system low flow detector inoperative
      i) Make sure the normal exhaust fan operates by feeling for air exiting the overboard exhaust vent at the bottom of the airplane near the centerline at STA 370.
      ii) Select the alternate exhaust fan and repeat.
2. Confirm that the remaining detector system operates normally.
   a) Supply Cooling System
      i) Open P6-4 panel circuit breaker EQUIPMENT COOLING - SUPPLY FAN - CONTROL - NORMAL.
      ii) Make sure the equipment cooling supply OFF light illuminates.
      iii) Position the EQUIP COOLING SUPPLY switch to ALTN.
      iv) Make sure the equipment cooling supply OFF light extinguishes.
      v) Open P6-4 panel circuit breaker EQUIPMENT COOLING - SUPPLY FAN - CONTROL - ALTN.
      vi) Make sure the equipment cooling supply OFF light illuminates.
      vii) Close the two P6-4 panel circuit breakers.
      viii) Make sure the equipment cooling supply OFF light extinguishes.
      ix) Position the EQUIP COOLING SUPPLY switch to NORM.
   b) Exhaust system low flow detector inoperative
      i) Open P6-4 panel circuit breaker EQUIPMENT COOLING - EXHAUST FAN - CONTROL - NORMAL.
      ii) Make sure the equipment cooling exhaust OFF light illuminates.
      iii) Position the EQUIP COOLING EXHAUST switch to ALTN.
      iv) Make sure the equipment cooling exhaust OFF light extinguishes.
      v) Open P6-4 panel circuit breaker EQUIPMENT COOLING - EXHAUST FAN - CONTROL - ALTN.
      vi) Make sure the equipment cooling exhaust OFF light illuminates.
      vii) Close the two P6-4 panel circuit breakers.
      viii) Make sure the equipment cooling exhaust OFF light extinguishes.
      ix) Position the EQUIP COOLING EXHAUST switch to NORM.

To prevent the equipment cooling ground crew call horn from sounding on the ground with a low flow detector system inoperative, the associated Equipment Cooling Low Flow Detect Exhaust/Supply circuit breaker on the P18-3 panel may be opened and collared. Refer to MEL Item 34-35 when dispatching in this configuration.

(O) OPERATIONS PROCEDURES:

If both inboard and outboard display units on one side fail, try to restore displays by selecting the other cooling fan in the system with the inoperative detector. The captain’s displays are cooled by the supply fans. The first officer’s displays are cooled by the exhaust fans.

21-43 Equipment Cooling Air Filter

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-43	Equipment Cooling Air Filter	C	1	0	(M#) Equipment Cooling System may be operated with filter removed.

PLACARDING:

Apply sticker adjacent to affected Cooling OFF Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

EQUIPMENT COOLING AIR FILTER REMOVED

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

The equipment cooling system may be operated with the air filter removed (AMM 21-00-00/901).

1. Remove electrical power from the airplane.
2. Remove the equipment cooling air filter (AMM 21-27-01).
3. Re-install the forward right bulkhead liner.

(O) OPERATIONS PROCEDURES

None required.

21-44 Fan Bypass Check Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-44	Fan Bypass Check Valves				
21-44A		C	2	0	May be inoperative open/missing provided airport ambient temperature remains below 80 °F (27 °C).
21-44B		C	2	0	May be inoperative open/missing for an associated inoperative pack.
21-44C		D	2	1	One may be inoperative open/missing provided pack associated with remaining fan bypass check valve operates normally.

PLACARDING:

Apply sticker to Equipment Cooling Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FAN BYPASS CHECK VALVE(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

On ground at high ambient temperature (above 80 Deg. F) and high takeoff thrust setting, using affected AC PACK with fan bypass valve inoperative (Fail Open / Missing) may result in Pack Light ON.

21-45 Air Distributor Riser Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-45	Air Distributor Riser Valves				
21-45-05	All Cargo Configuration (STC SA22-6) **Applicable to: C-FTUZ**	C	2	0	(O) One or both may be inoperative in open position provided: a) Both E/E equipment cooling exhaust fans operate normally, and b) Procedures are established and used to ensure main deck cargo compartment and lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits. **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker to Equipment Cooling Panel

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AIR DISTRIBUTOR RISER VALVE(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

During the walk around, flight crew will verify the associated cargo compartment is empty or only contains empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit).

NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

21-49 Return Air Grille

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-49	Return Air Grille	C	-	-	(M#) One may be broken or missing provided: a) Broken or missing grille is located within a designated area as defined by Boeing, and, b) Grille is removed and replaced with a blanking plate.

PLACARDING:

Apply sticker adjacent to missing/broken Return Air Grille.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LOCATION) RETURN AIR GRILLE MISSING AND BLOCKED OFF

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Dispatch with Return Air Grille broken or missing (AMM 21-00-00/901).

Minor damage, cracks, and cosmetic defects that do not hinder function of return air grille are acceptable.

Only ONE return air grille may be blocked at any one time. Grille must be replaced by a panel that completely blocks the area. Some locations may not have return air grilles due to the placement of doors or monuments. For a damaged return air grille not located in one of the listed locations, it is acceptable to replace the damaged return air grille with one in the allowed location if the two return air grill assemblies are the same part number.

(O) OPERATIONS PROCEDURES

None required.

21-50 Flight Deck Foot and Shoulder Heater Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-50	Flight Deck Foot and Shoulder Heater Systems	C	4	0	May be inoperative provided flight deck temperature is acceptable to flight crew.

PLACARDING:

Apply sticker adjacent to affected heater control.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT)(F/O) FLIGHT DECK (FOOT)(SHOULDER) HEATER INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

21-56 Main Deck Cargo Compartment Air Shutoff Valve (STC SA25-72)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 - AIR CONDITIONING					
21-56	Main Deck Cargo Compartment Air Shutoff Valve (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**	C	1	0	(O) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit), **NOTE:** For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable

PLACARDING:

Apply sticker on the MAIN DECK CARGO SMOKE / FIRE Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

Main Deck Cargo Compartment Air Shutoff Valve INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

During the walk around, flight crew will verify the associated cargo compartment is empty or only contains empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit).

NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

22 – AUTO FLIGHT

22-01 Autopilot Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-01	Autopilot Systems				
22-01A		C	2	1	May be inoperative provided approach minimums do not require its use. **NOTE:** CAT II operations prohibited.
22-01B		B	2	0	Except for ER operations, may be inoperative provided: a) Approach minimums do not require their use. b) Enroute operations do not require autopilot use. c) Number of flight segments and segment duration is acceptable to flight crew. **NOTE 1:** RVSM and CAT II operations prohibited. **NOTE 2:** Operators should make every effort to repair autopilot early in repair interval, as provided by this relief statement, in consideration of such factors as weather, traffic density, and effect of other inoperative systems. **NOTE 3:** Any mode which functions normally may be used. If CWS is inoperative, do not use other modes (pitch or roll).

22-01-01	Control Wheel Autopilot Disconnect Switches				
22-01-01-02	With autopilot DISENGAGE Bar				
22-01-01-02A		C	2	1	One may be inoperative provided: a) Mode Control Panel autopilot DISENGAGE bar operates normally, b) Autopilot is not used below 1,500 ft. AGL, and c) Approach minimums do not require use of autopilot, and d) The pilot flying has the operative disconnect. NOTE: CAT II operations prohibited.
22-01-01-02B		B	2	0	May be inoperative provided autopilots are not used. NOTE 1: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable. NOTE 2: RVSM and CAT II operations prohibited.
22-01-02	Autopilot DISENGAGE Bar	C	1	0	

NOTE 1: Failures in one or both FCC's could affect these systems: Mach Trim (see MEL Item 22-05), Control Surface Position Indicating system (see MEL item 27-18), Flight Director (see MEL Item 34-12), and Altitude Alerting (see MEL item 34-25).

NOTE 2 Failure in FCC A may affect the autothrottles (MEL item 22-4) on airplanes without an autothrottle computer.

PLACARDING:

Apply sticker adjacent to autopilot mode control panel function(s) and placard Captain's forward instrument panel: CAT II AND RVSM OPS (as applicable) PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One autopilot channel inoperative

  AUTOPILOT CHANNEL (A) or (B) INOP - CAT II OPS PROHIBITED

- Condition 2 - Both autopilot channels inoperative

  AUTOPILOT SYSTEM INOP - RVSM AND CAT II OPS PROHIBITED

- Condition 3 - Autopilot disengage switch inoperative

  (CAPT) (F/O) A/P DISENGAGE SWITCH INOP - DO NOT USE A/P BELOW INITIAL APPROACH ALTITUDE - CAT II OPS PROHIBITED

- Condition 4 – Both Auto Pilot Disengage Switches Inoperative

  BOTH A/P DISENGAGE SWITCHES INOP – DO NOT USE A/P - CAT II AND RVSM OPS PROHIBITED

- Condition 5 – Autopilot disengage bar inoperative

  AUTOPILOT DISENGAGE BAR INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of RVSM/CAT II status.

22-02 Autopilot Disengaged Warning System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-02	Autopilot Disengaged Warning System				
22-02-01	Lights				
22-02-01A	One Inoperative, Aural Warning Operative	C	2	1	May be inoperative provided autopilot disengage aural warning system operates normally.
22-02-01B	One Inoperative, Aural Warning Inoperative or Not Installed	B	2	1	Except for ER operations, may be inoperative provided autopilots are not used. NOTE 1: RVSM and CAT II operations prohibited. NOTE 2: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable.
22-02-01C	Both Inoperative	B	2	0	Except for ER operations, may be inoperative provided autopilots are not used. NOTE 1: RVSM and CAT II operations prohibited. NOTE 2: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable.
22-02-02	Aural Warning	B	1	0	Except for ER operations, may be inoperative provided autopilots are not used. NOTE 1: RVSM and CAT II operations prohibited. NOTE 2: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable.

PLACARDING:

Apply sticker adjacent to affected light(s) and, if applicable, placard Captain's forward instrument panel:

CAT II and RVSM OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

((CAPT) (F/O) (BOTH) AUTOPILOT DISENGAGE (WARNING LIGHT(S)) (AURAL WARNING) INOP - VERIFY RVSM/CAT II OPS STATUS

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of RVSM/CAT II status.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-03 Yaw Damper

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-03	Yaw Damper				
22-03-02		C	1	0	(O) May be inoperative provided yaw damper switch remains OFF.
22-03-03	Yaw Damper Indicator	C	1	0	

PLACARDING:

Apply sticker adjacent to Yaw Damper Switch or Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

YAW DAMPER INOP - DO NOT EXCEED FLAPS 30

or

YAW DAMPER INDICATOR INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Avoid areas of predicted moderate or severe turbulence.
2. Reduce airspeed and/or descend to a lower altitude If turbulence is encountered and passenger comfort is affected.
3. Do not exceed flaps 30.

22-04 Autothrottle System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-04	Autothrottle System	C	1	0	May be inoperative provided approach minimums do not require its use.

PLACARDING:

Apply sticker adjacent to A/T Arm switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTOTHROTTLE SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

This procedure can be used to deactivate the autothrottle system (applicable only to airplanes with a separate Smiths autothrottle installation):

1. Use the table below to reconfigure the M1994 AUTOTHROTTLE Dip Switch positions (E/E Bay/E1-1 Shelf left side) to allow only the ground BITE to function.

Switch No.	Dip Switch Position
2	OFF (0)
3	OFF (0)
12	OFF (0)

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-05 Mach Trim Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-05	Mach Trim Systems	C	2	0	(M#)(O) May be inoperative provided: a) AFM limitations are observed. b) Mach trim actuator is verified to be in null/uncommanded elevator position.
22-05-01		C	2	1	(M#) One may be inoperative deactivated provided: a) Remaining Mach trim system is verified to operate normally. b) Mach trim fail light operates normally.

PLACARDING:

For both Mach Trim Systems inoperative:

- Fabricate a placard stating INOP - DO NOT EXCEED 280KIAS/.82M and affix adjacent to Mach Trim Fail light.
- Fabricate two additional placards stating DO NOT EXCEED 280KIAS/.82M and affix one above each outboard DU.

or

For one Mach Trim System inoperative:

- Apply sticker adjacent to Mach Trim Fail light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet:

- BOTH MACH TRIM SYSTEMS INOP - DO NOT EXCEED 280KIAS/.82M

  or

- ONE MACH TRIM SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

1. Verify that the elevator trailing edge is in the correct position (AMM 22-00-00/901).

NOTE 1: A mach trim actuator and mach trim system are required to position the elevator trailing edge if it is out of alignment. An actuator or accessory box that does not operate must be replaced.

NOTE 2: Dispatch with both mach trim systems inoperative is not allowed if the elevator trailing edge is not aligned with the index mark on the fuselage.

a) Supply electrical power
b) Supply hydraulic power.
c) Position the flaps to UP.
d) Put the stabilizer to 4 units of trim.
e) Move the control column to put the elevators in the detent position.
f) Visually check that the elevator trailing edge is aligned within 0.06 inches (1.5 mm) of the index mark on the fuselage.
g) Open and collar the MACH TRIM AC and DC circuit breakers (P6-2 /P18-1 Panels).

(O) OPERATIONS PROCEDURES

Do not exceed 280 KIAS/ .82M.

NOTE: With both mach trim systems deactivated, fail operational equipped airplanes are affected. NO AUTOLAND will be annunciated. The airplane must also be dispatched using MEL item 22-20.

22-08 Autothrottle Disengage Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-08	Autothrottle Disengage Lights				
22-08A		C	2	1	One may be inoperative when autothrottle is used provided approach minimums do not require their use.
22-08B		C	2	0	May be inoperative provided autothrottle is not used. NOTE: CAT II ops prohibited

PLACARDING

Apply sticker to the control and/or display as appropriate:

- on or adjacent to affected A/T light(s)
- both lights inoperative – adjacent to Autothrottle Arm switch and placard Captain's forward instrument panel: CAT II OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT)(F/O)(BOTH) AUTOTHROTTLE DISENGAGE LIGHTS INOP and if applicable, CAT II OPS PROHIBITED

OPERATIONS NOTES

NOTE 1: The autothrottle can be used with one Autothrottle (A/T) Disengage light inoperative except when needed for landing minimums.

NOTE 2: Do not use the autothrottle with both Autothrottle (A/T) Disengage lights inoperative.

MAINTENANCE NOTE

Advise Dispatch of CAT II status.

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-11 Autothrottle Disengage Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-11	STAB OUT OF TRIM Light	B	1	0	Except for ER operations, may be inoperative provided autopilots are not used. NOTE 1: RVSM and CAT II operations prohibited. NOTE 2: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable.

PLACARDING:

Apply sticker adjacent to STAB OUT OF TRIM Light and placard Captain's forward instrument panel:

CAT II OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STAB OUT OF TRIM LIGHT INOP - DO NOT USE AUTOPILOT - CAT II/RVSM OPS PROHIBITED

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of RVSM/CAT II status.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-14 Mode Control Panel Selectors

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-14	Mode Control Panel Selectors				
22-14-01	V/S Selector (DOWN/UP)	C	1	0	May be inoperative provided procedures do not require its use.
22-14-02	Bank Angle Selector (10, 15, 20, 25, 30)	C	1	0	

PLACARDING:

Apply sticker adjacent to affected Mode Control Panel function(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(V/S SELECTOR) (BANK ANGLE SELECTOR) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-15 Mode Control Panel Switches/Paddles

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-15	Mode Control Panel Switches/Paddles				
22-15-01	A/P CWS Engage Switches	C	2	0	
22-15-02	A/P CMD Engage Switches				
22-15-02A		C	2	1	Maybe inoperative provided approach minimums do not require its use.
22-15-02B		B	2	0	Except for ER operations, may be inoperative provided autopilots are not used. NOTE 1: RVSM and CAT II operations prohibited. NOTE 2: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable.
22-15-03	Autothrottle Arm Switch	C	1	0	May be inoperative provided approach minimums do not require autothrottle use. NOTE: CAT II ops prohibited
22-15-04	A/T SPEED Switch	C	1	0	May be inoperative provided approach minimums do not require autothrottle use. NOTE: CAT II ops prohibited
22-15-05	F/D Switches	C	2	0	May be inoperative provided approach minimums do not require flight director use. NOTE: CAT II ops prohibited
22-15-06	IAS / MACH Change Over Switch	C	1	0	
22-15-07	APP Switch	C	1	0	May be inoperative provided approach minimums do not require autopilot or flight director use. NOTE: CAT II ops prohibited

22-15-08	N1, LNAV, VNAV, LVL CHG, V/S, HDG SEL, ALT HOLD, and VOR/LOC Switches	C	–	0	May be inoperative provided enroute operations do not require their use.
22-15-09	SPD INTV, PDC, and ALT INTV Switches	C	–	0	

PLACARDING:

Apply sticker adjacent to affected Mode Control Panel function(s) and, if applicable, placard Captain's forward instrument panel:

CAT II OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

MODE CONTROL PANEL (_____) SWITCH(ES) INOP - VERIFY CAT II STATUS

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of RVSM/CAT II status.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

Application of this MEL for Items -02, -03, -04, -05 or -07 affects CAT II status.

22-16 Mode Control Panel Windows

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-16	Mode Control Panel Windows				
22-16-01	Vertical Speed (VERT SPEED)	C	1	0	May be inoperative provided procedures do not require its use.
22-16-02	EFIS/PFD/ND				
22-16-02-01	Airspeed (IAS/MACH)	C	1	0	May be inoperative and associated selector used provided selected airspeed indications operate normally.
22-16-02-02	Heading (HEADING)	C	1	0	May be inoperative and associated selector used provided selected heading indications operate normally.
22-16-02-04	Vertical Speed (VERT SPEED)	C	1	0	May be inoperative and associated selector used provided selected vertical speed indications operate normally.
22-16-02-05	Altitude (ALTITUDE)	C	1	0	May be inoperative and associated selector used provided selected altitude indications operate normally.
22-16-02-06	Course (COURSE)	C	2	0	May be inoperative and associated selector used provided selected course indications operate normally.
22-16-02-07	Window Lighting	B	1	0	May be inoperative provided: a) Selected airspeed indications operate normally, b) Selected heading indications operate normally, c) Selected vertical speed indications operate normally, d) Selected altitude indications operate normally, and e) Selected course indications operate normally.

PLACARDING:

Apply sticker adjacent to affected Mode Control Panel window(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTOPILOT MODE CONTROL PANEL (_____) WINDOW/LIGHTING INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-17 Takeoff/Go-Around (TO/GA) Switches

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-17	Takeoff/Go-Around (TO/GA) Switches				
22-17A		C	2	1	One may be inoperative provided approach minimums do not require its use. NOTE: CAT II ops prohibited
22-17B		C	2	0	May be inoperative provided: a) Both thrust levers are operated manually for takeoff. b) Autopilot and Flight Director are not used below Minimum Descent Altitude or 500 feet, whichever is higher. NOTE 1: CAT II ops prohibited NOTE 2 Flight director go-around and windshear guidance are not available with both TO/GA switches inoperative.

PLACARDING:

Apply sticker adjacent to TO/GA switch(es) and placard Captain's forward instrument panel:

CAT II OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(ONE) (BOTH) TO/GA SWITCH(ES) INOP - CAT II OPS PROHIBITED

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of CAT II status.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-18 Mode Control Panel Switch Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-18	Mode Control Panel Switch Lights				
22-18-01	Autopilot Engage Switch Lights				
22-18-01-01	CWS	C	2	0	
22-18-01-02	CMD				
22-18-01-02A		C	2	1	One may be inoperative provided approach minimums do not require its use.
22-18-01-02B		B	2	0	Except for ER operations, may be inoperative provided autopilots are not used. NOTE 1: RVSM and CAT II operations prohibited. NOTE 2: Operators must also comply with MEL item 22-01 operational requirements. The note in MEL item 22-01B, which allows any functional autopilot mode to be used, is not applicable.
22-18-02	Mode Selector Switch Lights	C	–	0	
22-18-03	A/T ARM Switch Light	C	1	0	

PLACARDING:

Apply sticker on or adjacent to control and/or display and, if applicable, placard Captain's forward instrument panel:

CAT II and RVSM OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

MODE CONTROL PANEL (FUNCTION) SWITCH LIGHT(S) INOP - VERIFY CAT II/RVSM STATUS

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of CAT II/RVSM status.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-19 Thrust Mode Annunciator/ Thrust Mode Display

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-19	Thrust Mode Annunciator / Thrust Mode Display	C	1	0	May be inoperative provided thrust mode limits are observed.

PLACARDING:

Apply sticker on or adjacent to upper Display Unit (DU)

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

THRUST MODE DISPLAY INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

22-20 Automatic Landing System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 - AUTO FLIGHT					
22-20	Automatic Landing System				
22-20-01	Fail Passive	C	1	0	May be inoperative provided approach minimums do not require its use. NOTE: AUTOLAND system required for CAT II ops.

PLACARDING:

Apply stickers adjacent to APP switch and placard Captain's forward instrument panel:

CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTOMATIC LANDING SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Advise Dispatch of CAT II/RVSM status.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

23 - COMMUNICATIONS

23-01 Flight Deck Speakers

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-01	Flight Deck Speakers				
23-01-02	Airplanes with Remote Electronics Unit (REU)				
23-01-02A		B	2	0	May be inoperative provided: a) Headset earphones or headphones associated with inoperative speaker(s) are installed and operate normally, b) TCAS audio is considered inoperative, c) TAWS (GPWS) advisory callouts area considered inoperative, and d) Altitude Alert Tone is considered inoperative. NOTE: The airplane must also be dispatched using MEL 34-26 (GPWS advisory callouts), MEL 34-40 (TCAS audio) and MEL 34-25 (Altitude Alerting System - Aural Alert).
23-01-02B		C	2	0	(M)(O) May be inoperative provided: a) Procedures do not require its use, b) Headset or earphones associated with inoperative speaker(s) are installed and operate normally, and c) Aural alert voices, TCAS, GPWS, and Altitude Alert are verified to operate normally.

PLACARDING:

Apply sticker adjacent to affected speaker switch/volume control on Audio Selector Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT DECK SPEAKER SYSTEM INOP - USE HEADPHONES

(M) MAINTENANCE PROCEDURES

Verify Altitude aural Alert operates normally.

- Perform Altitude Alert test under the CURRENT STATUS item on the DFCS BITE TEST FAULT REVIEW menu from the Control Display Unit (CDU)

MAINTENANCE NOTE

NOTE 1: Some 737 airplanes are equipped with a switch on the Remote Electronics Unit (REU) which activates muting of the aural warning signal in the headset earphones or headphones. With this switch placed in the vertical position, muting will be turned off.

NOTE 2: Some 737 airplanes with a REU have a grounded Pin F15 (on the A section of the REU rear connector). With this pin grounded, the switch on the front of the REU will not turn the muting off.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Verify TCAS and GPWS aural alerts operate normally.

2. Perform TCAS Supplementary Procedure SP.11.1. An aural annunciation at the completion of the test is heard.
3. Perform GPWS Supplementary Procedure SP.15.1. GPWS Aural alerts are heard.

23-02 Passenger Address System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-02	Passenger Address System				
23-02-02	Cargo Configuration (Courier/Supernumerary Address System) (Includes STC SA22-6) **Applicable to: C-FTUZ**				
23-02-02A	Cargo Configuration (Courier/Supernumerary Address System) iIncludes STC SA22-6)	C	1	0	(O) May be inoperative provided alternate, normal and emergency procedures and/or operating restrictions are established and used.
23-02-02B		D	1	0	May be inoperative provided all crew members are on the flight deck.
23-02-02-01	Lavatory Speakers				
23-02-02-01A		C	1	0	(O) May be inoperative provided alternate procedures are established and used.
23-02-02-01B		D	1	0	May be inoperative provided procedures do not require its use.
23-02-03	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
23-02-03A		B	1	0	(O) May be inoperative provided. a) Alternate, normal and emergency procedures and/or operating restrictions are established and used, b) Flight deck / passenger cabin interphone system (two way) with associated calls (e.g. chimes) is verified operative prior to each flight, and c) Megaphone(s) is/are readily available and operative.

23-02-03B		C	1	0	(O) May be inoperative provided: a) PA not required by regulations, and b) Alternate, normal and emergency procedures and/or operating restrictions are established and used. NOTE: Any station function(s) that operates normally may be used. NOTE: PA is required when passengers are on board.
23-02-03-01	Lavatory Speakers	C	3	0	(O) May be inoperative provided alternate procedures are established and used.
23-02-03-03	Supernumerary Address System				
23-02-03-03A		C	1	0	(O) May be inoperative provided: a) Alternate, normal and emergency procedures and/or operating restrictions are established and used, and b) Flight deck / passenger cabin interphone system (two way) with associated calls (e.g. chimes) is verified operative prior to each flight.
23-02-03-03B		D	1	0	May be inoperative provided there are no occupants in the supernumerary area.

PLACARDING:

Apply sticker adjacent to PA Switches on all Audio Selector Panels.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

PASSENGER ADDRESS SYSTEM (AFFECTED COMPONENT) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

23-02-02A and 23-02-02-01A: Cargo Configuration (Courier/Supernumerary Address System)

Normal procedures: All crew members remain in the flight deck.
Emergency procedures: Back up communications shall be made using standard chime signals (as found in the SOP, FOM and FAM) and if available the secondary interphone.

All items under 23-02-03: Combi Configuration (STC SA25-72) Applicable to: C-FTUW, C-FTUY

Check that cabin attendant's interphone system is fully operational.

Normal procedures:

Before take-off, cabin crew will make direct voice communication with all passengers. All pre-flight announcements will be completed prior to take-off. All in-flight announcements are made by direct voice communication with passengers.

Emergency procedures:

Cockpit crew uses interphone system to notify cabin attendants. If necessary, all emergency ground and in-flight announcements will be made by direct voice communications with passengers.

23-03 Communication Systems (VHF and UHF)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-03	Communication Systems (VHF and UHF)	D	3	2	VHF 2 or VHF 3 may be inoperative.
23-03-01	VHF Comm Control Panels	C	3	2	One side of the VHF Comm Control panel tuning function may be inoperative provided: a) Associated transceiver can be tuned from the opposite side of the control panel, and b) Associated transceiver operates normally.
23-03-01-01	Active Frequency Light	C	3	2	
23-03-01-02	Frequency Transfer Switch				
23-03-01-02A		C	3	2	May be inoperative provided associated VHF active frequency can be selected.
23-03-01-02B		D	3	2	May be inoperative provided associated VHF radio is considered inoperative. NOTE: Refer to MEL Item 23-03 (Communication Systems (VHF)).
23-03-01-03	Frequency Selector Knob	C	3	2	
23-03-01-04	Frequency Indication	C	3	2	
23-03-02	Radio Tuning Panels	C	3	2	One may be inoperative provided: a) Left radio tuning panel operates normally, and b) Inoperative radio tuning panel remains OFF.

PLACARDING

Apply sticker adjacent to associated Communications System Control Panel.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(AFFECTED VHF COMPONENT) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

23-04 Crewmember Interphone System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-04	Crewmember Interphone System				
23-04-02	Cargo Configuration **Applicable to: C-FTUZ**				
23-04-02-01	Flight Deck to Cabin, Cabin to Flight Deck Functions (Includes STC SA22-6)				
23-04-02-01A		C	1	0	(O) May be inoperative provided alternate, normal, and emergency procedures and/or operating restrictions are established and used.
23-04-02-01B		D	1	0	May be inoperative provided all crew members are on the flight deck.
23-04-02-02	Cabin to Cabin Function	D	1	0	May be inoperative provided all crew members are on the flight deck.
23-04-02-03	Flight Deck to Ground Function (Includes CALL functions)				
23-04-02-03-01A		C	1	0	(O) Flight interphone flight deck to ground/ground to flight deck function may be inoperative provided: a) Alternate procedures are established and used, and b) Nose gear/forward fuselage service interphone jack operates normally.
23-04-02-03-01B		C	1	0	(O) Service interphone flight deck to ground/ground to flight deck function may be inoperative provided: a) Alternate procedures are established and used, and b) Nose gear/forward fuselage flight interphone jack operates normally.
23-04-02-03-01C		B	1	0	(O) May be inoperative provided alternate procedures are established and used.

23-04-04	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
23-04-04-01	Flight Deck to Passenger Cabin, Passenger Cabin to Flight Deck Functions	C	-	0	May be inoperative provided there are no occupants in the passenger compartment.
23-04-04-02	Passenger Cabin to Passenger Cabin Function				
23-04-04-02A		B	-	0	(O) May be inoperative provided alternate communications procedures between affected flight attendant station(s) are established and used. NOTE: Any station function(s) that operates normally may be used.
23-04-04-02B		C	-	0	May be inoperative provided there are no occupants in the passenger compartment.
23-04-04-03	Flight Deck to Supernumerary Area, Supernumerary Area to Flight Deck Functions				
23-04-04-03A		C	-	0	O) May be inoperative provided alternate communications procedures between affected flight attendant station(s) are established and used.
23-04-04-03B		D	-	0	May be inoperative provided there are no occupants in the passenger compartment.
23-04-04-04	Flight Deck to Ground Function (Includes CALL Functions)				
23-04-04-04A		C	-	0	(O) May be inoperative provided alternate procedures are established and used.
23-04-04-04B		D	-	0	May be inoperative provided procedures not require its use.

PLACARDING

Apply sticker adjacent to interphone switches on Audio Selector Panels.

OTHER INSTRUCTIONS

23-04-02 - Cargo Configuration Applicable to: C-FTUZ

Print the following information in the journey log sheet.

- Condition 1: Flight Deck to Cabin Inoperative

  FLIGHT DECK TO CABIN INTERPHONE INOP

- Condition 2: Flight Deck to Ground Inoperative

  FLIGHT DECK TO GROUND INTERPHONE INOP – USE (FLIGHT) (SERVICE) INTERPHONE OR HAND SIGNALS

23-04-04 - Combi Configuration (STC SA25-72) Applicable to: C-FTUW, C-FTUY

Print the following information in the journey log sheet.

CREWMEMBER INTERPHONE SYSTEM INOP AT (FWD)(AFT) F/A STN – USE ALTERNATE PROCEDURES

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

23-04-02-01A: Cargo Configuration: Flight Deck to Cabin, Cabin to Flight Deck Functions

Normal procedures:

Contact from the Flight Deck to the Cabin will be initiated by the use of the cabin chimes and carried out by direct person to person communication with the Flight Deck for an appropriate briefing. Contact from the Cabin to the Flight Deck shall be initiated by direct communication person to person communication.

Alternate procedures:

Prior to flight, the pilot-in-command must brief cabin passengers on the alternate emergency procedures that will be used.

Emergency procedures:

Contact from the Flight Deck to the Cabin will be initiated by the use of the cabin P.A. system. Contact from the Cabin shall be initiated by direct person to person communication with the Flight Deck to alert the flight crew to the problem.

23-04-02-03-01A and 23-04-02-03-01B and 23-04-02-03-01C: Flight Deck to Ground Function INOP

Use flight or service interphone, as applicable, for communications with ground crew during ground handling operations (jack is available at the external power receptacle). If communications still cannot be established, suitable hand signals with ground personnel must be established and briefed. These procedures would probably include hand signals for "OK to start engines", "gear pins out", "OK to taxi", "shut down", etc.

23-04-04-02A Passenger Cabin to Passenger Cabin Function

Normal procedures:

Contact from the Passenger Cabin to the Passenger Cabin shall be initiated by direct communication person to person communication.

Alternate procedures:

Prior to flight, the pilot-in-command must brief Flight Attendants on the alternate emergency procedures that will be used

Emergency procedures:

Contact from the Passenger Cabin to the Passenger Cabin shall be initiated by direct person to person communication to alert the other flight attendant(s) to the problem.

23-04-04-03A Flight Deck to Supernumerary Area, Supernumerary Area to Flight Deck Functions

Normal procedures:

Contact from the Flight Deck to the Supernumerary Area will be initiated by the use of the cabin chimes and carried out by direct person to person communication with the Flight Deck for an appropriate briefing. Contact from the Supernumerary Area to the Flight Deck shall be initiated by direct communication person to person communication.

Alternate procedures:

Prior to flight, the pilot-in-command must brief Supernumerary Area passengers on the alternate emergency procedures that will be used.

Emergency procedures:

Contact from the Flight Deck to the Supernumerary Area will be initiated by the use of the cabin P.A. system. Contact from the Supernumerary Area shall be initiated by direct person to person communication with the Flight Deck to alert the flight crew to the problem.

23-04-04-04A Flight Deck to Ground Function

Use flight or service interphone, as applicable, for communications with ground crew during ground handling operations (jack is available at the external power receptacle). If communications still cannot be established, suitable hand signals with ground personnel must be established and briefed. These procedures would probably include hand signals for "OK to start engines", "gear pins out", "OK to taxi", "shut down", etc.

23-06 Communication Systems (VHF and UHF)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-06	Selective Call System (SELCAL)				
23-06A		C	1	0	(O) May be inoperative provided alternate procedures are established and used.
23-06B		D	1	0	May be inoperative provided procedures do not require its use.

PLACARDING:

Apply sticker to SELCAL Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SELCAL INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

A continuous listening watch must be maintained on the appropriate ATC communication frequency.

23-09 ACARS System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-09	ACARS System				
23-09A		C	1	0	(O) May be inoperative provided alternate procedures are established and used. NOTE: Any portion of system that operates normally may be used.
23-09B		D	1	0	May be inoperative provided procedures do not require its use. NOTE: Any portion of system that operates normally may be used.
23-09-01	ACARS Printer	D	-	0	
23-09-02	FMC Interface Function				
23-09-02A		C	-	0	(O) May be inoperative provided alternate procedures are established and used. NOTE: Any portion of system that operates normally may be used.
23-09-02B		D	1	0	May be inoperative provided procedures do not require its use. NOTE: Any portion of system that operates normally may be used.

PLACARDING:

Apply sticker adjacent to both MCDUs and to ACARS printer (if applicable)

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ACARS (SYSTEM)(PRINTER)(FMC INTERFACE) INOP

MAINTENANCE NOTE

With CVR Datalink enabled, an inoperative ACARS could cause a CVR fault.

If CVR and/or RIPS is inoperative refer to MEL 23-10.

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

23-09A Alternate Procedures and 23-09-02A FMC Interface INOP

If ACARS system is inoperative, use voice communication.

NOTE: When the ACARS system is inoperative, pilots must call operations with out/off times and for arrival gate information.

A manual Engine Trend Monitoring must be completed by each Flight Crew at least once per day: Record engine parameters into Aircraft Maintenance Log.

Engine parameters must be recorded under the following conditions;

a) At least 10 minutes into the cruise portion of the flight with engine power stable; and
b) Auto Throttle disengaged

23-10 Cockpit Voice Recorder System (CVR)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-10	Cockpit Voice Recorder System (CVR)				
23-10-02	Aircraft with Recorder Independent Power Supply (RIPS)	A	1	0	(M) May be inoperative provided: a) Flight Data Recorder (FDR) operates normally, b) RIPS circuit breaker is pulled and collared, c) A 15 minute interval after pulling of the c/b is achieved before departure, and d) Repairs are made within 3 flight-days. NOTE 1: CVR is inoperative with the RIPS c/b pulled and collared. NOTE 2: With CVR Datalink enabled, an inoperative ACARS could cause a CVR fault, refer to item 23-09.
23-10-02-01	Recorder Independent Power Supply (RIPS)				
23-10-02-01A		C	1	0	(M#) May be inoperative provided: a) CVR operates normally, and b) RIPS battery is removed.
23-10-02-01B		A	1	0	(M#) May be inoperative provided: a) Flight Data Recorder (FDR) operates normally, b) RIPS battery is removed, and' c) Repairs are made within 3 flight-days.

PLACARDING:

Apply sticker to Cockpit Voice Recorder Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CVR)(CVR POWER SUPPLY) INOP

(M) MAINTENANCE PROCEDURES

23-10-02 CVR INOP

Deactivate RIPS:

Open and collar RIPS circuit breaker.

(M#) MAINTENANCE PROCEDURES

21-10-02-01A and 21-10-02-01B Power Supply INOP

Remove RIPS battery (AMM 23-00-00/901):

1. Open and collar the P18-2 VOICE RCDR/RIPS circuit breaker.
2. Remove battery from RIPS.
3. Cover battery pack connector on the RIPS charger assembly with an electrical connector cap.
4. Secure electrical connector cap to charger assembly with tape.
5. Close the P18-2 VOICE RCDR/RIPS circuit breaker.

(O) OPERATIONS PROCEDURES

None required.

23-11 High Frequency (HF) Communication System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-11	High Frequency (HF) Communication System (Includes STCs ST02959AT and ST01837LA)				
23-11A		D	2	0	May be inoperative for routes not requiring LRCS.
23-11B		C	2	1	(O) One may be inoperative while conducting operations that require two LRCS provided: a) Aircraft SATVOICE system operates normally, b) SATVOICE services are available as an LRCS over the intended route of flight, c) The ICAO flight plan is updated (as required) to notify ATC of the communications equipment status of the aircraft, and d) Alternate procedures are established and used.

PLACARDING:

Apply sticker on or adjacent to HF Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HF COMMS INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

For operations that require two long range communications systems with one HF communication system operating, ensure SATCOM Voice or Data Link is available over the intended route of flight.

23-12 Emergency Locator Transmitter (ELT)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-12	Emergency Locator Transmitter (ELT)				
23-12-02	Fixed ELTs				
23-12-02A		A	1	0	(M#) In accordance with CAR 605.39, may be inoperative provided a) Placard is displayed in the flight deck indicating the date ELT has been removed/deactivated, and b) Repair or replacement is made within 10 days.
23-12-02-01	Remote ELT Switch	D	1	0	(M#) May be inoperative provided: c) Remote ELT switch is deactivated, and d) ELT switch is placed in the ARMED mode.
23-12-02-02	ELT Indicator Light	D	1	0	

PLACARDING:

Apply placard on or adjacent to ELT panel. Placard for ELT inoperative to include date ELT was removed/deactivated.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ELT INOP (REMOVED) or ELT REMOTE SWITCH INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

23-12-02A ELT INOP

Deactivate the inoperative ELT (AMM 23-00-00/901):

1. Gain access to the ELT in the passenger cabin ceiling.
2. For ACR/Artex model ELTs, remove the ELT and install a dated placard stating "ELT not installed" in view of pilot.
3. For ELTA and Honeywell model ELTs, set the ELT (LRU) front panel switch to OFF.

23-12-02-01 Remote ELT Switch Inop:

NOTE 1: Depending on ELT model, remote ELT switch nomenclature may be ARM or ARMED.

NOTE 2: If remote ELT switch is failed so that the ELT system is activated, deactivate the ELT system and dispatch per MEL 23-12-02A or 23-12-02C.
If ELT does not activate with the remote ELT switch set to ON, deactivate the remote ELT switch (AMM 23-00-00/901).

1. Placard the inoperative remote ELT switch.
2. Set the remote ELT switch to the armed position.
   a) For ACR/Artex and Honeywell model ELTs, set the remote ELT switch to ARM.
   b) For ELTA model ELTs, set the remote ELT switch to ARMED.
4. Set the ELT (LRU) front panel switch to the armed position.
   a) For ACR/Artex model ELTs, set the ELT (LRU) front panel switch to OFF.
   b) For ELTA model ELTs, set the ELT (LRU) front panel switch to ARMED.
   c) For Honeywell model ELTs, set the ELT (LRU) front panel switch to ARM.

(O) OPERATIONS PROCEDURES

None required.

23-13 Flight Crew Audio Selector/Control Panels

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-13	Flight Crew Audio Selector/Control Panels	A	2	2	Both Captain and F/O Audio Selector/Control Panels must be operative.
23-13-01	AUDIO Transfer Switch	C	1	0	
23-13-02	Switch Lights	C	-	0	
23-13-03	Primary Observer Seat Panel	D	1	0	May be inoperative except when required by a person in an official capacity.
23-13-04	Secondary Observer Seat Panel	D	1	0	

PLACARDING:

Apply sticker adjacent to affected audio panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(PRIMARY)(SECONDARY) OBSERVER AUDIO SELECTER PANEL INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

23-14 Flight Deck Headsets Earphones/Headphones and Boom Microphones

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-14	Flight Deck Headsets Earphones / Headphones and Boom Microphones				
23-14-01	Headset Boom Microphones				
23-14-01A		A	3	0	May be inoperative provided: a) Associated hand microphone is installed and operates normally, and b) Repairs are made within 3 flight days.
23-14-02	Headset Earphones / Headphones				
23-14-02A		C	3	1	Either Captain's or First Officer's headset may be inoperative provided associated flight deck speaker operates normally.

PLACARDING:

Apply sticker adjacent to affected Audio Selector Panel MASK/BOOM switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT) (F/O) (OBS) (BOOM MIC) (EARPHONE) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

23-16 Push-To-Talk (PTT) Switches

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-16	Push-To-Talk (PTT) Switches				
23-16-01	Control Wheel PTT Switches	C	2	1	(M#) One may be inoperative provided: a) Associated audio selector panel PTT switch operates normally, and b) Affected switch is either verified failed open or is deactivated.
23-16-02	Flight Crew Audio Selector Panel PTT Switches	C	2	1	(M#) One may be inoperative provided: a) Associated control wheel PTT switch operates normally, and b) Affected switch is verified failed open.
23-16-03	Glareshield Panel PTT Switch(es)				
23-16-03A		C	2	0	(M#) May be inoperative provided affected switch is either verified failed open or is deactivated.
23-16-03B		D	2	0	(M#) May be inoperative provided: a) Affected switch is either verified failed open or is deactivated, and b) Procedures do not require its use.

PLACARDING:

Apply sticker adjacent to affected Push to Talk (PTT) Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

____ (LOCATION) PUSH TO TALK (PTT) SWITCH INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

23-16-01 Control Wheel PTT Switches

Verify the inoperative control wheel PTT switch is failed open. If the switch has not failed open, deactivate the switch (AMM 23-00-00/901).

1. To verify the switch has electrically failed open listen for sidetone during a trial transmission, but do not use the associated PTT switch.

NOTE: If there is sidetone, the PTT switch has failed in the closed position.

2. To deactivate the inoperative switch, disconnect, cap and stow the ground wire of the control wheel PTT switch (AMM 23-00-00/901).
3. Use the audio selector panel PTT switch to verify R/T and/or I/C communications.

23-16-02 Flight Crew Audio Selector Panel PTT Switches

Verify the inoperative Flight Crew Audio Selector Panel PTT switch is failed open (AMM 23-00-00/901).

1. To verify the switch has electrically failed open listen for sidetone during a trial transmission, but do not use the associated PTT switch.

NOTE: If there is sidetone, the PTT switch has failed in the closed position.

2. Use the control wheel PTT switch to verify communications can be established.

23-16-03 Glareshield Panel PTT Switch(es)

Verify the inoperative Glareshield Panel PTT switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es) (AMM 23-00-00/901).

1. To verify the switch has electrically failed open listen for sidetone during a trial transmission, but do not use the associated PTT switch.

NOTE: If there is sidetone, the PTT switch has failed in the closed position.

2. To deactivate the inoperative switch, disconnect, cap and stow the ground wire of the glareshield panel PTT switch

(O) OPERATIONS PROCEDURES

None required.

23-17 Flight Deck Hand Microphones

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-17	Flight Deck Hand Microphones				
23-17A		C	2	0	May be inoperative or missing provided associated boom microphone operates normally.
23-17B		D	2	0	Any in excess of those required for each person on flight deck duty may be inoperative or missing.

PLACARDING:

Apply sticker on or adjacent to affected Hand Microphone.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(POSITION) HAND MICROPHONE INOP OR MISSING

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

23-18 Satellite Communication System (SATCOM)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-18	Satellite Communication System (SATCOM)				
23-18A		C	1	0	(O) May be inoperative provided alternate procedures are established and used.
23-18B		D	1	0	May be inoperative provided procedures do not require its use.
23-18-01	SATCOM Data Link				
23-18-01A		C	1	0	(O) May be inoperative provided alternate procedures are established and used.
23-18-01B		D	1	0	May be inoperative provided procedures do not require its use.

PLACARDING:

Apply sticker on the Audio Control Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SATCOM INOPERATIVE

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

The pilot-in-command is required to determine that the SATCOM is not required for the affected flight.

23-19 Alerting System (Audio/Visual)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-19	Alerting System (Audio / Visual)				
23-19-02	Cargo Configuration (Includes STC SA22-6) **Applicable to: C-FTUZ**				
23-19-02-01	Flight Deck Call Visual Alerting System	B	1	0	May be inoperative provided flight deck audio alerting system operates normally.
23-19-02-02	Flight Deck Call System	D	1	0	May be inoperative provided courier/supernumerary compartment remains unoccupied.
23-19-02-03	Courier/Supernumerary Visual Alerting System				
23-19-02-03A		B	1	0	(O) May be inoperative provided: a) Courier/supernumerary address system operates normally, and b) Alternate procedures are established and used.
23-19-02-03B		D	1	0	May be inoperative provided courier/supernumerary compartment remains unoccupied. NOTE: Any visual alerting system function(s) that operates normally may be used.
23-19-02-04	Courier/Supernumerary Audio Alerting System				
23-19-02-04A		B	1	0	(O) May be inoperative provided: a) Courier/supernumerary address system operates normally, and b) Alternate procedures are established and used.

23-19-02-04B		D	1	0	May be inoperative provided courier/supernumerary compartment remains unoccupied. NOTE: Any visual alerting system function(s) that operates normally may be used.may be used.
23-19-03	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
23-19-03-01	Flight Deck Call Visual Alerting System	B	1	0	May be inoperative provided: a) Audio alerting system operates normally, and b) Audio alerting system differentiates between normal and emergency calls.
23-19-03-02	Flight Deck Call Audio Alerting System	B	1	0	May be inoperative provided: a) Flight deck visual alerting system operates normally, and b) Flight deck visual alerting system differentiates between normal and emergency calls.
23-19-03-03	Flight Attendant Visual Alerting System				
23-19-03-03A		B	1	0	(O) May be inoperative provided: a) PA system operates normally, b) If affected visual alerting system is used for lavatory smoke detector alerting, an alternate lavatory smoke detector alert (visual or audio) is installed and operates normally, and c) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishings (NEF). NOTE 2: Any visual alerting system function(s) that operates normally may be used.

23-19-03-03B	B	1	0	(O) May be inoperative provided: a) Audio alerting system operates normally, b) Audio alerting system differentiates between normal and emergency calls, c) If affected visual alerting system is used for lavatory smoke detector alerting, an alternate lavatory smoke detector alert (visual or audio) is installed and operates normally, and d) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishings (NEF). NOTE 2: Any visual alerting system function(s) that operates normally may be used.
23-19-03-04 Flight Attendant Audio Alerting system				
23-19-03-04A	B	-	0	(O) May be inoperative provided: a) PA system operates normally, b) If affected audio alerting system is used for lavatory smoke detector alerting, an alternate lavatory smoke detector alert (visual or audio) is installed and operates normally, and c) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishings (NEF). NOTE 2: Any audio alerting system function(s) that operates normally may be used.

23-19-03-04B		B	-	0	(O) May be inoperative provided: a) Visual alerting system operates normally, b) Visual alerting system differentiates between normal and emergency calls, c) If affected audio alerting system is used for lavatory smoke detector alerting, an alternate lavatory smoke detector alert (visual or audio) is installed and operates normally, and d) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishings (NEF). NOTE 2: Any audio alerting systemfunction(s) that operates normally may be used.
23-19-03-05	Supernumerary Visual Alerting System				
23-19-03-05A		B	1	0	(O) May be inoperative provided: a) Supernumerary address system operates normally, and b) Alternate procedures are established and used.
23-19-03-05B		D	1	0	May be inoperative provided there are no occupants in the supernumerary area.
23-19-03-06	Supernumerary Audio Alerting System				
23-19-03-06A		B	1	0	(O) May be inoperative provided: a) Supernumerary address system operates normally, and b) Alternate procedures are established and used.
23-19-03-06B		D	1	0	May be inoperative provided there are no occupants in the supernumerary area. NOTE: Any audio alerting system function(s) that operates normally may be used.

PLACARDING

23-19-02 - Cargo Configuration (Includes STC SA22-6) Applicable to: C-FTUZ

Apply sticker on inoperative visual/audio alerting system on the appropriate light panel.

23-19-03 - Combi Configuration (STC SA25-72) Applicable to: C-FTUW, C-FTUY

Apply stickers on flight attendant panels and flightdeck call buttons as applicable.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(LOCATION)(AUDIO)(VISUAL) ALERTING SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Flight Attendant / Supernumerary area Audio / Visual Alerting System

- Prior to flight, the pilot-in-command will brief crew members on the alternate procedures to be used.
- The flight deck crew will use the PA system and/or chimes, as applicable, to contact the cabin /courier/supernumerary crew when necessary.

23-20 Handset Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 - COMMUNICATIONS					
23-20	Handset Systems				
23-20-02	Cargo Configuration **Applicable to: C-FTUZ**				
23-20-02-01	Flight Deck				
23-20-02-01A		C	1	0	(O) May be inoperative provided flight deck to courier/supernumerary communication operates normally.
23-20-02-01B		D	1	0	May be inoperative provided procedures do not require its use.
23-20-03	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
23-20-03-01	Flight Deck	C	1	0	(O) May be inoperative provided: a) Flight deck to passenger cabin communication operates normally, b) Flight deck to supernumerary communication operates normally, and c) Alternate procedures are established and used.
23-20-03-02	Passenger Cabin				
23-20-03-02A		B	-	-	(O) May be inoperative provided: a) Fifty percent of cabin handsets operate normally, b) Operative handset(s) is located at an operative flight attendant seat, and c) Alternate communication procedures between the affected flight attendant station(s) are established and used. NOTE 1: An operative handset at an inoperative flight attendant seat shall not be counted to satisfy fifty percent requirement. NOTE 2: Any handset functions that operate normally may be used.

23-20-03-02B		C	-	0	May be inoperative provided there are no occupants in the passenger compartment.
23-20-03-03	Supernumerary Area	D	-	0	May be inoperative provided there are no occupants in the supernumerary area.

PLACARDING

Apply sticker on handset.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

HANDSET SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Use the PA System for communication from the flight deck to the cabin/courier/supernumerary compartment during normal and emergency operations.

Communication normally conducted using the flight deck handset can be conducted using the headset/boom microphone or using the hand microphone.

24 - ELECTRICAL POWER

24-01 Engine Driven Generator Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-01	Engine Driven Generator Systems				
24-01-02		B	2	1	(M)(O) Except for ER operations, may be inoperative provided: APU generator operates normally and is used throughout flight.

PLACARDING:

Apply sticker adjacent to affected Generator Control Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NO. 1) (NO. 2) ENGINE DRIVEN GENERATOR SYSTEM INOP. CSD DISCONNECTED. OPERATE APU IN FLIGHT.

(M) MAINTENANCE PROCEDURES

CAUTION:

IF THE ENGINE OPERATES WITH THE IDG DISCONNECTED FOR MORE THAN 50 HOURS, THE IDG INPUT SHAFT BALL BEARING ASSEMBLY SHOULD BE REMOVED AND SHOP INSPECTED FOR WEAR.

1. Disconnect the engine driven generator (AMM 24-00-00/901):
   a) Check the oil level of the inoperative IDG (AMM 12-13-21/301).

      NOTE: The IDG can be operated without oil for up to 50 hours in the disconnected mode.
   b) Supply external power.
   c) Start the associated engine (AMM 71-00-00/201).
   d) Position the AC Meters Selector on the AC and DC Metering panel to the applicable GEN position.
   e) Lift the DISCONNECT switch guard.
   f) Push the DISCONNECT switch to the DISCONNECT position when the engine is at or above idle speed.
   g) Verify the DRIVE light illuminates.

Continued...

h) Verify these AC Meter indications on the P-5 panel:
   1. Verify the AC VOLTS indication shows 0 volts.
   2. Verify the CPS FREQ indication is blank.

i) Stop the engine (AMM 71-00-00).

2. Remove the lamp from these associated lights:
   a) Generator DRIVE light on Generator Drive and Standby Power Panel.
   b) GEN OFF BUS light on Ground Power Panel and Bus Switching Panel.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Use the APU generator to power the bus associated with the inoperative engine driven generator system.
2. With the generator disconnected, the ELEC light will illuminate during Master Caution recall and will extinguish when reset.

NOTE: For full electrical load, APU average in flight fuel flow rate is 110 lbs. (50 kgs) per hour.

24-02 APU Generator System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-02	APU Generator System	C	1	0	Except for ER operations, may be inoperative.

PLACARDING:
Apply sticker adjacent to APU Generator Selector Switches.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU GENERATOR INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Generator Inoperative. This will allow time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTES:

1. Prior to departure, review departure, destination, alternate and any technical stops (if required) to ensure that adequate arrangements have been made to handle any anticipated ground service related requirements. If ground power will not be available, particular attention must be given to refuelling and de-icing requirements.
2. If ground power will not be available, review the Battery Start procedure.

24-03 APU Generator System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-03	Engine Driven Generator DRIVE Lights				
24-03-02		C	2	0	DRIVE lights and associated generator low oil pressure switches may be inoperative.

PLACARDING:

Apply sticker adjacent to affected DRIVE light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NO. 1) (NO. 2) (BOTH) ENGINE DRIVEN GENERATOR DRIVE LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

24-07 Frequency Meter

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-07	Frequency Meter	C	1	0	

PLACARDING:

Apply sticker adjacent to the Frequency Meter.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FREQUENCY METER INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

24-08 AC Volts Indication

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-08	AC Volts Indication	B	1	0	(O) May be inoperative except in the STBY PWR position provided the Standby Power Test is accomplished.

PLACARDING:

Apply sticker adjacent to AC Meter Selector Switch Position(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(AFFECTED POSITIONS) AC VOLTS INDICATION INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

If malfunction discovered by Maintenance, perform Standby Power Test detailed in the FCOM (Chapter SP).

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Verify normal operation of the AC Voltmeter indication when the AC Meter Selector is in the STBY PWR position:

Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the FCOM, Chapter SP).

24-09 AC Ammeters

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-09	AC Ammeters	C	3	0	May be inoperative provided associated generator off bus lights operate normally.

PLACARDING:

Apply sticker adjacent to AC Ammeter Selector switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(AFFECTED) AC AMMETER INDICATION INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

Visually check that the associated GEN OFF BUS light is illuminated prior to selecting associated generator to ON and extinguishes when the affected generator is selected ON.

24-11 External Power System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-11	External Power System	C	1	0	NOTE: Any portion of the system which operates normally may be used.
24-11-01	DC Receptacle	D	1	0	

PLACARDING:

Apply sticker adjacent to External Power Selector Switch and on External Power Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

EXTERNAL POWER SYSTEM INOP - USE APU

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

Advise Dispatch. Ground handling arrangements may be affected.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

With the External Power System Inoperative, the APU must be used whenever electrical power is required. If electrical power is required to be on the aircraft for a considerable length of time prior to departure, consideration should be given to the fuel consumption of the APU.

