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MEL Preamble

The following is applicable for authorized certificate holders operating under Title 14 Code of Federal Regulations (14 CFR) Parts 121, 125, 129, 135: 14 CFR require that all equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Rules must be operative. However, the Rules also permit the publication of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide an acceptable level of safety.

A Master Minimum Equipment List (MMEL) is developed by the FAA, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The FAA approved MMEL includes those items of equipment related to airworthiness and operating regulations and other items of equipment which the Administrator finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. The MMEL is the basis for development of 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 by the Administrator. An operator's MEL may differ in format from the MMEL, but cannot be less restrictive than the MMEL. The individual operator's MEL, when approved and authorized, permits operation of the aircraft with inoperative equipment. Equipment not required by the operation being conducted and equipment in excess of 14 CFR 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 is important to remember that all equipment related to the airworthiness and the operating regulations of the aircraft not listed on the MMEL must be operative.

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

The MEL is intended to permit operation with inoperative items of equipment for a period of time until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability, the MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment.

The MEL provides for release of the aircraft for flight 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/Logbook as prescribed by 14 CFR (see TOPP 50-10-05). The item is then either repaired or may be deferred per the MEL or other approved means acceptable to the Administrator prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative. When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/Logbook entry, or other approved documentation is issued as prescribed by 14 CFR. Such documentation is required prior to operation with any item of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. When operating with multiple inoperative items, the interrelationships between those items and the effect on aircraft operation and crew workload will 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.

Delta's MEL/CDL Authority and Scope

14 CFR provides for conditional deviations from the airworthiness of various systems and components for a given type of aircraft. These items are listed for each aircraft type in the FAA Approved Master Minimum Equipment List and FAA Approved Airplane Flight Manual. Delta develops and maintains a FAA-approved Minimum Equipment List (MEL) and Configuration Deviation List (CDL) as authorized for use in Delta's Operations Specifications D95 (see TOPP 20-00-05).

The intent of Delta's MEL/CDL is to permit aircraft operation with certain inoperative systems/components for a specified period of time until repairs can be accomplished. The MEL/CDL remains active until the necessary action is taken to correct the discrepancy, or until the MEL expiration has been reached.

Under no circumstances may an inoperative or missing system/component, which will affect the airworthiness of an aircraft, be deferred unless specifically authorized by the MEL, CDL or NEF for the type of aircraft involved. Any item not specifically covered in the MEL/CDL/NEF is a no-go item.

MEL and CDL requirements will specify the installation of an aircraft placard for affected system/components, and can impose restricted flight release and/or require repetitive checks.

Delta's MEL contains applicable items from the Master MEL and certain Administrative Control Items (ACI) which may not be listed in the Master MEL. The CDL also lists items that may be missing from the aircraft as contained in the Approved Airplane Flight Manual (AFM) Configuration Deviation List (CDL).

The provisions and limitations of the MEL/CDL are applicable for the "Dispatch" of an aircraft only. For the Delta MEL/CDL purposes, "Dispatch" is defined as the advancement of throttles for the purpose of taking off (takeoff event).

If a component or function becomes inoperative following the takeoff, the MEL/CDL does not apply. If the takeoff is aborted for any reason, the MEL/CDL provisions and limitations become applicable once again.

Revision Effectivity

The List of Effective Pages (LEPs) will have the stamp, date, and signature of the Principal Operation Inspector (Delta – Certificate Management Office) indicating FAA approval of the revision. The date of each individual page will be listed in the LEP body. The MCC Home Page will contain the official version of the MEL/CDL. All other copies will be updated within 21 days.

During the period that the revision is being processed for publication and distribution, the newly revised MEL/CDL may be used for dispatch provided it is ensured that a copy of the revised MEL/CDL page(s) is available to the affected aircraft (to be seen by the current and subsequent pilots) and other appropriate personnel.

A Temporary Revision (TR) may also be published to the MEL/CDL between normal revisions at the discretion of the MEL Program Manager, and will be permanently incorporated into the MEL/CDL at the next revision opportunity. TRs are printed on yellow paper with the effective date in the upper corner of each page, and are not reflected in the LEPs. A MEL revision or TR becomes effective on the date of approval by the FAA Principal Operations Inspector (Delta - Certificate Management Office). The CDL is derived from the AFM, and does not gain separate FAA approval.

If an MEL/CDL revision has been published that changes either the MEL/CDL item number, (M) procedures, (O) procedures, deactivation procedures, or expiration limit, the MEL/CDL restrictions and procedures that were in place at the time of deferral will remain in effect until the MEL/CDL is cleared or extended.

Change Requests

Personnel may request changes to the MEL/CDL by emailing: MELGroup, ATG088. To ensure proper routing of the request, please indicate aircraft type and attach any pertinent information. The MEL/CDL Program Manager will record all requests for consideration during the next routine revision cycle.

Definitions

1. **Accessible Lavatory Items** - Under 14 CFR 382.63, accessible lavatory items include: ability to enter lavatory and maneuver by means of on-board wheelchair. The lavatory shall provide accessible door locks, call buttons, grab bars, faucets, other controls, and dispensers. As an air carrier, you must maintain all aircraft accessibility features in proper working order, per 14 CFR 382.71. The accessible lavatory requirement, in part, applies to aircraft with more than one aisle in which lavatories are provided per 382.63(a). Aircraft operators are not required to retrofit cabin interiors of existing aircraft to comply with the requirements of 382.63.

2. **Administrative Control Item (ACI)** - An item listed by the operator in the MEL for tracking and informational purposes. As an example, ACI may be used to track ETOPS accomplishment of required APU cold-soak, or in-flight verification starts on two engine aircraft. It may be added to an operator's MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e., Structural Repair Manual, Airworthiness Directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the Administrator. If the request results in review and approval by the FOEB, the item becomes an MMEL item rather than an administrative control item.

3. **Airplane Flight Manual (AFM)** - The document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.

4. **Autoland** – An autopilot coupled precision instrument approach to landing and rollout on those aircraft that are rollout equipped.

5. **CFR** – The applicable portions of the Code of Federal Regulations.

6. **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 shall not be used or operated until the original deferred item is repaired. Additional actions include: documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures and observing the repair category.

7. **Contact MCC -** under NAME/DESCRIPTION means that the Maintenance Coordinator must be notified prior to takeoff. If the discrepancy is found prior to pushback, the Maintenance Coordinator must be notified before leaving the gate. This designation is for heightened awareness for certain MEL items requiring MCC review, but not requiring Flight Superintendent (Dispatcher) approval. For example, this statement can be used to alert MCC personnel to items that have short time deferral limits, (Category “A”’ “B”, items), repetitive maintenance checks, or items of high customer impact.

8. **Dash (-**) – Indicates a variable number (quantity) of the instrument and equipment items may be 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.

9. **Day** - means the time between the beginning of morning civil twilight and the end of evening civil twilight, or approximately 30 minutes before official local sunrise and 30 minutes after official local sunset.

10. **Day of Discovery** - The calendar day an equipment / instrument malfunction was recorded in the aircraft maintenance log and/or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative instrument and/or equipment item. This provision is applicable to all MMEL items, i.e., category's "A, B, C and D" and is based on UTC time (see MEL Instructions).

11. **Deactivated and Secured** - 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.

12. **DISP. APPR. REQ'D."** - Under NAME/DESCRIPTION, means that the approval of the controlling Flight Superintendent (Dispatcher) is required prior to takeoff. If the discrepancy is found prior to pushback, the approval must be received before leaving the gate. This approval is necessary to ensure that Flight Planning issues which result from this MEL/CDL item have been appropriately considered.
    Any of the following constitute Dispatcher approval:
    - The MEL item number and description are indicated on the Flight Plan.
    - The Captain has received an amended release adding the MEL item number and description.
    - The Dispatcher and the Captain have communicated by telephone or radio and have agreed on the conditions of the dispatch.

13. **Electronic Fault Alerting Systems** - New generation aircraft display system fault indications to the flight crew by use of computerized display systems. Each aircraft manufacturer has incorporated individual design philosophies in determining the data that would be represented. The following are customized definitions (specific to each manufacturer) to help determine the level of messages affecting the aircraft's dispatch status.

    For the B747, B757, B767, B777:
    - Boeing airplanes equipped with Engine Indicating and Crew Alerting Systems (EICAS), provide different priority levels of system messages (WARNING, CAUTION, ADVISORY, STATUS and MAINTENANCE). Any messages that affect airplane dispatch status will be displayed at a STATUS message level or higher. The absence of an EICAS STATUS or higher level (WARNING, CAUTION, ADVISORY) indicates that the system/component is operating within its approved operating limits or tolerances.
    - System conditions that result only in a MAINTENANCE level message (i.e., no correlation with a higher level EICAS message) do not affect dispatch and do not require action other than when required during accomplishment of a Lower Order Check, Job Instruction Card, etc.
    - The EICAS section of the MEL contains an EICAS Message List which includes System Alert (Warning, Caution, Advisory), Status level and Comm level messages and possible corresponding MEL relief.

    For the B717:
    - B717 aircraft are equipped with an alerting function which is a subsystem within the Electronic Instrument System (EIS). The alerting function provides various levels of system condition alerts (WARNING, CAUTION, ADVISORY, MAINTENANCE and STATUS). Alerts that affect aircraft dispatch will include WARNING, CAUTION, STATUS or MAINTENANCE level. MAINTENANCE alerts are displayed on the status page of the EIS display panel under the maintenance heading. A MAINTENANCE alert on the EIS indicates the presence of a system fault which can be identified by the Central Fault Display System (CFDS) interrogation. The systems are designed to be fault tolerant, however, for any MAINTENANCE alert, the MEL must be verified for dispatch purposes.
    - The EIS section of the MEL contains an EIS Message List which includes alert messages and possible corresponding MEL relief.

For the A319/320, A330:

- Airbus aircraft equipped with Electronic Centralized Aircraft Monitoring (ECAM) provide different levels of system condition messages {WARNING (red), CAUTION (amber)}. On A319/320 and A330, the ECAM STATUS page also provides MAINTENANCE STATUS messages.
- Any message that affects airplane dispatch is displayed at the WARNING or CAUTION level. For A319/320, MAINTENANCE STATUS messages may also affect airplane dispatch.
- System faults that result only in messages on the Central Maintenance System (CMS) (for A330) or on the Centralized Fault Display System (CFDS) (for A319/320) do not affect airplane dispatch and do not require action other than as addressed within the aircraft operator's standard maintenance program.
- The ECAM Messages section of the MEL contains an ECAM Message List which includes Class I (WARNING, CAUTION) and Class II (MAINTENANCE) status messages along with corresponding MEL relief.

14. **ER** or **ETOPS** - Refers to extended range operations for turbine–engine–powered passenger–carrying airplanes with two engines, whose flight planned routing contains a point farther than 60 minutes flying time from an adequate airport, computed using a one–engine–inoperative cruise speed under standard conditions in still air.

15. **ETO** deferral codes may be used when conditions occur where it becomes necessary to restrict ETOPS flight operations. In these cases, the MCC will determine the requirement for restricting the aircraft from ETOPS operations. Technicians at the station will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate ETO deferral code. These deferrals will restrict the aircraft to either 60 minutes or 120 minutes. Refer to MEL Chapter 05 ER (ETOPS). This deferral code requires MCC authorization prior to its usage or removal.

16. **Extended Overwater Operation or Flight** - An operation overwater at a horizontal distance of more than 50 nautical miles from the nearest shoreline.

17. **Flight Cycle** - One aircraft takeoff and subsequent landing.

18. **Flight Day** - A 24 hour period (from midnight to midnight) using UTC time, during which at least one flight is initiated for the affected aircraft.

19. **Flight Hours** - The time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing (i.e., takeoff to landing time). "Flight hours" is identical to "time in service" as defined in 14 CFR.

20. **Heavy Maintenance Visit (HMV)** - As used in this MEL is a scheduled L/H/M, PSV, HMV or C-check.

21. **Icing Conditions** - An atmospheric environment that may cause ice to form on the aircraft (Structural) or in the engine(s) (Induction).

    - **Aircraft (Structural) Icing** is present when the aircraft surface temperature is between 0 degrees C and –40 degrees C and visible moisture in any form is present (such as clouds, fog with visibility of one mile or less, rain, snow, sleet and ice crystals).

    - **Engine (Induction) Icing** is present when the OAT, TAT or RAT is 10 degrees C or below and visible moisture in any form is present (such as clouds, fog with visibility of one mile or less, rain, snow, sleet and ice crystals).

22. **Instrument Meteorological Conditions (IMC) –** Meteorological conditions such as to require the flight to be conducted under Instrument Flight Rules.

23. **Inoperative** - When a system and/or component malfunctions 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).

24. **Inoperative components of an inoperative system** - Inoperative instrument and equipment 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.)

25. **Is not used** – As stated in the provisos, remarks or exceptions for an MMEL instrument or equipment 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 aircraft 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. This informs crewmembers that an instrument or equipment item is not to be used under normal operations.

26. **Known or Forecast Windshear Conditions:**
    - Occurring at or below 1,000 feet,
      AND
    - Resulting in a loss or gain of greater than 15 knots indicated airspeed.

27. **LLM –** The definition of LLM when used in this manual is as follows:
    A. The FAA approves CAT II/III OpSpec's which allow aircraft to land in reduced weather minimums or Lower Landing Minimums (LLM). The LLM program allows an aircraft to be dispatched to Category II and/or III conditions as outlined in the aircraft Minimum Equipment List. The aircraft Auto Flight System may be utilized for LLM CAT I operations, or in some cases, CAT II and/or CAT III, depending on the item. The CAT II/III restriction will be noted in the MEL/CDL.
    B. The LLM CAT II/III status of an aircraft may be deferred and placarded by using the MEL deferral code. Several examples of where an LLM deferral will be implemented are:
        1) Aircraft was returned to service after unsuccessful autoland, but maintenance procedures were accomplished by non-Auto Flight Qualified (AFQ) authorized personnel which downgraded the aircraft from CATIII.
        2) An Autoflight system has had similar repetitive discrepancies.
        3) The scheduled auto land system check has not been accomplished.
    C. The LLM deferral code requires MCC authorization prior to its usage or removal. The aircraft LLM status is upgraded to CAT III by using maintenance procedures which must be accomplished by AFQ authorized personnel allowing removal of the LLM deferral.
    D. The following definitions should be used when making MEL compliance or aircraft equipage decisions prior to the dispatch event. Equipment failures that occur after that event will be referenced in the appropriate AOM (ILS Airborne Equipment Requirements). The values referenced below are not intended to reduce the minimum values published on any approach chart or reduce any crew qualification restriction.
        1) Basic Turbojet Minimums - A precision or non-precision approach to no less than RVR 4000 (1200m) or ¾ SM (1200m) visibility, and a DH of no less than 200 ft or MDH of no less than 250 ft Category I Non-ILS - A non-precision approach to no less than RVR 2400 (550m) or ½ SM (800m) visibility, and a MDH of no less than 250 ft.
        2) Category I ILS - A precision approach to no less than RVR 1800 (550m) or ½ SM (800m) visibility, and a DH of no less than 200 ft.
        3) Category II - A precision approach to no less than RVR 1000 (300m) and a DH of no less than 100 ft. (Autoland required)
        4) Category III - A precision approach to no less than RVR 300 (75m) and an AH of no less than 50 ft. (Autoland required)

28. **Local calendar day** - Means a 24-hour period (from midnight to midnight local time).

29. **(M) PROCEDURES** - The "(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. Other personnel may include, but are not limited to Aircraft Maintenance Technicians, Flight Crews and Ramp Personnel. Procedures requiring specialized knowledge or skill or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures (M) PROCEDURES, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are published in this MEL/CDL.

30. **Non-Combustible Materials** - Materials that will not take fire and burn (e.g., sand).

31. **Nonessential Equipment and Furnishings (NEF)** - 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 inoperative, damaged or missing have no effect on the aircraft's ability to be operated safely under all operational conditions. These nonessential items may be installed in areas including, but not limited to, lavatories, and galley areas. NEF items are not instrument and equipment items already identified in the MEL or CDL of the applicable aircraft. They do not include instrument and equipment items that are functionally required to meet the certification rule or for compliance with any operational rule. See TOPP 40-40-08.

32. **Notes** - As found under the "REMARKS or EXCEPTIONS" column provide additional information for flight crew, maintenance, or other personnel. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

33. **(O) PROCEDURES** - The "(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 (pilots); 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 published in this MEL/CDL.

34. **Operative** - An operative system and/or component will accomplish its intended purpose and is consistently functioning normally within its design operating limit(s) and tolerance(s). When an MEL 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 MEL item specifies that an item of equipment must be verified operative, it means that it must be checked and confirmed operative at the interval(s) specified for that MEL item. When an MEL item specifies that an item of equipment must be verified but no interval is specified, verification is required only at the time of deferral. Other terminology sometimes used interchangeably with "operative" within the MEL is "operates normally", "fully operative", and "considered operative".

35. **Proviso –** Conditions or limitations that must be complied with for operation with the listed instrument or equipment item inoperative. Provisos are indicated by a number or a lower case letter in "Remarks and Exceptions".

36. **RNP-5 Status** (BRNAV) - Deferral code may be used when it is determined that RNP-5 (BRNAV) airspace operations cannot be used and no specific MEL relief applies. This deferral code requires MCC authorization prior to its usage or removal.

37. **RNP-10 Status -** Deferral code that may be used when it is determined that RNP-10 airspace operations cannot be used and no specific MEL relief applies. This deferral code requires MCC authorization prior to its usage or removal.

38. **RVSM Status** - Deferral code may be used when it is determined that RVSM operations cannot be used, no specific MEL relief applies and the aircraft must remain at or below FL280. This deferral code requires MCC authorization prior to its usage or removal.

39. **Takeoff** - Is the act of beginning a flight in which an aircraft is accelerated from a state of rest to that of flight. For the purposes of MEL relief, this translates to the point at which the pilot physically begins to apply power for the purpose of taking flight.

40. **Time In Service** - Means the time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing (as defined in 14 CFR). "Time In Service" is identical to "Flight Hours" (as defined in 14 CFR).

41. A **vertical bar (change bar)** - 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.

42. **Visible Moisture** - 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.

43. **Visual Flight Rules (VFR)** - Is as defined in 14 CFR. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

44. **Visual Meteorological Conditions (VMC)** – When 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.

MEL/CDL Format

The ATA System Page is divided into six (6) columns and contains: Item Number and Name/Description, Flight Crew May Placard, Number Installed, Number Required for Dispatch, Repair Category, and Remarks or Exceptions. The units on the Minimum Equipment List/Configuration Deviation List (MEL/CDL) are presented in accordance with the ATA chapter numbering system, and are coded by a six digit number. Under each ATA chapter code, the units are listed in a column by numerical sequence.

Within the complete MEL/CDL item, each associated sub-item is designated by a letter after each item number (24-00-01A, 24-00-01B, etc.). A sub-item may denote one or more of the following:

- Two or more alternatives available for dispatch ("or" item)
- Sub-system(s) of the Main MEL/CDL item
- Aircraft group applicability
- Types of operation for the MEL/CDL item (icing, no-icing, etc.)

The following provides an explanation of the scope and use of each of the columns as titled:

			(4) NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH (5)	
		(3) FLIGHT CREW MAY PLACARD		REPAIR CATEGORY (6)	
(1) ITEM NO.	(2) NAME/DESCRIPTION				REMARKS OR EXCEPTIONS (7)
21-00-XX	Air Conditioning Packs **"DISP.APPR.REQ'D."**	Y	2	0	C (8) **(M)(O)** Both may be inoperative provided flight is conducted in an unpressurized configuration.

1. ITEM NO. - This column lists the MEL/CDL Number in ATA Number format.
2. NAME/DESCRIPTION - Below the manufacturer's name of an item, the commonly used terminology for an item may be included in parenthesis. The term "DISP. APPR. REQ'D." in this column is explained in the section, MEL Definitions. The term “Contact MCC” is explained in the section, MEL Definitions. When aircraft numbers or types (e.g. -700 aircraft) are specified in this column, it signifies the applicability of the relief to these aircraft only. However, if no aircraft numbers or types are specified, the relief applies to all the aircraft in that fleet. When applicability is specified by AA compliance, the MCC should be contacted to determine AA completion status for the affected aircraft.
3. FLIGHT CREW MAY PLACARD - This column serves as additional reference to the pilots for items that qualify for Flight Crew Placarding. These items will be identified by the letter “Y”. Items NOT available for Flight Crew Placarding will be identified by the letter “N”. See Placarding Procedures.

   A “Y” in the Flight Crew May Placard column indicates all (M) or (O) PROCEDURES for that item may be performed or managed by the pilots (see MEL Definitions).
4. NUMBER INSTALLED - This column serves as a reference to the number of units installed on the aircraft. The number in this column will also be equal to or greater than the requirements in column five (Number Required For Dispatch).
5. NUMBER REQUIRED FOR DISPATCH - This column depicts the minimum number (quantity) of instrument and equipment items required for operation provided the conditions specified in the “Remarks or Exceptions” column are met.

   NOTE: Reference Numbers 4 and 5 above: When a specific number of units installed / required for dispatch cannot be determined due to the numerous fleet configurations, a dash (-) will be shown in the column and the special limitations will be shown under REMARKS or EXCEPTIONS Column.

6. REPAIR CATEGORY - This column denotes the repair category of the item. The timing for each category item is listed below. Items which are without a category identifier are either Administrative or CDL items and may be inoperative without limit as noted in the REMARKS or EXCEPTIONS column.

   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. For time intervals specified in "calendar days" or "flight days," the day the malfunction was recorded in the aircraft logbook is excluded. For all other time intervals (flights, flight legs, cycles, hours, etc.), repair tracking begins at the point when the malfunction is deferred in accordance with the operator's approved MEL.

   NOTE: Category "A" items are marked with background shading to highlight their significance.

   Category "B" - Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day the malfunction was recorded in the Aircraft Maintenance Record / Logbook. For example, if it were recorded at 10 a.m. on January 26th, the three day interval would begin at midnight on the 26th and end at midnight the 29th.

   Category "C" - Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day the malfunction was recorded in the Aircraft Maintenance Record / Logbook. For example, if it were recorded at 10 a.m. on January 26th, the 10 day interval would begin at midnight the 26th and end at midnight February 5th.

   Category "D" - Items in this category shall be repaired within one hundred twenty (120) consecutive calendar days (2880 hours), excluding the day the malfunction was recorded in the Aircraft Maintenance Record / Logbook.

   NOTE 1: Category "A" and "D" items cannot be extended beyond the maximum repair interval as specified in the Minimum Equipment List (MEL).

   NOTE 2: Category "B" and "C" items can be extended by the Shift Manager – MCC (see MEL Extensions).

7. REMARKS or EXCEPTIONS – This column may include a statement(s) either prohibiting or permitting operation with a specific number of instrument and equipment items inoperative, provisos (conditions and limitations) for such operation, appropriate notes, and repetitive check (see Repetitive Checks, this manual). Specific procedures which must be accomplished with the listed item inoperative are indicated by "(M)" and/or "(O)" symbols. The function of the (M) and (O) symbols is to denote that a procedure exists which must be conducted, and not to necessarily identify who accomplishes the procedure. The (M) and (O) PROCEDURE(s) will be listed in their entirety below the MEL item along with the applicable graphics and performance corrections, if any.

8. **(M) and (O) PROCEDURES** - Manufacturer's Procedures Manuals are used as a baseline to develop the procedures found in Delta's MEL/CDLs. The procedures found in manufacturer's Procedures Manuals are recommended by the manufacturer and are intended to be used as guidance for the operator in development of their own procedures. The MEL Program Group has the responsibility for developing all applicable (M) and (O) Procedures found in Delta MEL/CDLs (see TOPP 30-20-20).

   The (M) and (O) Procedures found in Delta MEL/CDLs may require accomplishment of various routine maintenance and/or pilot actions. In order to keep the size of MEL/CDLs manageable, normal procedures and associated warnings related to activating/deactivating aircraft electrical, pneumatic and hydraulic systems, operating flight controls or engines, etc., are not reproduced in Delta MEL/CDL (M) or (O) Procedures. These normal procedures and precautions are found in applicable TOPP documents, Aircraft Maintenance Manuals, Operations Manuals, Quick Reference Handbook, FOM, etc., and must be followed when accomplishing (M) and/or (O) Procedures.

For MEL items that restrict cargo loading (bin empty or only empty cargo handling equipment, ballast and fly-away kits), only the items listed below are approved for carriage in the affected bin(s).

- Ballast sand bags (bulk loaded or in ULDs)
- Empty ULDs (containers and/or metal pallets)
- CRAF Mission Fly-Away-Kits (contents listed below)

Main Wheel Assy (2 ea)	IDG Service Pot	WXR Trans
Nose Wheel Assy (2 ea)	Starter	MMR
85 Ton Jack (2 ea)	Start Valve	Radio Altimeter
Tire Dolly	ELMs Relay (3ea)	APU Battery
Torque Wrench	Ram Air Door Hinge (2 ea)	Battery Charger
MLG/NLG Socket	Ram Air Door Plate	Contactor
Oil Case (2 ea)	HF Trans	Engine A/I Valve

NOTE 1: Aircraft /APU battery and containers of hydraulic fluid (Skydrol), oil, and servicing equipment that contain fluids, must be removed from the fly-away kit and located within an operative bin.

NOTE 2: Verify Main and Nose Wheels are inflated to minimum shipping pressure of 50 psi.

Remarks on the Weight Data Record (WDR) will provide verification to flight crews that bin(s) is empty or contains only approved materials as listed above.

MEL Videos

Within the (M) PROCEDURES throughout the MEL you may find the following icon and text.

Link to Learning Video – (Example: 36-11-02A)

This icon will link the user to a TechOps Learning Video. It is not a mandatory requirement of the (M) PROCEDURES that the Learning Video be viewed.

The “Intro to the MEL” video below does not supersede the MEL Front Matter. It is not intended to be a substitute for the instructions in the MEL Front Matter or any referenced TOPP documents.

Link to Learning Video - Intro to the MEL

Disclaimer

Learning videos are intended to communicate basic ideas and concepts, and are not a substitute for approved manuals and work documents. Always refer to approved, controlled documentation or other stated reference material for the latest information when performing any maintenance or operations procedures.

Repetitive Check Requirements

The REMARKS or EXCEPTIONS column of some MEL/CDL items is annotated with "Repetitive Check Required (Yellow Placard)". A yellow placard will be installed per the MEL/CDL Instructions, and the Captain must ensure that required repetitive checks are accomplished by the appropriate personnel per the instructions for the MEL (see MEL Definitions).

NOTE: At non-maintenance stations where a pilot is not qualified to accomplish the check, contact the Maintenance Coordinator or ACS personnel per TOPP 40-20-15 and the FOM for help in procuring contract maintenance.

The four Repetitive Checks are:

A. PRIOR TO EACH DEPARTURE

It is the Captain's responsibility to manage these items by either checking the item himself or by advising Maintenance personnel a check is required. Enter the check into the Aircraft Log Book when "Log Book Entry Required" is listed in the MEL/CDL item.

NOTE: If a takeoff is aborted, the captain determines if it is necessary to repeat this type of check.

B. ONCE EACH FLIGHT DAY

The ONCE EACH FLIGHT DAY check is normally accomplished during a layover, but may be accomplished at any station as long as it is accomplished once each flight day. Enter the check into the Aircraft Log Book.

C. PRIOR TO THE FIRST FLIGHT OF THE DAY

The check must be entered into the Aircraft Log Book as being accomplished per MEL/CDL requirement.

D. CONDITIONAL REPETITIVE CHECK

The MEL/CDL Remarks or Exceptions column may specify conditional repetitive check requirements, i.e., "BEFORE ENGINE START" or "AFTER FLIGHT CONTROL CHECK." The Remarks or Exceptions column for these MEL/CDL items will be annotated with "Repetitive Check Required (Yellow Placard)" and may require a logbook entry.

Placard Instruction Table

The following instructions are applicable to the MEL/CDL placard tables. Each inoperative instrument or equipment item must be placarded to inform and remind the crewmembers and maintenance personnel of the item condition. To the extent practical, placards should be located adjacent to the control or indicator for the item affected as specified in the TAB LOCATION column. When the Tab Location column states N/A, no tab is required.

❶ MEL/CDL ITEM	❷ TAB LOCATION	❹ PLACARD TEXT
34-00-xx	1. #1 Radio Altimeter Indicator 2. GPWS Switch	1. #1 Radio Altimer Indicator INOP 2. GPWS INOP

MEL/CDL ITEM	TAB LOCATION	PLACARD TEXT
21-00-XX	❸ Associated Pack Switch	❺ ____ Air Conditioning Pack INOP

❶	MEL/CDL ITEM - Lists the specific MEL/CDL item number.
❷	TAB LOCATION - Place the TAB on or adjacent to the listed switch, indicator, lever, etc., that controls the inoperative unit/system. Multiple TAB locations may be listed for one MEL/CDL item and will be listed numerically in this column as indicated in the above example. When multiple TABs are required, use tabs from additional Aircraft Placards and discard the large unused portion of the placard. Record the same Log or Control No. on each TAB. Place a TAB at each listed location.
❸	The term "associated" or "affected" may appear in this column. For example, with a *left* pack inoperative, the "associated" pack switch is the *left* switch; with a *left* boost pump LOW PRESSURE light inoperatie, the "affected" LOW PRESSURE light is the *left* light. Place the TAB(s) on or adjacent to the associated or affected item(s) listed in this column.
❹	PLACARD TEXT - A description of the inoperative unit/system to be recorded on the large portion of the Aircraft Placard that is placed in the Aircraft Log Book. Failures of certain systems may cause other systems to be inoperative or require other systems to be considered inoperative. All affected systems will be listed numerically in this column as indicated in the above example. All listed systems are to be recorded on a single Placard. NOTE: Commonly used terms or abbreviations may be substituted for TEXT listed in this column. Additional information that will enhance Flight Crew and Maintenance awareness of the inoperative system/component may be included at the discretion of the individual installing the Placard.
❺	When there are multiple units or components within a system, a space (_____) will be included in this column indicating a descriptive term or position (i.e., left, right, #1, #2, forward, aft, upper, lower, etc.) must be recorded on the placard in addition to the PLACARD TEXT.

Placard Types

All deferred MEL/CDL items require a Placard to be installed. Placards for the affected item should be located as specified in the TAB LOCATION column.

The following placards are used by both pilots and maintenance personnel:

A. **White Placard** - The MEL Placard, form 0412-40441, serves as a visual indication to Maintenance personnel and flight crews that a unit or system on the aircraft is inoperative, missing, or restricted to limited operation. The white placard is used for all MEL/CDL items and other deferred items which do not require a Repetitive Check.
   - A placard may also be installed to give advisory information to the pilots about a particular item, such as recent maintenance performed on aircraft systems or major components.
   - On all advisory or information placards, use the white placard and write “N/A” in the MEL Reference Block.
   - In some instances, it is necessary to notify Maintenance personnel and flight crews of special installations or engineering modifications that have been accomplished on a particular aircraft. An information placard or Project Operation and Maintenance Information Form (EP-19) placed in the Aircraft Log Book can be used to accomplish this notification.
   - If an EP-19 Form is used, it will be placed inside a clear plastic sleeve located in the Aircraft Log Book.

B. **Yellow Placard** - The MEL Placard, form 0412-40512, also provides a visual indication to advise Maintenance personnel and pilots that a unit or system is inoperative, missing, or restricted to limited operation and that a “Repetitive Check” is required. The MEL/CDL will state, in capital letters, when the checks are required. For those MEL/CDL items that require repetitive checks (i.e., “Prior to Each Departure,” “Prior to the First Flight of the Day,” “Once Each Flight Day”, or “Conditional Repetitive Check”), a yellow placard must be installed to advise downline Maintenance personnel and the captain of the repetitive check requirement. Yellow placards may also be used for items deferred per the Maintenance Manual or other approved manuals which require a repetitive check (e.g., fluid leaks).

C. **Use of Red Tape Placard** - While the tape placard is designed primarily for use in placarding passenger seats as unserviceable, it may be used to placard other unserviceable cabin equipment, such as lavatories. Additionally, the tape placard may be used in conjunction with a “placard” as an attention-getting device. When used in this manner, the “PLACARD” tab shall be affixed to the face of the tape placard.

Performance Instructions

The enroute performance penalties in this MEL/CDL are applied to all flights by the Flight Control Dispatcher when analyzing the flight plan using the FPS flight planning system. The penalty is entered as an Enroute Driftdown Penalty in FPS and applied in FPS by increasing the weight of the aircraft by the penalty amount. The flight planning system will then access the driftdown tables at the penalized, increased weight to determine the driftdown weight limit. One-engine inoperative performance limitations (under FAR 121.191) will be applied where most restrictive. Transoceanic operations are conducted under ETOPS rules and use the same MEL performance penalty method.

A sample Performance Correction for a MEL item is shown below. The contents of the Performance Correction box should be used in conjunction with the other limitations and procedures in the MEL for the applicable dispatch. A quick-reference guide to the Performance Correction is provided below. It is important to note that items appearing above the double line should be considered by all users including the flight crew and dispatcher. Items below the double line are primarily for flight crew or LCC use. Use the appropriate box depending on the type of Weight Data Record (WDR) generated.

NOTE: The Performance Correction shown below is provided for training purposes only and should not be used for MEL 21-25-01A. Additionally, the sample MEL item below may not reflect the most current information.

Example:

(1)	**21-25-01A**	**Right Recirculation Fan**
(2)	EFFECTIVITY	**All**
(3)	FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.3%.
(4)	NOTES	None
(5)	**AWABS**	Performance corrections have been applied.
(6)	TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

1. MEL/CDL Number and Title.

2. Effectivity: Aircraft affected by the subject MEL/CDL item. Use the cross-reference table in the front of the MEL/CDL as necessary.

3. Flight Planning Requirements: Requirements that must be taken into account prior to the flight.
   - These items will be the responsibility of the dispatcher and must be taken into account prior to the flight.
   - Examples of Flight Planning Requirements can be, but are not limited to, Enroute Climb Limit Weight or Block Fuel adjustments.

4. Notes: Other pertinent information applicable to this MEL item.

5. AWABS: Contains information regarding functionality applied by AWABS. One of the two following statements will be published:

   - "Performance corrections have been applied" indicates that the AWABS document contains all applicable MEL adjustments and that no further Flight Crew action is required.
   - "Performance weight corrections have been applied" indicates that only the weights listed on the AWABS document contain the applicable MEL/CDL adjustments. This statement is followed by a specific action (or actions) required by the Flight Crew. Example – "Performance weight corrections have been applied. Reduce V1 by 3 KIAS." These statements advise that the performance weight corrections have been applied by AWABS, but the Flight Crew must reduce the V1 noted on the AWABS document by 3 KIAS.

6. Takeoff Performance Worksheet: LCC (Load Control Center) will complete this Worksheet (including performance corrections shown in this section) and a copy will be provided to the flight crew when dispatched with a Manual WDR. This section contains three subsections: Takeoff, Landing, and Other Corrections. The section titled "Other Corrections" will only appear if other corrections are to be performed.

   NOTE: Performance decrements specified in this section of the performance box are simplified and conservative for the manual computation of takeoff and landing limit weights. AWABS produces more precise weights based on runway length and obstacles. Therefore, comparing AWABS documents with and without an MEL item will frequently produce significantly different results than weights specified in the Takeoff Performance Worksheet section of the performance box.

   TAKEOFF

   - Runway Allowable Takeoff Weight adjustment.
   - Takeoff Climb Limit Weight adjustment.

   LANDING

   - Runway Allowable Landing Weight adjustment.
   - Approach/Landing Climb Limit Weight adjustment.
   - Maximum Quick Turnaround Landing Weight adjustment.

   OTHER CORRECTIONS

   - V-speed adjustments.
   - Landing speed adjustments.
   - EPR or N1 adjustments.

MEL/CDL Use (Maintenance)

During Service and higher checks, maintenance personnel will review past log book entries back to the last recorded Service or higher check to ensure that all MEL/CDL items that have not been previously cleared by corrective action are listed in the current open MEL/CDL Item list. Maintenance will call the MCC in ATL at 404-715-0088 (ext. 5-0088) or 1-800-DELTAMC (1-800-335-8262) immediately if any open MEL/CDL item is not listed on the current MEL/CDL Item List (tran code MEL).

NOTE: If it is determined that a Repair Category 'A' item cannot be cleared prior to flight release from layover, the mechanic assigned to the aircraft must call Aircraft Routing, ATL, ext. 5-0222, to determine if there is sufficient flight time remaining to allow the aircraft to reach the next layover, or to reach a station where the repairs can be accomplished.

To document an MEL/CDL item in the log book and install the appropriate placard, Delta AMTs or contract maintenance vendors, under the guidance of MCC, must adhere to the following procedure:

1. When an irregularity is found, verify that the item is not already deferred (do not duplicate a log book entry). Document the irregularity in the aircraft log book in accordance with TOPP 50-10-05.

2. Determine if the item is in the MEL/CDL. If not, contact the MCC through Dispatch to determine if the item qualifies for deferral as NEF (see TOPP 40-40-08), or some other deferral method.

3. Determine that other deferred items do not require this item to be operational. If so, contact the MCC before continuing.

4. If required by the item, Contact Dispatch or MCC to gain authority to defer the item.

5. Accomplish all (M) procedures and instructions noted under the Remarks and Exceptions column in the MEL/CDL.

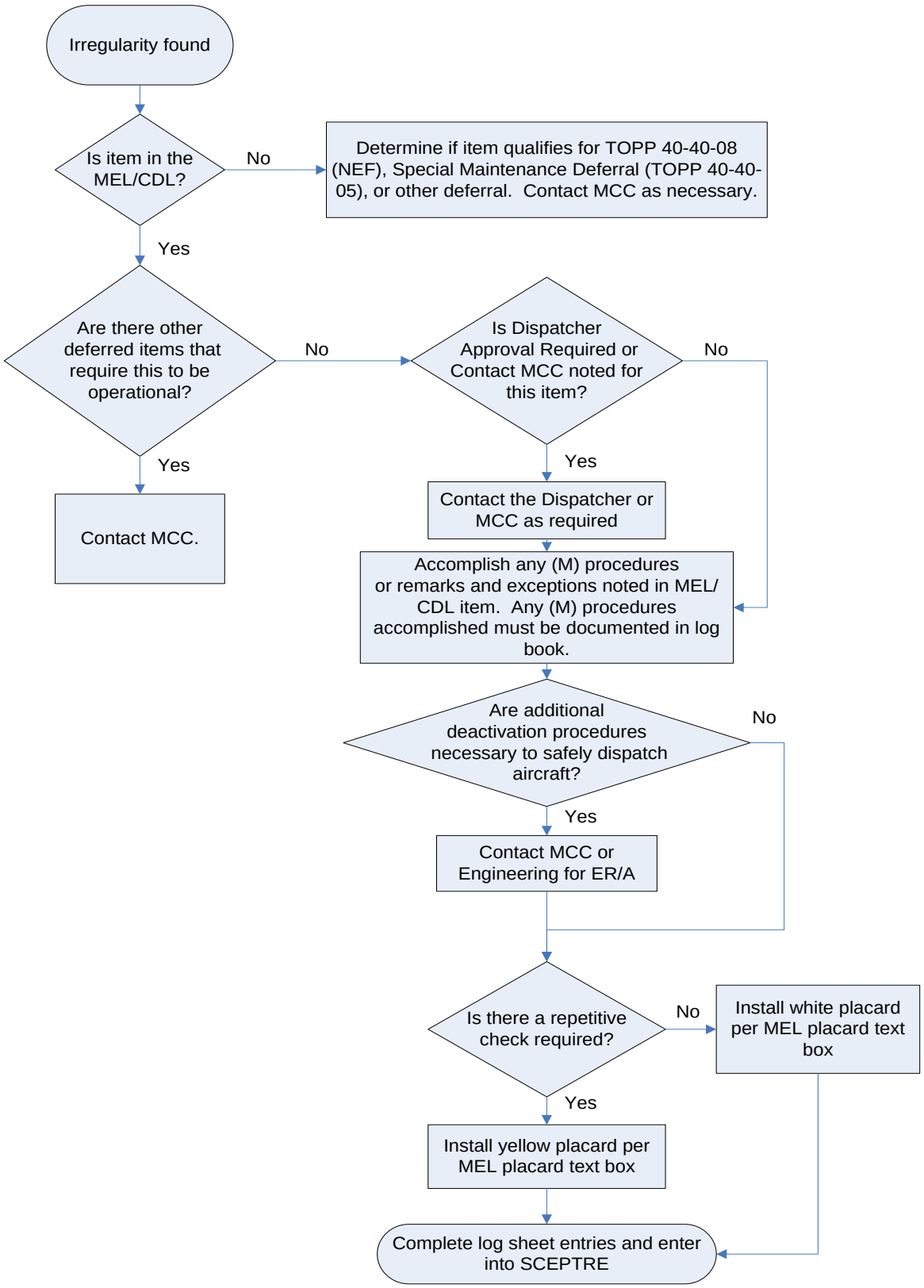
   If a procedure requires a circuit breaker(s) to be pulled and secured, use the orange circuit breaker collar(s). If orange collars are not available, secure the required circuit breaker(s) via alternate means (e.g., Tyrap or other positive securing means) and annotate in the IRO section of the log book, "Missing orange CB collar(s)".

6. If any additional deactivation is required to safely dispatch the aircraft, contact MCC or Engineering for authority and documentation. Record all actions in the log book and install a placard.

7. Determine if a Repetitive Check is required. If so, install a yellow placard according to the MEL placard text box. If the repetitive check is an (M) procedure, comply with check in accordance with instructions.

8. If item does not require a Repetitive Check, install white placard according to the MEL placard text box (see Placarding Instructions, this manual).

9. Enter "Deferred per MEL/CDL xx-xx-xx" in the IRO section of the log book. If the MEL/CDL deferral includes a (M) procedure, compliance must be documented in the IRO section (example: (M) procedures complied with).


Irregularity found
Is item in the MEL/CDL?
No
Determine if item qualifies for TOPP 40-40-08 (NEF), Special Maintenance Deferral (TOPP 40-40-05), or other deferral. Contact MCC as necessary.
Yes
Are there other deferred items that require this to be operational?
No
Is Dispatcher Approval Required or Contact MCC noted for this item?
No
Yes
Contact MCC.
Yes
Contact the Dispatcher or MCC as required
Accomplish any (M) procedures or remarks and exceptions noted in MEL/CDL item. Any (M) procedures accomplished must be documented in log book.
Are additional deactivation procedures necessary to safely dispatch aircraft?
No
Yes
Contact MCC or Engineering for ER/A
Is there a repetitive check required?
No
Install white placard per MEL placard text box
Yes
Install yellow placard per MEL placard text box
Complete log sheet entries and enter into SCEPTRE

MEL/CDL Use (Pilots)

The MEL/CDL must be reviewed by the flight crew prior to flight to ensure compliance with all limitations and/or procedures associated with each deferred item. Systems/components deferred per the MEL will not be activated, actuated or otherwise utilized under normal operations. Elements, features or functions of deferred systems must not be used if their use will adversely affect the safe operation of the aircraft.

Pilots may document and install the appropriate placard when the MEL/CDL item denotes a 'Y' in the 'Flight Crew may Placard' columns, or when authorized under the NEF Program (see TOPP 40-40-08). In this case, the pilots may perform any required (M) or (O) procedures (see MEL/CDL Instructions section). To document an MEL/CDL item, the pilot must take the following actions:

1. When an irregularity is found, comply with the QRH Abnormal procedure if required. Verify that the item is not already deferred. Do not duplicate a log book entry.

2. Determine if the item is in the MEL/CDL. If not, contact the MCC through Dispatch to determine if the item qualifies for deferral as NEF (see TOPP 40-40-08), Continue in Service (TOPP 40-40-05), or other deferral method.

3. If the item is in the MEL/CDL, determine if the item contains a 'Y' under the Flight Crew May Placard column. If there is not a 'Y', contact the MCC through Dispatch and return to the gate if already pushed. Maintenance will repair or defer the item. Revalidate or obtain a new Flight Release as necessary.

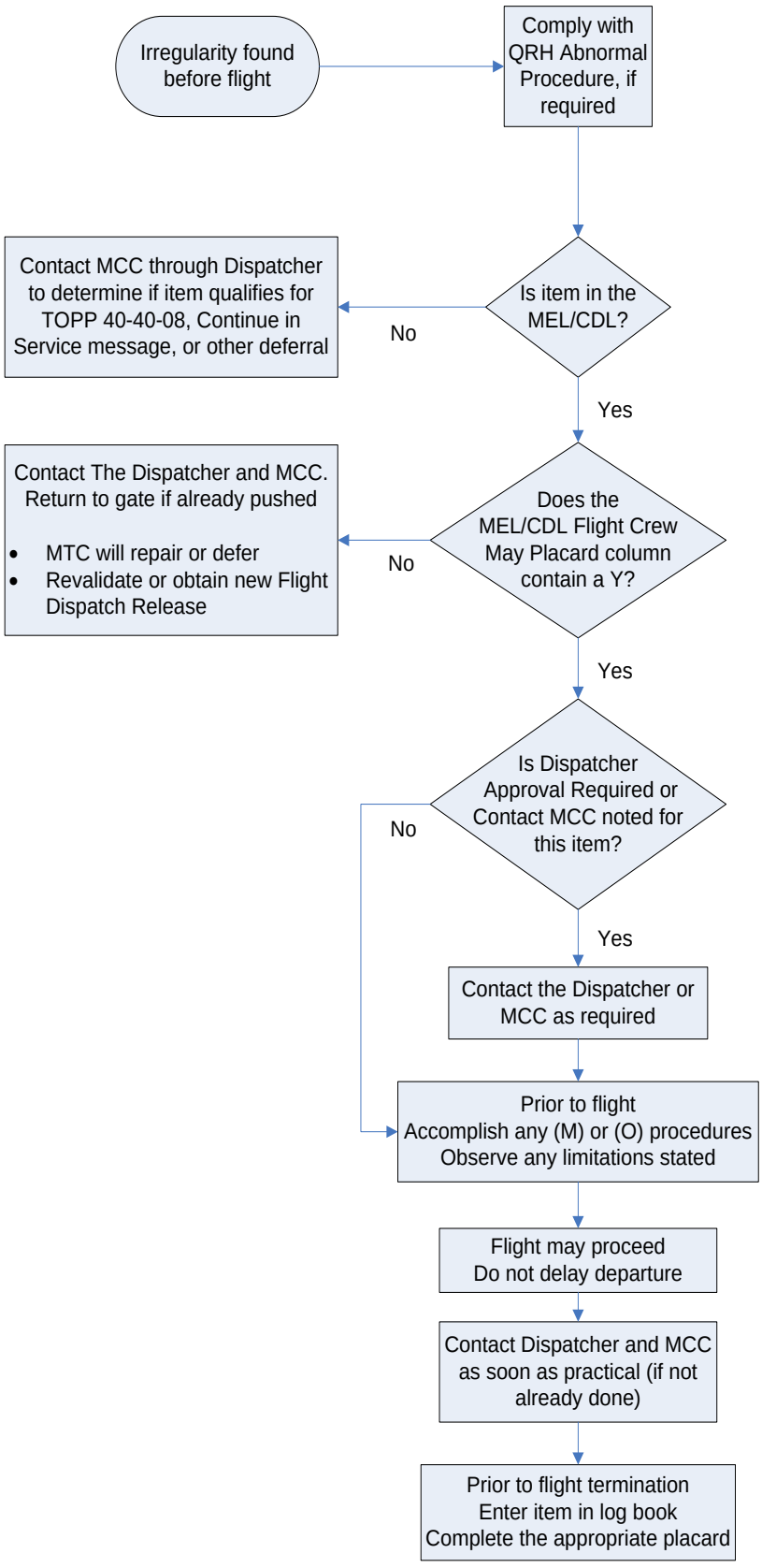
4. If the item contains a 'Y', determine if "Dispatch Approval Required" or "Contact MCC" is indicated. Contact Dispatch and/or MCC as required.

5. Prior to flight, accomplish all (M) and (O) procedures and any instructions noted for the item under the Remarks and Exception column in the MEL/CDL and observe any restrictions or limitations.

   If a procedure requires a circuit breaker(s) to be pulled and secured, use the orange circuit breaker collar(s). If orange collars are not available, secure the required circuit breaker(s) via alternate means (e.g., Tyrap or other positive securing means) and annotate in the IRO section of the log book, "Missing orange CB collar(s)" next to the "Flight crew installed placard at XXX." remark.

6. The flight may proceed without delay. Contact Dispatcher and MCC as soon as practical (if not already done). Logbook entry (see TOPP 50-10-05) and placard (see Placards, this manual) must be completed prior to flight termination.

   Ensure the irregularity is documented in the IRF block of the aircraft log (see TOPP 50-10-05). Under the direction of the MCC, complete the IRO section of the log page. Flight crews completing the deferral will include the captain's name and employee number and the phrase "Flight Crew Installed Placard at (station)" in the IRO block. The SIGNATURE block will subsequently be signed by an AMT.


Irregularity found before flight
Comply with QRH Abnormal Procedure, if required
Is item in the MEL/CDL?
No
Contact MCC through Dispatcher to determine if item qualifies for TOPP 40-40-08, Continue in Service message, or other deferral
Yes
Does the MEL/CDL Flight Crew May Placard column contain a Y?
No
Contact The Dispatcher and MCC. Return to gate if already pushed
MTC will repair or defer
Revalidate or obtain new Flight Dispatch Release
Yes
Is Dispatcher Approval Required or Contact MCC noted for this item?
No
Yes
Contact the Dispatcher or MCC as required
Prior to flight
Accomplish any (M) or (O) procedures
Observe any limitations stated
Flight may proceed
Do not delay departure
Contact Dispatcher and MCC as soon as practical (if not already done)
Prior to flight termination
Enter item in log book
Complete the appropriate placard

MEL Expiration / Removal

1. Expiration dates/times are based on UTC time. Under normal circumstances the aircraft must arrive at the destination station prior to midnight of the expiration date (UTC time). This applies to all Category A, B, C, and D items. If the aircraft cannot arrive at the destination station prior to midnight, due to an unexpected delay (maintenance, flight exception, weather, ATC flow control, etc.), the MCC Shift Manager may approve the flight departure provided the aircraft departs (departs for this policy means an "OUT" time has been sent or all doors closed) prior to midnight (UTC time) of the expiration date. In the event of any additional unexpected delay (ATB, DIV, RTB, etc.), the aircraft must still depart (depart for this policy means an "OUT" time has been sent or all doors closed) prior to midnight (UTC time) of the expiration date. If the delayed departure time is expected to be after midnight, the item must either be repaired, or reviewed by the MCC Shift Manager for possible extension (Category B, C) prior to further revenue flight.

2. The Captain and the Maintenance Coordinator have joint responsibility to ensure that MEL expiration periods are not exceeded for MEL/CDL Category B, C and D items. The MCC is solely responsible for monitoring the expiration of Category A items and non-MEL items. The MEL serves as the primary reference source for category and expiration period guidance.

   - The expiration period of category “A” items is defined as the time interval specified in the REMARKS or EXCEPTIONS column of the operator's approved MEL/CDL. For time intervals specified in “flight days,” the day the malfunction was recorded in the aircraft logbook is excluded. For all other time intervals (flights, flight legs, cycles, hours, etc.), repair tracking begins at the point when the malfunction is deferred in accordance with the operator’s approved MEL/CDL.

   - The MEL/CDL should always be consulted regarding limitations and restrictions. The flight plan MEL/CDL expiration information should be used as a cross-check, not a substitute, for reviewing the MEL/CDL. If any MEL/CDL item in the log book is not listed in the flight plan, check the MEL for its category and expiration period based on the “Day of Discovery” (see *MEL Definitions*).

   - The Captain shall contact the MCC in accordance with the FOM with any questions concerning MEL currency.

MEL/CDL Category	MEL/CDL Expiration Time	Extendible?	Who is responsible for MEL/CDL currency?
A	Time interval specified in MEL	No	MCC
B	3 Days	Yes	Pilot and MCC
C	10 Days	Yes	Pilot and MCC
D	120 Days	No	Pilot and MCC
N/A[1]	Item specific (Not in MEL)	Item specific (Not in MEL)	MCC

[1]NOTE: A MEL placard may be placed in the logbook which identifies other components / systems not specifically referenced in the MEL. This is done for administrative tracking purposes. These items do not have a MEL Number and the placard MEL/CDL Reference Number block will indicate “N/A” (not applicable). The Captain is not responsible for verification of the expiration period for this type of entry.

3. The MEL/CDL references and expiration dates/times will be listed in the “FLIGHT CONTROL & MAINTENANCE REMARKS” section of the Delta Flight Plan to help verify MEL/CDL information and currency.

   The following examples show how MEL/CDL information will appear on the flight plan:

   Category A items

   M78-34-01 REVERSER UNLOCK INDIC/AMBER U/L/--1INOP
   **CATEGORY A MEL

   Category B, C and D items

   M32-46-01C TIRE PRESSURE INDICATIONS - UP TO 12 INOP
   MEL EXPIRATION DATE - 20MAR95 AT 2400 UTC

Extensions of Expiration Date

When a B or C category item has expired and cannot be cleared prior to the next flight release, the appropriate Maintenance Coordinator - MCC must be contacted for possible extension approval. See TOPP 40-40-05 for instructions on MEL extensions.

Removal of a Deferral

When documenting the removal of a MEL/CDL deferral in the IRO section of the log page, indicate the action(s) taken to reactivate previously deactivated systems/components, and a statement that the item is cleared (system reactivated and placard removed).

RNAV Minimum Requirements

The chart below should be used when making MEL compliance or aircraft equipage decisions prior to the dispatch event (see MEL Front Matter, Delta's MEL/CDL Authority and Scope). Equipment failures that occur after that event will be referenced in the OM (Operations Manual Volume 1). The values referenced below are not intended to reduce the minimum values published on any approach chart or reduce any crew qualification restriction.

To use the chart, locate the MEL number for the system being deferred. Read the columns to the right of the appropriate MEL number to determine the number of systems required for the type of operation under consideration.

MEL Item	Number Required					
					RNAV Approach	
	ADS-B	RNP-4	RNAV ENROUTE	RNAV SID/STAR	RNAV (GPS), GPS, NDB, or VOR using LNAV/VNAV	RNAV (RNP)
22-10-01: Autopilot Systems	0	1❶ or	1❶ or	1❶ or	1❶	1 and
22-11-04: MCP – F/D Switches	0	1 and	1 and	1 and	0	2 and
34-22-04: Flight Director Systems	0	1	1	1	0	1
22-11-01: Control Wheel Disengage Switches	0	1	1	1	1	2
22-11-02: A/P DISC Light	0	0	0	0	0	1
22-11-04: MCP – LNAV Switch	0	0	0	1	1	1
22-11-04: MCP – VNAV Switch	0	0	0	0	1	1
22-11-04: MCP – A/P Engage Switches	0	❷	❷	❷	1	1
22-30-02: Go-Around Switches	0	0	0	0	1	1
23-22-01: ACARS	0	1	0	0	0	0
23-25-01: SATCOM	0	1	0	0	0	0
23-25-01: SATCOM Data	0	1	0	0	0	0
30-33-01: Temp (TAT) Probe Heater Systems	0	1	0	1	1	1
34-33-01: Radio Altimeter Systems	0	0	0	0	0	2
34-46-01: Terrain Mode (GPWS)	0	0	0	0	0	1
34-53-01: ATC Transponders	1	0	0	0	0	0
34-53-01: ADS-B Squitter Transmissions	1	0	0	0	0	0
34-55-01: Distance Measuring Equipment (DME)	0	0	1 or	2 or	1	0
34-60-03: Global Positioning Systems (GPS)	1	2	1	1	1	2
34-61-01: Flight Management Computer Systems (FMC / MDCU)	1	2	1	1	1	2
34-61-01: FMCS – Navigation Databases	0	1❸	1❸	1❸	1❸	1❸

❶ The associated A/P Engage Switch must also be operable.
❷ None required if one Flight Director System and its associated MCP - F/D Switch are used.
❸ Authorized with 1 or 0 if MEL 34-61-01 NAV Database (O) PROCEDURE is successfully accomplished.

Low Weather Minimum Requirements

APPROACH CATEGORIES

The following definitions should be used when making MEL compliance or aircraft equipage decisions prior to the dispatch event. Equipment failures that occur after that event will be referenced in the appropriate QRH (ILS Airborne Equipment Requirements). The values referenced below are not intended to reduce the minimum values published on any approach chart or reduce any crew qualification restriction.

Basic Turbojet Minimums:

A non-precision or precision approach to no less than RVR 4000 (1200m) or ¾ SM (1200m) visibility, and a DH of no less than 200 ft or MDH of no less than 250 ft.

Category I Non-ILS:

A non-precision approach to no less than RVR 2400 (550m) or ½ SM (800m) visibility, and a MDH of no less than 250 ft.

Category I ILS:

A precision approach to no less than RVR 1800 (550m) or ½ SM (800m) visibility, and a DH of no less than 200 ft.

Category II:

A precision approach to no less than RVR 1200 (350m) and a DH of no less than 100 ft.

A precision approach to no less than RVR 1000 (300m) and a DH of no less than 100 ft.

Category III:

A precision approach to no less than RVR 300 (75m) and an AH of no less than 50 ft.

Note: See Airway Manual for ground–based equipment requirements

LOW WEATHER MINIMUM APPROACHES: EQUIPMENT REQUIREMENTS

To use the chart, locate the MEL number for the system on MCO. Read the columns to the right of the appropriate MEL number to determine the number of systems required for the type of approach under consideration.

	Number Required for Approach				
MEL Item	**Basic Turbojet Min.**	**CAT I Non-ILS**	**CAT I ILS**	**CAT II**	**CAT III**
22-10-01: Autopilot Systems and / or ❶ 34-22-04: Flight Director Systems	0	0	1 or 1	2 and 2	3 and 2
22-11-01: Control Wheel Disengage Switches	1	1	1	2	2
22-11-02: A/P DISC Light	0	0	0	1	1
22-11-04: MCP A/P CMD Engage Switches	0	0	1	2	3
22-11-04: MCP A/T ARM Switch	0	0	0	1	1
22-11-04: MCP A/T SPD Mode Engage Switch	0	0	0	1	1
22-11-04: MCP F/D Switches	0	0	1	2	2
22-11-04: MCP APP Switch	0	0	1	1	1
22-14-01: Autoland Status Annunciators	0	0	0	1❷	2
22-14-02: Autoland System	0	0	0	1	1
22-14-02: Triple Channel Autoland (LAND 3)	0	0	0	0	1
22-30-01: Thrust Management System	0	0	0	1	1
22-30-01: Autothrottle Servo	0	0	0	1	1
22-30-01: Autothrottle Disconnect Switches	0	0	0	1	1
22-30-02: Go-Around Switches	0	1	1	2	2
22-34-01: Autothrottle Disconnect Light	0	0	0	1	1
27-41-02: Horiz. Stab. Primary Trim Channels	1	1	1	1	2
30-42-01: Windshield Wipers	0	0	0	2	2
32-41-01: Wheel Brakes	7	7	7	8	8
32-42-01A: ANTISKID System	0	0	0	1	1
32-42-01B/C: ANTISKID Channels	7	7	7	8	8
32-42-02B: Alternate Antiskid Valves	0	0	0	4	4
32-42-03: ANTISKID Light	0	0	0	1	1
32-44-02: Parking Brake Valve	0	0	0	1	1
32-44-03: PARK BRAKE Light	0	0	0	1	1
32-51-01: Rudder Pedal Nose Wheel Steering	0	0	0	1	1
34-21-01: Inertial Reference Systems (IRS)	2	2	2	2	3
34-22-04: Flight Director Displays	0	0	1	2	2
34-31-01: ILS Systems	1	1	1	2	3
34-32-01: Marker Beacon System	❹	❹	0	❸1	0

LOW WEATHER MINIMUM APPROACHES: EQUIPMENT REQUIREMENTS (Continued)

	Number Required for Approach				
MEL Item	**Basic Turbojet Min.**	**CAT I Non-ILS**	**CAT I ILS**	**CAT II**	**CAT III**
34-33-01: Radio Altimeter Systems	0	0	0	2	3
34-51-01: VOR Navigation Systems	❹	❹	1	2	2
34-55-01: Distance Measuring Equipment (DME)	❹	❹	1	1	1
34-57-01: Radio Compass (ADF) Systems	❹	❹	0	0	0
34-60-03: Global Positioning Systems	❹	❹	0	0	0
73-21-01A/B: EEC Systems (Control Channels)	3	3	3	3	3
73-21-01C/D: EEC Systems (Control Channels)	3	3	3	N/A	N/A
77-11-01: EPR Systems	1	1	1	2	2

❶ If operable, both Autopilot and Flight Director will be utilized for all ILS approaches when the reported weather is below 4,000’ RVR or ¾ mile.
❷ For CAT II Autoland approach, the captain’s ASA must be operative.
❸ Inner Marker is required for CAT II RA/NA.
❹ One or more of these systems may be required as noted on the approach plate.

Aircraft / Engine Configurations

Aircraft / Engine Configuration	Aircraft Ship Numbers
-300 CF6-80A2 (763)	121-139
-300 PW4000 (763)	1401-1404
-300ER PW4000 (76L)	171-199 1200-1201
-3P6ER CF6-80C2 (76G) (Non FADEC)	1501-1506
-300ER CF6-80C2 (76G) (FADEC)	1521, 1601 and subs, 1701 and subs

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EICAS Message List

This section provides a listing of EICAS messages for quick reference between these messages and MEL items which may provide dispatch relief. The message list is for guidance only and may not cover all possible combinations of system faults which may cause a particular message to display.

A. A cross reference list of Engine Indication and Crew Alerting System (EICAS) messages and corresponding Minimum Equipment List (MEL) items is provided in this section. The MEL lists the items of airplane equipment that may be inoperative, and the conditions under which dispatch is allowed. The cross reference list is intended to assist operators in quickly identifying the proper MEL item to consult for possible dispatch relief. All EICAS messages are listed by message text in alphabetic order. A description of the information provided in each column of the cross reference list follows.