24-12 GEN OFF BUS Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-12	GEN OFF BUS Lights	C	2	1	One may be inoperative provided associated generator AC ammeter operates normally.

PLACARDING:
Apply sticker adjacent to affected GEN OFF BUS light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NO. 1) (NO. 2) GEN OFF BUS LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

The associated AC ammeter can be used to determine when the generator is not supplying the generator bus.

24-14 BAT DISCHARGE Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-14	BAT DISCHARGE Light	C	1	0	

PLACARDING:

Apply sticker adjacent to BAT DISCHARGE light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

BAT DISCHARGE LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

The BAT DISCHARGE light illuminates whenever the main battery or the Auxiliary battery (if installed) is discharging. The following tests may be performed to verify that the batteries are not discharging:

1. Position the DC Meters Selector to the BAT position and verify that the DC AMPS indication is positive.
2. Position the DC Meters Selector to the AUX BAT(if installed) position and verify that the DC AMPS indication is positive.

24-15 TR UNIT Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-15	TR UNIT Light	C	1	0	

PLACARDING:

Apply sticker on or adjacent to TR UNIT Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TR UNIT LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTE

NOTE: If TR UNIT becomes inoperative in flight, it will be unannounced due to TR UNIT light is inoperative. Autoland will not be available.

This test can be performed to verify normal operation of the TR's:

1. Position the DC Meters Selector to TR 1.

Verify that the DC AMPS indication is greater than 5 amps.

Position the DC Meters Selector to TR 2.

Verify that the DC AMPS indication is greater than 5 amps.

Position the DC Meters Selector to the TR 3.

Verify that the DC VOLTS indication is 28 ± 6 volts.

24-16 ELEC Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-16	ELEC Light				
24-16-02		C	1	0	(O) May be inoperative OFF provided: a) Standby Power Test is accomplished once each flight-day, and b) Battery Charger is verified to operate normally.

PLACARDING:

Apply sticker on or adjacent to ELEC Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ELEC LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. All models with dual batteries installed:
   a) Establish AC electrical power on the airplane.
   b) Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
   c) Position the DC Meters selector to APU (or AUX) BAT.
   d) Position the STANDBY POWER switch to BAT.
   e) Wait for 5 seconds.
   f) Position the STANDBY POWER switch to AUTO.
   g) Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   h) Position the DC Meters selector to BAT.
   i) Verify that the DC AMPS indication is greater than or equal to 10 Amps.

Continued...

j) If the DC AMPS indication is less than 10 Amps, position the STANDBY POWER switch to BAT.

i) Wait for 5 seconds.

Position the STANDBY POWER switch to AUTO.

Verify that the DC AMPS indication is greater than or equal to 10 Amps.

k) Return the DC Meters selector to normal position.

24-17 DC Ammeter Indication

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-17	DC Ammeter Indication	B	1	0	(O) May be inoperative provided: a) BAT position operates normally, b) Standby Power Test is accomplished, and c) Procedures do not require its use.

PLACARDING:

Apply sticker adjacent to affected DC AMPS position on the DC Meters Selector switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(AFFECTED POSITION) DC AMPS INDICATION INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

If malfunction discovered by Maintenance, perform Standby Power Test as per the FCOM Chapter SP.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
2. Verify normal operation of the DC ammeter indication in the BAT position.
3. If DC Ammeter has no indication in TR positions, monitoring the TRs is not possible for availability for a dual autopilot approach prior to engagement (isolated sources).

24-18 DC Volts Indication

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-18	DC Volts Indication	B	1	0	(O) May be inoperative except in the STBY PWR position provided the Standby Power Test is accomplished.

PLACARDING:

Apply sticker adjacent to affected DC Volts Meter Selector position(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(AFFECTED POSITION) DC VOLTS INDICATION INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

If malfunction discovered by Maintenance, perform Standby Power Test as per the FCOM Chapter SP.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Do the Supplementary Procedures - Electrical - Standby Power Test (refer to FCOM Chapter SP).

24-19 APU GEN OFF BUS Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24 - ELECTRICAL POWER					
24-19	APU GEN OFF BUS Light	C	1	0	May be inoperative provided: a) APU frequency meter operates normally, and b) APU ammeter operates normally.

PLACARDING:
Apply sticker adjacent to APU GEN OFF BUS Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU GEN OFF BUS LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTES

1. With the AC Meter Selector in APU GEN, the frequency meter can be used to confirm proper APU generator rotational speed.
2. With the APU GEN selected ON, the appropriate generator AC ammeter can be used to confirm that the APU generator is supplying a generator bus.

Prior to first departure after discovery, accomplish the following:

1. Start APU and establish electrical power on airplane with all busses powered by the APU.
2. Select the AC Meters Selector switch to the APU position.
3. Verify correct operation of the FREQ meter by observing a reading of 400 CPS ± 10.
4. Verify correct operation of the APU ammeter by observing a positive reading.

25 - EQUIPMENT/FURNISHINGS

25-01 Megaphones

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-01	Megaphones **Applicable to: C-FTUW, C-FTUY**	D	1	1	(M)(O) Any in excess of those required by CARs 705.89 may be inoperative or missing provided: a) 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. b) Required distribution is maintained, and c) Procedures are established and used to alert crew members of inoperative or missing megaphones. NOTE: CARs 705.89 states that, for 61 to 99 passenger seats, one megaphone is required.

(M) MAINTENANCE PROCEDURES

Apply sticker to handgrip of megaphone and to installed location.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

PASSENGER CABIN MEGAPHONE(S) INOP

(M) MAINTENANCE PROCEDURES

Identify, placard and stow unserviceable microphones.

The serviceable megaphone has to be readily available to the crewmember assigned to direct emergency evacuation.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Cabin crew to verify required distribution is maintained: 90 passenger SEATS = 1 megaphone required per CAR 705.89.

25-03 Flight Attendant Seat Assembly

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-03	Flight Attendant Seat Assembly				
25-03-01	Required Flight Attendant Seats **Applicable to: C-FTUW, CFTUY**	B	2	1	(M)(O) One seat position or assembly (dual position) may be inoperative provided: a) Affected seat or seat assembly is not occupied, b) Flight attendant(s) displaced by inoperative seat(s) occupies either an adjacent flight attendant seat or passenger seat which is most accessible to inoperative seat(s) so as to most effectively perform assigned duties, c) Alternate procedures are established and used as published in crewmember manuals, d) Folding type seat stows automatically or is secured in retracted position, and e) Passenger seat assigned to flight attendant is placarded "FOR FLIGHT ATTENDANT USE ONLY". NOTE 1: An automatic folding seat (which does not have a secondary stowing/locking mechanism) that will not stow automatically is considered inoperative. NOTE 2: A seat position with a missing or inoperative required component, such as safety belt (including shoulder harness) or headrest renders the seat position inoperative.
25-03-02	Excess Flight Attendant Seats **Applicable to: C-FTUW, CFTUY**	D	2	1	(M) Seats/assemblies in excess of requirements and not assigned to a flight attendant may be inoperative provided they are not occupied, are placarded and are: a) Properly stowed, b) Secured in the retracted position, or c) Removed.

25-03-03	All Cargo Configuration **Applicable to: C-FTUZ**	D	1	0	(M) May be inoperative or missing provided: a) Affected seat position or seat assembly is not occupied, and b) Folding type seat stows automatically or is secured in the retracted position. **NOTE 1:** An automatic folding seat that will not stow automatically is considered inoperative. **NOTE 2:** A seat position with an inoperative or missing restraint system is considered inoperative.

PLACARDING

Apply sticker to upper central portion of seat back.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet:

(Position) CABIN JUMPSEAT INOP

AND

1. Apply a strip of masking tape diagonally across entire seat back. With a suitable dark marker, write the warning "INOP - DO NOT USE" on tape.
2. Placard the seat to be occupied by displaced Flight Attendant "FOR FLIGHT ATTENDANT USE ONLY".

(M) MAINTENANCE PROCEDURES

For automatic stowing inoperative, remove or secure the inoperative seat in the stowed position.

1. Remove or secure the inoperative seat in the stowed position.

NOTE: Seat removal is a (M#) Procedure.

2. Advise Dispatch. Load planning is affected with the loss of the passenger seat.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

The Flight Attendant assigned to the affected seat must occupy a passenger seat as close to, or closer than, the nearest seated passenger to the associated exit.

The Flight Attendant must be able to reach the assigned emergency exit in essentially the same time as from the normally assigned seat, i.e., a 2 or 3 second time difference is considered "essentially the same time"

25-05 Cargo Compartment Restraint Components – Main Deck

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-05	Cargo Compartment Restraint Components				
25-05-03	All-Cargo Configuration (STC SA22-6) **Applicable to: C-FTUZ**				
25-05-03A		A	–	–	(M) May be inoperative or missing provided: a) Cargo-loading limits from the approved Weight and Balance (W&B) Manual for FAA STC ST02690LA / TCCA STC SA22-6 are observed, and b) Repairs are made within 120 consecutive calendar days.
25-05-03B		A	–	–	(M) May be inoperative or missing provided: a) Cargo compartment remains empty, and b) Repairs are made within 120 consecutive calendar-days. NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit) is acceptable.
25-05-03C		A	–	–	(M) May be inoperative or missing provided: a) Individual cargo areas may be inoperative provided aircraft is operated in accordance with the approved Weight and Balance (W&B) Manual for FAA STC ST02690LA / TCCA STC SA22-6, and b) Repairs are made within 120 consecutive calendar days.

25-05-04	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**			
25-05-04A		A	-	-	(M) May be inoperative or missing provided: a) Cargo-loading limits from KF Aerospace Report No. K1010-102-001-101 are observed, and b) Repairs are made within 120 consecutive calendar days,
25-05-04B		A	-	-	(M) May be inoperative or missing provided: a) Cargo compartment remains empty, and b) Repairs are made within 120 consecutive calendar days.
25-05-04C		A	-	-	(O) May be inoperative or missing provided: a) Individual cargo areas may be inoperative provided aircraft is operated in accordance with KF Aerospace Report No. K1010-102-001-101, and b) Repairs are made within 120 consecutive calendar days.

PLACARDING

Apply sticker to affected restraint component.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(EQUIPMENT) (LOCATION) INOP

(M) MAINTENANCE PROCEDURES

25-05-03A Inoperative or Missing Restraint – Normal Operation with W&B Limitations

1. If the damaged/inoperative lock interferes with normal cargo loading and locking operations, or can no longer be secured in its original position, remove the damaged/inoperative pallet lock. Store in a secure location or remove from aircraft entirely.
2. Refer to R-1006, Weight and Balance Manual Supplement, for cargo loading limitations.

25-05-03B Inoperative or Missing Restraint – Empty Main Cargo Compartment

1. If the damaged/inoperative lock interferes with normal cargo loading and locking operations, or can no longer be secured in its original position, remove the damaged/inoperative pallet lock. Store in a secure location or remove from aircraft entirely.
2. Main deck cargo compartment must be verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit).

25-05-03C Inoperative or Missing Restraint – Empty Individual Pallet Position

1. If the damaged/inoperative lock interferes with normal cargo loading and locking operations, or can no longer be secured in its original position, remove the damaged/inoperative pallet lock. Store in a secure location or remove from aircraft entirely.
2. Refer to R-1006, Weight and Balance Manual Supplement, for cargo loading limitations.

25-05-04A Inoperative or Missing Restraint – Normal Operation with W&B Limitations

1. If the damaged/inoperative lock interferes with normal cargo loading and locking operations, or can no longer be secured in its original position, remove the damaged/inoperative pallet lock. Store in a secure location or remove from aircraft entirely.
2. Refer to KF Aerospace Report No. K1010-102-001-101, for cargo loading limitations.

25-05-04B Inoperative or Missing Restraint – Empty Main Cargo Compartment

1. If the damaged/inoperative lock interferes with normal cargo loading and locking operations, or can no longer be secured in its original position, remove the damaged/inoperative pallet lock. Store in a secure location or remove from aircraft entirely.
2. Main deck cargo compartment must be verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit).

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

25-05-04C Inoperative or Missing Restraint – Empty Individual Pallet Position

1. If the damaged/inoperative lock interferes with normal cargo loading and locking operations, or can no longer be secured in its original position, remove the damaged/inoperative pallet lock. Store in a secure location or remove from aircraft entirely.
2. Refer to KF Aerospace Report No. K1010-102- 001-101, for cargo loading limitations.

25-06 Passenger Seats

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-06	Passenger Seats	D	-	0	(M) May be inoperative or missing provided: a) Seat does not restrict access to any emergency exit, egress route, or main aisle, and b) The affected seat(s) is blocked and placarded "DO NOT OCCUPY". **NOTE 1:** A seat with an inoperative seat belt or shoulder harness is considered inoperative. **NOTE 2:** Affected seat(s) may include the seat(s) behind and/or adjacent outboard seats.
25-06-01	Positioning Controls for Taxi, Takeoff, and Landing	D	-	0	(O) May be inoperative provided: a) Baggage is not stowed under seat with inoperative restraining system, b) Associated seat is placarded "DO NOT STOW BAGGAGE UNDER THIS SEAT", and c) Procedures are established to alert Cabin Crew of inoperative restraining system.
25-06-02-01	Armrests - With Seat Positioning Controls for Taxi, Takeoff, and Landing (TTL) and/or Other Controls	D	-	-	(M) May be inoperative or missing and seat occupied provided: a) Armrest does not restrict access to any emergency exit, egress route, or main aisle, and b) If Armrest with seat control is missing or removed, seat is secured in taxi, takeoff, and landing (TTL) position.
25-06-02-02	Armrests - Without Seat Positioning Controls for Taxi, Takeoff, and Landing (TTL) and/or Other Controls	D	-	-	May be inoperative or missing and seat occupied provided it does not restrict access to any emergency exit, egress route, or main aisle.

25-06-03	Underseat Baggage Restraining System	C	-	-	(O) May be inoperative provided: a) Baggage is not stowed under seat with inoperative restraining system, b) Associated seat is placarded "DO NOT STOW BAGGAGE UNDER THIS SEAT", and c) Procedures are established to alert Cabin Crew of inoperative restraining system.

(M) MAINTENANCE PROCEDURES

25-06 Passenger Seats

Block the inoperative seat(s) appropriately and placard visibly with "DO NOT OCCUPY".

25-06-02 Armrests – with Seat Positioning Controls for TTL and/or Other Controls

If seat is to be occupied, secure the seat in the Taxi, Takeoff, and Landing Position.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

25-06-01 Positioning Controls for Taxi, Takeoff, and Landing

1. Placard associated seat visibly with "DO NOT STOW BAGGAGE UNDER THIS SEAT".
2. Alert Cabin Crew about inoperative restraining system.

25-06-03 Underseat Baggage Restraining System

1. Placard associated seat visibly with "DO NOT STOW BAGGAGE UNDER THIS SEAT".
2. Alert Cabin Crew about inoperative restraining system.

25-10 Non-essential Equipment and Furnishings (NEF)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-10	Non-essential Equipment and Furnishings (NEF)	-		0	May be inoperative, damaged, or missing provided that the item(s) is deferred in accordance with the NEF deferral program. The NEF program, procedures, and processes are outlined in the Air Inuit Non-Essential Equipment and Furnishings (NEF) List (AILM-0473). (M) and (O) procedures are included in the NEF List, where they are available to flight crew, if required. NOTE: Exterior lavatory door ashtrays are not considered NEF items.

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

25-11 Observer Seat(s)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-11	Observer Seat(s)				
25-11-01	Primary Observer's Seat (Including Associated Equipment)	D	1	0	(M) May be inoperative provided: a) Procedures do not require its use, and b) The seat is removed, stowed, or secured in the retracted position.
25-11-02	Second Observer's Seat (Including Associated Equipment)	D	1	0	May be inoperative provided procedures do not require its use.
25-11-03	Crotch Straps	C	1	0	

PLACARDING:

Apply sticker on affected seat.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(1ST OBS) (2ND OBS) SEAT INOP -. DO NOT OCCUPY

NOTE: Observers seat associated equipment includes safety belts, shoulder harness, oxygen systems, microphones, headsets, lights etc.

(M) MAINTENANCE PROCEDURES

The affected seat may be stowed or secured in the retracted position in accordance with standard practices or removed in accordance with the AMM 25-11-02.

MAINTENANCE NOTE

Advise Dispatch. Flight Planning may be affected.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

25-12 Portable Flashlight Holders/Flashlights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-12	Portable Flashlight Holders/Flashlights				
25-12-01	Cabin **Applicable to: C-FTUW, CFTUY**				
25-12-01A		C	2	0	May be inoperative or removed provided: a) Crewmember assigned to the affected position has an equivalent operative flashlight readily available, b) Inoperative flashlight remains in a certified location or is removed from the aircraft, and c) Location placarding is removed or obscured.
25-12-02A	Flight Deck **Applicable to: ALL**	C	2	0	May be inoperative or removed provided: a) Crewmember assigned to the affected position has an equivalent operative flashlight readily available. b) Inoperative flashlight remains in a certified location or is removed from the aircraft. c) Location placarding is removed or obscured.

PLACARDING:

Apply sticker adjacent to affected holder or on affected flashlight.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD) (AFT) (FLIGHT DECK) EMERGENCY (FLASHLIGHT) (FLASHLIGHT HOLDER) INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

1. Alternate stowage provisions must meet the requirements of suitable access as well as appropriate restraint. One "suitable" location to be considered would be the life jacket compartment under Cabin Attendant seats. An "equivalent" time is within 2 or 3 seconds of the original location.
2. Notify Dispatch. Advise of the number and location of any unserviceable flashlight(s) and/or flashlight holders. Passenger loads may be affected

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

OPERATIONS NOTES:

1. Prior to dispatch, verify passenger loads and ensure that one flashlight is available as per the requirements for each required Flight Attendant.
2. Prior to dispatch, the affected crewmember(s) must familiarize themselves with the location and operation of replacement flashlight and/or holder.

25-16 Emergency Evacuation Signal System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-16	Lower Cargo Compartment Lining Panels and Floor Panels				(M)(O) May be damaged or missing provided procedures are established and used to ensure associated compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits. (Engine Covers, Tool Kit and Strap Kit). NOTE: Unit Load Devices (ULDs) may be carried provided no cargo is carried on or in these devices. For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable.

PLACARDING:

Apply sticker adjacent to affected compartment opening handle.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD) (AFT) LOWER CARGO COMPARTMENT LINING/FLOOR PANEL DAMAGED OR MISSING, DO NOT USE COMPARTMENT

(M) MAINTENANCE PROCEDURES

Advise Dispatch. Cargo operations may be affected.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Inform all applicable departments, including ground handling personnel, not to use the affected cargo compartment.
2. During the exterior inspection, pilots must verify that the affected lower cargo compartment is empty or contains only ballast and/or Fly Away Kits.

25-17 Emergency Medical Equipment Equipment

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-17	Emergency Medical Equipment Equipment				
25-17-01	First Aid Kit (FAK) and/or Associated Equipment	D	-	-	(O) Any kit or items contained in the kit in excess of those required by CAR 705.90 (1) may be incomplete or missing provided: a) Required distribution is maintained, and b) Procedures are established and used to alert crew members of missing or incomplete kits. See Operations Notes.
25-17-01-01	First Aid Kit Seal (Required First Aid Kits)	A	-	0	(O) The seal affixed on the exterior of any required first aid kit may be missing or broken for three flight days provided: a) First aid kit is fully equipped or the kit has a maximum of one missing item, b) Kit includes a list of its contents, c) An inventory is taken on the contents of the kit prior to departure, and d) Procedures are established and used to alert crew members of: i) The missing or broken seal, and The need to perform an inventory under provision c).

PLACARDING:

Apply sticker on First Aid Kit.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FIRST AID KIT (SEAL) (CONTENT) MISSING

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

The list of contents included in the First Aid Kit identifies the complete kit contents and the minimum items that must be included in the kit by regulation. Brief crews to ensure all are aware of the missing items.

OPERATIONS NOTES

CARs 705.90 requires the following number of First Aid Kits:

- C-FTUZ: one kit
- C-FTUW, C-FTUY: two kits

Kits must be distributed throughout the cabin, readily available to crew members and passengers, and clearly identified. If a first aid kit is stowed in a bin or compartment, the bin or compartment is clearly marked as containing a first aid kit.

25-18 Flotation Equipment (Crew and Passengers)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-18	Flotation Equipment (Crew and Passengers)	D	–	–	Any in excess of those required by CAR 602.62 may be inoperative or missing provided required distribution is maintained. NOTE: CAR 602.62 states: A life preserver, with a survivor locator light, must be available for each passenger and crew member if the flight is to be conducted more than 50 nautical miles from shore.

PLACARDING:
Apply sticker adjacent to affected flotation device holder or seat.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LOCATION) FLOTATION DEVICE INOP

(M) MAINTENANCE PROCEDURES
None required.

(M#) MAINTENANCE PROCEDURES
None required.

(O) OPERATIONS PROCEDURES
None required.

OPERATIONS NOTES

Alert crew members of missing Flotation Equipment. Notify Dispatch of over-water restriction.

25-19 Dual Cockpit USB Power System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-19	Dual Cockpit USB Power System				
25-19A	USB Power Supply	C	2	0	(M)(O) May be inoperative provided: a) Alternative procedures are established and used where procedures require a user system that also require the use of the affected USB Charging Port and b) The circuit breaker for the inoperative USB port panel is to be pulled with a lock-out collar installed, and labelled 'INOP'.
25-19B	USB Power Supply	D	2	0	(M)(O) May be inoperative provided: a) Procedures do not require their use and b) The circuit breaker for the inoperative USB port panel is to be pulled and a lock-out collar installed and labelled 'INOP'.

PLACARDING:
Apply sticker adjacent to affected USB Power Supply Port(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

DUAL COCKPIT USB POWER SYSTEM INOP

(M) MAINTENANCE PROCEDURES
None required.

(M#) MAINTENANCE PROCEDURES
None required.

(O) OPERATIONS PROCEDURES
None required.

25-20 Exterior Lavatory Door Ashtrays

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-20	Exterior Lavatory Door Ashtrays				
25-20-02	Airplanes with Only One Exterior Lavatory Door Ashtray Installed	A	1	0	May be missing provided it is replaced within 10 consecutive calendar-days.

PLACARDING:

Apply sticker adjacent to missing ashtray.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LAV DOOR EXTERIOR ASHTRAY MISSING

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

25-21 Flight Crew Seats

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-21	Flight Crew Seats				
25-21-01	Recline Mechanism	A	2	0	(M#) May be inoperative provided: a) Seat is secured in a position acceptable to affected crewmember, and b) Repairs are made within 2 flight days.
25-21-02	Vertical Adjustment	A	2	0	(M#) May be inoperative provided: a) Seat is secured in a position acceptable to affected crewmember, and b) Repairs are made within 2 flight days.
25-21-03	Armrests	B	4	0	(M#) May be inoperative in the up position or removed provided seat is acceptable to the affected crewmember.
25-21-04	Lumbar/Thigh Supports	C	4	0	May be inoperative provided seat is acceptable to the affected crewmember.
25-21-05	Headrests	C	2	0	May be inoperative or missing provided seat is acceptable to affected crewmember.

PLACARDING:

Apply sticker adjacent to affected seat control.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT) (F/O) SEAT (RECLINE) (VERTICAL ADJUSTMENT) (ARMREST) (LUMBAR/THIGH SUPPORTS) (HEADREST) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

25-21-01: Recline INOP

Secure seat in an acceptable position for the affected crewmember (AMM 25-00-00/901).

1. Perform a functional test to verify the seat back cannot be moved.
2. Verify that full travel of the seat on its track is not impaired.

25-21-02: Vertical Adjustment

Secure seat in an acceptable position for the affected crewmember (AMM 25-00-00/901).

1. Perform a functional test to verify the seat cannot be moved in a vertical direction.
2. If necessary, secure the seat in a fixed vertical position by disconnecting the vertical adjustment operating cable or removing the vertical adjustment pushrod mechanism, as appropriate.

25-21-03: Armrests

Secure an inoperative armrest in the up position or remove from seat (AMM 25-00-00/901).

(O) OPERATIONS PROCEDURES

None required.

25-22 Galley/Lavatory Waste Receptacle Access Doors / Covers

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-22	Galley/Lavatory Waste Receptacle Access Doors / Covers				
25-22-01	Galley Waste Receptacle Access Doors / Covers	C	–	–	(M)(O) May be inoperative provided: a) Associated container is empty b) Container access is secured to prevent waste introduction into the compartment, and c) Procedures are established to ensure that sufficient galley/lavatory waste receptacles are available to accommodate all waste that may be generated during flight.
25-22-02	Lavatory Waste Receptacle Access Doors / Covers	C	–	–	(M)(O) May be inoperative provided: a) Associated container is empty, b) Container access is secured to prevent waste introduction into the compartment, c) Lavatory is used only by crewmembers, and d) Associated lavatory entrance door is locked closed and placarded "INOPERATIVE – DO NOT ENTER". NOTE: These provisions are not intended to prohibit lavatory use or inspection by crewmembers.

PLACARDING:

Apply sticker adjacent to inoperative door/cover.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(GALLEY) (LAV) WASTE ACCESS DOOR INOP

(M) MAINTENANCE PROCEDURES

Apply tape to waste access to prevent waste introduction into the compartment.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Ensure that at least one waste receptacle is available to accommodate all waste that may be generated on the flight.

25-24 Storage Bins/Cabin, Galley, and Lavatory Storage Compartments / Closets

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-24	Storage Bins/Cabin, Galley, and Lavatory Storage Compartments / Closets				
25-24A	Secured Closed	C	–	–	(M) May be inoperative provided: a) Procedures are established to secure the affected bin, compartment or closet in the closed position, b) Affected bin, compartment or closet is prominently placarded "DO NOT USE", c) Any emergency equipment located in affected bin, compartment, or closet is considered inoperative, and d) Affected bin, compartment or closet is not used for storage of any item(s) except for those permanently affixed. NOTE: Proviso is not intended to preclude crewmember inspections.

25-24B	Door Removed or Retractable Door Secure Open	C	–	–	(M#)(O) May be inoperative provided: a) For non-retractable doors, affected door is removed, b) For retractable doors, affected door is removed or secured in the retracted (fully open) position, c) Affected bin, compartment, or closet is not used for storage of any items except those permanently affixed, d) Affected bin, compartment, or closet is prominently placarded "DO NOT USE", e) Procedures are established and used to alert crewmembers and passengers of inoperative bins, compartments, or closets, and f) Passengers are briefed that affected bin, compartment, or closet is not used. NOTE: Any emergency equipment located in the affected bin, compartment or closet (permanently affixed) is available for use.
25-24-01	Multi Latch/ Quarter-Turn Lug Installations	C	-	-	One latch/lug per compartment may be inoperative provided: a) Remaining latch(es)/lug(s) on affected compartments operates normally, and b) If affected compartment is used for a galley cart, cart remains empty.

PLACARDING:

Apply sticker on or adjacent to inoperative door.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LOCATION) STORAGE COMPARTMENT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

25-24A: Secured Closed

Secure the compartment closed using appropriate procedures. An empty compartment may be secured closed without its door if compartment can be secured closed in a manner which prevents its use, such as with non-flammable tape marked DO NOT USE.

1. Fabricate placard "INOPERATIVE DO NOT USE" and apply to inoperative door.
2. Apply tape if necessary to secure door closed.

25-24B: Door Removed or Retractable Door Secured Open

1. Remove door from associated compartment.

(O) OPERATIONS PROCEDURES

Crewmembers are advised of inoperative compartment.

25-31 Supernumerary Seats

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-31	Supernumerary Seats	D	3	0	(M#) May be inoperative provided: a) Seat is not occupied, and b) Seat is stowed or secured.

PLACARDING:

Apply sticker to upper central portion of seat back.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SUPERNUMERARY SEAT INOP

and

Apply a strip of masking tape diagonally across entire seat back. With a suitable dark marker, write the warning "INOP - DO NOT USE" on tape.

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Stow or secure the seat (AMM 25-00-00/901).

(O) OPERATIONS PROCEDURES

None required.

25-33 Lavatory NO SMOKING Placards

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25 - EQUIPMENT / FURNISHINGS					
25-33	Lavatory NO SMOKING Placards	B	1	0	May be missing provided the associated lavatory smoke detection system is operative.

PLACARDING:

None required.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LAVATORY NO SMOKING PLACARD MISSING

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

26 – FIRE PROTECTION

26-01 Engine and APU Fire Extinguisher Discharge Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-01	Engine and APU Fire Extinguisher Discharge Lights	C	3	0	

PLACARDING:

Apply sticker to affected Engine or APU Extinguisher Light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ FIRE EXTINGUISHER DISCHARGE LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

26-02 Engine Overheat and Fire Detection Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-02	Engine Overheat and Fire Detection Systems				
26-02-02	Dual Loop	C	4	2	(O) Except for ER operations beyond 120 minutes, one loop (A or B) per engine may be inoperative provided remaining operative loops are verified to operate normally once each flight-day

PLACARDING:

Apply sticker adjacent to affected loop OVHT DET Test Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(ENGINE 1) (ENGINE 2) (LOOP A) (LOOP B) DETECTOR INOP, ACCOMPLISH FIRE TEST PRIOR TO EACH TAKEOFF

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

Do the Supplementary Procedure - Fire Protection "Fire and Overheat System Test with an Inoperative Loop" (refer to the Flight Crew Operations Manual).

NOTE 1: Dispatch is not allowed if both loops A and B are inoperative on one engine.

NOTE 2: When performing the Flight Crew Operations Manual Supplementary Procedures - Engines, APU “Battery Start” procedure, the fire warning bell may not sound and the master FIRE WARN lights may not illuminate.

26-03 Portable Fire Extinguishers

SYSTEM & SEQUENCE NUMBER	1. ITEM	CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-03	Portable Fire Extinguishers	D	-	-	M)(O) Any in excess of those required by CAR 705.93 may be inoperative or missing provided: a) Inoperative fire extinguisher(s) is removed from the passenger cabin, flight deck, or class E/F cargo compartment that is accessible to crew members during flight, 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, b) Required distribution is maintained in the passenger compartment on each deck, the flight deck and each class E/F cargo compartment that is accessible to crew members during flight, as applicable, and c) Procedures are established and used to alert crew members of missing portable fire extinguishers. NOTE: See operations notes.

PLACARDING:

Apply sticker on affected fire extinguisher.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LOCATION) PORTABLE FIRE EXTINGUISHER INOP

(M) MAINTENANCE PROCEDURES

1. Stow the out-of-service extinguisher in a place (possibly in a bag) where it will not be used by mistake until it can be removed from the airplane.
2. Ensure required distribution of serviceable extinguishers is maintained throughout the airplane (1 in the flight deck and 1 in supernumerary compartment).

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Ensure required distribution of serviceable extinguishers is maintained throughout the airplane, 1 in the flight deck and 1 in supernumerary compartment.

OPERATIONS NOTES

CARs 705.93 requires the following minimum number of hand-held fire extinguishers:|

C-FTUZ

Flight deck: At least one

Supernumerary area: At least one.

C-FTUW, C-FTUY

Flight deck: At least one

Supernumerary area: At least one

Aft Galley: At least one

Passenger compartment: At least three, conveniently located and uniformly distributed

C-FTUZ, C-FTUW, C-FTUY

At least two hand-held fire extinguishers shall contain Halon 1211 (bromochlorodifluoromethane) or its equivalent.

A stowage compartment or stowage container that contains a hand-held fire extinguisher shall be clearly marked as to its contents. throughout the passenger compartment.

26-04 Wheel Well Fire Detection System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-04	Wheel Well Fire Detection System	B	1	0	(M#)(O) May be inoperative provided: a) Brakes are inspected before each flight and are cool to the touch, b) Landing gear is left extended for a minimum of ten minutes after takeoff, c) Appropriate performance adjustments are applied, and d) Takeoff is not conducted in icing conditions. NOTE: In case of engine failure after V1, performance is the prime consideration and the landing gear should be retracted normally until performance penalty with gear down is not a problem.

PLACARDING:

Apply sticker adjacent to WHEEL WELL overheat light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WHEEL WELL FIRE DETECTION INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Deactivate the wheel well fire detection system using one of the following procedures (AMM 26-00-00/901):

1. Option 1: Deactivate WHEEL WELL light and wheel well fire detection system input to fire warning system.
   a) Remove the two light bulbs from the WHEEL WELL light on the P8-1 panel and placard the light and the associated WHEEL WELL light switch.
   b) Disconnect the fire bell.
      i) Remove Flight Control Computer B to get access to the wiring for the fire bell (AMM TASK 22-11-33-000-801).

Disconnect the wires from D742, pin 16 and pin 25 on the E1-4 shelf.

Cap and stow the wires.

Reinstall Flight Control Computer B (AMM TASK 22-11-33-400-801).

Placard the master FIRE WARN lights on the P1 panel to indicate that the fire warning associated with the wheel well is inoperative.

2. Option 2: Deactivate the detection elements of the wheel well fire detection system.
   a) Disconnect the terminal lugs or connectors on both sides of the M270 detection elements.
   b) Perform the OVHT/Fire Warning System Operational Test per AMM 26-18-00. All tests should pass except for the wheel well fire function with the disabled element.
   c) Stow the wiring and terminal lugs on either side of M270 detection elements.
3. Advise Dispatch. Flight Planning will be affected.

(O) OPERATIONS PROCEDURES

1. After takeoff, leave the landing gear extended for 10 minutes unless engine inoperative climb performance on the landing gear is a consideration (see MEL Note).
2. To account for delayed gear retraction, increase trip fuel by 1600 lb (726 kg).

26-06 APU Fire Shutoff System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-06	APU Fire Shutoff System	C	1	0	(O) Except for ER operations, may be inoperative provided APU is not used.

PLACARDING:

Apply sticker adjacent to APU start switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU FIRE SHUTOFF SYSTEM INOP - DO NOT START APU

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU (or some function thereof) inoperative. This will allow maximum time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Dispatch is not allowed if the APU is required by other procedures.
2. APU is not used.

OPERATIONS NOTES

1. Prior to departure, verify with Dispatch that suitable arrangements have been made at destination, alternate and any technical stops (if required) to handle any anticipated ground service requirements. If ground power or adequate air will not be available, particular attention must be given to refuelling, de-icing and cross bleed start requirements.
2. If ground power will not be available, review battery start procedure.
3. Do not start APU with the fire shutoff inoperative.

CAUTION:

CREW MUST HAVE ADEQUATE TIME TO BRIEF FOR SUPPLEMENTARY PROCEDURES IN REGARDS TO ENGINE STARTING, PUSHBACK, COMMUNICATION WITH GROUND CONTROL, DE-ICING AND OTHER GROUND HANDLING CONSIDERATIONS.

26-07 APU Fire Extinguisher System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-07	APU Fire Extinguisher System	C	1	0	(O) Except for ER operations, may be inoperative provided APU is not used.

PLACARDING:

Apply sticker adjacent to APU start switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU FIRE EXTINGUISHER SYSTEM INOP - DO NOT START APU

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU (or some function thereof) inoperative. This will allow maximum time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

1. Dispatch is not allowed if the APU is required by other procedures.
2. APU is not used.

Continued...

OPERATIONS NOTES

1. Prior to departure, verify with Dispatch that suitable arrangements have been made at destination, alternate and any technical stops (if required) to handle any anticipated ground service requirements. If ground power or adequate air will not be available, particular attention must be given to refuelling, de-icing and cross bleed start requirements.
2. If ground power will not be available, review battery start procedure.
3. Do not start APU with the fire shutoff inoperative.

CAUTION:

CREW MUST HAVE ADEQUATE TIME TO BRIEF FOR SUPPLEMENTARY PROCEDURES IN REGARDS TO ENGINE STARTING, PUSHBACK, COMMUNICATION WITH GROUND CONTROL, DE-ICING AND OTHER GROUND HANDLING CONSIDERATIONS.

26-08 APU Fire Detection System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-08	APU Fire Detection System				
26-08-01	Single and Dual Loop	C	1	0	(O) May be inoperative provided APU is not used.
26-08-02	APU DET INOP Light	C	1	0	(O) May be inoperative extinguished provided: d) APU fire detection system operates normally, and e) A fire warning test is performed before each APU start.
26-08-04	External Warning Horn / Warning Light	C	1	0	May be inoperative for ground operation provided the flight deck APU Overheat/Fire Protection Panel is continuously monitored.

PLACARDING:

Apply stickers adjacent to APU Start switch and APU Fire switch as applicable.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU FIRE DETECTION SYSTEM INOP - DO NOT USE APU

or

APU DET INOP LIGHT INOP

or

EXTERNAL WARNING (HORN) (LIGHT) INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

1. To prevent nuisance/false warnings, the FIRE PROTECTION DETECTION APU circuit breaker can be opened and collared. With this circuit breaker open, the MASTER CAUTION lights and the OVHT/DET system annunciator light do not illuminate during the Fault/Inop test. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.
2. It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU (or some function thereof) inoperative. This will allow maximum time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

26-08-01 Single and Dual Loop INOP

1. Dispatch is not allowed if the APU is required by other procedures.
2. APU must not be started.

NOTE: When performing the Flight Crew Operations Manual Supplementary Procedures - Engines, APU "Battery Start" procedure, the fire warning bell may not sound and the master FIRE WARN lights may not illuminate.

26-08-02 APU DET INOP Light

NOTE: If the APU DET INOP light does not illuminate but the APU Fire Warning switch illuminates during OVERHEAT/FIRE test, the APU fire detection system is operating normally. The APU can be used if the OVERHEAT/FIRE test is performed before each APU start.

OPERATIONS NOTE

Prior to departure, verify with Dispatch that suitable arrangements have been made at destination, alternate and any technical stops (if required) to handle any anticipated ground service requirements. If ground power or adequate air will not be available, particular attention must be given to refuelling, de-icing and cross bleed start requirements.

CAUTION:

IF APU NOT USED, CREW MUST HAVE ADEQUATE TIME TO BRIEF FOR SUPPLEMENTARY PROCEDURES IN REGARDS TO ENGINE STARTING, PUSHBACK, COMMUNICATION WITH GROUND CONTROL, DE-ICING AND OTHER GROUND HANDLING CONSIDERATIONS.

26-09 ENGINE/APU FIRE EXTINGUISHER TEST SYSTEM (EXT TEST) (SQUIB TEST)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-09	Engine/APU Fire Extinguisher Test System (EXT TEST) (Squib Test)	C	3	0	(M#) May be inoperative provided: a) Failure is verified to be in squib test circuit. b) Squib circuit is verified to operate normally once each flight day.
26-09-01	APU Fire Extinguisher Squib Test Circuits (EXT TEST)	C	2	1	(O)May be inoperative provided remaining APU squib test circuit is verified to operate normally once each flight day.
26-09-02	APU Squib Light	C	1	0	(O) May be inoperative provided APU is not used.

PLACARDING:

Apply sticker adjacent to Engine/APU Fire Extinguisher Test Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ENGINE/APU FIRE EXTINGUISHER TEST SYSTEM (OR SQUIB LIGHT) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Prepare the airplane for flight with the squib test system inoperative (AMM 26-00-00/901):

WARNING:

THE P6-2 CIRCUIT BREAKER PANEL CONTAINS HIGH VOLTAGE/CURRENTS THAT CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT. TO PREVENT INJURY, RESTRICT PERSONNEL FROM FIRE BOTTLE AREA WHILE PERFORMING TEST

1. Build a squib test lamp with pigtail leads that end in pin contacts. Use only a 28 Volt, 40 milliamp lamp in a suitable holder.
2. Verify that the squib circuit is operative:
   a) For Engines:
      1. Open all four engine fire extinguisher circuit breakers on the P6-2 Circuit Breaker Panel.

         NOTE: Refer to the table below for the appropriate circuit breakers.

      2. Gain access to the P6-2 Circuit Breaker Panel.
      3. Connect the test lamp across the terminals of the appropriate circuit breaker for the inoperative squib test circuit.
      4. Push the override switch to manually unlock the Engine Fire Warning switch.
      5. Pull the Engine Fire Warning switch up.
      6. Rotate the Engine Fire Warning switch (left or right):
         a) When the test lamp comes on, the squib test circuit is intact.
      7. Rotate the Engine Fire Warning switch back to the center position and push it down.
      8. Remove the test lamp from the circuit breaker.
      9. Close the circuit breakers.

   b) For APU:

Open the APU fire extinguisher circuit breaker on P6-2 Circuit Breaker Panel.

Gain access to the P6-2 Circuit Breaker Panel.

Connect the test lamp across the terminals of the circuit breaker.

Push the override switch to manually unlock the APU Fire Warning switch.

Pull the APU Fire Warning switch up.

Rotate the APU Fire Warning switch (left or right):
a) When the test lamp comes on, the squib test circuit is intact.

Rotate the APU Fire Warning switch back to the center position and push it down.

Remove the test lamp from the circuit breaker.

Close the circuit breaker.

Engine Squib Test Table

Table 1: Dual Outlet Dual Cartridge Bottle

Bottle	Squib No.	Squib Plug No.	C/B Open and Test Lamp Connection
Left	1	D582, Pin 4	Across C296 Left Ext Bottle
Left	1	D582, Pin 6	Across C1021 Left Ext Bottle
Left	2	D1322, Pin 4	Across C296 Left Ext Bottle
Left	2	D1322, Pin 6	Across C1021 Left Ext Bottle
Right	1	D584, Pin 4	Across C297 Right Ext Bottle
Right	1	D584, Pin 6	Across C1022 Right Ext Bottle
Right	2	D1324, Pin 4	Across C297 Right Ext Bottle
Right	2	D1324, Pin 6	Across C1022 Right Ext Bottle

MAINTENANCE NOTE:

It is vitally important the Dispatch be advised as soon as possible when dispatching with an APU (or some function thereof) inoperative. This will allow maximum time to make the required ground handling arrangements.

(O) OPERATIONS PROCEDURES:

26-09-01: APU Fire Extinguisher Squib Test Circuits (EXT TEST)

1. Reference the following Flight Crew Operations Manual Procedures:
   a) Normal Procedures - Amplified Procedures - Preflight Procedure - First Officer.
   b) Supplementary Procedures - Electrical Power Up.
2. Verify remaining APU squib test circuit operates normally once each flight day in the "EXTINGUISHER TEST Switch – Check":
   a) EXT TEST switch in position 1 or 2, APU green extinguisher test light illuminates.
   b) Release EXT TEST switch, APU green extinguisher test light extinguishes.

26-09-02: APU Squib Light inoperative

1. Prior to departure, verify with Dispatch that suitable arrangements have been made at destination, alternate and any technical stops (if required) to handle any anticipated ground service requirements. If ground power or adequate air will not be available, particular attention must be given to refuelling, de-icing and cross bleed start requirements.
2. Do not operate APU.

CAUTION:

CREW MUST HAVE ADEQUATE TIME TO BRIEF FOR SUPPLEMENTARY PROCEDURES IN REGARDS TO ENGINE STARTING, PUSHBACK, COMMUNICATION WITH GROUND CONTROL, DE-ICING AND OTHER GROUND HANDLING CONSIDERATIONS.

26-10 Fire Warning Bell

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-10	Fire Warning Bell				
26-10-01	Bell Cutout Switch (Overheat/Fire Protection Panel)	C	1	0	May be inoperative provided: a) Bell cutout function of both Master Fire Warning lights operates normally, and b) Fire Warning Bell operates normally.
26-10-02	Bell Cutout Function of Master Fire Warning Light	C	2	1	May be inoperative provided: a) Bell cutout function switch operates normally, and b) Fire Warning Bell operates normally.

PLACARDING:

Apply sticker adjacent to Bell Cutout Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FIRE WARNING BELL CUTOUT (SWITCH) (FUNCTION) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

26-12 Wing-Body Overheat Detector System (Left)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-12	Wing-Body Overheat Detector System (Left)				
26-12-01		C	1	0	Except for ER operations, may be inoperative provided: a) Right pack and right engine bleed is used for pressurization only, b) Use of the APU is prohibited except for engine start, c) Isolation valve and left engine bleed valve remain closed for all operations except engine start, d) Airplane is not operated in known or forecast icing conditions, and e) Flight altitude remains at or below FL 250.

PLACARDING:

Apply sticker adjacent to Left WING-BODY OVERHEAT light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LEFT WING-BODY OVERHEAT LIGHT INOP - REVIEW APU AND FLIGHT LIMITATIONS PRIOR TO FLIGHT

(M) MAINTENANCE PROCEDURES

None required

MAINTENANCE NOTES:

3. Refer to MEL Item 21-01 (M) procedure, as applicable, for information when the left pack is not used.
4. Advise Dispatch of limitations, Flight Planning will be affected.

5. It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU (or some function thereof) inoperative. This will allow maximum time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES

None required

(O) OPERATIONS PROCEDURES:

1. Refer to MEL Item 21-01 (O) for information when the left pack is not used.
2. Except for engine start, do not use the APU for pneumatic air supply and/or electrical power.
3. After engine start, make sure that:
   a) ISOLATION VALVE switch is set to CLOSE
   b) APU switch is set to OFF
   c) Engine No. 1 BLEED air switch is set to OFF.
   d) L PACK switch is set to OFF
   e) R PACK set as desired
4. Do not dispatch into known icing or forecast icing conditions.
5. Limit altitude to FL 250.

26-13 Wing-Body Overheat Detector System (Right)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-13	Wing-Body Overheat Detector System (Right)				
26-13-01		C	1	0	Except for ER operations, may be inoperative provided: a) Left pack and left engine or APU bleed air is used for pressurization only, b) Isolation valve and right engine bleed valve remain closed for all operations except engine start, c) Airplane is not operated in known or forecast icing conditions, and d) Flight altitude remains at or below FL 250.

PLACARDING:

Apply sticker adjacent to Right WING-BODY OVERHEAT light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

RIGHT WING BODY OVERHEAT DETECTOR INOP - LIMIT ALTITUDE TO FL 250

(M) MAINTENANCE PROCEDURES:

Advise Dispatch. Flight planning will be affected.

MAINTENANCE NOTE:

Refer to MEL Item 21-01 (M) procedure, as applicable, for information when the right pack is not used.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Refer to MEL Item 21-01 (O) for information when the right pack is not used.
2. After engine start, make sure that:
   a) ISOLATION VALVE switch is set to CLOSE
   b) Engine No. 2 BLEED air switch is set to OFF
   c) R PACK switch is set to OFF
   d) L PACK set as desired
3. Do not dispatch into known icing or forecast icing conditions.
4. Increased air flow will occur when flaps are extended (takeoff and landing) if the APU is used instead of engine bleed to supply bleed air to the left pack.
5. With the L PACK switch in AUTO, the pack operates in the high flow mode.
6. Do not set the L PACK to HIGH for takeoff and landing with the engine bleed on.
7. Do not use APU bleed air at altitudes above 17,000 feet.

26-14 Main Deck Cargo Compartment Fire Detection/Suppression Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-14	Main Deck Cargo Compartment Fire Detection/Suppression Systems (STC SA22-6 and SA25-72)	C	1	0	(O) May be inoperative provided procedures are established and used to ensure main deck cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). NOTE: For ballast purposes, barrels of water, use of bags (made of glass fibre or Kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable.
26-14-04	Main Deck Smoke Detectors (STC SA22-6 and SA25-72) **Applicable to: ALL**	C	14	0	(O) May be inoperative provided procedures are established and used to ensure the associated compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.
26-14-04-10	Main Deck Smoke Detectors (STC SA22-6) **Applicable to: C-FTUZ**	C	14	13	(M#) One detector may be inoperative provided the inoperative detector is not in detector 1 position or detector 4 position.
26-14-04-11	Main Deck Smoke Detectors (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**	C	7	6	(M#) One detector may be inoperative provided the inoperative detector is not in detector position 1, 2, 5, or 7.

26-14-05	Fire Detection Systems (STC SA22-6) **Applicable to: C-FTUZ**	C	2	1	(O) One loop (A or B) may be inoperative in cargo configuration

PLACARDING

Apply sticker to Cargo Fire Detection panel.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

MAIN DECK CARGO FIRE DETECTION/SUPPRESSION SYSTEM INOP
or
MAIN DECK SMOKE DETECTORS LOOP(A)(B) INOP
or
MAIN DECK (LOCATION) SMOKE DETECTOR(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

26-14-04-10 Main Deck Smoke Detectors

Disconnect inoperative smoke detector and cap and stow wires in order to prevent false alarm indication.

NOTE: If the inoperative smoke detector is in detector position 1 or 4, an operative detector may be relocated to position 1 or 4.

26-14-04-11 Main Deck Smoke Detectors

Disconnect inoperative smoke detector and cap and stow wires in order to prevent false alarm indication.

NOTE: If the inoperative smoke detector is in detector position position 1, 2, 5, or 7, an operative detector may be relocated to position position 1, 2, 5, or 7.

(O) OPERATIONS PROCEDURES:

26-14 and 26-14-04 Main Deck Empty

Flight crew to ensure no cargo is carried in main deck cargo compartment before each flight.

26-14-05 Fire Detection Systems Inop. (STC SA22-6)

When dispatching with one smoke detection channel (loop) inoperative:

Test operative loop in accordance with R-1000 AFMS PRE-FLIGHT CHECK of the Main Deck Cargo Smoke Detection System to verify proper function.

PRE-FLIGHT CHECK

Main Deck Cargo Smoke Detection Panel

1. Detector A/B- TEST SWITCH..... Toggle and Hold to Position A for 1 second
2. Verify Channel A smoke detector lights (14) illuminated
3. Verify that the fire warning bell sounds.
4. Verify that the master FIRE WARN lights are illuminated.
5. Detector A/B-TEST SWITCH..... Release
6. Verify that the master FIRE WARN lights are Extinguished
7. Verify that the fire warning bell cancels
8. Detector A/B-TEST SWITCH.....Toggle and Hold to Position B for 1 second
9. Verify Channel B smoke detector lights (14) illuminated
10. Verify that the fire warning bell sounds.
11. Verify that the master FIRE WARN lights are illuminated.
12. Detector A/B-TEST SWITCH..... Release
13. Verify that the master FIRE WARN lights are Extinguished
14. Verify that the fire warning bell cancels

26-15 Lavatory Fire Extinguisher Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-15	Lavatory Fire Extinguisher Systems				
26-15-01	Passenger Configuration **Applicable to: C-FTUW, C-FTUY**				
26-15-01A		C	3	0	For each lavatory, lavatory fire extinguisher system may be inoperative provided associated lavatory smoke detection system operates normally.
26-15-01B		C	3	0	(M)(O) For each lavatory, lavatory fire extinguisher system may be inoperative provided: a) Lavatory waste receptacle is empty, b) Associated lavatory door is locked closed and placarded: "INOPERATIVE - DO NOT ENTER", and c) Lavatory is used only by crewmembers. NOTE: These provisions are not intended to prohibit lavatory use or inspection by crewmembers.
26-15-01C	Non-Passenger Operations	C	3	0	(O) For each lavatory, the lavatory fire extinguishing system may be inoperative for non-passenger carrying operations provided: a) Crew members are the only occupants of the aircraft, and b) Crew members have been briefed as to which lavatory fire extinguisher system(s) is/are inoperative.
26-15-02	Cargo Configuration **Applicable to: C-FTUZ**	C	1	0	(O) For each lavatory, the lavatory fire extinguishing system may be inoperative provided crew members have been briefed as to which lavatory fire extinguishing system(s) is/are inoperative.

PLACARDING:

Apply placard on affected Lavatory Door and waste receptacle access if applicable.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(AFFECTED) LAVATORY FIRE EXTINGUISHING INOP.

If associated smoke detector system also inoperative, add placard to lavatory door stating:

INOPERATIVE DO NOT ENTER

(M) MAINTENANCE PROCEDURES

For all operations except non-passenger, if the associated lavatory smoke detector is inoperative:

c) Empty the lavatory waste receptacle.

d) Lock the lavatory door closed.

c) If the smoke detector and fire extinguisher are both inoperative advise the flight crew that the lavatory is not to be used and that nobody enters except for inspection.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES:

Make sure that the associated lavatory is kept locked and is not entered except for use or inspection by crew members.

26-16 Lavatory Smoke Detection System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-16	Lavatory Smoke Detection System				
26-16-01	Passenger Configuration **Applicable to: C-FTUW, C-FTUY**				
26-16-01A		C	3	0	(M#)(O) For each lavatory, the lavatory smoke detection system may be inoperative provided: a) Lavatory waste receptacle is empty, b) Associated lavatory door is locked closed and placarded "INOPERATIVE - DO NOT ENTER", c) Lavatory is used only by crew members, and d) In-flight service waste bags are not stored in the lavatory. NOTE: These provisos are not intended to prohibit lavatory use or inspections by crew members.
26-16-01B	Non-Passenger Operations	B	3	0	(O) For each lavatory, the lavatory smoke detection system may be inoperative for non-passenger carrying operations provided: a) Crew members are the only occupants of the aircraft, b) Crew members have been briefed as to which lavatory smoke detection system(s) is/are inoperative, and c) In-flight service waste bags are not stored in the lavatory. NOTE: These provisos are not intended to prohibit lavatory use or inspections by crew members.

26-16-02	Cargo Configuration **Applicable to: C-FTUZ**	C	1	0	(O) For each lavatory, the lavatory smoke detection system may be inoperative provided: a) Crew members have been briefed as to which lavatory smoke detection system(s) is inoperative, and b) In-flight service waste bags are not stored in the lavatory. NOTE: These provisos are not intended to prohibit lavatory use or inspections by crew members.
26-16-03	Lavatory Smoke Detector SELF TEST Switch **Applicable to: ALL**	C	1	0	(M#) May be inoperative provided associated lavatory smoke detector is verified to operate normally.
26-16-04	Lavatory Smoke Detector TEST Switch on Flight Attendant's Panel **Applicable to: C-FTUW, C-FTUY**	C	1	0	(M#) May be inoperative provided each lavatory smoke detector is verified to operate normally.

PLACARDING:

Apply placard on affected lavatory door and waste receptacle access if applicable.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(AFFECTED) LAVATORY SMOKE DETECTION SYSTEM INOPERATIVE

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES:

26-16-01: Passenger Configurations

For an inoperative lavatory smoke detection system:

1. Empty the waste receptacles.
2. If necessary, deactivate the inoperative smoke detector.
    a. Open appropriate LAVATORY SMOKE circuit breaker and lock with a DO NOT CLOSE tag.
    b. Remove the inoperative smoke detector.
    c. Disconnect, cap and stow the electrical connector from the detector.
    d. Reinstall smoke detector.
    e. Close appropriate LAVATORY SMOKE circuit breaker.
3. Lock the lavatory door.

26-16-03: Lavatory Smoke Detector SELF TEST Switch

For the associated smoke detector, do the lavatory smoke detection system test (AMM 26-14-00/501).

26-16-04 Lavatory Smoke Detector TEST Switch on Flight Attendant's Panel

For each smoke detector, do the lavatory smoke detection system test (AMM 26-14-00/501).

(O) OPERATIONS PROCEDURES:

26-16-01A: Passenger Configuration

Make sure that the associated lavatory is kept locked and is not entered except for use or inspection by crew members.

26-16-01B Non-Passenger Operations and 26-16-02: Cargo Configuration

Crew members to be briefed prior to departure as to which lavatory smoke detection system(s) is inoperative.

In-flight service waste bags are not to be stored in the lavatory.

26-18 Wing-Body Overheat Test System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-18	Wing-Body Overheat Test System				
26-18-01	Flight Deck Test Feature	C	1	0	(M#) May be inoperative provided system integrity is verified by an acceptable procedure once each flight day.

PLACARDING:

Apply sticker adjacent to OVHT TEST Switch on Air Conditioning Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WING-BODY OVERHEAT TEST SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Prior to each Flight Day, verify the integrity of the Wing-Body Overheat Test System (AMM 26-00-00/901):

1. Apply heat from an appropriate heat source to an operable detector element in the left wing-body overheat detection system and in the right wing-body overheat detection system. The substitute test heat device must not produce heat greater than 450°F (232°C). This temperature limit should be observed in event fuel vapours exist in the area.
2. When a detector element in the left system is heated, observe that these lights come on:
   a) Left WING-BODY OVERHEAT light on the Air Conditioning Panel (P5).
   b) The AIR COND light on the glareshield P7.
   c) The MASTER CAUTION lights.
3. When a detector element in the right system is heated, observe that these lights come on:
   a) Right WING-BODY OVERHEAT light on the Air Conditioning Panel (P5).
   b) The AIR COND light on the glareshield P7.
   c) The MASTER CAUTION lights.

(O) OPERATIONS PROCEDURES:

None required.

26-19 Lower Cargo Compartment Fire Detection / Suppression Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-19	Lower Cargo Compartment Fire Detection / Suppression Systems	C	2	0	(O) May be inoperative provided procedures are established and used to ensure the associated compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit). NOTE: For ballast purposes, use of bags (made of glass fibre or Kevlar) of sand or ingots of non-magnetic metals (such as lead) is acceptable.
26-19-01	FWD/AFT Detection Loops				(O) One loop (A or B) for each cargo compartment may be inoperative provided opposite loop is checked to operate normally.
26-19-01-01		C	4	2	(O) One loop (A or B) for each cargo compartment may be inoperative provided opposite loop is checked to operate normally.
26-19-02	Extinguisher Bottles				
26-19-02-02	No. 2	C	1	0	(M#)(O) May be inoperative with cargo carried in compartment.
26-19-04	DISCH Light(s)				
26-19-04-01		C	1	0	(M#) May be inoperative provided associated extinguisher bottle(s) is verified to have an adequate charge once each flight day.
26-19-05	Extinguisher Bottle Pressure Switch	C	2	0	(M#) May be inoperative provided associated extinguisher bottle(s) is verified to have an adequate charge once each flight day.
26-19-06	EXT Lights (FWD and AFT)	C	2	0	(M#) May be inoperative provided: a) Failure is verified to be in squib light circuit, and b) Squib circuit is verified to operate normally once each flight day.

26-19-13	DETECTOR FAULT Light	C	1	0	(O) May be inoperative provided the cargo fire TEST switch is used to check for faults in the cargo fire detection and suppression system before each flight.

PLACARDING:

Apply sticker to Cargo Compartment Fire Detection/Suppression panel as appropriate.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD)(AFT) LOWER CARGO COMPT FIRE DETECTION/SUPPRESSION SYSTEM(S) INOP

or

(FWD)(AFT) LOWER CARGO COMPARTMENT (FUNCTION/LIGHT) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

26-19-02-02: No.2 Extinguisher Bottle

Do these steps to prevent anomalies in the indication of the DISCH light during operation and the EXT FWD and EXT AFT test light during system test (AMM 26-00-00/901):

1. Disconnect, cap and stow electrical connector D12816 on the Extinguisher Bottle No. 2 pressure switch.
2. Disconnect electrical connectors D12820 and D12818 from the Extinguisher Bottle No. 2 squibs.
3. Install a jumper across pins 1 and 2 on both connectors. Cap and stow connectors.

26-19-04-01: DISCH Light(s)

Do these steps for an inoperative DISCH light circuit to make sure that the fire extinguisher bottle has an adequate charge (AMM 26-00-00/901):

1. Build a test lamp (28 Volts DC/40 milliamps) with pigtail leads terminating in pin contacts in a suitable holder.

   NOTE: Any suitable lamp or digital multimeter can be used.
2. Remove the Cargo Fire Panel.
3. Disconnect the electrical connector D12760 from the panel.
4. Connect the test lamp or digital multimeter between the airplane side of connector D12760, Pin 48 (+28 volt source for Bottle No. 1) and Pin 28 (pressure switch ground).
5. For airplanes with Extinguisher Bottle No. 2:
   a) Connect test lamp or digital multimeter between the airplane side of connector D12760, Pin 45 (+28 volt source for Bottle No. 2) and Pin 28 (pressure switch ground).

6. If the test lamp remains extinguished or the digital multimeter indicates an open circuit the associated bottle has an adequate charge.
7. Remove the test lamp.
8. Reconnect electrical connector D12760 or D13188 to the panel.
9. Install the Cargo Fire Panel.

26-19-05: Extinguisher Bottle Pressure Switch

Do these steps to verify the charge of the associated fire extinguisher bottle and to deactivate the pressure switch (AMM 26-00-00/901):

1. Remove the extinguisher bottle.
2. Weigh the extinguisher bottle on a scale that is accurate to within +/- 0.1 pound.
3. Confirm that the extinguisher bottle weight is within 0.25 pounds of the service weight stamped on the bottle's identification plate.
4. Install the extinguisher bottle.
5. Cap and stow the associated bottle's pressure switch electrical connector.

26-19-06: EXT Lights (FWD and AFT)

Do these steps for an inoperative EXT light circuit to verify normal operation of associated squib circuit (AMM 26-00-00/901):

1. Build a test lamp (28 Volts DC/40 milliamps) with pigtail leads terminating in pin contacts in a suitable holder.

   NOTE: Any suitable lamp can be used.
2. Remove the Cargo Fire Panel.
3. Disconnect the electrical connector D12760 or connector D13188, for -800BCF airplane, from the panel.

CAUTION:

TO PREVENT INJURY, RESTRICT PERSONNEL FROM EXTINGUISHER BOTTLE AREA DURING SQUIB CIRCUIT TEST. LIMIT CURRENT TO 40 MILLIAMPS MAXIMUM DURING TEST. USE TEST LAMP (28 VOLT, 40 MILLIAMPS ONLY). DO NOT USE A MULTIMETER.

4. Use the table below to determine which pin numbers to connect between the test lamp and the airplane side of connector D12760 or D13188.
   a) If the test lamp illuminates, the squib circuit is intact.
5. Remove the test lamp.
6. Reconnect electrical connector D12760 or D13188 to the panel.
7. Install the Cargo Fire Panel.

Continued...

CARGO FIRE BOTTLE SQUIB TEST TABLE				
Bottle	Squib	Squib Plug No.	TEST LAMP CONNECTION	
			Pin No. (+28 Vdc Source)	Pin No. (Ground Path)
1	FWD	D12794	D12760, Pin 48 D13188, Pin 48	D12760, Pin 26 D13188, Pin 26
1	AFT	D12796	D12760, Pin 48 D13188, Pin 48	D12760, Pin 24 D13188, Pin 24
2	FWD	D12818	D12760, Pin 45 D13188, Pin 45	D12760, Pin 12 D13188, Pin 12
2	AFT	D12820	D12760, Pin 45 D13188, Pin 45	D12760, Pin 23 D13188, Pin 23

(O) OPERATIONS PROCEDURES:

26-19: Compartment Remains Empty

May be inoperative provided associated cargo compartment remains empty or carries only ballast (bags made of glass fibre or Kevlar filled with sand or ingots of non-magnetic metals such as lead).

26-19-01-01: Forward or Aft fire detector loop inoperative

NOTE: If a Cargo Fire Panel FWD/AFT warning light does not illuminate during system test, one or more detection loops for the associated cargo compartment is inoperative.

To determine the inoperative loop(s):

1. On the Cargo Fire Panel, position the FWD and AFT DET SELECT switch to A.
2. Press and hold Cargo Fire Panel TEST switch.
3. Verify that the following indications occur within 4 seconds.
   a) Fire Bell sounds.
   b) Both Master FIRE WARN lights illuminate.
   c) Cargo Fire Panel FWD and AFT warning lights illuminate.
   d) Cargo Fire Panel DISCH light illuminates.
   e) Cargo Fire Panel EXT FWD and EXT AFT lights illuminate.
4. If one or more smoke detectors in Loop A is inoperative, the Cargo Fire Panel DETECTOR FAULT light will illuminate and the associated FWD or AFT warning light will remain extinguished for the cargo compartment with the inoperative detector.
5. Release the Cargo Fire Panel TEST switch. The DETECTOR FAULT light remains illuminated if a loop failure is detected in either the forward or aft cargo compartment. Otherwise, all indications will clear within half a second.
6. Position Cargo Fire Panel FWD and AFT DET SELECT switch to B and repeat the above test (Steps 2 through 5).

7. Position Cargo Fire Panel DET SELECT switch(es) as required for flight. One detection loop (A or B) must operate normally in each cargo compartment or MEL loading restrictions must be observed.

26-19-02-02: No.2 Extinguisher Bottle:

The fire suppression capability is reduced to 60 minutes. Therefore the airplane must remain within 60 minutes of a suitable airport.

26-19-13: DETECTOR FAULT Light

Before each flight, do a test of the cargo fire detection and suppression system using the TEST switch on the cargo fire panel.

26-25 Engine Start Lever Fire Indication Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 - FIRE PROTECTION					
26-25	Engine Start Lever Fire Indication Lights	A	2	0	(O) May be inoperative provided: a) Engine No. 1 and Engine No. 2 fire handle switch lights function normally prior to engine start for each flight, and b) Repairs are made within 3 flight-days.

PLACARDING:

Apply sticker on or adjacent to affected Engine Start Lever(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(#1)(#2)(BOTH) ENGINE START LEVER FIRE INDICATION LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES:

In addition to the Fire and Overheat System Test which is required to be performed every flight day, perform the following prior to engine start for each flight:

Fault/Inoperative (FAULT/INOP) and Overheat/Fire (OVHT/FIRE) Test Switch -

- Hold to OVHT/FIRE.
- Verify that the Engine No. 1 and Engine No. 2 fire switches stay illuminated.

27 – FLIGHT CONTROLS

27-04 Leading Edge Flap/Slat Position Light Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-04	Leading Edge Flap / Slat Position Light Systems				
27-04-02A	Aft Overhead LE DEVICES Annunciator Panel	C	1	0	Aft overhead LE DEVICES Annunciator panel may be inoperative provided forward panel lights operate normally.
27-04-02B	Forward Panel Lights	C	1	0	(M) Forward panel lights may be inoperative provided: a) Aft overhead LE DEVICES Annunciator panel operates normally and is used to verify proper LE DEVICE position, and b) A placard is installed to indicate proper position for flap configuration in use.
27-04-02-03	Leading Edge Slat Indications	C	8	7	(M)(O) Indication lights on forward panel, and in addition, indication lights for one leading edge slat, except for slats 3, 4, 5, and 6, on overhead annunciator panel may be inoperative provided: a) Normal operation is verified by flight crew before each takeoff and landing, b) Maximum speed is limited to 300 KIAS at/below FL 200 or .65 Mach above FL 200, c) All remaining indications on overhead annunciator panel operate normally, and d) Stall warning operation of both systems is verified to operate normally.

NOTE: Associated wing illumination light may be required for verification of normal operation of the leading edge slats.

PLACARDING:

Apply sticker/placard adjacent to the Leading Edge Flap/Slat Position panel, and, if indication for one slat inoperative fabricate and affix a placard stating "INOP - VISUALLY CONFIRM POSITION" adjacent to annunciator panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Forward Panel Lights or Annunciator Panel Inoperative:

  LEADING EDGE FLAP/SLAT POSITION LIGHT SYSTEM INOP

- One Leading Edge Slat Indication Inoperative:

  _____LEADING EDGE SLAT INDICATION INOP - VISUALLY CONFIRM POSITION

(M) MAINTENANCE PROCEDURES:

27-04-02B: Forward Panel Lights

With forward position indicator lights inoperative (AMM 27-00-00/901):

1. Cycle the flaps.
2. Verify that the LE DEVICES annunciator panel (P5) operates normally during flap extension and retraction.

   NOTE: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.

3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the LE DEVICES annunciator panel:

   For -800SFP:

   a) Flap positions 1 thru 5:
      1. All slats in EXT position
      2. LE flaps extended
   b) Flap positions 10 thru 40:
      1. All slats in FULL EXT position
      2. LE flaps extended

Continued...

27-04-02-03: Leading Edge Slat indications

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative (AMM 27-00-00/901):

1. Perform Flaps cycle by extending and retracting the TE and LE flaps.
2. Verify that the remaining LE DEVICES annunciator panel (P5) lights operate normally during flap extension and retraction.

   NOTE: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.

3. After verification of a single inoperative LE Slat Position light, determine and record which TE Flap position settings cause this failure.
   a) If faulty indication on overhead annunciator panel can be replicated on the ground, record which TE Flap position settings causes this failure.
   b) If faulty indication on overhead annunciator panel cannot be replicated on the ground, use FSEU BITE to determine if an FSEU input has been recently faulty.
      1. If FSEU BITE (Flight Leg 0) indicates fault message codes 27-81200 through 27-81223 or 27-81225 through 27-81236, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel.
      2. If FSEU BITE does not yield one of these fault codes because the faulty overhead indication light(s) flashes ON/OFF for an instant such that the fault does not latch, first confirm that the applicable slat is stationary in the position where the intermittent indication was observed, then open and collar the Stall Warning Asymmetry Mode circuit breaker.
4. Remove the bulbs from the applicable inoperative light(s) on the center instrument panel, P2-2. Attach an INOP placard to this light.
5. Use the following information to make a placard and install it adjacent to the LE Device Annunciator Panel P5-12:

   For -800SFP:

   a) Flap positions 1 thru 25:
      1. All slats in EXT position.
      2. LE flaps extended.
   b) Flap positions 30 and 40:
      1. All slats in FULL EXT position.
      2. LE flaps extended.
6. Using the information recorded in step 3, set flaps to the position which produces the faulty indication.
7. Verify that the leading edge and trailing edge devices are in the correct position.

Continued...

8. Verify normal operation of both Stall Warning Systems:

   For -800SFP:

   NOTE: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 30.

   a) Verify that hydraulic system B pressure is between 2900 and 3100 psi.
   b) While monitoring the control column for stick shaker operation, push and hold STALL WARNING TEST NO. 1 and NO. 2 switch on the stall warning test module (P5 Overhead Panel).
   c) If both stick shakers fail to operate normally, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the test in Step b.

9. If the stick shaker tests are not normal, airplane cannot be dispatched.

   Consult the FIM Section 27 to isolate the fault and perform the appropriate corrective action.

MAINTENANCE NOTE:

Advise Dispatch. Flight Planning may be affected.

(M#) MAINTENANCE PROCEDURES:

None required

(O) OPERATIONS PROCEDURES:

27-04-02-03: Leading Edge Slat indications

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Verify leading edge slat position for the inoperative indication before each takeoff and landing.
2. Limit airspeed
   a) At or below FL 200, limit airspeed to 300 KIAS.
   b) Above FL 200, limit airspeed to 0.65 Mach

   NOTE: Refer to Section 4 of the Airplane Flight Manual for the Cruise Maneuvering Capability Chart for maintaining minimum maneuvering speeds.

   CAUTION:

   FLIGHT CREW TO BE AWARE OF LOW SPEED BUFFET LIMITATIONS.

27-07 Auto Speed Brake System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-07	Auto Speed Brake System				
27-07-02	-800SFP	C	1	0	(M#)(O) May be inoperative provided: a) System is deactivated, and b) Appropriate performance adjustments are applied.

PLACARDING:

Apply sticker adjacent to Speed Brake Lever.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTO SPEED BRAKE INOP. USE MANUAL SPEED BRAKE

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Prepare the airplane for flight with the auto speed brake system inoperative (AMM 27-00-00/901):

1. Verify manual speed brake operation.

   NOTE: Extend flaps prior to moving speed brake lever beyond the FLIGHT DETENT position.

2. Open and collar P6 Panel circuit breaker FLIGHT CONTROL AUTO SPEED BRAKE.

Continued...

(O) OPERATIONS PROCEDURES:

1. Prior to takeoff, ensure that speed brake lever is in the full down detent.
2. Reduce performance limited weights by the following:
   a) Takeoff field length limit weight and brake energy limit weight: 2300 lb (1044 kg)
   b) Landing field length limit weight based on auto speed brakes: 13,000 lb (5897 kg)
3. Extend speedbrakes manually for rejected takeoff or landing.
   a) For rejected takeoff:
      1. Simultaneously close the thrust levers, disengage the autothrottles and apply maximum manual wheel brakes or verify operation of RTO autobrakes.
      2. Manually raise SPEED BRAKE lever.
      3. Apply the maximum amount of reverse thrust consistent with conditions.
   b) For landing:
      1. Simultaneously close the thrust levers and apply manual wheel brake or verify operation of autobrakes.
      2. Manually raise SPEED BRAKE lever.
      3. Apply reverse thrust consistent with conditions.
4. The autobrakes will not disarm when the speed brake lever is stowed. Auto brakes can be disarmed by positioning the AUTO BRAKE select switch to OFF, applying brakes manually or advancing the thrust levers.

27-08 Flap Load Limiter System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-08	Flap Load Limiter System				
27-08-06	-800 with Short Field Performance (SFP) Option	C	1	0	May be inoperative provided: a) Flaps are not extended beyond Flaps 30 at gross weights above 95,800 lbs. (43,454 kg), b) Flaps are not extended beyond Flaps 15 at gross weights above 105,000 lbs. (47,627 kg), and c) Flaps are not extended beyond Flaps 10 at gross weights above 135,800 lbs. (61,597 kg).

PLACARDING:

Apply sticker adjacent to flap position indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLAP LOAD LIMITER INOP - DO NOT EXTEND BEYOND FLAPS 15/30 AS APPLICABLE

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

27-10 FEEL DIFF PRESS Light System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-10	FEEL DIFF PRESS Light System	B	1	0	(M#) May be inoperative provided Elevator feel system is verified to operate normally once each flight-day.

PLACARDING:

Apply sticker adjacent to FEEL DIFF PRESS light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FEEL DIFFERENTIAL PRESSURE LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify that the feel system is operative once each flight day (AMM 27-00-00/901):

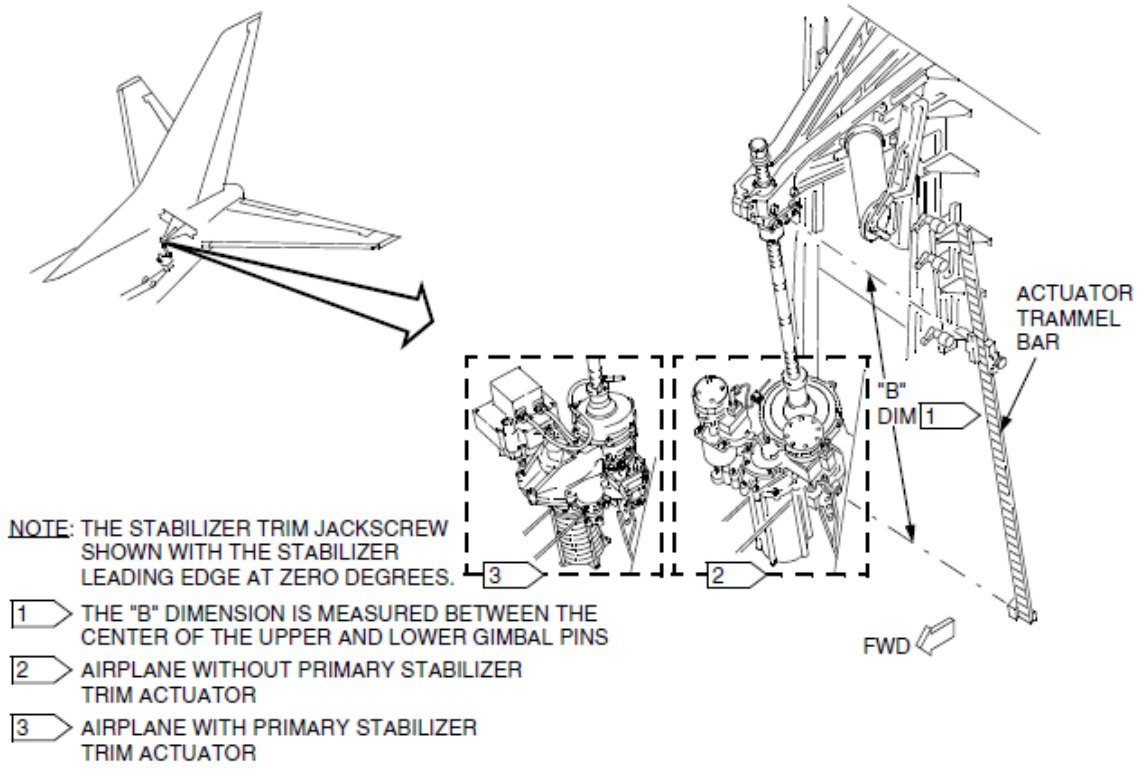
1. Pressurize the elevator hydraulic systems A and B (AMM 27-31-00/201).

CAUTION:

MAKE SURE PERSONNEL ARE CLEAR OF THE HORIZONTAL TAIL AND ARE AWARE THAT HYDRAULIC SYSTEMS ARE PRESSURIZED.

2. Use the stabilizer trim switches to set the stabilizer to 4 units of trim.
3. Set the FLT CONTROL A and B switches to OFF.

4. Verify that the horizontal stabilizer "B" dimension is 39.89 ± 0.03 inches.



5. Set the mach trim actuator in null position (AMM 27-31-00/201).
6. Do a check for pressure leakage in the feel pitot system:
   a) Apply a seal to the drain hole in each feel pitot tube on the vertical fin.
   b) Remove the drain plugs from the system A and B pitot lines.

      NOTE: The pitot lines are located below the elevator feel computer.

   c) Connect the pressure gage lines from the air pressure regulator to the drain holes of the pitot lines.

      CAUTION:

      DO NOT RAISE TEST PRESSURE ABOVE 5.0 PSI (437 KNOTS) AT ANY TIME DURING TEST.

   d) Connect the pressure lines from air pressure regulator to both pitot probes on the vertical fin.
   e) Pressurize the pitot system to 4.8 ± 0.1 psi (429 ± 4 knots).
   f) Turn the shutoff valve in the air pressure regulator to off.
   g) Make sure the pressure does not decrease more than 0.3 psi (12 knots) during a 2-minute period.
   h) Reduce the pitot pressure to zero.
7. Set the FLT CONTROL A and B switches to ON.
8. Pressurize the pitot system to 2.47 ± 0.05 psi (315 ± 3 knots).

CAUTION:

DO NOT RAISE TEST PRESSURE ABOVE 5.0 PSI (437 KNOTS) AT ANY TIME DURING TEST.

9. Apply masking tape on the tail cone along the direction of the right elevator trailing edge travel.

   NOTE: Elevator travel measuring tool may be used in lieu of tape method.

10. Move the captain's control column lightly to put the elevator system in the neutral position.

    NOTE: Make sure that the control columns are not disturbed from this position during the next step.

11. Mark the actual elevator trailing edge neutral position on the masking tape.
12. Set FLT CONTROL B switch to OFF and leave FLT CONTROL A switch in the ON position.
13. Move the captain's control column slowly with a push/pull type spring scale applied to the center of the control wheel to the elevator positions as shown in the table below.

    NOTE: Make sure the force to hold the control column is as shown in the table below.

Model	Elevator Position	Column Force
-600/-700/-800/-900	1.20 ± 0.05 inches up	42.0 ± 10.0 lbs
	1.20 ± 0.05 inches down	44.5 ± 11.5 lbs

14. Set FLT CONTROL A switch to OFF and FLT CONTROL B switch to ON.
15. Do step 13 again.
16. Restore the airplane to its usual condition:
    a) Make sure that all tools used during testing are removed.
    b) Remove all masking tape.
    c) Remove seals from the drain holes in each vertical fin pitot probe.
    d) Remove the pressure gage lines from systems A and B drain lines.
    e) Install the drain plugs to the systems A and B drain lines.
    f) Remove regulated air pressure lines from both vertical fin pitot probes.
    g) Close all circuit breakers opened during testing.
    h) Restore airplane to normal hydraulic configuration (AMM 27-31-00/201).
    i) Remove electrical power if no longer required.

(O) OPERATIONS PROCEDURES:

None required.

27-11 Auto Slat Fail Light System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-11	Auto Slat Fail Light System	C	1	0	(M#) May be inoperative provided: a) Auto slat systems are verified to operate normally, and b) Verification is repeated every 2 flight days

PLACARDING:

Apply sticker on or adjacent to Auto Slat Fail Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTO SLAT FAIL LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

1. Do the EXISTING FAULTS test on the SMYD BITE (AMM 27-00-00/901):
   a) Push the ON/OFF switch.
   b) Push the YES switch when the display shows EXISTING FAULTS?
      1. Make sure the display shows NO FAULTS.
   c) Push the MENU switch.
   d) Push the ON/OFF switch to exit the BITE.

(O) OPERATIONS PROCEDURES:

None required.

27-12 Auto Slat Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-12	Auto Slat Systems	C	2	1	(O) One system may be inoperative provided: a) Remaining auto slat system is checked to operate normally, and b) Auto Slat fail light operates normally

PLACARDING:

Apply sticker on or adjacent to Auto Slat Fail Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTO SLAT SYSTEM (NO 1) OR (NO 2) INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

The inoperative autoslat system can be deactivated by opening and collaring the associated P6-2 Panel AUTO SLAT DC circuit breaker.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

For initial dispatch, verify normal operation of the remaining autoslat system:

NOTE: Illumination of the associated lights when recalled and extinguishing when reset verifies normal operation.

1. Press and release a system annunciator panel on the glareshield and observe that these lights illuminate:
   a) FLT CONT
   b) AUTO SLAT FAIL
   c) MASTER CAUTION.
2. Press and release a MASTER CAUTION light and observe that these lights extinguish:
   a) FLT CONT
   b) AUTO SLAT FAIL
   c) MASTER CAUTION.

27-14 Rudder Trim Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-14	Rudder Trim Indicator				
27-14-02		C	1	0	(O) May be inoperative provided: a) Rudder trim actuator is checked to operate normally, and b) Rudder trim is checked centered before each departure.

PLACARDING:

Apply sticker on or adjacent to Rudder Trim Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

RUDDER TRIM INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Confirm normal operation of the rudder trim actuator and confirm rudder trim is centered before departure:

1. Pressurize rudder hydraulic systems A and B.
2. Do a test of the rudder trim actuator:
   a) Turn the rudder trim knob to the NOSE LEFT position.
   b) Observe that the captain's left rudder pedal moves forward and right rudder pedal moves aft.
   c) Turn the rudder trim knob to the NOSE RIGHT position.
   d) Observe that captain's left rudder pedal moves aft and right rudder pedal moves forward.
3. Do a test of the rudder trim centering:
   a) Turn the rudder trim knob in appropriate direction until the captain's rudder pedals are aligned with each other.
   b) Make sure that the rudder is centered (in the neutral position). If not, use rudder trim until rudder is centered.

27-16 SPEED BRAKE / SPEEDBRAKES EXTENDED Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-16	SPEED BRAKE / SPEEDBRAKES EXTENDED Light				
27-16-02		B	1	0	(M) May be inoperative provided speedbrakes are verified to operate normally.

PLACARDING:

Apply sticker adjacent to Speed Brake light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SPEED BRAKE EXTENDED LIGHT INOP

(M) MAINTENANCE PROCEDURES:

Verify normal operation of the speed brakes (AMM 27-00-00/901).

1. Verify that wheel chocks are in place.
2. Put the SPEED BRAKE lever in the DOWN position.
3. Visually verify that flight and ground spoilers are all down.
4. Put the SPEED BRAKE lever in the FLIGHT DETENT.
5. Visually verify that ground spoilers and flight spoilers deploy.
6. Put the SPEED BRAKE lever in the DOWN position.
7. Visually verify that flight and ground spoilers are all down.
8. Verify the main deck cargo door is closed and locked.
9. Verify that stabilizer trim is in the green band.
10. Position flaps to a takeoff position.
11. Release the parking brake.
12. Open circuit breaker C00120, WEATHER RADAR RT on the P6-1 panel.
13. Advance (engines not running) both thrust levers beyond 60 degrees.
14. Make sure that the Takeoff Configuration Warning Horn does not sound.
15. Retard thrust levers to idle.

Continued...

16. Return airplane to it's normal configuration, i.e., set parking brake and retract flaps.
17. Close circuit breaker C00120, WEATHER RADAR RT on the P6-1 panel.
18. If the SPEEDBRAKES EXTENDED light remains illuminated while on the ground, extinguish it by removing the light bulb.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

27-17 Wheel to Rudder Interconnect System (WTRIS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-17	Wheel to Rudder Interconnect System (WTRIS)	C	1	0	

PLACARDING:

Apply sticker adjacent to Flight Control A/B Hydraulic switches.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT CONTROL A/B HYDRAULIC SWITCH - WTRIS INOPERATIVE

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

27-20 Speedbrake Load Alleviation System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-20	Speedbrake Load Alleviation System				
27-20-01-02					
27-20-01-02A		C	1	0	(M#)(O) May be inoperative provided: a) Speedbrake handle forces are normal from full down to full up position, b) Airspeed does not exceed 265 KIAS when in-flight gross weight is in excess of 155,000 lbs. (70,306 kg), c) Severe turbulent air penetration speed is 265 KIAS or 0.76 Mach, whichever is lower, when in-flight gross weight is in excess of 155,000 lbs. (70,306 kg), and d) Automatic Speedbrake System is considered inoperative. NOTE: Refer to MEL Item 27-07 (Auto Speed Brake System).
27-20-01-02B		C	1	0	(M#) May be inoperative provided: a) Speedbrake handle forces are normal from full down to full up position, and b) Takeoff weight does not exceed 155,500 lbs. (70,533 kg).

PLACARDING:

Apply sticker adjacent to captain's and F/O's PFDs.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SPEED BRAKE LOAD ALLEVIATION SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES:

27-20-01-02A In-flight Gross Weight Exceeds 155,000 lbs. (70,306kg.)

Deactivate the Speedbrake Load Alleviation System and the Automatic Speed Brake System is considered inoperative (AMM 27-00-00/901).

1. The Speedbrake Load Alleviation System may be inoperative due to:
   a) Mechanical failures.
   b) electrical failures (including failure of the system actuator in the center control stand).
   c) SMYD in the #2 position generating an autostow fault.
2. In any of the above cases, open and collar the circuit breaker for speed brake AUTOSTOW on P6-2 circuit breaker panel.
3. Use DDG item 27-07 (M) procedure for an inoperative automatic speed brake system.

27-20-01-02B Takeoff Weight Does Not Exceed 155,500 lbs. (70,533 kg.)

Deactivate the Speedbrake Load Alleviation System (AMM 27-00-00/901).

1. The Speedbrake Load Alleviation System may be inoperative due to:
   a) Mechanical failures.
   b) Electrical failures (including failure of the system actuator in the center control stand).
   c) SMYD in the #2 position generating an autostow fault.
2. In any of the above cases, open and collar the circuit breaker for speed brake AUTOSTOW on P6-2 circuit breaker panel.

(O) OPERATIONS PROCEDURES:

Use MEL item 27-07 (O) procedure for an inoperative automatic speed brake system.

27-21 STBY RUD ON Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-21	STBY RUD ON Light	C	1	0	(M)(O) May be inoperative provided: a) Rudder is verified to operate normally on hydraulic systems A and B independently, b) Standby hydraulic pump is verified to operate normally, and c) Rudder force fight monitor is deactivated.

PLACARDING:

Apply sticker adjacent to Standby Rudder ON Light on overhead panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STBY RUD ON LIGHT INOP

(M) MAINTENANCE PROCEDURES:

Open and collar the FORCE FIGHT MON circuit breaker on the P6-2 panel (AMM 27-00-00/901).

NOTE: If the STBY RUD ON light is inoperative ON, verify light extinguishes after pulling circuit breaker.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Verify that the rudder operates normal on hydraulic system A and B:
   a) Pressurize hydraulic systems A and B.
   b) Set FLT CONTROL A switch ON and FLT CONTROL B switch OFF.
   c) Verify normal rudder pedal forces by pushing captain's left rudder pedal forward (while holding tiller to prevent tire scrub) until it touches the stop and hold.
   d) Have ground observer confirm that rudder travels left.
   e) Release left rudder pedal and verify normal rudder pedal forces by pushing the captain's right rudder pedal forward (while holding tiller to prevent tire scrub) until it touches the stop and hold.
   f) Have ground observer confirm that rudder travels right.
   g) Release captain's right rudder pedal.
   h) Have ground observer confirm that rudder returns to neutral.
   i) Set FLT CONTROL B switch ON and FLT CONTROL A switch OFF.
   j) Repeat steps C through H above.
2. Verify that the standby hydraulic pump is operating normally by either:
   a) Verifying that the standby hydraulic pump can be heard turning on when either FLT CONTROL A or B switches are placed in the STBY RUD position.

      OR

   b) With one FLT CONTROL switch placed in the STBY RUD position (other FLT CONTROL switch OFF), repeat Steps c through h above.
3. Return FLT CONTROL switches to normal position for flight.

27-23 Elevator Tab Control Springs

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-23	Elevator Tab Control Springs	A	8	6	(M#) One may be broken or missing per elevator provided: a) Broken spring is removed, and b) Repairs are made within 10 flight-days.

PLACARDING:

Apply a sticker or placard as applicable.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT) ELEVATOR TAB CONTROL SPRING INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Remove the broken spring and verify the remaining springs are in place and not broken, and perform the tab mechanism inspections per AMM Task 27-31-00-220-802.

Perform elevator tab operational test per AMM Task 27-31-00-700-815.

(O) OPERATIONS PROCEDURES:

None required.

27-24 Rudder Pedal Adjustment

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27 - FLIGHT CONTROLS					
27-24	Rudder Pedal Adjustment	C	1	0	(M) One may be broken or missing per elevator provided: a) Rudder pedals can be secured in a position which meets individual pilot requirements, and b) Full and unrestricted movement of the rudder and brake pedal deflection is possible at both pilot stations.

PLACARDING:

Apply sticker adjacent to rudder pedal adjustment crank.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT) (F/O) RUDDER PEDAL ADJUSTMENT INOP

(M) MAINTENANCE PROCEDURES:

1. Secure rudder pedals in a position satisfactory to the affected crew member.
2. Check that rudder and brake pedal deflection is normal at both pilot stations.
3. Advise Dispatch. Rudder pedal position must be suitable to crew.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

28 – FUEL

28-01 Fuel Boost Pumps (Main Tanks)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 – FUEL					
28-01	Fuel Boost Pumps (Main Tanks)				
28-01-03					
28-01-03-01	Aft Pumps	C	2	1	(M)(O) Except for ER operations beyond 120 minutes, one may be inoperative provided: a) Both main tank forward pumps operate normally, b) At start of takeoff, fuel quantity in associated tank is not less than 7,500 lbs. (3,402 kg), c) A minimum fuel quantity of 2,500 lbs. (1,134 kg) is maintained in associated tank, and d) Boost pump is deactivated.
28-01-03-02	Forward Pumps	C	2	1	(M)(O) Except for ER operations beyond 120 minutes, one may be inoperative provided: a) Both main tank aft pumps operate normally, b) At start of takeoff, fuel quantity in associated tank is not less than 4,800 lbs. (2,177 kg), c) A minimum fuel quantity of 1,800 lbs. (817 kg) is maintained in associated tank d) Boost pump is deactivated.

PLACARDING:

Apply sticker adjacent to affected pump switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NO. 1) (NO. 2) TANK (AFT) (FWD) BOOST PUMP INOP - MAINTAIN MINIMUM FUEL IN ASSOCIATED TANK

(M) MAINTENANCE PROCEDURES:

28-01-03-01 Aft Pumps

1. Position the associated AFT FUEL PUMP switch to OFF.
2. Open and collar the associated aft fuel pump circuit breaker on Power Distribution Panel P91 or P92.
3. Notify dispatch, the fuel required will increase.

28-01-03-02 Forward Pumps

1. Position the associated FWD FUEL PUMP switch to OFF.
2. Open and collar the associated forward fuel pump circuit breaker on Power Distribution Panel P91 or P92.
3. Notify dispatch, the fuel required will increase.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

28-01-03-01 Aft Pumps

NOTE 1: Observe the Flight Manual limitations concerning lateral fuel imbalance. Plan fuel load to allow for the appropriate minimum fuel. Range and/or payload restrictions may result.

NOTE 2: Perform an operational check of the fuel crossfeed valve and ensure the Fuel Crossfeed Valve C/B (P6-3) has not tripped. Enter valve failure conditions resulting from the operational check in the Maintenance Log.

1. The minimum fuel requirements with an inoperative aft fuel boost pump assures that the operative forward fuel boost pump and suction feed inlet remain submerged during rotation to high nose up attitudes during takeoff or go around.
2. In the event the second (forward) boost pump in a main tank fails, the engine will operate satisfactorily on suction feed. With both tank No. 1 boost pumps inoperative, APU operation may become unreliable at altitudes above 25,000 feet.
3. For flight planning purposes, the fuel in the associated tank must be considered unusable. This fuel will be accounted for in the UNUSABLE FUEL on the flight release.

NOTE: At high altitude, thrust deterioration or engine flameout may occur.

28-01-03-02 Forward Pumps

NOTE 1: Observe the Flight Manual limitations concerning lateral fuel imbalance. Plan fuel load to allow for the appropriate minimum fuel. Range and/or payload restrictions may result.

NOTE 2: Perform an operational check of the fuel crossfeed valve and ensure the Fuel Crossfeed Valve C/B (P6-3) has not tripped. Enter valve failure conditions resulting from the operational check in the Maintenance Log.

1. The minimum fuel requirements with an inoperative forward fuel boost pump assures that the operative aft fuel boost pump and suction feed inlet remain submerged during rotation to high nose up attitudes during takeoff or go around.
2. In the event the second (aft) boost pump in a main tank fails, the engine will operate satisfactorily on suction feed. With both tank No. 1 boost pumps inoperative, APU operation may become unreliable at altitudes above 25,000 feet.
3. For flight planning purposes, the fuel in the associated tank must be considered unusable. This fuel will be accounted for in the UNUSABLE FUEL on the flight release.

NOTE: At high altitude, thrust deterioration or engine flameout may occur.

28-02 Fuel Boost Pumps (Center Tank)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 – FUEL					
28-02	Fuel Boost Pumps (Center Tank)				
28-02A		C	2	1	(M) May be inoperative provided: a) Tank remains empty, and b) Boost pump is deactivated.
28-02B		C	2	1	(M)(O) May be inoperative provided: a) Fuel quantity remaining in main wing tanks is adequate to reach a suitable airport if remaining center pump fails at any time, b) Zero fuel weight calculations are adjusted by weight of center tank fuel, c) Effect on airplane balance, in event fuel cannot be used, is accounted for, d) LOW PRESSURE light of operating center fuel tank pump operates normally, e) Center tank quantity indication operates normally, and f) Boost pump is deactivated.
28-02C		C	2	0	(M) May be inoperative provided: a) Center tank quantity indication operates normally, b) Center tank remains empty or zero fuel weight calculations are adjusted by weight of center tank fuel, and c) Boost pump is deactivated. NOTE: AFM fuel loading and usage limitations are for usable fuel.
28-02-01	Universal Fault Interrupter (UFI)	C	2	0	May be inoperative provided associated center tank boost pump is considered inoperative. NOTE: Refer to MMEL Item 28-02 (Fuel Boost Pumps (Center Tank)).

PLACARDING:

Apply sticker adjacent to affected switch(es) on fuel panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(ONE)(BOTH) CENTER TANK FUEL BOOST PUMP(S) INOP

OR

UNIVERSAL FAULT INTERRUPTER SYSTEM INOPERATIVE

(M) MAINTENANCE PROCEDURES:

28-02A Tank Remains Empty

1. Position the associated CTR FUEL PUMP switch to OFF.
2. Open and collar the associated center tank fuel pump circuit breaker on the Power Distribution Panel P91 or P92.

28-02B Tank Contains Fuel

1. Position the associated CTR FUEL PUMP switch to OFF.
2. Open and collar the associated center tank fuel pump circuit breaker on the Power Distribution Panel P91 or P92.
3. Notify Dispatch. Fuel planning should have main tank fuel quantities adequate to reach an alternate destination if the remaining center tank pump fails inflight.

28-02C Both Pumps Inoperative

1. Position the associated CTR FUEL PUMP switch to OFF.
2. Open and collar the associated center tank fuel pump circuit breaker on the Power Distribution Panel P91 or P92

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

28-02B Tank Contains Fuel

1. Verify that the zero fuel weight and balance limitations have been accounted for.
2. Adjust the zero fuel weight of the airplane by including the weight of center tank fuel, or adjust the maximum zero fuel weight by subtracting the weight of center tank fuel.
3. Fuel usage takeoff configuration:
   a) Position the CROSSFEED selector to the closed position.
   b) Position the AFT and FWD main tank FUEL PUMP switches to ON for all operating main pumps.
4. Verify that the operating center tank FUEL PUMP switch is in the OFF position.

   NOTE: Fuel CONFIG alert may be displayed with fuel in the center tank.

5. After takeoff:
   a) Position the operating center tank FUEL PUMP switch to ON if the center tank contains usable fuel.
   b) Position the CROSSFEED selector to the open position.
6. When the center tank LOW PRESSURE light illuminates:
   a) Position the operating center tank FUEL PUMP switch to OFF.
   b) Position the CROSSFEED selector to the closed position.

   NOTE: Prior to the center tank LOW PRESSURE light illuminating, a fuel imbalance between the main tanks may be indicated as a result of differences in fuel pump output pressures when operating with the crossfeed valve open.
7. For landing:
   a) Position the operating center tank FUEL PUMP switch to OFF whether or not the center tank contains usable fuel.
   b) Position the CROSSFEED selector to the closed position whether or not the center tank contains usable fuel.

28-03 Fuel Boost Pump Low Pressure Warning Light Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-03	Fuel Boost Pump Low Pressure Warning Light Systems				
28-03-01	Main Tank Pump Low Pressure Warning Light Systems				(M#)(O) May be inoperative provided: a) Associated fuel pump is not used, and b) MASTER CAUTION lights and FUEL system annunciator light are verified to operate normally.
28-03-01-01	Main Tank Pump Lights				
28-03-01-01A		C	4	3	May be inoperative provided: a) Both pumps in associated tank operate normally, and b) Associated tank quantity indicator operates normally.
28-03-01-01B		C	4	3	May be inoperative for an associated inoperative pump.
28-03-02	Center Tank Pump Low Pressure Warning Light Systems				
28-03-02A		C	2	1	(M)(O) May be inoperative provided: a) Associated fuel pump is not used, and b) MASTER CAUTION lights and FUEL system annunciator light are verified to operate normally.

28-03-02B	Center Tank Fuel Not Required For Flight	C	2	0	May be inoperative provided: a) Center tank fuel is not required for flight, b) Center tank fuel boost pumps are turned off, and c) Center tank remains empty or zero fuel weight calculations are adjusted by weight of center tank fuel.
28-03-02-01	Center Tank Pump Lights	C	2	0	(M)(O) May be inoperative provided: a) Center Tank Fuel Quantity Indicator operates normally, and b) MASTER CAUTION lights and FUEL system annunciator light are verified to operate normally.

PLACARDING:

Apply sticker adjacent to affected Fuel Boost Pump Low Pressure Warning Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ FUEL BOOST PUMP LOW PRESSURE WARNING LIGHT INOP

(M) MAINTENANCE PROCEDURES:

28-03-02A Center Tank Fuel Usable

1. Airplanes with Boeing Service Bulletin 737-28A1206 or equivalent installed:
   a) Set the two CTR FUEL PUMPS switches to OFF.
   b) Open and collar the operational center tank fuel boost pump circuit breaker for the center tank pump on Power Distribution Panel P91 or P92.
   c) Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
   d) Set the operational center tank fuel boost pump switch to ON.
   e) Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate after approximately 10 seconds.
   f) Set the operational center tank fuel boost pump switch to OFF.
   g) Close the operational center tank fuel boost pump circuit breaker on Power Distribution Panel P91 and P92.
   h) Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

28-03-02-01 Center Tank Pump Lights

When dispatching with one or both center tank fuel pump LOW PRESSURE lights inoperative and center tank fuel is to be used, the MASTER CAUTION lights and FUEL system annunciator panel light must illuminate when center tank fuel is depleted.

1. Airplanes with Boeing Service Bulletin 737-28A1206 or equivalent installed:
   a) Set the two CTR FUEL PUMPS switches to OFF.
   b) Open and collar the associated center tank fuel boost pump circuit breaker for the center tank pump on Power Distribution Panel P91 or P92.
   c) Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
   d) Set the associated center tank fuel boost pump switch to ON.
   e) Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate after approximately 10 seconds.
   f) Set the associated center tank fuel boost pump switch to OFF.
   g) Close the associated circuit breaker on Power Distribution Panel P91 and P92.
   h) Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

(M#) MAINTENANCE PROCEDURES:

28-03-01 Main Tank Pump Low Pressure Warning Light Systems

Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally in affected main tank (AMM 28-00-00/901).

1. Reset the MASTER CAUTION lights by pressing either Master Caution light module.
2. Set fuel boost pump switches in affected fuel tank to OFF.
3. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate.
4. If MASTER CAUTION lights and FUEL system annunciator panel light illuminate, no further maintenance steps required.
5. If MASTER CAUTION lights and FUEL system annunciator panel light do not illuminate, proceed to step 6.
6. Install a jumper plug to associated boost pump low pressure switch connector.
   a) Remove connector from associated boost pump low pressure switch and install 4M Sigma Corporation jumper plug 4MS-737NG-1 or equivalent.
   b) Secure jumper plug and associated wiring.
   c) Cover exposed main tank low pressure switch connector with protective cover M83723-60-210AN or equivalent.
   d) Reset the MASTER CAUTION lights by pressing either Master Caution light module.
   e) Set the main tank fuel boost pump switch to ON (boost pump without the jumper plug on the low pressure switch in affected tank) and verify the LOW PRESSURE light extinguishes.
   f) Set the main tank fuel boost pump switch to OFF (boost pump without the jumper plug on the low pressure switch in affected tank) and verify the LOW PRESSURE light illuminates. Verify MASTER CAUTION lights and FUEL system annunciator panel light illuminate.

(O) OPERATIONS PROCEDURES:

28-03-01 Main Tank Pump Low Pressure Warning Light Systems

Observe MEL item 28-1 REMARKS OR EXCEPTIONS requirements and the Operational requirements when dispatching with a fuel boost pump low pressure warning system inoperative and the associated fuel pump is not used.

28-03-02A Center Tank Fuel Usable

Observe MEL item 28-2 REMARKS OR EXCEPTIONS requirements and the Operational requirements when dispatching with a fuel boost pump low pressure warning system inoperative and the associated fuel pump is not used.

28-03-02-01 Center Tank Pump Lights

When dispatching with one or both center tank fuel pump LOW PRESSURE lights inoperative and center tank fuel is to be used, position the two CTR FUEL PUMPS switches to OFF when both the MASTER CAUTION lights and the FUEL system annunciator panel light illuminate as a result of center tank fuel depletion.

28-04 APU Fuel Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-04	APU Fuel Valve	C	1	0	(M#)(O) May be inoperative provided: a) APU is not used, and b) Valve is deactivated closed.

PLACARDING:

Apply sticker adjacent to APU start switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU FUEL VALVE INOP CLOSED - DO NOT START APU

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Deactivate the APU fuel shutoff valve (AMM 28-00-00/901):

1. Open and collar these circuit breakers on the P6 panel:
   d) AUX POWER UNIT CONT
   e) APU FIRE SW POWER.
2. Locate valve on the left wing rear spar in the wheel well.
3. Remove, cap and stow the electrical connector.
4. If necessary, use the manual override handle to close valve.
5. Lockwire manual override handle in closed position.

NOTE: It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU (or some function thereof) inoperative. This will allow maximum time to make the required ground handling arrangements.

(O) OPERATIONS PROCEDURES:

1. Dispatch is not allowed if the APU is required by other procedures.
2. APU must not be started.

28-05 Crossfeed VALVE OPEN Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-05	Crossfeed VALVE OPEN Light	C	1	0	(M) May be inoperative provided: a) Crossfeed valve is verified to operate normally, b) Fuel quantity indication for both main tanks operates normally.

PLACARDING:

Apply sticker adjacent to Crossfeed Valve Open Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

CROSSFEED VALVE OPEN LIGHT INOP

(M) MAINTENANCE PROCEDURES:

Verify crossfeed valve operates normally.

1. Set CROSSFEED valve switch to the OPEN position.
2. Verify the override handle on the crossfeed valve moves to open position.
3. Set CROSSFEED valve switch to the CLOSED position.
4. Verify the override handle on the crossfeed valve moves to closed position.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

28-06 Flight Deck Fuel Quantity Indicators (Main Tanks)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-06	Flight Deck Fuel Quantity Indicators (Main Tanks)	C	2	1	(M#)(O) Except for ER operations, one may be inoperative provided: a) All boost pumps in associated tank operate normally, b) Fuel flow meters operate normally, c) Center tank indicator operates normally, d) Flight crew periodically computes fuel remaining, or checks fuel remaining against a precomputed fuel burn chart, and e) Fuel quantity in associated main tank is verified by an acceptable procedure.

NOTE 1: Inoperative fuel quantity main tanks indications can affect refueling control panel quantity indications. See MEL item 28-12.

NOTE 2: If the main tank fuel quantity indicator blanks intermittently or if the fuel quantity indicator shows an incorrect fuel quantity, deactivate the intermittent or non-functioning FQIS. Flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

NOTE 3: The fuel LOW alert and fuel IMBAL alert may not be displayed when appropriate.

PLACARDING:

Apply sticker adjacent to affected Fuel Quantity Indicator and to Refueling panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

Main Fuel Tank Fuel Quantity Inoperative: (LEFT)(RIGHT) MAIN FUEL QUANTITY INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Fuel Servicing Procedures

Do the fuel servicing procedures when a fuel quantity indicator does not operate (AMM 12-11-00).

This procedure uses a bussing plug jumper harness fabricated per instructions below or obtain pre-fabricated jumper harness from supplier, Cinch, per Service Letter 737-SL-28-108 for the Main Tank 1 FQIS or Main Tank 2 FQIS deactivation (AMM 28-00-00/901).

- If the main tank fuel quantity indicator blanks intermittently or if the fuel quantity indicator shows an incorrect fuel quantity or presence of any of these faults (TANK UNIT Lo-Z OPEN/GND, Hi-Z OP/SHORT TO SHIELD, COMPENSATOR Lo-Z OP/GND, COMPENSATOR SHORTED or DENSITOMETER SIGNAL FAIL), deactivate the intermittent or non-functioning FQIS (AMM 28-00-00/901).
- If two of the three tank FQIS indications on the airplane are intermittent or non-functional, the airplane cannot be dispatched.

1. Open FUEL FUELING CONT, FUEL FUELING IND, FUEL QTY 2 and FUEL QTY 1 circuit breakers on P6 panel.
2. Disconnect the external fuel tank bussing plug per AMM Task 28-41-41-000-801. For main tank 1 disconnect D11312 or for main tank 2 disconnect D11314.
3. Cap and stow the external fuel tank bussing plug connector and wiring (SWPM 20-10-11, Section 18).

   NOTE: Fold excess wires. Do not coil the wires.
4. Leave the wiring shields connected to ground stud (reference WDM 28-41-11) if the wire can be safely stowed without damaging the shield ground wire.
5. Install the pre-fabricated bussing plug jumper harness.
   a) Connect the jumper harness terminal lug to a ground stud GD3982-ST or GD3950-ST for main tank 1 at the spar or connect the jumper harness terminal lug to ground stud GD3986-ST or GD3952-ST for main tank 2 at the spar. Verify that only case or shield grounds are terminated at the ground stud.

      NOTE: Current return ground studs (designated GDXXX-AC or GDXXX-DC) cannot be used.
   b) Verify the resistance between each of the following socket contacts to the spar is 1.0 Ohm or less:
      i) For airplanes not equipped with densitometer, connector positions 1, C1, 2, and 3 (Hi-Z, Hi-Z shield, Lo-Z, and compensator).
      ii) For airplanes equipped with densitometer, connector positions 1, 2, C2, 4, 5, C5, 16, 17, 18, 19, 20, and 21 (Hi-Z, Hi-Z shield, Lo-Z, compensator, Sense, sense shield, drive (+), drive (-), and calibration resistors KR0, KR1, KR2, and KR3).

      NOTE: The Hi-Z and sense is verified at the center conductor of the coax contact. The Hi-Z shield, and sense shield is verified at the outer conductor of the coax contact.
   c) Connect the pre-fabricated bussing plug jumper harness to the spar. Install lockwire to attach bussing plug jumper harness to the jamnut.

      NOTE: Fold excess wires. Do not coil the wires.

Continued...

6. Close FUEL FUELING CONT, FUEL FUELING IND, FUEL QTY 2 and FUEL QTY 1 circuit breakers on P6 panel.
7. Verify that the display on the refuel indicator is blank (does NOT show fuel quantity). Also verify on the flight deck, CDU does NOT show total fuel quantity and that the fuel is blank in the upper display.

<u>To fabricate a bussing plug connector jumper harness</u>

Do the following steps to make the pre-fabricated bussing plug connector jumper harness (use an applicable spare bussing plug connector to make the bussing plug connector jumper harness). The wire harness must be no longer than 24 inches:

1. Make a shielded wire with a coax contact on one end, using 20 gauge wire (BMS 13-60, type 8 or type 11, class 1; or BMS 13-48, type 12, class 1).
   a) Terminate the wire and the shield to coax contact S283U007-7 (SWPM 20-61-11).

      NOTE: These wires will connect to tank connections for Hi-Z and shield.
2. Make two unshielded wires using 20 gauge wire (BMS 13-60, type 10, class 1; or BMS 13-48, type 31, class 1; or BMS 13-48, type 65, class 1).
   a) Terminate one end of each wire to contact BACC47CP2T (SWPM 20-61-11).

      NOTE: These wires will connect to tank connections: Lo-Z and compensator.
3. For airplanes equipped with densitometer, make another shielded wire with a coax contact on one end using 20 gauge wire (BMS 13-60 type 8 or type 11, class 1 or BMS 13-48 type 12, class 1).
   a) Terminate the wire and the shield to coax contact S283U007-7 (SWPM 20-61-11).