1. **Message Text**: This column alphabetically lists each message exactly as it would appear on EICAS.

2. **Level**: The appropriate EICAS message level is listed: warning, caution, advisory, comm E, comm F, or status.

3. **Condition**: This column provides a description of the condition or fault indicated by the message.

4. **MEL Item**: This column lists the appropriate MEL item(s) to consult for possible dispatch relief with the associated message displayed. EICAS messages that do not have a specific MEL item to allow dispatch are listed with one of the following cross references:

   a. **N/A**: Not applicable. There is no MEL item listed because the message does not indicate a system failure.

   b. **None**: There is no MEL item for the failure condition indicated by this message.

B. EICAS displays system alerts (warning, caution, and advisory), communication alerts, and status messages as described below. All of the following EICAS messages are normally displayed on the upper EICAS display, except status messages which are displayed on the status page of the lower EICAS display.

1. **Warning**: A non-normal operational or system condition displayed in red text accompanied by annunciation of the master warning lights and an aural warning (bell, siren, clacker, wailer or voice). Immediate crew awareness and corrective action is required.

2. **Caution**: A non-normal operational or system condition displayed in amber text accompanied by annunciation of the master caution lights and an aural caution (voice or beeper). Immediate crew awareness is required and corrective action may be required.

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3. **Advisory**: A non-normal operational or system condition displayed in amber text and indented one space to the right. Routine crew awareness is required and corrective action may be required.

4. **Comm E**: Medium-priority communication requiring immediate crew awareness and a prompt response. Displayed in white text with a bullet at the bottom of the message field, these messages are accompanied by an aural chime.

5. **Comm F**: Low-priority communication requiring timely awareness and response. Also displayed in white text with a bullet, these messages are below the comm E messages and indented one space to the right.

6. **Status**: A system condition which affects airplane dispatch, displayed in white text on the status page. Status messages are checked prior to engine start and the condition should be corrected or dispatched per the operator's minimum equipment list (MEL). There are no inflight crew procedures associated with status messages.

7. **Maintenance** level messages are not included in the cross reference list, since they do not affect the airworthiness release of the airplane. System faults which result only in a maintenance message do not require MEL consideration or maintenance action prior to dispatch. They are addressed within an operator's standard maintenance program.

C. Considerations for Dispatch with Displayed EICAS Messages. Any monitored faults that affect airplane dispatchability will be displayed on EICAS as a status or alert level (warning, caution, advisory) message. System faults displayed at status level or alert level should be resolved by MEL compliance or maintenance action. EICAS alert messages are the primary means of alerting the crew to non-normal conditions or improper configuration. Display of any alert message requires accomplishment of the appropriate non-normal procedure by the crew.

D. Under each MEL item there is a corresponding EICAS STATUS MESSAGES entry. This entry identifies those Status messages that *may* be associated with the item. If listed, the Status message(s) does not have to be displayed in order to utilize the MEL relief. MEL relief is allowed provided all MEL Remarks or Exceptions and applicable (M) and/or (O) procedures are accomplished as written.

EICAS Message List Begins Next Page

NOTE: This EICAS message list covers all B767 types; therefore, not all messages are applicable to Delta aircraft.

EICAS MESSAGE	LEVEL	MEL ITEM
A/P SINGLE SYS	Status	22-10-01
ACARS	Comm E	N/A
ACARS	Comm F	N/A
ACCESS DOORS	Advisory	52-71-01
AFT CABIN TEMP	Advisory	21-61-01 21-61-04 21-61-06
AFT CARGO DET 1	Status	26-16-01
AFT CARGO DET 1A	Status	26-16-01
AFT CARGO DET 1B	Status	26-16-01
AFT CARGO DET 2	Status	26-16-01
AFT CARGO DET 2A	Status	26-16-01
AFT CARGO DET 2B	Status	26-16-01
AFT CARGO DET AIR	Status	26-14-01 26-16-01
AFT CARGO DOOR	Caution	52-71-01
AFT CARGO DOOR	Advisory	52-71-01
AFT CARGO DR IND	Status	52-71-01
AFT CARGO FIRE	Warning	26-16-01
AFT CARGO OVHT	Advisory	21-40-01 21-40-02
AFT DET FAN 1A	Status	26-16-01
AFT DET FAN 1B	Status	26-16-01
AFT EQ EXH FAN 1	Status	21-58-05
AFT EQ EXH FAN 2	Status	21-58-05
AFT EQPT CLG FAN	Status	None
AFT FUEL X-FEED	Advisory	28-22-03
AFT GND EXH VAL	Status	N/A
AFT IFE COOLING	Status	21-58-13
AFT TEMP CONT	Status	21-61-04
AILERON LOCKOUT	Advisory	27-11-02
AIR/GND DISAGREE	Status	None
AIR/GND SYS	Advisory	None
AIRSPEED LOW	Caution	N/A
ALT CALLOUT	Advisory	34-46-01
ALT CALLOUTS	Advisory	34-46-01
ALT DISAGREE	Caution	34-26-01
ALTITUDE ALERT	Caution	N/A
ALTN ANTISKID	Status	32-42-01 32-42-02
ALTN GEAR EXTEND	Status	32-35-01
ANTISKID	Advisory	32-42-01
ANTISKID OFF	Advisory	32-42-01 32-44-02
APU BAT CHGR	Status	24-31-02
APU BAT DISCH	Advisory	24-31-01
APU BAT NO STBY	Status	24-31-01 24-31-03
APU BLEED VAL	Advisory	36-11-04

EICAS MESSAGE	LEVEL	MEL ITEM
APU BTL	Advisory	26-22-01
APU BTL 1	Advisory	26-22-01
APU BTL 2	Advisory	26-22-01
APU CONTROL	Status	49-61-02
APU DOOR	Status	49-15-01
APU FAULT	Advisory	49-11-01
APU FIRE	Warning	26-15-01
APU FIRE LP 1	Status	26-15-01
APU FIRE LP 2	Status	26-15-01
APU FUEL CONTROL	Status	49-11-01
APU FUEL VAL	Advisory	28-25-02
APU GEN OFF	Advisory	24-00-02
APU ISLN VAL	Status	28-25-03
APU OIL QTY	Status	49-94-01
ATC	Comm E	N/A
ATC FAULT	Advisory	34-53-01
ATT DISAGREE	Caution	34-21-01 34-22-03 34-22-05
ATT FAIL	Advisory	34-25-01
AUTO SPEEDBRAKE	Advisory	27-62-01
AUTOBRAKES	Advisory	32-42-04
AUTOPILOT	Caution	22-10-01 34-31-01 34-33-01 34-61-01
AUTOPILOT DISC	Warning	22-10-01
AUTOTHROT DISC	Caution	22-30-01
AUX PITOT	Advisory	30-31-01 30-31-02
BARO SET DISAGREE	Advisory	31-63-02
BATTERY OFF	Advisory	N/A
BBAND SYS SMOKE	Caution	None
BLEED CONTROL L CHAN	Status	36-00-01
BLEED CONTROL R CHAN	Status	36-00-01
BLEED SYSTEM	Status	None
BODY DUCT LEAK	Caution	26-18-01
BODY DUCT LP 1	Status	26-18-01
BODY DUCT LP 2	Status	26-18-01
BRAKE SOURCE	Advisory	32-41-02
BRAKE TEMP	Advisory	32-46-01
BROADBAND SYS	Status	None
BULK CARGO DOOR	Advisory	52-71-01
BULK CARGO FAN	Status	21-40-01
BULK CARGO OVHT	Advisory	21-40-01
C ADIRU PITOT	Advisory	None
C AIR DATA	Advisory	34-26-01
C BLD ISLN VAL	Advisory	36-11-07
C DEM HYD OVHT	Advisory	29-32-01
C DPC	Status	31-63-04

EICAS MESSAGE	LEVEL	MEL ITEM
C GLS	Advisory	34-60-03
C HYD 1 OVHT	Advisory	None
C HYD 2 OVHT	Advisory	29-11-02 29-32-01
C HYD DEM PUMP	Advisory	29-11-03 29-31-02
C HYD DEM SPD SNSR	Status	None
C HYD GEN ON	Status	N/A
C HYD GEN VAL	Status	24-25-01 24-25-02
C HYD PRIM 1	Advisory	None
C HYD PRIM 2	Advisory	29-11-02 29-31-02
C HYD QTY	Advisory	29-33-01 29-33-02
C HYD SYS MAINT	Status	29-11-03
C HYD SYS PRESS	Caution	29-11-02 29-11-03
C ILS	Advisory	34-31-01
C IRS DC FAIL	Advisory	34-21-01
C IRS FAULT	Advisory	34-21-01
C IRS ON DC	Advisory	34-21-01
C MLS	Advisory	None
C TAIL HYD VAL	Advisory	27-03-01
C WING HYD VAL	Advisory	27-03-01
CABIN ALERT	Comm E	N/A
CABIN ALT AUTO 1	Status	21-31-01
CABIN ALT AUTO 2	Status	21-31-01
CABIN ALTITUDE	Warning	None
CABIN AUTO INOP	Caution	21-31-01
CABIN CALL	Comm E	N/A
CAPT INSTR XFER	Status	None
CAPT PITOT	Advisory	30-31-01 30-31-05
CAPT PVD	Advisory	N/A
CAPT STBY INV	Status	None
CARGO A/C CONT	Advisory	21-28-01
CARGO A/C CONT	Status	21-28-01
CARGO A/C TEMP	Status	21-28-01
CARGO BTL 1	Advisory	26-23-01
CARGO BTL 2	Advisory	26-23-01
CARGO BTL 2	Status	26-23-01
CARGO BTL 2A	Status	26-23-01
CARGO BTL 2B	Status	26-23-01
CARGO CALL	Comm E	N/A
CARGO DET AIR	Status	26-14-01 26-16-01 26-16-02
CARGO DOORS	Advisory	52-71-01
CARGO EXH FAN	Status	21-28-01
CARGO EXH VALVE	Status	21-28-01
CARGO TRIM AIR	Status	21-28-01
CGO FLOOR OVHT	Advisory	21-28-01

EICAS MESSAGE	LEVEL	MEL ITEM
CGO GND EX VALS	Advisory	21-28-01
CGO GND EX VALVE	Status	21-28-01
COMPARATOR BITE	Status	34-22-05 34-25-01
COND CARGO VALVE	Status	21-28-01
CREW REST SMOKE	Advisory	None
CTR L FUEL PUMP	Advisory	28-22-02
CTR R FUEL PUMP	Advisory	28-22-02
CTR L+R FUEL PUMP	Advisory	28-22-02
DATALINK AVAIL	Advisory	N/A
DATALINK AVAIL	Comm F	N/A
DATALINK LOST	Advisory	23-22-01
DATALINK SYS	Advisory	23-22-01
DISPLAY RESOURCES	Status	31-63-11
DISPLAY SELECT PNL	Advisory	None
DISPLAYS CONFIG	Status	None
DUCT LEAK LP	Status	26-18-01
E/E ACCESS DOOR	Advisory	52-71-01
EEC CONFIG	Status	73-21-01
EICAS CONT PNL	Advisory	31-41-01
EICAS DISAGREE	Status	31-41-01 73-31-01 79-34-02
EICAS DISPLAY	Advisory	31-41-01
EICAS SCC	Status	31-61-04 31-61-05
EICAS SCC I/F	Status	31-61-04 31-61-05
EICAS SOFTWARE	Status	None
ELEC FILTER	Status	24-51-02
ELEV FEEL	Advisory	None
ELEV FEEL	Status	None
ELEV FEEL LIM	Status	27-31-01
ELT ON	Advisory	None
EMER DOORS	Advisory	52-71-01
EMER LIGHTS	Advisory	None
ENG BTL 1	Advisory	26-20-01
ENG BTL 2	Advisory	26-20-01
ENG MACH PROBES	Advisory	30-34-02
ENGINE CONTROLS	Advisory	73-21-01
F/O DISPLAY T-R UNIT	Status	24-32-02
F/O INSTR XFER	Status	None
F/O PITOT	Advisory	30-31-01 30-31-05
F/O PVD	Advisory	None
FAST/SLOW FAIL	Advisory	22-30-01 34-22-04 34-13-10
FD COMMAND FAIL	Advisory	34-22-04
FIRE/OVHT SYS	Advisory	26-11-01 26-11-02 26-15-01 26-16-01
FLAP LD RELIEF	Advisory	27-51-01
FLAP POS SNSR	Status	27-08-02

EICAS MESSAGE	LEVEL	MEL ITEM
FLAP/SLAT ELEC	Status	None
FLAPS	Warning	None
FLT CONT VALS	Advisory	27-03-01
FLT DATA ACQ	Status	31-31-01
FLT DATA REC	Status	31-31-01
FLT DECK DOOR	Advisory	52-71-01
FLT DECK HUMID	Advisory	None
FLT DECK TEMP	Advisory	21-61-02 21-61-04 21-61-06
FLT DK TEMP CONT	Status	21-61-04
FLT REST SMK VAL	Status	None
FLT REST SOV	Status	None
FMC	Comm E	N/A
FMC MESSAGE	Advisory	34-61-01
FUEL CONFIG	Advisory	28-22-02 28-41-01 28-41-02
FUEL CROSSFEED	Advisory	28-22-03
FUEL JET NOZ	Advisory	28-31-03
FUEL QTY BITE	Status	28-41-01 28-41-02
FUEL QTY CHANNEL	Status	28-41-02
FUEL QTY IND	Status	28-41-01
FWD A TEMP CONT	Status	21-61-04
FWD B TEMP CONT	Status	21-61-04
FWD ACCESS DOOR	Advisory	52-71-01
FWD CABIN TEMP	Advisory	21-61-01 21-61-04 21-61-06
FWD CARGO A/C	Advisory	21-28-01
FWD CARGO DET 1	Status	26-16-01
FWD CARGO DET 1A	Status	26-16-01
FWD CARGO DET 1B	Status	26-16-01
FWD CARGO DET 2	Status	26-16-01
FWD CARGO DET 2A	Status	26-16-01
FWD CARGO DET 2B	Status	26-16-01
FWD CARGO DET AIR	Status	26-14-01 26-16-01
FWD CARGO DOOR	Advisory	52-71-01
FWD CARGO DOOR	Caution	52-71-01
FWD CARGO DR IND	Status	52-71-01
FWD CARGO FAN	Status	21-28-01
FWD CARGO FIRE	Warning	26-16-01
FWD CARGO OVHT	Advisory	21-40-01 21-40-02
FWD CGO BACKUP	Advisory	21-28-01
FWD DET FAN 1A	Status	26-16-01
FWD DET FAN 1B	Status	26-16-01
FWD EQ EXH FAN	Status	21-58-04
FWD EQ SUP FAN 1	Status	21-58-03
FWD EQ SUP FAN 2	Status	21-58-03
FWD EQPT COOLING	Caution	21-58-01 21-58-02 21-58-03 21-58-04

EICAS MESSAGE	LEVEL	MEL ITEM
FWD EQPT OVHT	Advisory	21-58-01 21-58-02 21-58-03 21-58-04
FWD EQPT SMOKE	Advisory	21-58-16
FWD EQPT VAL	Advisory	21-58-06 21-58-07 21-58-08 21-58-10 21-64-02
FWD FUEL X-FEED	Advisory	28-22-03
FWD GND EXH VAL	Status	21-58-14
FWD IFE COOLING	Status	21-58-13
G/S DISAGREE	Advisory	34-31-01
G/S FAIL	Advisory	None
GEAR CONTROL	Status	32-31-02
GEAR DISAGREE	Caution	None
GEAR DOORS	Advisory	None
GEAR NOT DOWN	Warning	None
GND EXH VALS	Advisory	21-58-01 21-58-14
GND PROX BITE	Status	34-46-01 34-33-01
GND PROX SYS	Advisory, Status	34-46-01 34-33-01
GPS	Advisory	34-60-03
GPS FAIL	Advisory	34-60-03
GROUND CALL	Comm E	N/A
HDG DISAGREE	Advisory	34-21-01 34-22-03 34-22-05
HDG FAIL	Advisory	34-25-01
HF DATALINK	Advisory	23-11-01
HF DATALINK OFF	Comm F	N/A
HI FLOW INHIBIT	Status	21-25-01 21-51-01 21-51-02
HI FLOW ON	Status	21-25-01 21-51-01 21-51-02
HUD ALERT	Caution	None
HUD EXCESS DEV	Caution	None
HUD GUIDANCE	Advisory	None
HUD NO AII	Advisory	None
HUD NO AIII	Advisory	None
HUD NO GND ROLL	Advisory	None
HUD SYS	Advisory	None
HUD SYS	Status	None
HUD WARN	Caution	None
HYD GEN ON	Status	N/A
HYD GEN VAL	Status	24-25-02
IAS DISAGREE	Caution	None
IAS/ALT DIFF	Advisory, Status	None
ICE DET OFF	Advisory	N/A
ICE DET ON	Advisory	N/A
ICE DETECTORS	Advisory	30-80-01
ICING ENGINE	Caution	30-80-01
ICING WING	Advisory	30-80-01

EICAS MESSAGE	LEVEL	MEL ITEM
IDLE DISAGREE	Advisory	73-21-08
INSTR SWITCH	Caution	34-00-01 34-22-05
L AC BUS OFF	Caution	None
L AFT EMER DOOR	Advisory	52-71-01
L AFT ENT DOOR	Advisory	52-71-01
L AFT FUEL PUMP	Advisory	28-22-01
L AIR DATA	Advisory	34-26-01
L ALTN T/R	Advisory	78-31-01
L AOA PROBE	Advisory	30-32-01
L AUTO IGNITION	Status	74-00-02
L AUX PITOT	Advisory	30-31-01
L BLD DUCT LEAK	Caution	26-18-01
L BLD ISLN VAL	Advisory	36-11-06
L BLEED FAMV	Status	36-12-02
L BLEED HPSOV	Status	36-11-02
L BLEED PRESS SENSOR	Status	36-21-03
L BLEED PRSOV	Status	36-11-01
L BLEED PRV	Status	36-11-08
L BLEED TEMP SENSOR	Status	36-22-05
L BUS ISOLATED	Advisory	None
L CAB TEMP CONT	Status	21-61-08
L COND TEMP CONT	Status	21-52-08
L COWL DUCT LEAK	Status	30-21-01
L COWL OVHT	Caution	30-21-03
L CPRSR SNSR	Status	21-52-07
L CTR ENT DOOR	Advisory	52-71-01
L DATALINK SYS	Status	23-22-01
L DCU	Status	None
L DEM HYD OVHT	Advisory	None
L DPC	Status	31-63-04
L DRAG BRACE	Caution	None
L DUCT LEAK LP 1	Status	26-18-01
L DUCT LEAK LP 2	Status	26-18-01
L ECON CLG VALVE	Status	None
L EEC OFF	Caution	N/A
L EEC TEST PWR	Status	N/A
L EFIS CONTROL PNL	Advisory	31-63-02
L EFIS CONTROL PNL	Status	31-63-02
L EICAS CMPTR	Status	31-41-01
L EMER DOOR	Advisory	52-71-01
L ENG A/O VALVE	Status	75-21-02
L ENG ANALOG N2	Status	None
L ENG ANALOG N3	Status	77-12-04
L ENG ANTI-ICE	Advisory	30-21-01 30-21-02

EICAS MESSAGE	LEVEL	MEL ITEM
L ENG BLD OVHT	Advisory	None
L ENG BLEED OFF	Advisory	36-11-01
L ENG BLEED VAL	Caution	36-11-02
L ENG BTL 1	Advisory	26-20-01
L ENG BTL 2	Advisory	26-20-01
L ENG CH/A INHIB	Status	None
L ENG CONTROL	Advisory	None
L ENG CONTROL	Status	None
L ENG EEC	Advisory	73-21-01 73-21-02
L ENG EEC C1	Status	73-21-01
L ENG EEC MODE	Advisory	73-21-01
L ENG EEC PROBE	Advisory	30-34-01
L ENG ESCV	Status	75-24-02
L ENG FAIL	Caution	None
L ENG FIRE LP 1	Status	26-11-01
L ENG FIRE LP 2	Status	26-11-01
L ENG FUEL FILT	Advisory	None
L ENG FUEL FILT	Status	None
L ENG FUEL VAL	Advisory	73-21-03
L ENG FWSOV	Caution	36-11-09
L ENG HI STAGE	Advisory	36-11-02 36-12-02 36-22-02
L ENG HPSOV	Caution	36-11-02
L ENG HPSOV	Status	36-11-02
L ENG HPSOV	Advisory	36-11-02
L ENG IGNITOR 1	Status	74-00-01
L ENG IGNITOR 2	Status	74-00-01
L ENG LIM PROT	Caution	None
L ENG LOW IDLE	Advisory	None
L ENG LP PUMP	Status	None
L ENG O/S GOV	Status	73-21-07
L ENG OH LP 1	Status	26-11-02
L ENG OH LP 2	Status	26-11-02
L ENG OIL PRESS	Advisory	79-33-01
L ENG OVHT	Caution	None
L ENG PRV	Advisory	36-11-08
L ENG PRV	Status	36-11-08
L ENG REV LIMTD	Advisory	78-36-03
L ENG REV LIMTD	Status	78-36-03
L ENG REV POS	Status	78-36-03
L ENG REV POS	Status	78-36-03
L ENG RPM LIM	Advisory	N/A
L ENG SCAV FILT	Status	79-35-03
L ENG SHUTDOWN	Caution	None
L ENG SPEED CARD	Status	None

EICAS MESSAGE	LEVEL	MEL ITEM
L ENG START EGT	Status	None
L ENG STARTER	Advisory	80-00-01 80-00-02 80-11-02
L ENG TAI VALVE	Status	30-21-01
L ENG TURB OVSP	Status	73-21-06
L ENGINE FIRE	Warning	None
L ENTRY DOORS	Advisory	52-71-01
L FLT DK WINDOW	Advisory	N/A
L FMC FAIL	Advisory	34-61-01
L FUEL HEAT VAL	Advisory	73-14-01
L FUEL JET PUMP	Advisory	28-31-03
L FUEL SPAR VAL	Advisory	None
L FUEL SYS PRESS	Caution	None
L FWD EMER DOOR	Advisory	52-71-01
L FWD ENT DOOR	Advisory	52-71-01
L FWD FUEL PUMP	Advisory	28-22-01
L FWD WINDOW	Advisory	30-41-01
L GEN DRIVE	Advisory	24-00-01
L GEN OFF	Advisory	24-00-01
L GLS	Advisory	34-60-03
L GPS	Advisory	34-60-03
L GPS FAIL	Advisory	34-60-03
L HF DATALINK	Status	23-11-01
L HYD DEM PUMP	Advisory	None
L HYD FUEL PR	Advisory	None
L HYD GEN ON	Status	N/A
L HYD GEN VAL	Status	24-25-01 24-25-02
L HYD PRIM PUMP	Advisory	29-31-02B
L HYD QTY	Advisory	29-33-01 29-33-02
L HYD SYS MAINT	Status	None
L HYD SYS PRESS	Caution	None
L ICE DETECTOR	Status	30-80-01
L IDG FILTER	Status	24-00-01
L IDG OIL TEMP	Status	24-00-01
L IDG TEMP SENS	Status	24-00-01
L IDG VALVE	Status	75-21-01
L ILS	Advisory	34-31-01
L IRS DC FAIL	Advisory	34-21-01
L IRS FAULT	Advisory	34-21-01
L IRS ON DC	Advisory	34-21-01
L JET XFR VALVE	Advisory	28-31-03
L MAN PRESS SENSOR	Status	36-21-01
L MLS	Advisory	None
L N1/N2 MSMATCH	Advisory	None
L OIL FILTER	Advisory	79-35-01 79-35-02

EICAS MESSAGE	LEVEL	MEL ITEM
L OIL FILTER	Status	79-35-01 79-35-02
L OIL PRESS MON	Status	79-32-01
L OIL PRESS SNS	Status	None
L PACK	Status	21-51-01 21-51-02
L PACK ACM	Status	21-51-07
L PACK MODE	Advisory	21-51-07 21-52-08
L PACK OFF	Advisory	21-51-01 21-51-02 21-51-03
L PACK OUT SNSR	Status	21-52-06
L PACK TEMP	Advisory	21-51-01 21-51-02 21-51-03
L PDCU	Status	31-63-10
L PRIM HYD OVHT	Advisory	None
L RAM INLET DOOR	Status	21-53-01
L RECIR FAN	Advisory	21-25-01
L REV INTERLOCK	Status	78-34-02
L REV ISLN VAL	Advisory	78-31-01
L REV ISLN VAL	Status	78-31-01
L SATCOM DATA	Status	23-22-01 23-25-01
L SATCOM HI GAIN	Status	23-25-01
L SATCOM SYSTEM	Status	23-25-01
L SATCOM VOICE	Advisory	23-25-01
L SCAV TEMP 1	Status	79-34-01
L SCAV TEMP 2	Status	79-34-01
L SEC HX SNSR	Status	21-52-05
L SIDE BRACE	Caution	None
L SIDE WINDOW	Advisory	30-41-01 30-41-02
L STARTER CUTOUT	Caution	80-00-02 80-11-02
L STRUT DCT LEAK	Caution	26-12-01 26-18-01 36-11-08
L STRUT DCT LP 1	Status	26-18-01
L STRUT DCT LP 2	Status	26-18-01
L TAIL HYD VAL	Advisory	27-03-01
L TAT PROBE	Advisory	30-31-02 30-33-01
L TRIM AIR	Advisory	21-61-03
L TRIM AIR CONT	Status	21-61-03
L TURB OH DET 1	Status	77-22-01
L TURB OH DET 2	Status	77-22-01
L TURB OVSP SYS	Status	73-21-06
L UTIL BUS OFF	Advisory	24-51-01
L WING ANTI-ICE	Advisory	30-11-01 30-11-02
L WING HYD VAL	Advisory	27-03-01
L WING SLIDE	Advisory	52-71-01
L YAW DAMPER	Advisory	22-21-01
L+C HYD SYS PRESS	Caution	None
L+C+R HYD SYS PRESS	Caution	None
L+R AC BUS OFF	Caution	None

EICAS MESSAGE	LEVEL	MEL ITEM
L+R FMC FAIL	Advisory	34-61-01
L+R HYD SYS PRESS	Caution	None
LAVATORY SMOKE	Caution	26-26-03
LAVATORY SMOKE	Advisory	26-26-03
LAV/COMPT SMOKE	Advisory	26-26-03
LDG GEAR MONITOR	Status	32-61-02
LE SLAT ASYM	Caution	None
LE SLAT DISAGREE	Caution	None
LE SLAT SHUTDOWN	Status	None
LFDS	Status	None
LOC DISAGREE	Advisory	34-31-01
LOC FAIL	Advisory	34-31-01
LOW CREW OXYGEN	Advisory	35-11-02
LOW FUEL	Caution	None
MACH/SPD TRIM	Advisory	None
MAIN BAT CHGR	Status	None
MAIN BAT DISCH	Advisory	None
MAIN CARGO DOOR	Warning	None
MAIN CARGO DOOR	Caution	52-71-01
MAIN CARGO FIRE	Warning	None
MID A TEMP CONT	Status	21-61-04
MID B TEMP CONT	Status	21-61-04
MID CABIN TEMP	Advisory	21-61-01 21-61-04 21-61-06
MN CARGO DR IND	Status	52-71-01
MN CARGO LOOP 1	Status	26-16-02
MN CARGO LOOP 2	Status	26-16-02
NITROGN GEN PERF	Status	47-11-01
NITROGN GEN SYS	Status	47-11-01
NO AUTOLAND	Advisory	22-14-02
NO AUTOLAND	Caution	22-14-02
NO AUTOLAND	Status	22-14-02
NO LAND 3	Advisory	22-14-02
NO LAND 3	Caution	22-14-02
NO LAND 3	Status	22-14-02
NORM ANTISKID	Status	32-42-01
NOSE A/G DISAGRE	Status	None
NOSE A/G SYS	Advisory	None
OVERSPEED	Warning	None
PARKING BRAKE	Warning	N/A
PARKING BRAKE	Advisory	32-44-03
PASS OXYGEN LOW	Advisory	35-21-01
PASS OXYGEN ON	Advisory	35-21-01
PILOT RESPONSE	Warning	None
PILOT RESPONSE	Caution	None

EICAS MESSAGE	LEVEL	MEL ITEM
PILOT RESPONSE	Advisory	None
PRIMARY BLD SYS	Status	None
PRINTER	Comm E	N/A
PRINTER	Comm F	N/A
PROBE HEAT	Advisory	30-31-02 30-31-05 30-32-01 30-33-01 30-34-01
R AC BUS OFF	Caution	None
R AFT EMER DOOR	Advisory	52-71-01
R AFT ENT DOOR	Advisory	52-71-01
R AFT FUEL PUMP	Advisory	28-22-01
R AIR DATA	Advisory	34-26-01
R ALTN T/R	Advisory	78-31-01
R AOA PROBE	Advisory	30-32-01
R AUTO IGNITION	Status	74-00-02
R AUX PITOT	Advisory	30-31-01
R BLD DUCT LEAK	Caution	26-18-01
R BLD ISLN VAL	Advisory	36-11-06
R BLEED FAMV	Status	36-12-02
R BLEED HPSOV	Status	36-11-02
R BLEED PRESS SENSOR	Status	36-21-03
R BLEED PRSOV	Status	36-11-01
R BLEED PRV	Status	36-11-08
R BLEED TEMP SENSOR	Status	36-22-05
R BUS ISOLATED	Advisory	None
R CAB TEMP CONT	Status	21-61-08
R COND TEMP CONT	Status	21-52-08
R COWL DUCT LEAK	Status	30-21-01
R COWL OVHT	Caution	30-21-03
R CPRSR SNSR	Status	21-52-07
R CTR ENT DOOR	Advisory	52-71-01
R DATALINK SYS	Status	23-22-01
R DCU	Status	None
R DEM HYD OVHT	Advisory	None
R DPC	Status	31-63-04
R DRAG BRACE	Caution	None
R DUCT LEAK LP 1	Status	26-18-01
R DUCT LEAK LP 2	Status	26-18-01
R ECON CLG VALVE	Status	None
R EEC OFF	Caution	N/A
R EEC TEST PWR	Status	N/A
R EFIS CONTROL PNL	Advisory	31-63-02
R EFIS CONTROL PNL	Status	31-63-02
R EICAS CMPTR	Status	31-41-01
R EMER DOOR	Advisory	52-71-01
R ENG A/O VALVE	Status	75-21-02

EICAS MESSAGE	LEVEL	MEL ITEM
R ENG ANALOG N2	Status	None
R ENG ANALOG N3	Status	77-12-04
R ENG ANTI-ICE	Advisory	30-21-01 30-21-02
R ENG BLD OVHT	Advisory	None
R ENG BLEED OFF	Advisory	36-11-01
R ENG BLEED VAL	Caution	36-11-02
R ENG BTL 1	Advisory	26-20-01
R ENG BTL 2	Advisory	26-20-01
R ENG CH/A INHIB	Status	None
R ENG CONTROL	Advisory	None
R ENG CONTROL	Status	None
R ENG EEC	Advisory	73-21-01 73-21-02
R ENG EEC C1	Status	73-21-01
R ENG EEC MODE	Advisory	73-21-01
R ENG EEC PROBE	Advisory	30-34-01
R ENG ESCV	Status	75-24-02
R ENG FAIL	Caution	None
R ENG FIRE LP 1	Status	26-11-01
R ENG FIRE LP 2	Status	26-11-01
R ENG FUEL FILT	Advisory	None
R ENG FUEL FILT	Status	None
R ENG FUEL FILT	Advisory	None
R ENG FUEL VAL	Advisory	73-21-03
R ENG FWSOV	Caution	36-11-09
R ENG HI STAGE	Advisory	36-11-02 36-12-02 36-22-02
R ENG HPSOV	Caution	36-11-02
R ENG HPSOV	Status	36-11-02
R ENG HPSOV	Advisory	36-11-02
R ENG IGNITOR 1	Status	74-00-01
R ENG IGNITOR 2	Status	74-00-01
R ENG LIM PROT	Caution	None
R ENG LOW IDLE	Advisory	None
R ENG LP PUMP	Status	None
R ENG O/S GOV	Status	73-21-07
R ENG OH LP 1	Status	26-11-02
R ENG OH LP 2	Status	26-11-02
R ENG OIL PRESS	Advisory	79-33-01
R ENG OVHT	Caution	None
R ENG PRV	Advisory	36-11-08
R ENG PRV	Status	36-11-08
R ENG REV LIMTD	Advisory	78-36-03
R ENG REV LIMTD	Status	78-36-03
R ENG REV POS	Status	78-36-03
R ENG REV POS	Status	78-36-03

EICAS MESSAGE	LEVEL	MEL ITEM
R ENG RPM LIM	Advisory	N/A
R ENG SCAV FILT	Status	79-35-03
R ENG SHUTDOWN	Caution	None
R ENG SPEED CARD	Status	None
R ENG START EGT	Status	None
R ENG STARTER	Advisory	80-00-01 80-00-02 80-11-02
R ENG TAI VALVE	Status	30-21-01
R ENG TURB OVSP	Status	73-21-06
R ENGINE FIRE	Warning	None
R ENTRY DOORS	Advisory	52-71-01
R FLT DK WINDOW	Advisory	None
R FMC FAIL	Advisory	34-61-01
R FUEL HEAT VAL	Advisory	73-14-01
R FUEL JET PUMP	Advisory	28-31-03
R FUEL SPAR VAL	Advisory	None
R FUEL SYS PRESS	Caution	None
R FWD EMER DOOR	Advisory	52-71-01
R FWD ENT DOOR	Advisory	52-71-01
R FWD FUEL PUMP	Advisory	28-22-01
R FWD WINDOW	Advisory	30-41-01
R GEN DRIVE	Advisory	24-00-01
R GEN OFF	Advisory	24-00-01
R GLS	Advisory	34-60-03
R GPS	Advisory	34-60-03
R GPS FAIL	Advisory	34-60-03
R HF DATALINK	Status	23-11-01
R HYD DEM PUMP	Advisory	None
R HYD FUEL PR	Advisory	None
R HYD GEN ON	Status	None
R HYD GEN VAL	Status	24-25-01 24-25-02
R HYD PRIM PUMP	Advisory	None
R HYD QTY	Advisory	29-33-01 29-33-02
R HYD SYS MAINT	Status	None
R HYD SYS PRESS	Caution	None
R ICE DETECTOR	Status	30-80-01
R IDG FILTER	Status	24-00-01
R IDG OIL TEMP	Status	24-00-01
R IDG TEMP SENS	Status	24-00-01
R IDG VALVE	Status	75-21-01
R ILS	Advisory	34-31-01
R IRS DC FAIL	Advisory	34-21-01
R IRS FAULT	Advisory	34-21-01
R IRS ON DC	Advisory	34-21-01
R JET XFR VALVE	Advisory	28-31-03

EICAS MESSAGE	LEVEL	MEL ITEM
R MAN PRESS SENSOR	Status	36-21-01
R MLS	Advisory	None
R N1/N2 MSMATCH	Advisory	None
R OIL FILTER	Advisory	79-35-01 79-35-02
R OIL FILTER	Status	79-35-01 79-35-02
R OIL PRESS MON	Status	79-32-01
R OIL PRESS SNS	Status	None
R PACK	Status	21-51-01 21-51-02
R PACK ACM	Status	21-51-07
R PACK MODE	Advisory	21-51-07 21-52-08
R PACK OFF	Advisory	21-51-01 21-51-02 21-51-03
R PACK OUT SNSR	Status	21-52-06
R PACK TEMP	Advisory	21-51-01 21-51-02 21-51-03
R PDCU	Status	31-63-10
R PRIM HYD OVHT	Advisory	None
R RAM INLET DOOR	Status	21-53-01
R RECIR FAN	Advisory	21-25-01
R REV INTERLOCK	Status	78-34-02
R REV ISLN VAL	Advisory	78-31-01
R REV ISLN VAL	Status	78-31-01
R SATCOM DATA	Status	23-22-01 23-25-01
R SATCOM HI GAIN	Status	23-25-01
R SATCOM SYSTEM	Status	23-25-01
R SATCOM VOICE	Advisory	23-25-01
R SCAV TEMP 1	Status	79-34-01
R SCAV TEMP 2	Status	79-34-01
R SEC HX SNSR	Status	21-52-05
R SIDE BRACE	Caution	None
R SIDE WINDOW	Advisory	30-41-01 30-41-02
R STARTER CUTOUT	Caution	80-00-02 80-11-02
R STRUT DCT LEAK	Caution	26-12-02 26-18-01 36-11-08
R STRUT DCT LP 1	Status	26-18-01
R STRUT DCT LP 2	Status	26-18-01
R TAIL HYD VAL	Advisory	27-03-01
R TAT PROBE	Advisory	30-31-02 30-33-01
R TRIM AIR	Advisory	21-61-03
R TRIM AIR CONT	Status	21-61-03
R TURB OH DET 1	Status	77-22-01
R TURB OH DET 2	Status	77-22-01
R TURB OVSP SYS	Status	73-21-06
R UTIL BUS OFF	Advisory	24-51-01
R WING ANTI-ICE	Advisory	30-11-01 30-11-02
R WING HYD VAL	Advisory	27-03-01
R WING SLIDE	Advisory	52-71-01

EICAS MESSAGE	LEVEL	MEL ITEM
R YAW DAMPER	Advisory	22-21-01
R+C HYD SYS PRESS	Caution	None
RA DISAGREE	Advisory	34-33-01
RADIO TRANSMIT	Advisory	23-11-01 23-51-04
RAT UNLOCKED	Advisory	None
REMOTE LIGHT SENSOR	Status	31-63-07
RSV BRAKE VAL	Advisory	None
RUDDER RATIO	Advisory	None
SATCOM	Advisory	23-25-01
SATCOM DATA	Status	23-22-01 23-25-01
SATCOM DATALINK	Advisory	23-25-01
SATCOM HIGH GAIN	Status	23-25-01
SATCOM LOW GAIN	Status	23-25-01
SATCOM MESSAGE	Comm E	N/A
SATCOM VOICE	Advisory	23-25-01
SATVOICE AVAIL	Advisory	N/A
SATVOICE AVAIL	Comm F	N/A
SATVOICE LOST	Advisory	23-25-01
SELCAL	Comm E	N/A
SGL SOURCE DISPLAYS	Caution	None
SGL SOURCE FLT DIR	Advisory	N/A
SGL SOURCE ILS	Advisory	34-31-01
SGL SOURCE IRS	Advisory	N/A
SGL SOURCE RAD ALT	Advisory	34-33-01
SINGLE AIR DATA	Advisory	N/A
SPEEDBRAKES EXT	Caution	27-62-02
SPOILERS	Warning	None
SPOILERS	Advisory	None
STAB TRIM	Advisory	27-41-02 29-31-01 29-33-01
STABILIZER	Warning	None
STANDBY BUS OFF	Advisory	None
STBY INST PITOT	Advisory	30-31-01 30-31-02
STBY INVERTER	Status	None
T-R UNIT	Status	None
TAI N1	Advisory	30-34-02
TAILSKID	Advisory	32-71-01
TAILSTRIKE AHEAD	Caution	N/A
TAT PROBE	Advisory	30-31-02 30-33-01
TCAS	Advisory	34-61-02
TCAS FAIL	Advisory	34-61-02
TCAS OFF	Advisory	34-61-02
TE FLAP ASYM	Caution	None
TE FLAP DISAGREE	Caution	None
TE FLAP SHUTDOWN	Status	None

EICAS MESSAGE	LEVEL	MEL ITEM
TERR OVRD	Advisory	34-46-01
TERR POS	Advisory	34-46-01
TERR SYS	Status	34-46-01
THERAP OXY ON	Advisory	None
TIRE PRESSURE	Advisory	32-45-03
TIRE PRESSURE	Status	32-45-03
TRACK DISAGREE	Advisory	34-21-01 34-22-03 34-22-05
TRACK FAIL	Advisory	34-25-01
TRIM AIR	Advisory	21-61-03 21-61-04
UNABLE RNP	Caution	N/A
UNABLE RNP	Advisory	N/A
UNSCHD STAB TRIM	Caution	None
VHF DATA OFF	Comm F	N/A
WARN ELEX	Status	27-32-02 34-61-01
WHEEL WELL FIRE	Warning	26-17-01
WINDOW HEAT	Advisory	30-41-01
WINDSHEAR PRED	Status	34-43-01
WINDSHEAR REAC	Status	34-46-01
WINDSHEAR SYS	Advisory	34-46-01 34-43-01
WNSHR ALERT SYS	Advisory	34-46-01
WXR SYS	Status	34-43-01
YSM	Status	27-09-01

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ATA 05 Contents

05-00-60 ER (ETOPS) Status.....05-2
05-00-12 ER (ETOPS) Status.....05-3

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
05-00-60 ER (ETOPS) Status **"DISP.APPR.REQ'D"** Administrative Control Item	**N**	-	-		**(O)(M)** Authorized by MCC when: a) ER (ETOPS) operations beyond 60 minutes are not authorized, and b) No specific MEL item applies. NOTE 1: MCC will determine the requirements for restricting an aircraft from ETOPS operations. NOTE 2: This Item Number is only used for deferring the ER (ETOPS) status of the aircraft to 60 minutes or less and is not to be used for deferring the status of any system or component. MCC authorization is required prior to its usage or removal.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
05-00-60	Adjacent to each PFD.	ER (ETOPS) OPERATIONS BEYOND 60 MINUTES – NOT AUTHORIZED

(O) PROCEDURES

ER (ETOPS) operations beyond 60 minutes - Not Authorized.

(M) PROCEDURES

1. The AMT will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate MEL Item Number.
2. The deferral code ETO must also be entered on the log page and the placard when deferring this item.
3. MCC authorization is required prior to its usage or removal.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
05-00-12 ER (ETOPS) Status **"DISP.APPR.REQ'D"** Administrative Control Item	**N**	-	-		**(O)(M)** Authorized by MCC when: a) ER (ETOPS) operations beyond 120 minutes are not authorized, and b) No specific MEL item applies. NOTE 1: MCC will determine the requirements for restricting an aircraft from ETOPS operations. NOTE 2: This Item Number is only used for deferring the ER (ETOPS) status of the aircraft to 120 minutes or less and is not to be used for deferring the status of any system or component. MCC authorization is required prior to its usage or removal.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
05-00-12	Adjacent to each PFD.	ER (ETOPS) OPERATIONS BEYOND 120 MINUTES – NOT AUTHORIZED

(O) PROCEDURES

ER (ETOPS) operations beyond 120 minutes - Not Authorized.

(M) PROCEDURES

1. The AMT will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate MEL Item Number.
2. The deferral code ETO must also be entered on the log page and the placard when deferring this item.
3. MCC authorization is required prior to its usage or removal.

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ATA 11 Contents

11-00-01 Aircraft Placards / Markings Repair Installed 11-2

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
11-00-01 Aircraft Placards / Markings Repair Installed **"Contact MCC"** Administrative Control Item	**N**	-	-	-	Item may be used to track repair provided: a) MCC determines that placard is FAA required, b) Install repair per TOPP 40-40-05, c) Enter in log book repair is applied per TOPP 40-40-05, and d) Enter in log book that repair is deferred per MEL 11-00-01. NOTE: If MCC determines that placard is not FAA required, use TOPP 40-40-08 (NEF).

MEL ITEM	TAB LOCATION	PLACARD TEXT
11-00-01	Logbook	_____Repaired per TOPP 40-40-05

ATA 21 Contents

21-20-01	A/C Ozone Converters	21-9
21-22-01	Flight Deck Supply Boost Fan	21-10
21-24-01	Gasper Fan	21-11
21-25-01A	Recirculation Fans	21-12
21-25-02	Recirculation Fan INOP Lights	21-13
	Lower Lobe Flight Crew / Attendant Rest Air Distribution System	21-14
21-29-02A	Lower Lobe Flight Crew / Attendant Rest Air Distribution System	21-14
21-29-02B	Lower Lobe Flight Crew / Attendant Rest Air Flow Sensor	21-14
21-31-01A	Auto Cabin Pressure Control Systems	21-15
21-31-02	Manual Cabin Pressure Control System	21-19
21-31-03	Outflow Valve	21-20
21-32-01A	Positive Pressure Relief Valves	21-21
21-33-01A	Cabin Rate of Climb Indicator	21-23
21-33-02A	CABIN DIFF Pressure Indicator	21-24
21-33-03A	CABIN ALT Indicator	21-26
21-33-04	Outflow VALVE Position Indicator	21-28
21-33-05	AUTO INOP Light (Cabin Altitude Control)	21-29
21-33-06A	Cabin Altitude Warning System	21-30
21-33-06B	Crew Rest Altitude Alert Light / Horn	21-30
	CARGO HEATING SYSTEMS	21-31
21-40-01A	Fwd and Aft	21-31
21-40-01B	Bulk	21-31
21-40-01C	Bulk Cargo Vent Fan	21-31
	CARGO HEAT INDICATING SYSTEMS (OVHT and ON Lights)	21-36
21-40-02A	Fwd and/or Aft	21-36
21-40-02C	Bulk	21-36
21-45-01A	Flight Crew Auxiliary Heat Systems	21-38
21-45-03	Door Heater Systems (Type A, I, III Doors)	21-39
21-51-01A	Air Conditioning Packs	21-40
21-51-02A	Pack Flow Control / Shutoff Valves	21-43
21-51-02B	Hi-Flow Mode	21-43
	PACK TEMPERATURE CONTROL SYSTEMS	21-44
21-51-03A	Auto Mode	21-44
21-51-03B	Standby Mode	21-44
21-51-03C	Pack Temperature Control Systems	21-44
21-51-04A	Pack Temperature Control Valves	21-45
21-51-05	Pack Altitude Switch	21-46
21-51-07	Air Cycle Machine	21-47
21-52-01A	PACK RESET Switches	21-48
21-52-02	Pack INOP Lights	21-49
21-52-03	Air Conditioning PACK OFF Lights	21-50
21-53-01A	Ram Air Inlet / Exhaust Door Systems	21-51
21-58-01	Forward Equipment Cooling AUTO System	21-55
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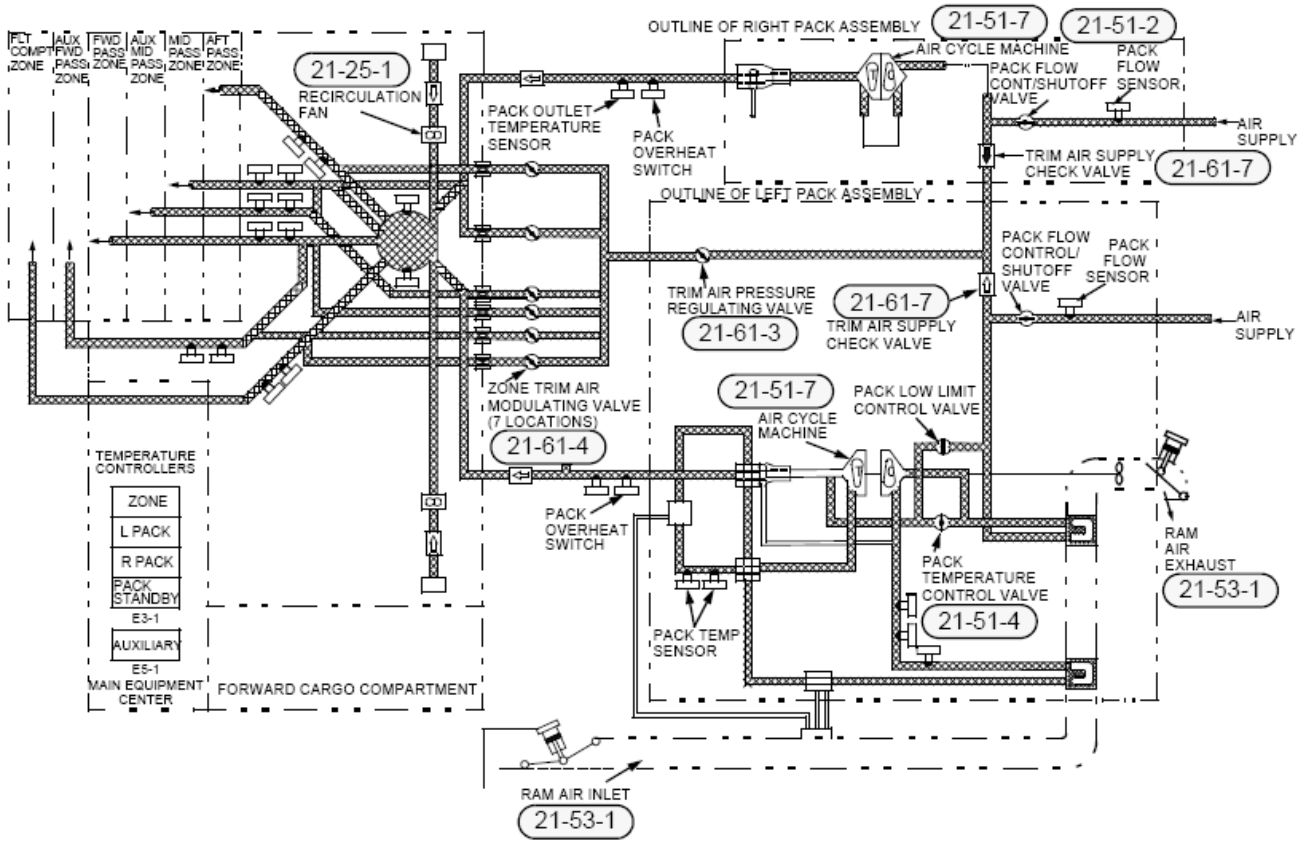
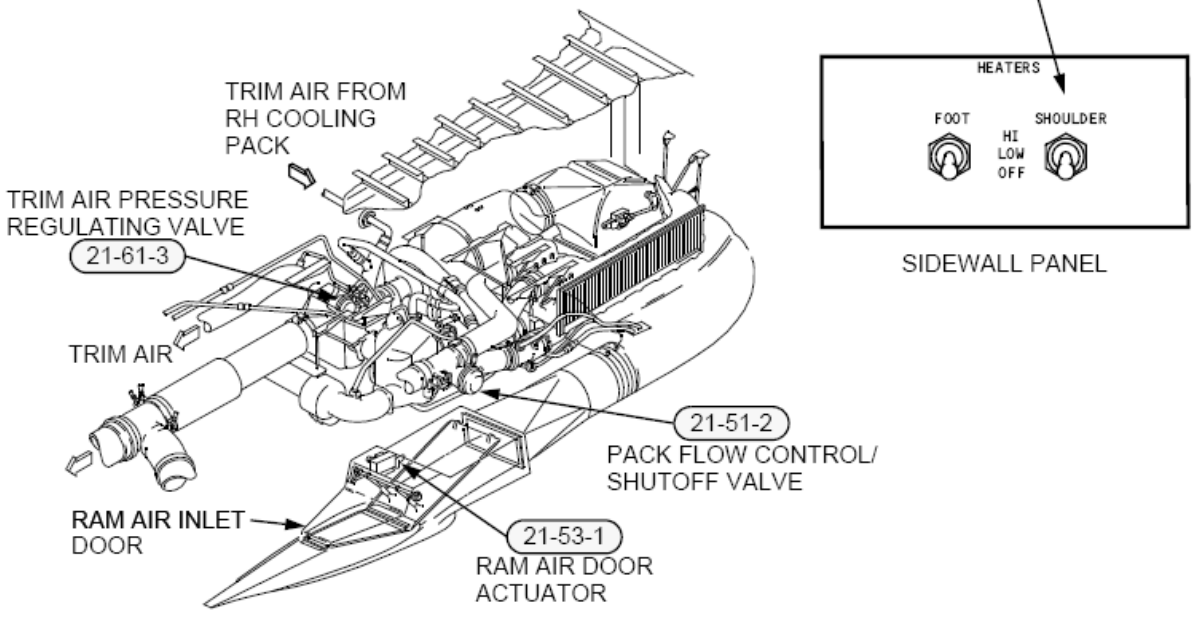


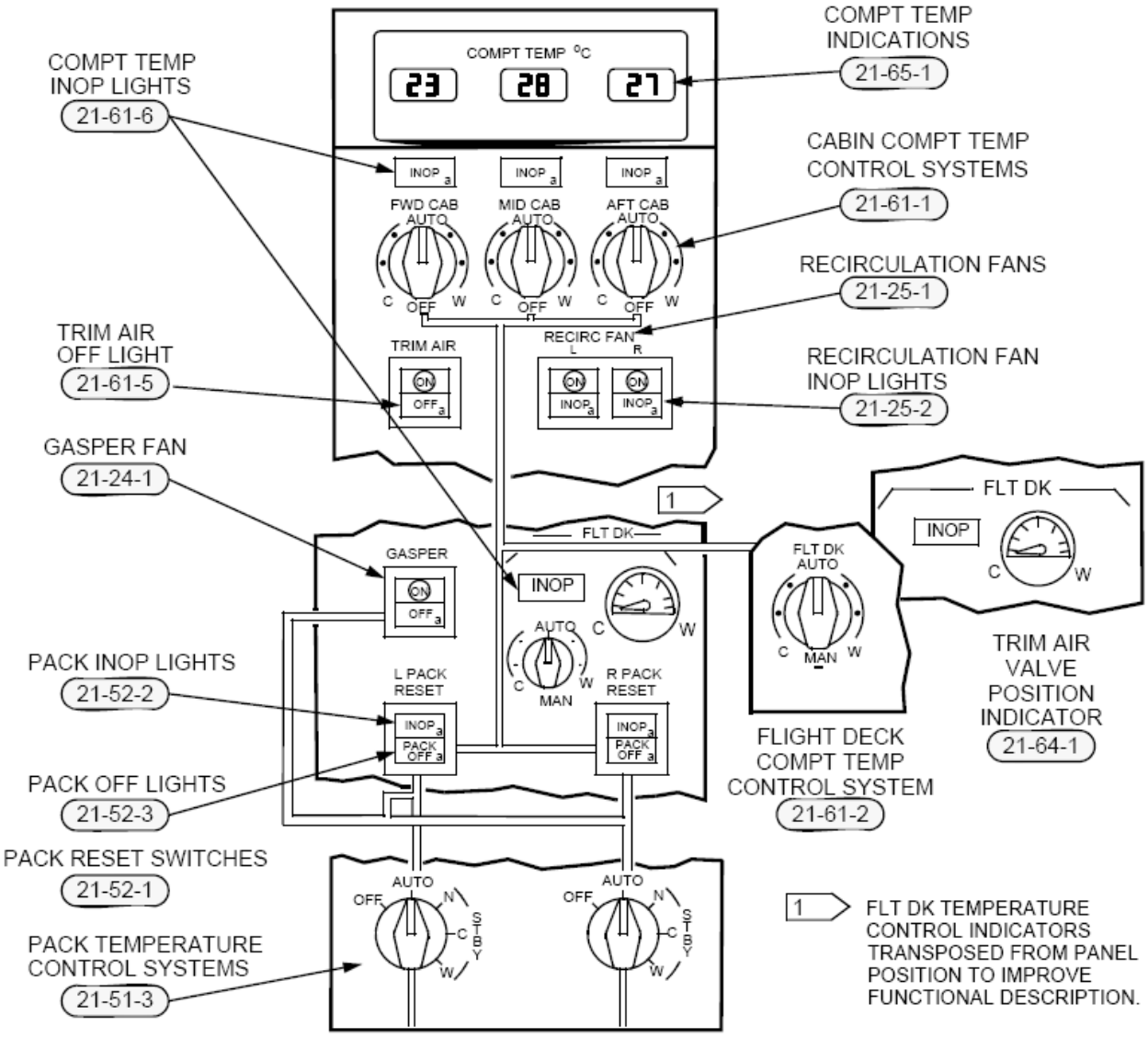
AIR CONDITIONING SYSTEM
(-300 SIX ZONE SYSTEM SHOWN)



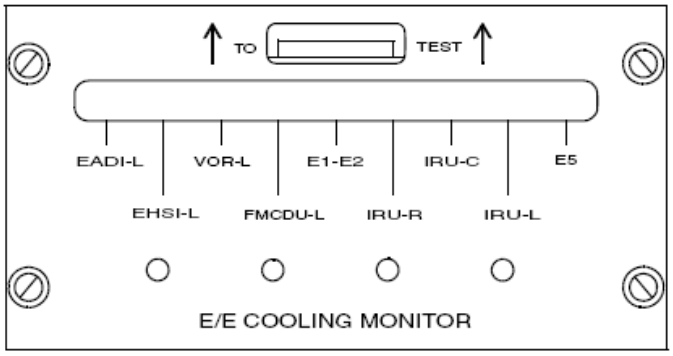
COOLING PACK (-200/-300 SHOWN, TOP VIEW)

FLIGHT CREW AUXILIARY HEAT SYSTEMS
21-45-1

SIDEWALL PANEL

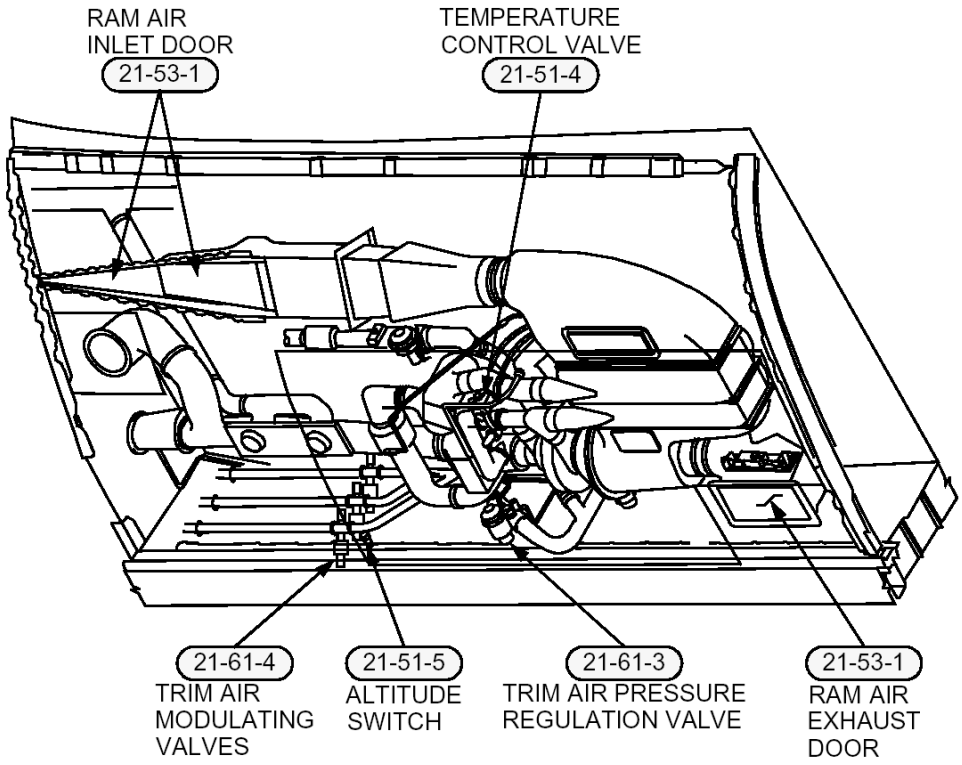


AIR CONDITIONING SYSTEM DIAGRAM
(-200 FOUR ZONE CONFIGURATION SHOWN)

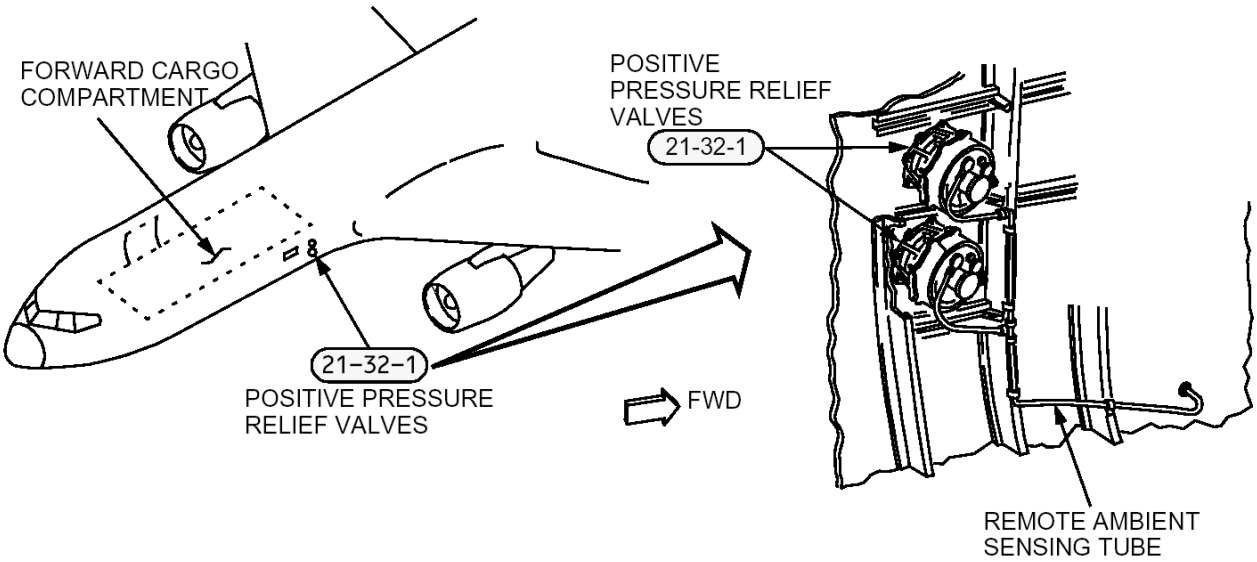


21-58-12

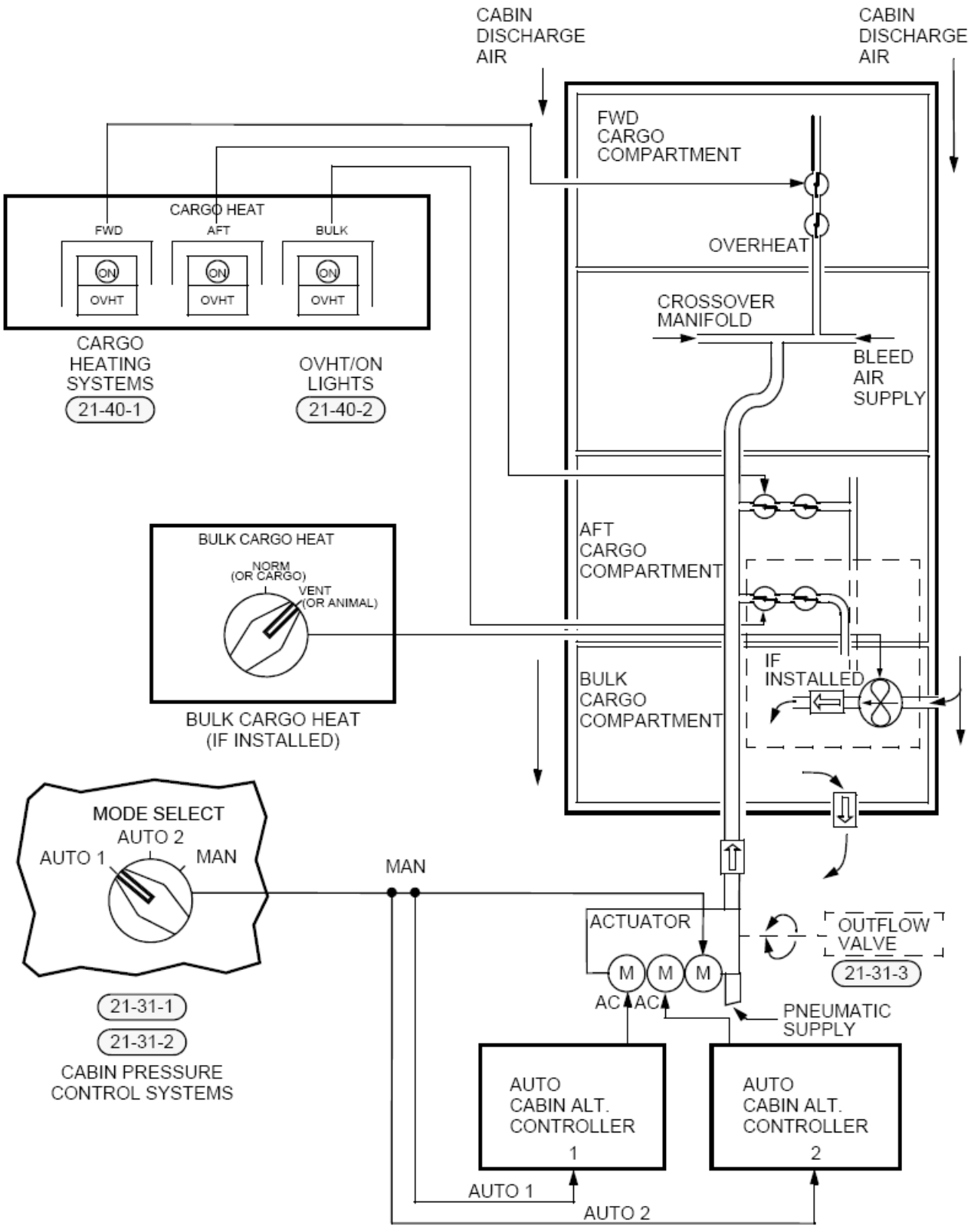
INSTRUMENT COOLING MONITOR INDICATOR



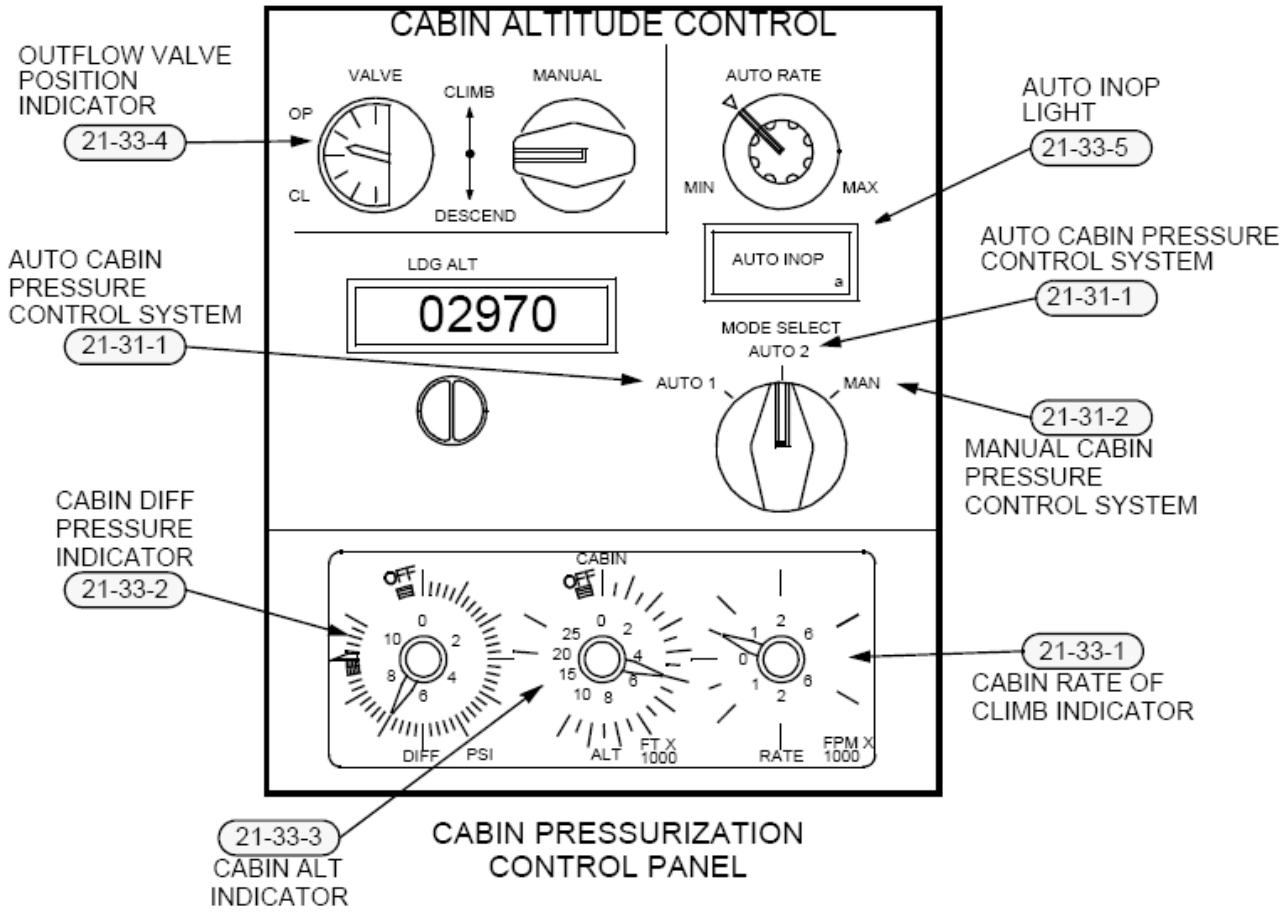
RAM AIR SYSTEM
(-200/-300 LEFT SYSTEM SHOWN, RIGHT SYSTEM OPPOSITE)



POSITIVE PRESSURE RELIEF VALVES
(VIEW FROM INSIDE OF AIRPLANE)

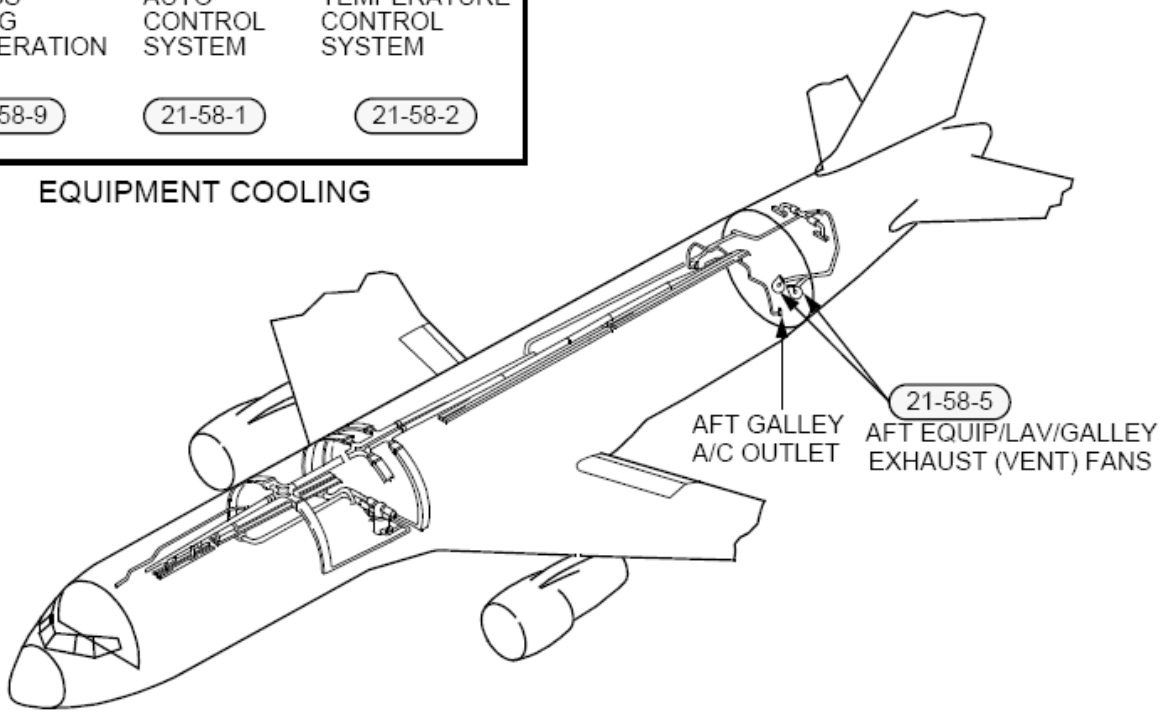


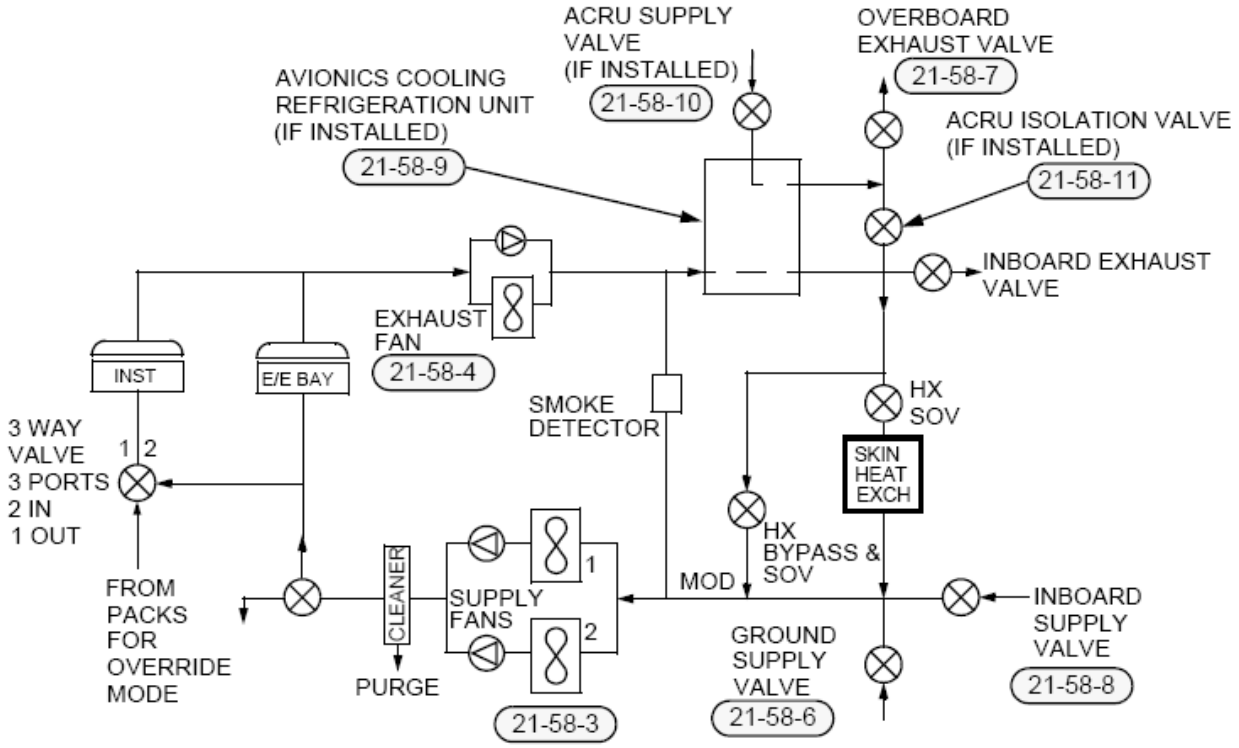
CABIN ALTITUDE CONTROL AND CARGO HEAT SYSTEM



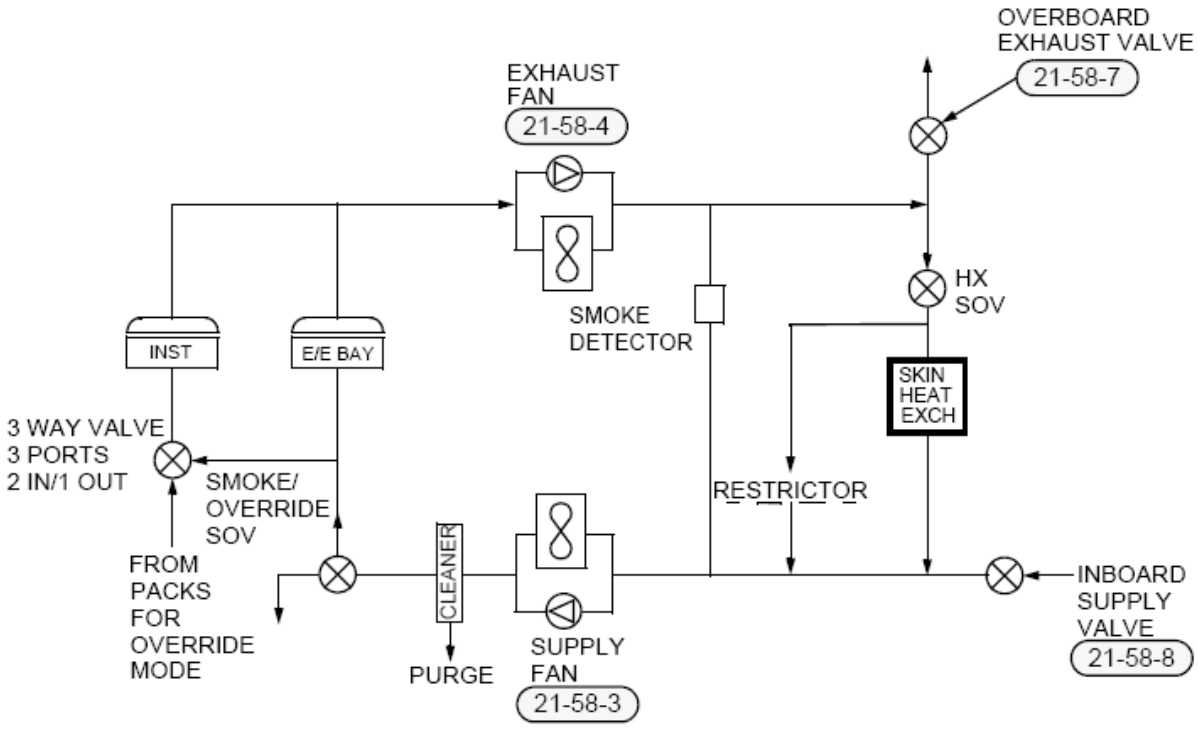
AVIONICS COOLING REFRIGERATION UNIT	AUTO CONTROL SYSTEM	TEMPERATURE CONTROL SYSTEM
21-58-9	21-58-1	21-58-2

EQUIPMENT COOLING





TWO SUPPLY FAN INSTALLATION



ONE SUPPLY FAN INSTALLATION

FORWARD EQUIPMENT COOLING

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-20-01 A/C Ozone Converters **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** Any or all may be inoperative provided: a) An ozone forecast is obtained from Meteorology, and b) The flight path of the airplane avoids altitudes and/or areas where ozone concentrations are forecast.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-20-01	Associated Pack Switch	____ A/C Ozone Converter INOP

(O) PROCEDURES

Ensure that the flight path of the aircraft avoids the altitudes and/or areas where ozone concentrations are forecast.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-22-01	Flight Deck Supply Boost Fan	**N**	1	0	**D**	**(M)** May be inoperative deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-22-01	Near Left Pack Switch	Flight Deck Supply Boost Fan INOP

(M) PROCEDURES

Pull and secure the following P34 panel circuit breakers:

A/C GND BOOST FAN

GND BOOST FAN CONTROL

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-24-01 Gasper Fan	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-24-01	Gasper Fan Switch	Gasper Fan INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-25-01A Recirculation Fans	**Y**	2	1	**C**	
21-25-01B Recirculation Fans **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided both packs operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-25-01A	Associated Recirculation Fan Switch	____ Recirculation Fan INOP
21-25-01B	Near Recirculation Fan Switches	Both Recirculation Fans INOP

NOTE: For a recirculation fan failed or turned off, the associated a/c pack goes to the high flow mode.

(O) PROCEDURES

21-25-01B

NOTE: For a pack to be operating normally, certain items associated with that system must be operative. Refer to MEL 21-51-01 for a listing of those items.

21-25-01B	**RECIRCULATION FANS**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.6% with both recirculation fans off.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-25-02	Recirculation Fan INOP Lights	**Y**	2	0	**C**	**(M)** May be inoperative provided associated EICAS message is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-25-02	Associated Recirculation Fan Switch	____ Recirculation Fan INOP Light(s) INOP

(M) PROCEDURES

Do the following procedure to verify that the EICAS Advisory message L/R RECIR FAN operates normally:

1. Turn recirculation fan switch(es) to ON.
2. Open circuit breaker RECIRC FAN L on P36 panel.
3. If the EICAS advisory message L RECIR FAN is displayed, the message operates normally.
4. Close circuit breaker RECIRC FAN L on P36 panel.
5. Open circuit breaker RECIRC FAN R on P37 panel.
6. If the EICAS advisory message R RECIR FAN is displayed, the message operates normally.
7. Close circuit breaker RECIRC FAN R on P37 panel.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	LOWER LOBE FLIGHT CREW / ATTENDANT REST AIR DISTRIBUTION SYSTEM					
21-29-02A	Lower Lobe Flight Crew / Attendant Rest Air Distribution System **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(M)** May be inoperative provided: a) Associated Crew Rest Module is not used and personal items are removed, and b) Crew Rest door is closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest area inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.
21-29-02B	Lower Lobe Flight Crew / Attendant Rest Air Flow Sensor **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided no hazardous goods are carried in associated cargo compartment.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-29-02A	Logbook	Lower Lobe _____ Rest Air Distribution System INOP
21-29-02B	Logbook	Lower Lobe _____ Rest Air Flow Sensor INOP

(O) PROCEDURES

21-29-02B

Verify that no hazardous goods are carried in the cargo compartment that contains the affected Lower Lobe Crew Rest.

(M) PROCEDURES

21-29-02A

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Install placard INOPERATIVE – DO NOT ENTER.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-31-01A	Auto Cabin Pressure Control Systems	**Y**	2	1	**C**	May be inoperative provided manual mode and one autopilot operate normally.
21-31-01B	Auto Cabin Pressure Control Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Manual Cabin Pressure Control System operates normally, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
21-31-01C	Auto Cabin Pressure Control Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Extended overwater flight is prohibited, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-31-01A	Cabin Pressure Control Panel	____ Auto Cabin Pressure Control Channel INOP
21-31-01B	Cabin Pressure Control Panel	1. ____ Auto Cabin Pressure Control Channel INOP 2. Do not operate more than one Pack.
21-31-01C	Cabin Pressure Control Panel	1. ____ Auto Cabin Pressure Control Channel INOP 2. Do not operate more than one Pack.

(O) PROCEDURES

21-31-01B

1. During engine start, low flow indication may occur due to a momentary pack off condition.
2. Confirm the forward, aft and bulk cargo compartments are empty or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
3. E/E cooling system is configured for smoke removal:
   a. Do not use the EQUIPMENT SMOKE Non-Normal Checklist.
   b. Ignore the E/E cooling VALVE annunciator and FWD EQPT VAL advisory message.
4. Limit enroute altitude to less than 10,000 feet if possible.
   a. At or above 10,000 feet, be prepared for the CABIN ALT (red) light to illuminate and the aural warning to sound. The aural warning can be silenced.
   b. Flight above 10,000 feet is allowed only if special oxygen requirements are satisfied for flight crew, cabin crew and passengers.

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5. Use zero or one air conditioning pack.
6. To avoid passenger/flight crew discomfort, after takeoff obstacle clearance has been assured, limit climb and descent to approximately 500 fpm.
7. Give consideration to passenger comfort due to reduced air circulation and temperature control. If both recirculation fans are operative, use both.
8. Notify flight attendants the forward galley chiller is inoperative.
9. Do not change the outflow valve position with manual control except as required for ditching.
10. For ditching operation, push in the EQUIPMENT COOLING OUTBD VALVES circuit breaker.

21-31-01C

1. Extended overwater flight is prohibited.
2. During engine start, low flow indication may occur due to a momentary pack off condition.
3. Confirm the forward, aft and bulk cargo compartments are empty or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
4. E/E cooling system is configured for smoke removal:
   a. Do not use the EQUIPMENT SMOKE Non-Normal Checklist.
   b. Ignore the E/E cooling VALVE annunciator and FWD EQPT VAL advisory message.
5. Limit enroute altitude to less than 10,000 feet if possible.
   a. At or above 10,000 feet, be prepared for the CABIN ALT (red) light to illuminate and the aural warning to sound. The aural warning can be silenced.
   b. Flight above 10,000 feet is allowed only if special oxygen requirements are satisfied for flight crew, cabin crew and passengers.
6. Use zero or one air conditioning pack.
7. To avoid passenger/flight crew discomfort, after takeoff obstacle clearance has been assured, limit climb and descent to approximately 500 fpm.
8. Give consideration to passenger comfort due to reduced air circulation and temperature control. If both recirculation fans are operative, use both.
9. Notify flight attendants the forward galley chiller is inoperative.
10. Do not change the outflow valve position with manual control except as required for ditching.
11. For ditching operation, push in the EQUIPMENT COOLING OUTBD VALVES circuit breaker.

(M) PROCEDURES

21-31-01B

Configure the airplane for unpressurized flight.

1. Configure the outflow valve:
   a. Set the P5 panel CABIN ALTITUDE CONTROL MODE SELECT selector to MAN.
   b. Rotate the MANUAL selector toward CLIMB (to open the valve) or DESCEND (to close the valve) until the valve position indicator reads approximately 25% open.
   c. Measure the distance between the outflow valve flappers and adjust the MANUAL selector if necessary to ensure the distance between the outflow valve flappers is 0.35” open (+0.05”, -0.00”) or 8.9 mm open (+1.2mm, -0.0mm).
2. Establish the required RECIRC FAN configuration:
   a. For zero (0) operating packs, two (2) recirculation fans are required.
   b. For one (1) operating pack, a minimum of one (1) recirculation fan is required.

      NOTE: Do not operate more than one pack in this configuration.

CONTINUED NEXT PAGE

3. Configure the airplane to ensure adequate equipment cooling and smoke clearance capability:
   a. Open and collar the following P11 panel circuit breakers:
      1) CABIN ALT CONTROL AUTO 1
      2) CABIN ALT CONTROL AUTO 2
   b. Set the EQUIP COOLING selector to AUTO and placard LEAVE IN AUTO.
   c. Open and collar the following P11 panel circuit breakers:
      1) EQUIPMENT COOLING OUTBD VALVES
      2) EQUIPMENT COOLING STANDBY
   d. Open the overboard exhaust valve from outside the airplane using a 3/8 inch drive wrench. Push in the valve manual override to engage the drive and rotate past the point of initial resistance to the full open stop.
   e. Remove, cap, and stow the electrical connector on the E/E cooling system manifold interconnect valve. Confirm the valve position indicator is in the C TO B position.
   f. Gain access to the forward equipment cooling inboard supply valve (AMM 21-58-07/401). Confirm the valve is open.
   g. Gain access to the forward equipment cooling shutoff valve (heat exchanger shutoff valve, some configurations) (AMM 21-58-13/401). Confirm the valve is closed.
   h. On the P37 panel perform the following:
      1) For -300ER PW4000, -300ER CF6-80C2, and 3P6ER CF6-80C2 airplanes remove wire W192-72N from terminal block TB274 at XC12 and stow.
      2) For -300 CF6-80A and -300 PW4000 airplanes, remove wire W192-04G from terminal block TB274 at XC12 and stow.
      3) Fabricate, per standard Wiring Practices D6-54446, ATA 20-90-11, a jumper wire with 10 feet (3 meters) of 20 gauge wire, pin connector BACC47DE7, and pin connector M39029/11-145.
      4) Add the jumper wire between TB274 XC12 and GDX1-DC.
   i. For airplanes configured with no packs operating, disable the ground crew call horn:
      1) Open and collar the P6 panel EQUIP COOL GND WARN circuit breaker.
      2) To avoid battery discharge, confirm the right AC bus is powered if any IRUs are ON.

21-31-01C

Configure the airplane for unpressurized flight.

1. Configure the outflow valve:
   a. Open and collar the P11 panel CABIN ALTITUDE CONTROL MANUAL circuit breaker.
   b. Gain access to the outflow valve actuator through the bulk cargo compartment (AMM 21-31-04/401).
   c. Disconnect the outflow valve actuator connecting rod from the actuator drive arm and valve linkage. Stow the connecting rod.
   d. Remove the connecting pin from the outflow valve hold open tool (Boeing drawing A21008). Install tool halves to the outflow valve linkage and to the surrounding structure.
   e. Adjust the rod end of the hold open tool until the distance between outflow valve flappers is 0.35 inches when the tool is connected.
   f. Install the connecting pin in the hold open tool. Lockwire the valve attach bolt and thumbscrew.
2. Establish the required RECIRC FAN configuration:
   a. For zero (0) operating packs, two (2) recirculation fans are required.
   b. For one (1) operating pack, a minimum of one (1) recirculation fan is required.

      NOTE: Do not operate more than one pack in this configuration.

CONTINUED NEXT PAGE

3. Configure the airplane to ensure adequate equipment cooling and smoke clearance capability: airplanes with the one equipment cooling supply fan system:

   a. Open and collar the following P11 panel circuit breakers:

      1) CABIN ALT CONTROL AUTO 1
      2) CABIN ALT CONTROL AUTO 2
      3) CABIN ALT CONTROL SELECT

   b. Set the EQUIP COOLING selector to AUTO and placard LEAVE IN AUTO.
   c. Open and collar the following P11 panel circuit breakers:

      1) EQUIPMENT COOLING OUTBD VALVES
      2) EQUIPMENT COOLING STANDBY

   d. Open the overboard exhaust valve from outside the airplane using a 3/8 inch drive wrench. Push in the valve manual override to engage drive and rotate past the point of initial resistance to the full open stop.
   e. Remove, cap, and stow the electrical connector on the E/E cooling system manifold interconnect valve. Confirm the valve position indicator is in the C TO B position.
   f. Gain access to the forward equipment cooling inboard supply valve (AMM 21-58-07/401). Confirm the valve is open.
   g. Gain access to the forward equipment cooling shutoff valve (heat exchanger shutoff valve, some configurations) (AMM 21-58-13/401). Confirm the valve is closed.
   h. On the P37 panel perform the following:

      1) For -300ER PW4000, -300ER CF6-80C2, and 3P6ER CF6-80C2 airplanes remove wire W192-72N from terminal block TB274 at XC12 and stow.
      2) For -300 CF6-80A and -300 PW4000 airplanes, remove wire W192-04G from terminal block TB274 at XC12 and stow.
      3) Fabricate, per standard Wiring Practices D6-54446, ATA 20-90-11, a jumper wire with 10 feet (3 meters) of 20 gauge wire, pin connector BACC47DE7, and pin connector M39029/11-145.
      4) Add the jumper wire between TB274 XC12 and GDX1-DC.

   i. For airplanes configured with no packs operating, disable the ground crew call horn:

      1) Open and collar the P6 panel EQUIP COOL GND WARN circuit breaker.
      2) To avoid battery discharge, confirm the right AC bus is powered if any IRUs are ON.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
21-31-02	Manual Cabin Pressure Control System **"DISP.APPR.REQ'D."**	**N** 1	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Extended overwater flight is prohibited, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-31-02	Cabin Pressure Control Panel	Manual Cabin Pressure Control System INOP

(O) PROCEDURES

Use MEL 21-31-01C (O) procedures.

(M) PROCEDURES

Configure the airplane for unpressurized flight using MEL 21-31-01C (M) procedures.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-31-03 Outflow Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Extended overwater flight is prohibited, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-31-03	Cabin Pressure Control Panel	Outflow Valve INOP

(O) PROCEDURES

Use MEL 21-31-01C (O) procedures.

(M) PROCEDURES

Configure the airplane for unpressurized flight using MEL 21-31-01C (M) procedures.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-32-01A	Positive Pressure Relief Valves	**N**	2	1	**C**	**(M)** One may be inoperative CLOSED.
21-32-01B	Positive Pressure Relief Valves **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Manual cabin pressure control system operates normally, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
21-32-01C	Positive Pressure Relief Valves **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Extended overwater flight is prohibited, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-32-01A	Cabin Pressure Control Panel	____ Positive Pressure Relief Valve INOP
21-32-01B	Cabin Pressure Control Panel	Both Positive Pressure Relief Valves INOP
21-32-01C	Cabin Pressure Control Panel	Both Positive Pressure Relief Valves INOP

(O) PROCEDURES

21-32-01B

Use MEL 21-31-01B (O) procedures.

21-32-01C

Use MEL 21-31-01C (O) procedures.

(M) PROCEDURES

21-32-01A

Configure the airplane with the inoperative valve closed.

1. Gain access to the valve (AMM 21-32-01/201).
2. For valve flapper doors open, press the flapper doors closed from outside the airplane.
3. Disconnect the remote (primary) ambient sense line from the primary differential pressure control mechanism and cap with P/N BACC14AD04DL or equivalent (female cap for 1/4" flareless tube with 7/16-20 threads).

CONTINUED NEXT PAGE

4. Plug the remote (primary) ambient sense port with P/N BACP20AU4D (or AS5169W04) or equivalent (male plug for 1/4" tube with 7/16-20 threads).
5. Disconnect the integral (secondary) ambient sense line from the male-to-male reducer on the secondary differential pressure control mechanism, rotate away from the valve body and plug with P/N AS5168-5 or equivalent (male plug for 5/16" flared tube with 1/2-20 threads).

   NOTE: Rotating the line will damage the sealant where the line penetrates the airplane's skin; the sealant must be repaired when the positive pressure relief valve is returned to service.

6. Cap the integral (secondary) ambient sense port with P/N AN929-5D or equivalent (female cap for 5/16" flared tube with 1/2-20 threads).

21-32-01B

Configure the airplane for unpressurized flight using MEL 21-31-01B (M) procedures.

21-32-01C

Configure the airplane for unpressurized flight using MEL 21-31-01C (M) procedures.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
21-33-01A	Cabin Rate of Climb Indicator	**Y**	1	0	**C**	May be inoperative provided both automatic pressure control systems operate normally.
21-33-01B	Cabin Rate of Climb Indicator **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided a) Flight is conducted in an unpressurized configuration, and b) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-33-01A	Cabin Rate of Climb Indicator	Cabin Rate of Climb Indicator INOP
21-33-01B	Cabin Rate of Climb Indicator	Cabin Rate of Climb Indicator INOP

(O) PROCEDURES

21-33-01B

Use MEL 21-31-01B or 21-31-01C (O) procedures, as appropriate.

(M) PROCEDURES

21-33-01B

Configure the airplane for unpressurized flight using MEL 21-31-01B or 21-31-01C (M) procedures, as appropriate.

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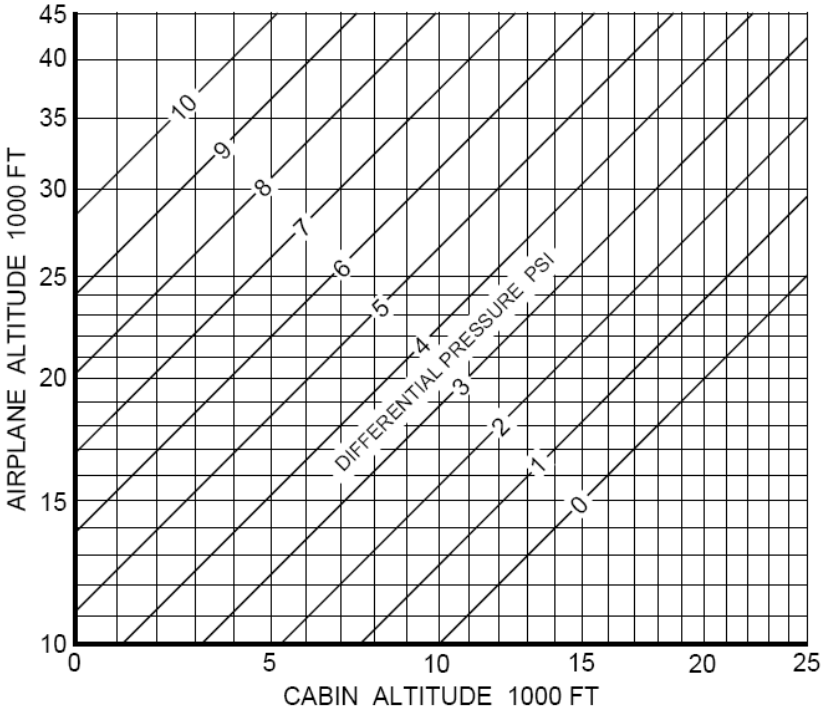
		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-33-02A	CABIN DIFF Pressure Indicator	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) CABIN ALT indicator operates normally, and b) A chart is provided to convert cabin altitude to cabin differential pressure.
21-33-02B	CABIN DIFF Pressure Indicator **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided a) Flight is conducted in an unpressurized configuration, and b) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-33-02A	CABIN DIFF Pressure Indicator	CABIN DIFF Pressure Indicator INOP
21-33-02B	CABIN DIFF Pressure Indicator	CABIN DIFF Pressure Indicator INOP

(O) PROCEDURES

21-33-02A

Use following chart to convert cabin altitude to cabin differential pressure:



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21-33-02B

Use MEL 21-31-01B or 21-31-01C (O) procedures, as appropriate.

(M) PROCEDURES

21-33-02B

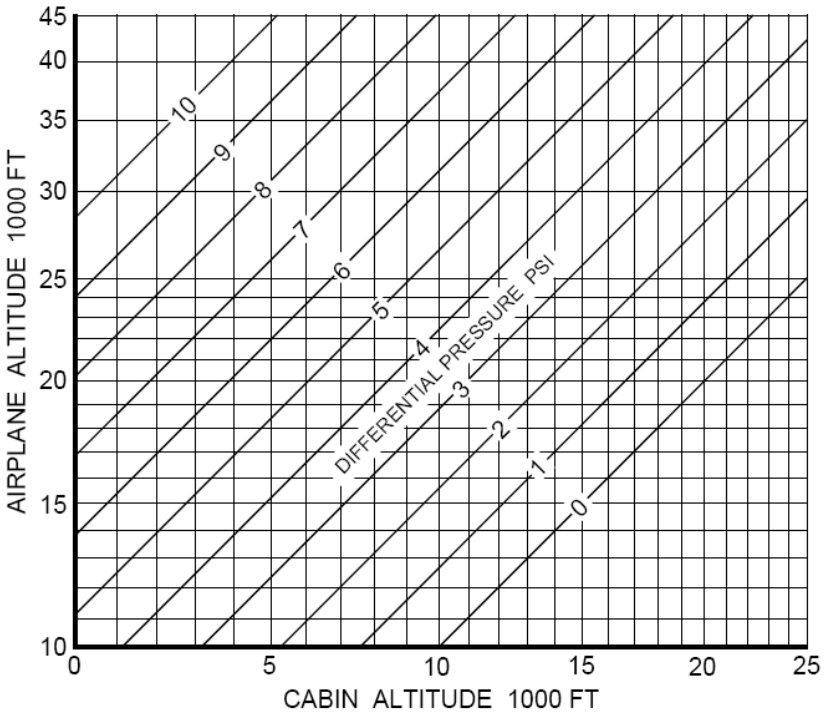
Configure the airplane for unpressurized flight using MEL 21-31-01B or 21-31-01C (M) procedures, as appropriate.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-33-03A CABIN ALT Indicator	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) CABIN DIFF pressure indicator operates normally, and b) A chart is provided to convert cabin differential pressure to cabin altitude.
21-33-03B CABIN ALT Indicator **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided a) Flight is conducted in an unpressurized configuration, and b) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-33-03A	CABIN ALT Indicator	CABIN ALT Indicator INOP
21-33-03B	CABIN ALT Indicator	CABIN ALT Indicator INOP

(O) PROCEDURES

21-33-03A - Use this chart to convert cabin differential pressure to cabin altitude.



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21-33-03B

Use MEL 21-31-01B or 21-31-01C (O) procedures, as appropriate.

(M) PROCEDURES

21-33-03B

Configure the airplane for unpressurized flight using MEL 21-31-01B or 21-31-01C (M) procedures, as appropriate.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD				REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-33-04	Outflow VALVE Position Indicator	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-33-04	Outflow VALVE Position Indicator	Outflow VALVE Position Indicator INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-33-05	AUTO INOP Light (Cabin Altitude Control)	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Both automatic pressure control systems operate normally, and b) CABIN ALT or CABIN RATE of Climb indicator operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-33-05	AUTO INOP Light	Cabin Pressurization AUTO INOP Light INOP

(O) PROCEDURES

Ear discomfort or unscheduled change in cabin altitude are indications of both automatic pressure control systems failure. In the event of a dual failure, select MANUAL on Cabin Altitude Control Mode Select Panel. Manually control cabin altitude and rate of change.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
21-33-06A	Cabin Altitude Warning System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided flight remains at or below 10,000 feet MSL.
21-33-06B	Crew Rest Altitude Alert Light / Horn **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided crew rest module is deactivated CLOSED and deferred per MEL 25-25-07A or 25-25-07B as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-33-06A	CABIN ALTITUDE Warning Light	Cabin Altitude Warning System INOP
21-33-06B	Logbook	Crew Rest Altitude Alert Light/Horn INOP

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
CARGO HEATING SYSTEMS					
21-40-01A Fwd and Aft **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(M)** May be inoperative deactivated. NOTE: No live animals or temperature sensitive cargo may be carried in the associated cargo compartment.
21-40-01B Bulk **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative deactivated. NOTE: No live animals or temperature sensitive cargo may be carried in the associated cargo compartment.
21-40-01C Bulk Cargo Vent Fan **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided BULK CARGO HEAT selector remains in NORM position.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-40-01A	Cargo Heat Control Panel	Fwd / Aft Cargo Heating System INOP
21-40-01B	Cargo Heat Control Panel	Bulk Cargo Heating System INOP
21-40-01C	Cargo Heat Control Panel	Bulk Cargo Vent Fan INOP

NOTE 1: With cargo heat inoperative, associated cargo compartment temperatures may be below freezing.

NOTE 2: During hot weather ground operations cargo compartment temperatures may exceed 32 degrees C, causing the OVHT light to illuminate and EICAS message FWD (AFT, BULK) CARGO OVHT to display.

(O) PROCEDURES

21-40-01C

Animals should not be carried in the Bulk Cargo Compartment with the Bulk Cargo Heating System and/or Bulk Cargo Vent Fan inoperative unless consideration is given to heat, humidity, and CO2 conditions for flight.

(M) PROCEDURES

21-40-01A, 21-40-01B

NOTE: The shutoff valve and flow control valve are in series. One or both of these valves must be closed and electrically disconnected to deactivate the system.

1. Unlatch associated CARGO HEAT control switch (FWD, AFT, or BULK).

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2. Gain access to associated cargo heating shutoff or flow control valve(s) as follows:

   a. FORWARD SYSTEM:
      - Through the right ECS door 194LR (Figure 1).
      - For 767-300 airplanes 143-144, 197-201 & 601-999, the flow control valve is located behind the aft bulkhead of the forward cargo compartment (Figure 2).
   b. AFT SYSTEM: Through the aft cargo door, on heating duct at STA 1358 and LBL 75 between WL 118.5 and 187 (Figure 3).
   c. BULK SYSTEM: Through the aft cargo door, on the bulk heating duct at station 1365, WL 172 and LBL 75 (Figure 3).

3. Remove, cap and stow either shutoff valve or flow control valve electrical connector.
4. Manually close valve (same valve as in step 2) by moving manual override and position indicator lever to the CLOSED position.
5. To inhibit the FWD CARGO OVHT message and OVHT light when the forward cargo heat is deactivated, perform one of the following:

   a. Open C/B FWD CARGO HEAT CONT (R19), ***OR***
   b. Remove K231 FWD CARGO OVHT relay (P37 panel), ***OR***
   c. Disconnect/stow S363 FWD CARGO OVHT TEMP switch connector (ref AMM 21-43-05-401 to locate).

6. To inhibit the AFT CARGO OVHT message and OVHT light when the aft cargo heat is deactivated, perform one of the following:

   a. Remove K229 AFT CARGO OVHT relay (P49 panel), ***OR***
   b. Disconnect/stow S64 AFT CARGO OVHT TEMP switch connector (ref AMM 21-44-05-401 to locate).

7. To inhibit the BULK CARGO OVHT message and OVHT light when the bulk cargo heat is deactivated, perform one of the following:

   a. Remove K729 BULK CARGO OVHT relay (P33 panel), ***OR***
   b. Disconnect/stow S500 BULK CARGO OVHT TEMP switch connector (ref AMM 21-44-06-401 to locate).

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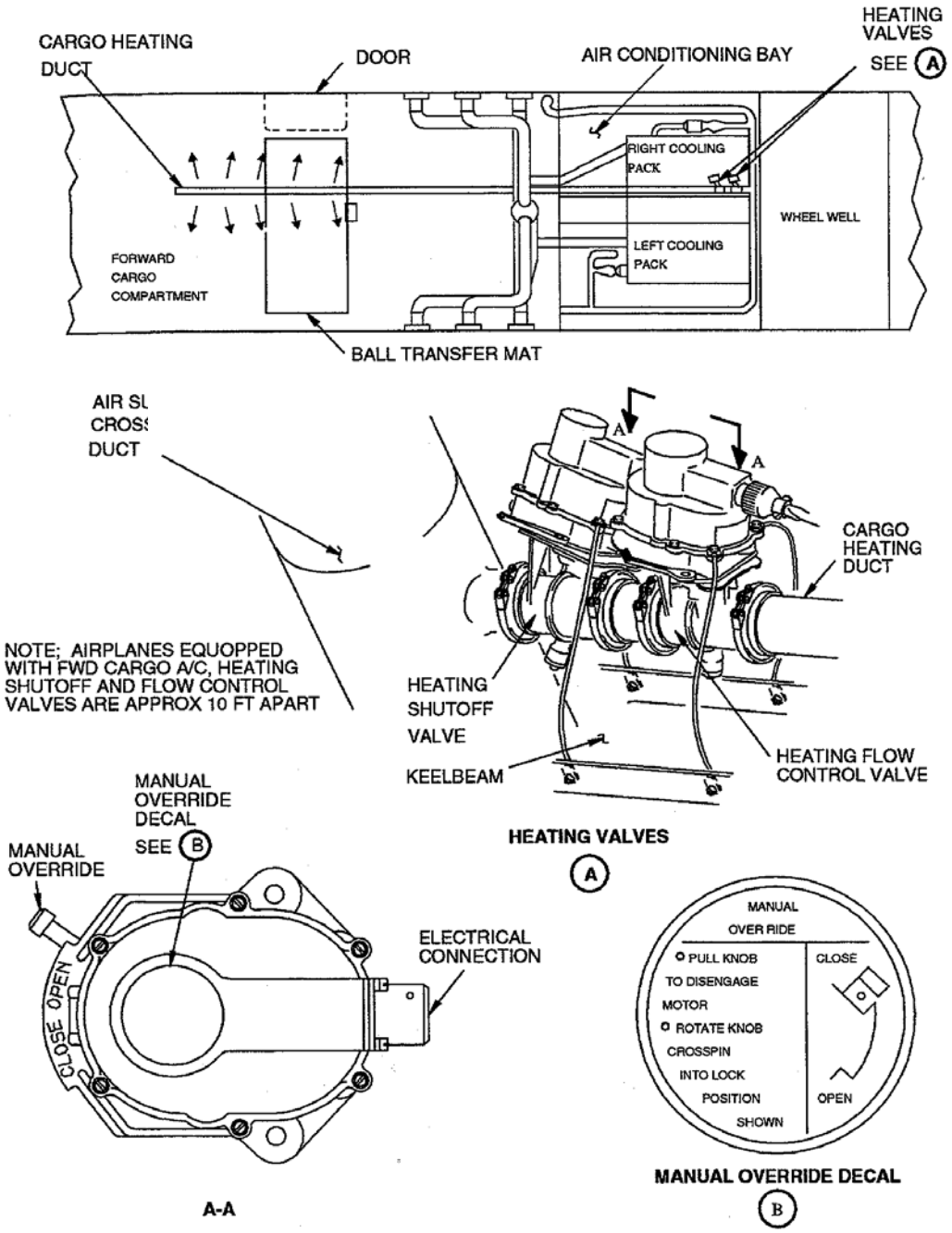

FORWARD CARGO COMPARTMENT HEATING SYSTEM

Figure 1

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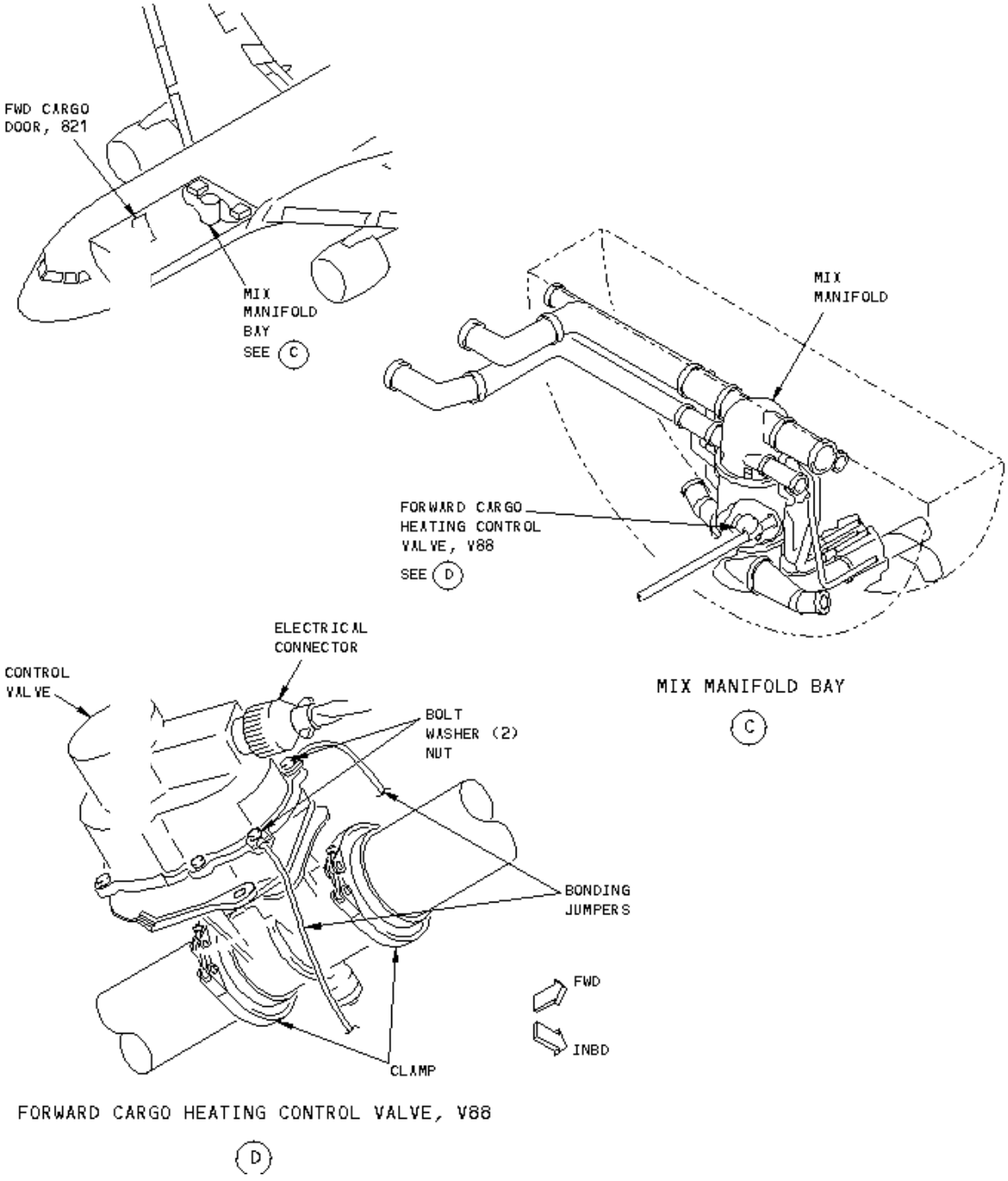

Forward Cargo Heat Control Valve
767-300 Effectivity 143-144, 197-201, 601-999
Figure 2

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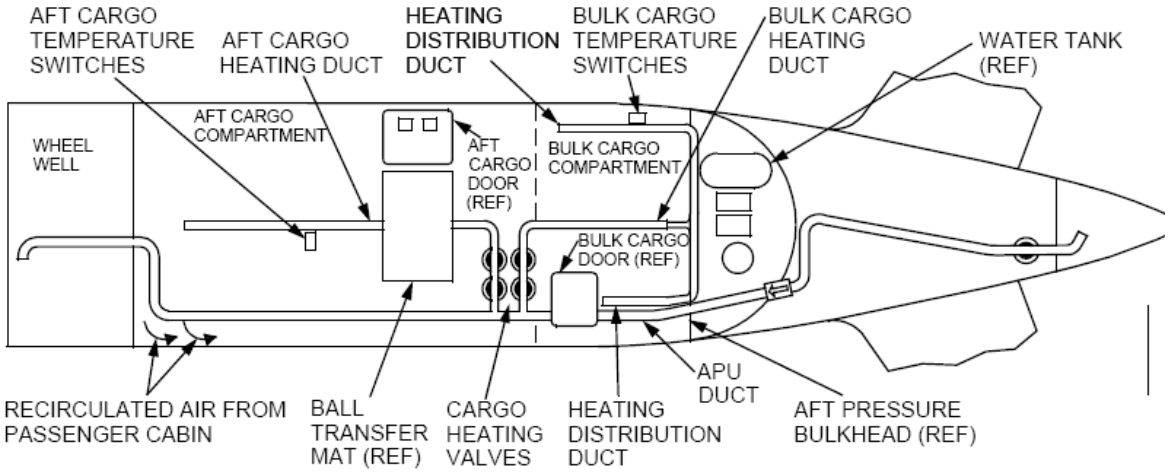
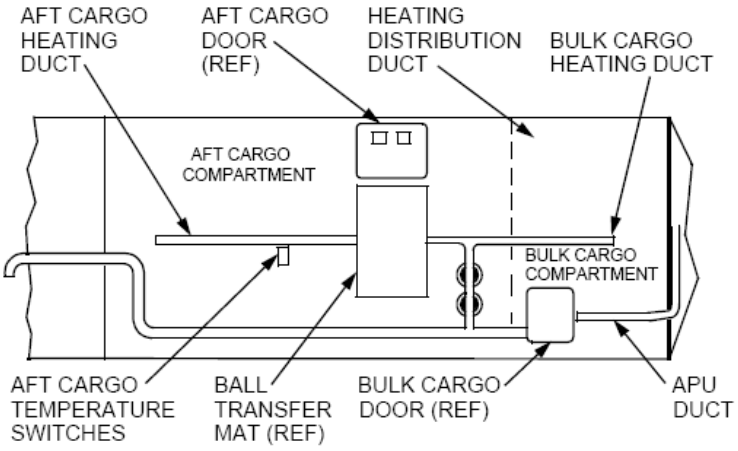
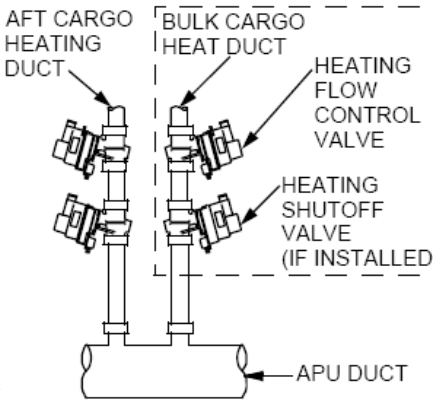


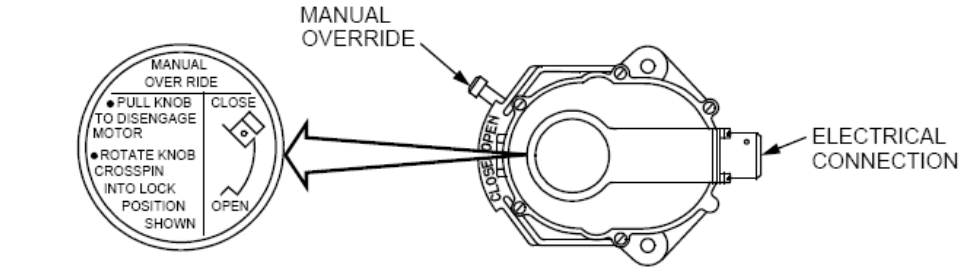
WITH BULK CARGO HEATING VALVES
(PLAN VIEW)



WITHOUT BULK CARGO HEATING VALVES



CARGO HEATING VALVES



MANUAL OVERRIDE DECAL

AFT/BULK CARGO COMPARTMENT HEATING SYSTEM

Figure 3

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CARGO HEAT INDICATING SYSTEMS (OVHT and ON Lights)					
21-40-02A Fwd and/or Aft	**N**	4	0	**C**	**(M)** May be inoperative provided overheat protective system(s) is verified to operate normally.
21-40-02B Fwd and/or Aft **"DISP.APPR.REQ'D."**	**Y**	4	0	**C**	May be inoperative provided associated cargo heat system is selected OFF. NOTE: No live animals or temperature sensitive cargo may be carried in the associated cargo compartment.
21-40-02C Bulk	**N**	2	0	**C**	**(M)** May be inoperative provided overheat protective system is verified to operate normally.
21-40-02D Bulk **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative provided bulk cargo heat system is selected OFF. NOTE: No live animals or temperature sensitive cargo may be carried in the bulk cargo compartment.

NOTE 1: For an inoperative light, a cargo compartment overheat will be annunciated by the EICAS Advisory messages FWD CARGO OVHT, AFT CARGO OVHT, or BULK CARGO OVHT.

NOTE 2: For an inoperative relay, the EICAS messages may not operate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-40-02A	Cargo Heat Control Panel	Fwd / Aft Cargo Heat OVHT / ON Light(s) INOP
21-40-02B	Cargo Heat Control Panel	Fwd / Aft Cargo Heat OVHT / ON Light(s) INOP
21-40-02C	Cargo Heat Control Panel	Bulk Cargo Heat OVHT / ON Light(s) INOP
21-40-02D	Cargo Heat Control Panel	Bulk Cargo Heat OVHT / ON Light(s) INOP

(M) PROCEDURES

21-40-02A, 21-40-02C

1. Open applicable FWD, AFT, or BULK Cargo Door.

   NOTE 1: The heat sensors for the FWD and AFT cargo compartments are mounted below the cargo floor approximately in the middle of the compartment. Forward Compartment - measure 54 inches aft of the forward cargo door centerline. Aft Compartment - measure 67 inches forward of the aft cargo door centerline.

   NOTE 2: The BULK cargo compartment heat sensors are located on the RH side above the Floor. To locate: Bulk Compartment - measure 69 inches aft of the bulk cargo door centerline, at RBL 54.5 STA 1518 and WL 171.

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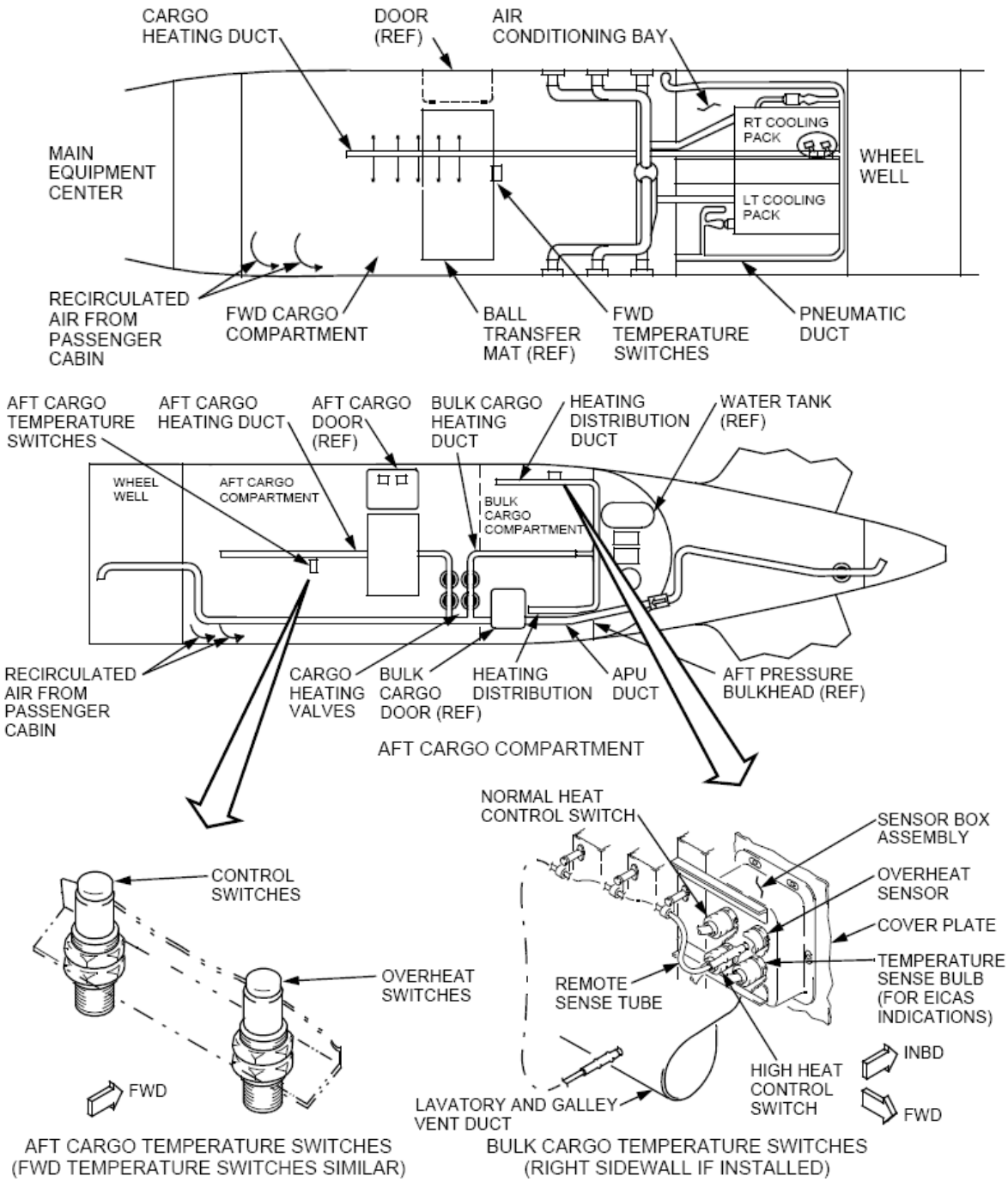
2. Attach a thermometer adjacent to Cargo Heat Thermal Switch.
3. Using heat source directed at thermal switch and thermometer, heat thermal switch until thermometer indicates 90° Fahrenheit ±5° Fahrenheit.
4. Verify that applicable forward, aft, or bulk overheat valve closes.
5. Remove heat source and thermometer.
6. Close applicable Fwd, Aft, or Bulk Cargo Door.
7. Turn applicable cargo heat switch off.



CARGO HEAT TEMPERATURE SENSORS

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
21-45-01A	Flight Crew Auxiliary Heat Systems	**Y**	4	0	**C**	May be inoperative OFF. NOTE: Any portion that operates normally may be used.
21-45-01B	Flight Crew Auxiliary Heat Systems	**N**	4	0	**C**	**(M)** May be inoperative provided affected system is deactivated. NOTE: Any portion that operates normally may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-45-01A	Associated Aux Heat Control Panel	___ Foot / Shoulder Heat System INOP
21-45-01B	Associated Aux Heat Control Panel	___ Foot / Shoulder Heat System INOP

(M) PROCEDURES

21-45-01B

Pull and secure the circuit breaker (P36 and P37 panels) for the associated inoperative heater.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-45-03 Door Heater Systems (Type A, I, III Doors)	**N**	-	0	**C**	**(M)** May be inoperative deactivated.