      NOTE: These wires will connect to tank connections: sense and shield.
4. For airplanes equipped with densitometer, make six additional unshielded wires, using 20 gauge wire (BMS 13-60, type 10, class 1; or BMS 13-48, type 31, class 1; or BMS 13-48, type 65, class 1).
   a) Terminate one end of each wire to contact BACC47CP2T (SWPM 20-61-11).

      NOTE: These wires will connect to tank connections: drive (+), drive (-), and calibration resistors (KR0, KR1, KR2, and KR3).
5. Terminate the other end of the wires into suitable terminal lugs (SWPM 20-30-11).

      NOTE: The following terminal lug configuration contributes to the operation of the suggested ground stud GD3950-ST or GD3982-ST for main tank 1 and GD3952-ST or GD3986-ST for main tank 2 (One terminal lug is installed at these locations):

   a) With densitometers: three terminal lugs with four wires each (12 wires total).
   b) Without densitometers: two terminal lugs with two wires each (4 wires total).
6. Insert the wires with the contacts into bussing plug jumper harness connector (SWPM 20-61-11):
   a) For non-densitometer configuration, insert the shielded wire with the coax contact into connector position 1 (Hi-Z and Hi-Z shield) and insert the unshielded wires into connector positions 2 and 3 (Lo-Z and compensator).
   b) For densitometer configuration, insert the shielded wires with the coax contacts into connector positions 2 and 5 (Hi-Z and Hi-Z shield; and sense and shield) and insert unshielded wires into connector positions 1, 4, 16, 17, 18, 19, 20, and 21 (Lo-Z, compensator, drive (+), drive (-), and calibration resistors KR0, KR1, KR2 and KR3).

(O) OPERATIONS PROCEDURES:

1. The MEL requirement to keep track of the fuel burn is intended to ensure that the pilot will notice an abnormal fuel feed situation and correct the resulting lateral fuel imbalance. The following are examples of methods that accomplish this requirement and are valid with crossfeed valve closed or open. Keep the CROSSFEED selector in CLOSED position, unless directed otherwise.
2. The objective of the following procedures is to assure that the fuel being consumed is coming from the intended tank. A verification of the fuel source can be made by comparing the fuel quantity change in 6 minutes to 1/10 of the fuel flow on the engine or engines feeding from that tank. For example, when using center tank fuel, if the rate of quantity decrease in the center tank is one half of the sum of the fuel flow for the engines, one engine is feeding from a wing tank.

   METHOD I - FOR AIRPLANES WITH FUEL USED INDICATORS:

	Example	Actual
a) Initial Fuel Load	28,000	
b) Fuel Remaining in Tanks (total)	7,000	
Tank 1	7,000	
Center	0	
Tank 2	INOP	
c) Fuel Used by Engines: (total)	13,300	
Engine #1	6,600	
Engine #2	6,700	
d) Fuel used by APU (refer to Operations Manual)		
2 hrs. @ 150 lbs/hr	300	
e) Total fuel used (c plus d)	13,600	
f) Total Fuel Accounted for (b plus e)	20,600	
g) Fuel remaining (a - f)	7,400	

Continued...

METHOD II - AIRPLANES WITHOUT FUEL USED INDICATORS:

Compare the precomputed fuel remaining against the actual fuel remaining. If the differences are unaccounted for and exceed 1000 pounds, perform the appropriate procedures to re-establish the proper fuel distribution.

CHECKPOINTS	CENTER (planned)	WINGS (planned)	CENTER (actual)	WINGS (actual)
TAKEOFF	3200	9400		
TOP OF CLIMB	0	9000		
POINT A	0	7900		
POINT B	0	6800		
POINT C	0	5700		
POINT D	0	4600		
BEGIN DESCENT	0	3500		
BEGIN APPROACH	0	3100		

Computation of fuel remaining can stop at top of descent if it is obvious that one has adequate fuel remaining. If weather, ATC or other problems cause concern, continue taking fuel flow and time readings at appropriate intervals.

3. If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-07 Flight Deck Fuel Quantity Indicator (Center Tank)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-07	Flight Deck Fuel Quantity Indicator (Center Tank)				
28-07-01		C	1	0	May be inoperative provided: a) One center tank boost pump operates normally, and b) Center tank remains empty
28-07-04	With Boeing Service Bulletin 737-28A1206 or Production Equivalent Installed	C	1	0	(M#) Except for ER operations, may be inoperative provided: a) Both center tank boost pumps operate normally, and b) Fuel quantity in center tank is verified by an acceptable procedure.

NOTE 1: Inoperative flight deck fuel quantity indications can affect refueling control panel quantity indications (see MEL item 28-12).

NOTE 2: If the fuel quantity indicator blanks intermittently or shows an incorrect fuel quantity, deactivate the intermittent or non-functioning FQIS. Flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

NOTE 3: Fuel CONFIG alert may not be displayed when appropriate.

PLACARDING:

Apply sticker adjacent to affected Fuel Quantity Indicator and to Refueling panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT DECK CENTER TANK FUEL QUANTITY INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify the fuel quantity of the center tank (AMM 12-11-00)

This procedure uses a bussing plug jumper harness fabricated per instructions below or obtain pre-fabricated jumper harness from supplier, Cinch, per Service Letter 737-SL-28-108 for the center tank FQIS deactivation.

- If center tank fuel quantity indicator blanks intermittently or if the fuel quantity indicator shows an incorrect fuel quantity or presence of any of these faults (TANK UNIT Lo-Z OPEN/GND, Hi-Z OP/SHORT TO SHIELD, COMPENSATOR Lo-Z OP/GND, COMPENSATOR SHORTED or DENSITOMETER SIGNAL FAIL), deactivate the intermittent or non-functioning FQIS (AMM 28-00-00/901).
- If two of the three tank FQIS indications on the airplane are intermittent or non-functional, the airplane cannot be dispatched.

1. Open FUEL FUELING CONT, FUEL FUELING IND, FUEL QTY 2 and FUEL QTY 1 circuit breakers on P6 panel.
2. Disconnect the external fuel tank bussing plug, D11316 per AMM Task 28-41-41-000-801.
3. Cap and stow the external fuel tank bussing plug connector and wiring (SWPM 20-10-11, Section 18).

   NOTE: Fold excess wires. Do not coil the wires.
4. Leave the wiring shields connected to ground stud (reference WDM 28-41-11) if the wire can be safely stowed without damaging the shield ground wire.
5. Install the pre-fabricated bussing plug jumper harness.
   a) Connect the jumper harness terminal lug to a ground stud GD490-ST or GD1964-ST or a nearby un-used ground stud at the spar. Verify that only case or shield grounds are terminated at the ground stud.

      NOTE: Current return ground studs (designated GDXXX-AC or GDXXX-DC) cannot be used.
   b) Verify the resistance between each of the following socket contacts to the spar is 1.0 Ohm or less:
      i) For airplanes not equipped with densitometer, connector positions 1, C1, 2, and 3 (Hi-Z, Hi-Z shield, Lo-Z, and compensator).

For airplanes equipped with densitometer, connector positions 1, 2, C2, 4, 5, C5,16, 17, 18, 19, 20, and 21 (Hi-Z, Hi-Z shield, Lo-Z, compensator, Sense, sense shield, drive (+), drive (-), and calibration resistors KR0, KR1, KR2, and KR3).

      NOTE: The Hi-Z and sense is verified at the center conductor of the coax contact. The Hi-Z shield, and sense shield is verified at the outer conductor of the coax contact.

   c) Connect the pre-fabricated bussing plug jumper harness to the spar. Install lockwire to attach bussing plug jumper harness to the jamnut.

      NOTE: Fold excess wires. Do not coil the wires.
6. Close FUEL FUELING CONT, FUEL FUELING IND, FUEL QTY 2 and FUEL QTY 1 circuit breakers on P6 panel.
7. Verify that the display on the refuel indicator is blank (does NOT show fuel quantity). Also verify on the flight deck, CDU does NOT show total fuel quantity and that the fuel is blank in the upper display.

To fabricate a bussing plug connector jumper harness

Do the following steps to make the pre-fabricated bussing plug connector jumper harness (use an applicable spare bussing plug connector to make the bussing plug connector jumper harness). The wire harness must be no longer than 24 inches:

1. Make a shielded wire with a coax contact on one end, using 20 gauge wire (BMS 13-60, type 8 or type 11, class 1; or BMS 13-48, type 12, class 1).
   a) Terminate the wire and the shield to coax contact S283U007-7 (SWPM 20-61-11).
      NOTE: These wires will connect to tank connections for Hi-Z and shield.
2. Make two unshielded wires using 20 gauge wire (BMS 13-60, type 10, class 1; or BMS 13-48, type 31, class 1; or BMS 13-48, type 65, class 1).
   a) Terminate one end of each wire to contact BACC47CP2T (SWPM 20-61-11).
      NOTE: These wires will connect to tank connections: Lo-Z and compensator.
3. For airplanes equipped with densitometer, make another shielded wire with a coax contact on one end using 20 gauge wire (BMS 13-60 type 8 or type 11, class 1 or BMS 13-48 type 12, class 1).
   a) Terminate the wire and the shield to coax contact S283U007-7 (SWPM 20-61-11).
      NOTE: These wires will connect to tank connections: sense and shield.
4. For airplanes equipped with densitometer, make six additional unshielded wires, using 20 gauge wire (BMS 13-60, type 10, class 1; or BMS 13-48, type 31, class 1; or BMS 13-48, type 65, class 1).
   a) Terminate one end of each wire to contact BACC47CP2T (SWPM 20-61-11).
      NOTE: These wires will connect to tank connections: drive (+), drive (-), and calibration resistors (KR0, KR1, KR2, and KR3).
5. Terminate the other end of the wires into suitable terminal lugs (SWPM 20-30-11).
      NOTE: The following terminal lug configuration contributes to the operation of the suggested ground stud GD3950-ST or GD3982-ST for main tank 1 and GD3952-ST or GD3986-ST for main tank 2 (One terminal lug is installed at these locations):
   a) With densitometers: three terminal lugs with four wires each (12 wires total).
   b) Without densitometers: two terminal lugs with two wires each (4 wires total).
6. Insert the wires with the contacts into bussing plug jumper harness connector (SWPM 20-61-11):
   a) For non-densitometer configuration, insert the shielded wire with the coax contact into connector position 1 (Hi-Z and Hi-Z shield) and insert the unshielded wires into connector positions 2 and 3 (Lo-Z and compensator).
   b) For densitometer configuration, insert the shielded wires with the coax contacts into connector positions 2 and 5 (Hi-Z and Hi-Z shield; and sense and shield) and insert unshielded wires into connector positions 1, 4, 16, 17, 18, 19, 20, and 21 (Lo-Z, compensator, drive (+), drive (-), and calibration resistors KR0, KR1, KR2 and KR3).

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

If desired, fuel remaining in the center tank can be determined using the fuel used indicators method or the operative tank indicators. Refer to MEL item 28-06 Operations procedure. If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-08 Fuel Temperature Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-08	Fuel Temperature Indicator	C	1	0	May be inoperative provided Total Air Temperature or Ram Air Temperature is substituted as an indication of fuel temperature.

PLACARDING:

Apply sticker adjacent to Fuel Temperature Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FUEL TEMPERATURE INDICATOR INOP - USE TOTAL AIR TEMP AS AN INDICATION OF FUEL TEMP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Use Total Air Temperature for Fuel Temperature.

28-09 Fuel Quantity Totalizer

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-09	Fuel Quantity Totalizer	C	1	0	

NOTE: The FMC CDU will display a VERIFY GW AND FUEL message if the FMC receives no data or receives a "no valid data" signal from the Fuel Quantity Processor Unit (FQPU). If total fuel is in error, one of the fuel tank quantities is also in error. the fuel tank quantity that is not correct should be addressed by appropriate MEL item for that tank 28-06 or 28-07. If the fuel indication for the tank fluctuates, is incorrect or is intermittent, that tanks fuel indication should be deactivated using the appropriate MEL procedure. Once the tank has been deactivated, total fuel will then change to "no computed data" which will allow the flight crew to manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

PLACARDING:

Apply sticker adjacent to Fuel Quantity Indicators.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FUEL QUANTITY TOTALIZER INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-10 Pressure Fueling System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-10	Pressure Fueling System	C	1	0	(M) May be inoperative provided alternate procedures are established and used.
28-10-01	Fueling Manifold Check Valves	C	3	0	(M) May be inoperative provided the associated Fueling Shutoff Valve is verified to operate normally.
28-10-02	Fueling Shutoff Valves	C	3	0	(M) May be inoperative closed provided: a) Verify the refuel valve is closed by pressurizing the fueling manifold and verify that fuel does not flow to the tank with the failed refuel valve, and b) After removal of the fueling nozzle, check the fueling receptacle for leakage. Leakage is not allowed
28-10-03	Refuel Panel Fueling Power Control Switch	C	1	0	May be inoperative off provided refuel panel indicator test switch operates normally in AUX FUELING POWER CONTROL position or FUEL DOOR SWITCH BYPASS position as applicable.

PLACARDING:

Apply sticker to Refueling Control Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Pressure Fueling System Inoperative

  PRESSURE REFUELING SYSTEM (COMPONENT) INOP

- Condition 2 - Fueling Manifold Check Valve(s) Inoperative

  TANK(S) #_____ FUELING MANIFOLD CHECK VALVE INOP - CHECK FOR LEAKAGE AFTER FUELING

- Condition 3 - Fueling Shutoff Valves Inoperative

  TANK(S) #_____ FUELING SHUTOFF VALVE INOP – CHECK FOR LEAKAGE AFTER FUELING

- Condition 4 – Refuel Panel Fueling Power Control Switch Inoperative

  REFUEL PANEL FUELING POWER CONTROL SWITCH INOP

(M) MAINTENANCE PROCEDURES:

28-10 Pressure Fueling System

Individual components of the system which operate normally can be used to develop refueling procedure (AMM 12-11-00/301).

28-10-01 Fueling Manifold Check Valves

Verify fueling shutoff valve(s) operates normally (AMM 28-00-00/901):

1. During refueling, observe that the valve position light illuminates/extinguishes normally when opening/closing the associated fueling shutoff valve.
2. After refueling nozzle is disconnected, visually check for fuel leakage.

28-10-02 Fueling Shutoff Valves

Do these steps (AMM 28-00-00/901):

1. Verify that fuel load for the associated tank does not exceed the tank capacity.
2. Manually open fuel shutoff valve(s).

CAUTION:

OVERFILL PROTECTION IS INOPERATIVE. THE PRESSURE FUELING SYSTEM WILL NOT STOP THE REFUEL OPERATION AT A SET FUEL QUANTITY. STOP THE FUELING SOURCE AT THE DESIRED QUANTITY FOR THE ASSOCIATED TANK.

   a) Push manual override button.

3. Refuel the associated tank, release the manual override button at the desired fuel quantity.
4. Verify that the valve is closed.
5. Stop the fuel source pump and disconnect the refueling nozzle.
6. Verify that the fueling receptacle does not leak.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

28-11 Fueling Bay Fuel Cap

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-11	Fueling Bay Fuel Cap	D	1	0	

PLACARDING:

Apply sticker to Refueling Control Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FUELING BAY FUEL CAP MISSING

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

28-12 Refueling Control Panel Quantity Indicators

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-12	Refueling Control Panel Quantity Indicators	C	3	0	(M#) May be inoperative provided fuel quantity is verified by an acceptable procedure.

PLACARDING:

Apply sticker adjacent to affected Fuel Quantity Indicator(s) on Refuelling Control Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TANK #_____ FUEL QUANTITY GAUGE (PRESSURE REFUELING PANEL) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify fuel quantity (AMM 28-00-00/901):

Refuel using fuel quantity indicators on the pilots center instrument panel (if operable) or AMM 12-11-00 procedures, Fuel Servicing - Refuel Operation When the Fuel Quantity Indicating System Does Not Operate.

Advise Dispatch. Ground handling arrangements may be affected.

(O) OPERATIONS PROCEDURES:

None required.

28-16 Fuel Measuring Sticks/Dripsticks

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-16	Fuel Measuring Sticks/Dripsticks	C	16	0	(M#) May be inoperative or broken/missing provided fuel quantity is determined by other acceptable means.

PLACARDING:

Apply sticker adjacent to affected Dripstick.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

DRIPSTICK (PLACARDED) IN (LEFT) (RIGHT) MAIN TANK INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

If fuel leakage is detected, verify that the leakage does not exceed acceptable limits (AMM 28-11-00).

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

An operable Fuel Quantity Indicator at the Flight Deck or Fuelling Panel is an "Acceptable Means" of determining fuel quantity.

28-17 Fuel Scavenge System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-17	Fuel Scavenge System				
28-17A		C	1	0	May be inoperative with fuel scavenge shutoff valve closed.
28-17B		C	1	0	(O) May be inoperative with fuel scavenge shutoff valve open provided No. 1 Main Fuel Tank forward boost pump remains off.
28-17C		C	1	0	May be inoperative with fuel scavenge shutoff valve open provided center tank remains empty.

PLACARDING:

Apply sticker adjacent to Center Fuel Quantity Indicator and No 1 Fwd Boost Pump Switch (as applicable).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FUEL SCAVENGE SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

7. Make sure the No.1 main tank FWD FUEL PUMPS switch remains in the OFF position.
8. Observe the REMARKS OR EXCEPTIONS of MEL item 28-01.

OPERATIONS NOTE:

With the fuel scavenge shutoff valve closed, the final 1000lbs of fuel in the center tank is not usable due to AD 2002-24-51 requiring the center tank fuel pumps to be shut off with 1000lbs remaining. If center fuel tank is required, 1000 lbs should be added.

28-21 Fuel Quality Test Switches

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-21	Fuel Quality Test Switches				
28-21-01	Digital System	C	1	0	

PLACARDING:

Apply sticker adjacent to fuel quantity test switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FUEL QTY TEST SWITCH INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

28-22 FUEL/SPAR VALVE CLOSED Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-22	FUEL/SPAR VALVE CLOSED Lights				
28-22-02	SPAR VALVE CLOSED Lights	C	2	0	(M#) May be inoperative provided: a) Associated valve is verified to operate normally, and b) Crossfeed VALVE OPEN light operates normally.

NOTE: For airplanes with a fuel spar valve actuator having part number MA20A2027 (S343T003-56) or MA30A1001 (S343T003-66) installed at the engine fuel spar valve positions, ensure compliance with AD 2015-21-10.

PLACARDING:

Apply sticker adjacent to affected Fuel Valve Closed Light

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) FUEL VALVE CLOSED LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify that the associated valve operates normallfy per Spar Valve Closed Light Deactivation Procedure (AMM 28-00-00/901).

1. Confirm the associated engine start levers are in CUTOFF position.
2. Confirm that the Engine START switches are in the OFF position.
3. Open and collar the following circuit breakers:
    a) P18-2 panel ENGINE 1 START VALVE
    b) P6-2 panel ENGINE 2 START VALVE
4. Set the applicable Engine Start Lever to the IDLE position.
5. Visually confirm associated spar valve override lever moved to the OPEN position.
6. On the P8-1 Aisle Stand, pull the L and R FIRE HANDLE to the FIRE position.

CAUTION:

DO NOT TURN THE FIRE HANDLE. YOU WILL CAUSE THE FIRE BOTTLES TO RELEASE THEIR CONTENTS IF YOU TURN THE HANDLE.

7. Visually confirm associated spar valve override lever moved to the CLOSED position.
8. On the P8-1 Aisle Stand, push the L and R FIRE HANDLE to the NORMAL position.
9. Visually confirm that the associated spar valve override lever moved to the OPEN position.
10. Set the applicable Engine Start Lever to the CUTOFF position.
11. Visually confirm that the associated spar valve override lever moved to the CLOSED position.
12. Close the following circuit breakers:
    a) P18-2 panel ENGINE 1 START VALVE
    b) P6-2 panel ENGINE 2 START VALVE

(O) OPERATIONS PROCEDURES:

None required.

28-25 Center Tank Fuel Boost Pump Automatic Shutoff System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-25	Center Tank Fuel Boost Pump Automatic Shutoff System				
28-25-01					
28-25-01A		C	2	0	May be inoperative provided associated center tank fuel boost pump is considered inoperative. NOTE: Refer to MEL Item 28-02 (Fuel Boost Pumps (Center Tank)).
28-25-01B		C	2	0	May be inoperative provided center tank remains empty. NOTE: Set the associated CTR FUEL PUMP switch to OFF.

28-25-03	C	2	0	May be inoperative with center tank fueled provided: a) Both center tank fuel boost pump Low Pressure Warning Light Systems operate normally, b) Center tank fuel quantity indication operates normally, c) Center tank fuel boost pumps must not be ON unless personnel are available in the flight deck to monitor low pressure lights, d) For ground operations, center tank fuel boost pump switches must not be positioned to ON unless the center tank fuel quantity exceeds 1,000 lbs. (453 kg), except when defueling or transferring fuel, e) Center tank fuel boost pumps are OFF for takeoff if center tank fuel is less than 5,000 lbs. (2,300 kg) with airplane readied for initial taxi, f) Both center tank fuel boost pumps are selected OFF when center tank fuel quantity reaches 1,000 lbs. (453 kg) of fuel during climb and cruise, g) Both center tank fuel boost pumps are selected OFF when center tank fuel quantity reaches 3,000 lbs. (1,400 kg) of fuel during descent and landing, h) Both center tank fuel boost pumps are positioned OFF at first indication of fuel pump low pressure, i) Center tank fuel boost pumps may be positioned ON when established in cruise flight if the center tank contains more than 1,000 lbs. (453 kg) of fuel, j) If the main tanks are not full, the zero fuel gross weight of the airplane plus the weight of center tank fuel may exceed the maximum zero fuel weight by up to 5,000 lbs. (2,300 kg) for takeoff, climb, and cruise and up to 3,000 lbs. (1,400 kg) for descent and landing provided that the effects of balance (CG) have been considered, and k) Defueling with passengers on board is prohibited.

NOTE: If the Automatic Shut Off System is inoperative, ensure compliance with AD 2001-08-24 and AD 2002-24-51.

PLACARDING:

Apply sticker adjacent to affected Fuel Boost Pump Switch(es).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

CENTER TANK FUEL BOOST PUMP AUTOMATIC SHUTOFF SYSTEM INOP.
OBSERVE BOOST PUMP LIMITATIONS.

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

28-26 Fuel Shutoff Valve Battery and Charger

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28 - FUEL					
28-26	Fuel Shutoff Valve Battery and Charger	D	1	0	(M) May be inoperative provided Fuel Shutoff Valve Battery and Charger is deactivated.

PLACARDING:

Apply sticker to fuel panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FUEL SHUTOFF VALVE BATTERY AND CHARGER INOP

(M) MAINTENANCE PROCEDURES:

Deactivate the Fuel Shutoff Valve Battery and Charger (AMM 28-00-00/901).

1. Open and collar the FUEL SHUTOFF VALVES PWR PACK circuit breaker C1471 on the P6-3 panel.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29 - HYDRAULIC POWER

29-02 System B Pumps

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-02	System B Pumps				
29-02-02	Engine Driven Hydraulic Pump Depressurization Function	C	1	0	

NOTE: To avoid damage to steering components or towing equipment when System B hydraulics is used for steering, install nose gear steering lockout pin in steering depressurization valve when airplane is to be pushed back or towed with engines operating.

PLACARDING:

Apply sticker adjacent to System B Pump Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SYSTEM B ENGINE DRIVEN HYD PUMP DEPRESSURIZATION FUNCTION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29-03 System Pressure Indications (A and B)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-03	System Pressure Indications (A and B)				
29-03-02		C	2	1	(O) One may be inoperative provided: a) Associated system pressure is checked before each departure, and b) All hydraulic low pressure lights operate normally.

PLACARDING:

Apply sticker adjacent to affected Hydraulic System Pressure Indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM (A) (B) PRESSURE INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

System A Pressure Verification

Verify that Flight Control LOW PRESSURE light for system A extinguishes when hydraulic system is pressurized.

System B Pressure Verification

1. With Systems A and B depressurized, verify that the brake pressure indicator shows less than 2800 psi. If not, apply brakes and pressure should drop.
2. Select the flight control and spoiler switches OFF.
3. Pressurize System B hydraulics with ELEC 1.
4. Verify brake pressure:
    - Make sure the brake pressure increases to between 2800 psi and 3200 psi.

5. Select spoiler switch ON.
6. Verify the Flight Control LOW PRESSURE light for system B is illuminated.
7. Select flight control switch ON.
8. Verify that Flight Control LOW PRESSURE light for system B extinguishes.
9. Restore airplane to its required configuration.

29-04 System A Pump Low Pressure Indication Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-04	System A Pump Low Pressure Indication Systems	C	2	1	(O) One may be inoperative provided output of associated pump is checked before each departure.

PLACARDING:

Apply sticker adjacent to affected Hydraulic System A Pump Low Pressure Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM A (ENG) (ELEC) PUMP LOW PRESSURE LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

If the associate pressure switch is inoperative, cap and stow electrical connector.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. ENG 1 LOW PRESSURE light inoperative:
   a) With both system A pumps depressurized, verify the Flight Control LOW PRESSURE light for system A is illuminated.
   b) Dry motor or start No. 1 engine.
   c) Position ENG 1 hydraulic pump switch ON.
   d) Position ELEC 2 hydraulic pump switch OFF.
   e) Verify the Flight Control LOW PRESSURE light for system A extinguishes.
   f) Verify system A pressure:
      - Make sure the pressure is between 2800 psi and 3200 psi.
   g) Restore airplane to its required configuration.
2. ELEC 2 LOW PRESSURE light inoperative:
   a) Power Transfer Bus No. 2.
   b) With both system A pumps depressurized, verify the Flight Control LOW PRESSURE light for system A is illuminated.
   c) Position ELEC 2 hydraulic pump switch ON.
   d) Position ENG 1 hydraulic pump switch OFF.
   e) Verify the Flight Control LOW PRESSURE light for system A extinguishes.
   f) Verify system A pressure:
      - Make sure the pressure is between 2800 psi and 3200 psi.
   g) Restore airplane to its required configuration.

29-05 System B Pump Low Pressure Indication Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-05	System B Pump Low Pressure Indication Systems	C	2	1	(O) One may be inoperative provided output of associated pump is checked before each departure.

PLACARDING:

Apply sticker adjacent to affected Hydraulic System B Pump Low Pressure Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM B (ELEC) (ENG) PUMP LOW PRESSURE LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

If the associated pressure switch is inoperative, cap and stow electrical connector.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. ELEC 1 LOW PRESSURE light inoperative
   a) Power Transfer Bus No. 1.
   b) With both system B pumps depressurized, verify the Flight Control LOW PRESSURE light for system B is illuminated.
   c) Position ELEC 1 hydraulic pump switch ON.
   d) Position ENG 2 hydraulic pump switch OFF.
   e) Verify the Flight Control LOW PRESSURE light for system B extinguishes.
   f) Verify system B pressure:
      - Make sure the pressure is between 2800 psi and 3200 psi.
   g) Restore airplane to its required configuration.
2. ENG 2 LOW PRESSURE light inoperative::
   a) With both system B pumps depressurized, verify the Flight Control LOW PRESSURE light for system B is illuminated.
   b) Dry motor or start No. 2 engine.
   c) Position ENG 2 hydraulic pump switch ON.
   d) Position ELEC 1 hydraulic pump switch OFF.
   e) Verify the Flight Control LOW PRESSURE light for system B extinguishes.
   f) Verify system B pressure:
      - Make sure the pressure is between 2800 psi and 3200 psi.
   g) Restore airplane to its required configuration.

29-07 System A and B Overheat Light System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-07	System A and B Overheat Lights System				
29-07-03		C	2	0	May be inoperative provided associated Low Pressure light operates normally

PLACARDING:

Apply sticker adjacent to affected Hydraulic System Overheat Light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM (A) (B) (BOTH) OVERHEAT LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29-09 Hydraulic Quantity Low Level Light System (Standby System)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-09	Hydraulic Quantity Low Level Light System (Standby System)	C	1	0	(M#) May be inoperative provided quantity is verified adequate before each departure.

PLACARDING:

Apply sticker on or adjacent to Standby Hydraulic System LOW QUANTITY light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STANDBY HYDRAULIC SYSTEM LOW QUANTITY LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify hydraulic quantity is adequate before each departure (AMM 29-00-00/901)

1. With flaps/leading edge devices retracted, spoilers down, and all control surfaces in neutral position, verify that Hydraulic System B gauge or indication indicates more than "RFL" or "RF", as applicable (6.9 U.S. gallons).
2. To prevent illumination of the Master Caution light due to an inoperative low level quantity switch in the standby system, disconnect and stow the cannon plug to the quantity switch.

(O) OPERATIONS PROCEDURES:

None required.

29-10 System A Pumps

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-10	System A Pumps				
29-10-01	Engine Driven Hydraulic Pump Depressurization Function	C	1	0	

PLACARDING:

Apply sticker adjacent to Hydraulic System A engine Pump Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM A ENGINE PUMP DEPRESSURIZATION FUNCTION INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE

To avoid damage to steering components or towing equipment, install nose gear steering lockout pin in steering depressurization valve when airplane is to be pushed back or towed with engines operating.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29-11 System A Quantity Indication System (Flight Deck)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-11	System A Quantity Indication System (Flight Deck)				
29-11-02		C	1	0	(M#) May be inoperative provided: a) Associated quantity is verified adequate before each departure, b) Associated system pressure indication operates normally, and c) Associated pump low pressure lights operate normally.

PLACARDING:

Apply sticker adjacent to Hydraulic System A Quantity Indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM A QUANTITY INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify hydraulic quantity is adequate before each departure (AMM 29-00-00/901).

Make sure Hydraulic System A Reservoir quantity is adequate (AMM 29-00-00/901).

Verify that:

1. Flaps/leading edge devices are retracted.
2. Spoilers are down
3. All flight controls are in neutral position
4. Thrust reversers are stowed.
5. Verify fluid quantity by checking the hydraulic quantity indicator mounted on the System A reservoir, visible from the fluid filling station located in the right main gear well. If quantity is low service per AMM 12-12-00/301.

To check that System A pressure indication and pump low pressure lights operate normally:

1. Position ELEC 2 hydraulic pump switch ON, ENG 1 hydraulic pump switch OFF, and flight control and spoiler switches OFF.
2. Verify that system A pressure is between 2800 psi and 3200 psi and that ELEC 2 hydraulic pump LOW PRESSURE light extinguishes.
3. Position ELEC 2 hydraulic pump switch OFF and ENG 1 hydraulic pump switch ON.
4. Dry motor or start engine No. 1.
5. Verify that system A pressure is between 2800 psi and 3200 psi and that ENG 1 hydraulic pump LOW PRESSURE light extinguishes.
6. Restore airplane to its required configuration.

(O) OPERATIONS PROCEDURES:

None required.

29-12 Standby System Low Pressure Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-12	Standby System Low Pressure Light	C	1	0	(M) May be inoperative provided: a) Standby system low quantity light operates normally, b) Output of standby pump is verified before each departure, and c) Both System B pumps operate normally.

PLACARDING:

Apply sticker adjacent to Standby Hydraulic System Low Pressure Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STANDBY HYDRAULIC SYSTEM LOW PRESSURE LIGHT INOP

(M) MAINTENANCE PROCEDURES:

Perform the following procedure prior to engine start (AMM 29-00-00/901):

1. Position Master LIGHTS test and dim switch to TEST and verify LOW QUANTITY light illuminates.
2. Get ground clearance to extend leading edge flaps.
3. Position ALTERNATE FLAPS Master Switch to ARM.
4. Momentarily position ALTERNATE FLAPS Position Switch to DOWN.
5. On the LE DEVICES annunciator panel, verify that lights indicate all leading edge devices are fully extended within approximately one minute.
6. Return both ALTERNATE FLAPS Master and Position switches to OFF.
7. Turn Hydraulic System B ELEC 1 pump ON.
8. Verify that System B ELEC 1 LOW PRESSURE light extinguishes.
9. Leave pump on until L.E. flaps are up.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29-13 Hydraulic Reservoir Pressurization System Sources

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-13	Hydraulic Reservoir Pressurization System Sources	C	3	1	(M#) May be inoperative provided reservoir can be pressurized.

PLACARDING:

Apply sticker to Hydraulic Controls Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NO. 1 ENG) (NO. 2 ENG) (APU) PNEUMATIC SOURCE FOR HYDRAULIC RESERVOIR PRESSURIZATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify reservoir can be pressurized (AMM 29-00-00/901):

1. Disconnect the pressurization supply line of the inoperative pneumatic source at the reservoir pressurization module or the restrictor cross fitting, as installed, located in the wheel well.
2. Install a cap on the reservoir pressurization module or the restrictor cross fitting, as installed.
3. Install a cap on the disconnected pressurization supply line.
4. Pressurize pneumatic manifold (AMM 36-00-00).
5. Verify that the hydraulic reservoir air pressure gauge(s) located on the forward wheel well bulkhead indicates the same pressure as the pneumatic duct pressure indicator on the forward overhead panel.

(O) OPERATIONS PROCEDURES:

None required.

29-15 System B Quantity Indication System (Flight Deck)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-15	System B Quantity Indication System (Flight Deck)	C	1	0	(M#) May be inoperative provided: a) Associated quantity is verified adequate before each departure, b) Associated system pressure indication operates normally, and c) Associated pump low pressure lights operate normally.

PLACARDING:

Apply sticker adjacent to Hydraulic System B Quantity Indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC SYSTEM B QUANTITY INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Make sure Hydraulic System B Reservoir quantity is adequate (AMM 29-00-00/901).

1. Verify that:
   a) Flaps/leading edge devices are retracted
   b) Spoilers are down
   c) All flight controls are in neutral position
   d) Thrust reversers are stowed.
2. Verify fluid quantity by checking the hydraulic quantity indicator mounted on the System B reservoir, visible from the fluid filling station located in the right main gear well: If quantity is low service per AMM 12-12-00/301.
3. To check that system B pressure indication and pump low pressure lights operate normally:
   a) Position ELEC 1 hydraulic pump switch ON, ENG 2 hydraulic pump switch OFF, and flight control and spoiler switches OFF.
   b) Verify that system B pressure is between 2850 psi and 3200 psi and that ELEC 1 hydraulic pump LOW PRESSURE light extinguishes.
   c) Position ELEC 1 hydraulic pump switch OFF and ENG 2 hydraulic pump switch ON.

d) Dry motor or start engine No. 2.

e) Verify that system B pressure is between 2850 psi and 3200 psi and that ENG 2 hydraulic pump LOW PRESSURE light extinguishes.

f) Restore airplane to its required configuration.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Nose wheel steering may not be available if hydraulic system A power is lost.

29-16 Hydraulic Reservoir Air Pressure Indicator (Wheel Well)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-16	Hydraulic Reservoir Air Pressure Indicator (Wheel Well)	C	2	0	

PLACARDING:

Apply sticker to Hydraulic Reservoir Air Pressure Indicator in wheel well.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC RESERVOIR AIR PRESSURE INDICATOR (WHEEL WELL) INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

If desired, remove indicator and install a blank. The "install a blank" refers to the installation of a suitable plug/cap to the tube end of the air pressure gauge port to prevent air leakage.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29-17 Hydraulic Reservoir Quantity Indicator (Wheel Well)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-17	Hydraulic Reservoir Quantity Indicator (Wheel Well)	C	2	0	

PLACARDING:

Apply sticker to affected Hydraulic Quantity Indicator in Wheel Well.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WHEEL WELL HYDRAULIC SYSTEM (A) (B) (BOTH) QUANTITY INDICATOR(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

29-18 Hydraulic Reservoir Fill System (Wheel Well)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29 - HYDRAULIC POWER					
29-18	Hydraulic Reservoir Fill System (Wheel Well)	C	1	0	

PLACARDING:

Apply sticker adjacent to Hydraulic Fill Station.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

HYDRAULIC RESERVOIR FILL SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

30 - ICE AND RAIN PROTECTION

30-01 Wing Anti-Ice Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-01	Wing Anti-Ice Valves	C	2	0	(M#)(O) Except for ER operations beyond 120 minutes, may be inoperative closed provided airplane is not operated in known or forecast icing conditions.
30-01-02		C	2	1	(M#)(O) One may be inoperative open provided: a) Except for engine start, associated manifold is depressurized when outside air temperature is above 50 °F (10 °C), b) Associated engine bleed thrust limits are followed when manifold is pressurized, and c) Air conditioning and pressurization requirements are followed when one manifold is depressurized.

PLACARDING:

Apply sticker adjacent to Wing Anti-Ice Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) WING ANTI-ICE VALVE(S) INOP (OPEN) (CLOSED)- OBSERVE LIMITATIONS

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

30-01 Wing Anti-Ice Valves Inop Closed:

Prepare the airplane for flight with wing anti-ice valve inoperative (AMM 30-00-00/901):

1. Prepare to close the valve:
   a) Deactivate the leading edge slats (AMM 27-81-00).
   b) Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
   c) Open the associated outboard leading edge blowout door.
2. Disconnect, cap and stow the electrical connector from the associated wing anti-ice valve.

   NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.
3. Move the red lever on the associated wing anti-ice valve to the CLOSED position.
4. Return the airplane to its usual condition with a wing anti-ice valve closed:
   a) Close the outboard leading edge blowout door.
   b) Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
   c) Activate the leading edge slats (AMM 27-81-00).
   d) Advise Dispatch. Flight Planning will be affected.

30-01-02 Wing Anti-Ice Valve Inop Open:

1. Prepare the airplane for flight with wing anti-ice valve inoperative (AMM 30-00-00/901):
2. For dispatch with left valve open:
   a) To open the left valve when APU bleed air will be used for engine start, do these steps:
      1. Deactivate the leading edge slats (AMM 27-81-00).
      2. Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      3. Open the associated outboard leading edge blowout door.
      4. Disconnect, cap and stow the electrical connector from the left wing anti-ice valve.

      NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.
      5. Move the red lever on the left wing anti-ice valve to the CLOSED position.
      6. Make sure that all personnel are cleared from the right engine danger area.
      7. Start the right engine (AMM 71-00-00).
      8. Close the isolation valve switch and APU bleed air valve switch on the flight deck to depressurize the left pneumatic duct.
      9. After the pneumatic duct is depressurized, move the left wing anti-ice valve to the OPEN position.
      10. Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      11. Close the associated outboard leading edge blowout door.
      12. Activate the leading edge slats (AMM 27-81-00).
      13. When personnel have been cleared from engine danger area, inform flight deck that left engine may be started (using engine crossbleed).

Continued...

b) To open the left valve when ground service air will be used for engine start, do these steps:

1. Deactivate the leading edge slats (AMM 27-81-00).
2. Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
3. Open the associated outboard leading edge blowout door.
4. Disconnect, cap and stow the electrical connector from the left wing anti-ice valve.

NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

5. Move the red lever on the left wing anti-ice valve to the OPEN position.
6. Close the associated outboard leading edge blowout door.
7. Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
8. Activate the leading edge slats (AMM 27-81-00).
9. When personnel have been cleared from engine danger area, inform flight deck that the right engine may be started (isolation valve closed) and then the left engine may be started (using crossbleed start).

3. For dispatch with right valve open:

a) To open the right valve when APU bleed air will be used for engine start, do these steps:

1. Deactivate the leading edge slats (AMM 27-81-00).
2. Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
3. Open the associated outboard leading edge blowout door.
4. Disconnect, cap and stow the electrical connector from the right wing anti-ice valve.

NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

5. Move the red lever on the right wing anti-ice valve to the OPEN position.
6. Close the associated outboard leading edge blowout door.
7. Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
8. Activate the leading edge slats (AMM 27-81-00).
9. When personnel have been cleared from engine danger area, inform flight deck that the left engine may be started (isolation valve closed) and then the right engine may be started (using crossbleed start)

b) To open the right valve when ground service air will be used for engine start, do these steps:

1. Deactivate the leading edge slats (AMM 27-81-00).
2. Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
3. Open the associated outboard leading edge blowout door.
4. Disconnect, cap and stow the electrical connector from the right wing anti-ice valve.

NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

5. Move the red lever on the right wing anti-ice valve to the CLOSED position.
6. Make sure that all personnel are cleared from the left engine danger area.
7. Start the left engine (AMM 71-00-00).
8. Remove the ground air source from the airplane.
9. Close the isolation valve switch on the flight deck to depressurize the right pneumatic duct.

Continued...

10. After the pneumatic duct is depressurized, move the right wing anti-ice valve to the OPEN position.
11. Close the associated outboard leading edge blowout door.
12. Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
13. Activate the leading edge slats (AMM 27-81-00).
14. When personnel have been cleared from engine danger area, inform flight deck that right engine may be started (using engine crossbleed).

(O) OPERATIONS PROCEDURES:

30-01 Wing Anti-Ice Valves Inop Closed:

NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

Do not operate in icing conditions.

30-01-02 Wing Anti-Ice Valve Inop Open:

NOTE 1: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

NOTE 2: With the affected wing anti-ice valve open, bleed trip off and possible loss of cabin pressure above approximately FL350 may occur.

1. When the left Wing Anti-ice Valve is failed open, do not use APU bleed air for air conditioning purposes on the ground. APU may only be used for engine start.
2. When the right Wing Anti-ice Valve is failed open, APU bleed air may be used for air conditioning purposes on the ground using only the left AC pack and with the isolation valve closed.
3. The engine bleed to the affected manifold must be off for takeoff. Position the isolation valve switch to CLOSE to maintain isolated bleed sources. The isolation valve switch must remain in the CLOSE position until the associated manifold can be pressurized by turning the engine bleed on (see MEL temperature restrictions).
4. When dispatching with a single engine bleed on for takeoff and landing due to one wing anti-ice valve failed open (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on AC packs AUTO.
5. Increase trip fuel burn by 2.8%.

30-02 Wing Anti-Ice Valve Position Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-02	Wing Anti-Ice Valve Position Lights	C	2	0	(M#) May be inoperative provided valve is verified to operate normally before operating in known or forecast icing conditions.

PLACARDING:

Apply sticker adjacent to affected Wing Anti-Ice Valve OPEN light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) WING ANTI-ICE VALVE POSITION LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify that associated wing anti-ice valve operates normally (AMM 30-00-00/901):

1. Deactivate the leading edge slats (AMM 27-81-00).
2. Gain access to valve.
3. Position the WING ANTI-ICE switch to the ON position.
4. Observe that position indicator on the valve indicates OPEN.
5. Position the WING ANTI-ICE switch to the OFF position.
6. Observe that position indicator on the valve indicates CLOSED.
7. Restore airplane to desired configuration and activate the leading edge slats (AMM 27-81-00).

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

If departure, enroute, destination or alternate weather conditions indicate the possibility of icing conditions, Wing Anti-ice Valve operation must be confirmed prior to departure by the Maintenance Procedure described above.

30-03 Engine and Nose Cowl Anti-Ice Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-03	Engine and Nose Cowl Anti-Ice Valves				
30-03-03A		C	2	1	(M#)(O) Except for ER operations beyond 120 minutes, one may be inoperative closed provided airplane is not operated in known or forecast icing conditions.
30-03-03B		C	2	1	(M#)(O) One may be inoperative open provided: a) Associated High Stage Valve is considered inoperative, b) Ambient temperature is below 100 °F (38 °C), c) A minimum of 60% N1 is maintained on associated engine during flight in icing conditions, and d) Appropriate performance adjustments are applied. NOTE: Refer to MEL Item 36-09 (High Stage Valves)

PLACARDING:

Apply sticker adjacent to affected Engine Anti-Ice Switch

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- One Engine and Nose Cowl Anti-Ice Valve Inoperative Closed

  (LEFT) (RIGHT) ENGINE AND NOSE COWL ANTI-ICE VALVE INOP CLOSED - DO NOT OPERATE IN KNOWN OR FORECAST ICING

- One Engine and Nose Cowl Anti-Ice Valve Inoperative Open

  (LEFT) (RIGHT) ENGINE AND NOSE COWL ANTI-ICE VALVE INOP OPEN -OBSERVE LIMITATIONS

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

30-03-03A Valve Inoperative Closed:

Prepare the airplane for flight with the engine anti-ice valve inoperative (AMM 30-00-00/901).

1. Set each engine start lever in the CUTOFF position.
2. Open the fan cowl panels (AMM 71-11-02).
3. Position the shutoff valve in the closed position.
   a) Loosen the retaining screw on the manual locking assembly.
   b) Move the hex shaft to the CLOSED position.
   c) Slide the locking assembly up the shaft into the recess in the cover plate.
   d) Tighten the retaining screw.
4. Close the cowl panels (AMM 71-11-02).
5. Advise Dispatch. Flight Planning will be affected.

30-03-03B Valve Inoperative Open:

NOTE: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright and the associated Thermal Anti-Ice (TAI) indication to illuminate amber.

Prepare the airplane for flight with the engine anti-ice valve inoperative (AMM 30-00-00/901).

1. Set each engine start lever in the CUTOFF position.
2. Open the fan cowl panels and thrust reverser (AMM 78-31-00).
3. Position the shutoff valve in the open position.
   a) Loosen the retaining screw on the manual locking assembly.
   b) Move the hex shaft to the OPEN position.
   c) Slide the locking assembly up the shaft into the recess in the cover plate.
   d) Tighten the retaining screw.
4. Disconnect, cap and stow the electrical connector from the pressure switch.
5. Close off the 9th stage bleed air supply:

   NOTE: Only one high stage valve may be locked in the closed position for dispatch. Dispatch with the opposite high stage valve inoperative under MEL item 36-9 is not allowed.

   a) Manually wrench the High Stage Valve to the CLOSE position.
   b) Loosen the position indicator screw.
   c) Slide the lock into the recess in the cover plate.
   d) Tighten the position indicator screw.
6. Close the fan cowl panels and thrust reverser (AMM 78-31-00).

(O) OPERATIONS PROCEDURES:

30-03-03A Valve Inoperative Closed:

Do not operate in icing conditions.

30-03-03B Valve Inoperative Open:

NOTE: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright and the associated Thermal Anti-Ice (TAI) indication to illuminate amber.

1. Operate with the associated ENG ANTI-ICE switch in the OFF position.
2. Apply adjustments to N1 limits and performance limited weights. Observe maximum operating temperature restrictions.
3. Inflight, maintain a minimum of 60% N1 on the associated engine in icing conditions.

   NOTE: The non-affected engine can be operated at any thrust setting needed to maintain the desired path and airspeed.
4. During ground operations with the APU running, turn the engine bleed OFF whenever the associated engine is not running.
5. Apply a fuel mileage decrement of 1.3% to account for the engine and nose cowl anti-ice valve inoperative open.
6. Apply the following additional fuel mileage decrement to account for flight in icing conditions which require a minimum of 60% N1 on the associated engine:
   a) 2.0% for trip distances less than or equal to 1000 nautical miles.
   b) 1.0% for trip distances greater than 1000 nautical miles.
7. All thrust rating limits except Takeoff and Go-Around, are reduced by 1.1% N1.
8. Enroute climb limited weight is reduced by 4,000 lb. (1,810 kg).

   NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor

Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

9. At temperatures greater than 50 degrees F (10 degrees C):
   a) Takeoff and go-around thrust limits are reduced by 1.4% N1.
   b) Takeoff and landing performance limited weights are reduced by 9,500 lb (4,309 kg).
10. For temperatures at or below 50 degrees F (10 degrees C), base performance limited weights on Engine Anti-Ice ON.

30-04 Engine and Nose Cowl Anti-Ice Valve Position Lights or TAI Indications

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-04	Engine and Nose Cowl Anti-Ice Valve Position Lights or TAI Indications				
30-04-02		C	2	0	(O) May be inoperative provided valve is verified to operate normally before each departure.
30-04-03		C	4	2	One valve position indication (either COWL VALVE OPEN light or TAI indication) for each engine may be inoperative provided other valve position indication for that engine operates normally.
30-04-04		C	2	1	May be inoperative provided associated valve is considered inoperative. NOTE: Refer to MEL Item 30-03. (Engine and Nose Cowl Anti-Ice Valves)

PLACARDING:

Apply sticker to affected Engine and Nose Cowl Anti-Ice Position Light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) ENGINE AND NOSE COWL ANTI-ICE POSITION LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Verify proper operation of the engine and nose cowl anti-ice valve before each departure:

1. Start the associated engine.
2. Wait for the engine to stabilize at idle.
3. Verify that the engine and APU bleed air switches are in the OFF position.
4. Verify that the ENG ANTI-ICE switch is in the OFF position.
5. Monitor the EGT:
   a) Wait for the EGT to stabilize and record the temperature.

CAUTION:

LIMIT COWL TAI OPERATION TO 30 SECONDS MAXIMUM.

   b) Put the ENG ANTI-ICE switch in the ON position.
   c) Wait for the EGT to stabilize and record the temperature.
   d) Position ENG ANTI-ICE switch to OFF.
   e) Wait for the EGT to stabilize and record the temperature.
6. Verify that the following changes occurred:
   a) The EGT increased by a minimum of 15 degrees C when the ENG ANTI-ICE switch was put in the ON position.
   b) The EGT returned to the original idle temperature when the ENG ANTI-ICE switch was put in the OFF position.
7. Configure the airplane as needed for flight or shut down the engine if required.

30-05 Pitot/Static Probe Heaters

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-05	Pitot/Static Probe Heaters				
30-05-02					
30-05-02-01	Left/Right Pitot Heaters	B	2	1	Except for ER operations beyond 120 minutes, one may be inoperative for day VMC provided: a) Aux Pitot heater operates normally, b) Airplane is not operated in visible moisture, and c) Airplane is not operated in known or forecast icing conditions.
30-05-02-02	Aux Pitot Heater (Right Lower Probe)	B	1	0	Except for ER operations beyond 120 minutes, may be inoperative provided:: a) Both Left and Right Pitot heaters operate normally, and b) Airplane is not operated in known or forecast icing conditions.

PLACARDING:

Apply sticker adjacent to affected Pitot Heater light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT(AUX) PITOT STATIC PROBE HEATER INOP - OBSERVE MOISTURE/ICING LIMITATIONS

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTES:

1. CAT II/RVSM may be affected.
2. Advise Dispatch: Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

30-05-02-01 Left or Right Pitot Heater Inop:

1. Do not operate in visible moisture.
2. Do not operate in known or forecast icing conditions.

30-05-02-02 Aux Pitot Heater Inop:

1. Do not operate in known or forecast icing conditions.

30-06 Vertical Stabilizer Pitot Heaters (Elevator and Rudder Feel Systems)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-06	Vertical Stabilizer Pitot Heaters (Elevator and Rudder Feel Systems)	B	2	1	Except for ER operations beyond 120 minutes, one may be inoperative provided airplane is not operated in known or forecast icing conditions.

PLACARDING:

Apply sticker adjacent to affected Probe Heater Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L ELEV PITOT) (R ELEV PITOT) HEATER INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch. Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Review departure, en route, destination and alternate weather for indications of icing conditions. Do not operate in icing conditions.

30-07 Total Air Temperature Probe Heater

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-07	Total Air Temperature Probe Heater				
30-07A		C	1	0	Except for ER operations beyond 120 minutes, may be inoperative provided airplane is not operated in known or forecast icing conditions.
30-07B		C	1	0	(O) May be inoperative provided an alternate temperature indicator system is installed and operating normally (i.e., Ram Air or Static Air Temperature).

PLACARDING:

Apply sticker adjacent to Total Air Temperature indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Alternate Temperature Indicator Not Available

  TOTAL AIR TEMPERATURE PROBE HEATER INOP - DO NOT OPERATE IN ICING CONDITIONS

- Alternate Temperature Indicator Available

  TOTAL AIR TEMPERATURE PROBE HEATER INOP – USE ALTERNATE SYSTEM TO DETERMINE TAT

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

1. Advise Dispatch. Flight Planning will be affected.
2. CAT II may be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

With static air temperature available, the following table may be used to determine TAT:

TOTAL AIR TEMPERATURE (°C) vs STATIC AIR TEMPERATURE (°C)

SAT (°C)	TAT (°C)											
	M.50	M.60	M.68	M.70	M.72	M.74	M.76	M.78	M.80	M.82	M.84	M.86
40	56	62	69	70								
35	51	57	64	65	66	68	70					
30	45	52	58	59	61	63	65	67	68	70		
25	40	47	52	54	56	57	59	61	63	64	66	68
20	35	41	47	48	50	51	53	55	57	58	60	63
15	30	36	42	43	44	46	48	49	51	53	55	57
10	24	31	36	37	38	40	43	44	46	47	49	51
5	19	25	31	32	33	35	37	38	40	41	43	45
0	13	20	25	26	28	29	31	33	34	36	38	40
-5	8	14	20	21	22	24	26	27	29	30	32	34
-10	3	9	14	15	17	19	20	22	23	25	26	28
-15	-2	3	9	10	11	13	14	16	17	19	21	23
-20	-7	-2	3	4	6	7	9	10	12	13	15	17
-25	-12	-7	-3	-1	0	2	3	5	6	8	9	11
-30	-18	-12	-8	-7	-5	-4	-2	-1	1	2	4	6
-35	-23	-17	-13	-12	-10	-9	-8	-7	-5	-4	-2	0
-40	-28	-23	-18	-17	-16	-15	-13	-12	-11	-9	-7	-6
-45	-34	-29	-24	-23	-21	-20	-19	-17	-16	-14	-13	-11
-50	-39	-34	-29	-28	-27	-26	-24	-23	-21	-20	-19	-17
-55	-44	-39	-35	-34	-32	-31	-30	-28	-27	-26	-24	-23
-60	-49	-45	-40	-39	-38	-37	-35	-34	-33	-31	-30	-28
-65	-55	-50	-46	-45	-43	-42	-41	-40	-38	-37	-36	-34
-70	-60	-55	-51	-50	-49	-48	-47	-45	-44	-43	-41	-40

30-08 Angle of Attack Sensor Heater(s)/Stall Warning System Sensor Heater(s)/Alpha Vane Heater(s)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-08	Angle of Attack Sensor Heater(s)/Stall Warning System Sensor Heater(s)/Alpha Vane Heater(s)	C	2	0	Except for ER operations beyond 120 minutes, may be inoperative provided airplane is not operated in known or forecast icing conditions.

PLACARDING:

Apply sticker adjacent to affected Angle of Attack Sensor Heater Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L)(R)(BOTH) ALPHA VANE HEATER(S) INOP - DO NOT OPERATE IN ICING CONDITIONS

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch. Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Review departure, enroute, destination and alternate weather for indications of icing conditions. Do not operate in icing conditions.