NOTE: Type A doors are Forward Entry/Service, Mid Entry/Service, and Aft Entry/Service Doors. Type I doors are Emergency Exit doors (aft of the wing). Type III doors are Overwing Escape Hatches.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-45-03	Logbook	____ Door Heater System INOP

(M) PROCEDURES

1. Deactivate inoperative heater by pulling and securing the applicable power circuit breakers. Refer to AMM System Schematics to determine the appropriate power circuit breaker. There is no need to open the "control" circuit breaker. Refer to AMM as follows:

Forward Door	21-45-20-001 (Figure 2)
Mid Door	21-45-40-001 (Figure 2)
Aft Door	21-45-50-001 (Figure 2 & 2A)
Overwing Escape Hatch	21-45-60-001 (Figure 2)
Emergency Exit Door	21-45-70-001 (Figure 2)

   OR

2. Deactivate inoperative heater by disconnecting electrical connector from inoperative heater. Allow operative heater(s) to be used. Perform the following:

   a. Refer to AMM for location to gain access to the inoperative heater.

Forward Door	21-45-20-001 (Figure 1)
Mid Door	21-45-40-001 (Figure 1)
Aft Door	21-45-50-001 (Figure 1 & 1A)
Overwing Escape Hatch	21-45-60-001 (Figure 1)
Emergency Exit Door	21-45-70-001 (Figure 1)

   b. Open and tag DO-NOT-CLOSE applicable power circuit breaker. Refer to AMM System Schematics to determine the applicable power circuit breaker.

Forward Door	21-45-20-001 (Figure 2)
Mid Door	21-45-40-001 (Figure 2)
Aft Door	21-45-50-001 (Figure 2 & 2A)
Overwing Escape Hatch	21-45-60-001 (Figure 2)
Emergency Exit Door	21-45-70-001 (Figure 2)

   c. Disconnect, cap, and stow electrical connector from the inoperative heater.
   d. Remove DO-NOT-CLOSE tag and close circuit breaker from Step 2.b.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-01A Air Conditioning Packs **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** One may be inoperative provided: a) Airplane remains at or below FL 350, b) Remaining (opposite) pack operates normally, and c) Flight remains within 60 minutes of landing at a suitable airport. Theater Restrictions May Apply
21-51-01B Air Conditioning Packs **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Flight is conducted in an unpressurized configuration, b) Both recirculation fans operate normally, and c) Cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions). Theater Restrictions May Apply

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-51-01A	Associated A/C Pack Switch	___ A/C Pack INOP
21-51-01B	Associated A/C Pack Switches	Both A/C Packs INOP

(O) PROCEDURES

21-51-01A

NOTE: For a pack to be operating normally, the following associated items must be operative:

MEL ITEM NO.	ITEM
21-51-01	Air Conditioning Packs
21-51-02	Pack Flow Control / Shutoff Valves
21-51-03	Pack Temperature Control Systems
21-51-04	Pack Temperature Control Valves
21-51-07	Air Cycle Machine
21-53-01	Ram Air Inlet / Exhaust Door Systems

1. Set the associated PACK control selector to OFF. The associated PACK OFF light and L(R) PACK OFF advisory message will illuminate.
2. The associated engine bleed OFF Light and L(R) ENG BLEED OFF advisory message may display during periods of low bleed air demand.

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21-51-01B

1. Operate aircraft unpressurized. Refer to MEL 21-31-01 for (O) PROCEDURES.
2. Some ventilation will be available in the cabin due to air being drawn into the outflow valve and exhausted out through the E/E cooling exhaust valve.
3. Do the following to minimize temperature rise:
   a. Minimize flight deck lighting intensity.
   b. Install flight deck sunvisors during daylight operations.
   c. Instruct flight attendants to:
      1) Select all galley equipment off.
      2) Select in flight entertainment main power off.
      3) Reduce cabin lighting to minimum needed.
      4) Close cabin window shades during daylight operations.
      5) Select main cabin door heaters off.
   d. Keep recirculation fans on.
   e. Operate airplane at Mach 0.4, or slowest safe operating speed.
4. Use TABLE to estimate expected cabin and flight deck temperatures.

Air Temperature			Temperature During Climb/ Descent (°F)		Temperature During Cruise (°F)	
Ground	**Cruise**	**PAX Load**	**Flight Deck**	**Cabin**	**Flight Deck**	**Cabin**
86°F/30°C	50°F/10°C	0	114	102	108	96
ISA +15°C		25	114	102	108	96
		200	NR	NR	NR	NR
59°F/15°C	23°F/-5°C	0	87	73	83	70
ISA		25	88	81	84	79
		200	95	91	91	91
41°F/5°C	5°F/-15°C	0	74	62	71	59
ISA -10°C		25	76	72	73	71
		200	88	88	83	86

TABLE: MAXIMUM TEMPERATURE LEVEL WITH BOTH PACKS INOPERATIVE.

NOTE 1: NR = Not Recommended.

NOTE 2: Flight temperatures based on maximum solar radiation. For night time flight, expected temperatures will be 7°F (4°C) cooler.

NOTE 3: It is recommended flights are operated to ensure a flight deck temperature of 115°F (46°C) is not exceeded for more than several minutes (limited to takeoff and landing).

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NOTE 4: Airplane interior is assumed to be 75°F (24°C) initially using a ground cart prior to No Packs Dispatch.

NOTE 5: Ground time was assumed to be 7 minutes prior to takeoff and after landing. Additional ground time would add heat and humidity to flight deck and cabin.

NOTE 6: 4-hour flight duration assumed. Short flight (1/2 hour in duration) on a 30 °C day will reduce temperatures by about 7°F (4°C) in the flight deck, 2°F (1°C) in the cabin.

NOTE 7: 50% relative humidity was assumed on the ground. Additional humidity adds to passenger and pilot discomfort.

NOTE 8: Live animal carriage should not be used for dispatch with both packs inoperative.

(M) PROCEDURES

21-51-01B

Configure the airplane for unpressurized flight using MEL 21-31-01 (M) procedures.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-02A Pack Flow Control / Shutoff Valves **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative closed for an associated inoperative pack(s) that has been deferred per MEL 21-51-01A or 21-51-01B as appropriate.
21-51-02B Hi-Flow Mode **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative provided remaining (opposite) pack operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-51-02A	Associated A/C Pack Switch	___ Pack Flow Control / Shutoff Valve(s) INOP
21-51-02B	Associated A/C Pack Switch	___ A/C Pack Hi-Flow Mode INOP

(O) PROCEDURES

21-51-02A

1. For one or both pack flow control/shutoff valves inoperative use MEL 21-51-01A/B (O) procedures.
2. The associated engine bleed OFF light and L(R) ENG BLEED OFF advisory message may display during periods of low bleed air demand.

21-51-02B

For a pack to be operating normally, certain items associated with that system must be operative. Refer to MEL 21-51-01A (O) Procedures for a listing of those items.

(M) PROCEDURES

21-51-02A

Manually close the pack flow control/shutoff valve.

1. Set the associated PACK control selector to OFF.
2. Gain access to the valve (AMM 21-51-01/401).
3. Manually close the valve by turning the manual-override-actuator nut in the direction indicated on the nut (clockwise).

   NOTE: Do not use excessive force on the nut; if resistance is felt, actuator damage may result.

4. For both pack flow control/shutoff valves inoperative use MEL 21-31-01 (M) procedures to configure the airplane for unpressurized flight.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
PACK TEMPERATURE CONTROL SYSTEMS					
21-51-03A Auto Mode	**Y**	2	0	**C**	May be inoperative provided associated Standby Mode operates normally.
21-51-03B Standby Mode	**Y**	2	0	**C**	May be inoperative provided associated Auto Mode operates normally.
21-51-03C Pack Temperature Control Systems **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative OFF for an associated inoperative pack that has been deferred per MEL 21-51-01A or 21-51-01B as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-51-03A	Associated A/C Pack Switch(es)	____ Pack Temperature Control Auto Mode INOP
21-51-03B	Associated A/C Pack Switch(es)	____ Pack Temperature Control Standby Mode INOP
21-51-03C	Associated A/C Pack Switch(es)	____ Pack Temperature Control System INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-04A	Pack Temperature Control Valves	**N**	2	1	**C**	**(O)(M)** May be inoperative deactivated in mid position provided: a) Associated pack is operated in STBY, and b) Remaining (opposite) pack operates normally in AUTO.
21-51-04B	Pack Temperature Control Valves	**N**	2	1	**C**	**(M)** May be inoperative closed in STBY provided remaining (opposite) pack operates normally in AUTO.
21-51-04C	Pack Temperature Control Valves **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative for an associated inoperative pack that has been deferred per MEL 21-51-01A or 21-51-01B as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-51-04A	Associated A/C Pack Switch	____ Pack Temperature Control Valve INOP
21-51-04B	Associated A/C Pack Switch	____ Pack Temperature Control Valve INOP
21-51-04C	Associated A/C Pack Switch(es)	____ Pack Temperature Control Valve(s) INOP

(O) PROCEDURES

21-51-04A

Set the associated PACK control selector to STBY.

(M) PROCEDURES

NOTE: For a pack to be operating normally, certain items associated with that system must be operative. Refer to MEL 21-51-01A (O) Procedures for a listing of those items.

21-51-04A

Deactivate the valve in the mid position.

1. Gain access to the pack temperature control valve (AMM 21-51-12/401).
2. Rotate the manual override knob on the pack temperature control valve until the visual position indicator is midway between the open and closed positions.
3. Disconnect, cap and stow both electrical connectors on the pack temperature control valve.

21-51-04B

Confirm the valve is closed and the associated pack can operate in STBY.

1. Gain access to the pack temperature control valve (AMM 21-51-12/401).
2. Confirm the manual override indicates closed. If required, rotate the knob to the closed position.
3. Confirm the ram air inlet and the exhaust doors move to the full open position and the temperature control valve remains closed when STBY N is selected.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-05 Pack Altitude Switch	**N**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-51-05	A/C Pack Control Panel	Pack Altitude Switch INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-07 Air Cycle Machine **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS), may be inoperative provided: a) Associated pack is operated in STBY WARM, b) Flow control valve in associated pack is verified to operate normally, c) Remaining (opposite) pack operates normally, and d) Associated pack is turned OFF at TAT above 0 degrees C (32 degrees F).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-51-07	Associated A/C Pack Switch	___ Air Cycle Machine INOP

(O) PROCEDURES

1. The associated engine bleed OFF light and L(R) ENG BLEED OFF advisory message may display during periods of low bleed air demand.
2. Temperatures in the flight deck, cabin and cargo compartments may become uncomfortably warm above the following outside air temperatures at the listed flight levels:
   a. FL350: -20F (-29C)
   b. FL370: -40F (-40C)
   c. FL390: -60F (-51C)
   d. FL430: -70F (-57C)
3. If comfortable temperatures inside the airplane cannot be maintained at altitude, descend to a lower flight level to improve cooling.
4. For failure of the remaining (opposite) pack, the pack with the inoperative ACM may be turned off below 10,000 feet if necessary to control cabin temperature.

(M) PROCEDURES

NOTE: For a pack to be operating normally, certain items associated with that system must be operative. Refer to MEL 21-51-01A (O) Procedures for a listing of those items.

Verify flow control valve in associated pack operates normally using Operational Test - Pack High Flow Inhibit (AMM 21-51-00/501).

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
21-52-01A	PACK RESET Switches	**Y**	2	1	**C**	**(M)** May be inoperative provided both packs operate normally.
21-52-01B	PACK RESET Switches **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	May be inoperative for an associated inoperative pack(s) that has been deferred per MEL 21-51-01A or 21-51-01B as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-52-01A	Associated PACK RESET Switch	___ PACK RESET Switch INOP
21-52-01B	Associated PACK RESET Switches	Both PACK RESET Switches INOP

(M) PROCEDURES

21-52-01A

For a pack to be operating normally, certain items associated with that system must be operative. Refer to MEL 21-51-01 for a listing of those items.

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	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-52-02 Pack INOP Lights	**Y**	2	1	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-52-02	Affected PACK INOP Light	___ Pack INOP Light INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-52-03	Air Conditioning PACK OFF Lights	**Y**	2	1	**C**	**(M)** May be inoperative OFF provided: a) Associated EICAS message is verified to operate normally, and b) All other pack indications operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-52-03	Affected A/C PACK OFF Light	___ A/C PACK OFF Light INOP

(M) PROCEDURES

Verify the associated advisory message operates normally:

1. Set the associated air conditioning PACK control selector to OFF.
2. Confirm the associated L(R) PACK OFF advisory message displays.
3. Set the associated air conditioning PACK control selector as required.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH			
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	REMARKS OR EXCEPTIONS
21-53-01A	Ram Air Inlet / Exhaust Door Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided doors are secured OPEN with pack(s) operating.
21-53-01B	Ram Air Inlet / Exhaust Door Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)**(**M**)May be inoperative in any position provided associated pack is considered inoperative and deferred per MEL 21-51-01A or 21-51-01B as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-53-01A	Associated A/C Pack Switch(es)	Ram Air Inlet / Exhaust Door(s) INOP OPEN
21-53-01B	Associated A/C Pack Switch(es)	Ram Air Inlet / Exhaust Door(s) INOP

(O) PROCEDURES

21-53-01A

1. For shorting plug not installed in the ram air inlet door electrical connector:
   a. Operate the associated pack in STBY-W mode.
   b. AUTO, STBY-N and STBY-C modes are inoperative.
   c. Cabin temperature performance may be degraded during hot day 32°C (90°F) ground operations and/or during hot day high altitude operation.
2. For shorting plug installed in the ram air inlet door electrical connector:
   a. Operate the associated pack in STBY mode (STBY-N, STBY-C, or STBY-W).
   b. AUTO mode is inoperative.

21-53-01B

Refer to MEL 21-51-01A or 25-51-01B as appropriate for (O) PROCEDURES.

(M) PROCEDURES

21-53-01A

Secure the doors open for the associated operating pack.

1. Gain access to the associated air conditioning equipment bay.
2. For the ram air inlet or exhaust door on the associated pack not in the full open position:
   a. Set the associated PACK control selector to STBY-N.
   b. Confirm the ram air inlet and exhaust doors go to the full open position.
   c. For the ram air inlet or exhaust door on the associated pack still not in the full open position:
      1) Remove the actuator from the affected door:
         a) Ram Air Inlet Door Actuator: (AMM 21-53-03/401).
         b) Ram Air Exhaust Door Actuator: (AMM 21-53-04/401).
      2) Fabricate an actuator link 11.1 inch long with rod ends compatible with the door actuator fittings. Alternately, Boeing tool No. A21007-2 may be used.

CONTINUED NEXT PAGE

3) Position the affected ram air door to full open and install the actuator link in place of the ram air actuator.

3. With doors in the full open position perform one of the following:

a. Option A - enables acceptable cabin temperature performance for most climatic conditions:

1) Disconnect, cap and stow the electrical connectors from the ram air inlet and exhaust door actuators on the associated air conditioning pack.

b. Option B - enables better cabin temperature performance during hot day 32°C (90°F) ground operations and/or during hot day high altitude operations:

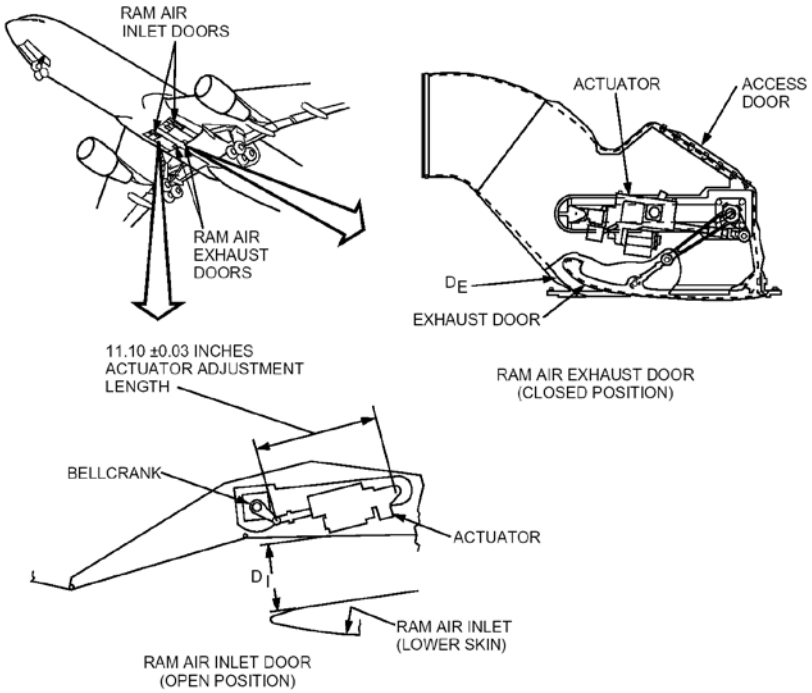
1) Open the following P11 panel circuit breaker for the associated air conditioning pack:

a) L PACK PWR STBY
b) R PACK PWR STBY

2) Obtain a shorting plug or make a shorting plug using the following procedure:

a) Fabricate a 3.5 (±0.5) inch shorting wire from 20 gauge, type UA (BMS 13-48 TY VIII CL 1) wire and two 20 gauge pins P/N BACC47CN1S.
b) Obtain a ram air inlet door actuator mate-with connector P/N BACC45FM16-24P and insert the fabricated wire into pin cavities 13 and 15.
c) Insert spare contacts and filler rods in accordance with D6-54446, Wiring Practices Manual, section 20-60-08 in all unused cavities.

3) Remove the electrical connector from the ram air inlet door actuator on the associated air conditioning pack.
4) Install the fabricated shorting plug with connector from the ram air inlet door actuator electrical connector and stow.
5) Disconnect, cap and stow the electrical connectors from the exhaust door actuators on the associated air conditioning pack.
6) Close the open circuit breaker.



RAM AIR INLET / EXHAUST DOOR SYSTEMS

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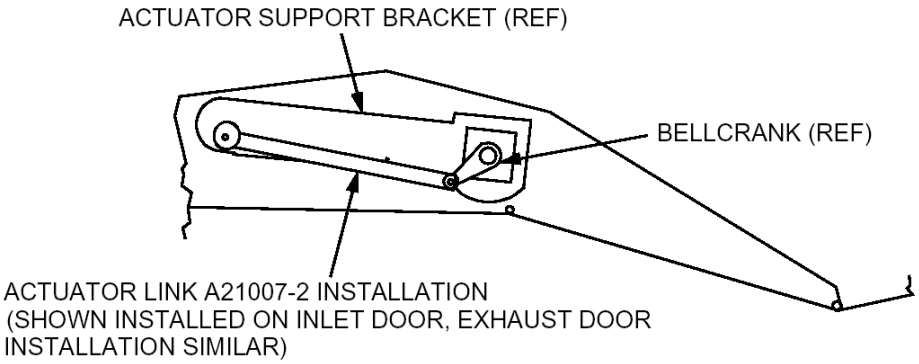

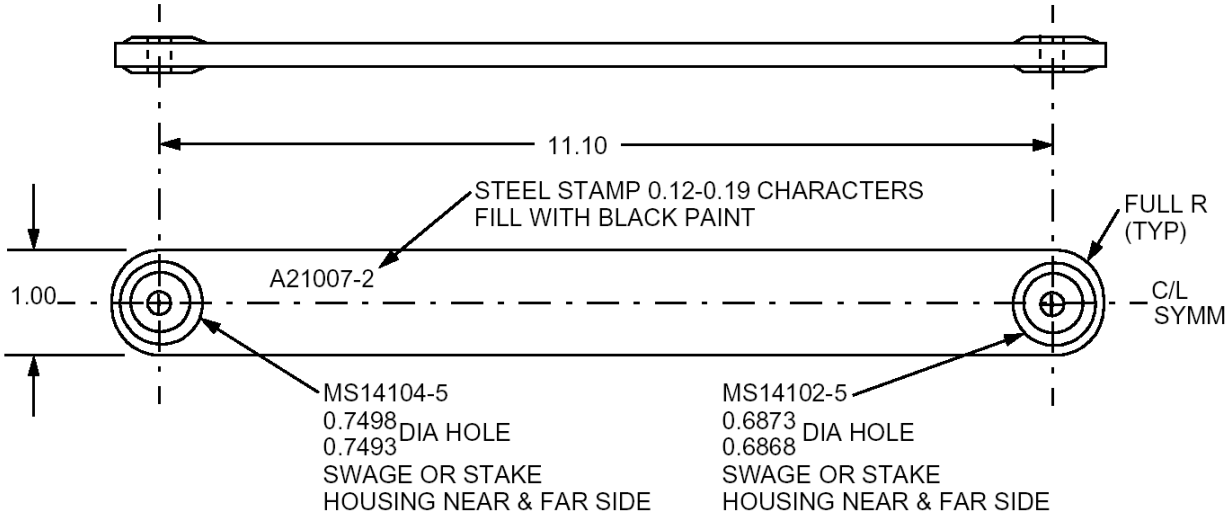

MATERIAL: STEEL 1015-1025
0.31 THICKNESS

RAM AIR INLET / EXHAUST DOOR ACTUATOR LINK (A21007-2)

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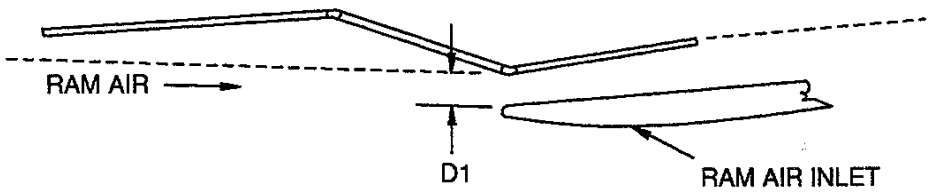
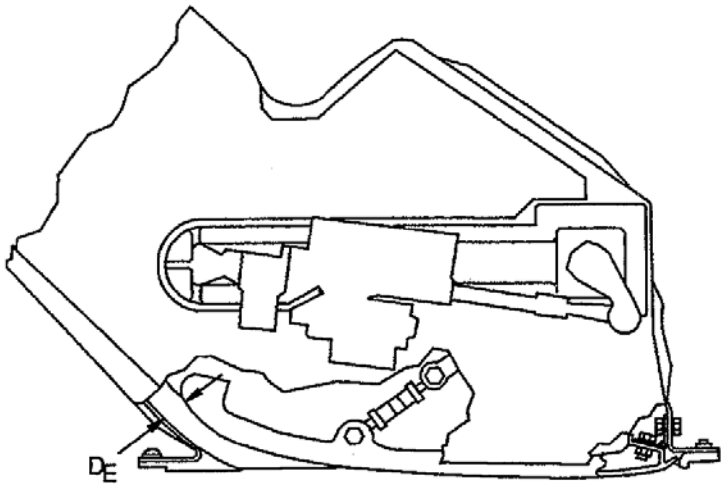
21-53-01B

1. Set the associated PACK control selector to OFF. Confirm the PACK OFF light illuminates.
2. Measure the inlet and exit throat gap (AMM 21-53-02/501). Confirm the exit throat gap is at least 1.15 times the inlet throat gap, to prevent noise and vibration due to possible adverse pressure gradient.
3. Open and collar the associated P11 panel circuit breaker:
   a. LEFT PACK FLOW CONT
   b. RIGHT PACK FLOW CONT
4. Defer the associated pack per MEL 21-51-01A or 21-51-01B as appropriate.



SIDE VIEW
INLET DOOR THROAT GAP MEASUREMENT



SIDE VIEW
EXIT DOOR THROAT GAP MEASUREMENT

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-01	Forward Equipment Cooling AUTO System	**Y**	1	0	**C**	May be inoperative provided STBY control system is used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-01	EQUIP COOLING Panel	Forward Equipment Cooling AUTO System INOP

CAUTION: To ensure adequate equipment cooling during ground operations, Operate at least one pack at ambient temperatures above 90 degrees F and both packs at ambient temperatures over 115 degrees F.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
21-58-03	Forward Equipment Cooling Supply Fan **"DISP.APPR.REQ'D."**	**Y** 1	0	**C**	**(M)** May be inoperative provided: a) Forward equipment cooling exhaust fan operates normally, b) STBY control system is used, and c) For ground operation above 85 degrees F OAT (29 degrees C), main cabin is supplied with conditioned air.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-03	EQUIP COOLING Panel	Forward Equipment Cooling Supply Fan INOP

NOTE : To minimize risk of equipment cooling overheat at high ambient temperatures, avoid extended ground operations in this configuration.

(M) PROCEDURES

Pull and secure the EQUIP COOL FAN SPLY circuit breaker located on the P6 panel.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-04 Forward Equipment Cooling Exhaust Fan **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Forward equipment cooling supply fan operates normally, b) STBY control system is used, and c) For ground operation above 85 degrees F OAT (29 degrees C), main cabin is supplied with conditioned air.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-04	EQUIP COOLING Panel	Forward Equipment Cooling Exhaust Fan INOP

(M) PROCEDURES

Pull and secure the EQUIP COOL FAN FWD EXH circuit breaker located on the P6 panel.

	NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-05	Aft Equipment / Lav / Galley Exhaust (Vent) Fans	**Y**	2	1	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-05	EQUIP COOLING Panel	Aft ___ Fan INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-07 Forward Equipment Cooling Overboard Exhaust Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative secured CLOSED provided: a) STBY control system is used, and b) For ground operation above 85 degrees F OAT (29 degrees C), main cabin is supplied with conditioned air.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-07	EQUIP COOLING Panel	Forward Equipment Cooling Overboard Exhaust Valve INOP

CAUTION: To ensure adequate equipment cooling during ground operations, operate both (2) packs at ambient temperatures above 85°F (29°C).

(O) PROCEDURES

1. Select the EQUIP COOLING selector to STBY.
2. Do not use the AUTO position.
3. Use the OVRD position in accordance with Non-Normal Checklist procedures.
4. To minimize the risk of equipment cooling overheat at high ambient temperatures, avoid extended ground operations in this configuration.
5. To ensure adequate equipment cooling during ground operations, operate two (2) packs at ambient temperatures above 29°C (85°F).
6. For a faulty valve closed position switch, the VALVE light and FWD EQPT VAL advisory message may remain illuminated at all times.

(M) PROCEDURES

1. Set the EQUIP COOLING selector to STBY.
2. Open and collar the P11 panel EQUIPMENT COOLING OUTBD VALVES circuit breaker.
3. From outside the airplane, confirm the following valves are closed:
   a. Forward Equipment Cooling Overboard Exhaust Valve
   b. (-3P6ER aircraft only) ACRU Supply Valve
4. For each valve not closed, from outside the airplane at the valve discharge ports use a 3/8 inch 0-150 inch-pound torque wrench to rotate the manual override drive past the overcenter lock until the valve is fully closed. Torque should be at least 28 inch-pounds but not exceed 100 inch-pounds to lock the door in place. If torque exceeds 100 inch-pounds, check the door and mating seat for obstructions and damage. (AMM 21-58-00).
5. Confirm the valve is closed by visual check of the flapper valve position.
6. To ensure adequate equipment cooling during ground operations, operate two (2) packs at ambient temperatures above 29°C (85°F).

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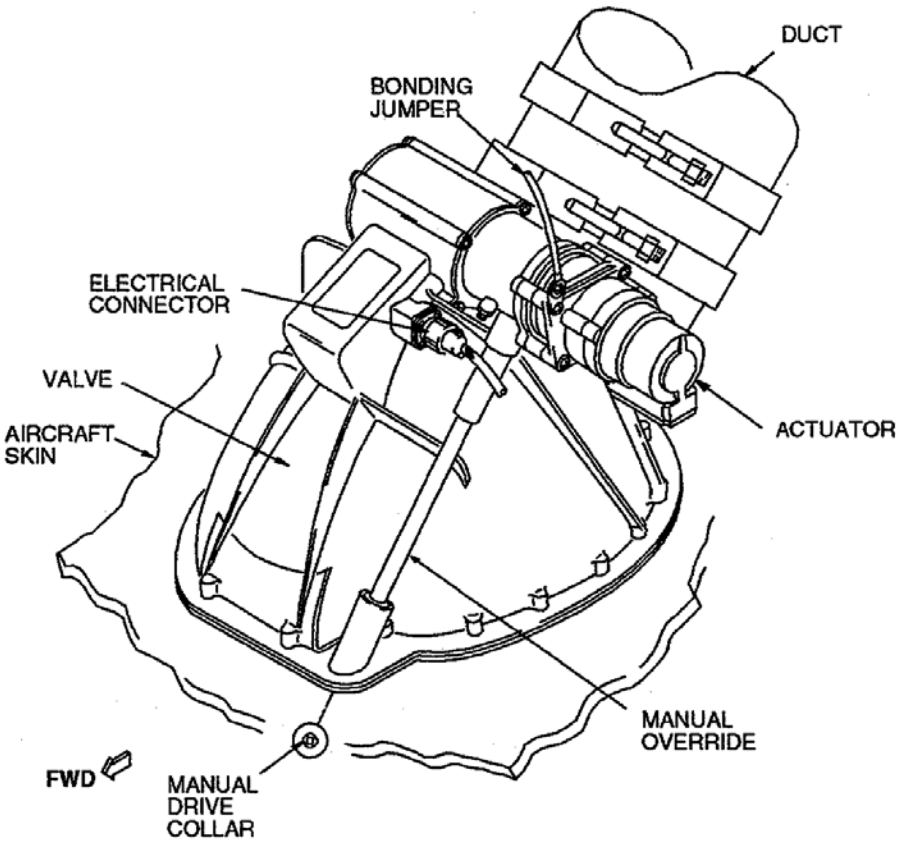


OVERBOARD EXHAUST VALVE - INSTALLATION

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-08 Forward Equipment Cooling Inboard Supply Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative secured closed provided: a) STBY control system is used, and b) For ground operation above 85 degrees F OAT (29 degrees C), main cabin is supplied with conditioned air.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-08	EQUIP COOLING Panel	Forward Equipment Cooling Inboard Supply Valve INOP

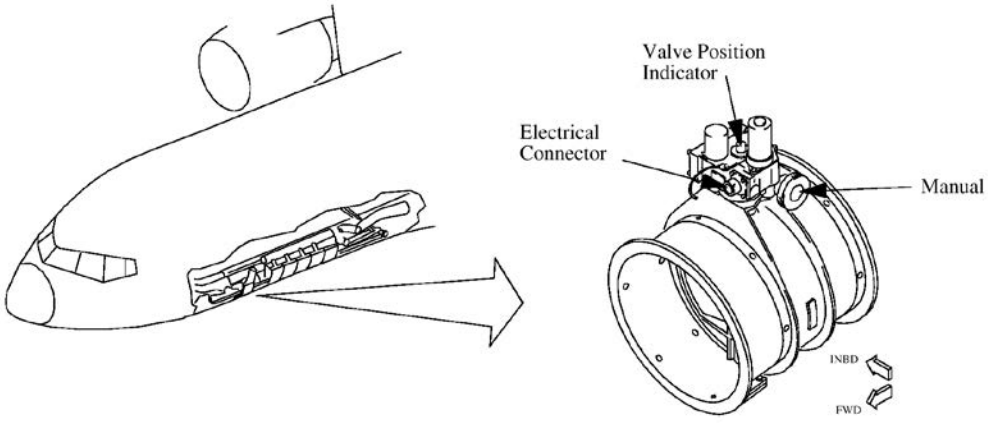
NOTE 1: To minimize risk of equipment cooling overheat at high ambient temperatures, avoid extended ground operations in this configuration.

NOTE 2: Equipment cooling VALVE light or EICAS advisory message FWD EQPT VAL may illuminate on the ground.

(M) PROCEDURES

Close Equipment Cooling Inboard Supply Valve:

1. Open forward cargo door.
2. Remove left sidewall panel located approximately 11 feet (3.5 meters) aft of forward bulkhead on left side of cargo compartment. Locate Inboard Supply Valve.
3. Disconnect, cap and stow valve electrical connector.
4. Manually rotate manual drive until valve position indicator shows valve is closed.
5. Reinstall sidewall panel.



INBOARD SUPPLY VALVE

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-09	Avionics Cooling Refrigeration Unit (ACRU) (-3P6ER CF6-80C2)	**N**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-09	EQUIP COOLING Panel	Avionics Cooling Refrigeration Unit (ACRU) INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-10 ACRU Supply Valve (-3P6ER CF6-80C2)	**N**	1	0	**C**	**(M)** May be inoperative secured CLOSED.

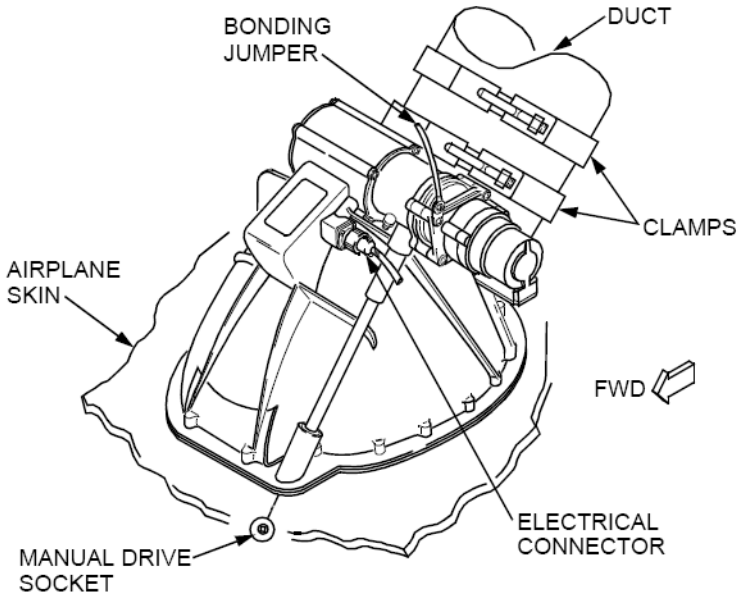
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-10	EQUIP COOLING Panel	ACRU Supply Valve INOP CLOSED

(M) PROCEDURES

CAUTION: To ensure adequate equipment cooling during ground operations, operate both (2) packs at ambient temperatures above 40°C (110°F).

1. The valve is located on the forward right side of the forward cargo compartment behind the cargo liner. Valve location is stenciled on liner.
2. Gain access to valve by partially removing liner.
3. Disconnect, cap and stow valve electrical connector.

CAUTION: (1) The valve light and EICAS message will remain illuminated until liftoff and will re-illuminate on touchdown, and (2) a subsequent failure of the forward Equipment Cooling Ground Supply Valve may result in an E/E cooling system duct collapse.



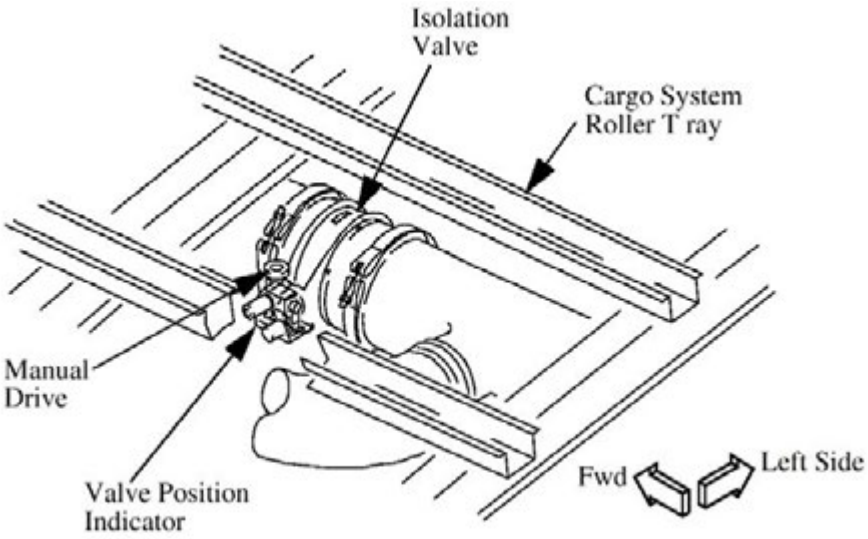
ACRU SUPPLY VALVE INSTALLATION

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-11 ACRU Isolation Valve	**N**	1	0	**C**	**(M)** May be inoperative secured OPEN.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-11	EQUIP COOLING Panel	ACRU Isolation Valve INOP OPEN

(M) PROCEDURES

1. Gain access to ACRU Isolation Valve through forward cargo compartment. The valve is on the E/E cooling duct, beneath the forward cargo compartment floor below and inboard of the ACRU.
2. Disconnect, cap and stow electrical connector on the ACRU Isolation Valve.
3. Check that valve position indicator shows valve OPEN. If required, open valve by rotating manual drive in a clockwise direction until position indicator shows valve OPEN.



AVIONICS COOLING REFRIGERATION UNIT ISOLATIONVALVE

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
21-58-12A	Instrument Cooling Monitor System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative provided availability of adequate air flow is verified PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
21-58-12B	Instrument Cooling Monitor System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-58-12A	EQUIP COOLING Panel	Instrument Cooling Monitor System INOP
21-58-12B	EQUIP COOLING Panel	Instrument Cooling Monitor System INOP

(M) PROCEDURES

21-58-12A

Verify availability of adequate air flow PRIOR TO EACH DEPARTURE. Perform one of the following procedures:

PROCEDURE 1 (test gauge A21012 or equivalent is available)

1. Confirm the P5 panel EQUIP COOLING selector is in AUTO or STBY.
2. Confirm the following P11 panel circuit breakers are closed:
   a. EQUIP COOLING SUPPLY FAN 1
   b. EQUIP COOL CONTROL
   c. EQUIP COOLING SUPPLY FAN 2
   d. EQUIPMENT COOLING EXHAUST FAN FWD
3. Gain access to the P61 E/E COOLING MONITOR panel indicator tygon tubes (AMM 21-58-34/201):
4. Loosen four quarter turn screws on the indicator and carefully slide the indicator into the cockpit assuring tygon tubes remain attached to the indicator.
5. Perform the following procedure for each flow indicator ball that appears inoperative:
   a. Disconnect the tygon tube.
   b. Use test gauge A21012 or equivalent to confirm gauge static pressure measured on the ground is a minimum of 0.80 inches of water. Measure static pressure at the disconnected tube end, taking care to seal the tube end while taking the pressure measurement, otherwise a false reading of insufficient pressure may result.
   c. Reinstall the tygon tube.

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PROCEDURE 2 (not requiring test gauge and at least one flow indicator ball is operative)

1. Confirm the P5 panel EQUIP COOLING selector is in AUTO or STBY.
2. Confirm the following P11 panel circuit breakers are closed:
   a. EQUIP COOLING SUPPLY FAN 1
   b. EQUIP COOL CONTROL
   c. EQUIP COOLING SUPPLY FAN 2
   d. EQUIPMENT COOLING EXHAUST FAN FWD
3. Perform the following procedure for each flow indicator ball that appears inoperative:
   1) Gain access to the P61 E/E COOLING MONITOR panel indicator tygon tubes (AMM 21-58-34/201):
      a) Loosen four quarter turn screws on the indicator and carefully slide the indicator into the cockpit assuring tygon tubes remain attached to indicator.
   2) Disconnect the tygon tube from the flow indicator ball that appears inoperative (in subsequent steps these components are identified as the "suspect tube" and the "suspect indicator").
   3) Disconnect a tygon tube from a flow indicator ball that is operative (in subsequent steps these components are identified as the "operative tube" and the "operative indicator").
   4) Connect the suspect tube to the operative indicator.
   5) Reinstall the P61 panel airflow indicator.
   6) Lift the "Press-to-Test" switch.
   7) Confirm the suspect tube flow indicator ball rises normally. If this flow indicator ball does not rise normally the suspect tube may be faulty or airflow is inadequate at the location where the suspect tube monitors the forward E/E cooling system.
   8) Gain access to the P61 panel indicator tygon tubes.
   9) Connect the operative tube to the suspect indicator.
   10) Reinstall the P61 panel airflow indicator.
   11) Lift the "Press-to-Test" switch.
   12) Confirm the operative tube flow indicator ball rises normally. If this flow indicator ball rises normally the suspect indicator operates normally. The suspect tube may be faulty or airflow is inadequate at the location where the suspect tube monitors the forward E/E cooling system.
   13) Gain access to the P61 E/E COOLING MONITOR panel indicator tygon tubes.
   14) Reconnect the two affected tygon tubes to the flow indicator balls to which they were originally connected.
   15) Equipment cooling airflow is adequate for dispatch if all tygon tubes cause a flow indicator ball to rise normally when the "Press-to-Test" switch is lifted .

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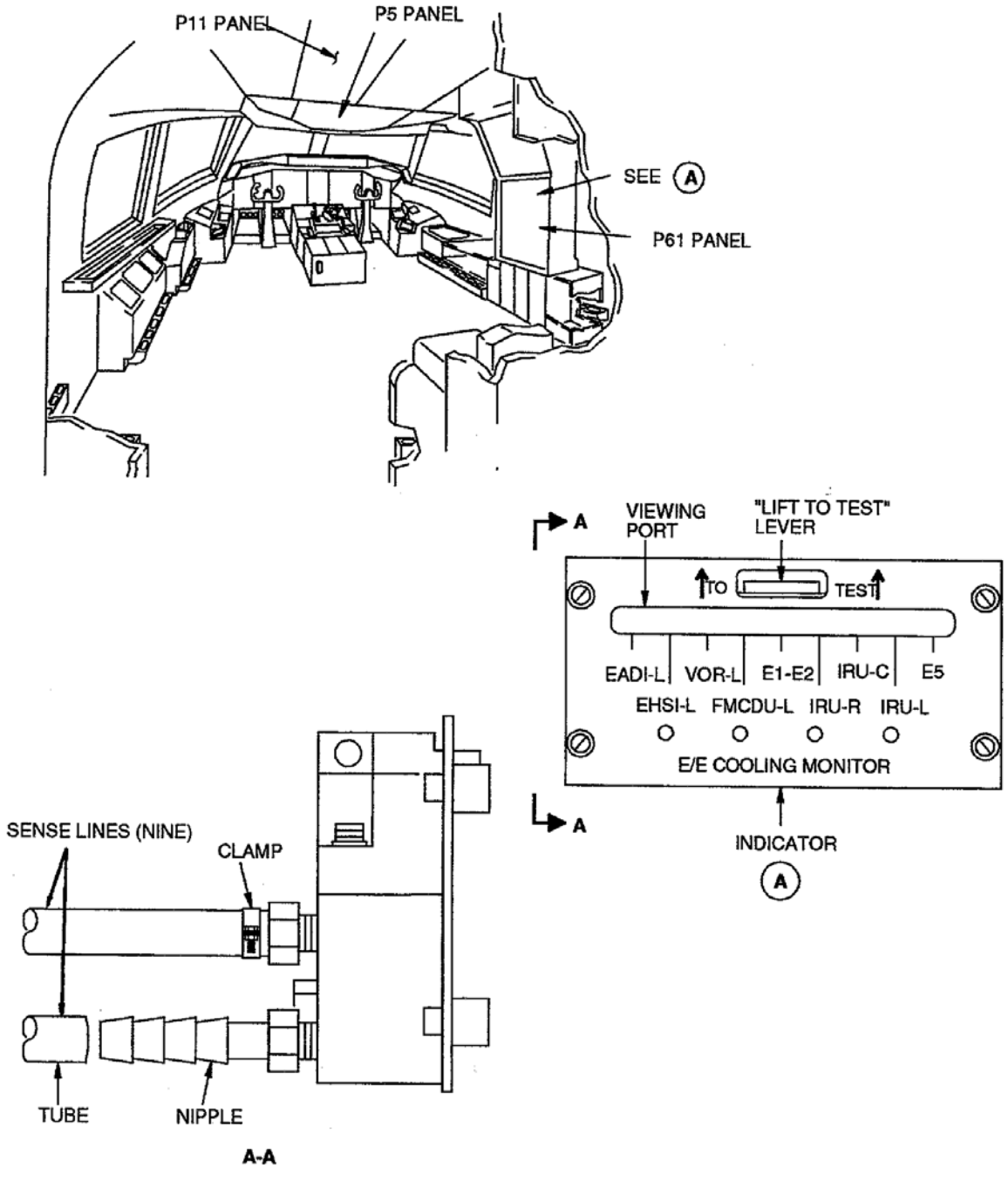


E/E COOLING MONITOR INDICATIOR INSTALLATION
NINE BALL INDICATOR

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-01	Cabin COMPT TEMP Control Systems	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided associated zone trim air modulating valve(s), or trim air regulating / shutoff valve(s) remains closed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-01	Associated COMPT TEMP Control	___ COMPT TEMP Control INOP

(O) PROCEDURES

Determine which of the two (M) procedures was used by observing the position of the TRIM AIR circuit breaker.

1. If the circuit breaker is closed, (M) Procedure 1 was used and the affected Compartment Temp Controls are to be positioned as follows:

   a. FWD, MID, or AFT cabin as applicable, rotate temperature control to OFF.
   b. FLT DECK, rotate temperature control to MAN and then to full cool position and hold there.

2. If the circuit breaker is pulled and secured, (M) Procedure 2 was used and the Compartment Temp Controls can be used normally.

(M) PROCEDURES

PROCEDURE 1 Zone Trim Air Modulating Valve CLOSED

1. Position affected Compartment Temperature Control as follows:

   a. FWD, MID, or AFT cabin as applicable, rotate temperature control to OFF.
   b. FLT DECK, rotate temperature control to MAN and then to full cool position and hold there.

2. Check on EICAS ECS/MSG page that the affected TRIM VALVE is in the full closed (less than 0.05) position.
3. For -300 AUX FWD zone or AUX MID zone trim valves, in configurations where the AUX trim valve positions are not shown on the EICAS ECS/MSG page: *Maintenance is Required and Flight Crew May NOT Placard*

   a. Gain access to the AUX trim valve.
   b. Confirm the valve position indicator shows the valve is closed.

NOTE: If there is reason to suspect that the Zone Trim Air Modulating Valve will not stay closed using the above procedure, use the optional Procedure 2 which follows to insure its closure.

CONTINUED NEXT PAGE

PROCEDURE 2 Trim Air Regulating Valve CLOSED

NOTE: The following procedure to be used only if affected zone trim air modulating valve cannot be maintained closed using Procedure 1.

1. Press TRIM AIR switchlight on P5 panel to OFF.
2. Check that amber TRIM AIR OFF light comes on.
3. Pull and secure the TRIM AIR circuit breaker on overhead circuit breaker panel (P11).

If there is reason to suspect that the Zone Trim Air Modulating Valve will not stay closed using the above procedures secure valve as follows: *Maintenance is Required and Flight Crew May NOT Placard*

1. Provide electrical power.
2. Place affected zone selectors to OFF or MANUAL.
3. Pull and secure the applicable circuit breakers for affected valve on overhead circuit breaker panel (P11).

   FLT DK ZONE DUCT OVHT / INOP
   FLT DK ZONE TEMP CONT MAN
   FWD ZONE DUCT OVHT / INOP
   FWD ZONE TEMP CONT VLV CLOSE
   MID ZONE DUCT OVHT / INOP (If applicable)
   MID ZONE TEMP CONT VLV CLOSE (If applicable)
   AFT ZONE DUCT OVHT / INOP
   AFT ZONE TEMP CONT VLV CLOSE
   AUX FWD ZONE DUCT OVHT / INOP (If applicable)
   AUX MID ZONE DUCT OVHT / INOP (If applicable)
   AUX FWD ZONE CONT VALVE CLOSED (If applicable)
   AUX MID ZONE CONT VALVE CLOSED (If applicable)

4. Open left ECS door and locate trim air modulating valve to be closed.
5. Check valve position, if not closed rotate the manual override knob counterclockwise until the position indicator on valve shows valve closed.
6. Disconnect, cap and stow electrical power connector from valve.
7. Close left ECS door.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FLT DECK COMPT TEMP CONTROL SYSTEM					
21-61-02A FLT DECK COMPT TEMP Control System	**Y**	1	0	**C**	**(O)(M)** Both auto and manual modes may be inoperative provided associated zone trim air modulating valve or trim air regulating / shutoff valve remains closed.
21-61-02B AUTO Mode	**Y**	1	0	**C**	May be inoperative provided the MAN mode operates normally.
21-61-02C MAN Mode	**Y**	1	0	**C**	May be inoperative provided AUTO mode operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-02A	FLT DECK Temperature Control	FLT DECK COMP TEMP Control System INOP
21-61-02B	FLT DECK Temperature Control	FLT DECK Temperature Control AUTO Mode INOP
21-61-02C	FLT DECK Temperature Control	FLT DECK Temperature Control MAN Mode INOP

(O) PROCEDURES

21-61-02A

Determine which of the two (M) procedures was used by observing the position of the TRIM AIR circuit breaker.

1. If the circuit breaker is closed, (M) Procedure 1 was used and the affected Compartment Temp Controls are to be positioned as follows:

   a. FWD, MID, or AFT cabin as applicable, rotate temperature control to OFF.
   b. FLT DECK, rotate temperature control to MAN and then to full cool position and hold there.

2. If the circuit breaker is pulled and secured, (M) Procedure 2 was used and the Compartment Temp Controls can be used normally.

CONTINUED NEXT PAGE

(M) PROCEDURES

21-61-02A

PROCEDURE 1 Zone Trim Air Modulating Valve CLOSED

1. Position affected Compartment Temperature Control as follows:

   a. FWD, MID, or AFT cabin as applicable, rotate temperature control to OFF.
   b. FLT DECK, rotate temperature control to MAN and then to full cool position and hold there.

2. Check on EICAS ECS/MSG page that the affected TRIM VALVE is in the full closed (less than 0.05) position.

   NOTE: If there is reason to suspect that the Zone Trim Air Modulating Valve will not stay closed using the above procedure, use the optional Procedure 2 to insure its closure.

PROCEDURE 2 Trim Air Regulating Valve CLOSED

NOTE: The following procedure to be used only if affected zone trim air modulating valve cannot be maintained closed using Procedure 1.

1. Press TRIM AIR switchlight on P5 panel to OFF.
2. Check that amber TRIM AIR OFF light comes on.
3. Pull and secure the TRIM AIR circuit breaker on overhead circuit breaker panel (P11).

If there is reason to suspect that the Zone Trim Air Modulating Valve will not stay closed using the above procedures secure valve as follows: *Maintenance is Required and Flight Crew May NOT Placard*

1. Provide electrical power.
2. Place affected zone selectors to OFF or MANUAL.
3. Pull and secure the applicable circuit breakers for affected valve on overhead circuit breaker panel (P11).

   FLT DK ZONE DUCT OVHT / INOP
   FLT DK ZONE TEMP CONT MAN
   FWD ZONE DUCT OVHT / INOP
   FWD ZONE TEMP CONT VLV CLOSE
   MID ZONE DUCT OVHT / INOP (If applicable)
   MID ZONE TEMP CONT VLV CLOSE (If applicable)
   AFT ZONE DUCT OVHT / INOP
   AFT ZONE TEMP CONT VLV CLOSE
   AUX FWD ZONE DUCT OVHT / INOP (If applicable)
   AUX MID ZONE DUCT OVHT / INOP (If applicable)
   AUX FWD ZONE CONT VALVE CLOSED (If applicable)
   AUX MID ZONE CONT VALVE CLOSED (If applicable)

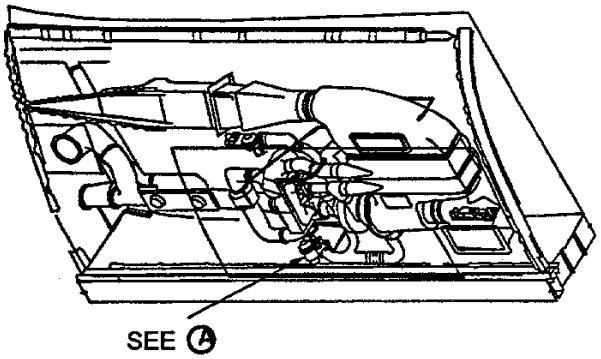
4. Open left ECS door and locate trim air modulating valve to be closed.
5. Check valve position, if not closed rotate the manual override knob counterclockwise until the position indicator on valve shows valve closed.
6. Disconnect, cap and stow electrical power connector from valve.
7. Close left ECS door.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-03	Trim Air Pressure Regulating / Shutoff Valve System	**N**	1	0	**C**	**(M)** May be inoperative provided associated trim air pressure regulating / shutoff valve is secured CLOSED.

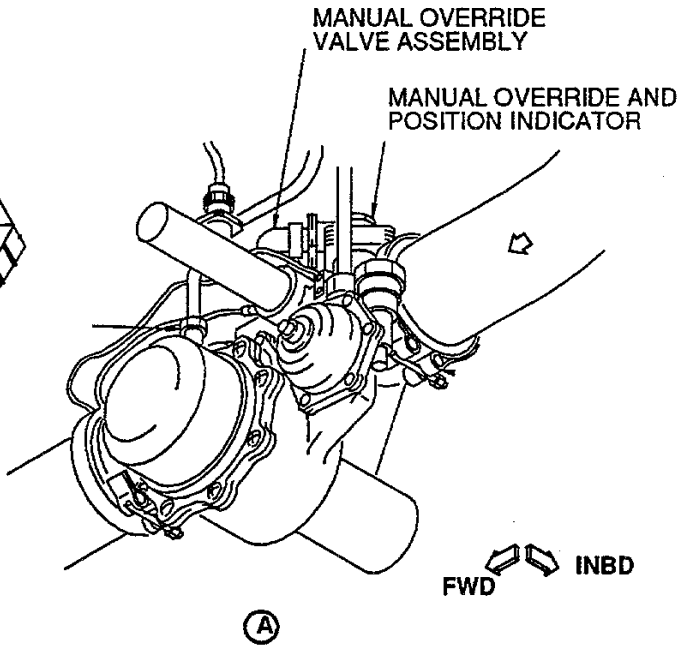
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-03	Cabin TEMP Control Panel	Trim Air Regulating / Shutoff Valve INOP CLOSED

(M) PROCEDURES

1. Press TRIM AIR switch light on P5 panel to OFF position.
2. Open left ECS door (193NL).
3. Rotate manual override on Trim Air Pressure Regulating Valve until position indicator is in CLOSE.
4. Disconnect, cap and stow electrical connector from regulating valve.
5. Close left ECS door.



LEFT ECS BAY



TRIM AIR PRESSURE REGULATING VALVE

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-04A	Zone Trim Air Modulating Valves	**N**	-	0	**C**	**(M)** May be inoperative provided affected valve is CLOSED.
21-61-04B	Zone Trim Air Modulating Valves	**Y**	-	0	**C**	May be inoperative in any position provided trim air switch remains OFF.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-04A	Cabin TEMP Control Panel	___ Zone Trim Air Modulating Valve(s) INOP CLOSED
21-61-04B	Cabin TEMP Control Panel	___ Zone Trim Air Modulating Valve(s) INOP

(M) PROCEDURES

21-61-04A

NOTE: The trim air modulating valves are located one above the other on the trim air supply ducts just forward of the left air conditioning pack.

1. Provide electrical power.
2. Place affected zone selectors to OFF or MANUAL.
3. Pull and secure applicable circuit breakers for affected valve on overhead circuit breaker panel (P11).

   FLT DK ZONE DUCT OVHT / INOP
   FLT DK ZONE TEMP CONT MAN
   FWD ZONE DUCT OVHT / INOP
   FWD ZONE TEMP CONT VLV CLOSE
   MID ZONE DUCT OVHT / INOP (If applicable)
   MID ZONE TEMP CONT VLV CLOSE (If applicable)
   AFT ZONE DUCT OVHT / INOP
   AFT ZONE TEMP CONT VLV CLOSE
   AUX FWD ZONE DUCT OVHT / INOP (If applicable)
   AUX MID ZONE DUCT OVHT / INOP (If applicable)
   AUX FWD ZONE CONT VALVE CLOSED (If applicable)
   AUX MID ZONE CONT VALVE CLOSED (If applicable)

4. Open left ECS door and locate trim air modulating valve to be closed.
5. Check valve position, if not closed rotate the manual override knob counterclockwise until the position indicator on valve shows valve closed.
6. Disconnect, cap and stow electrical power connector from valve.
7. Close left ECS door.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-05 Trim Air OFF Light	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-05	Trim Air OFF Light	Trim Air OFF Light INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-06A	COMPT TEMP INOP Lights	**Y**	3	0	**C**	**(O)(M)** May be inoperative provided associated trim air modulating valve remains closed.
21-61-06B	COMPT TEMP INOP Lights	**Y**	3	0	**C**	**(O)(M)** May be inoperative provided associated trim air regulating / shutoff valve remains closed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-06A	Affected COMPT TEMP INOP Light(s)	____ COMPT TEMP INOP Light(s) INOP
21-61-06B	Affected COMPT TEMP INOP Light(s)	____ COMPT TEMP INOP Light(s) INOP

(O) PROCEDURES

21-61-06A, 21-61-06B

Determine which of the two (M) procedures was used by observing the position of the TRIM AIR circuit breaker.

1. If the circuit breaker is closed, (M) Procedure 1 was used and the affected Compartment Temp Controls are to be positioned as follows:

   a. FWD, MID, or AFT cabin as applicable, rotate temperature control to OFF.
   b. FLT DECK, rotate temperature control to MAN and then to full cool position and hold there.

2. If the circuit breaker is pulled and secured, (M) Procedure 2 was used and the Compartment Temp Controls can be used normally.

(M) PROCEDURES

21-61-06A, 21-61-06B

PROCEDURE 1 Affected Zone Trim Air Modulating Valve CLOSED

1. Position affected Compartment Temperature Control as follows:

   a. FWD, MID, or AFT cabin as applicable, rotate temperature control to OFF.
   b. FLT DECK, rotate temperature control to MAN and then to full cool position and hold there.

2. Check on EICAS ECS/MSG page that the affected TRIM VALVE is in the full closed (less than 0.05) position.

   NOTE 1: If there is reason to suspect that the Zone Trim Air Modulating Valve will not stay closed using the above procedure, use the optional Procedure 2 to insure its closure.

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PROCEDURE 2 Trim Air Regulating Valve CLOSED

NOTE: The following procedure to be used only if affected zone trim air modulating valve cannot be maintained closed using Procedure 1.

1. Press TRIM AIR switchlight on P5 panel to OFF.
2. Check that amber TRIM AIR OFF light comes on.
3. Pull and secure the TRIM AIR circuit breaker on overhead circuit breaker panel (P11).

If Zone Trim Air Modulating Valve(s) are not closed do the following steps: *Maintenance is Required and Flight Crew May NOT Placard*

1. Provide electrical power.
2. Place affected zone selectors to OFF or MANUAL.
3. Pull and secure applicable circuit breakers for affected valve on overhead circuit breaker panel (P11).

   FLT DK ZONE DUCT OVHT / INOP
   FLT DK ZONE TEMP CONT MAN
   FWD ZONE DUCT OVHT / INOP
   FWD ZONE TEMP CONT VLV CLOSE
   MID ZONE DUCT OVHT / INOP (If applicable)
   MID ZONE TEMP CONT VLV CLOSE (If applicable)
   AFT ZONE DUCT OVHT / INOP
   AFT ZONE TEMP CONT VLV CLOSE
   AUX FWD ZONE DUCT OVHT / INOP (If applicable)
   AUX MID ZONE DUCT OVHT / INOP (If applicable)
   AUX FWD ZONE CONT VALVE CLOSED (If applicable)
   AUX MID ZONE CONT VALVE CLOSED (If applicable)

4. Open left ECS door and locate trim air modulating valve to be closed.
5. Check valve position, if not closed rotate the manual override knob counterclockwise until the position indicator on valve shows valve closed.
6. Disconnect, cap and stow electrical power connector from valve.
7. Close left ECS door.

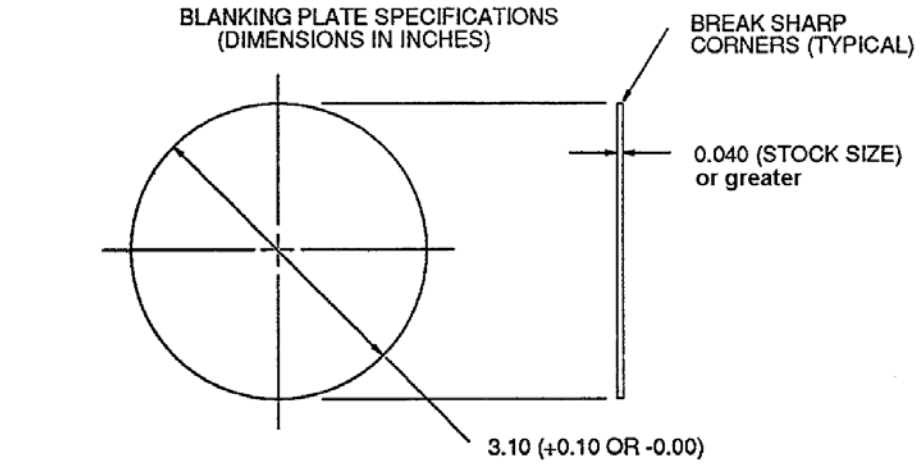
NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-07 Trim Air Check Valves	**N**	2	0	**C**	**(M)** May be inoperative provided one failed check valve is secured closed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-61-07	Cabin TEMP Control Panel	____ Trim Air Check Valve(s) INOP

(M) PROCEDURES

Install a blanking plate on the downstream side of one inoperative trim air check valve.

1. Do one of the following:
   a. Obtain Blank-Off Plate, Trim Air Check Valve (A21015-1).
   b. Fabricate a blanking plate with the following specifications:
      1) 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
      2) Dimensions:
         a) Diameter - 3.10 (+0.10 or -0.00) inches
         b) Thickness - 0.040 inch



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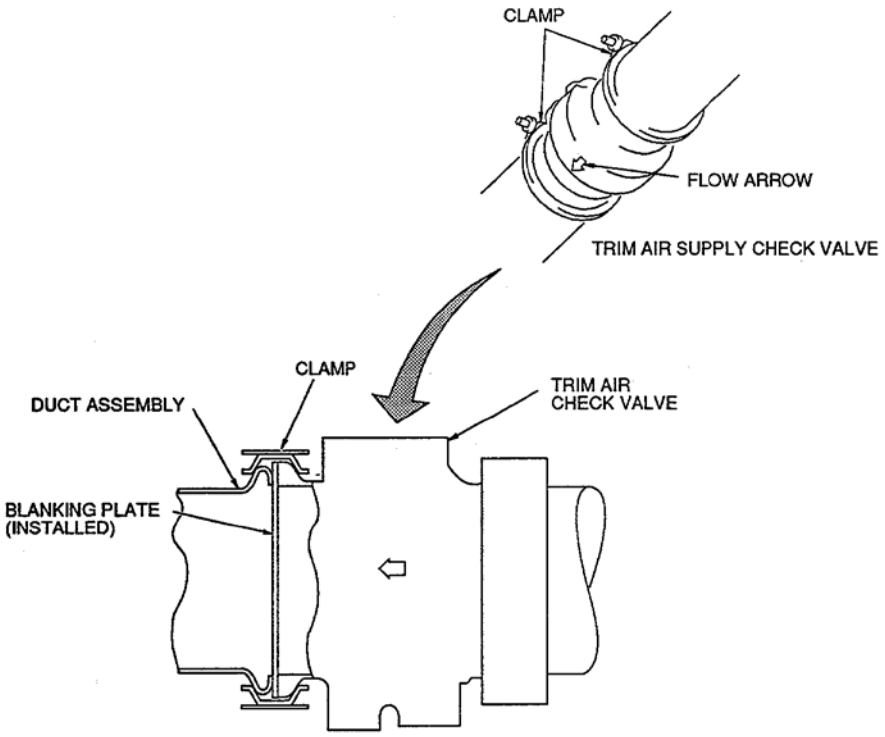
2. Supply electrical power (AMM 24-22-00/201).
3. Remove pneumatic system pressure (AMM 36-00-00/201).
4. Set both PACK control selectors to OFF.
5. Gain access to the trim air check valve (AMM 21-61-05/401).
6. Loosen the clamp on the downstream side of the trim air check valve and slide the clamp along the duct.
7. Slip the blank-off plate between the duct assembly and the trim air check valve.
8. Reinstall the clamp and torque the clamp nut to 45 inch-pounds.
9. Perform leakage test:

    a. Pressurize the pneumatic system (AMM 36-00-00/201).
    b. Set both PACK control selectors to AUTO.
    c. Set the TRIM AIR switch to OFF.
    d. Check the valve flange for leakage.

        1) Diffused leakage is acceptable.
        2) Jet blast leakage must be repaired by joint or clamp realignment.



		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-64-01	Trim Air Valve Position Indicator	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-64-01	Trim Air Valve Position Indicator	Trim Air Valve Position Indicator INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-64-02	Forward Overboard Valve	**N**	1	0	**C**	**(M)** May be inoperative provided valve is deactivated CLOSED.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-64-02	EQUIP COOLING Panel	Forward Overboard Valve INOP CLOSED

OPERATIONS NOTE

The forward cabin right side floor level area may become cold.

(M) PROCEDURES

Deactivate the forward overboard valve closed.

1. Open the P11 panel FORWARD OVERBOARD VALVE circuit breaker.
2. Remove the following P87 panel relays:
   a. K1325
   b. K1326
3. Gain access to the forward overboard valve (AMM 21-23-08/201).
4. Disconnect, cap, and stow electrical connector D20202 from the valve.
5. Set the manual operating lever/position indicator to the closed position.
6. Lockwire the operating lever to the actuator mounting screws.
7. Close the open circuit breaker.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-65-01 COMPT TEMP Indications	**Y**	3	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
21-65-01	Associated COMPT TEMP Indicator	____ COMPT TEMP Indication(s) INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	CREW REST BUNK HEATER SYSTEM					
21-66-02A	Lower Lobe Flight Crew Rest Bunk Heater Systems **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Flight Crew Rest Air Distribution System operates normally, b) Associated Cargo Heat system(s) operates normally, and c) Heater System is deactivated.
21-66-02B	Lower Lobe Flight Attendant Rest Bunk Heater Systems **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Flight Attendant Rest Air Distribution System operates normally, b) Associated Cargo Heat system(s) operates normally, and c) Heater System is deactivated.
21-66-02C	Lower Lobe Flight Crew Rest Bunk Heater Systems **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Heater System is deactivated, b) Flight Crew Rest Module is not used and personal items are removed, and c) Crew rest door is closed and placarded INOPERATIVE-DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit flight crew rest area inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate flight crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.
21-66-02D	Lower Lobe Flight Attendant Rest Bunk Heater Systems **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Heater System is deactivated, b) Flight Attendant Rest Module is not used and personal items are removed, and c) Crew rest door is closed and placarded INOPERATIVE-DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit flight attendant rest area inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate flight attendant rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

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MEL ITEM	TAB LOCATION	PLACARD TEXT
21-66-02A	Logbook	Lower Lobe ____ Rest Bunk Heater INOP
21-66-02B	Logbook	Lower Lobe ____ Rest Bunk Heater INOP
21-66-02C	Logbook	Lower Lobe ____ Rest Bunk Heater INOP
21-66-02D	Logbook	Lower Lobe ____ Rest Bunk Heater INOP

(O) PROCEDURES

21-66-02A

Flight Crew Rest

The Flight Crew Rest uses air from the forward cabin air distribution system. If needed, the Crew Rest temperature can be adjusted using the forward cabin temperature control.

21-66-02B

Flight Attendant Rest

The Flight Attendant Rest uses air from the aft cabin air distribution system. If needed, the Flight Attendant Rest temperature can be adjusted by using the aft cabin temperature control.

(M) PROCEDURES

21-66-02A, 21-66-02B

NOTE: All bunk heaters are powered by one circuit breaker for each Crew Rest. Deactivating the system will remove power from all the bunk heaters in the associated Crew Rest.

Deactivate the associated inoperative Heater System:

1. For the Flight Crew Rest pull and secure the FWD LLCR HEATING – AC C/B located on the 36 panel.
2. For the Attendant Rest pull and secure the AFT LLCR HEATING – AC C/B located on the P37 panel.

21-66-02C, 21-66-02D

1. Deactivate the associated inoperative Heater System.
   a. For the Flight Crew Rest pull and secure the FWD LLCR HEATING – AC C/B located on the P36 panel.
   b. For the Attendant Rest pull and secure the AFT LLCR HEATING – AC C/B located on the P37 panel.
2. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.
3. Secure the associated crew rest entrance door closed.
4. Install placard INOPERATIVE – DO NOT ENTER.

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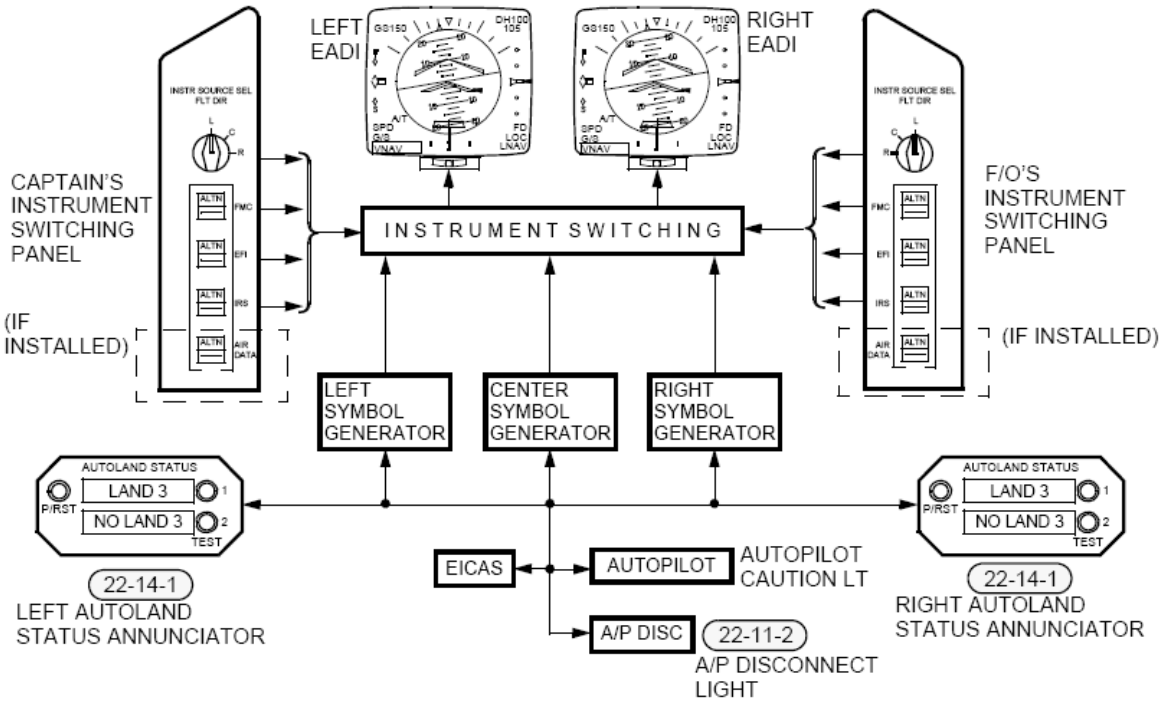

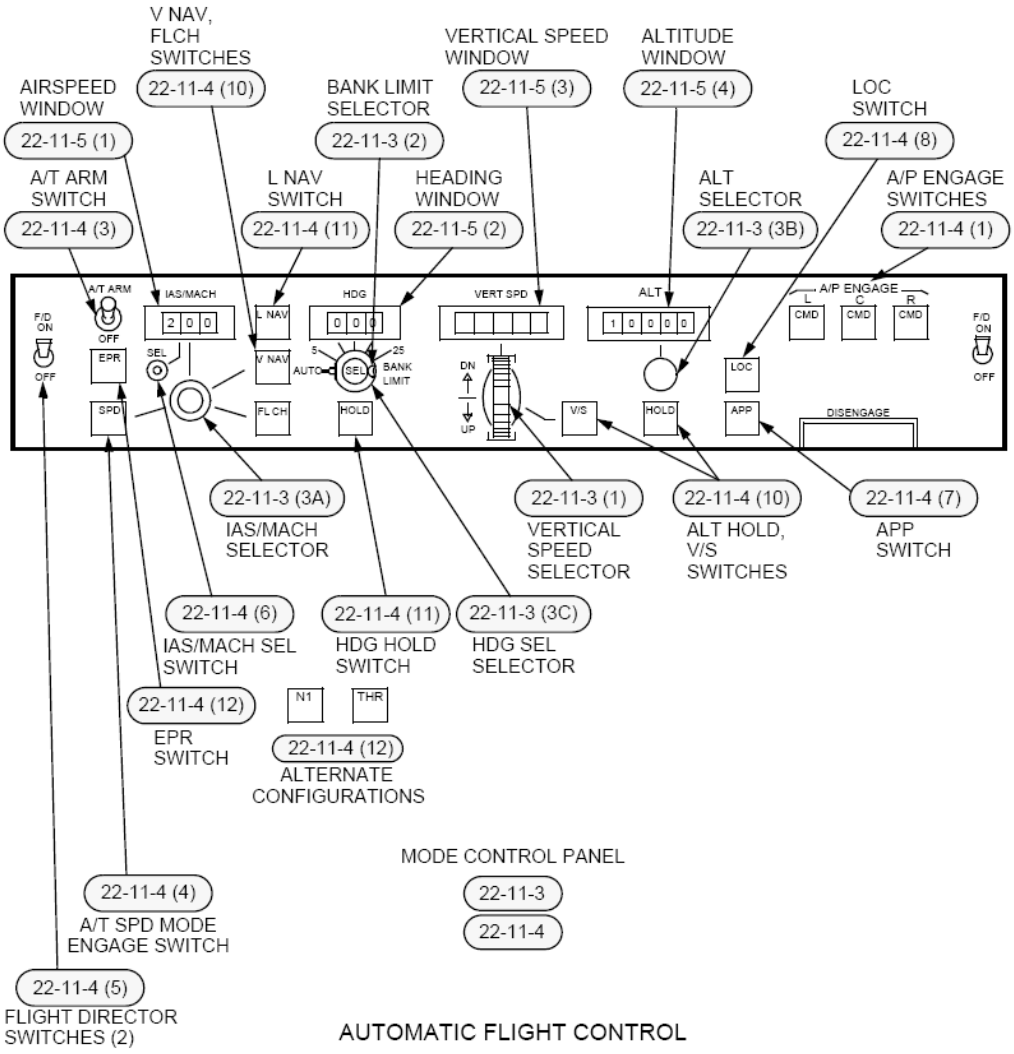

AUTOMATIC FLIGHT CONTROL

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
22-00-00L	LLM Autoland Status (Lower Landing Minimums) **"DISP.APPR.REQ'D."** Administrative Control Item	**N**	-	-		**(M)** Aircraft restricted from autopilot coupled Autoland due to chronic problem, or no Autoland in 30 days. a) This item number is only used for deferring the Autoland status of the aircraft and MCC authorization is required prior to its usage or removal. b) Practice Autolands are permitted if authorized by MCC.

MEL ITEM	TAB LOCATION	PLACARD TEXT
22-00-00L	Adjacent to each PFD.	Autoland Is Not Authorized

(M) PROCEDURES

1. The AMT will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate MEL Item Number.
2. The deferral code LLM must also be entered on the log page and the placard when deferring this item.
3. MCC authorization is required prior to its usage or removal.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
22-10-01A	Autopilot Systems **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(M)** May be inoperative provided: a) Associated FCC SERVO circuit breaker is pulled and secured, and b) Approach minimums do not require its use. CAT III Not Authorized NOTE: If operable, both Autopilot and Flight Director will be utilized for all ILS approaches when the reported weather is below 4,000 RVR or ¾ mile.
22-10-01B	Autopilot Systems **"DISP.APPR.REQ'D."**	**Y**	3	1	**C**	**(M)** May be inoperative provided: a) At least two FCC power circuit breakers remain in, b) Associated FCC SERVO circuit breakers are pulled and secured, c) Approach minimums do not require their use, and d) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized NOTE: If operable, both Autopilot and Flight Director will be utilized for all ILS approaches when the reported weather is below 4,000 RVR or ¾ mile.
22-10-01C	Autopilot Systems **"DISP.APPR.REQ'D."**	**Y**	3	0	**B**	**(O)(M)** Except for ER operations (ETOPS), all may be inoperative provided: a) At least one FCC power circuit breaker remains in, b) All three FCC SERVO circuit breakers are pulled and secured, c) Approach minimums do not require their use, d) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, and e) Number of flight segments and segment duration is acceptable to flight crew. CAT II/III – RVSM Not Authorized Theater Restrictions May Apply

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-10-01A	Autopilot MCP	___ Autopilot INOP
22-10-01B	Autopilot MCP	___ Autopilots INOP
22-10-01C	Autopilot MCP	All Autopilots INOP

(O) PROCEDURES

22-10-01C

Review the destination weather and approach charts to determine if an approach may be conducted without the use of an autopilot.

(M) PROCEDURES

22-10-01A, 22-10-01B, 22-10-01C

1. Verify minimum number of FCC 115 VAC circuit breakers are in for associated condition.
2. Pull and secure associated FCC servo C/B for failed A/P channels (Left, 11E18; Center, 11E21; Right 11E36).

   NOTE: This will prevent engagement of the affected A/P, but will allow operation of the cross channel data bus which provides information to the remaining operative FCCs.

CONDITIONAL DEACTIVATION PROCEDURE *Maintenance is Required and Flight Crew May **Not** Placard*

If a hydraulic system leak is reported and an autopilot electro-hydraulic servo is determined to be the source of the leak (i.e. worn hydraulic seals, manifold cracks, etc.), the autopilot may be deferred and deactivated. The following procedure is generic for the three Elevator Autopilot Servos (EAS), three Directional Autopilot Servos (DAS), and three Lateral Central Control Actuators (LCCA).

NOTE: An inspection to identify possible autopilot electro-hydraulic servo leaks is not required prior to deferral of the autopilot system.

1. Remove applicable hydraulic pressure at panel P5.

   a. Left EAS / DAS Left hydraulic system
   b. Center EAS / DAS Center hydraulic system
   c. Right EAS / DAS Right hydraulic system

2. Set panel P61 switches L, C, R TAIL FLT CONTROL SHUTOFF to OFF.
3. Set the two P10 control stand STAB TRIM switches to CUTOUT.
4. Set the Mode Control Panel F/D switches to OFF.
5. Pull the following circuit breakers on the P11 panel:

   a. STAB TRIM SHUTOFF L
   b. STAB TRIM SHUTOFF CENTER
   c. FLT CONTROL SHUTOFF TAIL L, C, R
   d. MODE CONT PNL L, R
   e. FLT CONT CMPTR PWR L, C, R
   f. FLT CONT CMPTR SERV L, C, R

6. Gain access to the leaky EAS/DAS.

CONTINUED NEXT PAGE

7. Disconnect the pressure and return lines from the leaky EAS/DAS.

   NOTE: Use suitable caps and plugs, such as MS21913K4 plug and MS21914-4K cap for the pressure lines and MS21913D6 plug and MS21914-6D cap for the return lines.

8. Cap the hydraulic lines.
9. Close the circuit breakers from step 5.
10. Set MCP F/D switches to ON.
11. Set STAB TRIM switches to NORM.
12. Set L, C, R TAIL FLT CONTROL SHUTOFF to ON.
13. Perform the procedures for the Overall L, C, R Autopilot System.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-11-01A	Control Wheel Disengage Switches **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** May be inoperative provided: a) Autopilots are not used below 1500 feet AGL, and b) Approach minimums do not require use of autopilot; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized
22-11-01B	Control Wheel Disengage Switches **"DISP.APPR.REQ'D."**	**Y**	2	0	**B**	**(O)** May be inoperative provided: a) Autopilots are not used, b) Approach minimums do not require use of autopilot; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, and c) Number of flight segments and segment duration is acceptable to flight crew. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-11-01A	Autopilot MCP	___ Control Wheel Disengage Switch INOP
22-11-01B	Autopilot MCP	___ Control Wheel Disengage Switch(s) INOP

(O) PROCEDURES

22-11-01A, 22-11-01B

Review the destination weather and approach charts to determine if an approach may be conducted without the use of an autopilot below 1,500 feet AGL.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-11-02 A/P DISC Light **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Autopilots are not used below 1500 feet AGL, b) Approach minimums do not require use of autopilot; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, c) All other A/P disengagement alerts operate normally. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-11-02	A/P DISC Light	A/P DISC Light INOP

(O) PROCEDURES

Review the destination weather and approach charts to determine if an approach may be conducted without the use of an autopilot below 1,500 feet AGL.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MODE CONTROL PANEL SELECTORS					
22-11-03A VERT SPD Selector (DN & UP)	**Y**	1	0	**C**	**(O)** May be inoperative provided FL CH mode operates normally.
22-11-03B BANK LIMIT Selector	**Y**	1	0	**C**	**(O)** May be inoperative.
22-11-03C Selector Push Function IAS/MACH	**Y**	1	0	**C**	**(O)** May be inoperative. NOTE: The rotational function of the selector must operate normally.
22-11-03D Selector Push Function ALT	**Y**	1	0	**C**	**(O)** May be inoperative. NOTE: The rotational function of the selector must operate normally.
22-11-03E Selector Push Function HDG SEL **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative. NOTE: The rotational function of the selector must operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-11-03A	Autopilot MCP	A/P VERT SPD Selector INOP
22-11-03B	Autopilot MCP	A/P BANK LIMIT Selector INOP
22-11-03C	Autopilot MCP	A/P IAS / MACH Selector Push Function INOP
22-11-03D	Autopilot MCP	A/P ALT Selector Push Function INOP
22-11-03E	Autopilot MCP	A/P HDG SEL Selector Push Function INOP

(O) PROCEDURES

22-11-03A

1. With VERT SPD Selector inoperative, targeted vertical speed in Vertical Speed mode cannot be adjusted. Vertical Speed mode may still be used to hold airplane vertical speed at time of engagement.
2. Review the destination weather and approach charts to determine if an approach may be conducted without the use of Vertical Speed mode.

22-11-03B

With BANK LIMIT Selector inoperative, Heading Select bank angle limit cannot be changed. There is no flight crew impact if stuck at AUTO (NORM in some MCP configurations). If stuck at a low bank angle value, large heading changes in Heading Select mode may require significantly greater time to complete than normal. If stuck at a high bank angle value, large heading changes in Heading Select mode may be undesirably aggressive at cruise conditions.

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22-11-03C

With IAS/MACH Push Function inoperative, V NAV Speed Intervention cannot be invoked. If continued V NAV operation is desired, speed entries can be made via the CDU.

22-11-03D

With ALT Push Function inoperative, V NAV Altitude Intervention cannot be invoked. If continued V NAV operation is desired, altitude constraints can be deleted via the CDU.

22-11-03E

With HDG SEL Push Function (engage switch) inoperative, Heading Select mode cannot be engaged. Turns must be accomplished in L NAV or in manual flight, or using APP, LOC, or B/CRS if appropriate.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MODE CONTROL PANEL SWITCHES					
22-11-04A A/P Engage Switches (L CMD, C CMD, R CMD) **"DISP.APPR.REQ'D."**	**Y**	3	1	**C**	**(O)** May be inoperative. NOTE: All operative autopilots may be used during autoland operations.
22-11-04B A/P Engage Switches (L CMD, C CMD, R CMD) **"DISP.APPR.REQ'D."**	**Y**	3	0	**B**	**(O)** Except for ER operations (ETOPS), may be inoperative provided: a) Enroute operations do not require their use; b) Approach minimums do not require their use, c) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, and d) Number of flight segments and segment duration is acceptable to flight crew. CAT II/III - RVSM Not Authorized Theater Restrictions May Apply
22-11-04C A/P CWS Engage Switches	**Y**	3	0	**C**	
22-11-04D A/T ARM Switch **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative OFF provided approach minimums do not require use of autothrottle system. CAT II/III Not Authorized
22-11-04E A/T SPD Mode Engage Switch **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided procedures and approach minimums do not require its use. CAT II/III Not Authorized

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MODE CONTROL PANEL SWITCHES (Continued)					
22-11-04F F/D Switches **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative OFF provided: a) Approach minimums do not require use of flight director displays, and b) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized NOTE: For TAKEOFF Flight Director must be displayed on Captain's PFD with visibility less than 1600 RVR (1/4 mile).
22-11-04G IAS / MACH SEL Switch	**Y**	1	0	**C**	May be inoperative provided IAS is displayed in associated window.
22-11-04H APP Switch **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided approach minimums do not require the use of autopilot or Flight Director. CAT II/III Not Authorized
22-11-04I LOC Switch	**Y**	1	0	**C**	**(O)** May be inoperative.
22-11-04J B/CRS Switch	**Y**	1	0	**C**	**(O)** May be inoperative.
22-11-04K VNAV, FLCH, V/S, ALT HOLD Switches **"DISP.APPR.REQ'D."**	**Y**	4	3	**C**	**(O)** May be inoperative provided: a) Procedures or enroute operations do not require its use, and b) RNAV operations do not require VNAV use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
22-11-04L LNAV, HDG HOLD Switches **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** May be inoperative provided: a) HDG SEL operates normally, and b) RNAV operations do not require LNAV use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
22-11-04M EPR / N1 Switch	**Y**	1	0	**C**	**(O)** May be inoperative provided both thrust levers are operated manually for takeoff.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-11-04A	Autopilot MCP	___ A/P CMD Engage Switch(es) INOP
22-11-04B	Autopilot MCP	___ A/P CMD Engage Switch(es) INOP
22-11-04C	Autopilot MCP	___ A/P CWS Engage Switch(es) INOP
22-11-04D	Autopilot MCP	A/T ARM Switch INOP
22-11-04E	Autopilot MCP	A/T SPD Mode Engage Switch INOP
22-11-04F	Autopilot MCP	___ F/D Switch(es) INOP
22-11-04G	Autopilot MCP	A/P IAS / MACH SEL Switch INOP
22-11-04H	Autopilot MCP	A/P APP Switch INOP
22-11-04I	Autopilot MCP	A/P LOC Switch INOP
22-11-04J	Autopilot MCP	A/P B/CRS Switch INOP
22-11-04K	Autopilot MCP	A/P ___ Mode Switch(es) INOP
22-11-04L	Autopilot MCP	A/P ___ Mode Switch(es) INOP
22-11-04M	Autopilot MCP	A/P EPR / N1 Switch INOP

(O) PROCEDURES

22-11-04A

1. The associated autopilot may not be selectable for an automatic landing.
2. If associated autopilots operate normally, all operative autopilots will engage automatically at 1,500 feet AGL after selection of the APP switch during an autoland approach.
3. Monitor autoland status annunciators (ASA) for autoland status.

22-11-04B

Review the destination weather and approach charts to determine if an approach may be conducted without the use of autopilots.

22-11-04D

The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only:**

1. Immediately Prior to Pushback:

   Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

2. Before Takeoff:

   For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

22-11-04E

1. Autothrottle speed mode cannot be manually selected.
2. A/T speed mode is the default autothrottle mode upon exit of FL CH or V NAV or G/A, which is not affected by an inoperative SPD switch.
3. V NAV normally commands the autothrottle to speeds determined by the FMC, which is also not affected by an inoperative SPD switch.

CONTINUED NEXT PAGE

22-11-04F

Review the destination weather and approach charts to determine if an approach may be conducted without the use of one or both Flight Directors.

22-11-04I

1. Localizer mode is not available for use during a localizer-dependent approach (examples: localizer-only, localizer backcourse, LDA, or SDF) or departure procedure. L NAV, HDG SEL, or manual flight may be used.
2. Backcourse mode for backcourse localizer approach is not available. L NAV, HDG SEL, or manual flight may be used.

22-11-04J

Backcourse mode for backcourse localizer approach is not available. L NAV, HDG SEL, or manual flight may be used.

22-11-04K

1. Flight crews must consider use of other autopilot modes appropriate for the planned route.
2. The default autopilot mode is vertical speed and heading hold. These modes may be used to hold vertical speed (or altitude with targeted V/S = 000) and heading even if the associated mode engage switches are inoperative.
3. Flight level change and vertical speed modes automatically transition to altitude hold even if the ALT HOLD switch is inoperative.
4. For enroute operations such as RVSM, any one of the following autopilot pitch modes will provide acceptable altitude hold capability: altitude hold (ALT HOLD), vertical speed (VERT SPD) with 000 selected, vertical navigation (V NAV) with FMC flight plan, or V NAV with FMC flight plan combined with altitude intervention.
5. Review the destination weather and approach charts to determine if an approach may be conducted with the operative modes.

22-11-04L

1. Flight crews must consider use of other autopilot modes appropriate for the planned route.
2. The default autopilot mode is vertical speed and heading hold. These modes may be used to hold vertical speed (or altitude with targeted V/S = 000) and heading even if the associated mode engage switches are inoperative.
3. Review the destination weather and approach charts to determine if an approach may be conducted with the operative modes.

22-11-04M

The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only:**

1. <u>Immediately Prior to Pushback:</u>

   Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

2. <u>Before Takeoff:</u>

   For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MODE CONTROL PANEL WINDOWS					
22-11-05A Airspeed (IAS / MACH)	**Y**	1	0	**C**	**(O)** May be inoperative provided command airspeed bug on airspeed indicator operates normally on both sides.
22-11-05B Heading (HDG)	**Y**	1	0	**C**	**(O)** May be inoperative provided selected heading indications on both HSIs operate normally.
22-11-05C Vertical Speed (VERT SPD) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided Vertical Speed mode is not selected.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-11-05A	Autopilot MCP	A/P IAS / MACH Window INOP
22-11-05B	Autopilot MCP	A/P HDG Window INOP
22-11-05C	Autopilot MCP	A/P VERT SPD Window INOP

(O) PROCEDURES

22-11-05A, 22-11-05B

With IAS / MACH and/or HDG windows inoperative, associated target values may still be set and appropriate autopilot modes used by observing bugs on ADI and/or HSI.

22-11-05C

1. With VERT SPD window inoperative, do not manually select Vertical Speed mode. Vertical Speed mode may engage as the default autopilot mode, but another pitch mode should then be selected.
2. Review the destination weather and approach charts to determine if an approach may be conducted without the use of Vertical Speed mode.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	MODE CONTROL PANEL SWITCH LIGHTS					
22-11-06A	Autopilot Engage Switch Lights (CMD)	**Y**	3	2	**C**	NOTE: A switch with one lamp operational is considered to be operating normally.
22-11-06B	Mode Selector Switch Lights	**Y**	-	-	**C**	Lights for any two switches may be inoperative. NOTE: A switch with one lamp operational is considered to be operating normally.
22-11-06C	Mode Selector Switch Lights **"Contact MCC"**	**Y**	-	0	**B**	NOTE: A switch with one lamp operational is considered to be operating normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-11-06A	Autopilot MCP	___ A/P CMD Switch Light INOP
22-11-06B	Autopilot MCP	A/P ___ Mode Switch Light INOP
22-11-06C	Autopilot MCP	A/P ___ Mode Switch Light INOP

OPERATIONS NOTE:

Mode Selector Switch Lights include autopilot system mode switch lights and thrust management system mode switch lights.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-14-01A	Autoland Status Annunciators **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	F/O's ASA may be inoperative provided approach minimums do not require their use. CAT III Not Authorized
22-14-01B	Autoland Status Annunciators **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	Captain's or both ASAs may be inoperative provided approach minimums do not require their use. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-14-01A	Affected Autoland Status Annunciator	F/O's Autoland Status Annunciator INOP
22-14-01B	Affected Autoland Status Annunciator(s)	___ Autoland Status Annunciator(s) INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-14-02A Automatic Landing System (AUTOLAND) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided approach minimums do not require its use. CAT II/III Not Authorized
22-14-02B Triple Channel Autoland (LAND 3) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided approach minimums do not require its us. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-14-02A	Autopilot MCP	A/P Autoland Mode INOP
22-14-02B	Autopilot MCP	A/P LAND 3 Mode INOP

NOTE: The ASA annunciations NO AUTOLAND and NO LAND 3 indicate faults in the Automatic Landing System. These annunciations may be accompanied by other indications or messages regarding specific inoperative equipment. Refer to the Section 1 message list for associated dispatch deviations.

If a NO LAND 3 annunciation is noted prior to departure and if no other indications or messages are present, the aircraft may be dispatched with no maintenance action provided all three autopilots can be independently engaged on the ground and approach minimums do not require triple channel autoland. The ground autopilot engagement should be done while the airplane is parked.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-21-01 Yaw Dampers	**Y**	2	1	**C**	**(M)** May be inoperative provided remaining Yaw Damper is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-21-01	Yaw Damper Panel	___ Yaw Damper INOP

(M) PROCEDURES

To verify the proper operation of the remaining yaw damper use the following procedure:

1. Establish electrical and hydraulic power.
2. Verify that the IRS's are aligned and in NAV mode.
3. Position autopilot and flight director switches to off on AFDS mode control panel.
4. Verify that EICAS is operational.
5. Select STATUS on EICAS display select panel P9.
6. Press operational YAW DAMPER switchlight on yaw damper panel and verify On is illuminated.
7. Verify that YAW DAMPER INOP indicator is extinguished.
8. Position YAW DMPR test switch P61 to operational yaw damper (L or R).
9. Verify immediately that the YAW DAMPER INOP indicator is illuminated amber.
10. Verify that the rudder position indicator in EICAS display shows the rudder moves approximately 3 degrees trailing edge right, 3 degrees trailing edge left, and then returns to center within 10 seconds. Rudder deflection of 3 degrees is represented by a 0.05 inch movement on the EICAS indicator scale.
11. Verify that the YAW DAMPER INOP indicator is extinguished in approximately 10 seconds.
12. Restore aircraft to required configuration.

CONDITIONAL DEACTIVATION PROCEDURE *Maintenance is Required and Flight Crew May **Not** Placard*

If a hydraulic system leak is reported and a yaw damper servo valve is determined to be the source of the leak (i.e. worn hydraulic seals, manifold cracks, etc.), the yaw damper may be deferred and deactivated.

NOTE: An inspection to identify possible yaw damper servo valve leaks is not required prior to deferral of the yaw damper system.

1. For right yaw damper servo valves, remove left hydraulic pressure at panel P5. For left yaw damper servo valves, remove center hydraulic pressure at panel P5.
2. Set P61 panel switches L, C, R TAIL FLT CONTROL SHUTOFF to OFF.
3. Set the two P10 control stand STAB TRIM switches to CUTOUT.

CONTINUED NEXT PAGE

4. Pull the following circuit breakers on the P11 panel. Make sure the FLT CONT ELECT AC circuit breakers are opened prior to the FLT CONT ELECT DC circuit breakers for each power supply.

   a. YAW DAMPER L
   b. FLT CONT ELEC 1L AC
   c. FLT CONT ELEC 1L DC
   d. FLT CONT ELEC 2L AC
   e. FLT CONT ELEC 2L DC
   f. YAW DAMPER R
   g. FLT CONT ELEC 1R AC
   h. FLT CONT ELEC 1R DC
   i. FLT CONT ELEC 2R AC
   j. FLT CONT ELEC 2R DC
   k. STAB TRIM SHUTOFF L
   l. STAB TRIM SHUTOFF CENTER
   m. FLT CONTROL SHUTOFF TAIL L, C, R

5. Gain access to the leaky yaw damper servo.
6. Remove the pressure and return lines from the servo.

   NOTE: Use suitable caps and plugs, such as MS21913K4 plug and MS21914-4K cap for pressure lines and MS21913D6 plug and MS219146D cap for return lines.

7. Plug yaw damper servo hydraulic ports to prevent contamination.
8. Cap the hydraulic lines to prevent contamination.
9. Close the circuit breakers from step 4.
10. Set STAB TRIM switches to NORM.
11. Set L, C, R TAIL FLT CONTROL to ON.
12. Verify proper operation of the remaining yaw damper.

22-21NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
THRUST MANAGEMENT SYSTEM					
22-30-01A Thrust Management System (Including Autothrottle System) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided approach minimums do not require its use. CAT II/III Not Authorized
22-30-01B Autothrottle Servo **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Autothrottles are deactivated, and b) Approach minimums do not require use of Autothrottle. CAT II/III Not Authorized
22-30-01C Autothrottle Disconnect Switches	**Y**	2	1	**C**	
22-30-01D Autothrottle Disconnect Switches **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Autothrottles are deactivated, and b) Approach minimums do not require use of Autothrottle. CAT II/III Not Authorized
22-30-01E Thrust Mode Select Panel (Derate Switches)	**Y**	2	0	**C**	
22-30-01F Thrust Mode Select Panel (TEMP SEL Selector)	**Y**	1	0	**C**	
22-30-01G Thrust Mode Select Panel (TO/GA Switch)	**Y**	1	0	**C**	
22-30-01H Thrust Mode Select Panel (CLB Switch)	**Y**	1	0	**C**	**(O)** May be inoperative provided Automatic Climb Thrust Select option is installed and operates normally.
22-30-01I Thrust Mode Select Panel (CON Switch)	**Y**	1	0	**C**	**(O)** May be inoperative provided Max Continuous Thrust is set manually if required.
22-30-01J Thrust Mode Select Panel (CRZ Switch)	**Y**	1	0	**C**	

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-30-01A	Autopilot MCP	Thrust Management System / Autothrottle System INOP
22-30-01B	Autopilot MCP	Autothrottle Servo
22-30-01C	Autopilot MCP	___ Autothrottle Disconnect Switch INOP
22-30-01D	Autopilot MCP	Both Autothrottle Disconnect Switches INOP
22-30-01E	Autopilot MCP	___ A/T Derate Switch(es) INOP
22-30-01F	Autopilot MCP	A/T TEMP SEL Selector INOP
22-30-01G	Autopilot MCP	A/T TO/GA Switch INOP
22-30-01H	Autopilot MCP	A/T CLB Switch INOP
22-30-01I	Autopilot MCP	A/T CON Switch INOP
22-30-01J	Autopilot MCP	A/T CRZ Switch INOP

(O) PROCEDURES

22-30-01A

1. The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:

   a. Immediately Prior to Pushback:

      Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

   b. Before Takeoff:

      For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

2. With an inoperative thrust management computer, the autothrottle system will be inoperative and the following flight deck displays will be affected:

   a. EGT amber indications which are normally inhibited during takeoff or go-around will not be inhibited.
   b. Reference EPR/N1, as applicable, will not be available.
   c. Assumed temperature will not be available. Takeoff thrust must be performed with normal power.
   d. Thrust reference mode (TO, CLB, etc.) will not be available.
   e. The SPD flag may remain in view on the EADI.

3. Refer to ODM – Abnormal Section for Thrust Settings – All Engines Table.

CONTINUED NEXT PAGE

22-30-01B, 22-30-01D

NOTE: An electrical power interruption may cause TMC calculated EICAS parameters to blank and/or a "SPD" flag in both EADI's. Momentarily closing and then opening the TMC SERVO circuit breaker will restore the displays and/or reset the "SPD" flags.

The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:

1. Immediately Prior to Pushback:

   Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

2. Before Takeoff:

   For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

22-30-01H

1. Automatic climb thrust select option must be installed and operate normally.
2. Takeoff thrust reduction will be performed automatically upon selection of any pitch autopilot mode.
3. If a go-around is required, climb thrust must be set manually by using FCOM/QRH data.

22-30-01I

Max Continuous Thrust must be set manually. Maximum Continuous Thrust setting may be determined from data provided in the ODM.

(M) PROCEDURES

22-30-01A

Deactivate the thrust management computer by opening and collaring the following P11 panel circuit breakers:

1. TMC AC
2. TMC DC
3. TMC SERVO

NOTE: This procedure may also be used when the TMC is stuck in an initialization loop (flashing displays).

22-30-01B, 22-30-01D

NOTE: An electrical power interruption may cause the TMC calculated EICAS parameters to blank. Momentarily closing and then opening the TMC SERVO circuit breaker will restore the displays.

Deactivate the autothrottle system.

1. Confirm the A/T ARM switch on the glareshield is OFF.
2. Pull and secure the P11 panel TMC SERVO circuit breaker. The thrust management computer and associated EICAS displays will operate normally.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
22-30-02A	Go-Around Switches **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Approach minimums do not require its use, b) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, and c) Remaining go-around switch is verified to operate normally. CAT II/III Not Authorized
22-30-02B	Go-Around Switches **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) Both thrust levers are operated manually, b) Autopilot and Flight Director are not used below 500 feet AGL or applicable approach minimum, whichever is higher, c) Approach minimums do not require their use, and d) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized NOTE: Flight Director Go-Around and Windshear guidance are not available with both go-around switches inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-30-02A	Autopilot MCP	___ Go-Around Switch INOP
22-30-02B	Autopilot MCP	Both Go-Around Switches INOP

(O) PROCEDURES

22-30-02A, 22-30-02B

Review the destination weather and approach charts to determine if an approach may be conducted without the use of one or both Go-Around Switches.

CONTINUED NEXT PAGE

(M) PROCEDURES

22-30-02A

Verify that the operative G/A switch commands both autopilot and autothrottle Go-Around mode by performing the Maintenance Control Display Panel (MCDP) Ground Test # 13 (SW G/A).

1. Supply electrical power.
2. Make sure these circuit breakers are closed:

MODE CONT PNL LEFT	FLT CONT CMPTR SERVO CENTER	TMC AC
FLT CONT COMPUTER POWER LEFT	MODE CONT PNL RIGHT	TMC DC
FLT CONT COMPUTER SERVO LEFT	FLT CONT CMPTR PWR RIGHT	TMC SERVO
FLT CONT CMPTR PWR CENTER	FLT CONT CMPTR SERVO RIGHT	

3. Do the MCDP Ground Test 13 – SW GA.
4. Set the MCDP to off.
5. Remove electrical power if it is not necessary.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-34-01A Autothrottle Disconnect (A/T DISC) Light	**Y**	1	0	**C**	May be inoperative provided: a) Associated EICAS annunciation operates normally, and b) Associated aural alert operates normally.
22-34-01B Autothrottle Disconnect (A/T DISC) Light **"DISP.APP.REQ'D"**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) A/T ARM switch remains OFF, and b) Approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-34-01A	A/T DISC Light	A/T DISC Light INOP
22-34-01B	A/T DISC Light	A/T DISC Light INOP

(O) PROCEDURES

22-34-01B

The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:

1. Immediately Prior to Pushback:

   Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

2. Before Takeoff:

   For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-41-01	Maintenance Control Display Panel (MCDP)	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
22-41-01	Autopilot MCP	MCDP INOP

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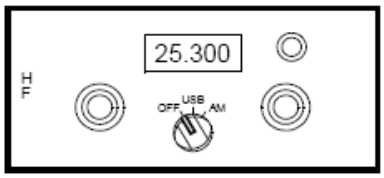
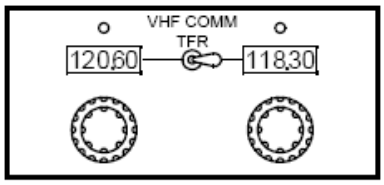


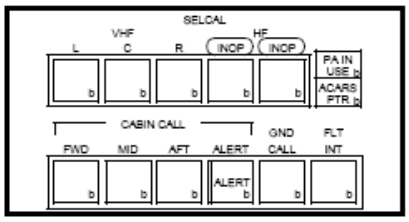
HF COMMUNICATIONS

23-11-1



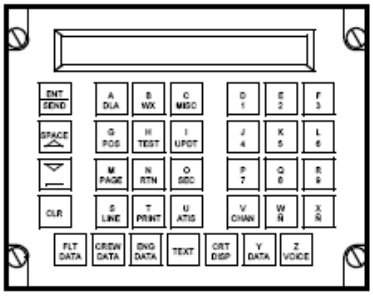
VHF COMMUNICATIONS

23-11-1



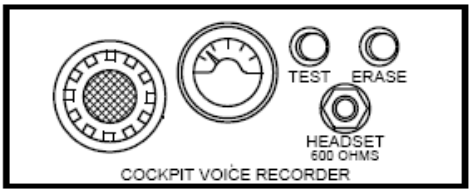
SELECTIVE CALL SYSTEMS

23-21-1



ARINC COMMUNICATIONS ADDRESSING AND REPORTING SYSTEM

23-22-1



COCKPIT VOICE RECORDER

23-71-1

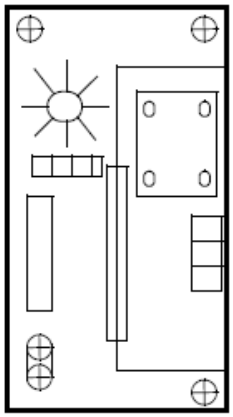
PUSH-BUTTON KEYBOARD

SOFT-TOUCH KEYBOARD

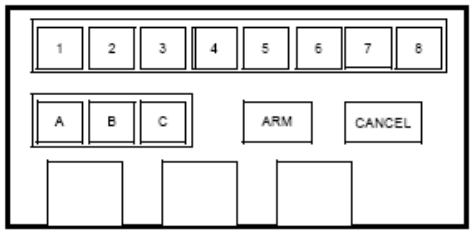
HANDSET (EXAMPLES)

23-31-1

PASSENGER ADDRESS SYSTEM



PRE-RECORDED ANNUCT TAPE REPRODUCER



PRE-RECORDED PASSENGER ANNOUNCEMENT SYSTEM

23-31-2

NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH	
FLIGHT CREW MAY PLACARD		REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION			REMARKS OR EXCEPTIONS
23-00-99 Long Range Communication System **"DISP.APPR.REQ'D"** Administrative Control Item	**N**		**(M)** Aircraft restricted due to HF history. WATRS routes not authorized. MCC authorization is required prior to its usage or removal.

MEL ITEM	TAB LOCATION	PLACARD TEXT
23-00-99	Log Book	HF Restricted

(M) PROCEDURES

Use this item to restrict aircraft due to HF equipment that has been placed on MEL three (3) or more times in the last thirty (30) days.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
COMMUNICATIONS SYSTEMS					
23-11-01A VHF Comm	**Y**	3	2	**C**	Center **or** Right VHF Comm may be inoperative (Left VHF Comm must be operative).
23-11-01B Frequency In Use Light	**Y**	6	0	**C**	
23-11-01C Frequency Transfer Switch	**Y**	3	0	**C**	May be inoperative provided associated VHF active frequency can be selected.
23-11-01D Frequency Transfer Switch	**Y**	3	2	**C**	Center **or** Right VHF Comm transfer switch may be inoperative.
23-11-01E Frequency Selector Knob	**Y**	6	2	**C**	One for No. 1 System must be operative.
23-11-01F Frequency Indication	**Y**	6	2	**C**	One for No. 1 System must be operative.
23-11-01G High Frequency (HF) Communication System **"DISP.APPR.REQ'D."**	**Y**	2	-	**C**	**(M)** One or both may be inoperative provided ATC and Company communication requirements are met. NOTE: Refer to Delta Airway Manual, Communications, for HF requirements.
23-11-01H High Frequency (HF) Communication System **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)(M)** May be inoperative while conducting operations that require two LRCS provided: a) SATCOM Voice or Data Link operates normally, b) Alternate procedures are used, c) SATCOM coverage is available over the intended route of flight, and d) If SATCOM voice is to be used over intended route of flight, SATCOM voice short codes (INMARSAT) or direct dial commercial numbers (IRIDIUM) must be available. If not available, prior coordination with appropriate ATS (FIR) facility is required. NOTE: SATCOM is to be used only as a backup to normal HF communications unless otherwise authorized by appropriate ATS facilities.

CONTINUED NEXT PAGE

MEL ITEM	TAB LOCATION	PLACARD TEXT
23-11-01A	Associated VHF Comm Control Panel	___ VHF Comm INOP
23-11-01B	Affected VHF Comm Control Panel	___ VHF Frequency Transfer Light INOP
23-11-01C	Affected VHF Comm Control Panel	___ VHF Frequency Transfer Switch INOP
23-11-01D	Affected VHF Comm Control Panel	___ VHF Frequency Transfer Switch INOP
23-11-01E	Affected VHF Comm Control Panel	___ VHF Frequency Selector Knob INOP
23-11-01F	Affected VHF Comm Control Panel	___ VHF Frequency Indication INOP
23-11-01G	Associated HF Comm Control Panel	___ HF Comm INOP
23-11-01H	Associated HF Comm Control Panel	___ HF Comm INOP

(O) PROCEDURES

23-11-01H

1. When out of VHF range, use remaining operative HF radio for required ATC communications.
2. Refer to Operations Manual, Volume 1, for alternate procedures to follow if remaining HF radio fails.
3. Refer to Delta Airway Manual, Communications, for HF requirements.

(M) PROCEDURES

23-11-01G, 23-11-01H

Contact MCC to check thirty (30) day history. When an aircraft achieves the third individual MEL occurrence in thirty (30) days, MCC should apply MEL item 23-00-99.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-21-01A	Selective Call System (SELCAL) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
23-21-01B	SELCAL Channels **"DISP.APPR.REQ'D."**	**Y**	5	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

NOTE: The cabin to flight deck chime must operate normally for the crewmember interphone system.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-21-01A	SELCAL Panel	SELCAL INOP
23-21-01B	SELCAL Panel	___ SELCAL Channel INOP

(O) PROCEDURES

23-21-01A

Refer to Delta Airway Manual, Communications for SELCAL inoperative.

23-21-01B

Use operative SELCAL Channel(s).

NOTE: For multiple channels inoperative, consider dispatch per MEL 23-21-01A.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-22-01A	ACARS System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided engine trend data is manually entered onto Engine Trend Data Sheets and (B767ER ONLY) FADEC faults are recorded into log per Lower Order Check. NOTE 1: On -3P6ER (1501-1506), SAT Comm will be inoperative. NOTE 2: Any mode that operates normally may be used.
23-22-01B	ACARS Printer	**Y**	1	0	**C**	May be inoperative provided procedures do not require its use.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-22-01A	ACARS CDU	ACARS INOP
23-22-01B	ACARS Printer	ACARS Printer INOP

(O) PROCEDURES

23-22-01A

1. FANS / CPDLC may not be available.
2. Refer to Delta Airway Manual, Communications for ACARS inoperative.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-25-01A	Satellite Communication (SATCOM) Systems **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
23-25-01B	SATCOM Voice **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
23-25-01C	SATCOM Data **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
23-25-01D	HF/SAT XFER Switches (P5 Panel) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)(M)** May be inoperative provided alternate procedures are used.
23-25-01E	SATCOM Lights **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-25-01A	SATCOM Panel	SATCOM System INOP
23-25-01B	SATCOM Panel	SATCOM Voice INOP
23-25-01C	SATCOM Panel	SATCOM Data INOP
23-25-01D	SATCOM Panel	___ HF/SAT XFER Switch(es) INOP
23-25-01E	SATCOM Panel	___ SATCOM Light(s) INOP

(O) PROCEDURES

23-25-01A

Refer to Delta Airway Manual, Communications, for operations with SATCOM unavailable.

23-25-01B

Utilize ACARS, HF/VHF voice or satellite data for communications. Refer to Delta Airway Manual, Communications.

23-25-01C

Satellite Voice will still be available for use. Refer to Delta Airway Manual, Communications.

23-25-01D

1. If the HF/SAT XFER switch(es) is stuck in the HF position:
   a. There is no impact on operation of the associated HF.
   b. The associated SATCOM voice channel is considered inoperative and must be deferred per MEL 23-25-01B.
2. If the HF/SAT XFER switch(es) is stuck in the SAT position, the associated HF system must be considered inoperative and deferred per MEL 23-11-01 unless the HF/SAT relay has been reset.

CONTINUED NEXT PAGE

23-25-01E

If the SATCOM Light(s) on the HF/SAT Transfer Panel does not illuminate when the one time hi-lo chime sounds (and there are no HF or VHF call panel illuminations), the SATCOM MAIN MENU page on associated CDU may be displayed to verify receiving a SATCOM ground-to-air call.

(M) PROCEDURES

23-25-01D

1. If the switch(es) is stuck in the SAT position and the associated HF is desired, open the HF/SAT transfer circuit breaker (HF/SAT AUDIO SW), on panel P11-2, to reset the HF/SAT relay to the default (HF) position.
2. If the switch(es) is stuck in the HF position, there is no impact on HF operation.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-31-01A	Passenger Address System **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Alternate, normal and emergency procedures and / or operating restrictions are used, and b) Flight attendant alerting system (audio and visual) operates normally. NOTE: Any station function(s) that operates normally may be used.
23-31-01B	Lavatory Speakers	**Y**	-	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
23-31-01C	Cabin Speakers	**Y**	-	-	**C**	May be inoperative provided inoperative speakers are not adjacent to each other.
23-31-01D	Cabin Speakers **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(M)** No passenger seat or cabin attendant seat may be occupied from which Passenger Address System is not audible and intelligible; seat must be blocked and placarded DO NOT OCCUPY.
23-31-01E	Cabin Speakers (Lower Lobe Flight Crew Rest Module) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative provided: a) Alternate and/or emergency procedures and operating restrictions are used, b) Crewmember interphone system is operative, and, c) Flight attendant alerting system is operative. NOTE 1: Any station function(s) that operate normally may be used. NOTE 2: The Flight Crew Rest facility remains a Class 1 Rest Facility as long as the interphone is operative and alternate procedures are used. NOTE 3: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
23-31-01F	Cabin Speakers (Lower Lobe Flight Attendant Rest Module) (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative provided: a) Alternate and/or emergency procedures and operating restrictions are used, b) Crewmember interphone system is operative, and, c) Flight attendant alerting system is operative. NOTE 1: Any station function(s) that operate normally may be used. NOTE 2: These provisions are not intended to prohibit Flight Attendant Rest Facility inspections by crewmembers.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-31-01A	Captain's Audio Panel	PA System INOP
23-31-01B	Captain's Audio Panel	___ Lavatory Speaker INOP
23-31-01C	Captain's Audio Panel	___ Cabin Speaker INOP
23-31-01D	Captain's Audio Panel	___ Cabin Speaker INOP
23-31-01E	Captain's Audio Panel	___ Flight Crew Rest Module Cabin Speaker(s) INOP
23-31-01F	Captain's Audio Panel	___ Flight Attendant Crew Rest Module Cabin Speaker(s) INOP

(O) PROCEDURES

23-31-01A

1. Refer to QRH, Non-Normal Checklist, Section 5 (Communications), PA System Inoperative.
2. Refer to In-Flight Service On Board Manual, Aircraft Equipment / Systems, Inoperative PA System.

23-31-01B

Flight Attendant to knock on door and advise occupant.

23-31-01E, 21-31-01F

Coordinate with the Purser / FL to establish alternate procedures for contacting Crew Rest Module occupants.

(M) PROCEDURES

23-31-01D

If Passenger Address system is not audible and intelligible, block and placard affected seat DO NOT OCCUPY.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-31-02 Pre-recorded Passenger Announcement System	**Y**	1	0	**C**	**(O)** May be inoperative provided all required announcements are televised through the Passenger Entertainment System and / or performed by Flight Attendants.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-31-02	Captain's Audio Panel	Prerecorded Passenger Announcement System INOP

(O) PROCEDURES

Refer to In-Flight Service On-Board Manual, Section 2.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-37-01A	In-flight Entertainment (IFE) System (system deactivated) **"DISP.APPR.REQ'D."**	**Y**	1	0	**D**	**(O)(M)** May be inoperative provided system is deactivated. NOTE1: Approval for flight must be obtained by MCC Shift Manager. NOTE 2: For 767-300ER aircraft with Non Lie-Flat Business Elite Seats, deactivation of the IFE system will also remove recline and foot rest power.
23-37-01B	In-flight Entertainment (IFE) System (partially operative) **"DISP.APPR.REQ'D."**	**Y**	1	0	**D**	**(O)** May be inoperative provided alternate procedures are used. NOTE1: This item is for use when the IFE system is partially inoperative (i.e., zone inop, software load corrupt). For individual IFE components see the Nonessential Equipment and Furnishings List (NEF) for deferral. NOTE 2: Any part of the system that is operational may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-37-01A	1. Video On Light 2. IFE Control Panel	IFE Inoperative – "Do not use"
23-37-01B	1. Video On Light 2. IFE Control Panel	IFE _____ function(s) Inop

(O) PROCEDURES

23-37-01A, 23-37-01B

Captain to brief Purser / FL that it may be necessary to do passenger briefings and emergency equipment demonstrations verbally.

CONTINUED NEXT PAGE

(M) PROCEDURES

23-37-01A

NOTE: This relief should only be applied if it is necessary to deactivate the IFE system for situations such as overheating or safety of flight. If the system is partially operative then use the partially operative MEL relief; for example, if the wrong media software was loaded or the file server was corrupted the system would not operate normally but would not require deactivation. For individual IFE components see the Nonessential Equipment and Furnishings List (NEF) for deferral.

1. To deactivate the IFE System:

   a. Turn the IFE Power Switch to the OFF position.
   b. Pull and secure the IFE Control circuit breaker located on the P11 panel.

   NOTE: For 767-300ER aircraft with Non Lie-Flat Business Elite Seats, deactivation of the IFE system will also remove recline and footrest power.

2. Install a placard on the IFE control panel stating “IFE Inoperative – Do not use”.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CREWMEMBER INTERPHONE SYSTEM					
23-40-01A Flight Deck to Cabin, Cabin to Flight Deck Functions **"Contact MCC"**	**Y**	-	-	**B**	**(O)** May be inoperative provided: a) Flight deck to cabin and cabin to flight deck interphone functions operate normally on at least fifty percent of cabin handsets, b) Flight deck to cabin and cabin to flight deck interphone function operates normally at one door for each pair of exit doors, and c) Alternate communications procedures between affected Flight Attendants stations are used. NOTE: Any station function(s) that operate normally may be used.
23-40-01B Cabin to Cabin Function **"Contact MCC"**	**Y**	-	-	**B**	**(O)** May be inoperative provided: a) Cabin to cabin interphone functions operate normally on at least fifty percent of cabin handsets, b) Cabin to cabin interphone function operates normally at one door for each pair of exit doors, and c) Alternate communication procedures between affected flight attendant stations are used. NOTE: Any station function(s) that operate normally may be used.
23-40-01C Flight Deck to Ground Function	**Y**	1	0	**C**	**(O)** Flight interphone flight deck to ground / ground to flight deck function may be inoperative provided: a) Alternate procedures are used, and b) Nose gear / forward fuselage service interphone jack operates normally.
23-40-01D Flight Deck to Ground Function	**Y**	1	0	**C**	**(O)** Service interphone flight deck to ground / ground to flight deck function may be inoperative provided: a) Alternate procedures are used, and b) Nose gear flight interphone jack operates normally.
23-40-01E Flight Deck to Ground Function **"Contact MCC"**	**Y**	2	0	**B**	**(O)** May be inoperative provided alternate procedures are used.

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-40-01A	Captain's Audio Panel	___ Interphone Flight Deck to Cabin / Cabin to Flight Deck Function INOP
23-40-01B	Captain's Audio Panel	___ Interphone Cabin to Cabin Function INOP
23-40-01C	Captain's Audio Panel	Flight Interphone Flight Deck To Ground / Ground To Flight Deck Function INOP
23-40-01D	Captain's Audio Panel	Service Interphone Flight Deck To Ground / Ground To Flight Deck Function INOP
23-40-01E	Captain's Audio Panel	Flight & Service Interphone Flight Deck To Ground / Ground To Flight Deck Function INOP

(O) PROCEDURES

23-40-01A, 23-40-01B

1. Refer to QRH, Non-Normal Checklist, Section 5 (Communications), Cabin Interphone System Inoperative.
2. Refer to In-Flight Service On Board Manual, Aircraft Equipment / Systems, Inoperative Interphone System.

23-40-01C, 23-40-01D, 23-40-01E

1. Use operative flight or service interphone flight deck-to-ground function for communication with ground personnel.
2. If flight and service interphone flight deck-to-ground functions are inoperative, refer to FOM Section 6, Ramp Operations.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-40-03A Flight Crew Rest Interphone System (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisos are not intended to prohibit flight crew rest inspections by crewmembers.
23-40-03B Flight Attendant Rest Interphone System (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(M)** May be inoperative provided: a) Flight Attendant Rest is not used and personal items are removed, and b) Flight Attendant Rest door is closed and placarded UNSERVICEABLE – DO NOT USE. NOTE 3: These provisos are not intended to prohibit Flight Attendant Rest inspections by crewmembers. NOTE 4: Coordinate with OCC to determine if alternate Flight Attendant Rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-40-03A	Logbook	___ Flight Crew Rest Interphone System INOP
23-40-03B	Logbook	___ Flight Attendant Crew Rest Interphone System INOP

(M) PROCEDURES

23-40-03A, 23-40-03B

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Place a strip of red OM–2 "UNSERVICABLE–DO NOT USE" tape or equivalent* across associated rest area door.

   * An acceptable alternate to the OM2 tape is a section of 2 inch wide masking tape with the words "UNSERVICEABLE – DO NOT USE " printed legibly in 1 inch black letters.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	ALERTING SYSTEM (AUDIO / VISUAL)					
23-41-01A	Flight Deck Call Light System **"Contact MCC"**	**Y**	1	0	**B**	May be inoperative provided flight deck audio alerting system operates normally. NOTE: Flight Deck audio alerting system must always be operative.
23-41-01B	Flight Attendant Call Light System (Visual Alert) **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) PA system operates normally, and b) Alternate procedures for contacting flight attendants are used. NOTE 1: Passenger to Attendant Call System is considered a Nonessential Equipment & Furnishings (NEF) item. NOTE 2: Any visual alerting system function(s) that operates normally may be used.
23-41-01C	Flight Attendant Call Chime System (Audio Alert) **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) PA system operates normally, and b) Alternate procedures for contacting flight attendants are used. NOTE 1: Passenger to Attendant Call System is considered a Nonessential Equipment & Furnishings (NEF) item. NOTE 2: Any audio alerting system function(s) that operates normally may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-41-01A	Flight Deck Call Light	Flight Deck Call Light INOP
23-41-01B	Captain's Audio Panel	___ Flight Attendant Call Light INOP
23-41-01C	Captain's Audio Panel	___ Flight Attendant Call Chime INOP

(O) PROCEDURES

23-41-01B, 23-41-01C

Flight Attendants will use PA or establish verbal communication with inoperative call light or chime positions.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
HANDSET SYSTEMS					
23-42-01A Flight Deck Handset	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Flight Deck to cabin communication operates normally, and b) Alternate procedures are used.
23-42-01B Cabin Handsets **"Contact MCC"**	**Y**	-	-	**B**	**(O)** May be inoperative provided: a) Fifty percent of cabin handsets operate normally, b) One handset must operate normally at each pair of exit doors, and c) Alternate communications procedures between affected flight attendants stations are 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 function that operates normally may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-42-01A	Flight Deck Handset	Flight Deck Handset INOP
23-42-01B	Affected Cabin Handset(s)	___ Cabin Handset(s) INOP

(O) PROCEDURES

23-42-01A

Use the Cabin Interphone / PA function of the Captain's or First Officer's Audio Selector Panel.

23-42-01B

Flight Attendant occupying seat with inoperative handset will establish communication with Flight Attendant occupying the position on the opposite side of aircraft with an operative handset.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-43-01A	Ground Crew Call System	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
23-43-01B	Ground Crew Call Horn	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

NOTE: The cabin to flight deck chime must operate normally for the crewmember interphone system.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-43-01A	Ground Crew Call Panel	Ground Crew Call System INOP
23-43-01B	Ground Crew Call Panel	Ground Crew Call Horn INOP

(O) PROCEDURES

23-43-01A, 23-43-01B

1. Refer to FOM Section 6, Ramp Operations, for communication between flight deck and appropriate ground crewmembers.
2. An inoperative ground crew call horn will not annunciate loss of EE-Cooling or Inertial Reference Unit operating on DC power. Ensure continuous monitoring of the flight deck (when flight crew is not at duty station during ground operations).