30-09 Pitot, Pitot/Static and Temperature Probe Heater Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-09	Pitot, Pitot/Static and Temperature Probe Heater Lights				
30-09-02	Amber (Heater Off) Lights				
30-09-02-01	Pitot and Pitot/Static	B	6	0	(M#) Except for ER operations beyond 120 minutes, may be inoperative provided: a) Associated heater function is verified to operate normally, and b) Airplane is not operated in known or forecast icing conditions.
30-09-02-02	Temperature				
30-09-02-02A		C	1	1	
30-09-02-02B		C	1	0	(M#) May be inoperative provided associated heater function is verified to operate normally before each departure.
30-09-02-02C		C	1	0	May be inoperative provided associated heater is inoperative

PLACARDING:

Apply sticker adjacent to affected Pitot, Pitot/Static Temperature Probe Heater Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT) (F/O) (PITOT) (STATIC) (L) (R) (ELEV PITOT)(TEMP PROBE) HEATER LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

30-09-02-01 Pitot and Pitot/Static Lights:

Verify that probe heater operates normally (AMM 30-00-00/901).

1. Station ground observer at associated probe heater, establish communications.
2. Ensure covers are removed from all air data probes and vanes
3. Supply electrical power to airplane (AMM 24-22-00).
4. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the ON position.
5. Verify that heat radiation can be detected from associated probe, indicating that heater is functioning. DO NOT TOUCH PROBE.

CAUTION:

DO NOT PLACE HAND ON PROBE. TEMPERATURES ARE HIGH ENOUGH TO CAUSE BURNS. DO NOT LEAVE HEATER ON LONGER THAN REQUIRED.

HEATER LIFE MAY BE UNNECESSARILY SHORTENED.

6. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the OFF or AUTO position.
7. Restore airplane electrical system to normal.
8. Advise Dispatch. Flight Planning may be affected.

30-09-02-02B Temperature Lights

Verify that probe heater operates normally prior to each departure (AMM 30-00-00/901).

1. Station ground observer at associated probe heater, establish communications.
2. Ensure covers are removed from all air data probes and vanes.
3. Supply electrical power to airplane (AMM 24-22-00).
4. For airplanes with non-aspirated TAT probes with air/ground logic for probe heater power, verification of TAT probe heater operation requires that the airplane be placed in simulated "air" mode per AMM 32-09-00.
5. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the ON position. For aspirated TAT probes, momentarily press/hold TAT TEST switch when verifying the TAT probe heater.
6. Verify that heat radiation can be detected from associated probe, indicating that heater is functioning. DO NOT TOUCH PROBE.

CAUTION:

DO NOT PLACE HAND ON PROBE. TEMPERATURES ARE HIGH ENOUGH TO CAUSE BURNS. DO NOT LEAVE HEATER ON LONGER THAN REQUIRED.

HEATER LIFE MAY BE UNNECESSARILY SHORTENED.

7. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the OFF or AUTO position.
8. Restore airplane electrical system to normal.

(O) OPERATIONS PROCEDURES:

None required.

30-11 Electrically Heated Windshields

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-11	Electrically Heated Windshields				
30-11-02	No. 1 Window	C	2	1	Except for ER operations beyond 120 minutes, one may be inoperative provided: a) Airplane is not operated in known or forecast icing conditions, b) Both No.2 window heaters operate normally, c) Windshield defog system operates normally, and d) Airspeed is limited to 250 KIAS below 10,000 feet MSL. e) Associated switch remains OFF. NOTE: CAT II OPS PROHIBITED
30-11-03	No. 2 Window	C	2	1	One may be inoperative provided: a) Both No. 1 window heaters operate normally, b) Windshield defog system operates normally, c) Airspeed is limited to 250 KIAS below 10,000 ft. MSL, and d) Associated switch remains OFF
30-11-05	No. 3 Window Heat System(s)	D	2	0	

PLACARDING:

Apply sticker adjacent to Window Heat Switch and, if applicable, placard Captain's forward instrument panel: CAT II OPS PROHIBITED

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Window No. 1 Heat Inoperative

  (LEFT)(RIGHT) No. 1 WINDOW HEAT INOP - DO NOT OPERATE IN ICING CONDITIONS. DO NOT EXCEED 250 KIAS BELOW 10,000 FT

- Condition 2 - Window No. 2 Heat Inoperative

  (LEFT)(RIGHT) No. 2 WINDOW HEAT INOP - DO NOT EXCEED 250 KIAS BELOW 10,000 FT

- Condition 3 - Window No. 3 Heat Inoperative

  (LEFT)(RIGHT) No. 3 WINDOW HEAT INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTES:

Requirements for replacement of damaged windows are discussed in Chapter 56 of the Airplane Maintenance Manual (AMM).

Dispatch with window damage that does not require replacement per the AMM is permitted.

Advise Dispatch of CAT II status.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTES:

NOTE 1: With No. 1 window heat inoperative, operate with the Windshield Air (pneumatic anti-fogging system) on when window heat is required.

NOTE 2: If No. 3 window heat systems are installed, associated No. 3 window heat system will be inoperative when No. 2 window heat switch is OFF. Dispatch airplane using MEL item 30-11-05.

30-12 Windshield Defog System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-12	Windshield Defog System	C	1	0	May be inoperative provided electrically heated windshields for No. 1 and No. 2 windows operate normally.

PLACARDING:

Apply sticker adjacent to De-Fog Handle.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WINDSHIELD DE-FOG SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

30-13 Windshield Wiper System(s)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-13	Windshield Wiper System(s)	C	2	0	May be inoperative provided: a) Airplane is not operated in precipitation within 5 statute miles of airport of takeoff or intended landing, and b) Approach minimums do not require its use.
30-13-01	Park Function	C	2	0	May be inoperative for all flight conditions provided blade(s) can be positioned in a location that will not obstruct forward vision.
30-13-02	Intermittent Speed Function	D	2	0	
30-13-03	Low Speed Function	C	2	0	May be inoperative provided associated high speed function operates normally.
30-13-04	High Speed Function				
30-13-04A		C	2	1	One may be inoperative provided associated low speed function operates normally.
30-13-04B		C	2	0	May be inoperative provided both low speed functions operate normally and rain intensity is less than moderate.

PLACARDING:

Apply sticker adjacent to Windshield Wiper Switch and, if applicable, placard Captain's forward instrument panel: CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Windshield Wiper System Inoperative

  (LH)(RH)(BOTH) WINDSHIELD WIPER SYSTEM(S) INOP - REVIEW WEATHER FOR PRECIPITATION AT DEPARTURE AND DESTINATION AIRPORTS - VERIFY CAT II STATUS

- Condition 2 - Wiper System Park or Speed Function Inoperative

  _____ FUNCTION OF WINDSHIELD WIPER SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

If wiper blade obstructs forward vision do these steps:

1. Do this task: Windshield Wiper Arm Removal (AMM 30-42-31).
2. Do this task: Windshield Wiper Arm Installation (AMM 30-42-31).

NOTE: It is only necessary to put the wiper arm in the parked position and to apply the appropriate downward force on the wiper blade. The steps related to the sweep of the wiper arm are not necessary.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTES:

Prior to departure, review departure, destination and alternate airport weather for indications of precipitation.

30-15 Windshield Perimeter Heater(s)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-15	Windshield Perimeter Heater(s)	C	2	0	

PLACARDING:

Apply sticker adjacent to Window Heat Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WINDSHIELD PERIMETER HEATER(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

30-17 COWL ANTI-ICE Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-17	COWL ANTI-ICE Lights				
30-17A		C	2	1	Except for ER operations beyond 120 minutes, one may be inoperative provided airplane is not operated in known or forecast icing conditions.
30-17B		C	2	1	(M#)(O) One may be inoperative provided associated cowl anti-ice valve is locked open

NOTE: If dispatching with the associated cowl anti-ice valve locked open, MEL Item 30-03 restrictions for a cowl anti-ice valve inoperative locked open must be observed.

PLACARDING:

Apply sticker adjacent to affected cowl anti-ice light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - One valve Inop Closed

  (LEFT)(RIGHT) COWL ANTI-ICE LIGHT INOP - DO NOT OPERATE IN ICING CONDITIONS

- Condition 2 - One Valve Inop Locked Open

  (LEFT)(RIGHT) COWL ANTI-ICE LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Refer to MEL Item 30-03-03B (M) procedure to dispatch with associated cowl anti-ice valve locked open.

(O) OPERATIONS PROCEDURES:

Refer to MEL Item 30-03-03B (O) procedure to dispatch with associated cowl anti-ice valve locked open.

30-18 Alpha Vane Heater Light Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-18	Alpha Vane Heater Light Systems				
30-18A		C	2	0	(M) May be inoperative provided associated heater function is verified to operate normally before each departure.
30-18B		C	2	0	May be inoperative provided associated heater is considered inoperative. NOTE: Refer to MEL Item 30-08 (Angle of Attack Sensor Heater(s)/Stall Warning System Sensor Heater(s)/ Alpha Vane Heater(s))

PLACARDING:

Apply sticker adjacent to affected Alpha Vane Heater Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L)(R)(BOTH) ALPHA VANE HEATER LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

With alpha vane heater light inoperative, check associated heater as follows prior to each departure (AMM 30-00-00/901):

1. Station ground observer at associated vane heater, establish communications.
2. Ensure covers are removed from all probe and vane heads.
3. Supply electrical power to airplane.
4. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the ON position.

Continued...

5. Check that heat radiation can be detected from associated vane, indicating that heater is functioning. DO NOT TOUCH VANE.

CAUTION:

DO NOT PLACE HAND ON VANE. TEMPERATURES ARE HIGH ENOUGH TO CAUSE BURNS. DO NOT LEAVE HEATER ON LONGER THAN REQUIRED.

HEATER LIFE MAY BE UNNECESSARILY SHORTENED.

6. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the OFF or AUTO position.
7. Restore airplane electrical system to normal.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

30-19 Drain Mast Heaters

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-19	Drain Mast Heaters	C	2	0	(M) May be inoperative provided water supply to associated components is secured off.

PLACARDING:

Apply sticker to affected Drain and Sink.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD) (AFT) DRAIN MAST HEATER INOP

(M) MAINTENANCE PROCEDURES:

Turn off water supply to associated components and deactivate inoperative drain mast heaters (AMM 30-00-00/901).

1. Close the associated water supply shutoff valves (lavatory, galley or fountain).
2. Deactivate inoperative drain mast heater(s):
   a) For an inoperative forward drain mast heater, disconnect, cap and stow wire 0243-20 from terminal block TB2201.
   b) For an inoperative aft drain mast heater, disconnect, cap and stow wire 0244-20 from terminal block TB2201.

NOTE: Alternatively, both drain mast heaters may be deactivated by opening and collaring the following circuit breakers on the P-18 panel:

a) HEATERS DRAIN MAST GND
b) HEATERS DRAIN MAST AIR.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

30-21 Control Stand Wing Anti-Ice Switches

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-21	Control Stand Wing Anti-Ice Switches				
30-21A		C	2	0	(O) May be inoperative closed.
30-21B		C	2	0	(O) May be inoperative open.

PLACARDING:

Apply sticker on or adjacent to Thrust Levers.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

CONTROL STAND WING ANTI-ICE SWITCH(ES) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

30-21A Inoperative Closed

Set WING ANTI-ICE switch to OFF on the ground and for takeoff.

NOTE: Wing anti-ice will not be available on the ground. Wing anti-ice will operate normally in-flight.

30-21B Inoperative Open

Set WING ANTI-ICE switch to OFF for takeoff.

NOTE: Wing anti-ice is available on the ground. Wing anti-ice will operate normally in-flight.

30-22 Air Data Probe Heat Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 - ICE AND RAIN PROTECTION					
30-22	Air Data Probe Heat Systems				
30-22-02	AUTO activation	C	2	0	(O) May be inoperative provided probe heat lights are not illuminated when PITOT STATIC PROBE HEAT A and B switches are in the ON position.

PLACARDING:

Apply sticker on PITOT STATIC HEAT panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

PITOT/STATIC PROBE HEAT AUTO ACTIVATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Manually position PITOT STATIC PROBE HEAT A and B switches to ON position.

31 - INDICATING/RECORDING SYSTEMS

31-01 Clocks

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 - INDICATING/RECORDING SYSTEMS					
31-01	Clocks	C	2	0	Aircraft clocks may be inoperative provided a reliable and functioning timepiece is readily available to all flight deck crew members.
31-01-01	Automatic UTC Update Function	C	2	0	(O) May be inoperative provided manual mode is set and operates normally.

PLACARDING:

Apply sticker on affected clock.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) CLOCK(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

NOTE: When UTC time/date information is not being received from GPS (MEL item 34-45), dashes will be displayed in clock's UTC time/date display.

1. To set manual mode on clock:
   a) Select Manual Mode (MAN) with the "TIME/DATE" push button on the clock.
   b) Manually set the correct time/date as required.

31-02 Flight Data Recorder System (FDR)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 - INDICATING/RECORDING SYSTEMS					
31-02	Flight Data Recorder System (FDR)	A	1	0	May be inoperative provided: a) Cockpit Voice Recorder is operative, and b) Repairs are made within three flight days.
31-02-01	FDR Recording Parameters required by CARs 605.33(1)(c)	A	-	-	Up to three recording parameters may be inoperative provided: a) Cockpit Voice Recorder (CVR) is operative, and b) Repairs are made within 20 calendar days. Refer to Maintenance Notes.
31-02-02	FDR Recording Parameters not required by CARs 605.33(1)(c)	A	-	0	May be inoperative provided repairs are made before the completion of the next heavy maintenance visit. Refer to Maintenance Notes.

PLACARDING:

Apply sticker to Flight Data Recorder Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FDR)(FDR _____PARAMETER) INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTES:

NOTE 1: FDR analysis required to identify missing parameters.

NOTE 2: The following FDR parameters are required by CARs:

(1) time;
(2) altitude;
(3) airspeed;
(4) vertical acceleration;
(5) heading;
(6) time of each radio trans-mission to or from air traffic control;
(7) pitch altitude;
(8) roll attitude;
(9) Longitudinal acceleration;
(10) pitch trim position;
(11) control column or pitch control surface position;
(12) control wheel or lateral control surface position;
(13) rudder pedal or yaw control surface position;
(14) thrust of each engine;
(15) position of each thrust reverser;
(16) trailing edge flap or cockpit flap control position;
(17) leading edge flap or cockpit flap control position;
(18) ground spoiler position/speed brake selection;
(19) autopilot engagement;
(20) lateral acceleration;
(21) glideslope deviation;
(22) localizer deviation;
(23) AFCS mode and engagement status;
(24) radio altitude,
(25) master warning;
(26) main gear squat switch status;
(27) angle of attack (if recorded directly),
(28) outside air temperature or total air temperature;
(29) hydraulics, each system low pressure;
(30) groundspeed;
(31) test flight.

NOTE 3: The following procedure may be used to confirm whether or not DFDAU faults affect the mandatory function of the FDR or only the ACMS function (non-mandatory parameters).

a) Position the Flight Recorder Test Switch to the TEST position.
b) If the Flight Recorder System OFF Light extinguishes, the fault does not affect the mandatory function of the FDR but does affect the ACMS function (see Item 31-07-00).
c) If the Flight Recorder System OFF light remains illuminated, the fault does affect the mandatory function of the FDR (Refer to MEL Item 31-02-02).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

31-08 Common Display System (CDS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 - INDICATING/RECORDING SYSTEMS					
31-08	Common Display System (CDS)				
31-08-01	Display Units (DU)				
31-08-01-01	Lower DU	A	1	0	(O) May be inoperative provided: a) All remaining DUs operate normally, b) It is checked that engine display can be switched to an alternate DU, and c) Repairs are made within three flight days.
31-08-01-02	Inboard DU	A	2	1	(O) For EFIS/MAP configuration, one may be inoperative provided: a) It is checked that engine display can be switched to an alternate DU, b) All navigation must be based on ILS/VOR/DME, and c) Repairs are made within 1 flight-day.
31-08-02	CDS MAINT Annunciation				
31-08-02-01	PFD/ND	B	-	0	May be dispatched with faults indicated by CDS MAINT annunciation provided CDS Operational Program Software (OPS) P/N 3111-HNP-01A-05 or later, is installed
31-08-02-02	EFIS/MAP	A	-	0	May be dispatched with faults indicated by CDS MAINT annunciation provided: a) Captain's Inboard DU operates normally, b) CDS Operational Program Software (OPS) P/N 3111-HNP-01A-05 or later is installed, and c) Repairs are made within 1 flight-day.

PLACARDING:

Apply sticker adjacent to affected DU.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LOWER)(INBOARD) DISPLAY UNIT INOP

or

CDS MAINT ANNUNCIATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE

With the lower display unit inoperative for dispatch, depending on the failure mode, the upper display unit may exhibit flickering. Deactivating the lower display unit by opening and collaring circuit breaker DISPLAY CTR LWR on the P6-1 panel will reduce the risk of this interference.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

31-08-01-01 Lower DU and 31-08-01-02 Inboard DU:

Verify that engine indications can be manually selected to either Captain’s or First Officer’s inboard DU.

31-09 Remote Light Sensor System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 - INDICATING/RECORDING SYSTEMS					
31-09	Remote Light Sensor System	C	1	0	May be inoperative provided all manual display brightness controls operate normally.

PLACARDING:

Apply sticker on or adjacent to control/display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

REMOTE LIGHT SENSOR SYTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

31-10 Speed Reference Selector

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 - INDICATING/RECORDING SYSTEMS					
31-10	Speed Reference Selector	C	1	0	May be inoperative provided speeds can be set using CDU.

PLACARDING:

Apply sticker adjacent to Speed Reference Selector on center instrument panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

SPEED REFERENCE SELECTOR INOP - SET REFERENCE SPEEDS USING FMC CDU

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

31-14 TAKEOFF CONFIG Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 - INDICATING/RECORDING SYSTEMS					
31-14	TAKEOFF CONFIG Light				
		C	2	1	(O) May be inoperative provided the associated CABIN ALTITUDE warning light operates normally and flight crew performs a briefing on cabin altitude warning indications and procedures before engine start for the first flight of the day or following any change of either flight crew member.

PLACARDING:

Apply sticker on or adjacent to TAKEOFF CONFIG Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TAKEOFF CONFIG LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Use MEL item 21-11-02-03 (O) procedure.
2. Complete the following briefing prior to engine start on the first flight of the day or following the change of either flight crew member: "If the intermittent warning horn sounds in flight, we will don oxygen masks, 100%, establish crew communication and complete the Cabin Altitude Warning QRC.

32 - LANDING GEAR

32-02 Antiskid System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-02	Antiskid System Channels				
32-02-02A		B	2	0	(M)(O) May be inoperative provided: a) Associated Antiskid channels are deactivated, b) Crew members are the only occupants of the aircraft, and c) AFM performance penalties are applied.
32-02-02B		B	2	1	(M)(O) May be inoperative provided: a) Associated Antiskid channel is deactivated, b) AFM performance penalties are applied, c) Thrust Reversers are operative, d) Reduced thrust takeoff operations are prohibited, and e) Takeoff or landing is not conducted from a contaminated runway.

NOTE: The antiskid system has two circuit breakers (C/B's); one for Inboard (INBD) and one for Outboard (OUTBD) wheel brakes. If only one of the two antiskid channels is inoperative, the other channel may be left on to provide antiskid protection for the INBD or OUTBD wheels. Any channel that is inoperative must be turned off to ensure full manual braking capability.

PLACARDING:

Apply placard adjacent to auto brake switch - ANTISKID INOP - DO NOT USE AUTO BRAKE

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ANTISKID SYSTEM (INB/OUTB CHANNEL) INOP - DO NOT USE AUTOBRAKE

(M) MAINTENANCE PROCEDURES:

32-02-02A No Passengers

Deactivate the inoperative Antiskid System channels (AMM 32-00-00/-901).

Identify faulty channels by performing a maintenance BITE check as follows:

NOTE: If only one of the two antiskid channels is inoperative, the other channel may be left on to provide antiskid protection for the INBD or OUTBD wheels.

1. Gain access to the antiskid/autobrake control unit in the electronics bay E1-3.
2. Note all faults by pressing the PRESS/TEST - BIT switch to the BIT position until "TEST END".
3. Clear all faults by pushing RESET.
4. Note existing faults by pressing the PRESS/TEST - BIT switch to the BIT position until "TEST END".
5. Open and collar the P6-3 panel ANTISKID circuit breaker associated with existing faults.

Alternatively, the Antiskid system may be fully deactivated without performing the maintenance BITE check.

1. Open and collar the P6-3 panel INBOARD ANTISKID and OUTBOARD circuit breakers.

32-02-02B One Channel Inoperative

Deactivate the inoperative Antiskid System channels (AMM 32-00-00/-901). Identify faulty channels by performing a maintenance BITE check as follows:

NOTE: If only one of the two antiskid channels is inoperative, the other channel may be left operative to provide antiskid protection for the INBD or OUTBD wheels.

1. Gain access to the antiskid/autobrake control unit in the electronics bay E1-3.
2. Note all faults by pressing the PRESS/TEST - BIT switch to the BIT position until "TEST END".
3. Clear all faults by pushing RESET.
4. Note existing faults by pressing the PRESS/TEST - BIT switch to the BIT position until "TEST END".
5. Open and collar the P6-3 panel ANTISKID circuit breaker associated with existing faults.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

32-02-02A No Passengers and 32-02-02B One Channel Inoperative

1. Reduced thrust takeoff using the assumed temperature method is not permitted.
2. Takeoff on wet runways is not permitted unless AFM performance for wet skid-resistant surfaces and antiskid inoperative is applicable and used.
3. Turn Autobrake System OFF.
4. Payload may be affected due to takeoff and landing runway length requirements.
5. Adjust takeoff and landing gross weight limits as required for antiskid inoperative.
6. Extend speed brakes manually since automatic extension system may not be operative with antiskid inoperative.
7. Use antiskid inoperative braking procedure (AFM Section 4) including the actions in step 8.
8. Landing Procedure Review.
   a) Use minimum braking consistent with runway length and conditions to reduce the possibility of a tire blowout.
   b) Do NOT apply the brakes until the nose wheel is on the ground and the speedbrakes have been manually deployed.
   c) Brake initially using light steady pedal pressure. Increase pressure as ground speed decreases. Do NOT pump the brakes.

NOTE 1: Landing distance will be affected with the Anti-Skid inoperative. Dispatch shall ensure consideration is given to the increase landing distance (AFM) due to delayed reaction in the application of Manual Braking.

NOTE 2: Takeoff on contaminated runways is not permitted.

NOTE 3: Reference QRH Performance Inflight (appropriate section 10, 20, 30 or 40) NON-NORMAL CONFIGURATION LANDING DISTANCE/ANTI-SKID INOPERATIVE for required landing distance.

9. Prior to landing, set the GROUND PROXIMITY RUNWAY INHIBIT switch to RUNWAY INHIBIT (if the Overrun Warning System and GROUND PROXIMITY RUNWAY INHIBIT switch are installed).

32-03 Parking Brake Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-03	Parking Brake Valve	C	1	0	(M#)(O) May be inoperative provided: a) Antiskid system is deactivated, b) Operations are conducted in compliance with AFM antiskid inoperative decrements, and c) Crew members are the only occupants of the aircraft.

PLACARDING:

Apply placard on or adjacent to:

- Parking brake lever - PARK BRAKE VALVE INOP
- Auto brake switch - LEAVE OFF
- Antiskid switch - LEAVE OFF

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

PARKING BRAKE VALVE INOP - DO NOT USE ANTISKID AND AUTO BRAKE

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

1. Deactivate the parking brake valve in the closed position (AMM 32-00-00/901):
   a) Check that landing gear ground lock pins are properly installed.
   b) With electrical power on airplane and wheels chocked, release the parking brake.
   c) Open P6-3 panel ANTISKID FAIL & PARKING BRAKE or LANDING GEAR PARKING BRAKE circuit breaker.
   d) Deactivate antiskid system:
   Open and collar the ANTISKID INBD and ANTISKID OUTBD circuit breakers.
   e) Gain access to the parking brake valve and disconnect and stow electrical connector at valve.
   f) Manually position override lever on the valve to the fully closed (POS 2) position.
   g) Close P6-3 panel ANTISKID FAIL & PARKING BRAKE or LANDING GEAR PARKING BRAKE circuit breaker.
2. With the parking brake released and antiskid deactivated, verify that the ANTISKID INOP light is on.
3. Position auto brake switch to OFF position.
4. Restore the airplane to its required configuration.

(O) OPERATIONS PROCEDURES:

NOTE: The parking brake operates normally with the parking brake valve inoperative closed.

1. Refer to MEL item 32-02-02A (O) procedure for information when the antiskid system is deactivated.
2. Verify that the antiskid system is deactivated: P6-3 panel ANTISKID INBD and ANTISKID OUTBD circuit breakers are opened and collared.
3. Verify that the auto brake switch is OFF.
4. Observe AFM limitations for dispatch with antiskid system inoperative.
5. Use antiskid inoperative braking procedure (AFM Section 4).
6. Extend speed brakes manually.

32-04 Parking Brake Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-04	Parking Brake Light				
32-04-02	Motor Operated Parking Brake Valve Installed	C	1	0	(M#) May be inoperative provided parking brake shutoff valve is verified to operate normally.

PLACARDING:

Apply sticker adjacent to Parking Brake Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

PARKING BRAKE LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify parking brake shutoff valve operates normally.

1. Check that landing gear ground lock pins are properly installed.
2. With electrical power on the airplane and wheels chocked, set and release the parking brake.
3. Verify that the parking brake shutoff valve (located on the wheel well aft bulkhead) moves to the closed position (POS 2) when the parking brake is set and moves to the open position (POS 1) when the parking brake is released. These results indicate that the parking brake valve is operating normally.

(O) OPERATIONS PROCEDURES:

None required.

32-07 Automatic Brake System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-07	Automatic Brake System	C	1	0	(M#) May be inoperative provided system is deactivated and secured.

PLACARDING:

Apply sticker adjacent to auto brake select switch on center instrument panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

AUTO BRAKE SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

If AUTO BRAKE DISARM or INOP light extinguishes with AUTO BRAKE switch OFF, dispatch is allowed with the AUTO BRAKE switch in the OFF position without any further deactivation procedures.

If AUTO BRAKE DISARM or INOP light illuminates with AUTO BRAKE switch in the OFF position, perform the following additional procedures (AMM 32-00-00/901):

1. Depressurize hydraulic system B (AMM 29-11-00).
2. Open and collar the following P6-3 Panel auto brake control circuit breakers: Autobrake/BITE 1 and Autobrake/BITE 2
3. In main gear wheel well, on the ceiling locate the auto brake valve module V122 and deactivate system by one of the two following methods:
   a) METHOD 1
      1. Disconnect, cap and stow electrical connectors from auto brake valve module.

      Remove the auto brake valve module and cap the supply pressure line.

      Connect the brake pressure line and the return line with a 3/8 inch section of tubing or flexible hose (prevents hydraulically locking the brake shuttle valves in the brakes off position).
   b) METHOD 2
      1. Disconnect, cap and stow electrical connectors from auto brake valve module.
      2. Disconnect and plug the supply pressure line and cap the supply pressure port on the valve module.
4. Uncollar and close the two P6-3 Panel auto brake circuit breakers.
5. Repressurize the hydraulic systems (AMM 29-11-00) and check vicinity of auto brake valve for leaks.

(O) OPERATIONS PROCEDURES:

None required.

32-08 Rudder Pedal Nose Wheel Steering System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-08	Rudder Pedal Nose Wheel Steering System				
32-08-01	Rotary Actuator	C	1	0	(M#)(O) May be inoperative deactivated in disengage position provided: a) Operation of associated systems is not affected, and b) All takeoffs and landings are made by pilot with access to an operating tiller.

NOTE: Dispatch is only allowed with the rudder pedal nose wheel steering not operating (electrical rotary actuator inoperative in the disengage position). The rotary actuator cannot be manually positioned.

PLACARDING:

Apply sticker adjacent to each pilot's airspeed indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

RUDDER PEDAL NOSE WHEEL STEERING INOP - ALL TAKEOFFS AND LANDINGS FROM LEFT SEAT ONLY

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

1. Put the airplane in the air mode (AMM 32-09-00/201) and wait at least 5 seconds.
2. Open and collar P6-3 Panel circuit breaker LANDING GEAR NOSE GEAR STEER.
3. Return the airplane to the ground mode (AMM 32-09-00/201).
4. Operate the rudder pedal steering and verify that the nose gear does not turn.
5. Operate rudder pedals and verify that the rudder operates normally.
6. Operate the tiller and verify that the nose gear steering operates normally.

(O) OPERATIONS PROCEDURES

Flight crew should be informed that the crew member with access to the tiller will be flying and the following procedures used:

NOTE: Pilots must use caution when using the nose wheel steering tiller (wheel) above 20 knots to avoid over-controlling the nose wheels resulting in possible loss of directional control.

Takeoff:

The crew member with access to the tiller should steer the airplane by manipulating the steering wheel control until the rudder becomes effective between 40 and 60 kts. The crew member not flying should assist by keeping the wings level and applying a light forward pressure on the control column until the tiller is no longer required for steering.

Landing:

The crew member with access to the tiller should use the rudder and steering wheel control as required during the landing roll. The crew member not flying should assist by keeping the wings level and a forward pressure on the control column.

32-10 Alternate Antiskid Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-10	Alternate Antiskid Valves	C	2	0	(M) May be inoperative provided manual braking capability of alternate brake system is verified on associated wheels.

PLACARDING:

Apply sticker on or adjacent to ANTISKID INOP light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) ALTERNATE ANTI-SKID VALVE(S) INOP

(M) MAINTENANCE PROCEDURES:

If the alternate antiskid valve is inoperative, verify manual braking is available on the affected wheels with the alternate brake system (AMM 32-00-00-901):

1. Check that landing gear ground lock pins are properly installed.
2. Provide electrical power (AMM 24-22-00).
3. Verify that P6-3 panel circuit breakers ANTISKID INBD and ANTISKID OUTBD are closed.
4. Verify that wheel chocks are in place.
5. Depressurize Hydraulic System B and provide Hydraulic System A pressure (AMM 29-11-00).
6. Depress and release brake pedals several times. Observe brake wear indicator pins for movement to ensure that all brakes are operating normally.
7. If brakes do not operate normally, open and collar P6-3 panel circuit breakers ANTISKID INBD and ANTISKID OUTBD.
   a) Depress and release brake pedals several times. Observe brake wear indicator pins for movement to ensure that all brakes are operating normally.
   b) If all brakes operate normally, also dispatch the airplane using MEL item 32-02 (Antiskid System).

      NOTE: If any brake remains inoperative, the airplane cannot be dispatched.
8. Remove landing gear ground lock pins prior to dispatch.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

32-12 Nose Wheel Steering Switch

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-12	Nose Wheel Steering Switch	C	1	0	(M#) May be inoperative provided: a) Nose wheel steering is powered by Hydraulic System A, and b) Landing gear transfer valve is verified to operate normally.

PLACARDING:

Apply sticker adjacent to Nose Wheel Steering Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

NOSE WHEEL STEERING SWITCH INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Verify that the landing gear transfer valve operates normally (AMM 32-00-00/901):

1. Pressurize Hydraulic System A. Reference AMM 29-11-00.
2. Perform the Landing Gear Transfer Valve Operational Test (AMM 32-31-71).
3. Depressurize Hydraulic System A. Reference AMM 29-11-00.
4. Place Nose Wheel Steering switch to NORM position.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE

Nose wheel steering will not be available if Hydraulic System A power is lost.

32-13 Hydraulic Brake Pressure Indication System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-13	Hydraulic Brake Pressure Indication System				
32-13-02					
32-13-02-01	Wheel Well Brake Accumulator Gauge	C	1	0	May be inoperative provided flight deck brake pressure indicator operates normally.
32-13-02-02	Flight Deck HYD BRAKE PRESS Indicator System	C	1	0	(M) May be inoperative provided brake accumulator charge is verified normal once each flight day.

PLACARDING:

Apply sticker adjacent to affected Brake Pressure Indicator (Flight Deck or Wheel Well Accumulator Gauge).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FLIGHT DECK) (WHEEL WELL ACCUMULATOR) BRAKE PRESSURE INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

Verify brake accumulator charge (AMM 32-00-00/901).

1. Chock wheels and release parking brakes.
2. Depressurize Hydraulic Systems A and B (AMM 29-11-00).
3. Apply and release brakes 10 times with approximately 3 seconds between each application. Verify that associated wheel well brake accumulator gauge pressure indication is within limits after 10 applications (AMM 12-15-11 or wheel well placard).
4. Pressurize Hydraulic Systems A and B (AMM 29-11-00) and verify that associated wheel well brake accumulator gauge pressure indication is approximately 3000 psi.
5. Set parking brakes.
6. Depressurize Hydraulic Systems A and B (AMM 29-11-00).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

32-14 Gear Retraction Braking System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-14	Gear Retraction Braking System	C	1	0	(O) May be inoperative provided: a) After takeoff, landing gear remains extended for 2 minutes before retraction, and b) Takeoff performance is based on Landing Gear Extended.

PLACARDING:

Apply sticker adjacent to Landing Gear Lever.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

GEAR RETRACTION BRAKING SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Base takeoff performance on landing gear extended.
2. After takeoff, leave the landing gear extended for a minimum of two minutes to allow the wheels to spin down prior to gear retraction.

32-15 Landing Gear Selector Valve Bypass Module

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-15	Landing Gear Selector Valve Bypass Module	C	1	0	(M#)(O) May be inoperative provided it is deactivated in normal position.

PLACARDING

Apply placard to both pilot's instrument panels –

LANDING GEAR SELECTOR VALVE BYPASS MODULE INOP - OPERATE PER MEL

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

LANDING GEAR SELECTOR VALVE BYPASS MODULE INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Deactivate the landing gear selector valve bypass module. (AMM 32-00-00/901).

1. Open and collar P6-3 panel LANDING GEAR ALTN EXTEND SOL circuit breaker.
2. Check that landing gear ground lock pins are properly installed.
3. Verify that the bypass valve module is in the NORMAL position:
   a) Momentarily position the landing gear lever in the UP position
   b) Verify that the main landing gear downlock actuator tries to extend.
   c) Ensure landing gear lever is returned to the DOWN position.
4. Remove landing gear ground lock pins when all maintenance and servicing of airplane is complete.

(O) OPERATIONS PROCEDURES

The maximum performance-limited landing weight must be based on flaps 15 and reduced by the following weight adjustments.

NOTE 1: Consider dispatch only to AIL maintenance base.

NOTE 2: A landing flap setting other than 15 may be used unless the landing gear lever is jammed in the up position.

Flaps 15 Performance Limited Landing Weight Adjustment
19,900 lb (9027 kg)

If the landing gear lever will not move from the UP position when required, accomplish the following procedure to extend the landing gear. This procedure replaces the Flight Crew Operations Manual QRH, "LANDING GEAR LEVER JAMMED IN THE UP POSITION" procedure.

1. Pull Landing gear override trigger.

   NOTE: 270K/0.82M maximum speed.

2. Position LANDING GEAR lever Down.
3. If landing gear lever moves down.
   a) Check landing gear indicator lights.
   b) If all landing gear are down and locked, do the normal DESCENT, APPROACH and LANDING checklists.
   c) If all landing gear are not down and locked, do the MANUAL GEAR EXTENSION checklist in the Flight Crew operations Manual QRH.
4. If landing gear lever does not move down.

   NOTE: Manual gear extension using this procedure may require up to 10 minutes to accomplish. Do not accomplish this procedure unless there is sufficient fuel to extend the gear and then complete an approach, with appropriate reserves. If sufficient fuel is not available, accomplish the PARTIAL OR ALL GEAR UP LANDING checklist in the Flight Crew Operations Manual QRH.

   a) Verify NOSE WHEEL STEERING switch is NORM.

      NOTE: Do not use alternate nose wheel steering because the landing gear may retract on the ground.

   b) Position the system A FLT CONTROL switch to STBY RUD.
   c) Position the system A hydraulic pump switches to OFF.

Continued...

d) Cycle the speed brake lever until system A hydraulic pressure is below 500 psi.

NOTE 1: It may take a number of cycles to reduce the system A pressure to below 500 psi.

NOTE 2: Do not repressurize hydraulic system A inflight or on the ground and do not use alternate nose wheel steering because the landing gear may retract.

NOTE 3: The engine No. 1 thrust reverser will deploy and retract at a slower rate and some thrust asymmetry can be anticipated during thrust reverser deployment.

NOTE 4: The following items will be inoperative:

1. Ground spoilers.
2. Flight spoilers 2, 4, 9, 11.
3. Autopilot A.
4. Normal nose wheel steering.
5. Alternate brakes.

e) Pull the manual gear extension handles.

NOTE 1: 270K/0.82M maximum speed.

NOTE 2: Do not wait for an indication that a landing gear is down and locked before pulling the next handle.

f) Continue to cycle the speed brake lever to relieve hydraulic pressure as the gear extends.

NOTE 1 It may take a number of cycles and up to 4 minutes until all three landing gear indicator lights are illuminated.

NOTE 2: With the LANDING GEAR lever in the UP or OFF position, the red landing gear indicator lights will stay illuminated.

g) If all landing gear are not down and locked, accomplish the PARTIAL OR ALL GEAR UP LANDING checklist in the Flight Crew Operations Manual QRH.

h) If all landing gear are down and locked, plan for a flaps 15 landing.

1. Set VREF 15 + 10 knots.

   NOTE: Provides tail clearance during landing since "A" hydraulic system flight spoilers will be unlocked and may float.

2. Position the GROUND PROXIMITY FLAP INHIBIT switch to FLAP INHIBIT.
3. If installed, position the GROUND PROXIMITY GEAR INHIBIT switch to GEAR INHIBIT.
4. If GROUND PROXIMITY GEAR INHIBIT switch not installed, pull GND PROX WARN circuit breaker.
5. Prior to landing, set the GROUND PROXIMITY RUNWAY INHIBIT switch to RUNWAY INHIBIT (if the Overrun Warning System and GROUND PROXIMITY RUNWAY INHIBIT switch are installed).

32-16 Landing Gear Actuation System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-16	Landing Gear Actuation System	B	1	0	(M#)(O) May be inoperative provided: a) Inoperative components are secured by an accepted procedure, b) Landing gear is secured in down position, and c) Airplane is dispatched in accordance with AFM Gear Extended Appendix.

PLACARDING:

Apply sticker adjacent to Landing Gear Lever.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LANDING GEAR ACTUATION SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Secure the landing gear in the down position (AMM 32-00-00/901).

1. Install landing gear downlock pins (AMM 32-00-01/201).
2. Re-program airspeed indicator and airspeed warnings (VMO/MMO) for landing gear extended by placing the Alternate Gear Down Dispatch switch located in the main equipment center to the ALTN position.

(O) OPERATIONS PROCEDURES:

Dispatch the airplane in accordance with the AFM Landing Gear Extended Appendix.

1. Observe AFM Landing Gear Extended certificate limitations and operational limits.
2. Airplane performance with landing gear extended is available in AFM-DPI and the Boeing 737-600/-700/-800/-900/-900ER Flight Planning and Performance Manual for operators that have the AFM appendix for Landing Gear Extended.

32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-17	Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit				
32-17-01	PSEU Fault				
32-17-01A		C	1	0	(M#) May be dispatched with faults indicated by PSEU light provided PSEU is checked for faults before each departure.
32-17-01B		C	1	0	May be dispatched with faults indicated by PSEU light provided PSEU light can be extinguished.
32-17-02	PSEU Light	C	1	0	(M#) May be inoperative provided PSEU is checked for faults before each departure.

PLACARDING:

Apply sticker on or adjacent to PSEU Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

PSEU FAULT or PSEU LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

32-17-01A PSEU Faults Checked Before Each Departure and 32-17-02 PSEU Light

Check the PSEU BITE for faults (AMM 32-00-00/901):

1. Gain access to the PSEU through the forward access door.
2. Power the PSEU BITE Control Panel by pressing the ON/OFF switch.
3. EXISTING FAULTS? will be displayed. Press the YES switch.
4. One of the following messages will be displayed:
   a) "NO FAULTS" - airplane may be dispatched without further action.
   b) "DISPATCH FAULT" or "DISPATCH PER MEL" - msg #32-64003 - dispatch allowed for 10 days unless msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are also displayed. If msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are displayed, refer to MEL item 32-21.
   c) "NO DISP FAULT" or "DO NOT DISPATCH" - msg #32-64004 - dispatch is not allowed. If msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are also displayed, refer to MEL item 32-21.

MAINTENANCE NOTE

For dispatchable faults, extinguish the PSEU light by one of these steps:

1. For airplanes with P/N 285A1600-4 and earlier PSEU : Pushing the MASTER CAUTION light.
2. For airplanes with P/N 285A1600-5 and -6 PSEU : Setting the parking brake, or Shutting down both engines.

(O) OPERATIONS PROCEDURES:

None required.

32-18 Landing Gear Alternate Extension System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-18	Landing Gear Alternate Extension System	B	1	0	(M#)(O) May be inoperative provided: a) Inoperative Components are secured by an accepted procedure, b) Landing gear is secured in down position, and c) Airplane is dispatched in accordance with AFM Gear Extended Appendix.

PLACARDING:

Apply sticker adjacent to Landing Gear Lever.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LANDING GEAR ALTERNATE EXTENSION SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Secure the landing gear in the down position (AMM 32-00-00/901).

1. Install landing gear downlock pins (AMM 32-00-01/201).
2. Re-program airspeed indicator and airspeed warnings (VMO/MMO) for landing gear extended by placing the Alternate Gear Down Dispatch switch located in the main equipment center to the ALTN position.

(O) OPERATIONS PROCEDURES:

Dispatch the airplane in accordance with the AFM Landing Gear Extended Appendix.

1. Observe AFM Landing Gear Extended certificate limitations and operational limits.
2. Airplane performance with landing gear extended is available in AFM-DPI and the Boeing 737-600/-700/-800/-900/-900ER Flight Planning and Performance Manual for operators that have the AFM appendix for Landing Gear Extended.

32-19 Main Landing Gear Uplock Springs

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-19	Main Landing Gear Uplock Springs	B	4	3	(M#)(O) One spring on one main gear uplock mechanism may be missing provided landing gear lever remains in UP position for duration of flight until gear extension is required.

PLACARDING:

Apply placard adjacent to landing gear lever: AFTER TAKEOFF LEAVE UP.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LANDING GEAR UPLOCK SPRING INOP – LEAVE GEAR HANDLE IN THE UP POSITION UNTIL GEAR EXTENSION REQUIRED

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Remove the affected main landing gear uplock spring (AMM 32-00-00/901).

(O) OPERATIONS PROCEDURES:

After takeoff, leave landing gear lever in the UP position for the duration of flight until gear extension is required.

32-20 Landing Gear Frangible Fitting

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-20	Landing Gear Frangible Fitting	C	2	0	(M#) May be broken or missing provided fitting is replaced with a hydraulic cap assembly.

PLACARDING

Apply sticker adjacent to Landing Gear Frangible Fitting.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(LEFT)(RIGHT) LANDING GEAR FRANGIBLE FITTING INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

Remove the frangible fitting and nut and replace with a standard BACC14AD06JL or equivalent hydraulic cap assembly (AMM 32-00-00/901).

(O) OPERATIONS PROCEDURES

None required.

32-21 Flap Landing Warning Switch, S138

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32 - LANDING GEAR					
32-21	Flap Landing Warning Switch, S138	C	1	0	(M#) Switch contacts normally in use may be inoperative provided: a) S138 switch is rewired using an alternate set of contacts, and b) PSEU BITE is used to verify normal operation of S138 switch.

PLACARDING:

Apply sticker adjacent to Flap Landing Warning Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLAP LANDING WARNING SWITCH INOP

(M#) MAINTENANCE PROCEDURES:

S138 switch is rewired and PSEU BITE is used to verify normal operation of the S138 switch (AMM 32-00-00/901).

1. Failure of the S138 switch is indicated by illumination of the PSEU fault light accompanied by fault message numbers 32-62009, 32-62010 or 32-62014 shown in the PSEU BITE.
2. Each fault message indicates a high resistance short to ground or disagreement between contacts as shown below:
   a) 32-62009/32-62109 D10984 pin 48 S138 contact "3" wire W8124-A-CC
   b) 32-62010/32-62110 D10984 pin 49 S138 contact "18" wire W8124-A-UU
   c) 32-62014 Disagreement between contacts "3" and "18"

   For a S138 switch with connector attached to D14730:
   a) 32-62009 /32-62109 D10984 pin 48 S138 contact "C" wire W8124-0506-20
   b) 32-62010 /32-62110 D10984 pin 49 S138 contact "U" wire W8124-0511-20
   c) 32-62014 Disagreement between contacts "C" and "U"

Continued...

3. Refer to Wiring Diagram Manual 32-64-21 and wire list for available contacts. The wires for the contact set (center tap contact and normally open contact) may be cut from the S138 switch set and connected to an available set of contacts in the same switch as follows, until the switch can be replaced:
   a) Select flaps full up
   b) Select an available set of contacts, after verifying that the normally open contact exhibits better than 10.0 mega-ohms isolation resistance to ground and to center tap.
   c) Connect wire to selected set of contacts using approved waterproof splices per Standard Wiring Practices Manual
   d) Cap and stow deactivated wires from S138 switch.
   e) Test the S138 switch as follows:
      1. Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays NO GND.
      2. Select flaps 15
      3. Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays GND.
4. Alternate to step 3. For a S138 switch with connector attached to D14730. Refer to Wiring Diagram Manual 32-64-21 and wire list for available contacts. Refer to Standard Wiring Practices Manual for any established wiring procedures required. Remove the connector pins A and C, or U and S, from whichever is discrepant on the switch side.
   a) Select flaps full up.
   b) Select an available set of contacts, after verifying that the normally open contact exhibits better than 10.0 mega-ohms isolation resistance to ground and to center tap. Available set may be any of the switch NO and CT contacts on any available switch (i.e.: D and F, K and M, N and R).
   c) Insert the connector pins removed from A and C, or U and S, into whichever set of connector pin locations previously selected above.
   d) Plug connector holes with removed plugs from pins at newly used set of contacts.
   e) Test the S138 switch as follows:
      1. Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays NO GND.
      2. Select flaps 15.
      3. Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays GND.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33 – LIGHTS

33-01 Cockpit/Flight Deck/Flight Compartment and Instrument Lighting System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-01	Cockpit/Flight Deck/Flight Compartment and Instrument Lighting System				
33-01-01		C	-	-	Individual lights may be inoperative provided: a) Remaining Lighting System lights are sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided, b) Remaining Lighting System lights are positioned so that direct rays are shielded from flight crew members' eyes, and c) Lighting configuration and intensity is acceptable to the flight crew. NOTE: Individual button/switch lights and/or annunciation/indications are excluded from this relief.
33-01-02	Day Operations	C	-	0	May be inoperative for day operations.

PLACARDING:

Apply sticker adjacent to affected Light Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ FLIGHT COMPARTMENT AND INSTRUMENT LIGHTING SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Applicable standards are contained in AWM 525.1381 which require instrument lights to be such that instruments are "easily readable." In the absence of other regulatory requirements, it is suggested that this MEL item be considered as a "Captain's judgement" situation.

33-02 Cabin Interior Illumination

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 – LIGHTS					
33-02	Cabin Interior Illumination				
33-02-02	Passenger and Combi Configurations with Photoluminescent Emergency Escape Path Marking Systems **Applicable to: C-FTUW, C-FTUY**	C	-	-	Individual lights may be inoperative provided: a) Sufficient lighting remains for cabin attendants/cargo couriers to perform their duties, and b) Remaining lighting is sufficient to charge the Photoluminescent Emergency Escape Path Marking System.

PLACARDING

Apply sticker adjacent to affected Cabin Interior Light Switch

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

_____ CABIN INTERIOR LIGHT INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTE

Configuration with STG Aerospace saf-Tglo Photoluminescent Emergency Escape Path Marking System – Doc No: SG-1007-MMEL-01:

a) The overhead ceiling lighting may contain inoperative lamps not to exceed more than 10 percent of the total quantity.

b) No more than two adjacent lamps in the longitudinal or lateral direction may be inoperative.

c) Adjacent lamps are those next-to or diagonally opposing lamps.

(M#) MAINTENANCE PROCEDURES

None Required.

(O) OPERATIONS PROCEDURES

None Required.

33-03 Passenger Lighted Information Signs and Notice System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-03	Passenger Lighted Information Signs and Notice System				
33-03-01	"NO SMOKING/ FASTEN SEAT BELT/ RETURN TO SEAT" Signs **Applicable to: C-FTUW, C-FTUY**				
33-03-01A		C	-	-	(M) May be inoperative provided: a) a) Associated passenger seat or lavatory is not occupied from which a passenger lighted information sign is not readily legible, and b) b) Associated seat or lavatory is blocked and placarded "DO NOT OCCUPY". NOTE: These conditions are not intended to prohibit lavatory use or inspections by crewmembers.
33-03-01B		C	-	-	(O) May be inoperative and associated passenger seat or lavatory may be occupied provided: c) a) PA system operates normally, and d) b) PA system is used to notify passengers and cabin crew when associated sign(s) are placed on or off.
33-03-02	All-Cargo, Supernumerary/ Courier Area Lighted Information Signs **Applicable to: ALL**	D	-	-	May be inoperative provided all crew members are on the flight deck.
33-03-03	Aural Tone System **Applicable to: ALL**	C	1	0	(O) May be inoperative provided alternate procedures are established and used.

33-03-04	Flight Deck Automatic Function **Applicable to: ALL**	C	1	0	(O) May be inoperative provided: a) Manual control function operates normally, and b) Alternate procedures are established and used.

PLACARDING

Apply sticker adjacent to affected lights or if all inoperative, on Pilot's Overhead panel adjacent to associated switch(es).

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(NO SMOKING) (FASTEN SEAT BELT) (RETURN TO SEAT) (PASSENGER NOTICE SYSTEM) (ROW(S) _____ OF PASSENGER NOTICE SYSTEM) INOP

(M) MAINTENANCE PROCEDURES

NOTES: Access to window exits or other emergency exit routes cannot be restricted.

In tests conducted at Boeing for the FAA, a sign was considered "readily legible" if enough of the sign could be seen to identify it. For example: “NO SMOK” and “FASTEN SEAT B” would be considered readily legible.

Block and placard associated seat or close and lock associated lavatory.

1. If required, install tapes or ropes of conspicuous contrasting colors to block access to unusable seats prior to boarding passengers.
2. Conspicuous signs or placards shall be placed in appropriate locations to indicate seats which are not to be occupied by passengers.
3. For an associated lavatory, close and lock the lavatory door.
4. Advise Dispatch if seats are blocked. Loading will be affected.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

33-03-01B / 33-03-03: System completely inoperative:

1. Flight crew will make a PA announcement to advise passengers and flight attendants that smoking is not permitted and seat belt requirements.

2. Flight Attendants will monitor these announcements and ensure that passengers conduct themselves in accordance with the last announcement.

3. Review this procedure with the In-Charge.

33-03-04: Auto Function inoperative:

Normal standard operating procedures are already designed so that the manual function is used for day-to-day operations.

33-04 Lower Cargo Compartment Light Systems (Fwd/Aft)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-04	Lower Cargo Compartment Light Systems (Fwd/Aft)	C	2	0	Light Lens excluded
33-04-03	Light Lens	C	-	-	Any number from aft lower cargo compartment and one from forward lower cargo compartment may be broken/missing provided associated light bulb is removed. LED light, no associated LED Module removal required.

PLACARDING:

Apply sticker adjacent to affected switch (lower aft or forward compartment).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD) (AFT) (BOTH) LOWER CARGO COMPARTMENT LIGHT SYSTEM(S) INOP

or

(FWD) (AFT) (BOTH) LOWER CARGO COMPARTMENT LIGHT LENS (BROKEN) (MISSING)

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

If light lens broken/missing, remove associated light bulb.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-05 High Intensity or Strobe Lights System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-05	High Intensity or Strobe Lights System				
33-05-01		C	1	0	May be inoperative provided anti-collision beacons operates normally.

PLACARDING:

Apply sticker adjacent to affected switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STROBE LIGHT SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-06 Anti-Collision Beacons

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-06	Anti-Collision Beacons				
33-06A		C	2	0	May be inoperative provided wing tip and tail strobe lights are installed and operate normally.
33-06B		C	2	0	May be inoperative provided: a) At least one tail or wingtip strobe light operates normally, and b) Operations are not conducted at night.

PLACARDING:

Apply sticker adjacent to Anti-Collision Beacon switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(UPPER) (LOWER) ANTI-COLLISION BEACON LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch if night operations restricted.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Prior to engine start, verify by contact with ground service personnel that all personnel and ground equipment is clear. If direct communication via headset is not to be used, establish suitable hand signals with the ground service individual responsible for the departure before departure time.

33-07 Wing Illumination Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-07	Wing Illumination Lights				
33-07A		C	2	0	(O) May be inoperative provided ground de-icing procedures do not require their use.
33-07B		C	2	0	One or both may be inoperative for day operations.

PLACARDING:

Apply sticker adjacent to Wing Illumination switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) WING ILLUMINATION LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Ensure portable lamp/light of adequate capacity for wing and/or control surface inspection is available for night operations in icing conditions.

33-08 Landing Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-08	Landing Lights				
33-08-01	With Retractable Landing Lights				
33-08-01A		C	4	2	One may be inoperative on each side provided one of two operating lights is in fixed position
33-08-01B		C	4	0	May be inoperative provided operations are not conducted at night.
33-08-01-01	Retractable Light Extend/Retract Motors				
33-08-01-01A		C	2	0	(M)(O) May be inoperative provided: a) Light is in extended position, b) Light illuminates normally, and c) Appropriate performance adjustments are applied.
33-08-01-01B		C	2	0	(O) May be inoperative provided: a) Associated light is considered inoperative, and b) Appropriate performance adjustments are applied when associated light is not in the fully retracted position

PLACARDING:

Apply sticker adjacent to affected Landing Light switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Landing Light(s) Inoperative

  LANDING LIGHT POSITION(S) _____ INOP

- Condition 2 - Landing Light(s) Inoperative - Day Only Operation

  LANDING LIGHT POSITION(S) _____ INOP, RESTRICT OPERATIONS TO DAY ONLY

- Condition 3 - Extend/Retract Motor(s) Inoperative

  LANDING LIGHT EXTEND/RETRACT MOTOR POSITION _____ INOP IN THE (EXTENDED) (NOT EXTENDED) POSITION

(M) MAINTENANCE PROCEDURES:

33-08-01-01A Light Illuminates Normally in Extended Position

With the retractable landing light(s) extend/retract motor inoperative, compare the light position with the operative light's position or use AMM 33-42-02 Retractable Landing Light - Light Adjustment to determine if the light is in the extended position. If light is not in the extended position, the light (lamp) is considered to be inoperative.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

33-08-01-01A Light Illuminates Normally in Extended Position

1. Reduce performance limited weights by the following for each extended light:

   a) Enroute Climb Limited Weight 1500 lb (681 kg).

   NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor.

   Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

2. Increase fuel burn by 1.0 percent for each extended light.

33-08-01-01B Associated Light Considered Inoperative

1. Reduce performance limited weights by the following for each light that is not in the fully retracted position:

   a) Enroute Climb Limited Weight 1500 lb (681 kg).

   NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor.

   Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

2. Increase fuel burn by 1.0 percent for each extended light.

33-09 Taxi Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-09	Taxi Light				
33-09-01	Nose Gear Taxi Light	C	1	0	

PLACARDING:

Apply sticker adjacent to Taxi Light switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TAXI LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-10 Runway Turn Off Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-10	Runway Turn Off Lights	C	2	0	

PLACARDING:

Apply sticker adjacent to Runway Turn Off Light switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

RUNWAY TURN OFF LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-11 Wing Tip Position Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-11	Wing Tip Position Lights	C	4	0	May be inoperative provided operations are not conducted from sunset to sunrise.
33-11-02	Light Bulbs/Lamps				
33-11-02A		C	-	5	Any except the following minimum may be inoperative for night operations from sunset to sunrise: a) Both stationary red wing tip bulbs, b) One stationary green wing tip bulb, and c) One stationary white tail light bulb at each wing tip position.
33-11-02B		B	-	4	Any except the following minimum may be inoperative for night operations from sunset to sunrise: a) One stationary red wing tip bulb, b) One stationary green wing tip bulb, and c) One stationary white tail light bulb at each wing tip position.

PLACARDING:

Apply sticker adjacent to Position Light switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ (LOCATION) POSITION LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch if night operations prohibited.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-14 Exterior Emergency Lighting System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-14	Exterior Emergency Lighting System				
33-14A		C	1	0	May be inoperative for day operations.
33-14B		A	1	0	(O) May be inoperative for one flight day provided: a) Aircraft crew members are the only occupants of the aircraft, and b) Alternate procedures are established and used. NOTE1: For the purposes of this item, "aircraft crew" means the operating crew members including flight crew members, flight attendants, aircraft maintenance personnel and supervisory crew members. NOTE2: The maximum number of crew is two flight crew, one maintenance employee and one official observer if required.
33-14-01	All Cargo Operations	B	1	0	May be inoperative for all-cargo night operations provided forward entry door escape slide lights operate normally.

PLACARDING:

Apply sticker adjacent to EMER EXIT LIGHTS guarded switch (pilot overhead panel).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

EXTERIOR EMERGENCY LIGHTING SYSTEM INOP - OPERATE DURING DAY OR AT NIGHT WITH AIRCRAFT CREW ONLY

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

If a ditching or other emergency occurs at night which requires exiting the aircraft via slides, or from an exit via any other method, the operating crew members will use flashlights held in their hand to illuminate exit areas for deadheading crew members, and then exit the aircraft last.

33-15 Interior Emergency Exit Lighting System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-15	Interior Emergency Exit Lighting System	C	1	1	Must be operative. Individual light bulbs, etc. may be inoperative provided compliance is shown with minimum acceptable lighting as required by certification documents.
33-15-01	Mixed or All-Cargo Configuration	C	1	0	Lights may be inoperative in cargo areas provided: a) No persons occupy that area, and b) Forward entrance door light operates normally at all times.
33-15-04	Flight Deck Exit Light	C	1	0	May be inoperative provided operations are not conducted at night.

PLACARDING:

Apply sticker adjacent to EMER EXIT LIGHTS switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

____ EXIT LIGHT IN CARGO AREA INOP

or

FLIGHT DECK EXIT LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-16 System Annunciator Lights, Left and Right (Pilot's Light Shield)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-16	System Annunciator Lights, Left and Right (Pilot's Light Shield)				
33-16A		C	12	11	(O) One light may be inoperative for an operating system
33-16B		C	-	-	May be inoperative for an associated inoperative system.

PLACARDING:

Apply sticker adjacent to affected annunciator light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ SYSTEM ANNUNCIATOR LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Check that associated system indicator light(s) on associated panel is operating normally.
2. If the MASTER CAUTION light illuminates with none of the annunciator lights illuminated, it can be assumed that the system with the placard LIGHT INOP is affected.
3. Just prior to descent, check the associated panel for any light indications associated with the inoperative system annunciator light(s).

33-17 Flight Deck Master Lights Test and Individual Light's Press-to-Test Features

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-17	Flight Deck Master Lights Test and Individual Light's Press-to-Test Features	C	-	-	(O) May be inoperative provided intended function of associated light(s) is verified once each flight day.

PLACARDING:

Apply sticker adjacent to affected Master or Individual Press-to-Test Feature.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ (PRESS-TO-TEST FEATURE) or (MASTER LIGHTS TEST) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. If master test feature fails to illuminate a light(s), press the affected light(s) and confirm push-to-test feature causes the bulb(s) to illuminate.
2. If individual push-to-test feature also fails to illuminate a light(s), perform an appropriate operational or system test and verify the affected light illuminated as intended.

NOTE: Individual indicators may be tested by master test or using press-to-test feature of indicator.

33-18 Wheel Well Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-18	Wheel Well Lights				
33-18-01	Dome Lights	C	3	0	
33-18-02	Inspection Flood Lights				
33-18-02-02		D	2	0	

NOTE: Refer to the Marker next to the inoperative light in the wheel well for identification. The Inspection Flood Lights have markers containing the word "INSPECTION".

PLACARDING:

Apply stickers adjacent to affected light in the Wheel Well and the WHEEL WELL Light Switch (Flight Deck forward overhead Panel).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ LANDING GEAR (DOME) (INSPECTION) LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-19 Floor Proximity Emergency Escape Path Marking System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 – LIGHTS					
33-19	Floor Proximity Emergency Escape Path Marking System **Applicable to: C-FTUW, C-FTUY**				
33-19-02	Photoluminescent Lighting System	C	-	-	Specified sections of the photoluminescent system may be inoperative provided compliance is shown with minimum acceptable lighting as required by certification documents.
33-19-04	All Cargo Operations	D	1	0	

PLACARDING

Apply sticker adjacent to EMER EXIT LIGHTS switch.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

_____ FLOOR PROXIMITY EMERGENCY ESCAPE PATH MARKING SYSTEM LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES

None required.

MAINTENANCE NOTES

STG Aerospace saf-Tglo Photoluminescent Lighting System Certification Document No: SG-1007-MMEL-01 Section 4.3:

a) Within any 1.5 m length of photoluminescent track assembly, no more than 15 cm (10%) of strip may be stained, damaged or missing

b) Where fitted, lateral extensions must be present not damaged nor stained.

c) Track sleeve may be missing as long as photoluminescent insert is securely installed and operative.

d) Optional items may be missing.

(M#) MAINTENANCE PROCEDURES

None Required.

(O) OPERATIONS PROCEDURES

None Required.

33-20 LOGO Light System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-20	LOGO Light System	D	1	0	

PLACARDING:

Apply sticker adjacent to Logo Light switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LOGO LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-21 Main Deck Cargo Compartment Lighting

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-21	Main Deck Cargo Compartment Lighting (STC SA22-6 and SA25-72)				
33-21-01	Cargo Door Floodlights				
33-21-01-01	All Cargo Configuration (STC SA22-6) **Applicable to: C-FTUZ**				
33-21-01-01A	Day and Night Operations	C	2	0	(M#)(O) May be inoperative or damaged provided: c) Alternate procedures are established and used, and d) Damaged light(s) are deactivated. NOTE: Any portion of the system that operates normally may be used.
33-21-01-01B	Operations with Adequate Lighting	C	2	0	May be inoperative provided operations do not require its use. NOTE: Any portion of the system that operates normally may be used.
33-21-01-02	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
33-21-01-02A	Day and Night Operations	C	2	0	(M#) (O) May be inoperative or damaged provided: a) Alternate procedures are established and used, and b) Damaged light(s) are deactivated. NOTE: Any portion of the system that operates normally may be used.

33-21-01-02B	Operations with Adequate Lighting	C	2	0	May be inoperative provided operations do not require its use. NOTE: Any portion of the system that operates normally may be used.
33-21-02	Cargo Compartment Lights				
33-21-02-01	All Cargo Configuration (STC SA22-6) **Applicable to: C-FTUZ**				
33-21-02-01A	Day and Night Operations	C	14	0	(M#)(O) May be inoperative or damaged provided: a) Alternate procedures are established and used, and b) Damaged light(s) are deactivated. NOTE: Any portion of the system that operates normally may be used.
33-21-02-01B	Operations with Adequate Lighting	C	14	0	May be inoperative provided operations do not require its use. NOTE: Any portion of the system that operates normally may be used.
33-21-02-02	Combi Configuration (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
33-21-02-02A	Day and Night Operations	C	7	0	(M#) (O) May be inoperative or damaged provided: a) Alternate procedures are established and used, and b) Damaged light(s) are deactivated. NOTE: Any portion of the system that operates normally may be used
33-21-02-02B	Operations with Adequate Lighting	C	7	0	May be inoperative provided operations do not require its use. NOTE: Any portion of the system that operates normally may be used.

PLACARDING:

Apply sticker adjacent to affected Light Switch on Forward Lighting control panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

CARGO DOOR FLOODLIGHT(S) LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

33-21-01-01A and 33-21-01-02A Cargo Door Floodlights

1. Remove the damaged/inoperative light. Store in a secure location or remove from aircraft entirely. Cap and stow associated wiring as required.
2. If both floodlights are inoperative due to damage, open and collar MCD FLOOD LTS circuit breaker on P18-3 panel.

33-21-02-01A and 33-21-02-02A Cargo Compartment Lights

1. Remove the damaged/inoperative light. Store in a secure location or remove from aircraft entirely. Cap and stow associated wiring as required.
2. If multiple floodlights are inoperative due to damage, open and collar associated COMPARTMENT LTS and COMPARTMENT CTRL circuit breakers on P18-3 panel. Cap and stow associated wiring as required.

(O) OPERATIONS PROCEDURES:

33-21-01-01A and 33-21-01-02A Cargo Door Floodlights

During night operations, ensure adequate alternate lighting is used for the loading and unloading of cargo.

33-21-02-01A and 33-21-02-02A Cargo Compartment Lights

During night operations, ensure adequate alternate lighting is used for the loading and unloading of cargo.

OPERATIONS NOTE:

Any portion of system that operates normally may be used.

33-23 Master Dim System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-23	Master Dim System	B	1	0	Dim function may be inoperative provided: a) TEST and BRT functions operate normally, b) Except during light test, switch is placed in BRT, and c) Light intensity is acceptable to flight crew.

PLACARDING:

Apply sticker adjacent to Master Lights Test and Dim Switch

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

MASTER DIM SYSTEM - DIM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

33-25 Service Area Light Systems (Nose, Electrical Equipment, Air Conditioning, Aft Accessory, APU, Tailcone Compartments, and Fueling Panel)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33 - LIGHTS					
33-25	Service Area Light Systems (Nose, Electrical Equipment, Air Conditioning, Aft Accessory, APU, Tailcone Compartments, and Fueling Panel)				
33-25A		C	8	0	
33-25B		D	8	0	May be inoperative provided operations are not conducted at night.

PLACARDING:

Apply sticker to affected area light switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NOSE)(ELECTRICAL EQUIP)(AIR COND) (AFT ACCESSORY) (APU) (TAILCONE) (FUELING PANEL) COMPARTMENT LIGHTING INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34 - Navigation

34-01 Mach/Airspeed Indications

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-01	Mach/Airspeed Indications				
34-01-01	Mach Indications	C	2	1	One may be inoperative provided one Mach/Airspeed warning and Mach trim system operate normally.
34-01-01-02	Mach Indications	C	2	0	May be inoperative provided: a) Airplane remains at or below FL 280, and b) Airspeed remains at or below 320 KIAS.

PLACARDING:

Apply sticker adjacent to affected Mach Indication(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- One Mach Indicator Inoperative

  (CAPT)(F/O) MACH INDICATION INOP

- Both Mach Indicators Inoperative

  BOTH MACH INDICATIONS INOP - DO NOT EXCEED FL 280 AND 320 KIAS

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-02 Mach/Airspeed Warning Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-02	Mach/Airspeed Warning Systems				
34-02-01	Maximum Operating Speed Indication	C	2	1	One may be inoperative provided clacker warning system operates normally and is independent from Mach Indicator.
34-02-02	Clacker				
34-02-02-02					
34-02-02-02A		C	2	1	
34-02-02-02B		B	2	0	Systems may be inoperative provided: a) Both Mach indicators operate normally, b) 330 KIAS/.76 Mach airspeed limitations are observed, and c) If overspeed warning occurs earlier than scheduled during flight, speed must remain below point at which the warning occurs.
34-02-02-02C		B	2	0	Systems may be inoperative provided: a) Both Mach indicators operate normally, b) 330 KIAS/.76 Mach airspeed limitations are observed, and c) If overspeed warning occurs below .76 Mach, system must be deactivated by pulling associated circuit breaker and observe speed limits.

PLACARDING:

Apply sticker adjacent to associated Mach/Airspeed Indication(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Maximum Operating Speed Indication Inoperative
  (CAPT)(F/O) MAXIMUM OPERATING SPEED INDICATION INOP
- Condition 2 - One Mach/Airspeed Warning System Inoperative
  (CAPT) (F/O) MACH/AIRSPEED WARNING SYSTEM INOP
- Condition 3 - Both Mach/Airspeed Warning System Inoperative
  BOTH MACH/AIRSPEED WARNING SYSTEMS INOP - DO NOT EXCEED 330 KIAS/.76 MACH

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-03 Altimeter Vibrators

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-03	Altimeter Vibrators				
34-03-03	Pneumatic (With Electric/Electronic Altimeter)	C	1	0	May be inoperative provided VMC exist at departure and arrival airports.

PLACARDING:

Apply sticker on or adjacent to affected Altimeter.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STANDBY ALTIMETER VIBRATOR INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-04 Static Air Temperature Indication

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-04	Static Air Temperature Indication	D	2	0	

PLACARDING:

Apply sticker adjacent to Static Air Temperature Indication (available through each MCDU).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STATIC AIR TEMPERATURE INDICATOR INOP - USE TOTAL AIR TEMPERATURE

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

Continued...

OPERATIONS NOTE:

With static air temperature available, the following table may be used to determine TAT:

TOTAL AIR TEMPERATURE (°C) vs STATIC AIR TEMPERATURE (°C)

SAT (°C)	TAT (°C)											
	M.50	M.60	M.68	M.70	M.72	M.74	M.76	M.78	M.80	M.82	M.84	M.86
40	56	62	69	70								
35	51	57	64	65	66	68	70					
30	45	52	58	59	61	63	65	67	68	70		
25	40	47	52	54	56	57	59	61	63	64	66	68
20	35	41	47	48	50	51	53	55	57	58	60	63
15	30	36	42	43	44	46	48	49	51	53	55	57
10	24	31	36	37	38	40	43	44	46	47	49	51
5	19	25	31	32	33	35	37	38	40	41	43	45
0	13	20	25	26	28	29	31	33	34	36	38	40
-5	8	14	20	21	22	24	26	27	29	30	32	34
-10	3	9	14	15	17	19	20	22	23	25	26	28
-15	-2	3	9	10	11	13	14	16	17	19	21	23
-20	-7	-2	3	4	6	7	9	10	12	13	15	17
-25	-12	-7	-3	-1	0	2	3	5	6	8	9	11
-30	-18	-12	-8	-7	-5	-4	-2	-1	1	2	4	6
-35	-23	-17	-13	-12	-10	-9	-8	-7	-5	-4	-2	0
-40	-28	-23	-18	-17	-16	-15	-13	-12	-11	-9	-7	-6
-45	-34	-29	-24	-23	-21	-20	-19	-17	-16	-14	-13	-11
-50	-39	-34	-29	-28	-27	-26	-24	-23	-21	-20	-19	-17
-55	-44	-39	-35	-34	-32	-31	-30	-28	-27	-26	-24	-23
-60	-49	-45	-40	-39	-38	-37	-35	-34	-33	-31	-30	-28
-65	-55	-50	-46	-45	-43	-42	-41	-40	-38	-37	-36	-34
-70	-60	-55	-51	-50	-49	-48	-47	-45	-44	-43	-41	-40

34-05 Total Air Temperature Indication

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-05	Total Air Temperature Indication	C	1	0	May be inoperative provided an alternate air temperature indication (e.g., PDCS, FMCS, RAT, SAT) operates normally.

PLACARDING:

Apply sticker adjacent to Total Air Temperature Display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TOTAL AIR TEMPERATURE INDICATION INOP –USE ALTERNATE INDICATION TO DETERMINE TOTAL AIR TEMPERATURE

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

With static air temperature available, the following table may be used to determine TAT:

TOTAL AIR TEMPERATURE (°C) vs STATIC AIR TEMPERATURE (°C)

SAT (°C)	TAT (°C)											
	M.50	M.60	M.68	M.70	M.72	M.74	M.76	M.78	M.80	M.82	M.84	M.86
40	56	62	69	70								
35	51	57	64	65	66	68	70					
30	45	52	58	59	61	63	65	67	68	70		
25	40	47	52	54	56	57	59	61	63	64	66	68
20	35	41	47	48	50	51	53	55	57	58	60	63
15	30	36	42	43	44	46	48	49	51	53	55	57
10	24	31	36	37	38	40	43	44	46	47	49	51
5	19	25	31	32	33	35	37	38	40	41	43	45
0	13	20	25	26	28	29	31	33	34	36	38	40
-5	8	14	20	21	22	24	26	27	29	30	32	34
-10	3	9	14	15	17	19	20	22	23	25	26	28
-15	-2	3	9	10	11	13	14	16	17	19	21	23
-20	-7	-2	3	4	6	7	9	10	12	13	15	17
-25	-12	-7	-3	-1	0	2	3	5	6	8	9	11
-30	-18	-12	-8	-7	-5	-4	-2	-1	1	2	4	6
-35	-23	-17	-13	-12	-10	-9	-8	-7	-5	-4	-2	0
-40	-28	-23	-18	-17	-16	-15	-13	-12	-11	-9	-7	-6
-45	-34	-29	-24	-23	-21	-20	-19	-17	-16	-14	-13	-11
-50	-39	-34	-29	-28	-27	-26	-24	-23	-21	-20	-19	-17
-55	-44	-39	-35	-34	-32	-31	-30	-28	-27	-26	-24	-23
-60	-49	-45	-40	-39	-38	-37	-35	-34	-33	-31	-30	-28
-65	-55	-50	-46	-45	-43	-42	-41	-40	-38	-37	-36	-34
-70	-60	-55	-51	-50	-49	-48	-47	-45	-44	-43	-41	-40

34-07 Standby Horizon Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-07	Standby Horizon Indicator				
34-07-01	Standby Attitude Indicator	B	1	0	May be inoperative provided: a) Operations are conducted in Day VMC only, and b) Operations are not conducted into known or forecast over-the-top conditions.
34-07-02	ILS Indication	D	1	0	

PLACARDING:

Apply sticker adjacent to Standby Attitude Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STANDBY ATTITUDE INDICATOR INOP

or

ILS INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-11 Standby Magnetic Compass

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-11	Standby Magnetic Compass				
34-11A		B	1	0	May be inoperative provided any combination of three gyro or INS (IRU) stabilized compass systems are operative.
34-11B		B	1	0	May be inoperative provided: a) Any combination of two gyro or INS (IRU) stabilized compass systems are operative, and b) Aircraft is operated with dual independent navigation capability and, under positive radar control by ATC during the enroute phase, or one of the navigation systems is a TSO'd GPS which provides track information.
34-11C		C	1	0	May be inoperative for flights that are entirely within areas of magnetic unreliability provided two stabilized directional gyro systems are installed, operative, and used in conjunction with free gyro navigation techniques.

PLACARDING:

Apply sticker adjacent to Standby Magnetic Compass. Must be visible when compass is stowed.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

STANDBY MAGNETIC COMPASS INOP - OBSERVE LIMITATIONS

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-12 Flight Director Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-12	Flight Director Systems	C	2	1	May be inoperative provided approach minimums do not require its use. NOTE: CAT II operations prohibited.

PLACARDING:

Apply sticker adjacent to affected Flight Director Switch on Mode Control Panel and placard Captain's forward instrument panel: CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPT) (F/O) FLIGHT DIRECTOR SYSTEM INOP - CAT II OPS PROHIBITED

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch of CAT II status.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-13 Distance Measuring Equipment Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-13	Distance Measuring Equipment Systems	D	2	1	One may be inoperative provided RNAV system is operative.

NOTE: A Distance Measuring System is not considered inoperative if the distance function can be read from any indicator on the Flight Deck; i.e., the #2 DME is capable of being read on the Captain's ND.

PLACARDING:

Apply sticker on or adjacent to affected NAV control panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ DISTANCE MEASURING EQUIPMENT SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

1. The inoperative DME may be deactivated by opening and collaring the associated DME circuit breaker on the P6 or P18 panel.
2. DME position updating can be inhibited by setting the DME UPDATE field on the FMC CDU NAV OPTIONS page 2/2 to OFF.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-14 Marker Beacon Receiver System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-14	Marker Beacon Receiver System				
34-14-01		C	1	0	(O) May be inoperative provided alternate procedures are established and used.
34-14-02		D	1	0	May be inoperative provided procedures do not require its use.

PLACARDING:

Apply sticker on or adjacent to control and/or display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

MARKER BEACON RECEIVER SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Flight crews must determine marker beacon requirements depending on their route system.

34-15 Weather Radar

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-15	Weather Radar				
34-15-01	Weather Radar with Windshear Detection and Avoidance System (Predictive) Installed				
34-15-01A		B	2	0	(O) May be inoperative provided: a) Weather Radar is not required by CAR 705.70, and b) Alternate procedures are established and used. NOTE: Alternate procedures should include reviewing windshear avoidance and windshear recovery procedures.
34-15-01B		C	2	0	(O) May be inoperative provided: a) Weather Radar is not required by CAR 705.70, and b) Alternate procedures are established and used. c) Windshear Warning and Guidance System (Reactive) operates normally.
34-15-01C		D	2	1	May be inoperative provided one remaining weather radar operates normally.
34-15-03	Windshear Detection and Avoidance System (Predictive)				
34-15-03B		C	1	0	(O) May be inoperative provided: Alternate procedures are established and used, and Windshear Warning and Guidance System (Reactive) operates normally.

34-15-04	Autotilt/Multiscan Function (Including STCs ST01843AT, ST01470LA-D)	C	1	0	May be inoperative provided manual tilt function operates normally.
34-15-05	Stabilization Function	C	1	0	(M) May be inoperative provided: a) Manual tilt control operates normally. b) Antenna is verified to scan in a horizontal plane with tilt at zero degrees.

PLACARDING:

Apply sticker on or adjacent to Weather Radar Control Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WEATHER RADAR INOP

(M) MAINTENANCE PROCEDURES:

To verify Manual Tilt Feature operates normally;

Ensure aircraft is positioned so as not to endanger ground personnel.

Turn On weather radar.

Verify Manual Tilt operates normally by observing antenna angle on Navigation Display (ND)

Set Tilt at Zero degrees.

Turn off weather radar.

MAINTENANCE NOTE:

Advise Dispatch of limitations. Flight Planning may be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

34-15-01 Weather Radar with Windshear Detection and Avoidance System (Predictive) Installed:

CAR 705.70 No person shall operate an aircraft with passengers on board in IMC when current weather reports or forecasts indicate that thunderstorms may reasonably be expected along the route to be flown, unless the aircraft is equipped with weather radar equipment.

Flight crew shall include the unserviceable equipment as a threat as part of their take off and approach briefings to increase awareness of airplane configuration, altitude and flight path. Threat mitigation measures to be discussed shall include the use of all airplane systems available (autopilot, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude call outs.

34-15-03 Windshear Detection and Avoidance System (Predictive):

1. Check enroute, destination and alternate weather for indications of any hazardous weather conditions that may be detected by weather radar.

Review windshear avoidance and windshear recovery procedures.

34-16 Radio Compass Systems (ADF)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-16	Radio Compass Systems (ADF)	D	2	0	Both may be inoperative provided: a) Two (2) approved navigation systems are operative, and b) En route and approach facilities are so located along the route of flight that the flight may proceed safely to a suitable airport from any point along the intended course using other serviceable, approved navigation systems.

PLACARDING:

Apply sticker on or adjacent to ADF Frequency Selector.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(#1) (#2) (BOTH)____ ADF SYSTEM(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Contact Dispatch for any flight planning limitations. No ADFs are required to be serviceable provided none are required for enroute navigation and/or approach requirements at the destination and alternate airports.

34-17 VHF Navigation Systems (VOR / ILS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-17	VHF Navigation Systems (VOR / ILS)				
34-17-03					
34-17-03-01	VOR Systems	D	2	1	The No. 2 VOR System may be inoperative provided: a) One ADF System is installed and operative, b) Enroute and approach facilities are so located that, should the remaining VHF Navigation System fail, the flight may proceed safely to a suitable airport from any point along the intended course using ADF and other serviceable Approved Navigation Systems. NOTE: No. 1 VOR System must be operative at all times (powered by standby bus).
34-17-03-02	ILS Systems	D	2	1	(O) The No. 2 ILS System may be inoperative. NOTE: No.1 ILS System must be operative at all times (powered by standby bus).

PLACARDING:

Apply sticker on or adjacent to control panel and placard Captain's forward instrument panel: CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

#2 VHF (VOR)(ILS) NAVIGATION SYSTEM INOP - CAT II OPS PROHIBITED

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

When dispatched with an inoperative R-ILS, manually tune an ILS frequency on the left Navigation Control Panel (P8) prior to takeoff to prevent display of the GPWS INOP light in flight.

NO AUTOLAND will be displayed in the flight mode annunciation autopilot status on fail operational equipped airplanes.

For one ILS inoperative, SINGLE CH will be displayed in the flight mode annunciation autopilot status.

34-18 ATC Transponders and Automatic Altitude Reporting System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-18	ATC Transponders and Automatic Altitude Reporting System				
34-18A		B	2	0	May be inoperative provided: a) Operations do not require its use, and b) Prior to flight, approval is obtained from ATC facilities having jurisdiction over planned route of flight. NOTE: RVSM operations prohibited.
34-18B		D	2	1	Any in excess of those required by CAR 605.35 may be inoperative. NOTE 1: Transponder and Flight Director / Autopilot must use same ADC data for RVSM operations. NOTE 2: As per CARs 605.35, aircraft must be equipped with a transponder and automatic pressure-altitude reporting equipment for all flights in Class A, B and C airspace as well as any Class D or E airspace specified as transponder airspace in the Designated Airspace Handbook.
34-18-02	ADS-B Out Extended Squitter	D	2	0	
34-18-02A		B	2	0	(O) May be inoperative provided prior to flight, authorization is obtained from ATC facilities having jurisdiction over planned route of flight using an approved process. NOTE: Any ADS-B Out function that operates normally may be used.
34-18-02B		C	2	1	One may be inoperative.

PLACARDING:

Apply sticker to face of affected transponder control panel(s) and, if applicable, placard Captain's forward instrument panel: RVSM OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(#1) OR (#2) OR (BOTH) ATC TRANSPONDER/ALTITUDE REPORTING SYSTEM(S) INOP - CHECK RVSM STATUS

or

ADS-B OUT EXTENDED SQUITTER INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch of operations procedures, limitations and RVSM compliance/non-compliance.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Authorization is obtained from ATC facilities having jurisdiction over planned route of flight using an aroved authorization process.
2. If needed and if two ADS-B are installed and one is inoperative, select transponder to operative side with ADS-B Out function.

34-20 Radio Altimeter Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-20	Radio Altimeter Systems				
34-20-01	Receiver/Transmitters				
34-20-01-03		C	2	1	(M)(O) May be inoperative deactivated provided: a) Approach minimums or operating procedures do not require its use, b) Associated autopilot is not used for approach and landing, c) Autothrottle is not used for approach and landing, and d) Associated flight director is not used for approach and landing. NOTE 1: CAT II operations prohibited. NOTE 2: If arming LNAV on ground with one radio altimeter inoperative, the flight directors and autopilot should be controlled by the FCC on the same side as the valid radio altimeter (i.e., the first flight director and/or autopilot to be engaged must be receiving valid radio altitude data).
34-20-02	Indications				
34-20-02A		C	2	2	May be inoperative provided: a) Independent radio altimeters operate normally for both flight crew members, and b) Approach minimums do not require their use.

34-20-02B	C	2	0	(M#)(O) May be inoperative provided: Associated receiver/transmitter is verified to operate normally, and Approach minimums or operating procedures do not require its use. NOTE: CAT II operations prohibited.

PLACARDING

Apply sticker adjacent to affected display(s) and, if applicable, placard Captain's forward instrument panel: CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(#1) (#2) (BOTH) RADAR ALTIMETER SYSTEM(S) or INDICATIONS INOP - VERIFY CAT II STATUS

(M) MAINTENANCE PROCEDURES

34-20-01-03 One Radio Altimeter Receiver/Transmitter Inop:

Do these steps (AMM 34-00-00/901):

1. Open and collar associated P6-1/P18-1 panel Radio Altimeter circuit breaker to deactivate the inoperative radio altimeter.

   NOTE: With one radio altimeter deactivated, the SPEED BRAKE DO NOT ARM light will illuminate on the ground when speed brake handle is moved from the DOWN detent.

2. For airplanes without FCC Operational Program Software (OPS) 2212-HNP-03B-05 or later installed, re-initialize the Flight Control Computer (FCC) associated with the inoperative radio altimeter by momentarily opening and then closing the applicable P6-2/P18-1 panel FCC circuit breaker.

   NOTE: Rockwell Collins FCC Operational Program Software (OPS) part numbers are considered to be equivalent to Honeywell FCC OPS part number 2212-HNP-03B-05 and later.

3. For airplanes with PSEU part number 285A1600-5 or earlier, refer to MEL Item 32-17. An invalid radio altimeter signal will generate a dispatchable PSEU fault.

(M#) MAINTENANCE PROCEDURES

34-20-02B Indications:

To verify that the associated receiver/transmitter is operating normally, refer to the Airplane Maintenance Manual for troubleshooting and system test procedures (AMM 34-33-00).

(O) OPERATIONS PROCEDURES

34-20-01-03 One Radio Altimeter Receiver/Transmitter Inop:

NOTE 1: CAT II operations prohibited.

NOTE 2: For airplanes with -1, -2, or -3 SMYD, an invalid signal from radio altimeter number 1 will result in failure of both stick shakers to self test.

1. Ensure that weather minimums or operating procedures are not dependent upon its use.
2. With a radio altimeter inoperative, do not use the associated autopilot, associated flight director, or autothrottle for approach and landing.

   NOTE: The FCC engages LNAV when the radio altimeters indicate that airplane is 50ft above ground level (AGL). Dispatching with an inoperative radio altimeter system may generate an erroneous radio height indication of 50 ft AGL and may cause the LNAV FMA to flash when armed on ground.

3. For airplanes with FCC Operational Program Software (OPS) 2212-HNP-03B-05 or later installed, if the remaining radio altimeter fails:

   NOTE: Rockwell Collins FCC Operational Program Software (OPS) part numbers are considered to be equivalent to Honeywell FCC OPS part number 2212-HNP-03B-05 and later.

   a) AFDS (both sides) will limit the bank angle to a maximum of 8 degrees in all roll modes.
   b) Use of the Autopilot/Flight Director System (AFDS) is at the discretion of the flight crew. AFDS may not:
      1. Command sufficient bank angle to execute proper departure and/or approach maneuvers.
4. Make enroute course changes within airspace limitations.
5. For airplanes without FCC Operational Program Software (OPS) 2212-HNP-03B-05 or later installed, dispatch with an inoperative radio altimeter:

   NOTE: Rockwell Collins FCC Operational Program Software (OPS) part numbers are considered to be equivalent to Honeywell FCC OPS part number 2212-HNP-03B-05 and later.

   a) Results in the same side Autopilot/Flight Director System (AFDS) limiting the bank angle to 8 degrees in LNAV mode.
   b) The opposite side AFDS (operative radio altimeter) is not affected.
   c) Failure of the remaining radio altimeter can result in:
      2. AFDS (both sides) limiting the bank angle to a maximum of 8 degrees (all roll modes) when flaps are extended, 8 degrees in LNAV with flaps retracted.
      3. Use of the Autopilot/Flight Director System (AFDS) is at the discretion of the flight crew. AFDS may not:
         i) Command sufficient bank angle to execute proper departure and/or approach maneuvers.
         ii) Make enroute course changes within airspace limitations.

34-20-02B Indications - Associated Receiver/Transmitter Verified To Operate Normally:

NOTE: CAT II operations prohibited.

Ensure that weather minimums or operating procedures are not dependent upon its use.

34-23 True Airspeed Indication

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-23	True Airspeed Indication	C	2	0	

PLACARDING:

On or adjacent to display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPTAIN)(F/O)(BOTH) TRUE AIRSPEED INDICATION(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-25 Altitude Alerting System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-25	Altitude Alerting System	A	1	0	(O) Except where enroute operations require its use, may be inoperative provided: a) Autopilot altitude hold is operative, and b) Repairs are made within three flight days. NOTE: RVSM operations prohibited.
34-25-01	Aural Alert	C	1	0	May be inoperative provided: a) Visual alert operates normally, and b) Autopilot with altitude hold and altitude capture operates normally.
34-25-02	Visual Alert	C	2	0	May be inoperative provided: a) Aural alert operates normally, and b) Autopilot with altitude hold and altitude capture operates normally.

PLACARDING:

Apply sticker adjacent to altitude pre-select on mode control panel and, if applicable, placard Captain's forward instrument panel: RVSM OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ALTITUDE ALERTING (SYSTEM) (AURAL ALERT) (VISUAL ALERT) INOP - VERIFY RVSM STATUS

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch of RVSM compliance / non-compliance.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

NOTE: An operative altitude alerting system is required for RVSM operations. Airlines must establish procedures to increase flight crew awareness of altitude, which may include the following:

1. Determine that at least one autopilot is operating normally and that altitude hold and altitude capture are operating normally.
2. Use the autopilot and altitude hold for all operations for which it is appropriate.
3. Cross-check Captain's and First Officer's altitude displays upon reaching and departing assigned altitude. Periodically cross-check altitude indications when maintaining an assigned altitude.
4. Pilot not flying should call out approaching and departing assigned altitudes.
5. Flight deck crew must be aware that the usual alerts for altitude deviations will not occur.

34-26 Terrain Awareness and Warning System (TAWS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-26	Terrain Awareness and Warning System (TAWS)				
34-26-01	Ground Proximity Warning System (GPWS)	A	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within three flight days.
34-26-01-01	Modes 1 thru 4	A	4	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within three flight days.
34-26-01-02	Test Mode	A	1	0	May be inoperative provided: a) GPWS is considered inoperative, and b) Repairs are made within three flight days.
34-26-01-04	Advisory Callouts (Mode 6)	C	1	0	(O) May be inoperative provided alternate procedures are established and used.
34-26-01-04A		B	1	0	(O) May be inoperative provided alternate procedures are established and used.
34-26-01-05	Windshear Warning and Flight Guidance Mode (Reactive) (Mode 7)				

34-26-01-05A		B	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Takeoffs and landings are not conducted in known or forecast windshear conditions. NOTE: Alternate procedures should include reviewing windshear avoidance and recovery procedures.
34-26-01-05B		C	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Detection and Avoidance System (Predictive) operates normally.
34-26-02	Terrain System - Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alert (PDA) Functions	B	1	0	(O) May be inoperative provided alternate procedures are established and used.
34-26-04	Runway Awareness and Advisory System (RAAS)	C	1	0	

PLACARDING:

Apply sticker on or adjacent to control and/or display – GPWS MODE (1-5 or TEST or WINDSHEAR).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

TAWS/GPWS (SYSTEM) (MODE) (TERRAIN SYSTEM/RAAS) INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch, flight planning may be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

The lack of GPWS/TAWS requires an increase in flight crew awareness of aircraft configuration, altitude, and flight path. Consider using all airplane systems available (autopilot, ILS, FMS). Review Minimum Enroute Altitudes and altitude callouts.

- For GPWS Modes 1-7, Advisory Callouts inoperative, and FLTA and PDA functions inoperative:

  Flight crew must increase their awareness of aeroplane configuration, altitude and flight path. This includes flight crew use of all aeroplane systems available (autopilot, auto-land, ILS, FMCS) and flight crew review of Minimum En Route Altitudes (MEA) and altitude callouts.

- For GPWS Windshear Mode (Reactive) inoperative and Windshear Detection and Avoidance System (Predictive) not operating normally:

  Flight crew must increase their awareness of aeroplane configuration, altitude and flight path. This includes flight crew use of all aeroplane systems available (autopilot, auto-land, ILS, FMCS) and flight crew review of Minimum En Route Altitudes (MEA), Windshear Avoidance and Windshear Recovery procedures. If Windshear Detection and Avoidance System (Predictive) does not operate normally do not takeoff and land in known or forecast Windshear conditions.

- For GPWS Windshear Mode (Reactive) inoperative and Windshear Detection and Avoidance System (Predictive) operating normally:

  Flight crew must increase their awareness of aeroplane configuration, altitude and flight path. This includes flight crew use of all aeroplane systems available (autopilot, auto-land, ILS, FMCS) and flight crew review of Minimum En Route Altitudes (MEA), Windshear Avoidance and Windshear Recovery procedures.

- For Terrain System Forward Looking Terrain Avoidance and Premature Descent Alert:

  Flight crew must ensure EGPWS is functional.

GROUND PROXIMITY WARNING FUNCTIONS REFERENCE (DO-161A AND TSO-92C)	
Mode 1	Excessive rate of descent.
Mode 2	Excessive closure rate to terrain.
Mode 3	Negative climb rate or altitude loss after takeoff.
Mode 4	Flight into terrain when not in landing configuration.
Mode 5	Excessive downward deviation from an Instrument Landing System (ILS) glideslope.
Mode 6	Altitude Aural Callouts.

34-32 Instrument Transfer Switching System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-32	Instrument Transfer Switching System	C	1	0	(O) May be inoperative provided: a) Associated instruments operate normally from isolated sources, and b) Inoperative switches are not moved during flight.

PLACARDING:

Apply sticker adjacent to Instrument Transfer Switching Panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

INSTRUMENT TRANSFER SWITCHING SYSTEM INOP - DO NOT MOVE SWITCHES DURING FLIGHT

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Check that associated instruments function properly from isolated sources.

34-35 Inertial Reference Systems (IRS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-35	Inertial Reference Systems (IRS)	B	2	1	(O) One may be inoperative provided: a) Remaining IRS operates normally and is used for both Attitude Indications and both HSIs, b) Flight is restricted to day VMC, c) Standby Magnetic Compass operates normally, d) Standby Horizon Indicator or ISFD attitude display operates normally, e) Both Vertical Speed Indications are switched to remaining IRS, if required, and f) Autopilots (any mode) are not used. NOTE: CAT II AND RVSM operations prohibited.
34-35-01	IRS Data Display (Aft Overhead Panel)	C	1	0	May be inoperative provided one FMCS CDU operates normally.
34-35-03	IRS Ground Crew Call Horn	C	1	0	

PLACARDING:

Apply sticker on or adjacent to control and/or display and, if applicable, placard Captain's forward instrument panel: CAT II/RVSM OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

INERTIAL REFERENCE SYSTEM (IRS)(DISPLAY)(HORN) INOP - VERIFY CAT II/RVSM STATUS

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch of CAT II/RVSM status.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Place the IRS mode selector switch for the inoperative IRS to OFF.
2. Use the remaining IRS for both attitude, heading and vertical speed indications.
3. Verify that remaining IRS is operating normally by observing attitude and heading flags are out of view on pilot's and copilot's ADI, HSI, VSI and RDMI.
4. Flight is restricted to day VMC.
5. Verify that Standby Magnetic Compass operates normally.
6. Verify Standby Horizon Indicator operates normally.
7. With one IRU inoperative, do not use the autopilots in any mode.
8. Do not use TO/GA mode of Flight Director.

34-36 Flight Management Computer System (FMCS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-36	Flight Management Computer System (FMCS)				
34-36-02					
34-36-02-01	FMC Alert Lights				
34-36-02-01A		C	2	1	One may be inoperative provided FMC is not used for autopilot guidance during approach.
34-36-02-01B		C	2	0	May be inoperative provided FMC is not used for autopilot guidance.
34-36-02-02	Computer	C	2	1	May be inoperative provided it is not required to meet regulatory navigation requirements.
34-36-02-02-02		C	2	0	(M#) Except for ER operations, may be inoperative provided: a) IRS display unit (on aft overhead panel) operates normally, b) Speed Reference Selector operates normally, and c) Autothrottle system is deactivated and considered inoperative. NOTE: Refer to MEL Item 22-04 (Autothrottle System)
34-36-02-03	CDU/MCDU				
34-36-02-03A		C	2	1	May be inoperative provided enroute procedures do not require its use.
34-36-02-03B		C	2	0	Except for ER operations, may be inoperative provided: a) IRS display unit (on aft overhead panel) operates normally, and b) Unit is not required to meet 14 CFR navigation requirements.

34-36-02-05	Navigation Databases				
34-36-02-05A		C	2	0	(O) One or more may be inoperative for the intended flight route where conventional (non-RNAV/RNP) navigation is sufficient, provided: a) Current aeronautical information (e.g. charts) is available for the entire route and for the aerodromes to be used, b) Navigation database information is disregarded, and c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures are manually tuned and identified.
34-36-02-05B		C	2	1	(O) Any in excess of one may be inoperative provided: a) The operative database must be up to date for routes, departures, arrival and approach procedures that require the use of navigation Database for RNAV/RNP, b) The operative database is available and used by the flight crew member(s) responsible for navigation, and c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures are manually tuned and identified.

34-36-02-05C	A	2	0	(O) One or more may be out of date for a maximum of 10 calendar days provided: a) Area Navigation (RNAV/RNP) departure, arrival and approach procedures are checked not to depend on the data amended in the current database cycle or Conventional (Non-RNAV/RNP) or ANSP assistance are used as an alternative to RNAV/RNP procedures which have been amended in the current database cycle, b) Before each flight, current aeronautical information is used to verify the database Navigation Fixes, the coordinates, frequencies, status (as applicable) and suitability of Navigation Facilities required for the intended flight route, and c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures and which have been amended in the current database cycle, are manually tuned and identified.

PLACARDING:

Apply sticker on or adjacent to control and/or display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT MANAGEMENT COMPUTER SYSTEM (COMPONENT) (FUNCTION) (NAV DATA) INOP

(M#) MAINTENANCE PROCEDURES:

34-36-02-02-02 Computer

NOTE: An inoperative FMC may be deactivated by opening and collaring the FMCS CMPTR No. 1 or No. 2 circuit breaker on the P6 or P18 panel, as appropriate.

Deactivate the autothrottle system per AMM Task 22-31-00-040-801.

MAINTENANCE NOTE

An inoperative FMC may be deactivated by opening and collaring the FMCS CMPTR No. 1 or No. 2 circuit breaker on the P6 or P18 panel, as appropriate.

(M) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Dispatch with inoperative or expired Navigation Database:

- Enter flight plan into FMCS (waypoints, etc.) using standard FMCS procedures.
- Cross check FMCS waypoints using current flight crew navigation charts.
- Manually tune and identify approach navigation radios.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

On airplanes with dual FMC's installed and one FMC inoperative, operating with the FMC Source Select Switch selected to the operational FMC (BOTH ON L or BOTH ON R) is required to accomplish all Flight Management Computing tasks.

Primary means RNP RNAV operations up to a 10 minute duration can be accomplished with a single FMC. Long range navigation requires single FMC with dual MCDUs with Alternate Navigation capability.

34-37 Windshear Warning and Flight Guidance System (Reactive)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-37	Windshear Warning and Flight Guidance System (Reactive)				
34-37A		B	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Takeoffs and landings are not conducted in known or forecast windshear conditions.
34-37B		C	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Detection and Avoidance System (Predictive) operates normally.

PLACARDING:

Placard above both PFDs - Windshear Warning INOP.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

WINDSHEAR WARNING AND FLIGHT GUIDANCE SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Windshear avoidance and recovery procedures including the callouts to be used during recovery from an inadvertent windshear encounter should be reviewed.

Flight crew will use increased vigilance when windshear is suspected and execute a go-around if the approach becomes unstable.

34-38 Pitch Limit Indication (PLI)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-38	Pitch Limit Indication (PLI)	C	2	0	

PLACARDING:

Apply sticker adjacent to affected PFD(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(CAPTAIN)(F/O)(BOTH) PITCH LIMIT INDICATION (PLI) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-40 Traffic Collision and Avoidance System (TCAS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-40	Traffic Collision and Avoidance System (TCAS)				
34-40A		B	1	0	(M) May be inoperative provided: a) System is deactivated and secured, and b) Enroute or approach procedures do not require its use.
34-40-01	Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display	C	2	1	May be inoperative on non-flying pilot side provided: a) TA and RA visual display is operative on flying pilot side. b) TA and RA audio function is operative on flying pilot side.

PLACARDING:

Apply sticker on or adjacent to affected control and/or display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- If Traffic Alert (TA) and Resolution Advisory (RA) Display Inoperative
  - **Captain inoperative:**

    CAPT TCAS TA/RA DISPLAY INOP - OPERATE AIRCRAFT FROM RIGHT SEAT ONLY
  - **First Officer Inoperative:**

    F/O TCAS TA/RA DISPLAY INOP - OPERATE AIRCRAFT FROM LEFT SEAT ONLY
- If TCAS Audio Functions Inoperative

  TCAS AUDIO FUNCTIONS INOP

(M) MAINTENANCE PROCEDURES:

34-30-40A

Deactivate and secure the system by opening and collaring the TCAS Circuit Breaker (AMM 34-00-00/901).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Flight crew members should exercise increased traffic awareness when operating with TCAS inoperative.

34-42 Radio Magnetic Indicators (RMI)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-42	Radio Magnetic Indicators (RMI)				
34-42-03-01	EFIS/Map	C	3	1	Two may be inoperative provided Captain's RMI or Standby RMI operates normally.
34-42-03-02	PFD/ND	C	1	0	Standby RMI may be inoperative provided Captain's Inboard DU is connected to Standby Power.

PLACARDING:

Apply sticker adjacent to inoperative display.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(EFIS/MAP)(PFD/ND) RADIO MAGNETIC INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-45 Global Positioning System (GPS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-45	Global Positioning System (GPS)				
34-45A		C	2	1	May be inoperative provided alternate procedures are established and used.
34-45B		D	2	0	May be inoperative provided procedures do not require its use.

NOTE 1: If ADS-B system installed, the airplane must also be dispatched using Item 34-18-02 for associated ADS-B system.

NOTE 2: If installed, the associated Automatic UTC Update Function(s) will be inoperative. The airplane must also be dispatched using MEL item 31-01-01.

PLACARDING:

Apply sticker adjacent to affected FMS unit.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(1)(2)(BOTH) GPS INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Refer to MEL Items 34-36-02-05A, -05B, -05C Navigation Databases for Rectification Interval, Number Installed, Number Required for Dispatch and Remarks or Exceptions information.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

Continued...

OPERATIONS NOTES:

1. In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.
2. ADS-B Out parameter for position data will be inoperative when associated GPS system is inoperative. If needed and if two ADS-B are installed and one ADS-B is inoperative, select transponder to the operative side with ADS-B Out function.
3. If GPS Inoperative, prior to departure review intended route to confirm that remaining navigation systems provide the required capability.

34-48 EFIS Control Panel

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-48	EFIS Control Panel				
34-48-03	Decision Height/Mins Selector	C	2	0	May be inoperative provided approach procedures do not require its use. NOTE: CAT II operations prohibited.
34-48-04	Map Switches				
34-48-04-01	POS	C	2	1	
34-48-04-02	STS	C	2	1	
34-48-04-03	ARPT	C	2	1	
34-48-04-04	DATA	C	2	1	
34-48-04-05	WPT	C	2	1	

PLACARDING:

On or adjacent to applicable switch, selector or indicator and, if applicable, placard Captain's forward instrument panel: CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

EFIS CONTROL PANEL (FUNCTION) INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Application of this MEL affects CAT II status for Item 34-48-03 with either one or both selectors inoperative. Advise Dispatch.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-49 Right IRS DC Power Supply System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-49	Right IRS DC Power Supply System	B	1	0	(O) May be inoperative provided: a) Remaining IRS Mode Selector Unit lights are not illuminated, and b) Autopilot dual channel mode is not used during approach. NOTE: CAT II operations prohibited.

PLACARDING:

Apply sticker on or adjacent to Right IRS DC FAIL Light and placard Captain's forward instrument panel: CAT II OPS PROHIBITED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

RIGHT IRS DC POWER SUPPLY SYSTEM INOP - CAT II OPS PROHIBITED

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch of CAT II status.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

If the left IRS DC FAIL light illuminates during flight, assume that both IRS DC FAIL lights are illuminated. Refer to the Flight Crew Operations Manual - IRS DC FAIL Non-Normal Checklist.

34-54 Integrated Standby Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-54	Integrated Standby Systems				
34-54-01	Integrated Standby Flight Display (ISFD)				
34-54-01-01	Attitude Display	B	1	0	May be inoperative provided: a) Operations are conducted in Day VMC only, and b) Operations are not conducted into known or forecast over-the-top conditions.
34-54-01-02	ILS Indication	D	1	0	
34-54-01-03	Heading Display	C	1	0	
34-54-01-04	Metric Altimeter Display	D	1	0	May be inoperative provided operations do not require its use.
34-54-01-05	Dedicated Battery	C	1	0	

PLACARDING:

Apply sticker as appropriate.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

NAVIGATION (ATTITUDE)(ILS)(HEADING)(METRIC ALTIMETER) DISPLAY INOP

or

INTEGRATED STANDBY FLIGHT DISPLAY BATTERY INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

34-55 Vertical Situation Display (VSD) System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 - NAVIGATION					
34-55	Vertical Situation Display (VSD) System				
34-55B		D	1	0	May be inoperative provided procedures do not require its use.

PLACARDING

Apply sticker adjacent to affected ND.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

VERTICAL SITUATION DISPLAY SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

34-62 GNSS with LPV Approach / ADS-B Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 – NAVIGATION					
34-62	GNSS with LPV Approach / ADS-B Systems (STC SA19-31)				
34-62-01	Global Positioning System (GPS)	C	2	0	(O) May be inoperative provided alternate procedures are established and used. NOTE 1: Both GPS must be operative for RNP AIR operation. NOTE 2: Both GPS must be operative for RNP APCH operation. NOTE 3: One GPS with associated operative ATC transponder must be operative for ADS-B Out function. The associated ADS-B Out function is considered inoperative. NOTE 4: The associated Automatic UTC Update Function(s) will be inoperative. The associated clock is considered inoperative. NOTE 5: With one GPS inoperative, normal operation is possible if ANP meets the requirements for the phase of flight. NOTE 6: Both GPS must be operational for RNAV operations, except RNAV departure with RNP of 1.0 or greater which requires only one GPS.
34-62-02	GPS Fault Indication	C	1	0	May be inoperative provided FMS CDU GPS Fault Message (-L and -R) are operative.

34-62-03	Automatic Dependant Surveillance Broadcast (ADS-B) System	B	2	0	(O) May be inoperative provided prior to flight, authorization is obtained from ATC facilities having jurisdiction over the planned route of flight using an approved authorization process. NOTE: Any ADS-B function that operates normally may be used.
		C	2	1	One may be inoperative
34-62-04	ADS-B Fault Indication Panel	B	1	0	(O) May be inoperative provided prior to flight, authorization is obtained from ATC facilities having jurisdiction over the planned route of flight using an approved authorization process.
34-62-05	SBAS Landing System (SLS / LPV)	D	2	0	May be inoperative provided procedures do not require its use.
34-62-06	SBAS Control Panel LPV Mode	D	2	0	May be inoperative provided procedures do not require its use.

PLACARDING

Apply sticker adjacent to associated SBAS Control Panel.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

GPS (SYSTEM) (COMPONENT) (FUNCTION) INOP

ADS-B (SYSTEM) (COMPONENT) (FUNCTION) INOP

SBAS (SYSTEM) (COMPONENT) (FUNCTION) INOP

SLS (SYSTEM) (COMPONENT) (FUNCTION) INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

34-62-01 Global Positioning System (GPS)

Prior to departure, review intended route to confirm that remaining navigation systems provide the required capability.

NOTE 1: Both GPS must be operative for RNP AR operation.

NOTE 2: Both GPS must be operative for RNP APCH operation.

NOTE 3: One GPS with associated operative ATC transponder must be operative for ADS-B Out function. The associated ADS-B Out function is considered inoperative.

NOTE 4: The associated Automatic UTC Update Function(s) will be inoperative. The associated clock is considered inoperative.

NOTE 5: With one GPS inoperative, normal operation is possible if ANP meets the requirements for the phase of flight.

NOTE 6: Both GPS must be operational for RNAV operations, except RNAV departure with RNP of 1.0 or greater which requires only one GPS.

34-62-03 Automatic Dependant Surveillance Broadcast (ADS-B) System

Prior to flight, the PIC shall coordinate with dispatch to ensure that authorization has been obtained from ATC facilities having jurisdiction over the planned route of flight using an approved authorization process.

NOTE: Any ADS-B function that operates normally may be used.

34-62-04 ADS-B Fault Indication Panel

Prior to flight, the PIC shall coordinate with dispatch to ensure that authorization has been obtained from ATC facilities having jurisdiction over the planned route of flight using an approved authorization process.

NOTE: Any ADS-B function that operates normally may be used.

OPERATIONS NOTES:

1. In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.
2. ADS-B Out parameter for position data will be inoperative when associated GPS system is inoperative. If needed and if two ADS-B are installed and one ADS-B is inoperative, select transponder to the operative side with ADS-B Out function.
3. If GPS Inoperative, prior to departure review intended route to confirm that remaining navigation systems provide the required capability.

35 - Oxygen

35-02 Passenger Service Units (PSUs)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35 – OXYGEN					
35-02	Passenger Service Units (PSUs) **Applicable to: C-FTUW, C-FTUY**	D	-	-	(M)(O) May be inoperative or missing provided: a) Affected seat or bank of seats is placarded INOPERATIVE and not occupied, b) No more than two consecutive banks of seats and their adjacent banks of seats have missing or inoperative PSUs, and c) Units at assigned flight attendant locations operate normally.
35-02-01	Automatic Presentation	B	1	0	(M#) (O) May be inoperative provided: a) Alternate deployment system is verified to operate normally, and b) Airplane remains at or below FL 300
35-02-02	Door Latches	-	-	-	May be inoperative provided associated Passenger Service Unit (35-02) is considered inoperative.

PLACARDING

Apply sticker on or adjacent to Oxygen Panel

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

PSU (COMPONENT) (FUNCTION) INOP

(M) MAINTENANCE PROCEDURES

35-02 Passenger Service Units (PSUs)

1. Close the inoperative oxygen mask door and secure it using adhesive tape.
2. Block the seats with the inoperative units to prevent passenger use.
3. If inoperative unit is in a lavatory, secure the associated lavatory door closed to prevent passenger use.