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-51-03	Flight Deck Interphone Speakers	**Y**	2	0	**C**	May be inoperative provided: a) Procedures do not require their use, and b) TSO headset earphones / headphones (or equivalent) are installed and operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-51-03	Associated Audio Panel	___ Flight Deck Interphone Speaker(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-51-04A	Control Wheel PTT Switches	**N**	2	1	**C**	**(M)** May be inoperative provided: a) Associated Audio Selector Panel PTT switch operates normally, and b) Affected switch is deactivated.
23-51-04B	Flightcrew Audio Selector Panel PTT Switches (Captain's & First Officer's)	**Y**	2	1	**C**	**(M)** May be inoperative provided: a) Associated control wheel PTT switch operates normally, and b) Affected switch is verified failed open.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-51-04A	Associated Audio Panel	___ Control Wheel PTT Switch INOP
23-51-04B	Associated Audio Panel	___ Audio Panel PTT Switch INOP

NOTE: For inoperative Observer's Audio Selector Panel PTT Switch, refer to MEL 25-11-02.

(M) PROCEDURES

23-51-04A

Deactivate the inoperative control wheel PTT switch (AMM 23-51-03/401).

1. For the captain's control wheel PTT switch, open the following P11 panel circuit breakers:
   a. INTERPHONE CAPT FLT AMPL DUAL PWR
   b. INTERPHONE CAPT FLT AMPL DUAL PWR
2. For the first officer's control wheel PTT switch, open the following P11 panel circuit breakers:
   a. INTERPHONE F/O OBS DUAL PWR
   b. INTERPHONE F/O OBS DUAL PWR
3. Remove the two mounting screws of the inoperative control wheel PTT switch.
4. Remove the PTT switch assembly.
5. Disconnect the terminal lugs from the PTT switch.
6. Cap and stow the affected wires in the control wheel horn.
7. Reinstall the PTT switch assembly in the control wheel and secure with the two mounting screws.
8. Close the open circuit breakers.
9. Confirm the switch is deactivated:
   a. Supply electrical power (AMM 24-22-00/201).
   b. Select BOOM on the audio selector panel and use the boom microphone for this test.
   c. Push the INT select switch on the associated audio selector panel, confirm the INT MIC light is illuminated and confirm the receiver volume is properly adjusted.
   d. For the deactivated switch, speak into the boom microphone while simultaneously pushing the deactivated PTT switch. Confirm no transmission is heard on the other pilot's headset.
   e. (Optional) Speak into the associated pilot's microphone while simultaneously pushing the audio selector panel PTT switch. Confirm the transmission is clearly heard on the other pilot's headset.

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23-51-04B

Verify the inoperative audio selector panel PTT switch is open.

1. Supply electrical power (AMM 24-22-00/201).
2. Select BOOM on the audio selector panel and use the boom microphone for this test.
3. Press the PA select switch on the associated audio selector panel, confirm the PA MIC light is illuminated and confirm the receiver volume is properly adjusted.
4. Without pressing PTT on the audio selector panel, speak into the boom microphone and confirm no voice transmission can be heard over the passenger address system.

   NOTE: If voice transmission can be heard, the switch is failed in the closed position and the audio selector panel must be replaced prior to dispatch.

5. (Optional) Speak into the associated pilot's microphone while simultaneously pushing the control wheel PTT switch. Confirm the transmission is clearly heard on the other pilot's headset.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
FLIGHT CREW COMMUNICATION EQUIPMENT					
23-51-05A Boom Microphones **"Contact MCC"**	**Y**	2	0	**A**	May be inoperative or missing provided: a) Associated hand microphone is installed and operates normally, b) Flight Data Recorder (FDR) operates normally, and c) Repairs are made within three flight days.
23-51-05B Hand Microphones	**Y**	-	0	**C**	May be inoperative or missing provided associated boom microphone operates normally.
23-51-05C TSO Headset Earphones/Headphones	**Y**	-	1	**C**	Either captain's or first officer's earphone/headphone may be inoperative or missing provided associated flight deck speaker operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-51-05A	Associated Audio Panel	___ Boom Microphone(s) INOP
23-51-05B	Associated Audio Panel	___ Hand Microphone(s) INOP
23-51-05C	Associated Audio Panel	___ Headset Earphone(s)/Headphone(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-71-01	Cockpit Voice Recorder (CVR) System **"Contact MCC"**	**Y**	1	0	**A**	May be inoperative provided: a) Flight Data Recorder (FDR) operates normally, and b) Repairs are made within three flight days.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
23-71-01	CVR Panel	CVR INOP

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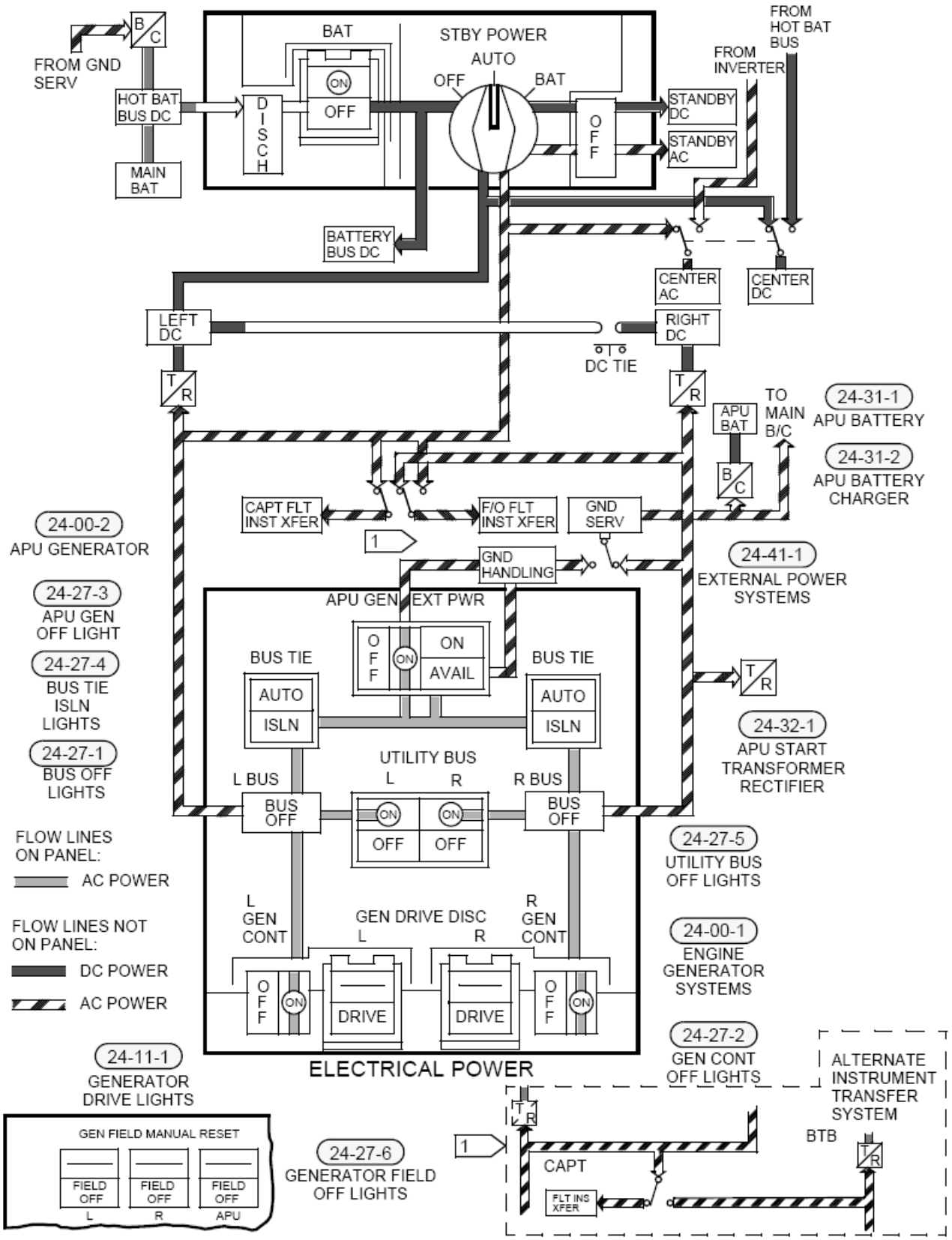
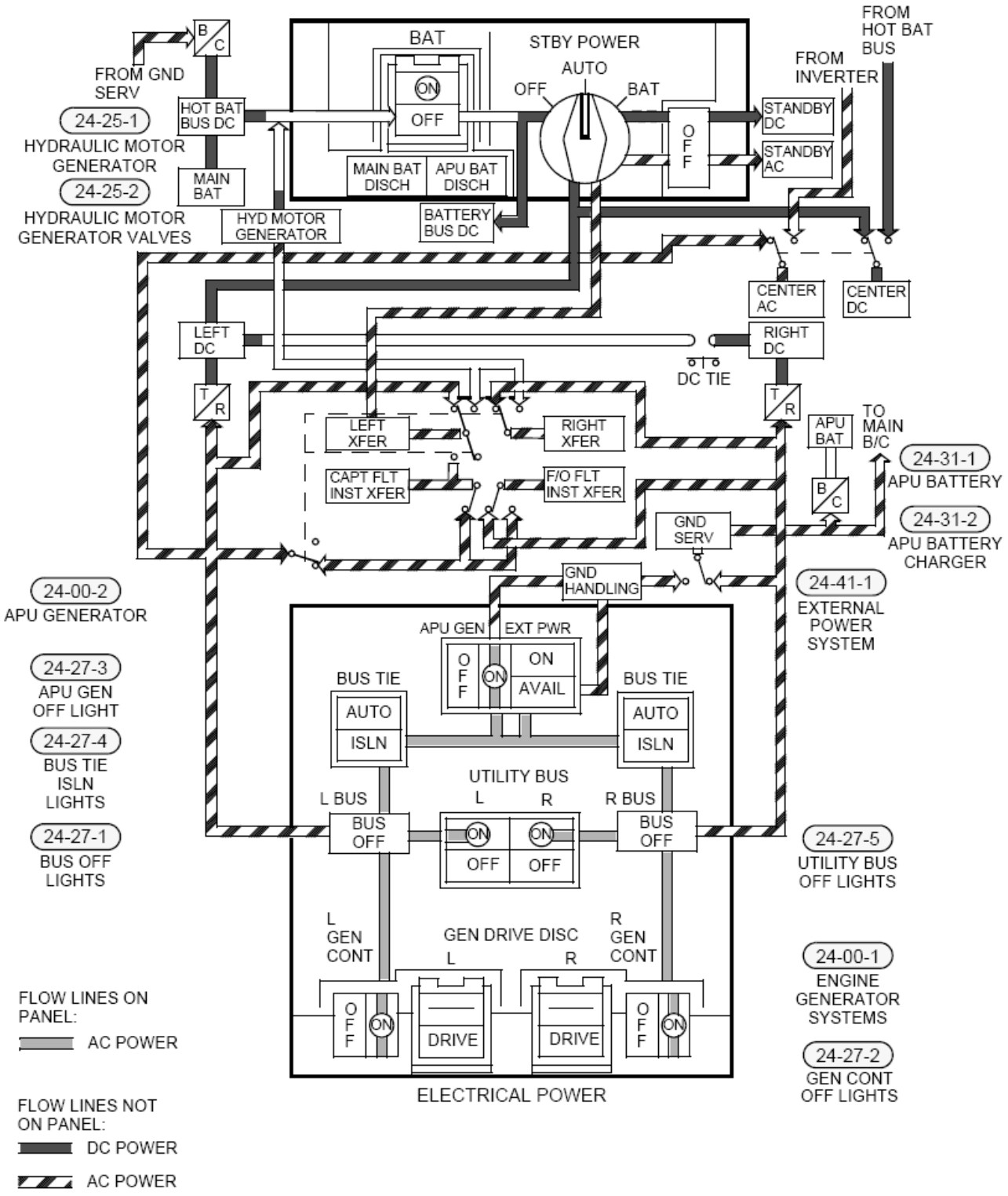


ELECTRICAL SYSTEM COMPONENTS
(-200/-300 NON EXTENDED RANGE AIRPLANES)



ELECTRICAL SYSTEM COMPONENTS
(-200/-300 EXTENDED RANGE AIRPLANES)

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
24-00-01	Engine Generator Systems (IDG, GCB) **"DISP.APPR.REQ'D."**	**N**	2	1	**B**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes and except for Outbound North America ER operations (ETOPS), may be inoperative provided: a) APU generator operates normally and is used to supply busses of inoperative channel throughout flight, b) All generator control units, including APU, operate normally, c) APU and remaining (operative) IDG Log Book history for past 30 days is reviewed and approved by MCC prior to deferral, d) APU oil quantity is serviced to full prior to deferral and ONCE EACH FLIGHT DAY (Log Book Entry Required), e) BPCU faults are reviewed and recorded in logbook per FIM 24-00-00 at next DL maintenance station (Log Book Entry Required), f) For ER operations (ETOPS), Hydraulic Motor Generator (HMG) is verified to operate normally, g) If APU has been operating for an extended period of time in heavy falling or blowing snow, inspect inlet plenum before departure to verify that accumulations of snow or ice are not present, h) On APU, there is no evidence of above normal oil consumption or leakage, i) Appropriate performance adjustments are applied, For PW4000: j) FUEL TEMP Indicating System operates normally, k) For engine air oil cooler operating normally, fuel tank temperature remains at or above -37°C (-34°F), l) For engine air oil cooler open, fuel tank temperature remains at or above -30°C (-22°F), and m)For either k) or l) configuration, fuel tank temperature must remain above specified minimum throughout entire flight. NOTE: Use of coastal routing is recommended for operations from Alaska "to" 48 contiguous states. **Repetitive Check Required (Yellow Placard)** Theater Restrictions May Apply

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-00-01	Associated GEN CONT Switch	___ IDG / GCB INOP

(O) PROCEDURES

1. Leave inoperative GEN CONT switch in the OFF position.
2. Start APU.
3. After APU start, observe that amber BUS OFF, APU GEN OFF and UTILITY BUS OFF lights are not illuminated.

24-00-01	**ENGINE GENERATOR SYSTEMS (IDG, GCB)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 1,800 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 700 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 700 lbs.

24-00-01	**ENGINE GENERATOR SYSTEMS (IDG, GCB)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

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(M) PROCEDURES

1. To DISCONNECT IDG:

   a. Start the associated engine.
   b. After stable idle is reached, momentarily press L (or R) GEN DRIVE DISC switch.
   c. Verify the following readings for the left (or right) power channel on lower EICAS display:

      1) AC-V = 0 ± 5
      2) FREQ = 0 ± 5

   d. Verify the following messages appear on EICAS:

      1) L (or R) GEN OFF
      2) L (or R) GEN DRIVE

   NOTE 1: If the IDG charge pressure switch has been confirmed to be failed, then L(R) GEN DRIVE message and associated illumination of the drive light on the P5 control panel will not annunciate. In this case, checking for voltage, frequency, and the L(R) GEN OFF message per the above steps is sufficient as an alternate means of verifying IDG disconnect.

   NOTE 2: During the authorized repair interval, if the associated engine is operated for more than 50 hours with the IDG disconnected, then the IDG should be removed for shop inspection prior to returning the airplane to service.

   NOTE 3: It is acceptable to dispatch with low or no oil in the IDG if the IDG is disconnected.

2. Verify the HMG operates normally by performing the Operational Test (AMM 24-25-00/501).
3. Restore the airplane to its usual condition.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		FLIGHT CREW MAY PLACARD	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
24-00-02A	APU Generator **"DISP.APPR.REQ'D."**	1	0		**Y**	**C**	Except for ER operations (ETOPS), may be inoperative provided: a) Both engine generators operate normally, and b) Both engine generator's (IDGs) Log Book history for past 30 days is reviewed and approved by MCC prior to deferral. NOTE: Use of coastal routing is recommended for operations from Alaska "to" 48 contiguous states. Theater Restrictions May Apply
24-00-02B	APU Generator **"DISP.APPR.REQ'D."**	1	0		**N**	**B**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes and except for Outbound North America ER operations (ETOPS), may be inoperative provided: a) Both engine generators operate normally, and b) Hydraulic Motor Generator (HMG) is verified to operate normally. NOTE: Use of coastal routing is recommended for operations from Alaska "to" 48 contiguous states. Theater Restrictions May Apply

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-00-02A	APU GEN Switch	APU Generator INOP
24-00-02B	APU GEN Switch	APU Generator INOP

NOTE: If External Power is not available, refer to 767-300 Operations Manual, Volume 1, Supplementary Procedures, Engines, APU for Engine Battery Start procedures.

(M) PROCEDURES

24-00-02B

1. Verify the HMG operates normally by performing the Operational Test (AMM 24-25-00/501).
2. Restore the airplane to its usual condition.

OPTIONAL PROCEDURE

If failure is such that APU operation could cause additional generator damage, airplane may be operated with the APU Generator removed:

1. Remove APU generator.
2. Loosen all retention nuts on the APU mounting pad studs until the nuts are at the end of the studs.
3. Secure the four power leads disconnected from the generator to prevent damage.
4. Position generator gearbox cover plate (Garrett P/N 3862212) to mate with APU mounting pad studs.

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5. Pass APU mounting pad studs through keyholes in cover plate.
6. Rotate cover plate counter-clockwise to allow studs to move into smaller part of the keyholes.
7. Make sure the oil ports of the gearbox assembly at the 4 and 6 o'clock positions are aligned with the inlet and outlet of the oil transfer tube of the generator cover pad.
8. On airplanes with self-locking retention nut NAS1805-P6 tighten the self-locking retention nuts to torque of 175-200 pound-inches.
9. On airplanes with retention nut 624AG5HD tighten the retention nuts to torque of 264-324 pound-inches. Tighten the jam nuts to 70-80 pound-inches.
10. Replenish APU oil.
11. Close APU access door.
12. Account for weight and balance effect with generator removed.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-11-01A Generator DRIVE Lights **"Contact MCC"**	**N**	2	1	**B**	**(M)** May be inoperative off provided associated EICAS message is verified to operate normally.
24-11-01B Generator DRIVE Lights **"DISP.APPR.REQ'D."**	**N**	2	1	**B**	**(M)** May be inoperative off provided associated IDG is disconnected and deferred per MEL 24-00-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-11-01A	Affected Generator DRIVE Light	___ Generator DRIVE Light INOP
24-11-01B	Affected Generator DRIVE Light	___ Generator DRIVE Light INOP

(M) PROCEDURES

24-11-01A

Verify the associated EICAS message operates normally.

1. Start the associated engine (AMM 71-00-00/201).
2. Disconnect the associated IDG by pushing the disconnect switch on the overhead panel (AMM 24-11-00/501).
3. Confirm the associated L (R) GEN DRIVE message is displayed.
4. Stop the associated engine (AMM 71-00-00/201).
5. Reconnect the associated IDG (AMM 24-11-00/501).

24-11-01B

Associated IDG must be disconnected and deferred per MEL 24-00-01.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY	REMARKS OR EXCEPTIONS
24-25-01A	Hydraulic Motor Generators (HMG) **"DISP.APPR.REQ'D."**	**Y** 1	0	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative provided: a) Center IRS operates normally, and b) First officer's IRS instrument source select switch operates normally. Theater Restrictions May Apply
24-25-01B	Hydraulic Motor Generators (HMG) **"DISP.APPR.REQ'D."**	**Y** 1	0	**C**	Except for ER operations (ETOPS), may be inoperative for day VMC flight. Theater Restrictions May Apply
24-25-01C	Hydraulic Motor Generators (HMG) **"DISP.APPR.REQ'D."**	**N** 1	0	**C**	**(O)(M)** For ER operations (ETOPS) up to 120 minutes, may be inoperative provided: a) Both engine generators and APU generator operate normally, b) Center IRS operates normally, and c) First officer's IRS instrument source select switch operates normally. Theater Restrictions May Apply
24-25-01D	Hydraulic Motor Generators (HMG) **"DISP.APPR.REQ'D."**	**N** 1	0	**A**	**(O)(M)** For ER operations (ETOPS) up to 180 minutes, may be inoperative provided: a) Both engine generators and APU generator operate normally, b) For ER operations (ETOPS) beyond 120 minutes, APU is started before reaching ETOPS segment, then operated continuously until within 60 minutes of a suitable airport, c) Center IRS operates normally, d) First officer's IRS instrument source select switch operates normally, and e) Operations are limited to not more than 3 flight days before repair is made. Theater Restrictions May Apply

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-25-01A	GEN Control Panel	HMG INOP
24-25-01B	GEN Control Panel	HMG INOP
24-25-01C	GEN Control Panel	HMG INOP
24-25-01D	GEN Control Panel	HMG INOP

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(O) PROCEDURES

24-25-01A, 24-25-01C, 24-25-01D

1. If all AC power is lost, Captain's RDMI information may be lost. Captain's RDMI information may be recovered by selecting ALTN on the First Officer's IRS Instrument Source Selector Panel.
2. For ER Operations beyond 120 minutes, APU is started before reaching the ETOPS segment, then operated continuously until within 60 minutes of a suitable airport.

24-25-01D	**HYDRAULIC MOTOR GENERATORS (HMG)**
EFFECTIVITY	**-300 PW 4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

(M) PROCEDURES

24-25-01C, 24-25-01D

1. Pull and secure the following circuit breakers:

   HYD GEN CONT (P6-1) L AC BUS SENSE (P11-3) R AC BUS SENSE (P11-6).

2. Secure Hydraulic Generator Motor Shutoff valve in closed position.

   a. Open left wheel well door and install lock.
   b. Move manual override arm / position indicator on valve to the closed position (POS 1).
   c. Lockwire valve in closed position.

      NOTE: Lockwiring the unpowered valve ensures that it will not vibrate to the open position.

   d. Remove wheel well door lock.

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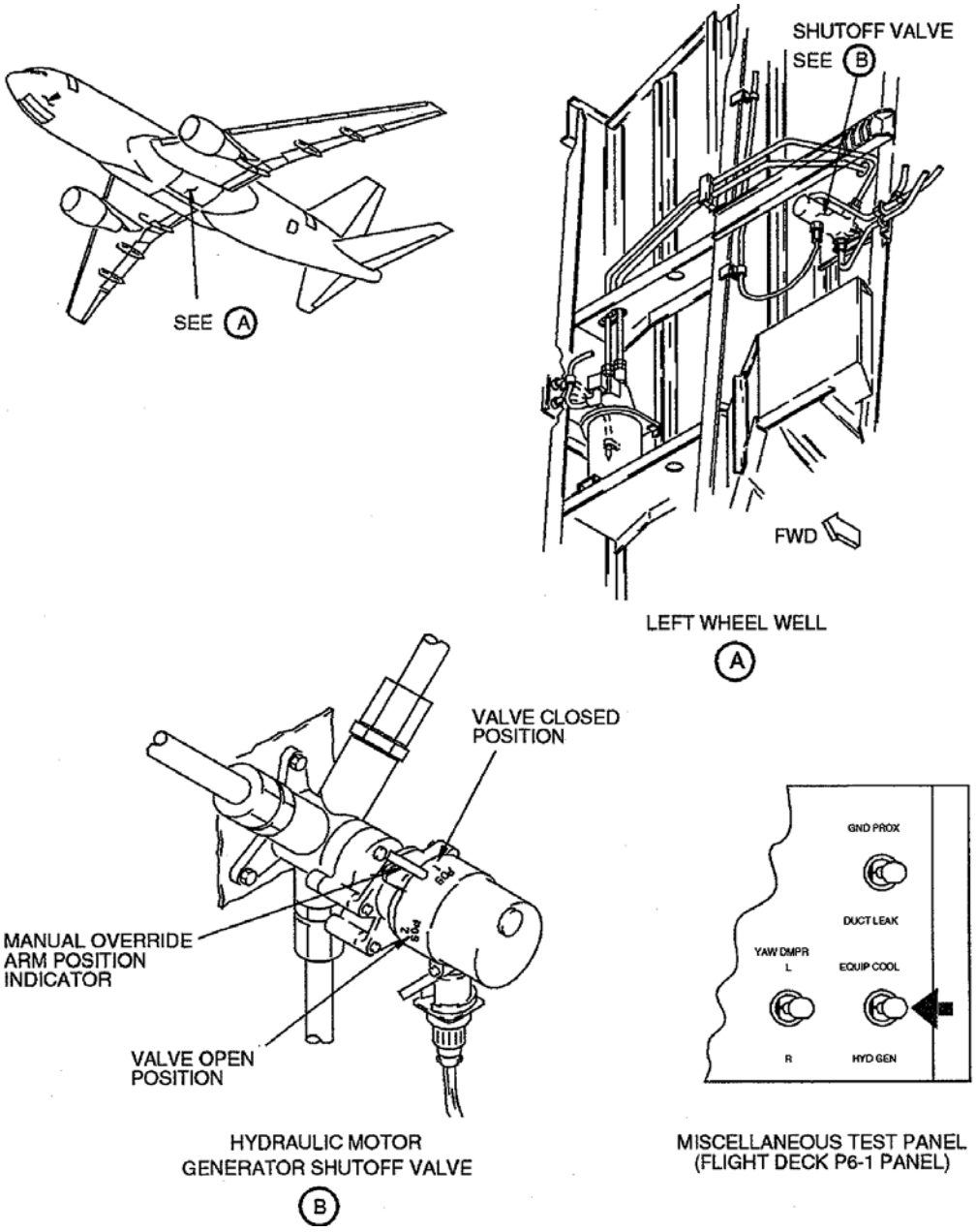

HMG SHUTOFF VALVE INSTALLATION

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
24-25-02A	Hydraulic Motor Generator Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** Except for ER operations (ETOPS), may be inoperative closed provided: a) Center IRS operates normally, and b) First officer's IRS instrument source select switch operates normally.
24-25-02B	Hydraulic Motor Generator Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS), may be inoperative closed for day VMC flight.
24-25-02C	Hydraulic Motor Generator Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** For ER operations (ETOPS) up to 120 minutes, may be inoperative closed provided: a) Both engine generators and APU generator operate normally, b) Center IRS operates normally, and c) First officer's IRS instrument source select switch operates normally.
24-25-02D	Hydraulic Motor Generator Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**A**	**(O)(M)** For ER operations (ETOPS) up to 180 minutes, may be inoperative provided: a) Both engine generators and APU generator operate normally, b) For ER operations (ETOPS) beyond 120 minutes, APU is started before reaching ETOPS segment, then operated continuously until within 60 minutes of a suitable airport, c) Center IRS operates normally, d) First officer's IRS instrument source select switch operates normally, and e) Operations are limited to not more than 3 flight days before repair is made.

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-25-02A	GEN Control Panel	HMG Valve INOP
24-25-02B	GEN Control Panel	HMG Valve INOP
24-25-02C	GEN Control Panel	HMG Valve INOP
24-25-02D	GEN Control Panel	HMG Valve INOP

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(O) PROCEDURES

24-25-02A, 24-25-02C, 24-25-02D

1. If all AC power is lost, Captain's RDMI information may be lost. Captain's RDMI information may be recovered by selecting ALTN on the First Officer's IRS Instrument Source Selector Panel.
2. For ER Operations beyond 120 minutes, APU is started before reaching the ETOPS segment, then operated continuously until within 60 minutes of a suitable airport.

24-25-02D	**HYDRAULIC MOTOR GENERATOR VALVE**
EFFECTIVITY	**-300 PW 4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

(M) PROCEDURES

24-25-02A, 24-25-02B, 24-25-02C, 24-25-02D

1. Pull and secure the following circuit breakers:

   HYD GEN CONT (P6-1) L AC BUS SENSE (P11-3) R AC BUS SENSE (P11-6).

2. Secure Hydraulic Generator Motor Shutoff valve in closed position.

   a. Open left wheel well door and install lock.
   b. Move manual override arm indicator on shutoff valve to the closed position (POS 1).
   c. Lockwire valve in closed position.

      NOTE: Lockwiring the unpowered valve ensures that it will not vibrate to the open position.

   d. Remove wheel well door lock.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
24-25-03	Flight Instrument Bus Power Switch **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative provided HMG is not required.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-25-03	Center Instrument Panel	FLIGHT Instrument Bus Power Switch INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-27-01	BUS OFF Lights	**Y**	2	1	**C**	**(O)** May be inoperative provided BUS TIE ISLN lights and associated GEN CONT OFF light operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-27-01	Affected BUS OFF Light	___ BUS OFF Light INOP

(O) PROCEDURES

1. After starting engines verify that Bus Tie ISLN lights are not illuminated.
2. Verify that GEN CONT OFF lights are not illuminated.
3. Illumination of both the ISLN and GEN CONT OFF lights for a bus indicates the bus is unpowered.
4. Refer to QRH Non-Normal Checklists, Electrical, AC BUS OFF.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
24-27-02A GEN CONT OFF Lights	**Y**	2	1	**C**	**(O)(M)** May be inoperative provided associated EICAS message L(R) GEN OFF is verified to operate normally.
24-27-02B GEN CONT OFF Lights **"DISP.APPR.REQ'D."**	**Y**	2	1	**B**	May be inoperative provided associated IDG is disconnected and deferred per MEL 24-00-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-27-02A	Affected GEN CONT OFF Light	___ GEN CONT OFF Light INOP
24-27-02B	Affected GEN CONT OFF Light	___ GEN CONT OFF Light INOP

(O) PROCEDURES

24-27-02A

Substitute the EICAS Advisory message(s) L (R) GEN OFF for the inoperative GEN CONT OFF light(s) in the GENERATOR OFF QRH Non-Normal Checklist, Electrical, GENERATOR OFF.

(M) PROCEDURES

24-27-02A

Verify associated EICAS advisory message operates normally:

1. Start the associated engine.
2. Ensure that associated GEN CONT switch is selected ON.
3. Verify associated EICAS advisory message L(R) GEN OFF message does not annunciate.
4. Select associated GEN CONT switch OFF.
5. Verify associated EICAS advisory message L(R) GEN OFF message annunciates.
6. Select associated GEN CONT switch ON.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-27-03A APU GEN OFF Light	**Y**	1	0	**C**	**(M)** May be inoperative provided EICAS message APU GEN OFF is verified to operate normally.
24-27-03B APU GEN OFF Light **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided APU generator is not required for flight. NOTE: Use of the APU cannot be planned, but if there is an IDG failure during flight it may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-27-03A	APU GEN OFF Light	APU GEN OFF Light INOP
24-27-03B	APU GEN OFF Light	APU GEN OFF Light INOP

(M) PROCEDURES

24-27-03A

1. Start the APU.
2. Observe the APU RUN light illuminates.
3. Switch the APU GENERATOR CONTROL switch to OFF.
4. Observe EICAS displays APU GEN OFF advisory message.
5. Return airplane to normal configuration.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-27-04	BUS TIE ISLN Lights	**Y**	2	0	**C**	May be inoperative provided associated BUS OFF light operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-27-04	Affected BUS TIE ISLN Light(s)	___ BUS TIE ISLN Light(s) INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
24-27-05	UTILITY BUS OFF Lights	**Y**	2	0	**C**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-27-05	Affected UTILITY BUS OFF Light(s)	___ UTILITY BUS OFF Light(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-27-06	Generator FIELD OFF Lights	**Y**	3	0	**D**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-27-06	Affected Generator FIELD OFF Light(s)	___ Generator FIELD OFF Light(s) INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-30-01	Standby Power Bus OFF Light	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Both EICAS systems operate normally, and b) All other Standby Bus indications are verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-30-01	Standby Power Bus OFF Light	Standby Power Bus OFF Light INOP

(O) PROCEDURES

Substitute the STANDBY BUS OFF advisory message for the inoperative standby power bus OFF light in the STANDBY BUS OFF Non-normal Checklist.

(M) PROCEDURES

Verify all other standby bus indications operate normally.

1. Supply electrical power (AMM 24-22-00/201).
2. Confirm the BAT switch is ON.
3. Confirm the STBY POWER selector is in AUTO.
4. Open the P6 panel INV PWR TRU circuit breaker.
5. Confirm the STANDBY BUS OFF advisory message does not annunciate.
6. Close the open circuit breaker.
7. Push the P61 EICAS MAINT panel ELEC HYD switch.
8. Confirm the following values:
    a. STBY/BAT:
        1) AC-V: 115 ±5
        2) FREQ: 400 ±5
        3) DC-V: 28 ±2
    b. APU/BAT:
        1) DC-V: 28 ±2
9. Set the STBY POWER selector to BAT.
10. Confirm the STBY/BAT value DC-V: 25 ±2
11. Set the STBY POWER selector to AUTO.
12. Confirm the STBY/BAT values:
    a. DC-A: 38 ±2
    b. DC-V: 33 ±2
13. When the battery charge cycle is complete, confirm the DC-A value below STBY/BAT decreases suddenly (1-2 seconds) from 38(±5) to 0(±5).
14. Confirm the STBY/BAT value DC-V: 28 (±2).
15. Check for EICAS status messages. Confirm the MAIN BAT CHRG message is not annunciated.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-31-01 APU Battery **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) APU battery is deactivated or removed, and b) APU is considered inoperative and deferred per MEL 49-11-01A or 49-11-01B as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-31-01	APU Start Switch	APU Battery INOP

(O) PROCEDURES

If battery is removed, apply the following performance corrections.

24-31-01	**APU BATTERY REMOVED**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use applicable OEW correction for "APU Battery" in ALM – Weight and Balance Section.

(M) PROCEDURES

Deactivate the battery and, if desired, remove it.

1. Deactivate the battery:
   a. Pull and secure the P33 panel CHARGER, APU BAT circuit breaker.
   b. Pull and secure the P49 panel (or E6 rack) APU BAT CHGR circuit breaker.
   c. Gain access to the APU battery (AMM 24-31-04/401).
   d. Remove the battery MAIN POWER connector.
   e. Remove the thermal sensor connector.
2. Remove the battery, if desired (AMM 24-31-04/401).
3. APU must be considered inoperative and deferred per MEL 49-11-01A or 49-11-01B as appropriate.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-31-02 APU Battery Charger **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) APU battery charger is deactivated or removed, and b) APU battery is not required.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-31-02	APU Start Switch	APU Battery Charger INOP

NOTE: Under standard day conditions, up to 3 APU starts may be made with a fully charged APU battery. This MEL item does not preclude starting the APU, nor does it allow dispatch credit for the APU generator or the APU pneumatics.

(O) PROCEDURES

1. Dispatch is not allowed if the APU is required by other procedures. Refer to MEL 49-11-01 (O) Procedures for a listing of MEL items that require APU availability for dispatch.
2. Use of this relief does not preclude starting the APU; however, if the APU battery charger deactivation maintenance procedure was followed starting the APU will be prevented.

(M) PROCEDURES

Deactivate or remove the battery charger.

1. Remove the APU battery charger (AMM 24-31-05/401):
   a. Pull and secure the P33 panel CHARGER, APU BAT circuit breaker.
   b. Open the P49 panel (or E6 rack) APU BAT CHGR circuit breaker.
   c. Remove the connector from the charger.
   d. Cap and stow connector D298.
   e. Remove the terminal block cover from the battery charger.
   f. Remove terminal block leads from the battery charger and identify for reinstallation.
   g. Cap and stow the terminal leads.
   h. Remove the APU battery charger.
   i. Close the P49 panel (or E6 rack) APU BAT CHGR circuit breaker, which was opened in Step b. above.
2. Deactivate the APU battery charger without removal:

   NOTE: This deactivation procedure will prevent APU start attempts.

   a. Pull and secure the P33 panel CHARGER, APU BAT circuit breaker.
   b. Pull and secure the P49 panel (or E6 rack) APU BAT CHGR circuit breaker.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-41-01A	External Power System	**Y**	1	0	**C**	
24-41-01B	EXT PWR AVAIL Light (Flight Deck)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
24-41-01C	EXT PWR ON Light (Flight Deck)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
24-41-01D	EXTERNAL POWER CONNECTED Light (External Power Panel)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
24-41-01E	EXTERNAL POWER NOT IN USE Light (External Power Panel)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
24-41-01A	Associated External Power Switch	___ External Power System(s) INOP
24-41-01B	Affected EXT PWR AVAIL Light (Flight Deck)	___ EXT PWR AVAIL Light INOP
24-41-01C	Affected EXT PWR ON Light (Flight Deck)	___ EXT PWR ON Light INOP
24-41-01D	1. Associated External Power Switch 2. Affected EXTERNAL POWER CONNECTED Light (External Power Panel)	___ EXTERNAL POWER CONNECTED Light INOP
24-41-01E	1. Associated External Power Switch 2. Affected EXTERNAL POWER NOT IN USE Light (External Power Panel)	___ EXTERNAL POWER NOT IN USE Light INOP

(O) PROCEDURES

24-41-01B, 24-41-01C, 24-41-01D, 24-41-01E

Communicate with ground crew using hand signals, flight deck to ground communication systems or other means to compensate for inoperative lights or system.

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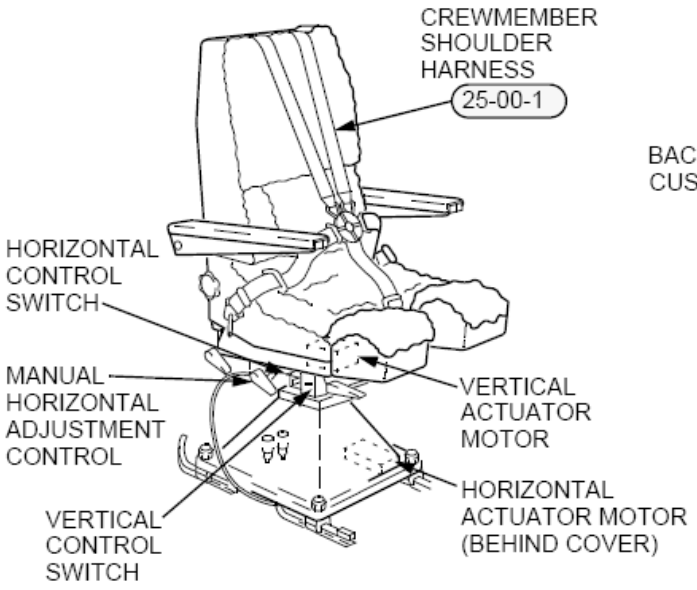
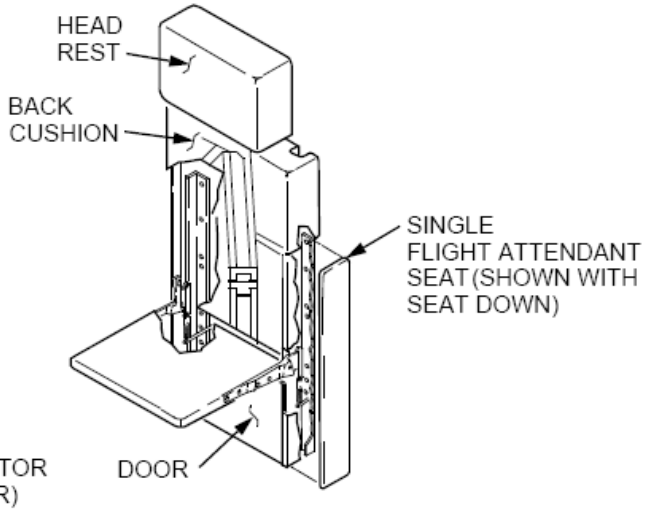
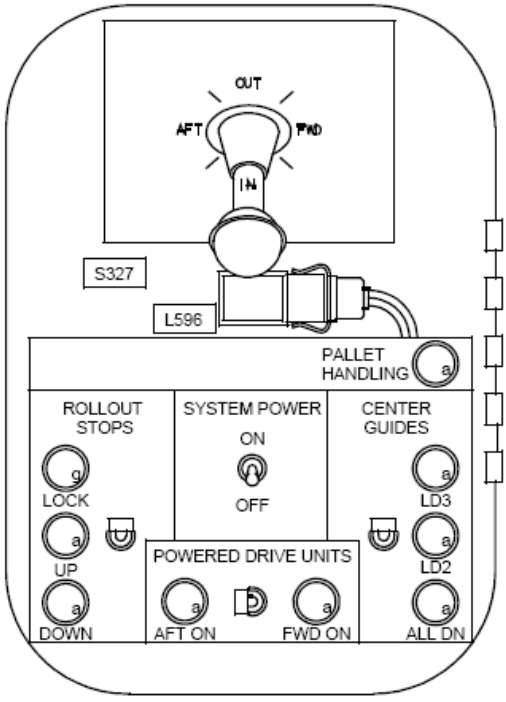


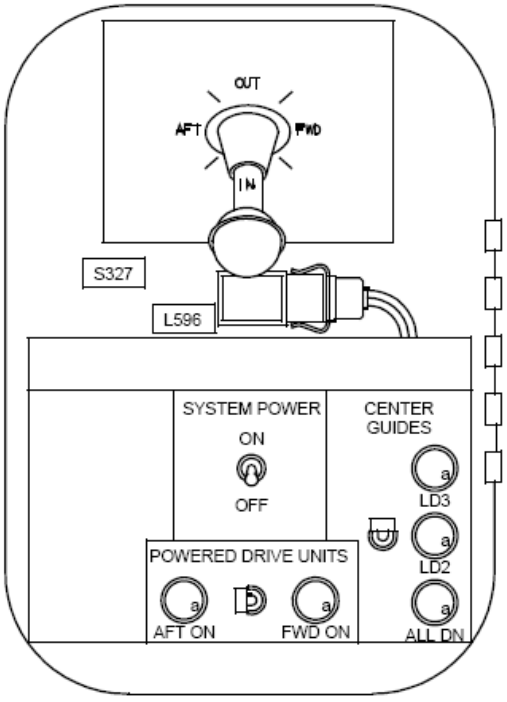
FLIGHT CREW SEAT
25-11-1



FLIGHT ATTENDANT SEAT ASSEMBLY
25-25-1

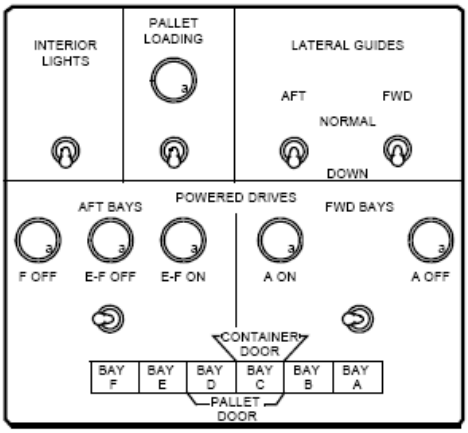


FWD EXTERIOR CONTROL PANEL

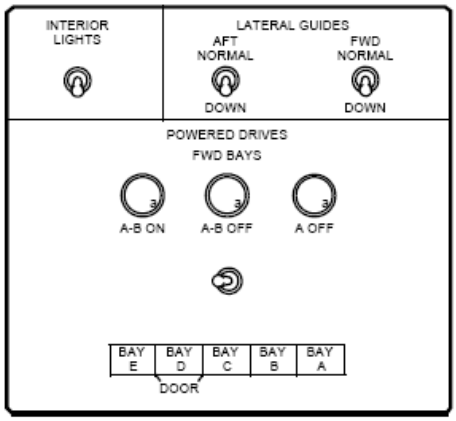


AFT EXTERIOR CONTROL PANEL

CARGO LOADING SYSTEMS
25-53-1



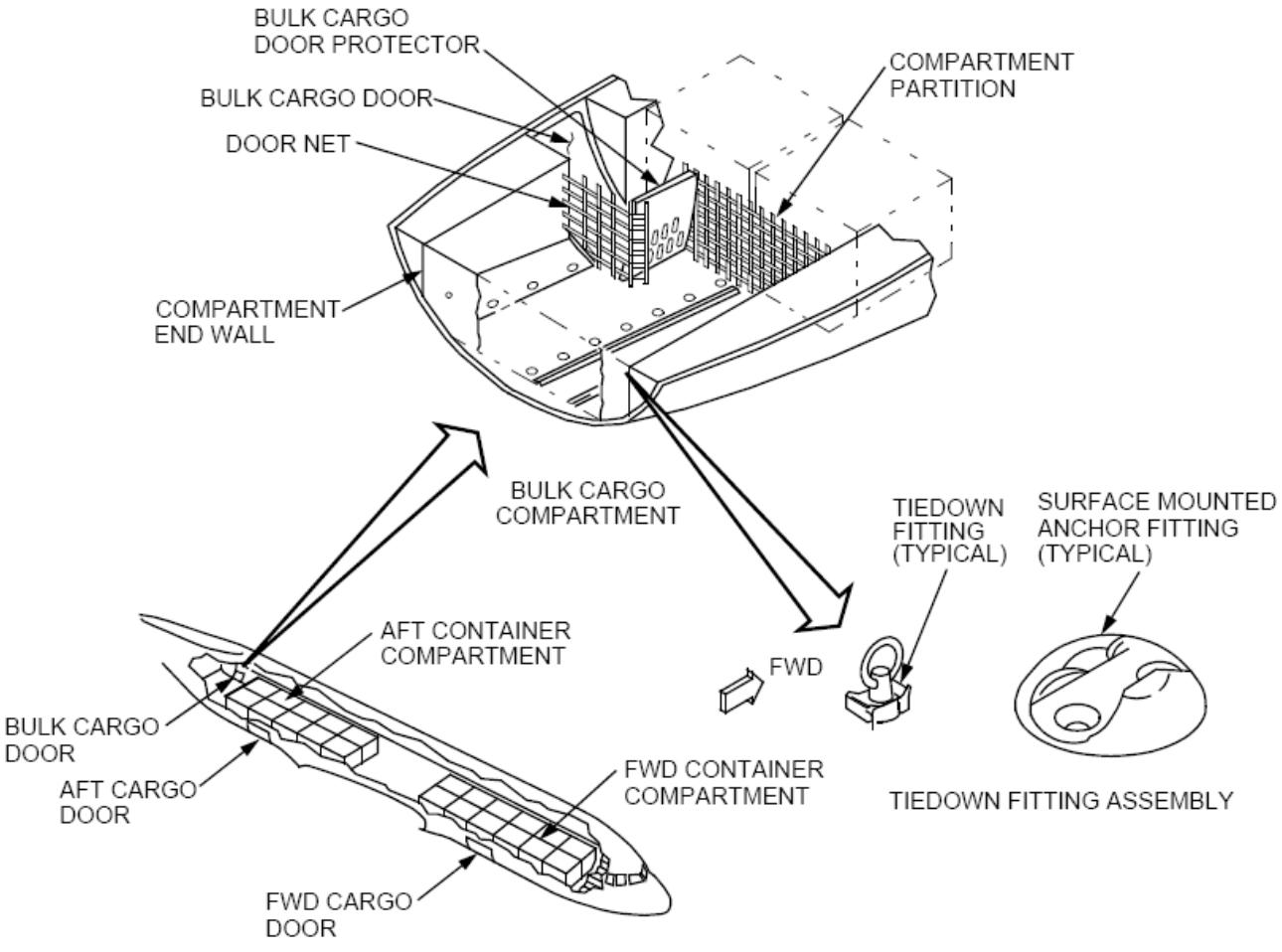
FWD INTERIOR CONTROL PANEL



AFT INTERIOR CONTROL PANEL

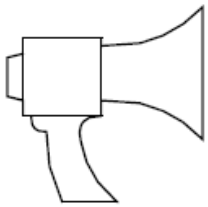
CARGO LOADING SYSTEMS

25-53-1

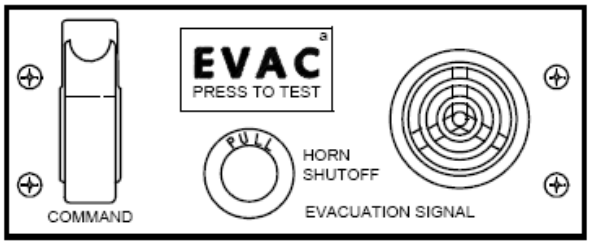


CARGO RESTRAINT SYSTEMS/DEVICES

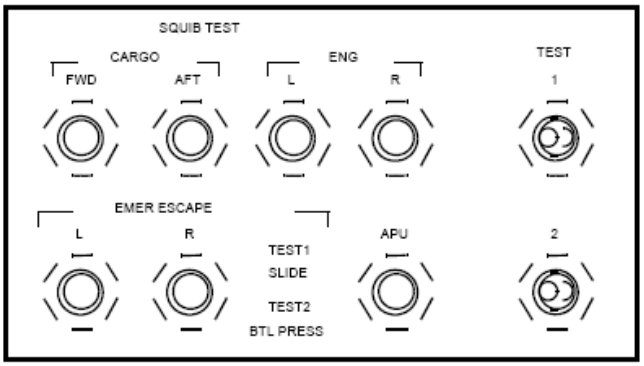
25-54-1



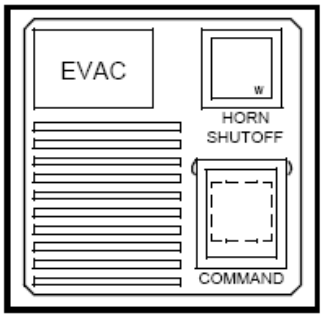
MEGAPHONES
25-63-1



FLIGHT COMPARTMENT
EES PANEL
25-63-2



OVERWING ESCAPE SQUIB TEST SYSTEM
25-66-3



PASSENGER COMPARTMENT
EES PANEL

EMERGENCY EVACUATION
SIGNAL SYSTEM
25-63-2

		NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION						REMARKS OR EXCEPTIONS
25-00-01	Crewmember Shoulder Harness (Flight Deck)	**Y**	-	-	**C**	Any in excess of those required for flight deck crewmembers (including official observer in observer's seat) may be inoperative.	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-00-01	Logbook	___ Shoulder Harness INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	NUMBER REQUIRED FOR DISPATCH: REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	FLIGHT CREW SEATS					
25-11-01A	Power Adjustment Systems	**Y**	2	0	**C**	May be inoperative provided fwd / aft and vertical manual adjustment modes operate normally.
25-11-01B	Manual Adjustment Systems (Recline) **"Contact MCC"**	**N**	2	0	**A**	**(M)** May be inoperative provided: a) Seat is secured in upright position and is acceptable to affected crewmember, b) Fwd / Aft and vertical manual adjustment modes operate normally, and c) Repairs are made within 2 flight days.
25-11-01C	Manual Adjustment Systems (Vertical) **"Contact MCC"**	**Y**	2	0	**A**	May be inoperative provided: a) Seat is acceptable to affected crewmember, and b) Repairs are made within 2 flight days.
25-11-01D	Manual Adjustment Systems (Armrest) **"Contact MCC"**	**Y**	4	0	**B**	May be inoperative provided: a) Affected armrest is secured in up position or removed, and b) Seat is acceptable to affected crewmember.
25-11-01E	Manual Adjustment Systems (Lumbar / Thigh Supports)	**Y**	2	0	**C**	May be inoperative provided seat is acceptable to affected crewmember.
25-11-01F	Manual Adjustment Systems (Headrest)	**Y**	2	0	**C**	May be inoperative provided seat is acceptable to affected crewmember.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-11-01A	Logbook	___ Seat Power Adjustment INOP
25-11-01B	Logbook	___ Seat Recline Adjustment INOP
25-11-01C	Logbook	___ Seat Vertical Adjustment INOP
25-11-01D	Logbook	___ Seat Armrest INOP
25-11-01E	Logbook	___ Seat Lumbar / Thigh Adjustment INOP
25-11-01F	Logbook	___ Seat Headrest Adjustment INOP

(M) PROCEDURES

25-11-01B

Ensure the seat is in the upright position by performing a functional test to verify the seat back cannot be moved.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-11-02A	First Observer Seat (Including Associated Equipment) **"DISP.APPR.REQ'D."**	**Y**	1	0	**A**	May be inoperative provided: a) A passenger seat in the passenger cabin is made available to an FAA inspector for performance of official duties, and b) Repairs are made within 2 flight days. NOTE 1: These provisos are intended to provide for occupancy of above seats by an FAA inspector when minimum safety equipment (oxygen and safety belt) is functional and inspector determines conditions to be acceptable. NOTE 2: Pilot in command will determine if minimum safety equipment is functional for other persons authorized to occupy additional observer seat.
25-11-02B	First Observer Seat (Including Associated Equipment) **"DISP.APPR.REQ'D."**	**Y**	1	0	**A**	May be inoperative provided: a) Second observer seat is available to an FAA inspector for performance of official duties, and b) Repairs are made within 2 flight days. NOTE 1: These provisos are intended to provide for occupancy of above seats by an FAA inspector when minimum safety equipment (oxygen and safety belt) is functional and inspector determines conditions to be acceptable. NOTE 2: Pilot in command will determine if minimum safety equipment is functional for other persons authorized to occupy additional observer seat.
25-11-02C	First Observer Seat (Including Associated Equipment) **"DISP.APPR.REQ'D."**	**Y**	1	0	**A**	May be inoperative provided: a) Required minimum safety equipment (safety belt and oxygen) is available, b) Seat is acceptable to FAA inspector for performance of official duties, and c) Repairs are made within 2 flight days. NOTE 1: These provisos are intended to provide for occupancy of above seats by an FAA inspector when minimum safety equipment (oxygen and safety belt) is functional and inspector determines conditions to be acceptable. NOTE 2: Pilot in command will determine if minimum safety equipment is functional for other persons authorized to occupy additional observer seat.

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		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-11-02D	Second Observer Seat (Including Associated Equipment)	**Y**	1	0	**C**	NOTE: Pilot in command will determine if minimum safety equipment is functional for other persons authorized to occupy additional observer seat.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-11-02A	Logbook	First Observer Seat INOP
25-11-02B	Logbook	First Observer Seat INOP
25-11-02C	Logbook	First Observer Seat INOP
25-11-02D	Logbook	Second Observer Seat INOP

NOTE 1: Flight Crews refer to FOM, General Policy, Security, In-Flight Entry/Exit Procedures.

NOTE 2: Observer seat associated equipment is defined as “all systems or components used in support of or in conjunction with the seat, i.e., audio selector panel, oxygen system, microphone, headset, lights, etc.”

NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	
FLIGHT CREW MAY PLACARD		
ITEM NO. NAME / DESCRIPTION		REMARKS OR EXCEPTIONS
25-20-01 Nonessential Equipment and Furnishings (NEF)		May be inoperative, damaged or missing provided item(s) is deferred in accordance with operator's NEF deferral program. NOTE 1: Do not use this MEL number to defer the discrepancy. Defer the discrepancy under the NEF program per TOPP 40-40-08. The NEF List and procedures can be found in the on-line NEF Application. NOTE 2: Exterior lavatory door ash trays are not considered NEF items.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-25-01A Required Flight Attendant Seats (Refer to In-Flight Service Onboard Manual for required seat locations) **"DISP.APPR.REQ'D."**	**Y**	-	-	**B**	**(O)(M)** One seat position or assembly (dual position) may be inoperative provided: a) Affected seat position or seat assembly is not occupied, b) Flight Attendant(s) displaced by inoperative seat(s) occupies either an excess flight attendant seat or passenger seat which is most accessible to inoperative seat(s), so as to most affectively perform assigned duties, c) Alternate procedures are used for displaced Flight Attendant(s) (Ref: In-flight Service Onboard Manual), d) Folding type seat stows automatically or is secured in retracted position, and is checked ONCE EACH FLIGHT DAY (LOG BOOK ENTRY REQUIRED), and e) Passenger seat assigned to Flight Attendant(s) is placarded FOR FLIGHT ATTENDANT USE ONLY. 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. NOTE 3: If one side of a dual seat assembly is inoperative and a flight attendant is displaced to adjacent seat, the adjacent seat must operate normally. **Repetitive Check Required (Yellow Placard)**

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-25-01B	Required Flight Attendant Seats (Refer to In-Flight Service Onboard Manual for required seat locations) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, c) Folding type seat stows automatically or is secured in the retracted postion and is checked ONCE EACH FLIGHT DAY (LOG BOOK ENTRY REQUIRED), and d) Affected seat position or seat assembly is not occupied, and e) Alternate procedures are used. 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. **Repetitive Check Required (Yellow Placard)**
25-25-01C	Excess Flight Attendant Seats **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(M)** May be inoperative provided: a) Affected seat position or seat assembly is not occupied, and is checked ONCE EACH FLIGHT DAY (LOG BOOK ENTRY REQUIRED), and b) Folding type seat stows automatically or is secured in 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. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-25-01A	Logbook	___ Flight Attendant Seat(s) INOP
25-25-01B	Logbook	___ Flight Attendant Seat(s) INOP
25-25-01C	Logbook	___ Flight Attendant Seat(s) INOP

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(O) PROCEDURES

25-25-01A

1. The flight attendant assigned to the affected seat position must occupy either a passenger seat or an excess flight attendant seat, whichever is most accessible to the inoperative seat. 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".
2. Refer to In-Flight Service Onboard Manual Section 6.

25-25-01B

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.

(M) PROCEDURES

25-25-01A, 25-25-01B, 25-25-01C

Ensure the Flight Attendant Seat automatically retracts without assistance to the fully stowed position.

If the seat will not automatically retract without assistance to the fully stowed position, secure the inoperative seat in the fully stowed position using the following procedure (*Maintenance is Required and Flight Crew May **Not** Placard):*

1. Secure seat in the retracted (fully stowed) position using high visibility tape.
2. Placard the seat using high visibility tape or a section of 2 inch wide masking tape with the words “UNSERVICEABLE - DO NOT USE” printed legibly in 1 inch black letters.

ONCE EACH FLIGHT DAY:

Ensure seat has remained in fully stowed position. If seat has been secured in the fully stowed position with tape, ensure tape is in good condition.

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ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
PASSENGER SEATS (Including Listed Equipment)					
25-25-02A Passengers Seats **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Seat does not block an Emergency Exit, b) Seat does not restrict any passenger from access to main aircraft aisle, and c) Affected seat(s) are blocked and placarded DO NOT OCCUPY. NOTE 1: A seat with an inoperative seat belt is considered inoperative. NOTE 2: Inoperative seats do not affect required number of Flight Attendants. NOTE 3: Affected seat(s) may include seat(s) behind and/or adjacent outboard seats. NOTE 4: MCC must contact Flight Control for coordination with ROC to remove seat from inventory until repaired. NOTE 5: If a Crew Rest seat located in the passenger cabin is inoperative, coordinate with OCC to determine if alternate crew rest accommodations are needed for intended flight. Contact ROC to block seats when appropriate.
25-25-02B Passengers Seats **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(O)(M)** May be inoperative and seat removed provided OEW performance corrections are applied. NOTE 1: Inoperative seats do not affect required number of Flight Attendants. NOTE 2: MCC must contact Flight Control for coordination with ROC to remove seat from inventory until seat(s) is reinstalled. NOTE 3: Seats with an inoperative or broken seat track attach fitting or seat frame damage affecting integrity of seat track attach fittings must be removed. Contact MCC.
25-25-02C Recline Mechanism (Non-BusinessElite Seats)	**N**	-	0	**C**	**(M)** May be inoperative and seat occupied provided seat back is secured in full upright position.
25-25-02D Recline Mechanism (Non-BusinessElite Seats)	**Y**	-	0	**C**	May be inoperative and seat occupied provided seat back is immovable in full upright position.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	PASSENGER SEATS (Including Listed Equipment) (Continued)					
25-25-02E	Recline/Leg Rest Mechanisms (Lie-Flat Seats) **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(M)** May be inoperative and seat occupied provided: a) Seat control pad is deactivated, and b) Seat is secured in the up-right position.
25-25-02F	"Takeoff, Taxi and Landing" (TTL) Position Light (Lie-Flat Seats) **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(O)(M)** May be inoperative and seat occupied provided: a) TTL latching mechanism operates normally, and b) Flight Attendant verifies seat(s) is in the upright and locked position prior to takeoff and landing.
25-25-02G	Underseat Baggage Restraining Bars	**Y**	-	0	**C**	**(O)(M)** May be inoperative and seat(s) occupied provided: a) Baggage is not stowed under seat with inoperative restraining bar, b) Associated seat is placarded "DO NOT STOW BAGGAGE UNDER THIS SEAT", and c) Cabin Crew is notified that a restraining bar is inoperative.
25-25-02H	Armrests with recline mechanism	**N**	-	0	**C**	**(M)** May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, b) Armrest does not restrict any passenger from access to the main airplane aisle, and c) If armrest is missing, seat is secured in upright position.
25-25-02I	Armrests without recline mechanism	**Y**	-	0	**C**	**(M)** May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, and b) Armrest does not restrict any passenger from access to the main airplane aisle.
25-25-02J	Seat Belt Air Bag Restraint Systems	**Y**	-	0	**D**	**(M)** May be inoperative provided affected seat is blocked and placarded DO NOT OCCUPY.

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ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
PASSENGER SEATS (Including Listed Equipment) (Continued)					
25-25-02K BusinessElite Seat Recline Control / Actuators **"Contact MCC"**	**N**	-	0	**C**	**(M)** May be inoperative and seat(s) occupied provided: a) Associated actuator is deactivated, b) Associated seat recline manual emergency stow lever is disconnected at the actuator, and c) Associated seat(s) is secured in upright position.
25-25-02L BusinessElite Seat Leg Rest / Foot Rest Control / Actuators **"Contact MCC"**	**N**	-	0	**C**	**(M)** May be inoperative and seat(s) occupied provided: a) Associated seat leg rest and foot rest actuators are deactivated, b) Associated seat leg and foot rest manual emergency stow levers are disconnected at the actuator, and c) Associated seat(s) leg rest and foot rest are stowed.
25-25-02M BusinessElite Seat Pan Actuators	**N**	-	0	**C**	**(M)** May be inoperative and seat(s) occupied provided seat(s) pan actuator is deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-25-02A	Logbook	Passengers Seat(s) ___ INOP
25-25-02B	Logbook	Passengers Seat(s) ___ Removed
25-25-02C	Logbook	Seat ___ Recline INOP
25-25-02D	Logbook	Seat ___ Recline INOP
25-25-02E	Logbook	Lie-Flat Seat(s) ___ Recline INOP
25-25-02F	Logbook	Lie-Flat Seat ___ TTL Light(s) INOP
25-25-02G	Logbook	Seat ___ Underseat Baggage Restraining Bar(s) INOP
25-25-02H	Logbook	Seat ___ Arm Rest(s) INOP / Missing
25-25-02I	Logbook	Seat ___ Arm Rest(s) INOP / Missing
25-25-02J	Logbook	Seat ___ Air Bag Restraint System INOP / Missing
25-25-02K	Logbook	BusinessElite Seat ___ Recline Control Actuator(s) INOP
25-25-02L	Logbook	B/E Seat ___ Leg Rest / Foot Rest Control Actuator(s) INOP
25-25-02M	Logbook	B/E Seat ___ Pan Actuator(s) INOP

(O) PROCEDURES

25-25-02A

If one center aisle Lie-flat seat is inoperative in a position other than locked and upright, then the TTL light will not illuminate and the Inoperative TTL light (O) procedure will need to be followed for the remaining operative center seat.