(M#) MAINTENANCE PROCEDURES

35-02-01 Automatic Presentation

Check passenger oxygen manual deploy system per AMM 35-21-00, A/T (bottle system) or 35-22-00, A/T (chemical oxygen).

(O) OPERATIONS PROCEDURES

35-02: Passenger Service Units (PSUs) Inoperative

In-Charge to verify affected seats are placarded INOPERATIVE and remain unoccupied.

35-02-01: Automatic Presentation (Deploy System) Inoperative

1. Be prepared to deploy passenger masks manually using the PASS OXYGEN Switch or Actuation/Reset Handle (if installed).
2. Flight altitude is limited to FL 300.

35-03 Oxygen Pressure Indicators

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35 - OXYGEN					
35-03	Oxygen Pressure Indicators				
35-03-01	Flight Deck Crew Oxygen Indicator	C	1	0	(M) May be inoperative provided an alternate procedure is used to verify that oxygen supply is above minimum requirements for dispatch.
35-03-05	Overpressure Discharge Indication Disk	C	1	0	(O) May be damaged or missing.

PLACARDING:

Apply sticker on or adjacent to Oxygen Pressure Indicator or Overpressure Discharge Indicator Disk, as applicable.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

CREW OXYGEN PRESSURE INDICATOR INOP - VERIFY CYLINDER PRESSURE PRIOR TO EACH TAKEOFF

or

CREW OXYGEN OVERPRESSURE DISCHARGE INDICATION DISK DAMAGED/MISSING

(M) MAINTENANCE PROCEDURES:

35-03-01 Flight Deck Crew Oxygen Indicator Inoperative:

Check oxygen cylinder pressure indicator and ensure oxygen supply is above minimum required for flight (AMM 35-00-00/901):

1. Check crew oxygen cylinder pressure indicator prior to each takeoff.
2. Ensure supply is above minimum required for flight. See Boeing Flight Planning and Performance Manual, Flight Planning Section, for minimum dispatch bottle pressure.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

When dispatching with the overpressure discharge indication disk damaged or missing, verify that oxygen pressure is adequate for dispatch by observing system pressure using the flight deck crew and passenger (if installed) oxygen pressure indicator on the aft overhead panel or using the pressure indicator on the external service panel (if installed) or oxygen cylinder.

35-04 Portable Oxygen Bottles or Units (including Masks and Hoses)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35 - OXYGEN					
35-04	Portable Oxygen Bottles or Units (including Masks and Hoses)	D	-	-	(M)(O) Any in excess of one for each crew member required to be off flight deck may be inoperative or missing provided: a) Required distribution of operative units is maintained throughout the aircraft, b) Inoperative portable oxygen dispensing unit 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 portable oxygen dispensing unit and its installed location are placarded INOPERATIVE, and c) Procedures are established and used to alert crew members of inoperative or missing equipment.

PLACARDING:

Apply sticker on or adjacent to affected Portable Oxygen Dispensing Unit mounting bracket.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____(LOCATION) PORTABLE OXYGEN DISPENSING UNIT
(BOTTLE AND MASK) INOP AND REMOVED

(M) MAINTENANCE PROCEDURES:

1. Until it can be serviced or removed from the airplane at the next available maintenance base, stow inoperative unit(s) in a location where they will not be used.
2. If units at a specific storage location are inoperative or missing, obscure the associated location placarding for the affected units.
3. Ensure required distribution of serviceable units is maintained throughout the airplane.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Ensure that there is at least one serviceable portable oxygen bottle for each crew member required to be off flight deck.

If a portable bottle pressure is equal to or greater than 500 psi, it meets CAR requirement for a walkaround bottle during emergency descent, therefore, it is considered operative.

35-05 Passenger Oxygen System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35 - OXYGEN					
35-05	Passenger Oxygen System				
35-05A	Passenger Operations **Applicable to: C-FTUW, CFTUY**	B	1	0	(O) May be inoperative provided: a) Minimum enroute altitude does not exceed 13,000 ft above MSL, b) Both air conditioning packs operate normally, c) Pressurization system operates normally, d) Flight remains at or below FL 250, e) Portable oxygen units are provided for all crew members and 10% of the passengers; for half an hour (supplemental oxygen), and f) Passengers are appropriately briefed.
35-05B	Non-Passenger carrying operations	C	1	0	May be inoperative for non-passenger carrying operations provided portable oxygen bottles are available for all crew members required to be off the flight deck.
35-05C	Operations at or below 10,000 MSL	B	1	0	May be inoperative provided flight is conducted at or below 10,000 feet MSL.
35-05D	Supernumerary Oxygen Masks (STC SA22-6 and SA25-72) **Applicable to: ALL**	C	10	0	May be inoperative provided associated seat is not occupied.
35-05-01	Lavatory Oxygen **Applicable to: ALL**				
35-05-01A		C	-	-	(O) May be inoperative provided: a) Lavatory is not used for any purpose, and b) Lavatory door is locked and placarded "INOPERATIVE - DO NOT ENTER".
35-05-01B		C	-	-	(O) May be inoperative provided aircraft is not operated above FL 250.

35-05-02	All Cargo Operations **Applicable to: ALL**				
35-05-02A		D	1	0	May be inoperative provided: a) Portable oxygen bottles are available to all crew members required to be off flight deck, and b) An automatic warning system is in the cargo area to alert of a decompression, if crew members are required to be in the cargo area during flight.
35-05-02B		D	1	0	May be inoperative provided all crew members are on the flight deck.

PLACARDING

Apply sticker adjacent to PASS OXYGEN switch.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

PASSENGER OXYGEN SYSTEM INOP - DO NOT EXCEED FL 250 WITH SUPERNUMERARY CREW

or

LAVATORY OXYGEN SYSTEM INOP - DO NOT ENTER

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

35-05A Passenger Operations

1. Plan flight over route with minimum enroute altitudes (MEA) equal to or lower than 13,000 feet.
2. Maximum flight altitude shall not exceed FL 250.
3. Prior to flight, the pilot-in-command shall brief cabin crew on the lack of passenger oxygen and the procedures that will be followed in the event of a loss in cabin pressurization. NOTE: The restriction to a maximum operating altitude of FL 250 is to comply with regulations designed for aircraft which are not fitted with fixed passenger oxygen systems. Restricting operations to this altitude will not expose passengers to the extreme conditions of higher altitudes and, in addition, not require as great a period of time to descend to a safe breathing level.
4. Flight Attendants shall modify their cabin safety briefing to eliminate references to a Passenger Oxygen system.

35-05-01 Lavatory Oxygen

If flight must be operated at altitude greater than FL250, lavatory door to be placarded "INOPERATIVE - DO NOT ENTER".

35-06 Portable Protective Breathing Equipment (PBE)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35 - OXYGEN					
35-06	Portable Protective Breathing Equipment (PBE)	D	2	2	(M)(O) Any in excess of those required by CAR 705.71(3) may be inoperative or missing provided: a) Required distribution of operative units is maintained throughout the aircraft, b) Inoperative protective breathing equipment unit 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 protective breathing equipment unit and its installed location are placarded INOPERATIVE, and c) Procedures are established and used to alert crew members of inoperative or missing equipment.
35-06B	Passenger Configuration **Applicable to: C-FTUW, CFTUY**	D	5	4	(M)(O) Any in excess of those required by CARS 705.71(3) may be inoperative or missing provided: a) Required distribution of operative units is maintained throughout the aircraft, b) Inoperative protective breathing equipment unit 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 protective breathing equipment unit and its installed location are placarded INOPERATIVE, and c) Procedures are established and used to alert crew members of inoperative or missing equipment.

PLACARDING:

Apply sticker adjacent to position of missing PBE.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____ PBE INOP AND REMOVED

(M) MAINTENANCE PROCEDURES:

To preclude the use of inoperative equipment, remove the inoperative PBE from the storage rack and place in a plastic bag (if available) and store in an unused location. Remove for repair at a maintenance base.

Obscure the associated location placarding for the affected units.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

35-06 Portable Protective Breathing Equipment (PBE)

Ensure that one PBE is located in the flight deck and one PBE within 1 meter of each required handheld Fire Extinguisher.

35-06B Passenger Configuration

Ensure Flight Attendants are briefed as to location of all serviceable units.

Ensure that one PBE is located in the flight deck and one PBE within 1 meter of each required handheld Fire Extinguisher.

The number of units of protective breathing equipment shall not be less than the number of flight attendants required for the flight.

36 - Pneumatics

36-01 Manifold Isolation Shutoff Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-01	Manifold Isolation Shutoff Valve				
36-01-03		C	1	0	(M#) Except for ER operations beyond 120 minutes, may be inoperative provided: a) Valve remains closed except for engine start, and b) Airplane is not operated in known or forecast icing conditions.

PLACARDING:

Apply sticker adjacent to Isolation Valve Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

MANIFOLD ISOLATION SHUTOFF VALVE INOP - AVOID ICING CONDITIONS

(M) MAINTENANCE PROCEDURES:

None required.

Continued...

(M#) MAINTENANCE PROCEDURES:

Deactivate the bleed air isolation valve (AMM 36-00-00/901).

1. Position both engine BLEED switches to OFF.
2. Position APU Bleed Air switch to OFF.
3. Position both PACK switches to OFF.
4. Open and collar the P6-4 panel circuit breaker AIR CONDITIONING BLEED AIR VALVE ISOLATION.
5. Remove, cap and stow the connector from bleed air isolation valve.

   NOTE: It may be necessary to temporarily remove the air conditioning duct segment located in front of keel beam access hole.

6. Manually move valve to the closed position using the manual override handle.
7. Set the BLEED air and PACK switches as required.

   NOTE: The isolation valve must be manually opened for engine start and then manually closed after the engines are started.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTES:

Review departure, enroute, arrival and alternate weather sequences and forecasts for icing conditions or forecast icing conditions.

Maintenance personnel will be required for all engine starts.

36-02 Ground Pneumatic Connector Check Valve

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-02	Ground Pneumatic Connector Check Valve				
36-02A		C	1	0	(M)(O) Except for ER operations beyond 120 minutes, may be inoperative open provided: a) Right pneumatic manifold remains depressurized after starting right engine, b) Airplane is not operated in known or forecast icing conditions, and c) Altitude remains at or below FL 250.
36-02B		C	1	0	(O) May be inoperative closed.

PLACARDING:

Apply sticker on Air Conditioning Control Panel, and fabricate a placard stating GROUND AIR CONNECTION VALVE INOPERATIVE OPEN/CLOSED and affix on inside of Ground Pneumatic Connection Door.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Ground Pneumatic Connector Check Valve Inoperative Open

  GROUND AIR CONNECTION CHECK VALVE INOP OPEN - REVIEW LIMITATIONS
- Ground Pneumatic Connector Check Valve Inoperative Closed

  GROUND AIR CONNECTION CHECK VALVE INOP CLOSED

(M) MAINTENANCE PROCEDURES:

Ground Pneumatic Connector Check valve inoperative open (AMM 36-00-00/901):

1. Use a ground pneumatic source for starting the right engine.
2. Prior to removing the ground pneumatic source, verify with flight crew that the right pneumatic duct is depressurized (right engine bleed OFF and isolation valve CLOSE).
3. Advise Dispatch: Ground pneumatic source will be required at down line stations if right engine is shutdown.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

36-02A Inoperative Open:

NOTE: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on packs AUTO.

1. Following engine start, depressurize the right pneumatic duct prior to removing the ground pneumatic source. Operate airplane with:
    - Right bleed OFF
    - Right pack OFF
    - Isolation valve CLOSE
2. Operate the left pack using the left engine bleed or APU bleed with isolation valve CLOSE.

NOTE 1: At altitudes 17,000 feet and below, increased airflow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING Supplementary Procedure.

NOTE 2: With the PACK switch in AUTO, the pack will operate in the high flow mode when the APU is used as the bleed source.

3. Maximum altitude is FL 250.

36-02B Inoperative Closed:

With the ground pneumatic connector check valve inoperative closed, engines cannot be started from ground source. Use APU as air source for starting engines.

36-03 Pre-Cooler Control Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-03	Pre-Cooler Control Valves				
36-03-02					
36-03-02A		C	2	0	(O) Except for ER operations beyond 120 minutes, may be inoperative in any position provided: a) Associated engine bleed shutoff valve remains closed, and b) Airplane is not operated in known or forecast icing conditions.
36-03-02B		C	2	0	(M#)(O) Except for ER operations beyond 120 minutes, may be inoperative full open provided: a) Airplane is not operated in known or forecast icing conditions, and b) Appropriate performance adjustments are applied.

PLACARDING:

Apply placard adjacent to affected Engine Bleed Switch stating

PRE-COOLER CONTROL VALVE INOP - ENGINE BLEED UNUSABLE or PRE-COOLER CONTROL VALVE INOP OPEN - OBSERVE LIMITATIONS.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) PRE-COOLER CONTROL VALVE(S) (INOP - LEAVE BLEED OFF) or (INOP OPEN - OBSERVE LIMITATIONS)

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch. Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

Deactivate precooler control valve in full open position (AMM 36-00-00/901).

For Precooler Control Valve P/N 3289562-5/-6/-7:

1. Set each engine start lever in the CUTOFF position.
2. Remove pressure from the pneumatic system (AMM 36-00-00/201).
3. Deactivate the leading edge slats in the retracted position (AMM 27-81-00/201).
4. Deactivate the associated thrust reverser (AMM 78-31-00/201).
5. Gain access to the precooler control valve by opening the appropriate thrust reverser (AMM 78-31-00/201).
6. Remove the supply pressure sense line between the precooler control valve, bleed air regulator, and intersection manifold duct (AMM 36-12-02/401).
7. On the precooler control valve supply pressure port, remove tubing fitting union J522P53 and replace with undrilled tubing fitting union C36002-1.
8. Reinstall the supply pressure sense line between the precooler control valve, bleed air regulator, and intersection manifold duct (AMM 36-12-02/401).
9. Supply pressure to pneumatic system using supply pressure upstream of the PRSOV and perform a leak check of all distributed tubing fittings using snoop leak detector or equivalent soap solution (AMM 36-00-00/201).
10. Verify that the visual position indicator on the precooler control valve indicates that the valve is in the full open position.
11. Remove pressure from the pneumatic system (AMM 36-00-00/201).
12. Close thrust reverser (AMM 78-31-00/201).
13. Activate thrust reverser (AMM 78-31-00/201).
14. Activate leading edge slats (AMM 27-81-00/201).

For Precooler Control valve P/N 63292146-1:

1. Set each engine start lever in the CUTOFF position.
2. Remove pressure from the pneumatic system (AMM 36-00-00/201).
3. Deactivate the leading edge slats in the retracted position (AMM 27-81-00/201).
4. Deactivate the associated thrust reverser (AMM 78-31-00/201).
5. Gain access to the precooler control valve by opening the appropriate thrust reverser (AMM 78-31-00/201).
6. Remove and reinstall pneumatic lock plug into engaged/locked position. Ensure plug bottoms in bore. Apply 95-105 in-lb of torque on the pneumatic lock hex.
7. Supply Pressure Upstream of the PRSOV and verify that the valve remain in the full open position as evidenced by visual inspection.
8. Remove pressure from pneumatic system (AMM 36-00-00/201).
9. Close thrust reverser (AMM 78-31-00/201).
10. Activate thrust reverser (AMM 78-31-00/201).
11. Activate leading edge slats (AMM 27-81-00/201).

(O) OPERATIONS PROCEDURES:

36-03-02A Inoperative in any position:

NOTE 1 Use of the APU bleed air is limited to 17,000 feet. One air conditioning pack will be unusable when dispatching with: the left engine bleed unusable and flight altitude greater than 17,000 feet, the right engine bleed unusable, or both engine bleeds unusable.

NOTE 2: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF.

Takeoff performance should be based on AC packs AUTO.

1. Do not dispatch into known or forecast icing conditions.
2. Position the associated engine BLEED switch to OFF.
3. For left engine bleed unusable:
   a) At altitudes 17,000 feet and below, operate the left pack using the APU bleed air, the right pack using the right engine bleed and the isolation valve CLOSE.
   b) At altitudes above 17,000 feet, operate with the APU bleed air OFF.
      1. Limit altitude to FL 250.
      2. Operate the left pack using the right engine bleed, the right pack OFF and isolation valve OPEN.
4. For right engine bleed unusable:
   a) Limit altitude to FL 250.
   b) Operate the left pack using the left engine bleed, right pack OFF, and isolation valve CLOSE.

      NOTE: At altitudes 17,000 feet and below, increased air flow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.
5. For both engine bleeds unusable:
   a) Limit altitude to 17,000 feet.
   b) Operate the left pack using APU bleed and isolation valve CLOSE. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.

36-03-02B Inoperative in full open position:

Performance adjustments.

1. Takeoff and landing performance limit weights are reduced by 1120 lb (508 kg) for associated precooler control valve.
2. Enroute climb limit weight is reduced by 1,530 lb (694 kg) for associated precooler control valve.
3. Apply a fuel mileage decrement of 0.4% for associated engine.

NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor.

Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

36-04 Pneumatic Pressure Indication Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-04	Pneumatic Pressure Indication Systems	C	2	0	(O) May be inoperative provided alternate procedures are established and used.

PLACARDING:

Apply sticker adjacent to Pneumatic Pressure Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) PNEUMATIC PRESSURE INDICATION INOP - VERIFY STARTER VALVE CLOSURE

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. The Flight Crew normally uses the Pneumatic Pressure Indication System to verify the following during engine starts:
   a) Minimum recommended pneumatic pressure for engine start.
   b) Closure of the engine start valve if START VALVE OPEN lights are not installed.
2. With an inoperative Pneumatic Pressure Indication System, confirmation of minimum recommended pneumatic pressure is not required for engine start.
3. For verification of start valve closure: If START VALVE OPEN lights installed or equipped with the START VALVE OPEN indication on the Display Unit (DU), the Flight Crew can verify that the engine start valve has closed by noting that the START VALVE OPEN lights/indications have extinguished.

NOTE: Start Valve Open indication is displayed on the primary Engine Instrument Display Unit.

36-05 Engine Bleed Air Shutoff Valves (PRSOV)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-05	Engine Bleed Air Shutoff Valves (PRSOV)				
36-05-02A		C	2	1	(M#)(O) Except for ETOPS beyond 120 minutes, one may be inoperative provided: a) Valve is secured closed before engine start, b) Airplane is not operated in known or forecast icing conditions, and c) APU is operative and capable of supplying bleed air.

PLACARDING:

Apply sticker adjacent to affected Engine Bleed Air Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L) (R) ENGINE BLEED AIR SHUTOFF VALVE INOP - OBSERVE LIMITATIONS

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch. Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

Lock the associated engine bleed air valve in the closed position (AMM 36-00-00/901).

1. Deactivate the leading edge flaps and slats in the retracted position (AMM 27-81-00/201).
2. Deactivate the associated thrust reverser (AMM 78-31-00/201).
3. Gain access to the engine bleed air valve by opening the appropriate fan cowl panel (AMM 71-11-02/201) and thrust reverser (AMM 78-31-00/201).
4. Lock the inoperative engine bleed air valve in the CLOSED position.
   a) Turn the override nut to align the position indicator with the CLOSED position.
   b) Loosen the lock screw/knob bolt and push in locking knob to lock valve in closed position.
   c) Re-tighten the lock screw/knob bolt.
5. Close fan cowl panel (AMM 71-11-02/201) and thrust reverser (AMM 78-31-00/201).
6. Activate the thrust reverser (AMM 78-31-00/201).
7. Activate the leading edge flaps and slats (AMM 27-81-00/201).

(O) OPERATIONS PROCEDURES:

NOTE 1 Use of the APU bleed air is limited to 17,000 feet. One air conditioning pack will be unusable when dispatching with: (1) the right engine bleed inoperative, (2) the left engine bleed inoperative and flight altitude greater than 17,000 feet, or (3) both engine bleeds inoperative.

NOTE 2: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on AC packs AUTO.

1. Do not dispatch into known or forecast icing conditions.
2. Associated engine bleed switch is selected to the OFF position.
3. For left engine bleed inoperative:
   a) At altitudes 17,000 feet and below, operate the left pack using the APU bleed air, the right pack using the right engine bleed and the isolation valve CLOSE.
   b) At altitudes above 17,000 feet, operate with the APU bleed air OFF.
      1. Limit altitude to FL 250.
      2. Operate the left pack using the right engine bleed, the right pack OFF and isolation valve OPEN.
4. For right engine bleed inoperative:
   a) Limit altitude to FL 250.
   b) Operate the left pack using the left engine bleed, right pack OFF, and isolation valve CLOSE.

NOTE: At altitudes 17,000 feet and below, increased air flow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NOENGINE BLEED TAKEOFF AND LANDING PROCEDURE.

36-06 Dual Bleed Light System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-06	Dual Bleed Light System	C	1	0	(O) May be inoperative provided: a) APU bleed air is not used in flight, and b) APU bleed valve is verified closed before each departure.

PLACARDING:

Apply sticker adjacent to APU Bleed Switch and on Dual Bleed Light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

DUAL BLEED LIGHT INOP - DO NOT USE APU BLEED IN FLIGHT

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Prior to takeoff verify that the APU bleed valve is closed.

1. Set the manifold isolation valve switch to CLOSE position.
2. With APU running, set the APU BLEED air switch to OFF.
3. Set the left air conditioning PACK and the left engine BLEED air switches to OFF.
4. Confirm the left pneumatic duct pressure decreases to 10 PSI or less.
5. Set bleed and air conditioning configuration as required for takeoff.

36-08 Engine Bleed Trip Off Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-08	Engine Bleed Trip Off Lights	C	2	0	(O) Except for ER operations beyond 120 minutes, may be inoperative provided: a) Associated engine bleed is not used except for engine start, and b) Airplane is not operated in known or forecast icing conditions.

PLACARDING:

Apply sticker on or adjacent to affected BLEED TRIP OFF light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L) (R) (BOTH) ENGINE BLEED TRIP OFF LIGHT(S) INOP - DO NOT OPERATE IN ICING CONDITIONS

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

Advise Dispatch. Flight Planning will be affected.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

NOTE 1: Use of the APU bleed air is limited to 17,000 feet. One air conditioning pack will be unusable when dispatching with: (1) the right engine bleed inoperative, (2) the left engine bleed inoperative and flight altitude greater than 17,000 feet, or (3) both engine bleeds inoperative.

NOTE 2: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on AC packs AUTO.

1. Do not dispatch into known or forecast icing conditions.
2. After engine start, position the associated engine BLEED switch to OFF.
3. For left engine bleed inoperative:
   a) At altitudes 17,000 feet and below, operate the left pack using the APU bleed air, the right pack using the right engine bleed and the isolation valve CLOSE.
   b) At altitudes above 17,000 feet, operate with the APU bleed air OFF.
      1. Limit altitude to FL 250.
      2. Operate the left pack using the right engine bleed, the right pack OFF and isolation valve OPEN.
4. For right engine bleed inoperative:
   a) Limit altitude to FL 250.
   b) Operate the left pack using the left engine bleed, right pack OFF, and isolation valve CLOSE.

NOTE: At altitudes 17,000 feet and below, increased air flow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.

5. For both engine bleeds unusable:
   a) Limit altitude to 17,000 feet.
   b) Operate the left pack using APU bleed and isolation valve CLOSE.
   Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.

36-09 High Stage Valves

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
36 - PNEUMATICS					
36-09	High Stage Valves	C	2	1	(M#) One may be inoperative locked closed provided a minimum of 60% N1 is maintained on associated engine during flight in icing conditions.

PLACARDING:

Apply placard adjacent to affected bleed air switch - HIGH STAGE VALVE INOP CLOSED.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L) (R) ENGINE HIGH STAGE VALVE INOP CLOSED - OBSERVE N1 LIMITATIONS IN ICING CONDITIONS

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Lock the high stage valve closed (AMM 36-00-00/901).

NOTE: Only one high stage valve may be locked in the closed position for dispatch. Dispatch with the opposite high stage valve locked closed under MEL item 30-3 is not allowed.

1. Set each engine start lever in the CUTOFF position.
2. Remove pressure from the pneumatic system.
3. Open fan cowl and thrust reverser (AMM 78-31-00).
4. Manually lock closed the high stage valve.
   a) Manually wrench the high stage valve to the CLOSE position.
   b) Loosen the position indicator screw.
   c) Slide the lock into the recess in the cover plate.
   d) Tighten the position indicator screw.
5. Close fan cowl and thrust reverser (AMM 78-31-00).

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE

Apply the following fuel mileage decrement to account for flight in icing conditions which require a minimum of 60% N1 on the associated engine:

1. 2.0% for trip distances less than or equal to 1000 nautical miles.
2. 1.0% for trip distances greater than 1000 nautical miles.

38 - Water / Waste

38-01 Potable Water Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
38-WATER / WASTE					
38-01	Potable Water Systems				
38-01B		C	1	0	(M#)(O) System may be inoperative provided: a) Tank is drained and inspected to ensure no leakage, and b) Procedures are established to deactivate applicable system components to prevent its use or servicing. NOTE 1: The (O) procedure addresses other means for water provision for crew members as well as the need to advise of system status during crew changes. NOTE 2: Aviation Occupational Health & Safety (AOH&S) requirements should be addressed.

PLACARDING:

Apply placard to Water Service Panel: POTABLE WATER SYSTEM INOP - DO NOT FILL

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

POTABLE WATER SYSTEM INOP - DO NOT FILL

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

1. Drain potable water system.
2. Ensure the potable water system is not serviced or filled.

(O) OPERATIONS PROCEDURES:

To meet the requirements of AOSHR 4.10(1) single-use hand towels in sufficient quantity to serve the employees using the lavatory shall be placed in the lavatory. Alternatively, ensure that sufficient antiseptic agent is provided to employees.

To meet the requirements of AOSHR 4.10(1) verify that adequate bottled water is on board to ensure that employees are provided with potable water in sufficient quantity for drinking, personal washing and food preparation. Advise of system status during crew changes.

38-02 Lavatory Waste Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
38-WATER / WASTE					
38-02	Lavatory Waste Systems				
38-02B		C	-	0	**C-FTUZ Number Installed 1** **C-FTUW/C-FTUY Number Installed 3** (M) May be inoperative provided: a) Waste is drained and system is inspected for leakage, b) Procedures are established and used to deactivate system components, c) Lavatory door is locked closed and placarded "INOPERATIVE - DO NOT ENTER", and NOTE: These provisions are not intended to prohibit inspections by crew members.
38-02-01	Vacuum Blower	C	1	0	(M)(O) May be inoperative provided: a) Vacuum blower is deactivated, and b) Lavatories are not used on the ground or at flight altitudes below 16,000 ft.

PLACARDING:

Apply placard on inoperative lavatory door: INOPERATIVE - DO NOT ENTER

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

LAVATORY WASTE SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

38-02B Lavatory Waste System Inoperative

Lavatory Waste System may be inoperative provided:

a) Waste is drained and system is inspected for leakage.
b) Pilot-in-command will determine if flight duration is acceptable with lavatory unusable.
c) Lavatory door is secured closed and placarded "INOPERATIVE - DO NOT ENTER".

NOTE: These provisions are not intended to prohibit inspections by crewmembers.

38-02-01 Vacuum Blower Inoperative

Deactivate the inoperative vacuum blower (AMM 38-00-00/901).

1. Open and collar the VACUUM WASTE BLOWER circuit breaker C01389 on Power Distribution Panel Number 1, P91.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Establish and use procedures to prevent use of lavatories at flight altitudes below 16,000 feet.

38-04 Floor Drain Shutoff Valve (STC SA25-72)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
38-WATER / WASTE					
38-04	Floor Drain Shutoff Valve (STC SA25-72) **Applicable to: C-FTUW, CFTUY**	C	1	0	(O) May be inoperative provided procedures are established and used to ensure main deck cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

PLACARDING:

Apply sticker to Cargo Fire Detection panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLOOR DRAIN SHUTOFF VALVE INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

During the walk around, flight crew will verify the associated cargo compartment is empty or only contains empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits (Engine Covers, Tool Kit and Strap Kit).

NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

44 - CABIN SYSTEMS

44-20 RPM (Remote Power Unit)

SYSTEM & SEQUENCE NUMBER	ITEM		1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
44- CABIN SYSTEMS						
44-20						
44-20-3	RPM (Remote Power Unit) (STC SA09-28) **Applicable to: C-FTUW, C-FTUY**		D	1	0	(M) May be inoperative provided USB power system is deactivated and secured.

PLACARDING

Apply sticker adjacent to the CAB/UTIL switch.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

RPM (REMOTE POWER UNIT) INOP

(M) MAINTENANCE PROCEDURES

Open and collar the P6-1 panel circuit breaker CB B15 (USB POWER CONTROL)

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

46 - INFORMATION SYSTEMS

46-01 Electronic Flight Bag (EFB) System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
46- INFORMATION SYSTEMS					
46-01	Electronic Flight Bag (EFB) System				
46-01-05	Power Supply/Power Connection				
46-01-05B		D	2	0	May be inoperative provided procedures do not require its use.

NOTE: For all other discrepancies, verify the EFB Operating Procedures Manual (AILO-0022.10).

PLACARDING

Apply sticker adjacent to the affected power supply.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

(CAPTAIN'S)(F/O)(BOTH) POWER SUPPLY/CONNECTION INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

47 - Inert Gas System

47-01 Nitrogen Generation System (NGS)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
47-INERT GAS SYSTEM					
47-01	Nitrogen Generation System (NGS)				
47-01		A	1	0	(M) May be inoperative provided: a) NGS shutoff valve is deactivated closed, and b) Repairs are made within 10 flight-days.
47-01-01	Nitrogen Generation Degraded	C	1	0	

PLACARDING:

Apply placard on or adjacent to Bite Display Unit.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

NITROGEN GENERATION SYSTEM (NGS) INOP

(M) MAINTENANCE PROCEDURES:

For either the amber INOPERATIVE - UNSERVICEABLE indicator light illuminated or for no operability indicator lights illuminated, deactivate the NGS shutoff valve in the closed position (AMM 47-00-00/901).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

49 - Airborne Auxiliary Power

49-01 Auxiliary Power Unit (APU)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-01	Auxiliary Power Unit (APU)	C	1	0	Except for ER operations, may be inoperative provided: a) Procedures do not require its use, and b) A visual inspection of the tail cone area and the adjacent control surfaces is performed to confirm that there is no evidence of heat damage or delamination

PLACARDING:

Apply sticker adjacent to APU switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU (INOP) (REMOVED)

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTES

1. Aircraft may be operated with the APU removed (AMM 49-11-02, APU Power Plant - Maintenance Practices - requires APU Deletion Tool Kit C49009-1).
2. It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Inoperative. This will allow time to make the required ground handling arrangements.
3. Unsuccessful APU start may be the result of an inoperative APU Fuel Valve. Reference MEL Item 28-4 for appropriate relief when dispatching with an inoperative APU Fuel Valve.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

Continued...

OPERATIONS NOTES

1. Aircraft may be operated with the APU removed in accordance with the AMM provided the resulting changes in weight and balance are accounted for.
2. Perform a visual inspection of the tail cone area and the adjacent control surfaces to confirm that there is no evidence of heat damage or delamination.
3. Prior to departure, verify with Dispatch that suitable arrangements have been made at destination, alternate and any technical stops (if required) to handle any anticipated ground service requirements. If ground power or adequate air will not be available, particular attention must be given to refuelling, de-icing and cross bleed start requirements.
4. If ground power will not be available, review the Battery Start procedure.
5. APU air will not be available for a NO ENGINE BLEED AIR takeoff.

CAUTION:

CREW MUST HAVE ADEQUATE TIME TO BRIEF FOR SUPPLEMENTARY PROCEDURES IN REGARDS TO ENGINE STARTING, PUSHBACK, COMMUNICATION WITH GROUND CONTROL, DE-ICING AND OTHER GROUND HANDLING CONSIDERATIONS.

49-02 APU Annunciator LOW OIL PRESSURE and OVER SPEED Lights

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 - AIRBORNE AUXILIARY POWER					
49-02	APU Annunciator LOW OIL PRESSURE and OVER SPEED Lights	C	2	0	May be inoperative provided APU Auto Shutdown System operates normally.

PLACARDING:

Apply sticker adjacent to affected APU Annunciator LOW OIL PRESSURE or OVER SPEED Light and the APU switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU (LOW OIL PRESSURE) (OVER SPEED) LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE

APU Auto Shutdown may be checked by starting and shutting down the APU normally (normal shutdown simulates an over speed condition forcing an auto shutdown).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

49-04 APU Annunciator LOW OIL QUANTITY/MAINT Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 - AIRBORNE AUXILIARY POWER					
49-04	APU Annunciator LOW OIL QUANTITY/MAINT Light	C	1	0	(M#) May be inoperative and APU used provided oil quantity is checked once each flight day.

PLACARDING:

Apply sticker adjacent to affected light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU LOW OIL QUANTITY LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

If the APU is to be used, check APU oil quantity once each flight day (AMM 49-00-00/901).

(O) OPERATIONS PROCEDURES:

None required.

49-05 APU EGT Indicator

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-05	APU EGT Indicator				
49-05-02		C	1	0	

PLACARDING:

Apply sticker on the APU Exhaust Temperature Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU EGT INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

49-06 APU Inlet Door

SYSTEM & SEQUENCE NUMBER / ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER				
49-06 APU Inlet Door				
49-06A	C	1	0	(M#)(O) May be inoperative open.
49-06B	C	1	0	(M#)(O) Except for ER operations, may be inoperative in any other position if APU is not used.

PLACARDING:

Apply sticker adjacent to APU switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1:

  APU INLET DOOR INOP OPEN - MAINTENANCE PROCEDURE REQUIRED TO START APU

  or

- Condition 2:

  APU INLET DOOR INOP - DO NOT USE APU

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

49-06A APU Inlet Door Inoperative Open:

Prepare the airplane for flight with the APU air inlet door inoperative:

1. Make sure the APU switch is off.
2. Open and collar the AUX POWER UNIT CONT and APU FIRE SW POWER circuit breakers.
3. Open the stabilizer trim access door.
4. Put the air inlet door in the fully open position.
5. Close the stabilizer trim access door.
6. Close the AUX POWER UNIT CONT and APU FIRE SW POWER circuit breakers.

Continued...

49-06B APU Not Used:

Prepare the airplane for flight with the APU air inlet door inoperative:

1. Make sure the APU switch is off
2. Open and collar the AUX POWER UNIT CONT, AUX POWER UNIT SCU FAN POWER (prior to incorporation of Boeing SB 737-49-1150 or production equivalent), APU FIRE SW POWER, and APU START CONV circuit breakers.
3. Open the stabilizer trim access door.
4. If desired, put the air inlet door in the closed position to avoid airplane performance penalties and fuel burn penalty described in the Operations Note below.
5. Close the stabilizer trim access door.

MAINTENANCE NOTE:

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Inoperative. This will allow time to make the required ground handling arrangements.

(O) OPERATIONS PROCEDURES:

49-06A APU Inlet Door Inoperative Open:

The following performance penalties can be used to account for the increased drag resulting from the APU inlet door being inoperative in the open position (either fully or partially open) and the APU not running. Fuel burn will be increased by 2.8%.

TAKEOFF & APPROACH/LANDING CLIMB	ENROUTE CLIMB
410 lb (186 kg)	830 lb (376 kg)

NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor.

Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

49-06B APU Not Used:

1. Dispatch is not allowed if the APU is required by other procedures.

2. APU is not used.

The following performance penalties can be used to account for the increased drag resulting from the APU inlet door being inoperative in the open position (either fully or partially open) and the APU not running. Fuel burn will be increased by 2.8%.

TAKEOFF & APPROACH/LANDING CLIMB	ENROUTE CLIMB
410 lb (186 kg)	830 lb (376 kg)

NOTE: Enroute climb penalties are based on single engine operating speeds that approximate maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed above by the appropriate Enroute Diversion Speed Effects factor.

Enroute Diversion Speed Effects

Diversion Speed	Factor
LRC	1.5
280 KIAS	3.9
290 KIAS	4.5
310 KIAS	5.4
320 KIAS	6.4
330 KIAS	7.5

49-07 APU Bleed Air Valve

SYSTEM & SEQUENCE NUMBER / ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER				
49-07 APU Bleed Air Valve				
49-07A	C	1	0	(M#) May be inoperative closed. NOTE: APU may be used to provide electrical power.
49-07B	C	1	0	(O) Except for ER operations, may be inoperative provided: a) APU bleed air check valve operates normally, and b) APU is not operated.

PLACARDING:

Apply sticker adjacent to APU switch and the APU Bleed Air Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 APU Bleed Air System Inoperative Closed:

  APU BLEED AIR SYSTEM INOP CLOSED - USE GROUND PNEUMATIC SOURCE FOR ENGINE START

  or

- Condition 2 - APU Bleed Air System Inoperative Open:

  APU BLEED AIR SYSTEM INOP OPEN - DO NOT USE APU

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Ensure valve is closed by using either the Input Monitoring page of APU BITE TEST or the following procedure (AMM 49-00-00/901):

1. Make sure the APU BLEED switch on the P5 overhead panel is OFF.
2. Gain access to the APU bleed air valve and check that the indication on the valve shows CLOSED.
3. Close the APU cowl door.

APU BITE TEST:

1. INIT REF (on the key pad)
2. INDEX (at LSK 6L)
3. MAINT (at LSK 6R)
4. APU (at LSK 2R)
5. The screen will indicate INITIALIZING PLEASE WAIT-
6. INPUT MONITORING (at LSK 5L)
7. NEXT PAGE (on the key pad)
8. NEXT PAGE (on the key pad)
9. Page 3/4 of INPUT MONITORING item 8 of 10 is labeled BLEED AIR VALVE: "CLOSE" or "OPEN" will be displayed, this is the actual position of the APU bleed valve as seen by the MCDU.

MAINTENANCE NOTE:

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Inoperative. This will allow time to make the required ground handling arrangements.

(O) OPERATIONS PROCEDURES:

1. Dispatch is not allowed if the APU is required by other procedures.
2. Do not operate APU.

49-08 APU DC Fuel Boost Pump

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-08	APU DC Fuel Boost Pump	D	1	0	

PLACARDING:

Apply sticker adjacent to APU Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU DC FUEL BOOST PUMP INOP

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE

Open/collar circuit breaker (P6-4 or P6-5 Panel) for the affected pump.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

49-09 APU Surge Control System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-09	APU Surge Control System				
49-09-02	Surge Control Valve				
49-09-02A		C	1	0	May be inoperative in open position provided APU bleed air is not used. NOTE: APU may be used to provide electrical power.
49-09-02B		C	1	0	(O) Except for ER operations, may be inoperative in closed position provided APU is not used.

PLACARDING:

Placard as follows:

- Condition 1: APU Surge Control Valve Inoperative OPEN:

  Apply sticker adjacent to APU Bleed Air Switch.

  OR

- Condition 2: - APU Surge Control Inoperative CLOSED:

  Apply sticker adjacent to APU Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1: APU Surge Control Valve Inoperative OPEN:

  APU SURGE CONTROL VALVE INOP OPEN - DO NOT USE APU BLEED AIR

  or

- Condition 2: - APU Surge Control Inoperative CLOSED:

  APU SURGE CONTROL VALVE INOP CLOSED - DO NOT USE APU

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTE:

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Inoperative. This will allow time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

1. Dispatch is not allowed if the APU is required by other procedures.
2. APU must not be started.

49-12 APU Annunciator HIGH OIL TEMP / FAULT Light

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-12	APU Annunciator HIGH OIL TEMP / FAULT Light	C	1	0	

PLACARDING:

Apply sticker adjacent to affected light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU ANNUNCIATOR HIGH OIL TEMP/FAULT LIGHT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

49-15 Start Power Unit

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-15	Start Power Unit	C	1	0	(M#) Except for ER operations, may be inoperative provided procedures do not require use of APU.
49-15-01	AC/DC Start Systems	C	2	1	

PLACARDING:

Apply sticker adjacent to APU Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

APU START POWER UNIT INOP - DO NOT USE APU
or
APU (AC)(DC) START SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

Deactivate the start power unit (AMM 49-00-00/901):

1. Position the APU switch OFF.
2. Open and collar the following circuit breakers:
   a) P6-4 panel AUX POWER UNIT CONT
   b) P6-4 panel AUX POWER UNIT SCU FAN POWER (prior to incorporation of Boeing SB 737-49-1150 or production equivalent)
   c) P6-2 panel APU FIRE SW POWER
   d) P91 panel APU START CONV
3. Disconnect, cap and stow the battery connector to the SPU, located on the E2-2 Shelf in EE Bay.

MAINTENANCE NOTE:

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Inoperative. This will allow time to make the required ground handling arrangements.

(O) OPERATIONS PROCEDURES:

None required.

49-16 Start Converter Unit

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
49 – AIRBORNE AUXILIARY POWER					
49-16	Start Converter Unit	C	1	0	(M) Except for ER operations, may be inoperative provided procedures do not require use of APU.
49-16-01	Voltage Regulator Function	C	1	0	Except for ER operations, may be inoperative provided APU generator is not used for electrical power. NOTE: APU may be used as a pneumatic source.

PLACARDING

- Condition 1 Start Converter Unit Inoperative:

  Apply sticker adjacent to APU Switch.

- Condition 2 Voltage Regulator Function Inoperative:

  Apply sticker adjacent to APU Generator Switches.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

APU START CONVERTER UNIT INOP - DO NOT USE APU

or

APU VOLTAGE REGULATOR FUNCTION INOP - DO NOT USE APU GEN

(M) MAINTENANCE PROCEDURES

Deactivate the start converter unit (AMM 49-00-00/901):

1. Position the APU switch OFF.
2. Open and collar the following circuit breakers:
   a) P6-4 panel AUX POWER UNIT CONT
   b) P6-4 panel AUX POWER UNIT SCU FAN POWER (prior to incorporation of Boeing SB 737-49-1150 or production equivalent),
   c) P6-2 panel APU FIRE SW POWER
   d) P91 panel APU START CONV

MAINTENANCE NOTE

It is vitally important that Dispatch be advised as soon as possible when dispatching with an APU Inoperative. This will allow time to make the required ground handling arrangements.

(M#) MAINTENANCE PROCEDURES

None required.

(O) OPERATIONS PROCEDURES

None required.

52 - Doors

52-03 Door Warning Light System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-03	Door Warning Light System				
52-03-01	Entry/Service/ Cargo/Equipment/ Airstair	C	7	0	(M#) May be inoperative provided associated door is verified closed and locked before each departure.
52-03-01A	Main Deck Cargo Door Warning Lights	C	2	0	(M#) May be inoperative provided procedures are accomplished to verify the door is closed, latched and locked.
52-03-02	Overwing	C	4	0	(M#) May be inoperative provided: a) Associated door is verified closed and latched before each departure, and b) Associated flight lock is verified to operate normally.
52-03-05	Door Warning Light System - Main Cargo Door Indication System (STC SA22-6 and SA25-72) **Applicable to: ALL**				
52-03-05-01	MCD Control and Indicating Panel Red DOOR UNSAFE Warning Light	C	1	0	(O) May be inoperative provided: a) Flight deck red CARGO DOOR warning lights are verified operative and are extinguished, b) All nineteen (19) amber lights on the MCD Control and Indicating Panel are verified operative and are extinguished, c) Green DOOR SAFE indicator light is illuminated, and d) An external visual inspection verifies that the door is CLOSED and all eight (8) lockpins are in the LOCKED position.

52-03-05-02	MCD Control and Indicating Panel Green DOOR SAFE Indicating Light	C	1	0	(O) May be inoperative provided: a) Flight deck red CARGO DOOR warning lights are verified operative and are extinguished, b) All nineteen (19) amber lights on the MCD Control and Indicating Panel are verified operative and are extinguished, c) Red DOOR UNSAFE indicator light is verified operative and is extinguished, and d) An external visual inspection verifies that the door is CLOSED and all eight (8) lockpins are in the LOCKED position.
52-03-05-03	MCD Control and Indicating Panel Amber Indicating Lights	C	19	0	(O) May be inoperative provided: a) Flight deck red CARGO DOOR warning lights are verified operative and are extinguished, b) Red DOOR UNSAFE indicator light is verified operative and is extinguished, c) Green DOOR SAFE indicator light is illuminated, and, d) An external visual inspection verifies that the door is CLOSED and all eight (8) lockpins are in the LOCKED position.
52-03-05-04	Flight Deck Amber DOOR ARMED Indicating Light	C	1	0	(M#) (O) May be inoperative provided: a) Flight deck red CARGO DOOR warning lights are verified operative and are extinguished, b) MCD Control and Indicating Panel green DOOR SAFE indicator light is illuminated, c) MCD Control and Indicating Panel red DOOR UNSAFE indicator light is extinguished, d) An external visual inspection verifies that the door is CLOSED and all eight (8) lockpins are in the LOCKED position, and e) The associated MCD control circuit is deactivated.

52-03-05-05	Flight Deck Red "CARGO DOOR" Warning Lights	C	2	0	(M#)(O) May be inoperative provided: a) MCD Control and Indicating Panel red "DOOR UNSAFE" indicator lights are verified operative and are extinguished, b) MCD Control and Indicating Panel green "DOOR SAFE" indicator light is illuminated, and c) An external visual inspection verifies that the door is CLOSED and all eight (8) lockpins are in the LOCKED position.

PLACARDING:

Apply sticker adjacent to affected door warning light(s).

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

_____DOOR WARNING LIGHT INOP - VERIFY CLOSED AND LATCHED/LOCKED PRIOR TO FLIGHT

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

52-03-01 Entry/Service/Cargo/Equipment/Airstair

Visually inspect the affected door(s) to ensure that door is closed and locked (AMM 52-00-00/901).

NOTE: If desired, deactivate the faulty door indication(s).

1. To deactivate a faulty forward or aft cargo door indication switch, do these steps (AMM 52-00-00/901):
   a) Disconnect ground wire from the forward cargo door indication switch (AMM 52-71-31-000-801) or aft cargo door indication switch (AMM 52-71-31-000-802). Secure disconnected wire.
   b) Visually inspect the affected door(s) to ensure that door is closed and locked.
   c) Confirm that the affected (FWD or AFT) CARGO door warning and MASTER CAUTION lights are on after the affected door is closed and locked.
   d) Press and release MASTER CAUTION light to reset.
2. To deactivate a faulty forward entry door indication, do these steps:
   a) Remove wire W2216-0002-24 or W2216-0012-24 at the connector D1406 pin 8 on P5-20 per WDM 52-71-11. Cap and stow the disconnected wire.
   b) Confirm that the FWD ENTRY door light remains off while the door is open.
   c) Confirm that the forward entry door is closed and latched.

3. To deactivate a faulty aft entry door indication, do these steps:
   a) Remove wire W2216-0003-24 at the connector D1406 pin 5 on P5-20 per WDM 52-71-11. Cap and stow the disconnected wire.
   b) Confirm that the AFT ENTRY door light remains off while the door is open.
   c) Confirm that the aft entry door is closed and latched.
4. To deactivate a faulty forward service door indication, do these steps:
   a) Remove wire W2216-0004-24 at the connector D1406 pin 2 on P5-20 per WDM 52-71-11. Cap and stow the disconnected wire.
   b) Confirm that the FWD SERVICE door light remains off while the door is open.
   c) Confirm that the forward service door is closed and latched.
5. To deactivate a faulty aft service door indication, do these steps:
   a) Remove wire W2216-0005-24 at the connector D1406 pin 3 on P5-20 per WDM 52-71-11. Cap and stow the disconnected wire.
   b) Confirm that the AFT SERVICE door light remains off while the door is open.
   c) Confirm that the aft service door is closed and latched.
6. To deactivate a faulty electronic equipment access door or forward access door indication, do these steps:

   NOTE: The forward access door and the electronic equipment door share the same door warning light.

   a) Remove wire W2216-0008-24 at the connector D1406 pin 6 on P5-20 per WDM 52-71-12. Cap and stow the disconnected wire.
   b) Confirm that the EQUIP door light remains off while the door is open.
   c) Confirm that the electronic equipment door is closed and latched, and forward access door is closed and locked.

<u>52-03-01A Main Deck Cargo Door</u>

1. Accomplish external visual inspection of main cargo door:
   a) Verify main cargo door is closed and flush with the fuselage.
   b) Verify vent door is closed and flush with cargo door.
   c) Verify through the eight (8) lock pin view ports that the lock pin has travelled thru the latch lever and the green band on the lock pin is visible, 8 places.
2. Open and collar MCD CONTROL circuit breaker on P6-1 panel
3. Open and collar MCD INDICATORS circuit breaker on P6-1 panel
4. To deactivate MCD Takeoff Warning, remove wire AE-M018B20 at the connector D-AE010P pin 12 on MCD Control and Indicating Panel per WDM R-1005 52-72-11. Cap and stow the disconnected wire.
5. To deactivate Captain’s CARGO DOOR Indicator light, remove wire AE-M010C20 at the connector D-AE009P pin 4 on MCD Control and Indicating Panel per WDM R-1005 52-72-11. Cap and stow the disconnected wire.
6. To deactivate First Officer’s CARGO DOOR Indicator light, remove wire AE-M016C20 at the connector D-AE009P pin 5 on MCD Control and Indicating Panel per WDM R-1005 52-72-11. Cap and stow the disconnected wire.

52-03-02 Overwing

Verify affected door is closed and latched, and the associated flight lock operates normally (AMM 52-00-00/901).

1. Verify that affected exit is closed and latched.
   a) Exit exterior flush with fuselage skin.
   b) Vent panel(s) closed and faired.
   c) Exit liner faired with cabin interior.
   d) Inside handle(s) rotated to the latched position.
   e) Handle covers installed.
2. Check PSEU BITE to verify that the associated flight lock is operating normally.

NOTE: If flight lock failed open faults are present, dispatch is permitted under MEL Item 52-15.

52-03-05-04 Flight Deck Amber DOOR ARMED Indicating Light

Open and collar MCD CONTROL circuit breaker on P6-1 panel.

NOTE: This step removes power to the MCD selector valve, the MCD electric hydraulic pump, and amber MCD ARMED flight deck light.

52-03-05-05 Flight Deck Red "CARGO DOOR" Warning Lights

1. External visual inspection of main cargo door:
   a) Verify main cargo door is closed and flush with the fuselage.
   b) Verify vent door is closed and flush with cargo door.
   c) Verify through the eight (8) lock pin view ports that the lock pin has travelled through the latch lever and the green band on the lock pin is visible, 8 places.
2. Open and collar MCD CONTROL circuit breaker on P6-1 panel.

   NOTE: This step removes power to the MCD selector valve, the MCD electric hydraulic pump, and amber MCD ARMED flight deck light.
3. Open MCD INDICATORS circuit breaker on P6-1 and deactivate the following lights:
   a) MCD Takeoff Warning Light: Remove wire AE-M018B20 at the connector D-AE010P pin 12 on MCD Control and Indicating Panel per WDM R-1005 52-72-11. Cap and stow the disconnected wire.
   b) Captain's CARGO DOOR Indicator light: Remove wire AE-M010C20 at the connector D-AE009P pin 4 on MCD Control and Indicating Panel per WDM R-1005 52-72-11. Cap and stow the disconnected wire.
   c) Deactivate First Officer's CARGO DOOR Indicator light, remove wire AE-M016C20 at the connector D-AE009P pin 5 on MCD Control and Indicating Panel per WDM R-1005 52-72-11. Cap and stow the disconnected wire.
4. Close MCD INDICATORS circuit breaker on P6-1.

(O) OPERATIONS PROCEDURES:

52-03-05-01 MCD Control and Indicating Panel Red DOOR UNSAFE Indicator Light

1. With Aircraft Ground Power Bus active:
2. Verify Main Cargo Door is in the fully closed, latched, and locked position.
3. Verify MCD POWER switch on the MCD Control and Indicating panel is in the OFF position and the switch guard down.
4. Press and hold LAMP TEST switch on the MCD Control and Indicating panel and verify for the following indicator lights:
   a) MCD NOT CLOSED FWD and AFT lights are illuminated
   a) LATCHES UNLATCHED 1 thru 8 lights are illuminated
   b) LOCK PINS NOT ENGAGED 1 thru 8 lights are illuminated
   c) VENT DOOR OPEN light is illuminated
   d) DOOR SAFE green light is illuminated
5. Release LAMP TEST switch. Verify for the following indicator lights on the MCD Control and Indicating panel:
   a) MCD NOT CLOSED FWD and AFT lights are extinguished
   b) LATCHES UNLATCHED 1 thru 8 lights are extinguished
   c) LOCK PINS NOT ENGAGED 1 thru 8 lights are extinguished
   d) VENT DOOR OPEN light is extinguished
   e) DOOR SAFE green light is illuminated
6. Verify CARGO DOOR ARMED and the CARGO DOOR warning lights in the flight deck are extinguished.
7. Press-to-test CARGO DOOR ARMED and the two CARGO DOOR warning lights in the flight deck.
8. Prior to closing the L1 entry door, Visually verify the MCD is flush with the fuselage to ensure MCD is properly closed. Verify all lockpins are in the LOCKED position. During low light conditions, a flashlight can be utilized for the visual verification.

52-03-05-02 MCD Control and Indicating Panel Green DOOR SAFE Indicator Light

1. With Aircraft Ground Power Bus active:
2. Verify Main Cargo Door is in the fully closed, latched, and locked position.
3. Verify MCD POWER switch on the MCD Control and Indicating panel is in the OFF position and the switch guard down.
4. Press and hold LAMP TEST switch on the MCD Control and Indicating panel and verify for the following indicator lights:
   a) MCD NOT CLOSED FWD and AFT lights are illuminated
   b) LATCHES UNLATCHED 1 thru 8 lights are illuminated
   c) LOCK PINS NOT ENGAGED 1 thru 8 lights are illuminated
   d) VENT DOOR OPEN light is illuminated
   e) DOOR UNSAFE light is illuminated

5. Release the LAMP TEST switch. Verify for the following Indicator Lights on the MCD Control and Indicating panel:
   a) MCD NOT CLOSED FWD and AFT lights are extinguished
   b) LATCHES UNLATCHED 1 thru 8 lights are extinguished
   c) LOCK PINS NOT ENGAGED 1 thru 8 lights are extinguished
   d) VENT DOOR OPEN light is extinguished
   e) DOOR UNSAFE light is extinguished
6. Verify CARGO DOOR ARMED and the CARGO DOOR warning lights in the flight deck are extinguished.
7. Press-to-test CARGO DOOR ARMED and the two CARGO DOOR warning lights in the flight deck.
8. Prior to closing the L1 entry door, visually verify the MCD is flush with the fuselage to ensure MCD is properly closed. Verify all lockpins are in the LOCKED position. During low light conditions, a flashlight can be utilized for the visual verification.