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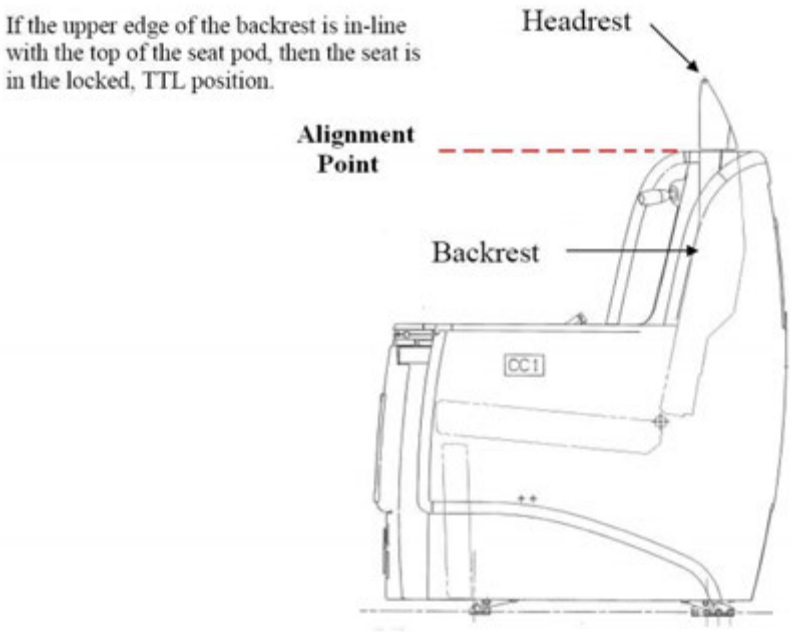
25-25-02B

25-25-02B	**PASSENGER SEAT(S) REMOVED**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use applicable OEW correction for “Passenger Seat Assembly” in ALM – Weight and Balance Section.

25-25-02F

Brief flight attendants about inoperative TTL light and the need to visually verify that the Lie-Flat seat is in the upright and locked position before takeoff and landing.

NOTE: Center seat assemblies have dual TTL lights (one in each aisle). Each individual light will only illuminate if both seats are in the upright and locked position. If one of the two lights is inoperative then the second light can be used to verify the seat position and the following verification procedure is not necessary.



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25-25-02G

For an inoperative UNDERSEAT BAGGAGE RESTRAINING BAR, ensure cabin crew is notified of the inoperative restraining bar and that baggage is not to be placed under the associated seat.

(M) PROCEDURES

25-25-02A

Lie-Flat Seats: Side Aisle Seats

1. Use manual override levers to move seat to upright position if possible for appearance. Seat may be deferred in flat position if necessary.
2. Install Seat INOP Block-Out Cover part number 25-5136-001 per ERA 10-485792-14MA.
3. In the event that the Seat INOP Block-Out Cover is not available:
    a. Placard seat “DO NOT OCCUPY” by installing a Seat INOP Block-Out Placard part number 11-0972-001 per ERA 10-485792-14MA. If Seat INOP Block-Out Placard is not available it is acceptable to apply one or two sections of 2 inch wide masking tape as required over the head rest area with the words “UNSERVICEABLE – DO NOT USE” printed neatly and legibly in 1.5 inch black or red letters.
    b. Contact MCC to schedule the installation of a Seat INOP Block-Out Cover at the next maintenance station the cover is available.

Lie-Flat Seats: Center Aisle Seats

NOTE: Center seat assemblies have dual TTL lights (one in each aisle). Each individual light will only illuminate if both seats are in the upright and locked position. If one of the two lights is inoperative then the second light can be used to verify the seat position for the procedures below.

1. For one Center Aisle seat inoperative:
    a. Move the operative center seat to its upright position.
    b. On the inoperative seat use the manual override levers under the seat cushion to move the seat to the upright position. The TTL light should illuminate.
    c. If the inoperative seat can’t be moved to the upright position or the TTL light does not illuminate then the TTL latching mechanism must be verified to operate normally on the operative center seat.
        1) Use seat control panel to move operative seat to the fully upright position.
        2) Remove seat cushion and raise seat pan.
        3) There are two latching mechanisms for each seat. Visually verify that both TTL latching mechanisms are in the locked position.
            a) The latching mechanism consists of a hook type latch that locks over a pin (see picture in TTL light (M) procedures).
            b) Verify that both latches are in the locked position.
        4) Secure seat pan and install seat cushion.
2. For both Center Aisle Seats inoperative use manual override levers to move seats to upright position if possible for appearance. Seats may be deferred in flat position if necessary.

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3. Install Seat INOP Covers to inoperative seat(s).

   a. Install Seat INOP Block-Out Cover part number 25-5136-001 per ERA 10-485792-14MA.
   b. In the event that the Seat INOP Block-Out Cover is not available:

      1) Placard seat “DO NOT OCCUPY” by installing a Seat INOP Block-Out Placard part number 11-0972-001 per ERA 10-485792-14MA. If Seat INOP Block-Out Placard is not available it is acceptable to apply one or two sections of 2 inch wide masking tape as required over the head rest area with the words “UNSERVICEABLE – DO NOT USE” printed neatly and legibly in 1.5 inch black or red letters.
      2) Contact MCC to schedule the installation of a Seat INOP Block-Out Cover at the next maintenance station the cover is available.

<u>All other seats</u>

1. Install Seat INOP Block-Out Cover part number 25-5136-001 per ERA 10-485792-14MA.

   a. If the seatback is loose or blocks access to an Emergency Exit secure upright with a Seat INOP Block-Out Cover.

   b. If seat is stuck in the reclined position, access is restricted to the row aft of the affected seat. The seat row aft of the affected seat must not contain an Emergency Exit.

      a) If affected seat is in a group of seats adjacent to the airplane sidewall, the seat aft of the affected seat and seats outboard from that seat must not be occupied. Install Seat INOP Block-Out Cover to seat aft of the affected seat and seats outboard from that seat.
      b) If affected seat is in a group of seats between two aisles, block off the row of seats aft of the inoperative seat and install Seat INOP Block-Out Covers to entire row:

2. In the event that the Seat INOP Block-Out Cover is not available the seat may be made inoperative per one of the following provisions provided the MCC is contacted to schedule the installation of a Seat INOP Block-Out Cover at the next maintenance station the cover is available:

   a. If seat back is loose, secure seat in the breakover position with a strap or rope such that it cannot move during flight. Maintain a pleasant and professional appearance as much as possible. Affected seat row must not contain an Emergency Exit.

      1) If affected seat is in a group of seats adjacent to the airplane sidewall, seats outboard of affected seat must not be occupied. Placard seats outboard of affect seat: “DO NOT OCCUPY”.
      2) If the affected seat is in a group of seats between two aisles, block off the row and placard entire row: “DO NOT OCCUPY”.

   b. If seat is stuck in the reclined position, access is restricted to the row aft of the affected seat. The seat row aft of the affected seat must not contain an Emergency Exit.

      1) If affected seat is in a group of seats adjacent to the airplane sidewall, the seat aft of the affected seat and seats outboard from that seat must not be occupied. Placard seat aft of the affected seat and seats outboard from that seat: “DO NOT OCCUPY”.
      2) If affected seat is in a group of seats between two aisles, block off the row of seats aft of the inoperative seat and placard entire row: “DO NOT OCCUPY”.

   c. When instructed to placard seat “DO NOT OCCUPY”, use a Seat INOP Block-Out Placard part number 11-0972-001 per ERA 10-485792-14MA. If Seat INOP Block-Out Placard is not available it is acceptable to apply one or two sections of 2 inch wide masking tape as required over the head rest area with the words “UNSERVICEABLE – DO NOT USE” printed neatly and legibly in 1.5 inch black or red letters.

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25-25-02B

1. When removing seat, ensure IFE for the remaining seats/areas operate normally where possible.
2. Ensure emergency escape path lighting meets minimum dispatch requirements (Refer to MEL 33-51-03A or 33-51-03B as appropriate).
3. Tie back / stow all electrical connectors and wiring, etc. for the affected seat(s).

25-25-02C

Secure seat back in full upright position.

25-25-02E

NOTE: Center seat assemblies have dual TTL lights (one in each aisle). Each individual light will only illuminate if both seats are in the upright and locked position. If one of the two lights is inoperative then the second light can be used to verify the seat position for the procedure below.

Side Aisle Seats

1. On the inoperative seat, open the seat control panel and disconnect the connector (see picture).
2. Close seat control panel.
3. Remove the seat cushion. The manual override levers are located on the seat pan assembly.
4. Operate the manual override levers and move the seat to the “taxi, take-off and landing” (TTL) position.
5. Pull the back rest and and leg rest levers and pull the front of the seat pan towards the legrest. If the seatpan does not move, then the latches are locked.
6. If the seatpan does move, then push the seat pan fully home and repeat the pull until the latches are locked.
7. Replace the seat cushion.

Center Aisle Seats

1. To deactivate only one center seat:
   a. Move the operative center seat to its upright position.
   b. On the inoperative seat, open the seat control panel and disconnect the connector (see picture).
   c. Close seat control panel.
   d. Remove the seat cushion. The manual override levers are located on the seat pan assembly.
   e. Operate the manual override levers and move the seat to the “taxi, take-off and landing” (TTL) position.
   f. Pull the back rest and and leg rest levers and pull the front of the seat pan towards the legrest. If the seatpan does not move, then the latches are locked.
   g. If the seatpan does move, then push the seat pan fully home and repeat the pull until the latches are locked.
   h. With the deactivated seat in the upright and locked position, verify the green TTL light is illuminated. If the TTL light does not illuminate then the TTL light must also be deferred.
   i. Replace the seat cushion.

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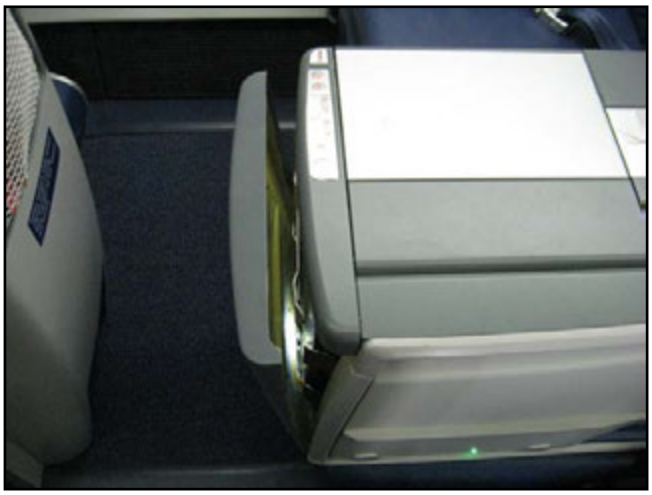
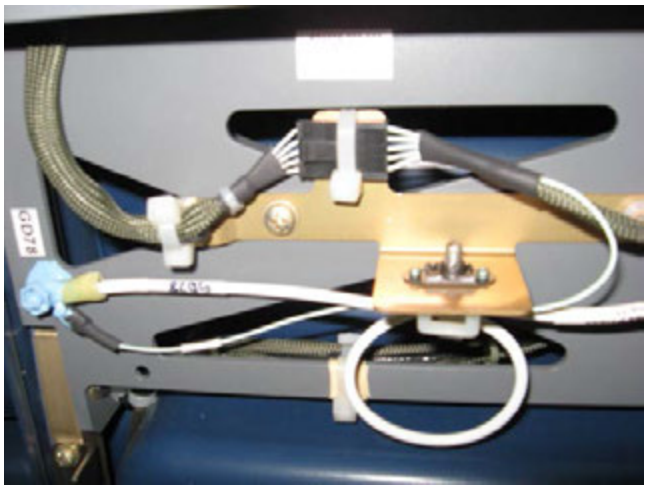
2. To deactivate both center seats:

   a. On both seats, open the seat control panel and disconnect the connector (see picture).
   b. Close seat control panel.
   c. Remove the seat cushion. The manual override levers are located on the seat pan assembly.
   d. Operate the manual override levers and move the seat to the “taxi, take-off and landing” (TTL) position.
   e. Pull the back rest and and leg rest levers and pull the front of the seat pan towards the legrest. If the seatpan does not move, then the latches are locked.
   f. If the seatpan does move, then push the seat pan fully home and repeat the pull until the latches are locked.
   g. Replace the seat cushion.





25-25-02F

NOTE: Center seat assemblies have dual TTL lights (one in each aisle). Each individual light will only illuminate if both seats are in the upright and locked position. If only one of the two lights is inoperative then the second light can be used to verify the seat position and the following verification procedure is not necessary.

Verify that TTL latching mechanism operates normally:

1. Use seat control panel to move seat to the fully upright position.
2. Remove seat cushion and raise seat pan.
3. There are two latching mechanisms for each seat. Visually verify that both TTL latching mechanisms are in the locked position.

   a. The latching mechanism consists of a hook type latch that locks over a pin (see picture).
   b. Verify that both latches are in the locked position.

4. Secure seat pan and install seat cushion.

NOTE: For center aisle TTL lights, the latching mechanisms must be verified to operate normally for both seats.

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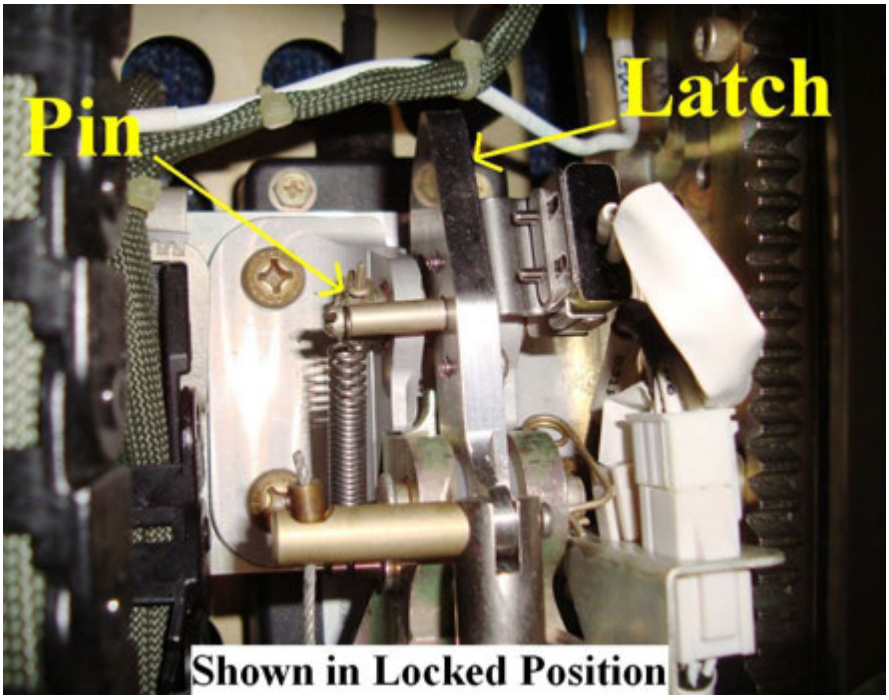

25-25-02G

If broken, remove the underseat baggage restraining bar. Placard associated seat - DO NOT STOW BAGGAGE UNDER THIS SEAT.

25-25-02H

1. Secure armrest as required so it does not pose any safety hazard to passengers or crew. Armrest must be secured in such a manner as to prevent it from falling backward into the seat row behind.
2. If necessary, remove armrest.

    a. Lock seat in the upright position.
    b. If armrest has wiring for IFE or Empower outlets, wiring must be disconnected and securely stowed to preclude any safety hazard to passengers or crew.

25-25-02I

1. Secure armrest as required so it does not pose any safety hazard to passengers or crew. Armrest must be secured in such a manner as to prevent it from falling backward into the seat row behind.
2. If necessary, remove armrest (*Maintenance Will be Required and Flight Crew May NOT Placard*). If armrest has wiring for IFE or Empower outlets, wiring must be disconnected and securely stowed to preclude any safety hazard to passengers or crew.

25-25-02J

When instructed to placard seat “DO NOT OCCUPY”, use a Seat INOP Block-Out Placard part number 11-0972-001 per ERA 10-485792-14MA. If Seat INOP Block-Out Placard is not available it is acceptable to apply one or two sections of 2 inch wide masking tape as required over the head rest area with the words “UNSERVICEABLE – DO NOT USE” printed neatly and legibly in 1.5 inch black or red letters.

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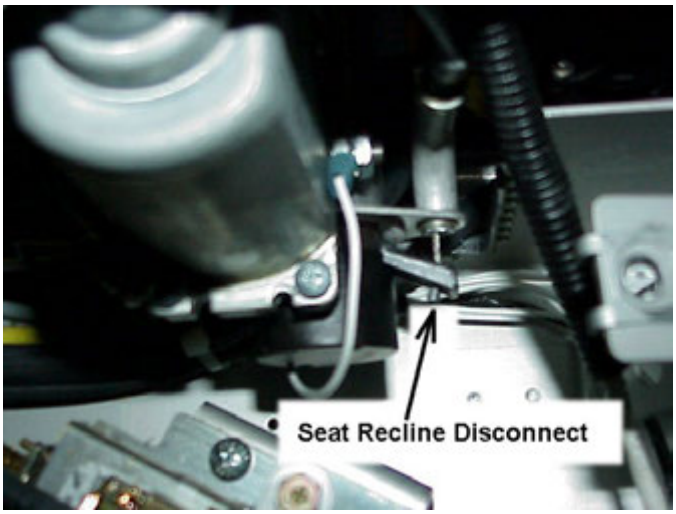
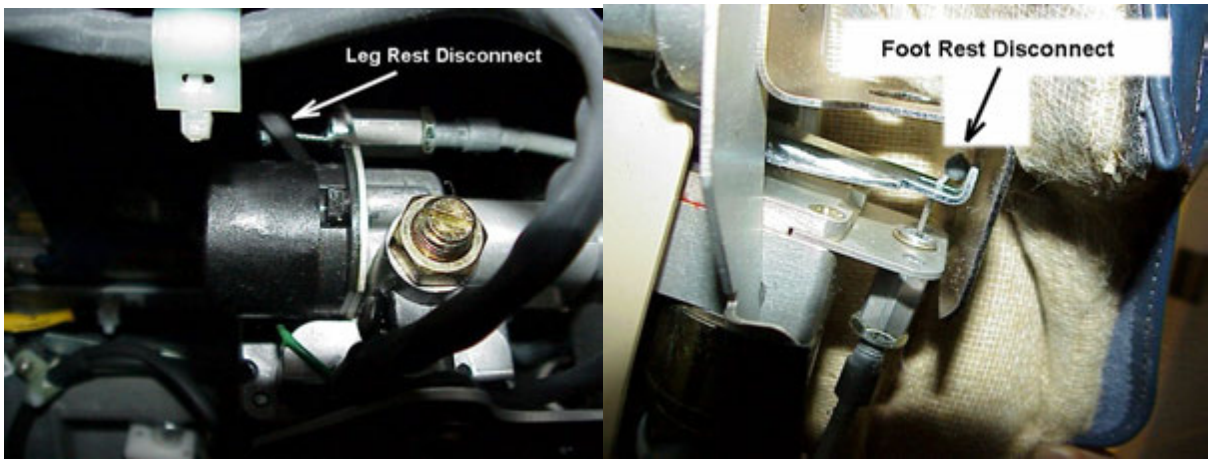
25-25-02K

1. Access affected seat recline control actuator from behind and underneath affected seat.
2. Disconnect actuator electrical connector.
3. Cap or bag electrical connector to protect from liquid spills.
4. Stow connector to prevent damage to connector or interference with moving parts.
5. Disconnect Manual Emergency Stow Cable from manual actuation lever.



25-25-02L

1. Access affected seat leg and foot rest control actuators from front of seat underneath leg rest.
2. Disconnect actuator electrical connector.
3. Cap or bag electrical connector to protect from liquid spills.
4. Stow connector to prevent damage to connector or interference with moving parts.
5. Disconnect Manual Emergency Stow Cables from manual actuation levers.



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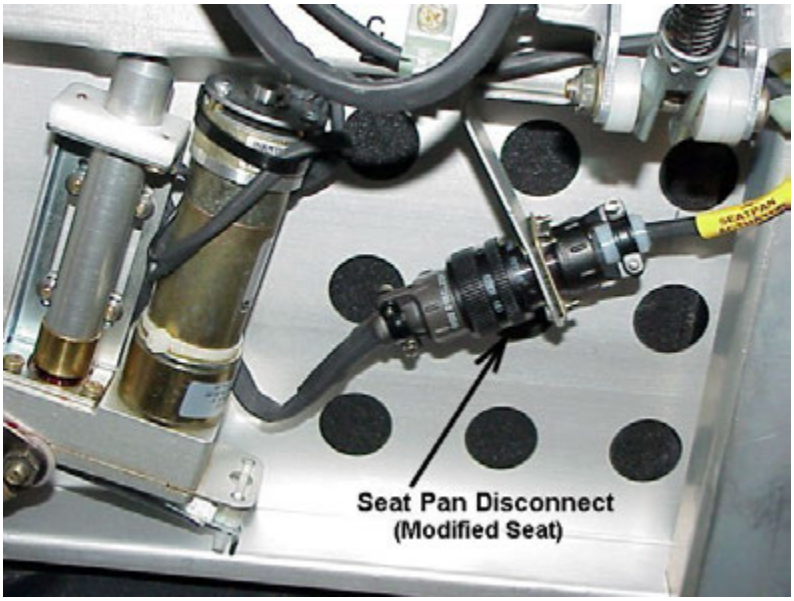
25-25-02M

1. Access seat pan actuator from under leg rest and foot rest.
2. Disconnect seat pan actuator.
3. Cap or bag electrical connector to protect from liquid spills.
4. Stow connector to prevent damage to connector or interference with moving parts.



ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-25-05A	Flight Crew Rest Bunk Restraints (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest inspections by crewmembers.
25-25-05B	Flight Attendant Rest Bunk Restraints (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(M)** May be inoperative provided affected bunk is placarded INOP - DO NOT USE. NOTE: For Flight Attendant Rest, if cabin seats are required for flight attendant use, refer to In-Flight Service Programs and Policies Handbook, Chapter 14, or most current policy, for seat locations.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-25-05A	Logbook	___ Flight Crew Rest Bunk Restraint(s) INOP
25-25-05B	Logbook	___ Flight Attendant Rest Bunk Restraint(s) INOP

(O) PROCEDURES

25-25-05A

1. Ensure crew rest compartment is not used and passenger seats are made available for supplemental crewmembers.
2. Flight duty period limits for augmented operations must be applied.

(M) PROCEDURES

25-25-05A

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Place a strip of red OM–2 "UNSERVICABLE–DO NOT USE" tape or equivalent* across inoperative rest area door.

   * An acceptable alternate to the OM2 tape is a section of 2 inch wide masking tape with the words "UNSERVICEABLE – DO NOT USE " printed legibly in 1 inch black letters.

25-25-05B

1. A placard stating "INOP - DO NOT USE", must be placed in a conspicuous location in the affected bunk(s).
2. Affected bunk(s) curtains must be stowed.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	CREW REST MODULES					
25-25-07A	Lower Lobe Flight Crew Rest Module (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07B	Lower Lobe Flight Crew Rest Module (Gasper Vents / Outlets) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07C	Lower Lobe Flight Crew Rest Module (Illuminated Fasten Seat Belt Signs) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07D	Lower Lobe Flight Crew Rest Module (Lap / Seat Belts) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	CREW REST MODULES (Continued)					
25-25-07E	Lower Lobe Flight Crew Rest Module (Lighting) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07F	Lower Lobe Flight Crew Rest Module (Mattresses) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07G	Lower Lobe Flight Crew Rest Module (No Smoking Placard(s)) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07H	Lower Lobe Flight Crew Rest Module (Oxygen Masks) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.

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	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CREW REST MODULES (Continued)					
25-25-07I Lower Lobe Flight Crew Rest Module (Portable Oxygen) (1607-1613) **"DISP.APPR.REQ'D"**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07J Lower Lobe Flight Crew Rest Module (Privacy / Sleeping Area) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07K Lower Lobe Flight Crew Rest Module (Temperature Control) (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Class 1 Flight Crew Rest facility is placarded UNSERVICEABLE – DO NOT USE, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potenti.al crew duty time issues. NOTE: These provisions are not intended to prohibit Flight Crew Rest Facility inspections by crewmembers.
25-25-07L Lower Lobe Flight Attendant Rest Module (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided: a) Flight Attendant Crew Rest Module is not used and personal items are removed, and b) Flight Attendant Crew Rest door is closed and placarded UNSERVICEABLE – DO NOT USE. NOTE 1: For Flight Attendant Rest, if cabin seats are required for flight attendant use, refer to In-Flight Service Programs and Policies Handbook, Chapter 14, or most current policy, for seat locations. NOTE 2: These provisos are not intended to prohibit Flight Attendant Rest inspections by crewmembers.

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ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
CREW REST MODULES (Continued)					
25-25-07M Lower Lobe Flight Crew Rest Seat (1607-1613) **"DISP.APPR.REQ'D."**	**Y**	3	0	**C**	**(O)(M)** May be inoperative provided: a) Seat is not occupied, b) Affected seat(s) is blocked and placarded INOPERTIVE - DO NOT OCCUPY, c) Inoperative seat is not used for augmented flight crewmember operations, and d) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues. NOTE: A seat with an inoperative seat belt is considered inoperative.
25-25-07N Lower Lobe Flight Attendant Rest Seat (If Installed) **"DISP.APPR.REQ'D."**	**Y**	3	0	**C**	**(M)** May be inoperative provided seat is placarded INOPERATIVE - DO NOT OCCUPY.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-25-07A	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07B	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07C	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07D	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07E	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07F	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07G	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07H	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07I	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07J	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07K	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Module INOP
25-25-07L	On Flight Attendant Rest Module Door	Lower Lobe ____ Flight Attendant Rest Module INOP
25-25-07M	On Flight Crew Rest Module Door	Lower Lobe ____ Flight Crew Rest Seat INOP
25-25-07N	On Flight Attendant Rest Module Door	Lower Lobe ____ Flight Attendant Rest Seat INOP

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(O) PROCEDURES

25-25-07A, 25-25-07B, 25-25-07C, 25-25-07D, 25-25-07E, 25-25-07F, 25-25-07G, 25-25-07H, 25-25-07I, 25-25-07J, 25-25-07K, 25-25-07L

1. Ensure flight crew rest compartment is not used and passenger seats are made available for supplemental crewmembers.
2. Flight duty period limits for augmented operations must be applied.

25-25-07M

Coordinate with OCC to determine if alternate flight attendant rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

(M) PROCEDURES

25-25-07A, 25-25-07B, 25-25-07C, 25-25-07D, 25-25-07E, 25-25-07F, 25-25-07G, 25-25-07H, 25-25-07I, 25-25-07J, 25-25-07K, 25-25-07L

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Place a strip of red OM–2 ”UNSERVICABLE–DO NOT USE” tape or equivalent* across inoperative rest area door.

   * An acceptable alternate to the OM2 tape is a section of 2 inch wide masking tape with the words ”UNSERVICEABLE – DO NOT USE ” printed legibly in 1 inch black letters.

25-25-07M, 25-25-07N

A placard stating “INOPERATIVE - DO NOT OCCUPY”, must be placed in a conspicuous location on the seat.

NOTE 1: The emergency equipment listed in the following table is required for occupancy of the Crew Rest Modules. If any required equipment is missing or inoperative, the associated crew rest compartment must be deferred and locked closed as indicated above unless. It may be possible to interchange emergency equipment located in the cabin with emergency equipment in crew rest compartments or vice versa provided applicable MEL restrictions are adhered to.

NOTE 2: Appearance, comfort or convenience related items may be deferred under the NEF program (Refer to MEL 25-20-01).

# Installed	Emergency Equipment
1	Water Fire Extinguisher
1	Halon Fire Extinguisher
2	PBEs
1	Flashlight
1	Escape Harness
-	Portable Oxygen Bottle(s)
1	First Aid Kit

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FLIGHT CREW REST CABIN SEAT					
25-25-08A Pilot Rest Seat (Recline, Armrest, Leg Rest and Foot Rest (Class 2 and 3 Seat) (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(O)** May be inoperative and seat occupied provided: a) Seat is in full upright position for taxi, takeoff and landing, and b) Seat can be manually operated to lay flat position. NOTE: Class 2 rest seat remains a class 2 facility.
25-25-08B Pilot Rest Seat (Recline, Armrest, Leg Rest and Foot Rest (Class 2 and 3 Seat) (If Installed)	**Y**	-	0	**C**	May be inoperative provided operations do not require its use. NOTE: Rest seat not available. Contact the OCC Fleet Sector Manager through the Dispatcher for alternate flight crew rest accommodations.
25-25-08C Class 2 Pilot Rest Seat Curtain (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be torn, damaged or missing and seat occupied provided: a) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-08D Class 2 Pilot Rest Seat Curtain Velcro / Magnets (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(O)** May be torn, damaged or missing and seat occupied provided: a) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-08E Class 2 Pilot Rest Seat Curtain Guide Rail (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative, damaged or missing and seat occupied provided: a) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-08F Class 2 Pilot Rest Seat Curtain Attachments (Sliders) (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(O)** May be inoperative, damaged or missing and seat occupied provided: a) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	FLIGHT CREW REST CABIN SEAT (Continued)					
25-25-08G	Class 2 Pilot Rest Seat Curtain Tieback(s) (If Installed)	**Y**	-	2	**C**	One tieback on each curtain side may be inoperative or missing with no effect on flight crew facility. NOTE: Class 2 rest seat remains a class 2 facility.
25-25-08H	Class 2 Pilot Rest Seat Curtain Tieback(s) (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative or missing provided: a) Seat is not occupied, b) Curtains are stowed and secured against sidewall, c) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and d) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-08I	Class 2 Pilot Rest Seat Window Shade (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative or damaged and seat occupied provided: a) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-08J	Class 2 Pilot Rest Seat Video Monitor (If Installed)	**Y**	-	0	**C**	May be inoperative with no effect on flight crew facility provided video monitor is inoperative OFF or can be turned OFF. NOTE: Class 2 rest seat remains a class 2 facility.
25-25-08K	Class 2 Pilot Rest Seat Video Monitor Flap / Velcro (If Installed)	**Y**	-	0	**C**	May be torn, damaged or missing with no effect on flight crew facility provided video monitor is inoperative OFF or can be turned OFF. NOTE: Class 2 rest seat remains a class 2 facility.
25-25-08L	Class 2 Pilot Rest Seat Video Monitor Flap / Velcro (If Installed) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be torn, damaged or missing and seat occupied provided: a) Flight Crew Rest Seat is downgraded to a class 3 facility for flight planning purposes, and b) Contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-25-08A	Logbook	Flight Crew Rest Seat INOP
25-25-08B	Logbook	Flight Crew Rest Seat INOP
25-25-08C	Logbook	Flight Crew Rest Seat Curtain INOP, downgraded to class 3 facility
25-25-08D	Logbook	Flight Crew Rest Seat Curtain Velcro / Magnets INOP, downgraded to class 3 facility
25-25-08E	Logbook	Flight Crew Rest Seat Curtain Guide Rail INOP, downgraded to class 3 facility
25-25-08F	Logbook	Flight Crew Rest Seat Curtain Attachments (Sliders) INOP, downgraded to class 3 facility
25-25-08G	Logbook	Flight Crew Rest Seat Curtain Tieback(s) INOP
25-25-08H	Logbook	Flight Crew Rest Seat Curtain Tieback(s) INOP, downgraded to class 3 facility
25-25-08I	Logbook	Flight Crew Rest Seat Window Shade INOP, downgraded to class 3 facility
25-25-08J	Logbook	Flight Crew Rest Seat Video Monitor INOP
25-25-08K	Logbook	Flight Crew Rest Seat Video Monitor Flap / Velcro INOP
25-25-08L	Logbook	Flight Crew Rest Seat Video Monitor Flap / Velcro INOP, downgraded to class 3 facility

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(O) PROCEDURES

25-25-08A

1. Raise seat bottom cushion for access to manual override levers located on the seat pan.
2. To move seat to Bed Mode:
   a. Pull “Leg Rest” lever and deploy leg rest to horizontal position.
   b. Pull “Back Rest” and “Latches” levers to recline seat.
3. To return seat to upright position:
   a. Pull “Leg Rest” lever and position leg rest to approximately 45 degrees.
   b. Pull “Back Rest” lever and lift end of leg rest to assist returning seat to upright position.
   c. Pull “Leg Rest” lever and stow leg rest.

Override Levers

FWD to Operate

25-25-08C, 25-25-08D, 25-25-08E, 25-25-08F, 25-25-08H, 25-25-08I, 25-25-08L

1. Flight Crew Rest Cabin Seat is downgraded to a Class 3 Facility for flight planning purposes.
2. Ensure appropriate limitations to flight crew duty periods for a Class 3 facility are followed.
3. Contact OCC Fleet Sector Manager through Dispatcher to coordinate any potential crew duty time issues.

(M) PROCEDURES

25-25-08H

Secure curtain assembly in stowed position against sidewall (strap, tape or rope may be utilized).

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-28-01A	Storage Bin(s) / Cabin, Galley and Lavatory Storage Compartments / Closets	**Y**	-	-	**C**	**(M)** May be inoperative provided: a) Procedures are used to secure affected bin, compartment or closet in CLOSED position, b) Affected bin, compartment or closet is prominently placarded DO NOT USE, c) Any emergency equipment located in affected compartment is considered inoperative and is deferred per applicable MEL, and d) Affected bin, compartment or closet is not used for storage of any item(s) except for those permanently affixed. NOTE: For overhead bins, if no partitions are installed, entire overhead bin is considered inoperative.
25-28-01B	Storage Bin(s) / Cabin, Galley and Lavatory Storage Compartments / Closets	**Y**	-	-	**C**	**(O)(M)** May be inoperative provided: a) For non-retractable doors, affected door is removed, b) For retractable doors, affected door is removed or secured in retracted (fully open) position, c) Affected bin, compartment, or closet is not used for storage of any items except for those permanently affixed, d) Affected bin, compartment, or closet is prominently placarded DO NOT USE, e) Procedures are 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 1: For overhead bins, if no partitions are installed, entire overhead bin is considered inoperative. NOTE 2: Any emergency equipment located in affected bin, compartment or closet (permanently affixed) is available for use.
25-28-01C	Multi Latch / Quarter Turn Lug Installations **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(O)** One latch / lug per compartment may be inoperative or missing provided: a) Remaining latch(es) / lug(s) on affected compartment(s) operates normally, b) If affected compartment is used for a galley cart, that galley cart position remains empty, and c) Galley Cart distribution is maintained.
25-28-01D	Storage Compartment Key Locks	**Y**	-	0	**D**	**(O)(M)** May be inoperative in unlocked position provided doors can be secured by other means.

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-28-01A	Logbook	___ Overhead Bin / Storage Compartment INOP
25-28-01B	Logbook	___ Overhead Bin / Storage Compartment INOP
25-28-01C	Logbook	___ Latch(es) INOP
25-28-01D	Logbook	___ Storage Compartment Lock(s) INOP

(O) PROCEDURES

25-28-01B

Crewmembers and passengers must be briefed not to use an inoperative overhead/cabin storage bin with the door removed.

25-28-01C

1. Galley cart storage bays (see Figure 1, 2 and 3 for the types of cart bay) must either have all carts installed or no carts installed. If one cart must be removed from a multi-cart bay, then all carts must be removed from that bay. A “bay” is a series of cart compartments in between structural walls.

2. It is permissible to have one bay completely empty and other bay(s) filled with carts in a multiple-bay galley (see Figure 3).

   NOTE: It may be possible to redistribute galley carts from one bay to another bay, except from a chilled bay to a non-chilled bay, so that carts do not require removal. Repositioning carts from a single-cart bay to a multi-cart bay is permissible to avoid removal of carts, which will negatively impact passenger service.

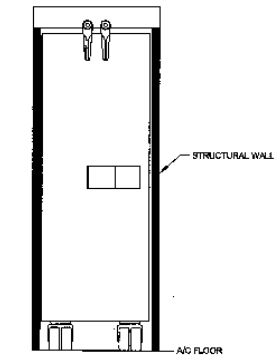

FIGURE 1
SINGLE-CART BAY

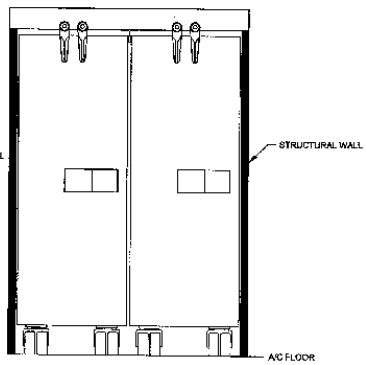

FIGURE 2
2-CART BAY

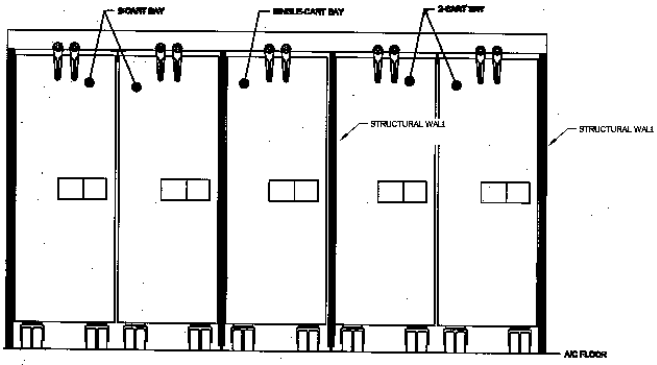

FIGURE 3
2-1-2 CART BAYS

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25-28-01C	**MULTI LATCH / QUARTER TURN LUG INSTALLATIONS**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use applicable OEW correction for "Galley OEW Corrections" in ALM – Weight and Balance Section.

25-28-01D

Advise flight attendants of inoperative lock and not to store valuables in affected compartment(s).

(M) PROCEDURES

25-28-01A

1. Empty compartment (except for permanently affixed items).
2. Using suitable pressure sensitive tape (i.e., bag bin tape, nylon or fiberglass reinforced tape, **not** masking tape, etc.), secure compartment CLOSED. If unable to secure compartment closed, *Maintenance is Required and Flight Crew May NOT Placard*.
3. Placard compartment using "Inoperative Cabin Appearance" placard or equivalent.
4. The following items are considered "Emergency Equipment" and may not be relocated.

    - Fire Extinguishers
    - Megaphones
    - Flashlights
    - EEMK
    - AED
    - PBE
    - Passenger Oxygen Bottles
    - First Aid Kits

5. Except for the items listed above, cabin equipment may be relocated provided:

    a. Location placarding (if installed) of the affected item is removed or obscured.
    b. Install temporary placard on the outside of inoperative compartment / bin specifying the new location.
    c. Install temporary placard on the outside of compartment / bin where the item has been relocated.
    d. Note location of relocated equipment on aircraft logbook placard.

CONTINUED NEXT PAGE

25-28-01B

1. Removed affected door. Securely store the removed door if it remains on the aircraft.
2. Attach DO NOT USE placard to the affected compartment.

25-28-01D

1. Ensure that lock is inoperative in the unlocked position.
2. Ensure that associated door will still stay latched closed. If door will not latch closed, the entire compartment must be considered inoperative and deferred.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-38-01A	Exterior Lavatory Door Ashtrays (Airplanes with multiple **exterior** lavatory door ashtrays installed)	**Y**	-	-	**A**	Up to and including 50 percent may be missing or inoperative for 10 calendar days. NOTE: Crew lavatories are included in the total aircraft exterior lavatory door ashtray count.
25-38-01B	Exterior Lavatory Door Ashtrays (Airplanes with multiple **exterior** lavatory door ashtrays installed)	**Y**	-	0	**A**	More than 50 percent may be missing or inoperative for 3 calendar days. NOTE: Crew lavatories are included in the total aircraft exterior lavatory door ashtray count.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-38-01A	Logbook	___ Lavatory Door Ashtrays INOP / Missing
25-38-01B	Logbook	___ Lavatory Door Ashtrays INOP / Missing

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
25-38-02	Galley / Cabin Waste Receptacles Access Doors / Covers	**Y** -	0	**C**	**(O)(M)** May be inoperative provided: a) Container is empty and access is secured to prevent waste introduction into compartment, and b) Procedures are used to ensure that sufficient galley/cabin waste receptacles are available to accommodate all waste that may be generated on flight.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-38-02	Logbook	Galley / Cabin Waste Receptacles Access / Doors Covers INOP

(O) PROCEDURES

1. Ensure sufficient galley waste receptacles are available to accommodate all waste that may be generated on the flight.
2. Refer to the In-Flight Service On-Board Manual, Section 3 Regulations / Guidelines, Trash.

(M) PROCEDURES

Verify the container is empty and secure the access door.

1. Empty the associated waste container.
2. Secure the associated access door in the closed position.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	**NAME / DESCRIPTION**					**REMARKS OR EXCEPTIONS**
25-41-01	Lavatory Waste Container Flapper / Access Doors **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(M)** May be inoperative provided: a) Associated lavatory waste container is empty and access is secured to prevent waste introduction into waste container, b) Lavatory is only used by crewmembers, and c) Associated lavatory entrance door is locked closed and placarded, INOPERATIVE – DO NOT ENTER. NOTE: These provisos are not intended to prohibit lavatory use or inspections by crewmembers.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-41-01	Logbook	___ Lavatory Waste Container Flapper / Access Doors INOP

(M) PROCEDURES

1. Empty associated waste container.
2. Secure the inoperative access door/cover in a manner that will prevent waste from being deposited into the receptacle.
3. Close, lock and placard the lavatory entrance: INOPERATIVE - DO NOT ENTER.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-50-01	Lower Cargo Compartment Lining Panels, Floor Panels and Walkways (Forward and Aft) **"DISP.APPR.REQ'D."**	**N**	-	-	**C**	**(O)(M)** May be damaged or missing provided associated cargo compartment, (FWD and/or both AFT & Bulk) remains empty, or is verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-50-01	Logbook	___ Cargo Compartment Lining Panel(s) / Floor Panel(s) / Walkways, (Forward or Aft) Damaged / Missing

(O) PROCEDURES

Refer to MEL Instructions for cargo compartment loading restrictions.

(M) PROCEDURES

Refer to MEL Instructions for cargo compartment loading restrictions.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-53-01	Lower Cargo Handling Systems	**Y**	2	0	**D**	NOTE: Any portion of system(s) that operates normally may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-53-01	Logbook	___ Lower Cargo Compartment Handling System INOP / ___ Lower Cargo Compartment Handling System ___ Component INOP

NOTE 1: Cargo Handling Systems are comprised of electrically operated components such as power drive units (PDU), electrical actuation feature of rollout stops (at cargo door opening) and transverse guides, and mechanical units such as rollers and ball mats. Use this MEL item to defer these types of components when inoperative.

NOTE 2: Deactivation procedures for inoperative threshold lock actuators include release of the rod end from the threshold lock and removal of the rod end from the actuator. This will prevent damage to the Cargo Door Seal Retainer. Place the rod end in the MCO pouch.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-54-01A Lower Cargo Restraint Systems **"DISP.APPR.REQ'D."**	**Y**	-	-	**A**	**(M)** May be inoperative, or missing provided: a) Acceptable cargo loading limits from Aircraft Loading Manual (ALM) are observed, and b) Repairs are made prior to the completion of next heavy maintenance visit.
25-54-01B Lower Cargo Restraint Systems **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	May be inoperative, or missing provided associated cargo compartment (FWD, AFT, or BULK) remains empty.
25-54-01C Aft Bulk Bin / Aft Cargo Compartment Divider Nets **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	May be inoperative or missing provided aft bulk bin remains empty. NOTE: For inoperative bulk bin door net, use MEL 25-54-01A.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-54-01A	Logbook	___ Lower Cargo Restraint Component(s) INOP / Missing
25-54-01B	Logbook	___ Lower Cargo Restraint Component(s) INOP / Missing
25-54-01C	Logbook	___ Lower Cargo Restraint Component(s) INOP / Missing

(M) PROCEDURES

25-54-01A

1. Refer to Aircraft Loading Manual (ALM) Weight and Balance Section:

   a. B767-300 Weight and Balance Chapter 3970, Cargo Loading Section
   b. B767-300ER Weight and Balance Chapter 3916, Cargo Loading Section

2. Deactivation procedures for most cargo restraint or cargo guiding equipment are either obvious (e.g. inoperative container stop needs to be released to retracted position or removed to prevent interference with cargo loading) or unnecessary (e.g., a damaged end stop can be left as is).

   NOTE: Manual operation features are provided to allow continued loading / unloading should the cargo electrical components become inoperative.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-61-02	Lower Lobe Flight Crew / Attendant Rest Escape Harness **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(M)** May be inoperative provided: a) Associated Crew Rest is not used and personal items are removed, and b) Crew Rest door is closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-61-02	Logbook	Lower Lobe ___ Crew Rest Escape Harness INOP

(M) PROCEDURES

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Install placard INOPERATIVE – DO NOT ENTER.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
FLOTATION DEVICES					
25-62-01A Life Vests (Passenger Seats except Lie-Flat Seats) **"DISP.APPR.REQ'D."**	**Y**	-	-	**D**	May be inoperative or missing provided extended overwater operations are not conducted.
25-62-01B Life Vests **"DISP.APPR.REQ'D."**	**Y**	-	-	**D**	May be inoperative or missing provided associated seat is blocked off, placarded DO NOT OCCUPY and deferred per MEL 25-11-02, 25-25-01 or 25-25-02A as appropriate.
25-62-01C Spare Life Vests	**Y**	-	-	**D**	May be inoperative or missing.
25-62-01D Life Rafts **"DISP.APPR.REQ'D."**	**Y**	-	-	**D**	**(O)** May be inoperative or missing.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-62-01A	Logbook	___ Life Vest(s) INOP / Missing
25-62-01B	Logbook	___ Life Vest(s) INOP / Missing
25-62-01C	Logbook	___ Spare Life Vest(s) INOP / Missing
25-62-01D	Logbook	___ Life Raft(s) INOP / Missing

NOTE: Unserviceable life vests must be removed from the cabin or stored in a location where they can not be mistaken for serviceable vests.

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(O) PROCEDURES

25-62-01D

If life raft is missing (removed), refer to the following performance corrections.

25-62-01D	**LIFE RAFTS REMOVED**
EFFECTIVITY	**-300 PW4000 (763)** **-300 CF6-80A2 (763)** **-300ER CF6-80C2 (76G) A/C 1701 – 1708 Only**
FLIGHT PLANNING REQUIREMENTS	Extended Overwater Operations Prohibited.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use applicable OEW correction for “Life Raft” in ALM – Weight and Balance Section.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-63-01 Megaphones **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative or missing provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, and c) Alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-63-01	Logbook	___ Megaphone(s) INOP / Missing

(O) PROCEDURES

25-63-01

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-63-03	"Fasten Seat Belt While Seated" Signs or Placards	**Y**	-	-	**C**	One or more signs or placards may be illegible or missing provided a legible sign or placard is visible from each occupied passenger seat.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-63-03	Logbook	FASTEN SEAT BELT WHILE SEATED Signs or Placards INOP / Missing

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-63-04A Flight Attendant Flashlight Holder Assemblies (Including Flashlight)	**Y**	-	0	**C**	May be inoperative or missing provided crewmember assigned to associated seat has a flashlight of equivalent characteristics readily available.
25-63-04B Flight Attendant Flashlight Holder Assemblies (Including Flashlight)	**Y**	-	0	**C**	**(O)** May be inoperative provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, and c) Alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-63-04A	Logbook	Flight Attendant Flashlight / Holder Assemblies INOP / Missing
25-63-04B	Logbook	Flight Attendant Flashlight / Holder Assemblies INOP / Missing

(O) PROCEDURES

25-63-04B

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-63-10A	Emergency Locator Transmitter (ELT) **"DISP.APPR.REQ'D."**	**Y**	-	0	**A**	Except for extended overwater operations or flights within the states of Alaska or Hawaii over an uninhabited area, may be inoperative, missing or out of date provided repairs are made within 90 days.
25-63-10B	Emergency Locator Transmitter (ELT)	**Y**	-	1	**D**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-63-10A	ELT	___ ELT INOP
25-63-10B	ELT	___ ELT INOP

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
EMERGENCY MEDICAL EQUIPMENT					
25-64-01A First Aid Kits **"Contact MCC"**	**Y**	4	3	**A**	**(O)** May be incomplete, missing or inoperative provided: a) First Aid Kit is resealed in a manner that will identify it as a unit that can not be mistaken for a fully serviceable unit, and b) Repairs or replacements are made within 1 flight cycle.
25-64-01B First Aid Kit Seals	**Y**	-	0	**C**	**(O)** Aircraft may be dispatched with seal(s) broken provided, PRIOR TO EACH DEPARTURE, it is verified that the kit contains the required minimum contents. **Repetitive Check Required (Yellow Placard)**
25-64-01C AED (Automatic External Defibrillator) **"Contact MCC"**	**Y**	1	0	**A**	**(O)** May be incomplete, missing or inoperative provided: a) AED is resealed in a manner that will identify it as a unit that can not be mistaken for a fully serviceable unit, and b) Repairs or replacements are made within 1 flight cycle.
25-64-01D AED Bracket / Lock	**Y**	1	0	**C**	NOTE: If Bracket/Lock is inoperative in a manner that prevents the AED from being accessible, the AED must be considered inoperative and deferred per MEL 25-64-01C.
25-64-01E EEMK (Enhanced Emergency Medical Kit)	**Y**	2	1	**D**	**(O)** May be incomplete, missing or inoperative provided EEMK is resealed in a manner that will identify it as a unit that can not be mistaken for a fully serviceable unit.
25-64-01F EEMK (Enhanced Emergency Medical Kit) **"Contact MCC"**	**Y**	2	0	**A**	**(O)** Both may be incomplete, missing or inoperative provided: a) EEMK is resealed in a manner that will identify it as a unit that can not be mistaken for a fully serviceable unit, and b) Repairs or replacements are made within 1 flight cycle.
25-64-01G EEMK Bracket(s) / Lock(s)	**Y**	2	0	**C**	NOTE: If Bracket(s)/Lock(s) is inoperative in a manner that prevents the AED from being accessible, the AED must be considered inoperative and deferred per MEL 25-64-01E or 25-64-01F as appropriate.
25-64-01H Red Pouch (Medical Accessory Pouch)	**Y**	1	0	**C**	May be inoperative, missing, or contain less than the minimum required contents.

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
25-64-01A	Logbook	___ First Aid Kit Incomplete / Missing / INOP
25-64-01B	Logbook	___ First Aid Kit Seal(s) Broken
25-64-01C	Logbook	AED Incomplete / Missing / INOP
25-64-01D	Logbook	AED Bracket / Lock INOP
25-64-01E	Logbook	EEMK Incomplete / Missing / INOP
25-64-01F	Logbook	Both EEMKs Incomplete / Missing / INOP
25-64-01G	Logbook	EEMK Bracket / Lock INOP
25-64-01H	Logbook	Red Pouch (Medical Accessory Pouch) INOP / Missing

(O) PROCEDURES

25-64-01A, 25-64-01C, 25-64-01E, 25-64-01F

1. Reseal the unit in a manner that will identify it as a unit that cannot be mistaken for a fully serviceable unit.
2. Captain to brief Purser / FL of inoperative or missing emergency equipment.

25-64-01B

If seals are broken, PRIOR TO EACH DEPARTURE, verify the First Aid Kit contains the following:

1 pair	Protective Gloves or equivalent	1 pair	Bandage Scissors
1 pkg	Ammonia Inhalants (10/pkg)	1 pkg	1 Inch Adhesive Bandages (16/pkg)
2 rolls	Adhesive Tape	4 pkg	4 Inch Gauze Bandages (1/pkg)
2 pkg	Wire Splints (1/pkg)	5 pkg	40 Inch Triangular Bandages (1/pkg)
2 pkg	Antibiotic Ointment Packets or Antiseptic Wipes (10/pkg)	8 pkg	4 Inch Compress Bandages (1/pkg)

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-99-01A PED Mount Administrative Control Item	**Y**	-	-		Reconfigure cockpit for two (2) operative PED mounts. See TOPP 40-40-05 for instructions.
25-99-01B PED Mount **"DISP.APPR.REQ'D"** Administrative Control Item	**Y**	-	-		Reconfigure cockpit for one (1) operative PED mounts. See TOPP 40-40-05 for instructions.
25-99-01C PED Mount **"DISP.APPR.REQ'D"** Administrative Control Item	**Y**	-	-		Reconfigure cockpit for zero (0) operative PED mounts. See TOPP 40-40-05 for instructions.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-99-01A	Logbook	Reconfigure PED mounts per TOPP 40-40-05
25-99-01B	Logbook	Reconfigure PED mounts per TOPP 40-40-05
25-99-01C	Logbook	Reconfigure PED mounts per TOPP 40-40-05

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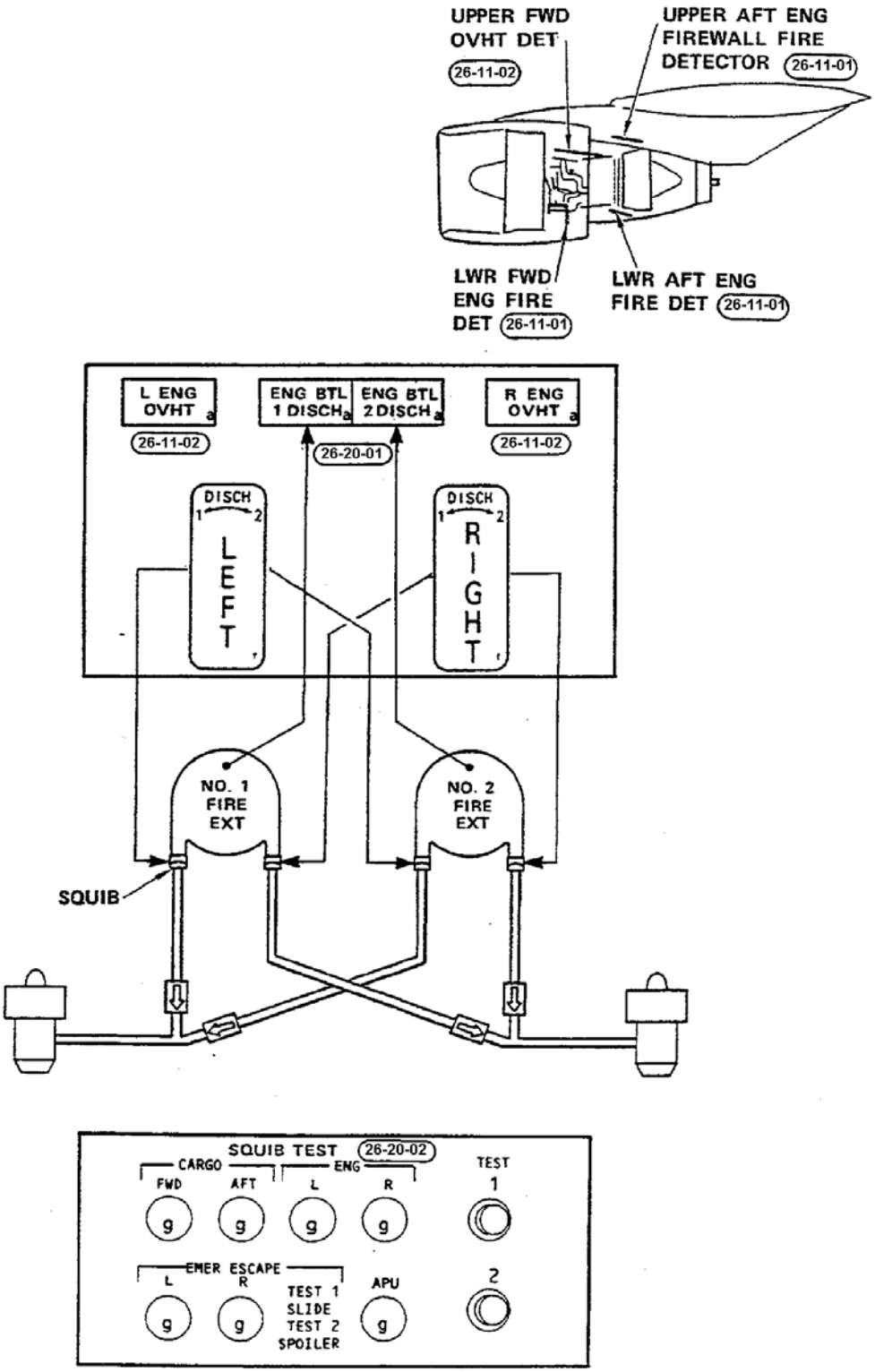
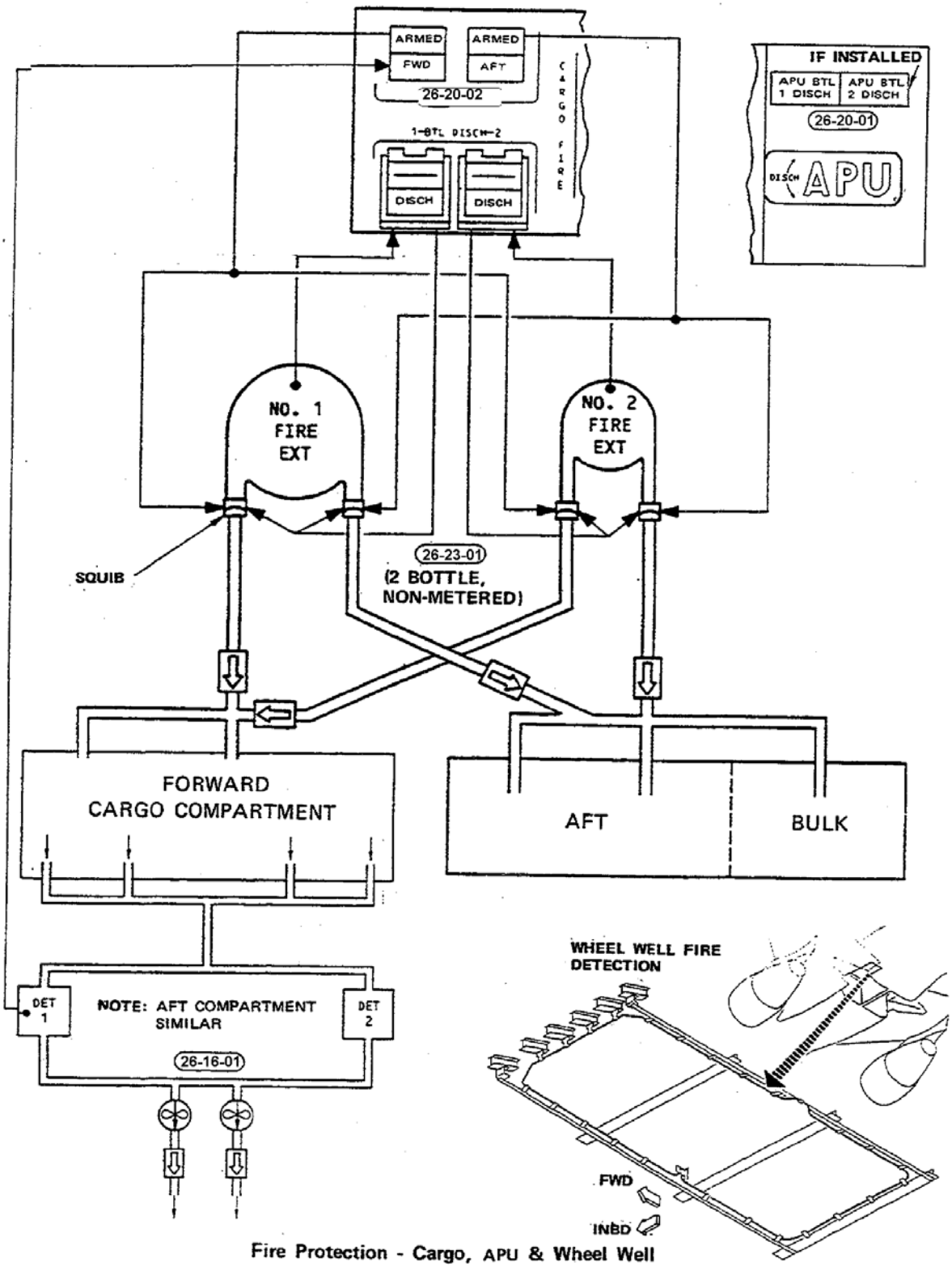
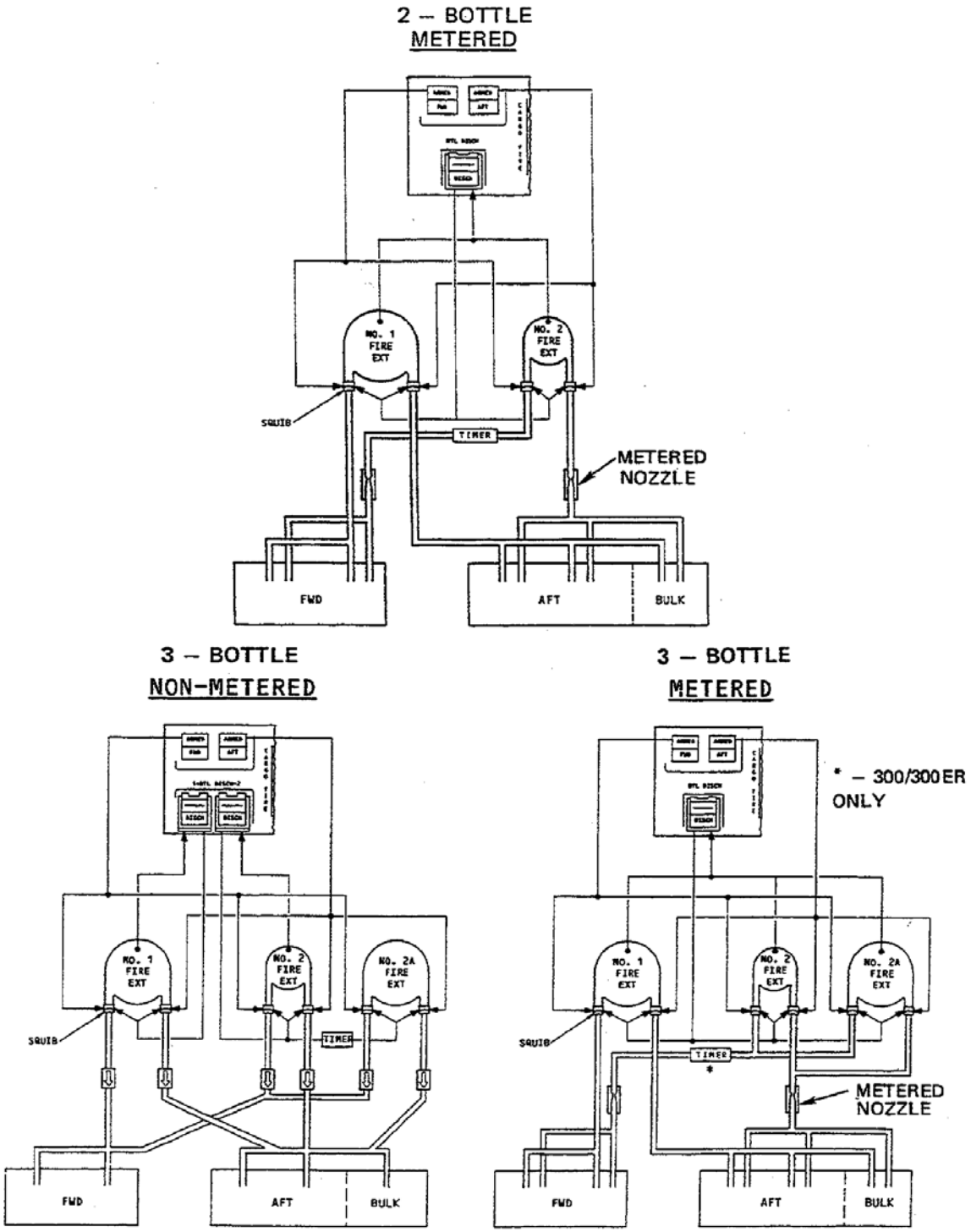