52-03-05-03 MCD Control and Indicating Panel Amber Indicator Lights

1. With Aircraft Ground Power Bus active:
2. Verify Main Cargo Door is in the fully closed, latched, and locked position.
3. Verify MCD POWER switch on the MCD Control and Indicating panel is in the OFF position and the switch guard down.
4. Press and hold LAMP TEST switch on the MCD Control and Indicating panel and verify the following indicator lights:
   a) DOOR UNSAFE red light is illuminated
   b) DOOR SAFE green light is illuminated
5. Release LAMP TEST switch. Verify Indicator lights on the MCD Control and Indicating panel:
   a) DOOR UNSAFE red light is extinguished
   b) DOOR SAFE green light is illuminated
6. Verify CARGO DOOR ARMED and the CARGO DOOR warning lights in the flight deck are extinguished.
7. Press-to-test CARGO DOOR ARMED and the two CARGO DOOR warning lights in the flight deck.
8. Prior to closing the L1 entry door, visually verify the MCD is flush with the fuselage to ensure MCD is properly closed. Verify all lockpins are in the LOCKED position. During low light conditions, a flashlight can be utilized for the visual verification.

52-03-05-04 Flight Deck Amber DOOR ARMED Indicator Light

1. With Aircraft Ground Power Bus active:
2. Verify Main Cargo Door is in the fully closed, latched, and locked position.
3. Verify MCD POWER switch on the MCD Control and Indicating panel is in the OFF position and the switch guard down.
4. Press and hold LAMP TEST switch on the MCD Control and Indicating panel and verify that all indicator lights are illuminated. Release LAMP TEST switch.
5. Verify Indicator lights on the MCD Control and Indicating panel
   a) MCD NOT CLOSED FWD and AFT lights are extinguished

b) LATCHES UNLATCHED 1 thru 8 lights are extinguished
c) LOCK PINS NOT ENGAGED 1 thru 8 lights are extinguished
d) VENT DOOR OPEN light is extinguished
e) DOOR UNSAFE red light is extinguished
f) DOOR SAFE green light is illuminated

6. Verify CARGO DOOR ARMED and the CARGO DOOR warning lights in the flight deck are extinguished.
7. Press-to-test the two CARGO DOOR warning lights in the flight deck.
8. Prior to closing the L1 entry door, visually verify the MCD is flush with the fuselage to ensure MCD is properly closed. Verify all lockpins are in the LOCKED position. During low light conditions, a flashlight can be utilized for the visual verification.

<u>52-03-05-05 Flight Deck Red "CARGO DOOR" Warning Lights</u>

1. With Aircraft Ground Power Bus active:
2. Verify Main Cargo Door is in the fully closed, latched, and locked position.
3. Verify MCD POWER switch on the MCD Control and Indicating panel is in the OFF position and the switch guard down.
4. Press and hold LAMP TEST switch on the MCD Control and Indicating panel and verify that all indicator lights are illuminated. Release LAMP TEST switch.
5. Verify Indicator lights on the MCD Control and Indicating panel
   a) MCD NOT CLOSED FWD and AFT lights are extinguished
   b) LATCHES UNLATCHED 1 thru 8 lights are extinguished
   c) LOCK PINS NOT ENGAGED 1 thru 8 lights are extinguished
   d) VENT DOOR OPEN light is extinguished
   e) DOOR UNSAFE light is extinguished
   f) DOOR SAFE green light is illuminated
6. Prior to closing the L1 entry door, visually verify the MCD is flush with the fuselage to ensure MCD is properly closed. Verify all lockpins are in the LOCKED position. During low light conditions, a flashlight can be utilized for the visual verification.

52-05 Left Main Cabin Door Pressure Stop Fittings

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-05	Left Main Cabin Door Pressure Stop Fittings				
52-05-01	Aft Airstair Door and Forward Entry Door				NOTE: This item provides dispatch relief for only the forward main entry door and aft main entry door on the left side of the airplane. A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.
52-05-01B		B	-	-	(M#)(O) One per door may be broken or missing provided: a) There are no visible defects on other fittings for associated door, b) Pressure differential does not exceed 6.0 psi, c) Digital cabin pressure control system AUTO or ALTN control mode operates normally, and d) Alternate procedures are established and used.
52-05-02	Aft Door without Airstairs				NOTE: This item provides dispatch relief for only the aft main entry door on the left side of the airplane. A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.

52-05-02B	B	-	-	(M#)(O) One per door may be broken or missing provided: a) There are no visible defects on other fittings for associated door, b) Pressure differential does not exceed 3.4 psi, c) Digital cabin pressure control system AUTO or ALTN control mode operates normally, and d) Alternate procedures are established and used.

PLACARDING

Apply sticker on Pressurization Control Panel.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

FORWARD ENTRY DOOR STOP FITTING BROKEN OR MISSING - DO NOT EXCEED 6.0 PSI CABIN DIFFERENTIAL

or

AFT DOOR WITHOUT AIRSTAIRS DOOR STOP FITTING BROKEN OR MISSING - DO NOT EXCEED 3.4 PSI CABIN DIFFERENTIAL

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

52-05-01B Forward Entry Door and 52-05-02B Aft Door:

Visually inspect remaining fittings for possible defects on affected door(s), body frames and sills (if installed) (AMM 52-00-00/901).

(O) OPERATIONS PROCEDURES

52-05-01B Forward Entry Door

NOTE: Do not exceed the maximum pressure differential of 6.0 psi. Limit flight altitude to 27,000 feet or lower to maintain a cabin altitude of less than 8,000 feet.

1. Select a landing altitude of 8,000 ft. MSL on the cabin pressure control panel. Cabin altitude will ascend to slightly less than 8,000 ft. during climb to cruise altitude.

   NOTE: Actual landing airport altitude may be selected if flight altitude is limited to 13,000 feet.

2. Monitor differential pressure indicator during climb to ensure maximum pressure differential of 6.0 psi is not exceeded.

3. Select actual landing airport altitude after initiating descent. If required to hold during descent, it may be necessary to increase the landing altitude in accordance with the Differential Pressure Schedule below.

4. Lower cabin altitudes may be obtained by appropriate selection of flight altitude and cabin/landing altitude in accordance with the Differential Pressure Schedule below.

FLIGHT ALTITUDE (FT)	CABIN ALTITUDE (FT) (6.0 PSI PRESSURE DIFFERENTIAL)
14000	100
15000	800
16000	1400
17000	2000
18000	2700
19000	3300
20000	3900
21000	4500
22000	5000
23000	5600
24000	6200
25000	6700
26000	7300
27000	7800
28000	8300

Continued...

(O) OPERATIONS PROCEDURES (continued)

52-05-02B

NOTE: Do not exceed the maximum pressure differential of 3.4 psi. Limit flight altitude to 17,000 feet or lower to maintain a cabin altitude of less than 8,000 feet.

1. Select a landing altitude of 8,000 ft. MSL on the cabin pressure control panel. Cabin altitude will ascend to slightly less than 8,000 ft. during climb to cruise altitude.

   NOTE: Actual landing airport altitude may be selected if flight altitude is limited to 7,000 feet.

2. Monitor differential pressure indicator during climb to ensure maximum pressure differential of 3.4 psi is not exceeded.
3. Select actual landing airport altitude after initiating descent. If required to hold during descent, it may be necessary to increase the landing altitude in accordance with the Differential Pressure Schedule below.
4. Lower cabin altitudes may be obtained by appropriate selection of flight altitude and cabin/landing altitude in accordance with the Differential Pressure Schedule below.

FLIGHT ALTITUDE (FT)	CABIN ALTITUDE (FT) (3.4 PSI PRESSURE DIFFERENTIAL)
7000	0
8000	800
9000	1600
10000	2400
11000	3200
12000	4000
13000	4700
14000	5400
15000	6100
16000	7000
17000	7700
18000	8300

52-06 Lower Cargo Doors Pressure Stop Fittings

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-06	Lower Cargo Doors Pressure Stop Fittings				
52-06-01		A	24	22	(M) Any one may be broken or missing on each door or frame provided: a) No defects are visible on other fittings for associated door, b) Cabin pressure controller AUTO mode operates normally, c) Adjacent stop fittings are inspected within 25 flights, and d) Not more than 50 flights are made before completion of repairs or replacements.
52-06-04		C	24	20	(M)(O) Two may be broken or missing on each door or frame provided: a) Flight is conducted in an unpressurized configuration, and b) Procedures are established and used to ensure lower forward cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits. (Engine Covers, Tool Kit and Strap Kit). NOTE: For ballast purposes, use of bags (made of glass fibre or kevlar) of sand or ingots of non-magnetic (such as lead) is acceptable.

NOTE: A door pressure stop consists of two mating stop fittings, one being attached at the door and the other attached to the fuselage. For pressurized flight, either or both stop fittings may be broken or missing at a single door pressure stop location. The number installed shown above is the number of stop locations.

For unpressurized flight, either or both stop fittings may be missing at two door pressure stop locations

PLACARDING:

Apply sticker on pressurization panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

- Condition 1 - Pressurized Flight

  ONE LOWER CARGO DOOR PRESSURE STOP FITTING BROKEN (OR MISSING) ON (FWD) (AFT) (DOOR) (FRAME)-OPERATE NORMALLY

- Condition 2 - Unpressurized Flight

  TWO LOWER CARGO DOOR PRESSURE STOP FITTINGS BROKEN (OR MISSING) -OPERATE UNPRESSURIZED ONLY

(M) MAINTENANCE PROCEDURES:

52-06-01 One Pressure Stop Fitting Broken or Missing:

Visually inspect remaining fittings for possible defects on affected door, body frames and sills (AMM 52-00-00/901).

1. Inspection is repeated within 25 flights.
2. Repairs are completed within 50 flights.

52-06-04 Unpressurized Flight:

Configure airplane for unpressurized flight by using the manual mode of the Cabin Pressure Control System to position the outflow valve to the full open position.

Hold outflow valve toggle switch in the OPEN position for 10 seconds (Analog System) or 30 seconds (Digital System).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

For unpressurized flight, use MEL Item 21-14 Operations Procedures.

52-07 Entry/Service Door Hold-Open Latch Assemblies

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-07	Entry/Service Door Hold-Open Latch Assemblies				
52-07-01	Latch Release Lever	C	-	0	May be inoperative for all-cargo operations.

PLACARDING:

Apply sticker adjacent to affected latch assembly.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

_____DOOR HOLD-OPEN LATCH ASSEMBLY (OR LATCH RELEASE LEVER) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTES:

If the Entry/Service Door Hold-Open Latch assembly will not latch the door in the open position, all flight and ground personnel should be cautioned that the door could be blown closed by the wind. If not using a covered jetway, the door should be closed whenever it is not being used or blocked open.

If the Latch Release Lever is broken or missing, the door will not close without depressing the latch plunger. The plunger may be depressed using the handle of a metal spoon, or fork (or similar).

52-09 Lower Cargo Doors Door Balance Mechanism

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-09	Lower Cargo Doors Door Balance Mechanism	C	2	0	(M) May be inoperative provided a safety hold open device is used when door is in open position.

PLACARDING:

Apply sticker adjacent to affected Lower Cargo Door handle.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD) (AFT) LOWER CARGO DOOR BALANCE MECHANISM INOP - USE SUPPORT BRACE

(M) MAINTENANCE PROCEDURES:

Fabricate a support brace out of a piece of 2in X 4in wood (or suitable alternative) cut to 36” length to hold the door in the open position.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-13 Main Cargo Door Lift/Operating Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-13	Main Cargo Door Lift/Operating Systems				
52-13-03	Hydroelectric and/or Manual Mode (STC SA22-6 and SA25-72) **Applicable to: ALL**	C	2	1	May be inoperative provided manual mode is verified to operate normally.

PLACARDING:

Apply sticker to MCD control panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

MAIN CARGO DOOR (HYDROELECTRIC)(MANUAL) MODE LIFT/OPERATING SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-14 Lower Cargo Doors Hold Open Mechanism/Device

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-14	Lower Cargo Doors Hold Open Mechanism/Device				
52-14A		C	2	0	May be inoperative provided Door Balance Mechanism operates normally.
52-14B		C	2	0	May be inoperative provided cargo compartment remains empty.

PLACARDING:

Apply sticker adjacent to affected Lower Cargo Door handle.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(FWD) (AFT) LOWER CARGO DOOR HOLD OPEN MECHANISM INOP - USE SUPPORT BRACE

(M) MAINTENANCE PROCEDURES:

None required.

MAINTENANCE NOTES:

1. Verify that the door balance mechanism on the affected cargo door is operating correctly by opening the affected door and observing that the force required to open the door has not increased significantly.
2. Fabricate a support brace out of a piece of 2in x 4in wood (or suitable alternative) cut to 36” length to hold the door in the open position.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-15 Flight Lock System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-15	Flight Lock System				
52-15-03	Overwing Exit (STC SA22-6) **Applicable to: C-FTUZ**	C	4	0	(M#)(O) May be inoperative provided: a) For inoperative flight lock(s), inputs to associated flight deck indications are deactivated, and b) An external visual inspection verifies that the exit(s) is fully CLOSED.
52-15-04	Overwing Exit (STC SA25-72) **Applicable to: C-FTUW, C-FTUY**				
52-15-04-01	Forward Overwing Exits	C	2	0	(M#)(O) May be inoperative provided: a) For inoperative flight lock(s), inputs to associated flight deck indications are deactivated, and b) An external visual inspection verifies that the exit(s) is fully CLOSED.
52-15-04-02	Aft Overwing Exits	C	2	0	(M#) (O) May be inoperative provided: a) For inoperative flight lock(s), inputs to associated flight deck indications are deactivated b) Each affected exit is verified to be capable of being unlatched and c) A person employed by operator is designated to remain seated in passenger seat nearest affected exit when cabin differential pressure is less than 4.0 psi.

PLACARDING

Apply sticker adjacent to the Exterior Door Annunciator Lights on the Forward Overhead Panel.

OTHER INSTRUCTIONS

Print the following information in the journey log sheet.

FLIGHT LOCK SYSTEM INOP

(M) MAINTENANCE PROCEDURES

None required.

(M#) MAINTENANCE PROCEDURES

52-15-03, 52-15-04-01, 52-15-04-02, Flight Lock System Overwing Exit Inop

NOTE: After performing the following maintenance procedure, the PSEU may indicate nuisance non-dispatchable flight lock switch fault(s) after using the airplane battery to power up the airplane. Fault codes 52-72106(L Fwd), 52-72107(L), 52-72108(R), 52-72109(R Fwd) may appear depending on which door was deferred. In this instance, fault(s) can be cleared by performing AMM task 32-09-00-860-802 paragraph E.(7).(a)-(e).

1. Deactivate affected flight lock input(s) to associated flight deck indications, including input to Master Caution System. Disconnect, cap and stow the associated PSEU connector wire and then jumper the PSEU connector as indicated in the table below.

MODEL	AFFECTED OVERWING EXIT	ASSOCIATED CONNECTOR	REMOVE WIRE (CAP & STOW) FROM PIN NUMBER	PIN NUMBERS TO BE JUMPERED
737-800	Left Aft	D10986	Pin 20	Pin 40 to Pin 20
737-800	Left Forward	D10986	Pin 53	Pin 40 to Pin 53
737-800	Right Aft	D10988	Pin 02	Pin 53 to Pin 02
737-800	Right Forward	D10988	Pin 52	Pin 53 to Pin 52

NOTE: Use 20 AWG wire gauge for the jumpers installed in Step 1.

2. Verify that the indications associated with the affected flight lock(s), including the input to the Master Caution system, have been deactivated.
   a) Establish electrical power to airplane.
   b) Open P6-2 Panel circuit breakers OVERWING FLIGHT LOCK LEFT and OVERWING FLIGHT LOCK RIGHT.
   c) Open P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.
   d) Open P6-1 Panel circuit breaker WEATHER RADAR RT.
   e) Verify that both ENGINE START switches are in the AUTO position.
   f) Position both engine start levers to IDLE position.

      NOTE: Start levers must be in IDLE position for at least 5 minutes prior to advancing thrust levers (Step 2(i)).

g) Verify that at least 3 of the 4 Entry/Service Doors are closed.

h) Verify that all of the Overwing Exit Doors are closed.

i) Advance fully both thrust levers.

j) Verify that the overhead panel Overwing Light(s) associated with the inoperative flight lock(s) is extinguished.

k) Retard fully both thrust levers.

l) Close P6-2 Panel circuit breakers OVERWING FLIGHT LOCK LEFT and OVERWING FLIGHT LOCK RIGHT.

m) Advance fully both thrust levers.

n) Verify that all overhead panel Overwing Lights are extinguished.

o) Press Master Caution recall.

p) Verify that the PSEU Light is extinguished.

q) Retard fully both thrust levers.

r) Position both engine start levers to CUTOFF position.

s) Close P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.

t) Close P6-1 Panel circuit breaker WEATHER RADAR RT.

3. From the aircraft exterior, verify the associated door is CLOSED.

(O) OPERATIONS PROCEDURES

52-15-03 and 52-15-04-01 Flight Lock System Overwing Exit Inop

1. During the exterior walkaround, verify the associated door is CLOSED.

52-15-04-02 Aft Overwing Exits Flight Lock System Inop. (Combi Configuration)

1. During the exterior walkaround, verify the associated door is CLOSED.
2. The seat immediately adjacent to the affected exit shall be assigned to a company employee. The employee will be briefed on the following:
   a) The employee must remain seated at their assigned seat with their seat belt fastened at all times when the seatbelt sign is on.
   b) The employee must prevent anyone from tampering with the emergency exit at all times during flight.
   c) In flight, the employee must not attempt to open the emergency exit under any circumstances.
   d) On the ground, the employee must not attempt to open the emergency exit unless ordered to do so by a crew member, or unless safety dictates otherwise.

52-16 Main Cabin Exit/Slide (All-Cargo Configuration)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-16	Main Cabin Exit/Slide (All-Cargo Configuration, including STC SA22-6) **Applicable to: C-FTUZ**				
52-16A		C	2	2	All slides in the cargo area with the exception of L1 and R1 may be inoperative provided. a) Exits L1 and R1 are accessible to all crew members, and b) The aisle(s) between the flight deck and the cargo crew members' assigned seating location are not wholly or partially blocked by cargo.
52-16D		B	2	0	All slides may be inoperative provided: a) All crew members are on the flight deck, and b) An alternate means of egress is available.

PLACARDING:

Apply conspicuous placard to affected exit/slide: INOPERATIVE DO NOT USE.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L1)(R1) MAIN CABIN SLIDE(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-17 Boeing / C&D Aerospace Enhanced Flight Deck Security Door Automatic Locking System (CAR 725.595)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-17	Boeing / C&D Aerospace Enhanced Flight Deck Security Door Automatic Locking System (CAR 725.595)	C	1	0	(M)(O) May be inoperative provided: a) Automatic locking system is deactivated, b) Door dead bolt operates normally and is used to lock door, and c) Alternate procedures are established and used for locking and unlocking door using dead bolt.
52-17-01	Flight Deck Access Panel System (Keypad, Door Chime)	C	1	0	(M)(O) May be inoperative provided: a) Keypad is deactivated. b) Alternate procedures are established and used.
52-17-01-01	LEDs	C	3	0	(O) May be inoperative provided alternate procedures are established and used.
52-17-01-02	Door Bell Mode	C	1	0	(O) May be inoperative provided alternate procedures are established and used.
52-17-01-03	Switch Guard	C	1	0	May be inoperative or missing provided flight deck door LOCK FAIL light operates normally.
52-17-02	Flight Deck Door LOCK FAIL Light	C	1	0	(M) May be inoperative provided automatic lock controls are verified to operate normally.
52-17-03	Flight Deck Door AUTO UNLK Light	C	1	0	(M) May be inoperative provided: a) Automatic lock controls are verified to operate normally. b) Door chime operates normally.
52-17-04	Flight Deck Door Lock Control Selector	C	1	0	(M)(O) May be inoperative provided; a) Keypad is deactivated b) Automatic lock is verified to operate normally and, c) Alternate procedures are established and used.

PLACARDING:

Apply sticker adjacent to affected light or control.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT DECK DOOR (SYSTEM) INOP. ALTERNATE PROCEDURES MAY BE REQUIRED

(M) MAINTENANCE PROCEDURES:

52-17: Automatic Locking System

Position the Flight Deck Access System switch OFF (guard extended) to de-activate the automatic locking system.

NOTE: LOCK FAIL light will remain illuminated when the Flight Deck Access System switch is in the OFF position (guard extended).

52-17-01 Flight Deck Access Panel System

Deactivate the keypad (AMM 52-00-00/901):

1. Open the P6-3 panel DOOR LOCK circuit breaker.
2. Disconnect the keypad electrical connector at the chime module side and cap and stow it.
3. Close the DOOR LOCK circuit breaker.

NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

52-17-02 Flight Deck Door LOCK FAIL Light

Verify automatic lock controls are operating normally (AMM 52-00-00/901):

1. With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
2. Position Flight Deck Access System switch NORM (guard closed).
3. Position the Flight Deck Door Lock selector AUTO.
4. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
5. Enter keypad access code and verify the door chime sounds.
6. Position the Flight Deck Door Lock selector DENY.
7. Before the DENY time delay has expired, enter the keypad access code and verify the door chime does not sound.
8. Position and hold Flight Deck Door Lock selector UNLKD.
9. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
10. Position the Flight Deck Door Lock selector AUTO.

11. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

52-17-03 Flight Deck Door AUTO UNLK Light

Verify automatic lock controls are operating normally (AMM 52-00-00/901):

1. With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
2. Position Flight Deck Access System switch NORM (guard closed).
3. Position the Flight Deck Door Lock selector AUTO.
4. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
5. Enter keypad access code and verify the door chime sounds.
6. Position the Flight Deck Door Lock selector DENY.
7. Before the DENY time delay has expired, enter the keypad access code and verify the door chime does not sound.
8. Position and hold Flight Deck Door Lock selector UNLKD.
9. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
10. Position the Flight Deck Door Lock selector AUTO.
11. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

52-17-04 Flight Deck Door Lock Control Selector

1. Deactivate the keypad (AMM 52-00-00/901):
   a) Open the circuit breaker for the flight deck door lock.
   b) Disconnect the keypad electrical connector at the chime module side.
   c) Close the circuit breaker for the flight deck door lock.

   NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).
2. Verify the automatic lock is operating normally (AMM 52-00-00/901):
   a) With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
   b) Position Flight Deck Access System switch NORM (guard closed).
   c) Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
   d) Position Flight Deck Access System switch OFF (guard extended).
   e) Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
   f) Position Flight Deck Access System switch NORM (guard closed).
   g) Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

When dispatching with the automatic locking system or component of the automatic locking system inoperative, the flight deck door must be locked by engaging the deadbolt slides. Sliding the Deadbolt into position locks the cockpit door.

In circumstances when the deadbolt is used, always operate both levers of the deadbolt handle on the cockpit side of the door. Splitting the levers will enable the ability to unlock the cockpit door by way of the key. The key is intended for ground use only and is normally used by Maintenance to lock the cockpit door during long periods of inactivity.

The Captain will coordinate with the Supernumerary crew regarding the communications to be used prior to Flight Crew unlocking the cockpit door.

NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

52-18 Boeing / C&D Aerospace Enhanced Flight Deck Security Door Dead Bolt

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-18	Boeing / C&D Aerospace Enhanced Flight Deck Security Door Dead Bolt	C	1	0	May be inoperative provided automatic lock controls operate normally.

PLACARDING:

Apply sticker to flight deck door control panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT DECK DOOR DEAD BOLT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-20 Flight Deck Door Pressure Relief Panels

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-20	Flight Deck Door Pressure Relief Panels				
52-20-02	Boeing/C&D Aerospace Enhanced Flight Deck Security Door (CAR 725.595)		2	2	Must be operative.

PLACARDING:

N/A

OTHER INSTRUCTIONS:

None required.

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-22 Flight Deck Door Hold Open Device (e.g., Door Stop, Foot Plunger)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-22	Flight Deck Door Hold Open Device (e.g., Door Stop, Foot Plunger)	D	1	0	

PLACARDING:

Apply sticker adjacent to Flight Deck Hold Open Device.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT DECK DOOR HOLD OPEN DEVICE INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-23 Flight Deck Door Viewing Port

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-23	Flight Deck Door Viewing Port				
52-23-01	All Cargo Configuration **Applicable to: C-FTUZ**				
52-23-01A		C	1	0	May be inoperative provided courier/supernumerary compartment remains empty.
52-23-01B		D	1	0	May be inoperative provided procedures do not require its use.

PLACARDING:

Apply sticker adjacent to viewing port.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

FLIGHT DECK DOOR VIEWING PORT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

52-25 Cargo Door Exterior Handle Recess/Hinge Spring Assemblies

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52 - DOORS					
52-25	Cargo Door Exterior Handle Recess/Hinge Spring Assemblies	C	2	0	(M) May be inoperative or missing provided the affected cargo door exterior handle is secured in a recessed position flush with the fuselage.

NOTE: This MEL item may be applied to an inoperative exterior handle recess spring/spring assembly and/or to an inoperative flapper door hinge spring assembly.

PLACARDING:

Apply sticker adjacent to affected door handle.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

CARGO DOOR EXTERIOR HANDLE RECESS/HINGE SPRING INOP - VERIFY HANDLE SECURE AND FLUSH

(M) MAINTENANCE PROCEDURES:

Secure the affected cargo door exterior handle in a recessed position flush with the fuselage (AMM 52-00-00/901).

NOTE: Speed Tape may be used to secure affected cargo door exterior handle in a recessed position flush with the fuselage. If speed tape is used, the area where the tape is applied should be cleaned with solvent prior to application, and new speed tape should be applied each time the affected cargo door exterior handle is used to operate the door during the MEL deferral period.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

73 – Engine Fuel and Control

73-04 Fuel Filter Differential Pressure Warning Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
73 – ENGINE FUEL AND CONTROL					
73-04	Fuel Filter Differential Pressure Warning Systems				
73-04-02		C	2	1	(M) May be inoperative provided malfunction is verified to be in warning system.

PLACARDING:

Apply sticker adjacent to affected FILTER BYPASS light.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(L) (R) FUEL FILTER DIFFERENTIAL PRESSURE WARNING SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

Verify that the malfunction is in the fuel filter bypass warning system (AMM 73-00-00/901):

1. If the FILTER BYPASS light illuminates with the engine not operating either with the EEC powered (start switch in CONT) or EEC not powered (start switch in OFF/AUTO), the fuel filter bypass warning system is faulty. Proceed to step 3 below to replace the fuel filter.
2. If the FILTER BYPASS light does NOT illuminate with the engine not operating, perform the following:
   a) If Fuel FILTER BYPASS light was ON prior to engine shutdown, check EEC BITE-RECENT FAULTS for a "FUEL FILTER SIGNALS DISAGREE" fault message (AMM 73-21-00). If this fault message is present, proceed to step 3 below to replace the fuel filter.

      NOTE: Other EEC fault messages may need to be addressed prior to dispatch.

   b) Check DEU for fault messages. A CDS MAINT message may indicate a DEU fault that affects the fuel filter bypass indication.

      NOTE: A CDS FAULT must be addressed prior to dispatch.

   c) If Fuel FILTER BYPASS light is inoperative OFF, do EEC TEST, AMM task 73-21-00-700-804-F00.

      NOTE: Remaining indication lights in the EEC test should illuminate normally.
3. Replace fuel filter with a new filter (AMM 73-11-02).

NOTE: Except for ER operations, one flight is permitted prior to filter replacement provided that fuel drained from filter housing drain plug is free of visible, gross contamination.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE

If the remaining FILTER BYPASS light illuminates, assume both engine fuel filters have an impending bypass condition.

73-05 Fuel Flow Indication Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
73 – ENGINE FUEL AND CONTROL					
73-05	Fuel Flow Indication Systems	C	2	1	One may be inoperative provided: a) N1, N2 for associated engine operate normally, and b) Both main tank fuel quantity indicators operate normally.

PLACARDING:

Apply sticker adjacent to affected Fuel Flow Indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) FUEL FLOW INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

73-06 Fuel Used Indicators

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
73 – ENGINE FUEL AND CONTROL					
73-06	Fuel Used Indicators	C	2	0	

PLACARDING:

Apply sticker adjacent to affected Fuel Flow Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) FUEL USED INDICATOR(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

73-10 Fuel Control ENG VALVE CLOSED Indicating System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
73 – ENGINE FUEL AND CONTROL					
73-10	Fuel Control ENG VALVE CLOSED Indicating System	C	2	0	(M) May be inoperative provided associated valve is verified to operate normally.

PLACARDING:

Apply sticker adjacent to affected ENG VALVE CLOSED Light(s).

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT)(BOTH) FUEL CONTROL ENG VALVE CLOSED LIGHT(S) INOP

(M) MAINTENANCE PROCEDURES:

Verify associated fuel shutoff valve operates normally (AMM 73-00-00/901).

1. Open and collar the P6-3 Panel ENGINE FUEL ENGINE (1/2) HPSOV IND circuit breaker
2. Start engine and allow it to stabilize.
3. Open the associated engine P6-3 Panel SPAR VALVE ENG circuit breaker.
4. Set associated engine start lever in the CUTOFF position.
5. Verify that the engine immediately decelerates.
6. Close the P6-3 Panel SPAR VALVE ENG circuit breaker.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

73-11 Electronic Engine Control (EEC)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
73 – ENGINE FUEL AND CONTROL					
73-11	Electronic Engine Control (EEC)				
73-11-01	Normal (ON) Mode	C	2	0	(O) May be inoperative provided: a) Both engines are operated in ALTERNATE mode, b) Strut/Wing leading edge over-braided wire bundles are installed per Boeing Service Bulletin or production equivalent, and c) Applicable AFM performance adjustments are applied.

NOTE: Dispatch is not allowed with ENGINE CONTROL light(s) illuminated or inoperative.

PLACARDING:

Apply sticker adjacent to EEC switches on overhead panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

EECs INOPERATIVE, USE RATED THRUST FOR TAKEOFF

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

NOTE: Maximum rated thrust may be reached at a reduced thrust lever position.

1. Position both EEC Mode switches to ALTN.
2. Use full rated takeoff thrust (derated and/or assumed temperature method reduced thrust takeoffs are not allowed).
3. Dispatch must compute takeoff performance using “Alternate EEC”. Do not use FMC computed takeoff thrust settings.
4. Set takeoff thrust manually.

73-12 Electronic Engine Control (EEC) Alternate Power Supply System

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
73 – ENGINE FUEL AND CONTROL					
73-12	Electronic Engine Control (EEC) Alternate Power Supply System	A	4	3	(M) May be inoperative deactivated provided repairs are made in accordance with the times established in Boeing Maintenance Planning Data document D626A001, Section 1, Items 73-020-01 and 73-020-02. NOTE: Dispatch is not allowed with ENGINE CONTROL light(s) illuminated or inoperative.

PLACARDING:

Apply sticker adjacent to affected EEC Switch on overhead panel.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT)(RIGHT) ENGINE EEC ALTERNATE POWER SUPPLY INOP

(M) MAINTENANCE PROCEDURES:

Deactivate inoperative EEC Alternate Power Supply System (AMM 73-00-00/901).

1. For number 1 engine:
   a) Open and collar the P18-2 panel circuit breaker ENG 1 ALTN PWR CHAN A or ENG 1 ALTN PWR CHAN B, as appropriate.
2. For number 2 engine:
   a) Open and collar the P6-2 panel circuit breaker ENG 2 ALTN PWR CHAN A or ENG 2 ALTN PWR CHAN B, as appropriate.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

74 – Engine Ignition

74-01 Ignition Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
74 – ENGINE IGNITION					
74-01	Ignition Systems				
74-01-02					
74-01-02-01	Left Ignition Systems				
74-01-02-01A	ER Operations Allowed	B	2	1	One may be inoperative provided: a) Ignition Select Switch remains in BOTH position. b) Right ignition systems operate normally.
74-01-02-01B	Except ER Operations	C	2	0	(O) Except for ER operations, may be inoperative provided: a) Ignition Select Switch remains in BOTH position. b) Associated engine right ignition system operates normally.
74-01-02-02	Right Ignition Systems				
74-01-02-02A	ER Operations Allowed	B	2	1	(M)(O) One may be inoperative provided: a) Ignition Select Switch remains in BOTH position. b) Left ignition systems operate normally. c) Associated engine left igniter is connected to AC Standby Bus by an acceptable configuration.

74-01-02-02B	Except ER Operations	C	2	0	(M)(O) Except for ER operations, may be inoperative provided: a) Ignition Select Switch remains in BOTH position, b) Associated engine left ignition systems operate normally, and c) Associated engine left igniter is connected to AC Standby Bus by an acceptable configuration

PLACARDING:

Apply sticker adjacent to affected ENGINE START switch and placard Ignition Select Switch: OPERATE IN BOTH ONLY.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(NO. 1)(NO. 2) ENGINE (LEFT)(RIGHT) IGNITION SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

74-01-02-02A and 74-01-02-02B

NOTE: Dispatch is not permitted if the ignition failure is due to an EEC right igniter fault (AMM 74-00-00, EEC BITE Igniters Test).

Airplanes not equipped with R913/R914 Power Sense relays for the ignition system. Right Ignition System(s), connect the LEFT igniter to AC Standby Bus (AMM 74-00-00/901):

1. Open applicable P18-2/P6-2 Panel circuit breakers:
   a) Engine No. 1 - ENGINE 1 IGNITION RIGHT and ENGINE 1 IGNITION LEFT
   b) Engine No. 2 - ENGINE 2 IGNITION RIGHT and ENGINE 2 IGNITION LEFT
2. Without automatic ignition:
   Verify that the start levers are in the CUTOFF position and ENGINE START switch is in the OFF position.
3. With automatic ignition:
   Verify that the start levers are in the CUTOFF position and ENGINE START switch is in the AUTO position.
4. Open fan cowl on the associated engine.

WARNING

MAKE SURE THE IGNITION EXCITERS ARE DE-ENERGIZED BEFORE WORKING ON THE IGNITION SYSTEM. WAIT FOR A MINIMUM OF FIVE MINUTES TO RELEASE THE HIGH VOLTAGE FROM IGNITION EXCITER.

5. Disconnect LEFT/RIGHT power supply cables from the LEFT/RIGHT ignition exciter.
6. Connect cables as follows:
   a) LEFT power supply cable to RIGHT exciter.

b) RIGHT power supply cable to LEFT exciter.

7. Close the circuit breakers opened in Step 1.
8. Perform Audible Test of right Ignition System - EEC BITE.
9. Close fan cowl on the associated engine.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

74-01-02-01B ETOPS NOT allowed:

Normal operation of the operable ignition system may be confirmed as follows:

1. Set Ignition Select switch to IGN R for starting the associated engine.
2. After engine start, set Ignition Select switch to BOTH.

74-01-02-02A and 74-01-02-02B:

Normal operation of the operable ignition system may be confirmed as follows:

1. Set the Ignition Select switch to IGN R for starting the associated engine for airplanes not equipped with R913/R914 Power Sense relays.
2. After engine start, set the Ignition Select switch to BOTH.

77 – ENGINE INDICATING

77-02 N1 Tachometers

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
77 - Engine Indicating					
77-02	N1 Tachometers				
77-02-02					
77-02-02-02	Reference N1 Bugs	C	2	1	
77-02-02-03	Manual Set Indication	C	2	0	

PLACARDING:

Apply sticker adjacent to affected N1 Indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

ENGINE #____ N1 MANUAL BUGS INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

77-05 Vibration Indicating Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
77 - Engine Indicating					
77-05	Vibration Indicating Systems				
77-05-02		B	2	1	(M) One may be inoperative provided an approved vibration monitoring maintenance reliability program is in place and no adverse trends have been recorded prior to flight.

NOTE: Operating the airplane with one number 1 bearing vibration sensor deactivated per AMM 77-31-05/201 meets all design flight deck engine vibration Indication and 14 CFR Part 25 requirements (refer to Boeing Service Letter 737-SL-77-016), and therefore MEL relief is not required.

PLACARDING:

Apply sticker adjacent to affected vibration indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(#1)(#2) VIBRATION INDICATOR - INOP

(M) MAINTENANCE PROCEDURES:

Contact Maintenance Control for the latest engine vibration trend monitoring data.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

77-09 Abnormal Start Indication Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
77 - Engine Indicating					
77-09	Abnormal Start Indication Systems	C	2	0	

PLACARDING:

Apply placard adjacent to affected EGT Indication(s) - ABNORMAL START INDICATING INOP

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(#1)(#2)(BOTH) ABNORMAL START INDICATION SYSTEM(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

78 – Engine Exhaust

78-01 Thrust Reverser Systems

SYSTEM & SEQUENCE NUMBER / ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
78 – ENGINE EXHAUST				
78-01 Thrust Reverser Systems				
78-01-03	C	2	1	(M)(O) One may be inoperative provided: a) Thrust reverser is locked in forward thrust position, and b) Appropriate performance adjustments are applied.

PLACARDING:

Apply sticker to affected Thrust Reverser lever.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) THRUST REVERSER INOP

(M) MAINTENANCE PROCEDURES:

1. Deactivate and secure the associated thrust reverser (AMM 78-00-00/901).

   NOTE: With the thrust reverser secured closed, one or both sync locks may be inoperative provided the sync lock is verified to be in the locked position.

2. Prevent movement of the reverse thrust handle by any appropriate means (e.g. lockwire the thrust reverser handle to the appropriate forward thrust lever).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

NOTE: Thrust reverser deactivation per AMM can result in the illumination of the MASTER CAUTION and ENG annunciation when performing a Master Caution recall.

1. Use of reverse thrust is left to the discretion of each carrier. Techniques for controlling the aircraft with unsymmetrical reverse thrust should be developed and used in training.
2. The wet runway/obstacle limited weight and associated V1 must be reduced to account for the inoperative thrust reverser. Refer to the Takeoff and Landing Section of the Flight Planning and Performance Manual for the appropriate penalties.

3. Prior to landing, set the GROUND PROXIMITY RUNWAY INHIBIT switch to RUNWAY INHIBIT (if the Overrun Warning System and GROUND PROXIMITY RUNWAY INHIBIT switch are installed).

78-07 REVERSER Lights (Aft Overhead Panel)

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
78 – ENGINE EXHAUST					
78-07	REVERSER Lights (Aft Overhead Panel)	C	2	1	(M)(O) One may be inoperative provided associated reverser is locked in closed (forward thrust) position.

PLACARDING:

- Apply sticker adjacent to affected REVERSER light.

  and

- Apply sticker to affected Thrust Reverser Lever.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) THRUST REVERSER LIGHT (AFT OVERHEAD PANEL) INOP.
REVERSER LOCKED IN FORWARD POSITION

(M) MAINTENANCE PROCEDURES:

Deactivate and secure the affected thrust reverser (see MEL Item 78-01 Maintenance procedure).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Use MEL Item 78-01 Operations procedure.

79 – Engine Oil

79-01 Oil Quantity Indication Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
79 – ENGINE OIL					
79-01	Oil Quantity Indication Systems	B	2	1	(M) Except for ER operations, one may be inoperative provided: a) Oil tank is filled to maximum recommended capacity at each refueling, b) There is no evidence of above normal oil consumption or leakage, and c) Associated low oil pressure warning system operates normally.

PLACARDING:

Apply sticker adjacent to affected Oil Quantity Indicator.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) ENGINE OIL QUANTITY INDICATOR INOP

(M) MAINTENANCE PROCEDURES:

Service affected oil system and verify that there is no evidence of oil leakage or above normal consumption (AMM 79-00-00/901).

1. Within 30 minutes of engine shutdown, replenish engine oil if necessary per AMM 12-13-11.
2. Check airplane flight log and maintenance records to make sure oil consumption is within limits.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE:

Verify normal operation of low oil pressure warning during engine start.

79-02 Oil Filter Bypass Warning Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
79 – ENGINE OIL					
79-02	Oil Filter Bypass Warning Systems				
79-02-01		C	2	1	(M#) One may be inoperative provided: a) Malfunction is in warning system, and b) Oil filter is inspected for presence of contaminants once each flight-day.
79-02-02		C	2	1	(M#) One may be inoperative provided: a) Malfunction is in the warning system, b) All three Magnetic Chip Detectors are inspected for presence of contaminants once each flight-day, and c) Oil supply filter pop-out indicator is confirmed not extended once each flight-day.

PLACARDING:

Apply sticker adjacent to affected Oil Filter Bypass Light or alert indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) OIL FILTER BYPASS WARNING SYSTEM INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

79-02-01 Inspect Oil Filter:

Verify the cause of malfunction and inspect oil filter for contamination (AMM 79-00-00/901).

1. Remove the scavenge oil filter element (AMM 79-21-06/401).
2. Visually inspect the scavenge oil filter element. If the filter element is not contaminated, the malfunction is in the bypass warning system.
3. Visually inspect the scavenge oil filter element for contaminants once each flight day.

79-02-02 Insect MCDs:

For dispatch, perform the following verification steps once each flight day (AMM 79-00-00/901):

1. Verify the malfunction is in the bypass warning system:
   a) Verify presence of fault code 79-n112x on the FMC CDU (AMM 73-21-00/501).
   b) If fault code 79-n112x is not present, access the CDU INPUT MONITORING / OIL FILTER screen on the FMC CDU and verify FILTER BYPASS state is "CLOGGED", which corresponds to the following FILTER INPUTS displayed on the FMC CDU: Switch 1 (Channels A and B) OPEN, Switch 2 (Channels A and B) CLOSED.
2. Inspect all three Magnetic Chip Detectors for contaminants (AMM 79-00-00/601).
3. Verify the oil supply filter pop-out indicator is not extended.(AMM 79-00-00/601).
4. If Magnetic Chip Detectors inspection reveals no contaminants and oil supply filter pop-out indicator is not extended, then the malfunction is in the warning system.

(O) OPERATIONS PROCEDURES:

None required.

79-04 Oil Low Pressure Warning Systems

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
79 – ENGINE OIL					
79-04	Oil Low Pressure Warning Systems	B	2	0	May be inoperative provide associated oil pressure, oil temperature, and oil quantity indicators operates normally

PLACARDING:

Apply sticker adjacent to upper display unit.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) LOW OIL PRESSURE WARNING SYSTEM(S) INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

80 - Starting

80-01 Starter Valve Open Indications

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
80 - STARTING					
80-01	Starter Valve Open Indications				
80-01-02		C	2	1	(O) One may be inoperative provided it is checked after engine start that associated valve is closed.

NOTE: The associated PRSOV will be commanded closed when the START VALVE OPEN light is inoperative ON and PRSOV is considered not used. This will result in loss of the associated engine bleed. MEL Item 36-05 Operational (O) restrictions for PRSOV inoperative closed must be observed.

PLACARDING:

Apply sticker adjacent to affected Start Valve Open Indication.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) ENGINE START VALVE OPEN INDICATION INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

Check that the associated start valve is closed after engine start.

1. Use normal start procedures except for the following:
   a) prior to selecting ENGINE START switch to GRD position note the duct pressure.
   b) For airplanes without automatic ignition, as ENGINE START switch moves to OFF, verify that duct pressure returns to the pre-start value or higher.
   c) For airplanes with automatic ignition, as ENGINE START switch moves to AUTO, verify that duct pressure returns to the pre-start value or higher.
2. If duct pressure does not return to the prestart value or higher, dispatch is not allowed. In this case, shutdown the affected engine as follows:
   a) Position the ISOLATION VALVE switch to CLOSE.
   b) Position the affected engine BLEED air switch to OFF.
   c) If the affected engine is the left engine and APU bleed air is being used, position the APU BLEED air switch to OFF.
   d) Remove ground air source, if being used.
   e) Set the affected engine start lever in the CUTOFF position.

80-02 Engine Starter Auto Cutout

SYSTEM & SEQUENCE NUMBER	ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
80 - STARTING					
80-02	Engine Starter Auto Cutout				
80-02-03		C	2	0	May be inoperative provided flight crew manually selects Start Switch OFF or AUTO at 55% N2.

NOTE: This item provides relief for the ENGINE START switch holding solenoid not releasing at the N2 cutout speed and/or the solenoid not holding the ENGINE START switch in the GRD position.

PLACARDING:

Apply sticker adjacent to affected Engine Start Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) (BOTH) ENGINE STARTER AUTO CUTOUT INOP

(M) MAINTENANCE PROCEDURES:

None required.

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

None required.

OPERATIONS NOTE

1. Position ENGINE START switch to GRD and hold if required.
2. Without automatic ignition:
   Position ENGINE START switch to OFF at 55% N2 RPM.
3. With automatic ignition:
   Position ENGINE START switch to AUTO at 55% N2 RPM.

80-03 Starter Valves

SYSTEM & SEQUENCE NUMBER ITEM	1. CAT	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
80 - STARTING				
80-03 Starter Valves				
80-03-03	C	2	1	(M)(O) Except for ER operations, one may be inoperative provided: a) Associated start valve indication operates normally, and b) Manual override start procedures are used.

PLACARDING:

Apply sticker adjacent to affected Engine Start Switch.

OTHER INSTRUCTIONS:

Print the following information in the journey log sheet.

(LEFT) (RIGHT) ENGINE START VALVE INOP

(M) MAINTENANCE PROCEDURES:

Observe engine ground safety precautions and use Start the Engine Procedure (Manual Override of the Starter Air Valve) (AMM 71-00-00).

(M#) MAINTENANCE PROCEDURES:

None required.

(O) OPERATIONS PROCEDURES:

NOTE: Inflight Engine Start: For engines shut down more than one hour, a windmill start may not be

1. Perform normal start procedure with following additions:
   a) When positioning associated ENGINE START switch to GRD position, instruct ground crew to open start valve.
   b) Inform ground crew when N2 is rotating.
   c) Instruct ground crew to close the start valve when indication is 56% N2 RPM.
   d) Without automatic ignition:
   Verify that the ENGINE START switch moves to OFF.
   e) With automatic ignition:
   Verify that the ENGINE START switch moves to AUTO.

NOTE: If an inflight engine start is necessary, a crossbleed start will not be available on the associated engine. Ensure that airspeed is sufficient for a windmill start.

Air Inuit

Non-essential Equipment and Furnishings (NEF) List

Revision 3
2026 01 13

This program provides additional information Passenger and Crew Convenience items and / or Non-Essential Equipment and Furnishings.

1.0 TABLE OF CONTENTS

SECTION 1 – GENERAL

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1.1 INTRODUCTION

AIR INUIT has developed a Non-essential Equipment and Furnishings policy and procedures program based in part using the following documentation:

- TC NEF MMEL Guidance book (item 25-20-1) Rev 8 (2021-05-05)
- TC MMEL Global change GC1 until GC12
- TC TP9155
- FAA Order 8900.1, Volume 4, Chapter 4
- FAA NEF Universal List (attachment to PL-116)

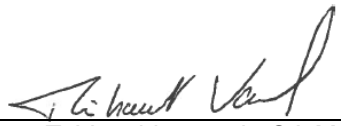
AIR INUIT operates its aircraft under CAR 702, 703, 704 and 705 operating rules.

NEF are those items installed on the aircraft as part of the original type certification, supplemental type certificate, or other form of alteration that have no effect on the safe operation of flight and would not be required by the applicable certification rules or operational rules. They are those items that, if damaged, inoperative, or missing, have no effect on the aircraft's ability to be operated safely under all operational conditions.

1.2 COMPLIANCE STATEMENT

Statement of Compliance.

Under the provisions of subsection 706.08 (2) of the Canadian Aviation Regulations, for an Incorporated by Reference document, I certify that the current Non-Essential Equipment and Furnishings List meets the requirements of the company established Maintenance Control Manual.



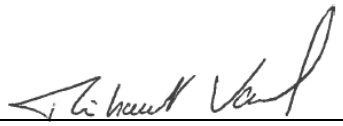
T. Vanalderwerelt, QA Manager

2024 03 12
Date:

1.3 LIST OF EFFECTIVE PAGES

The following “list of effective pages” indicates the current revision status of each page of this manual.

Page No.	Revision Number	Revision Date
1	0	February 14, 2024
2	0	February 14, 2024
3	3	January 13, 2026
4	2	December 10, 2025
5	3	January 13, 2026
6	1	July 12, 2024



Person Responsible for Maintenance or QA Manager- AIL

2026 01 13
Date:

1.4 NEF ITEM LIST

NEF ITEM #	NEF ITEM	Required by Design Standard	Required by OPS Rule	Effect on Flight Safety	Repair Interval	"M"/"O" Procedure
CABIN ITEM						
CAB-1	Cabin Flooring "coin dot" damaged or scuffed)	No	No	No	D	None
CAB-2	Seat covers (Worn/Dirty/Stained)	No	No	No	D	None
CAB-3	Cosmetic Liners (Dents or Scratches)	No	No	No	D	None
CAB-4	Cosmetic Trims (Damage or Missing)	No	No	No	D	M: Use speed tape if required.
CAB-5	Carpet (worn or dirty)	No	No	No	D	None
CAB-6	Armrests (cosmetic damage or dirty)	No	No	No	D	M: Use speed tape if required.
CAB-7	Ashtray cover in seat arm (damaged or missing)	No	No	No	D	M: Cover opening with speed tape.
CAB-8	Seat track covers (damaged or missing)	No	No	No	D	M: Removed damaged section.
CAB-9	Non-structural panels/fairings (cosmetic/damage)	No	No	No	D	M: Use speed tape if required.
CAB-10	Table tray (damaged)	No	No	No	D	M: Remove or secure in upright position.
CAB-11	Reading Light/Lens (U/S or missing)	No	No	No	D	None
CAB-12	Individual Gasper Vents (U/S)	No	No	No	D	None
CAB-13	Under seat electrical connections for Passenger Convenience Items	No	No	No	D	None
CAB-14	Cup holder (damaged or missing)	No	No	No	D	None
CAB-15	Cabin Window Roller Blinds (Inop or damaged)	No	No	No	D	None
CAB-16	Cabin Curtain/Curtain Track (Damaged or missing)	No	No	No	D	None
CAB-17	Seat Belt extension (missing or damaged)	No	No	No	D	O: Sufficient Extension is available to accommodate passengers
CAB-18	Fire containment Bag (missing or damaged)	No	No	No	D	None
CAB-19	Under seat restraining bar(missing or damaged) - **Only applicable to DHC6**	No	No	No	D	O: No baggage stow under the seat with missing or damaged retrain system.
CAB-20	Passenger entertainment system (Bluebox/Starlink)	No	No	No	D	None
COCKPIT ITEM						
COC-1	Seat covers (worn/dirty/stained)	No	No	No	D	None
COC-2	Cosmetic Liners (dents or scratches)	No	No	No	D	None
COC-3	Cosmetic Trims (damaged or missing)	No	No	No	D	M: Use speed tape if required.
COC-4	Logbook holder (Damaged or Missing)	No	No	No	D	None
COC-5	Circuit Breaker Maintenance Clip Holder (Damage or Missing)	No	No	No	D	None
COC-6	Spare Bulb Kit (Missing or incomplete)	No	No	No	D	None

NEF ITEM #	NEF ITEM	Required by Design Standard	Required by OPS Rule	Effect on Flight Safety	Repair Interval	"M"/"O" Procedure
COCKPIT ITEM						
COC-7	Sunvisor(damaged or missing)	No	No	No	D	M: Removed
COC-8	USB port(U/S) - **Only applicable to DHC6**	No	No	No	D	O: refer to EFB Operating Procedure AILO-0022.10
COC-9	Cup holder (damaged or missing)	No	No	No	D	None
COC-10	Pilot/First Officer Footrests	No	No	No	D	M: Secure in upright position
COC-11	Gasper vents	No	No	No	D	None
COC-12	Fire containment Bag (missing or damaged)	No	No	No	D	None
COC-12	Map holder Stowage Box (damaged or missing)	No	No	No	D	None
COC-13	Observer Headset (US or Missing)	No	No	No	D	None
COC-14	Noise cancelling	No	No	No	D	None
COC-15	Company David-Clark or Telex Headset Can be U/S/ damaged or missing	No	No	No	D	O: Cockpit Speaker and hand microphone must be tested serviceable before flight or alternate headset is used.
GALLEY ITEM						
GAL-1	Oven (U/S or missing)	No	No	No	D	M: If U/S pull Circuit Breaker
GAL-2	Coffee Maker/Hot jug (U/S or missing)	No	No	No	D	M: If U/S pull Circuit Breaker
GAL-3	Trolley (damaged)	No	No	No	D	None
GAL-4	Galley Light/Lens (U/S or Missing)	No	No	No	D	None
GAL-5	Galley Curtain (Damaged or Missing)	No	No	No	D	None
CARGO COMPARTMENT						
CAR-1	B737 Main Cargo Door Sill missing/damaged	No	No	No	D	O: No Cargo on Main Deck
CAR-2	Cargo Light/lens U/S or missing	No	No	No	D	None
CAR-3	Cargo Door Lanyard (Missing or damaged)	No	No	No	D	None
LAVATORY ITEM						
LAV-1	Toilet Roll Holder Assembly	No	No	No	D	None
WINTER EQUIPMENT ITEM						
EQUIP-1	Engines or Battery Heater (Missing or damaged)	No	No	No	D	M: Pull Breaker
EQUIP-2	Engine Tents (Missing or damaged)	No	No	No	D	None
EQUIP-3	Extension Cord (Missing or damaged)	No	No	No	D	None
EQUIP-4	Engine Plugs (Missing or damaged)	No	No	No	D	None
EQUIP-5	Prop Ties (Missing or damaged)	No	No	No	D	None
EQUIP-6	Pitot Cover (Missing or damaged)	No	No	No	D	None

1.5 NEF ITEM DEFERRAL PROCEDURE

All defects will be entered in the aircraft Journey Logbook. Once a defect has been established as being deferrable per NEF section of the aircraft applicable MEL and by the restrictions set forth in Section 1.7 of applicable MEL, the following procedure will be used.
(It is advisable that defects deferred by flight crew be reviewed by maintenance at the earliest opportunity.)

The logbook procedure is the same as the MEL logbook procedure with the exception that the MEL number will be the applicable Aircraft NEF MEL section number follow by the NEF Item number from the NEF Item List of this manual.

Aircraft MEL NEF section number are as follow:

- **BE300: MEL ITEM 25-20**
- **DHC6-300: MEL ITEM 25-05**
- **DHC8-100/300: MEL ITEM 25-11**
- **B737-200: MEL ITEM 25-10**
- **B737-300: MEL ITEM 25-10**
- **B737-800: MEL ITEM 25-10**

For example:

- If on a DHC8-100, you have a passenger seat cover worn, your entry will be as follows:

"This Aircraft is released under MEL ATA Number 25 Item number 11-CAB-2; Category D;"

- For the same snag on a B737-200, your entry will be:

"This Aircraft is released under MEL ATA Number 25 Item number 10-CAB-2; Category D;"

1.6 NEF ITEM LIST AMENDMENT

1.6.1 Amendment Procedures

Item can be added to the NEF at company convenience, refer to procedure detailed in Air Inuit MCM section 5.9.6.1.2