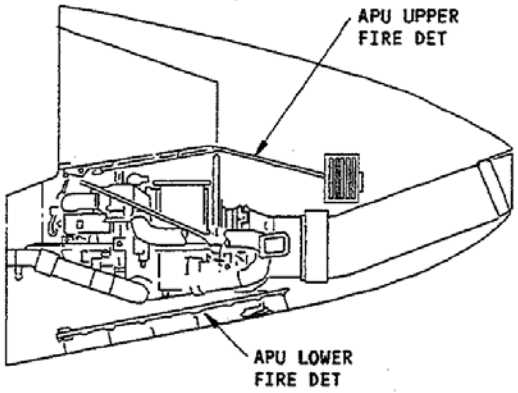
Fire Protection — Engines & Test



Fire Protection - Cargo, APU & Wheel Well

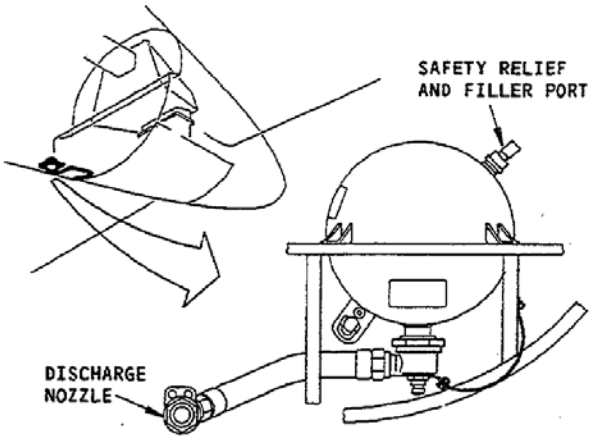


LOWER CARGO COMPT FIRE EXTINGUISHER SYSTEM
(ALTERNATIVE SYSTEMS)



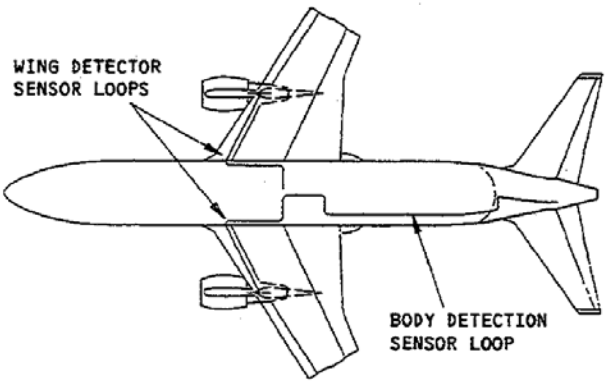
APU FIRE DETECTION SYSYEM

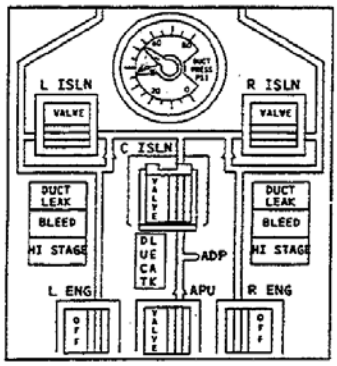
(26-15-01)



APU FIRE EXTINGUISHER SYSYEM

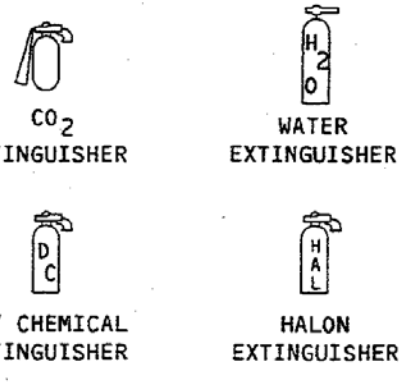
(25-22-01)





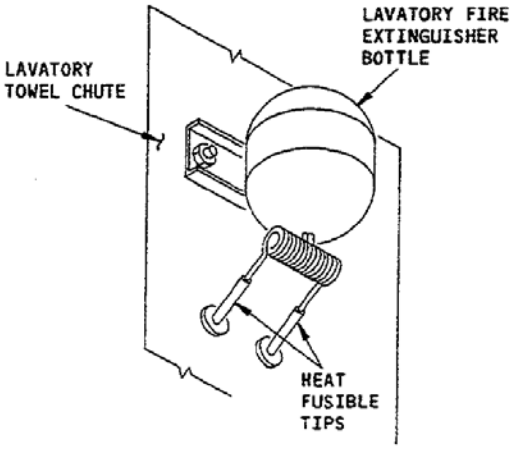
DUCT LEAK DETECTION SYSYEM

(26-18-01)



PORTABLE FIRE EXTINGUISHER

(26-26-01)



LAVATORY FIRE EXTINGUISHER

(26-26-02)

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CREW REST SMOKE DETECTION SYSTEMS					
26-10-03 Crew Rest Smoke Detection Systems **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(M)** May be inoperative provided: a) Heater System is deactivated, b) Crew Rest Module is not used and personal items are removed, and c) Crew rest door is closed and placarded INOPERATIVE-DO NOT ENTER NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-10-03	Logbook	___ Crew Rest Smoke Detection System INOP

(M) PROCEDURES

1. Deactivate the associated Heater System.
   a. Main Cabin Crew Rest: Pull and secure the following circuit breakers.
      1) CRM Heater (P36)
      2) CRM Smoke Det. (P11)
      3) CRM O2 (P11)
      4) CRM Lights (P11)
      5) CRM SPM (P37)
   b. Flight Crew Rest: Pull and secure the FWD LLCR HEATING – AC C/B located on the P36 panel.
   c. Attendant Rest: Pull and secure the AFT LLCR HEATING – AC C/B located on the P37 panel.
2. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.
3. Secure the associated crew rest entrance door closed.
4. Install placard INOPERATIVE – DO NOT ENTER.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-11-01	Engine Fire Detection Systems (Detection Loops) **"DISP.APPR.REQ'D."**	**Y**	4	2	**C**	Except for ER operations (ETOPS) beyond 120 minutes, one loop per engine may be inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-11-01	Engine Fire Warnng Panel	___ Engine Fire Loop INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-11-02	Engine Overheat Detection Systems (Detection Loops) **"DISP.APPR.REQ'D."**	**Y**	4	2	**C**	Except for ER operations (ETOPS) beyond 120 minutes, one loop per engine may be inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-11-02	Engine Fire Warning Panel	___ Engine Overheat Detection Loop ___ INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-14-01	CARGO DET AIR Indicating System	**N**	1	0	**C**	**(M)** Indication may be inoperative provided smoke sampling system integrity is verified PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-14-01	Cargo Fire Warning Panel	CARGO DET AIR Indicating System INOP

(M) PROCEDURES

1. Apply electrical power to the airplane.
2. Do step a ***OR*** do step b below for each of the following air sampling port orifices:

   - Aft most port in forward cargo compartment
   - Forward most port in the aft cargo compartment

   a. Using a hot wire anemometer and adapter (AMM 26-16-00-501), verify at least 80 fpm velocity airflow through each of the above smoke detection air sampling port orifices, ***OR***
   b. Using any suitable non-toxic smoke source, accomplish the following for each of the above smoke detection air sampling port orifices.

      1) Apply smoke adjacent to the smoke detection air sampling port orifice.
      2) Verify the flight deck effects:

         - Red FWD or AFT CARGO FIRE warning lights (P8)
         - Red FIRE light (P1-3)
         - EICAS Warning messages, FWD or AFT CARGO FIRE
         - Red master WARNING light (P7)
         - Fire bell sounds

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-15-01A	APU Fire Detection System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative provided APU is considered inoperative and deferred per MEL 49-11-01A or 49-11-01B as appropriate.
26-15-01B	APU Fire Detection System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** Except for ER operations (ETOPS), may be inoperative provided: a) Other procedures do not require use of APU, b) Both engine generators operate normally, c) APU is used for ground operations only, d) APU is continuously monitored by ground personnel when operating, e) APU external control system operates normally, and f) APU is not used during taxi. Theater Restrictions May Apply
26-15-01C	APU Fire Detection System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes and except for Outbound North America ER operations (ETOPS), may be inoperative provided: a) Other procedures do not require use of APU, b) Both engine generators operate normally, c) Hydraulic Motor Generator (HMG) operates normally, d) APU is used for ground operations only, e) APU is continuously monitored by ground personnel when operating, f) APU external control system operates normally, and g) APU is not used during taxi. Theater Restrictions May Apply
26-15-01D	APU Fire Detection System (Detection Loops) **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	Except for ER operations (ETOPS) beyond 120 minutes, one loop may be inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-15-01A	APU Fire Warning Panel	APU Fire Detection System INOP
26-15-01B	1. APU Fire Warning Panel 2. APU Start Switch	1. Both APU Fire Loops INOP 2. Shut down APU Before Taxi
26-15-01C	1. APU Fire Warning Panel 2. APU Start Switch	1. Both APU Fire Loops INOP 2. Shut down APU Before Taxi
26-15-01D	APU Fire Warning Panel	___ APU Fire Loop INOP

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(O) PROCEDURES

26-15-01B, 26-15-01C

1. Dispatch is not allowed if the APU is required by other procedures. Refer to MEL 49-11-01A, 49-11-01B (O) procedures for a listing of MEL items that require APU availability for dispatch.
2. For APU use during ground operations, position a fire guard near the tail of the airplane to monitor the APU.
3. Do not use the APU inflight or during taxi operations.

(M) PROCEDURES

26-15-01B, 26-15-01C

Continuously monitor the APU when it is operating.

1. Visually monitor the APU when it is in use on the ground.
2. For APU fire observed, manually discharge the APU fire extinguisher using one of the following:
   a. APU SHUTDOWN switch on the APU shutdown panel (P40 on nose gear)
   b. APU fire switch on the APU/Cargo Fire Control panel (P8 control stand)

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
LOWER CARGO COMPARTMENT SMOKE DETECTION SYSTEMS					
26-16-01A FWD and AFT Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided associated cargo compartment or zone (FWD and/or both AFT & Bulk) remains empty, or is verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
26-16-01B Detectors	**Y**	4	2	**C**	**(O)** One in each compartment or zone may be inoperative provided remaining detector loop is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
26-16-01C Detector Fans	**Y**	4	2	**C**	One in each compartment may be inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-16-01A	Cargo Fire Warning Panel	Fwd / Aft Cargo Compartment Smoke Detection Systems INOP
26-16-01B	Cargo Fire Warning Panel	Fwd / Aft Cargo Compartment Smoke Detector(s) INOP
26-16-01C	Cargo Fire Warning Panel	Fwd / Aft Cargo Compartment Smoke Detector Fan(s) INOP

(O) PROCEDURES

26-16-01A

Refer to MEL Instructions for cargo compartment loading restrictions.

26-16-01B

1. Depress and hold the ENG / APU / CARGO switch on the fire/overheat test panel (P8) to perform a self test.
2. All detector EICAS maintenance messages will be displayed and the following fire indications will illuminate / display:
   a. Red FWD and AFT CARGO FIRE switchlights (P8)
   b. Red FIRE light (P1-3)
   c. EICAS messages, FWD and AFT CARGO FIRE
   d. Red master warning light (P7)
   e. Fire bell sounds

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3. Release the ENG / APU / CARGO switch.
4. Messages and lights will extinguish for those systems which operate normally. Applicable EICAS messages will be displayed for those systems which are inoperative. The FAIL P-RESET (P-8 panel) switchlight and EICAS advisory message, FIRE / OVHT SYS, will remain displayed if there is a dual-detector fault.

(M) PROCEDURES

26-16-01A

Refer to MEL Instructions for cargo compartment loading restrictions.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
26-17-01A	Wheel Well Fire Detection System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided Brake Temperature Monitoring System (BTMS) operates normally. NOTE: Avoid possibility of retracting an overheated wheel by monitoring brake temperature indications.
26-17-01B	Wheel Well Fire Detection System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided an accepted procedure is used to ensure brakes are cool before engine start. NOTE 1: Avoid possibility of retracting an overheated wheel by monitoring brake temperature indications. NOTE 2: In case of engine failure after V1, landing gear should be retracted until takeoff obstacles are cleared.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-17-01A	Near WHL WELL OVHT Light	Wheel Well Fire Detection System INOP
26-17-01B	Near WHL WELL OVHT Light	Wheel Well Fire Detection System INOP

(O) PROCEDURES

26-17-01A

NOTE 1: Avoid possibility of retracting an overheated wheel by monitoring brake temperature indications.

NOTE 2: For any wheel well fire detector sensor failed shorted, the center panel FIRE light will be available to indicate engine, APU or cargo fire.

NOTE 3: For one or more wheel well fire detector sensors failed opened, the wheel well fire detection test will fail.

26-17-01B

NOTE 1: Avoid possibility of retracting an overheated wheel by leaving landing gear extended for 10 minutes after takeoff.

NOTE 2: In case of engine failure after V1, landing gear should be retracted until takeoff obstacles are cleared.

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1. For any wheel well fire detector sensor failed shorted, the center panel FIRE light will be available to indicate engine, APU or cargo fire.
2. For one or more wheel well fire detector sensors failed open, the wheel well fire detection test will fail.
3. Leaving the landing gear extended for 10 minutes increases fuel burn approximately 2,000 lb (970 kg).
4. It is not necessary to apply gear down performance adjustments when dispatching under this item.

26-17-01B	**WHEEL WELL FIRE DETECTION SYSTEM (BTMS INOPERATIVE)**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 2,000 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

(M) PROCEDURES

26-17-01A

1. For wheel well detection sensors failed open, no maintenance action is required.
2. OPTIONAL PROCEDURE *Maintenance is Required and Flight Crew May NOT Placard*: For wheel well detection sensors failed shorted (false WHEEL WELL FIRE indication), deactivate the WHEEL WELL FIRE EICAS warning message and the WHL WELL FIRE light as follows:
   a. Open WW FIRE/DUCT LEAK circuit breaker.
   b. Access P54 card file, duct leak and wheel well fire card module M691, connector D2842, pin 32.
   c. Wire bundle W1082, wire number 842R-22 connects the pin to "Y" burndy block TB276, location A20. Disconnect, cap and stow this wire to deactivate the message.
   d. Close the WW FIRE/DUCT LEAK circuit breaker.
   e. Pull and secure the WHEEL WELL FIRE IND circuit breaker.

   NOTE: The center panel FIRE light and first officer's panel WHL WELL FIRE light will extinguish. The FIRE light will continue to function for engine fire and overheat detection.

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26-17-01B

1. Brakes must be checked for coolness (when hand can be held on brake housing) prior to engine start.
2. For wheel well detection sensors failed open, no additional maintenance action is required.
3. OPTIONAL PROCEDURE *Maintenance is Required and Flight Crew May NOT Placard*: For wheel well detection sensors failed shorted (false WHEEL WELL FIRE indication), deactivate the WHEEL WELL FIRE EICAS warning message and the WHL WELL FIRE light as follows:

   a. Open WW FIRE/DUCT LEAK circuit breaker.
   b. Access P54 card file, duct leak and wheel well fire card module M691, connector D2842, pin 32.
   c. Wire bundle W1082, wire number 842R-22 connects the pin to "Y" burndy block TB276, location A20. Disconnect, cap and stow this wire to deactivate the message.
   d. Close the WW FIRE/DUCT LEAK circuit breaker.
   e. Pull and secure the WHEEL WELL FIRE IND circuit breaker.

      NOTE: The center panel FIRE light and first officer's panel WHL WELL FIRE will extinguish. The FIRE light will continue to function for engine fire and overheat detection.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
DUCT LEAK DETECTION SYSTEMS					
26-18-01A Dual Loop System (L and R Loops) -300ER PW4000 -300ER CF6-80C2 FADEC, (Except A/C1521)	**Y**	4	2	**C**	One loop in each system may be inoperative.
26-18-01B L and R Loops (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**A**	**(O)** May be inoperative provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed ISLN valve remains closed except for engine start, c) Airplane is not operated in known or forecast icing conditions, d) Airplane remains at or below FL 270, e) Appropriate performance corrections are applied, f) APU is used as air source for ADP for takeoff and landing, g) One body loop operates normally, and h) Operation is limited to 1 flight day before repairs are made.
26-18-01C L and R Loops (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**A**	**(O)** May be inoperative provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed ISLN valve remains closed except for engine start, c) Airplane is not operated in known or forecast icing conditions, d) Airplane remains at or below FL 270, e) Appropriate performance corrections are applied, f) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, g) One body loop operates normally, and h) Operation is limited to 1 flight day before repairs are made.

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ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
DUCT LEAK DETECTION SYSTEMS (CONT'D.)					
26-18-01D L and R Loops (CF6-80C2 and PW4000) **"DISP.APPR.REQ'D."**	**N**	-	1	**A**	**(O)(M)** May be inoperative provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed ISLN valve remains closed except for engine start, c) Airplane is not operated in known or forecast icing conditions, d) Airplane remains at or below FL 270, e) APU is used as air source for ADP for takeoff and landing, f) One body loop operates normally, g) Associated fan air modulation valve is secured in intermediate position, h) Appropriate performance corrections are applied, and i) Operation is limited to 1 flight day before repairs are made.
26-18-01E L and R Loops (CF6-80C2 and PW4000) **"DISP.APPR.REQ'D."**	**N**	-	1	**A**	**(O)(M)** May be inoperative provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed ISLN valve remains closed except for engine start, c) Airplane is not operated in known or forecast icing conditions, d) Airplane remains at or below FL 270, e) Performance corrections are applied, f) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, g) One body loop operates normally, h) Associated fan air modulation valve is secured in intermediate position, i) Appropriate performance adjustments are applied, and j) Operation is limited to 1 flight day before repairs are made.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	DUCT LEAK DETECTION SYSTEMS (CONT'D.)					
26-18-01F	L and R Loops (CF6-80C2 and PW4000) **"DISP.APPR.REQ'D."**	**N**	-	1	**A**	**(O)** May be inoperative provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed ISLN valve remains closed except for engine start, c) Airplane is not operated in known or forecast icing conditions, d) Airplane remains at or below FL 270, e) APU is used as air source for ADP for takeoff and landing, f) One body loop operates normally, g) Appropriate performance corrections are applied, and h) Operation is limited to 1 flight day before repairs are made.
26-18-01G	L and R Loops (CF6-80C2 and PW4000) **"DISP.APPR.REQ'D."**	**N**	-	1	**A**	**(O)** May be inoperative provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed ISLN valve remains closed except for engine start, c) Airplane is not operated in known or forecast icing conditions, d) Airplane remains at or below FL 270, e) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, f) One body loop operates normally, g) Appropriate performance corrections are applied, and h) Operation is limited to 1 flight day before repairs are made.
26-18-01H	Body Loop (Dual Loop System) -300ER PW4000 -300ER CF6-80C2 FADEC, (Except A/C1521)	**Y**	2	1	**C**	

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ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
DUCT LEAK DETECTION SYSTEMS (CONT'D.)					
26-18-01I Body Loop **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(O)** May be inoperative provided: a) APU is not used as a pneumatic source except as required for engine start, b) APU bleed air switch remains off except as required for engine start, c) Center bleed ISLN valve remains closed except as required for engine start, d) Appropriate performance corrections are applied, e) Both center electric pumps operate normally, f) Airplane remains at or below FL 270, g) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, and h) One L and one R loop operate normally. NOTE: No live animals or temperature sensitive cargo may be carried in aft and bulk cargo compartments.
26-18-01J Test Function	**N**	1	0	**C**	**(M)** May be inoperative provided detection system is verified to operate normally ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-18-01A	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01B	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01C	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01D	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01E	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01F	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01G	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01H	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01I	Associated DUCT LEAK Light	Duct Leak Detection System ___ Loop INOP
26-18-01J	Associated DUCT LEAK Light	Duct Leak Detection System Test Function INOP

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(O) PROCEDURES

26-18-01B

1. Remain clear of icing conditions.
2. Flight must remain at or below FL270.
3. Set the associated ENG bleed air switch to OFF.
4. Use APU as air source for ADP for takeoff and landing.

26-18-01B	**DUCT LEAK DETECTION SYSTEMS (L AND R LOOPS) – ADP AVAILABLE**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 700 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 700 lbs.

26-18-01C

1. Remain clear of icing conditions.
2. Flight must remain at or below FL270.
3. Set the associated ENG bleed air switch to OFF.
4. The ADP is unavailable for takeoff and landing, refer to MEL 29-11-03A (O) procedures. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03.

26-18-01C	**DUCT LEAK DETECTION SYSTEMS (L AND R LOOP) – ADP NOT AVAILABLE**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

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26-18-01D

1. Remain clear of icing conditions.
2. Flight must remain at or below FL270.
3. Set the associated ENG bleed air switch to OFF.
4. Use APU as air source for ADP for takeoff and landing.

26-18-01D	**DUCT LEAK DETECTION SYSTEMS (L AND R LOOPS) – ADP AVAILABLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 1.2%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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26-18-01E

1. Remain clear of icing conditions.
2. Flight must remain at or below FL270.
3. Set the associated ENG bleed air switch to OFF.
4. The ADP is unavailable for takeoff and landing, refer to MEL 29-11-03A (O) procedures. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03.

26-18-01E	**DUCT LEAK DETECTION SYSTEMS (L AND R LOOPS) – ADP NOT AVAILABLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 1.2%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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26-18-01F

1. Remain clear of icing conditions.
2. Flight must remain at or below FL270.
3. Set the associated ENG bleed air switch to OFF.
4. Use APU as air source for ADP for takeoff and landing.

26-18-01F	**DUCT LEAK DETECTION SYSTEMS (L AND R LOOP) – ADP AVAILABLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 7,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 2.4%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 7,000 lbs. 2. Reduce T/O CLIMB LIMIT by 7,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING by 7,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 7,000 lbs.

26-18-01G

1. Remain clear of icing conditions.
2. Flight must remain at or below FL270.
3. Set the associated ENG bleed air switch to OFF.
4. The ADP is unavailable for takeoff and landing, refer to MEL 29-11-03A (O) procedures. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03.

26-18-01G	**DUCT LEAK DETECTION SYSTEMS (L AND R LOOP) – ADP NOT AVAILABLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 7,000 lbs. 2. Increase BLOCK FUEL by 2.4%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 47,000 lbs. 2. Reduce T/O CLIMB LIMIT by 47,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING by 7,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 7,000 lbs.

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26-18-01I

1. Do not use APU as a pneumatic source except as required for engine start. The APU can be used as an electrical source.
2. Heat is not available to AFT and BULK cargo compartments. Carriage of animals and/or perishables may be impacted.
3. Flight must remain at or below FL270.
4. The ADP is unavailable for takeoff and landing, refer to MEL 29-11-03A (O) procedures. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03.

26-18-01I	**DUCT LEAK DETECTION SYSTEMS – BODY LOOP**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 40,000 lbs. 2. Reduce T/O CLIMB LIMIT by 40,000 lbs. **LANDING** None

26-18-01I	**DUCT LEAK DETECTION SYSTEMS – BODY LOOP**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

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(M) PROCEDURES

26-18-01D, 26-18-01E

Secure the associated fan air modulation valve in the intermediate posisiton. Refer to MEL 36-12-02A for (M) PROCEDURES.

26-18-01J

ONCE EACH FLIGHT DAY verify the detection system operates normally.

1. Gain access to detector loops through the ECS bay (AMM 06-41-00/201).
2. Use a heat source of approximately 260°F (127°C) to heat a section of the detector.

   NOTE: The required substitute test heat device must not produce heat greater than 450°F (232°C) in case fuel vapors exist in the area.
3. Confirm the associated DUCT LEAK light and L/R BLD DUCT LEAK or BODY DUCT LEAK message illuminates.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
26-20-01	Engine Fire Extinguisher Bottle Pressure Indicating System	**N**	2	0	**C**	**(M)** May be inoperative provided an acceptable test procedure is used ONCE EACH FLIGHT DAY to verify that associated bottle(s) is properly charged. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-20-01	Affected FIRE BTL DISCH Light	___ Engine Fire Extinguisher Bottle Pressure Indicating System INOP

(M) PROCEDURES

Check that bottle pressure switch operates normally and that bottle is charged:

1. Disconnect electrical connector from pressure switch at bottle with inoperative light circuit.
2. Connect ohmmeter between pin sockets 1 and 3 of bottle receptacle.

    a. Check for open circuit indication. Open circuit indicates pressurized bottle.
    b. Turn hex key on pressure switch CW and check for closed circuit indication.
    c. Release hex key and check for open circuit indication.

3. Reconnect electrical connector to bottle receptacle.

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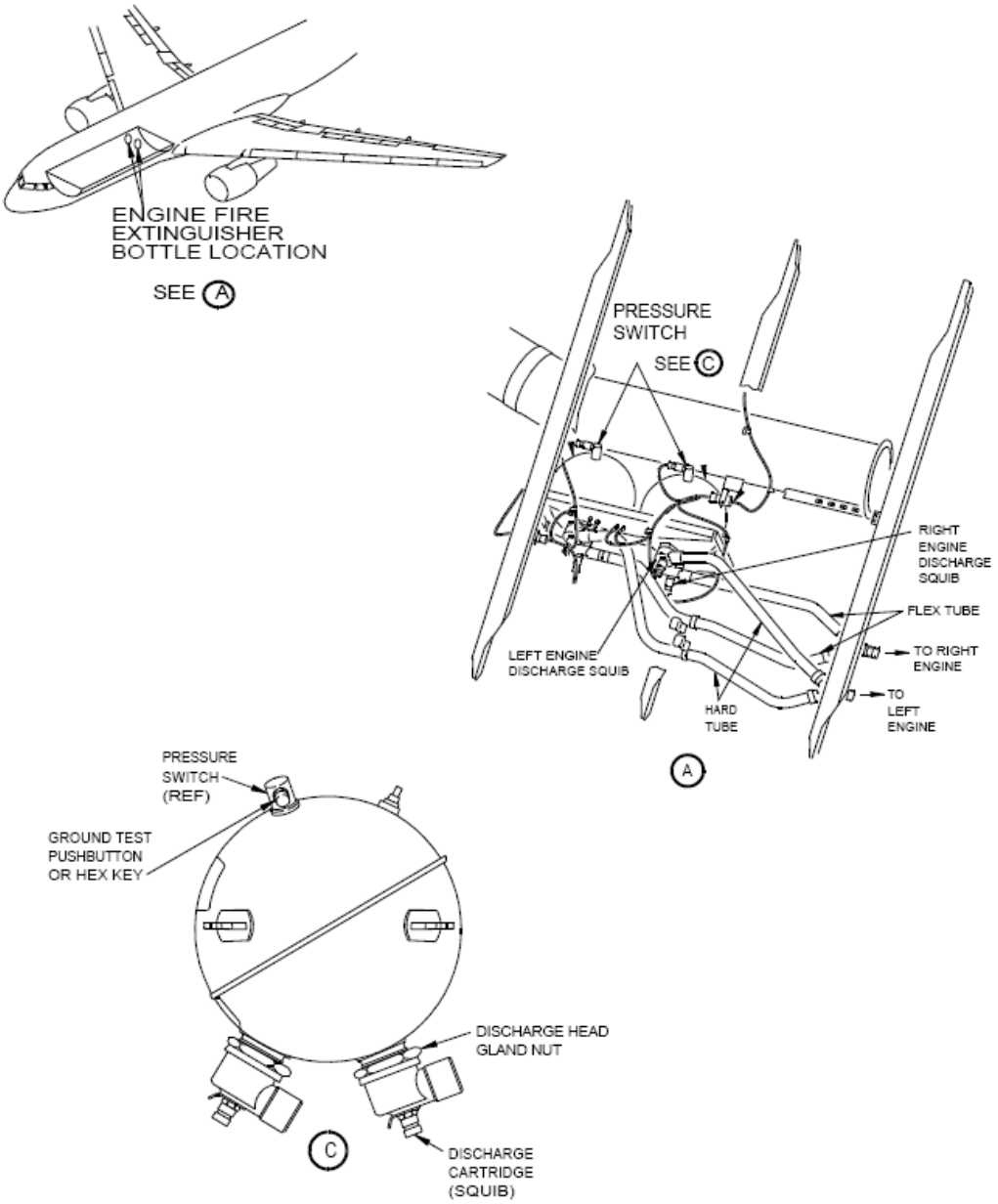

Engine Fire Extinguisher Bottle/Discharge Cartridge Installation

Optional procedure:

1. Remove the engine bottle per MM 26-21-03.
2. Weigh bottle and compare to the service weight stamped on the fire bottle side.
3. Replace serviceable bottle.
4. Cap and stow the affected bottle's Pressure Switch Connector.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-20-02A	Fire Extinguisher SQUIB TEST System	**N**	1	0	**C**	**(M)** May be inoperative or individual test functions may be inoperative provided each squib circuit associated with an inoperative test function is verified to operate normally ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**
26-20-02B	APU Squib Test Functions **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	Except for ER operations (ETOPS), may be inoperative provided APU is considered inoperative and is deferred per MEL 49-11-01A.
26-20-02C	APU Squib Test Functions **"DISP.APPR.REQ'D."**	**Y**	2	0	**B**	Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided APU is considered inoperative, and is deferred per MEL 49-11-01B.
26-20-02D	Cargo Squib Test Functions **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(O)(M)** May be inoperative provided associated cargo compartment (FWD and/or both AFT & Bulk) remains empty, or is verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
26-20-02E	Cargo Squib Test Functions **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided cargo compartments remains empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-20-02A	SQUIB TEST – P61 Panel	Fire Extinguisher SQUIB TEST System INOP
26-20-02B	SQUIB TEST – P61 Panel	APU Squib Test Function(s) INOP
26-20-02C	SQUIB TEST – P61 Panel	APU Squib Test Function(s) INOP
26-20-02D	SQUIB TEST – P61 Panel	Cargo Squib Test Function(s) INOP
26-20-02E	SQUIB TEST – P61 Panel	Cargo Squib Test Function(s) INOP

(O) PROCEDURES

26-20-02D, 26-20-02E

Refer to MEL Instructions for cargo compartment loading restrictions.

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(M) PROCEDURES

26-20-02A

ONCE EACH FLIGHT DAY, verify each squib circuit associated with an inoperative test function operates normally.

NOTE: Test each circuit for which there was no green light when the test button or buttons were pushed.

1. Fabricate a squib test lamp with pigtail leads terminating in pins. Use lamp P/N 387 (28 volt, 40 milliamp) in suitable holder.
2. Restrict personnel from the fire bottle area while testing, and limit squib current to 50 millamperes maximum.
3. Confirm the squib circuit operates normally.

   a. Remove squib test control panel (AMM 26-21-04/401).
   b. Close the open circuit breakers (to provide power to the test lamp).
   c. For APU single fire bottle configuration:

      1) Connect test lamp between sockets 7 and 12 of connector D1928.
      2) Confirm the lamp illuminates (indicates intact squib).

   d. For APU dual fire bottle configuration:

      1) For bottle 1, connect test lamp between sockets 7 and 12 of connector D1928.
      2) For bottle 2, connect test lamp between sockets 13 and 14 of connector D1928.
      3) Confirm the lamp illuminates (indicates intact squib).

   e. For engines:

      1) For Bottle 1, L Squib; connect test lamp between sockets 8 and 3 of connector D1930.
      2) For Bottle 1, R Squib; connect test lamp between sockets 9 and 4 of connector D1930.
      3) For Bottle 2, L Squib; connect test lamp between sockets 8 and 3 of connector D1928.
      4) For Bottle 2, R Squib; connect test lamp between sockets 9 and 4 of connector D1928.
      5) Confirm the lamp illuminates (indicates intact squib).

   f. For lower cargo compartment:

      1) Aircraft with two-bottle configuration:

         a) For Bottle 1, Forward Squib; connect test lamp between sockets 6 and 10 of connector D1930.
         b) For Bottle 1, Aft Squib; connect test lamp between sockets 6 and 11 of connector D1930.
         c) For Bottle 2/2A, Forward Squib; connect test lamp between sockets 6 and 10 of connector D1928.
         d) For Bottle 2/2A, Aft Squib; connect test lamp between sockets 6 and 11 of connector D1928.
         e) Confirm the lamp illuminates (indicates intact squib).

      2) Aircraft with three-bottle configuration:

         a) For Bottle 1, Forward Squib; connect test lamp between sockets 6 and 10 of connector D1930.
         b) For Bottle 1, Aft Squib; connect test lamp between sockets 6 and 11 of connector D1930.
         c) For Bottle 2, Forward Squib; connect test lamp between sockets 6 and 10 of connector D1928.
         d) For Bottle 2, Aft Squib; connect test lamp between sockets 6 and 11 of connector D1928.
         e) For Bottle 2A, Forward Squib; connect test lamp between sockets 6 and 1 of connector D1928.
         f) For Bottle 2A, Aft Squib; connect test lamp between sockets 6 and 2 of connector D1928.
         g) Confirm the lamp illuminates (indicates intact squib).

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g. Remove test lamp.
h. Open the circuit breakers identified in AMM 26-21-04/401.
i. Install squib test control panel (AMM 26-21-04/401).

26-20-02D, 26-20-02E

Refer to MEL Instructions for cargo compartment loading restrictions.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	APU FIRE EXTINGUISHER SYSTEM					
26-22-01A	APU Fire Extinguisher System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative provided APU is considered inoperative and is deferred per MEL 49-11-01A.
26-22-01B	APU Fire Extinguisher System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided APU is considered inoperative, and is deferred per MEL 49-11-01B.
26-22-01C	APU Fire Extinguisher Bottles	**Y**	2	1	**C**	
26-22-01D	APU Fire Extinguisher Bottle Pressure Indicating System	**Y**	2	1	**C**	
26-22-01E	APU Fire Extinguisher Bottle Pressure Indicating System	**N**	2	0	**C**	**(M)** May be inoperative provided an acceptable test procedure is used ONCE EACH FLIGHT DAY to verify that associated bottle(s) is properly charged. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-22-01A	APU Fire Warning Panel	APU Fire Extinguisher System INOP
26-22-01B	APU Fire Warning Panel	APU Fire Extinguisher System INOP
26-22-01C	APU Fire Warning Panel	___ APU Fire Bottle INOP
26-22-01D	APU Fire Warning Panel	___ APU Fire Bottle Pressure Indicating System INOP
26-22-01E	APU Fire Warning Panel	Both APU Fire Bottle Pressure Indicating Systems INOP

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(M) PROCEDURES

26-22-01E

Verify bottle is properly charged:

NOTE: Bottle charge can be verified two ways: electrically per step 1) or by weighing the bottle per step 2). If the electrical check passes, the airplane may be dispatched. If the electrical check fails, the failure may be in the pressure switch, and the system may still be acceptable for dispatch if the bottle charge is verified by weighing. If desired, you can bypass the electrical check and just perform the bottle weighing procedure.

1. Check that bottle pressure switch operates normally and that bottle is charged:

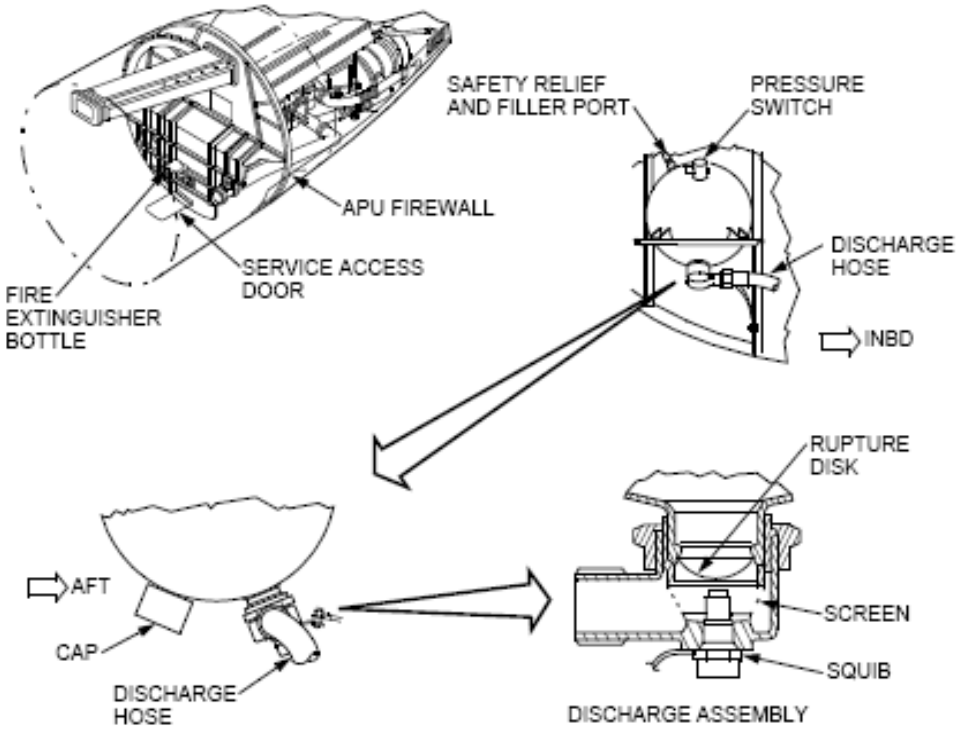
   a. Disconnect electrical connector from pressure switch at bottle with inoperative light circuit.
   b. Connect ohmmeter between pin sockets 1 and 3 of bottle receptacle.

      1) Check for open circuit indication. Open circuit indicates pressurized bottle.
      2) Push and hold the pressure switch manual-override button or turn and hold the ground test hex key 1/4 turn counterclockwise on the switch and check for closed circuit indication.
      3) Release button or hex key and check for open circuit indication.

   c. Reconnect electrical connector to bottle receptacle.

2. Optional Procedure: Weigh the bottle to ensure proper charge.

   a. Remove the bottle per AMM 26-22-02
   b. Weigh bottle and compare to the service weight stamped on the fire bottle side (+ 0.1 pound).
   c. Replace serviceable bottle per the Maintenance Manual.
   d. Cap and stow the affected bottle's Pressure Switch Connector.



APU FIRE EXTINGUISHER BOTTLE

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	CARGO COMPARTMENT FIRE EXTINGUISHER SYSTEM					
26-23-01A	Cargo Compartment Fire Extinguisher System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)** May be inoperative provided cargo compartments remains empty, or are verified to contain only empty cargo handling equipment, ballast, and/or flyaway kits (see MEL Instructions).
26-23-01B	Fire Extinguisher Bottles (Two and Three Bottle System) **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(O)** Extinguisher bottle No. 2 or 2A may be inoperative with cargo carried in compartments provided: a) Airplane is operated pressurized, and b) A chart is provided to determine time airplane must remain in proximity to a suitable airport.
26-23-01C	Fire Extinguisher Bottle Pressure Indicating System **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(M)** May be inoperative provided an acceptable test procedure is used ONCE EACH FLIGHT DAY to verify that associated bottle(s) is properly charged (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**.
26-23-01D	Fire Extinguisher Bottle Pressure Indicating System **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(O)** May be inoperative provided: a) Associated fire bottle(s) is considered inoperative, b) Airplane is operated pressurized, and c) A chart is provided to determine time airplane must remain in proximity to a suitable airport.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-23-01A	Cargo Fire Warning Panel	Cargo Compartment Fire Extinguisher System INOP
26-23-01B	Cargo Fire Warning Panel	Cargo Compartment ___ Fire Bottle INOP
26-23-01C	Cargo Fire Warning Panel	___ Fire Extinguisher Bottle(s) Pressure Indicating System INOP
26-23-01D	Cargo Fire Warning Panel	___ Fire Extinguisher Bottle(s) Pressure Indicating System INOP

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(O) PROCEDURES

26-23-01A

Refer to MEL Instructions for cargo compartment loading restrictions.

26-23-01B, 26-23-01D

Refer to chart for dispatch and distance from a suitable airport:

Aircraft Type	Designated Name	Inoperative Bottle	Distance from Suitable Airport
-300 CF6-80A2	60 Minute System	No. 1 No. 2	No Dispatch 30 Minutes
-300 PW4000 -300ER PW4000 -300ER CF6-80C2 -3P6ER CF6-80C2	195 Minute System	No. 1 No. 2 No. 2A	No Dispatch 70 Minutes 130 Minutes

(M) PROCEDURES

26-23-01C

Verify that fire bottle is properly charged as follows:

NOTE: Bottle charge can be verified two ways: electrically per step 1. or by the optional bottle weighing procedure per step 2. If the electrical check passes, the airplane may be dispatched. If the electrical check fails, the failure may be in the pressure switch, and the system may still be acceptable for dispatch if the bottle charge is verified by weighing. If desired, the electrical check may be bypassed in order to go straight to the bottle weighing procedure.

1. Check that bottle pressure switch operates normally and that bottle is charged:

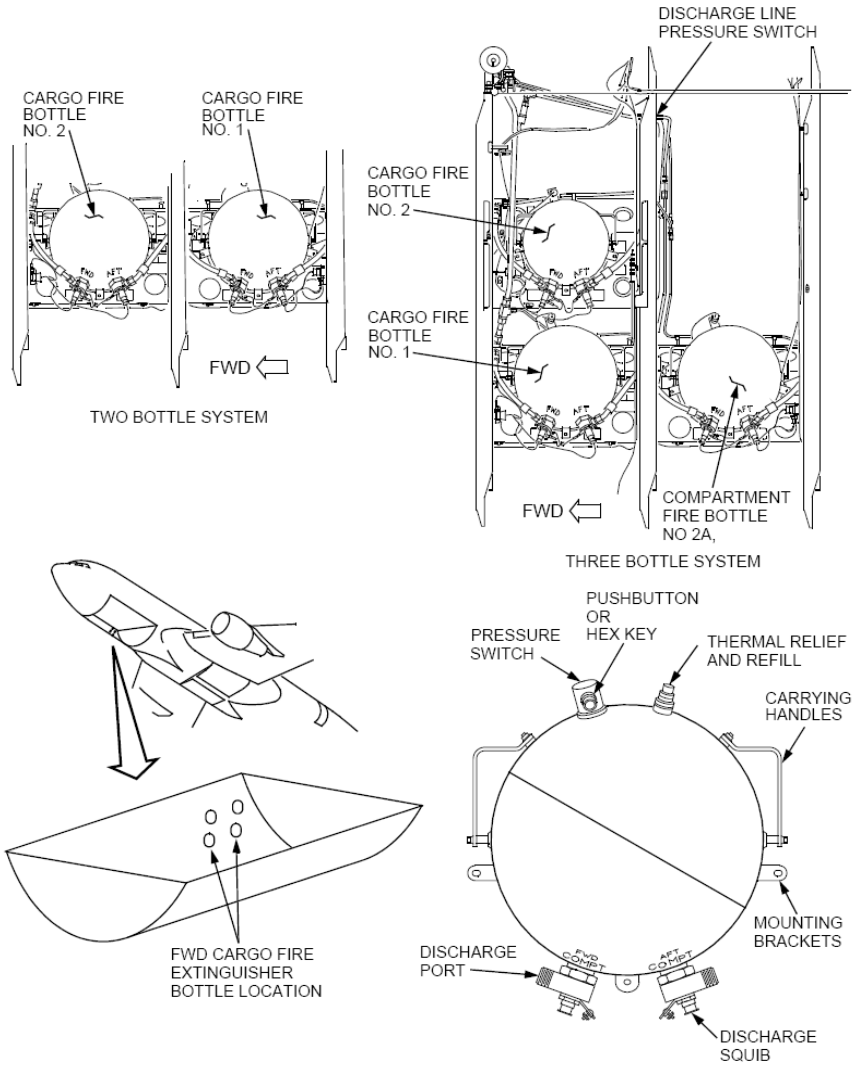
   NOTE: For airplanes equipped with a single cargo fire bottle discharge switch, perform the following procedure for both cargo fire bottles. For airplanes with dual cargo fire bottle discharge switches, perform the following procedure for the bottle associated with the inoperative pressure indicating system.

   a. Disconnect electrical connector from pressure switch at bottle with inoperative light circuit.
   b. Connect ohmmeter between pin sockets 2 and 3 of bottle receptacle.
      1) Check for open circuit indication. Open circuit indicates pressurized bottle.
      2) Press test switch on end of pressure switch or turn hex key 1/4 turn counterclockwise and check for closed circuit indication.
      3) Release test switch or hex key and check for open circuit indication.
   c. Reconnect electrical connector to bottle receptacle.

CONTINUED NEXT PAGE

2. Optional Bottle Weighing Procedure:

   a. Remove the bottle per AMM 26-23-02.
   b. Weigh bottle and compare to the service weight stamped on the fire bottle side (+ 0.1 pound).
   c. Replace serviceable bottle per the Maintenance Manual.
   d. Cap and stow the affected bottle's Pressure Switch Connector.



CARGO FIRE EXTINGUISHER BOTTLE/DISCHARGE CARTRIDGE INSTALLATION

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-26-01	Portable Fire Extinguishers (Cabin Only)	**Y**	-	4	**C**	**(M)** May be inoperative provided: a) At least two of the remaining fire extinguisher(s) are HALON 1211 type units and 1 is located in cockpit, b) Inoperative fire extinguisher is tagged inoperative, removed from installed location and placed out of sight so it can not be mistaken for a functional unit, and c) Remaining extinguishers are distributed equally throughout aircraft.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-26-01	Logbook	___ Portable Fire Extinguisher INOP

(M) PROCEDURES

1. Stow the out-of-service extinguisher in a place where it will not be used by mistake, until it can be removed from the airplane at the next available maintenance base.
2. Ensure required distribution of serviceable extinguishers is maintained throughout the airplane.
3. It may be possible to interchange halon extinguishers located in the cabin with the halon extinguisher in the crew rest module or vice versa provided applicable MEL restrictions are adhered to.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-26-02A	Lavatory Fire Extinguisher System	**Y**	-	0	**C**	For each lavatory, lavatory fire extinguisher system may be inoperative provided associated Lavatory Smoke Detection System operates normally.
26-26-02B	Lavatory Fire Extinguisher System **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** 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 provisos are not intended to prohibit lavatory use or inspections by crewmembers.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-26-02A	Logbook	___ Lavatory Fire Extinguisher(s) INOP
26-26-02B	Logbook	___ Lavatory Fire Extinguisher(s) INOP

(O) PROCEDURES

26-26-02B

Ensure that the associated lavatory door remains locked and is not entered except for use or inspection by crewmembers.

(M) PROCEDURES

26-26-02B

1. Check that the lavatory waste receptacle is empty.
2. For associated lavatory(s):

   a. Close and lock lavatory door.
   b. Placard the door: INOPERATIVE - DO NOT ENTER.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
26-26-03A	Lavatory Smoke Detection Systems **"DISP.APPR.REQ'D."**	**Y** -	0	**C**	**(O)(M)** For each lavatory, 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", and c) Lavatory is used only by crewmembers. NOTE: These provisos are not intended to prohibit lavatory use or inspections by crewmembers.
26-26-03B	Lavatory Call Light Smoke Detected Function	**Y** -	0	**C**	NOTE: Attendant call and occupancy indications are considered NEF.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
26-26-03A	Logbook	___ Lavatory Smoke Detector(s) INOP
26-26-03B	Logbook	___ Lavatory Smoke Detected Function INOP

(O) PROCEDURES

26-26-03A

Ensure that the associated lavatory door remains locked and is not entered except for use or inspection by crewmembers.

(M) PROCEDURES

26-26-03A

1. Check that the lavatory waste receptacle is empty.
2. For associated lavatory(s):

   a. Close and lock lavatory door.
   b. Placard the door: INOPERATIVE - DO NOT ENTER.
   c. If airplane is equipped with LAV SMOKE DETECTOR REMOTE INDICATION PANELS:

      1) Placard indicator light as appropriate - LAV X DETECTOR INOP.
      2) Push RESET button on remote indication panel.

         NOTE: The system must be reset after a failure has been detected during self test. This ensures proper operation of indication panel for remaining operative detectors.

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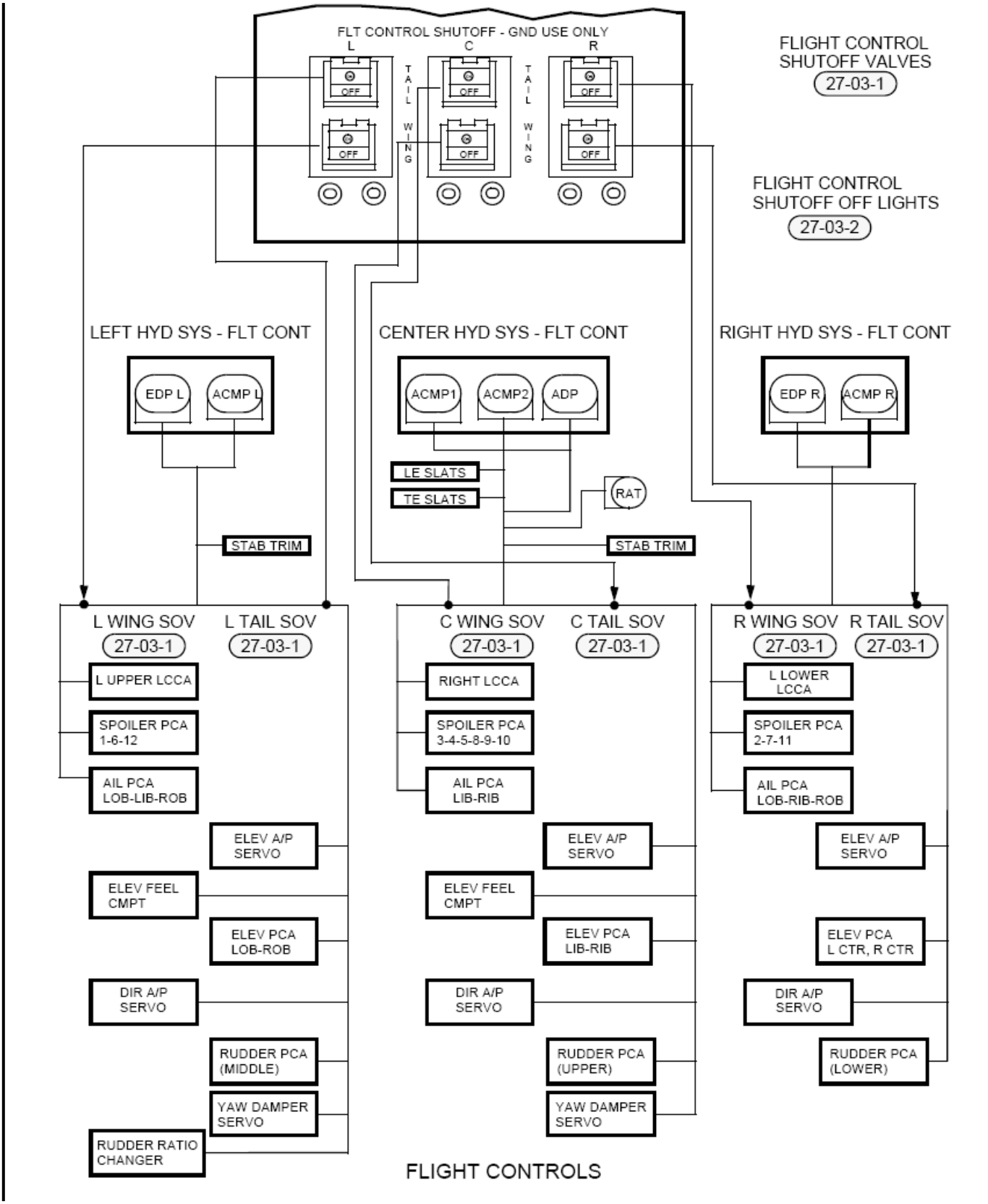
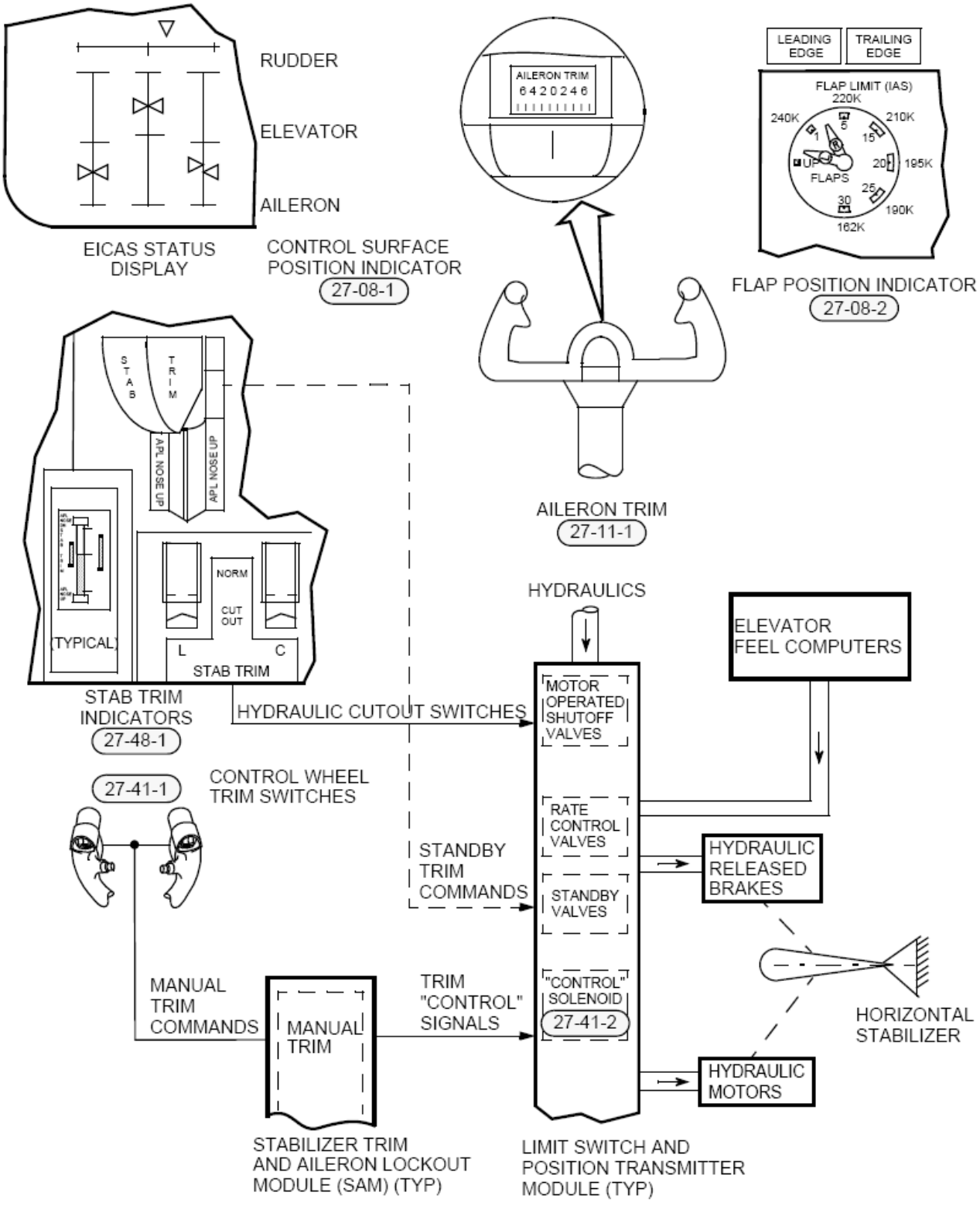
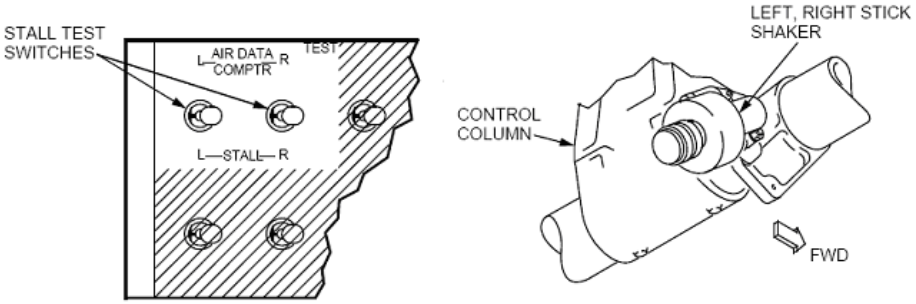


FLIGHT CONTROLS



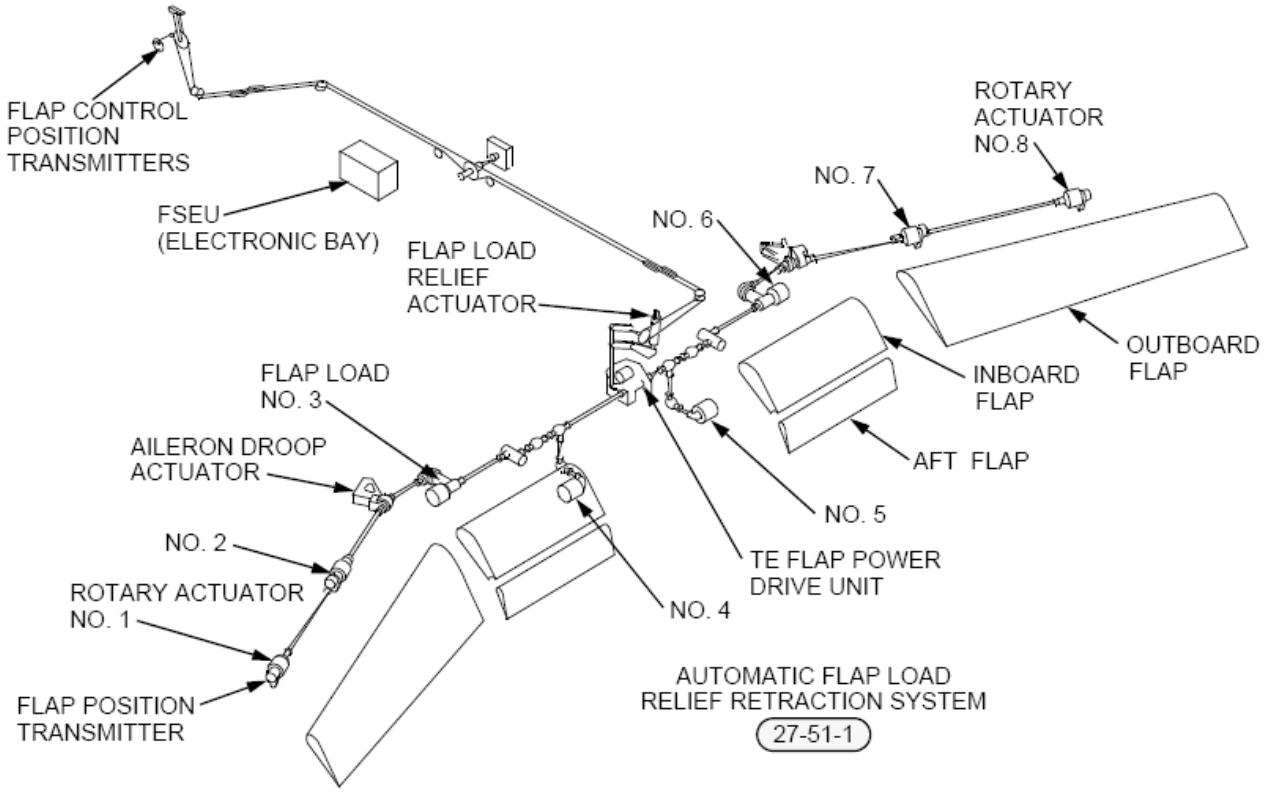
STABILIZER TRIM CONTROL SYSTEM

RUDDER RATIO LIGHT
27-21-1

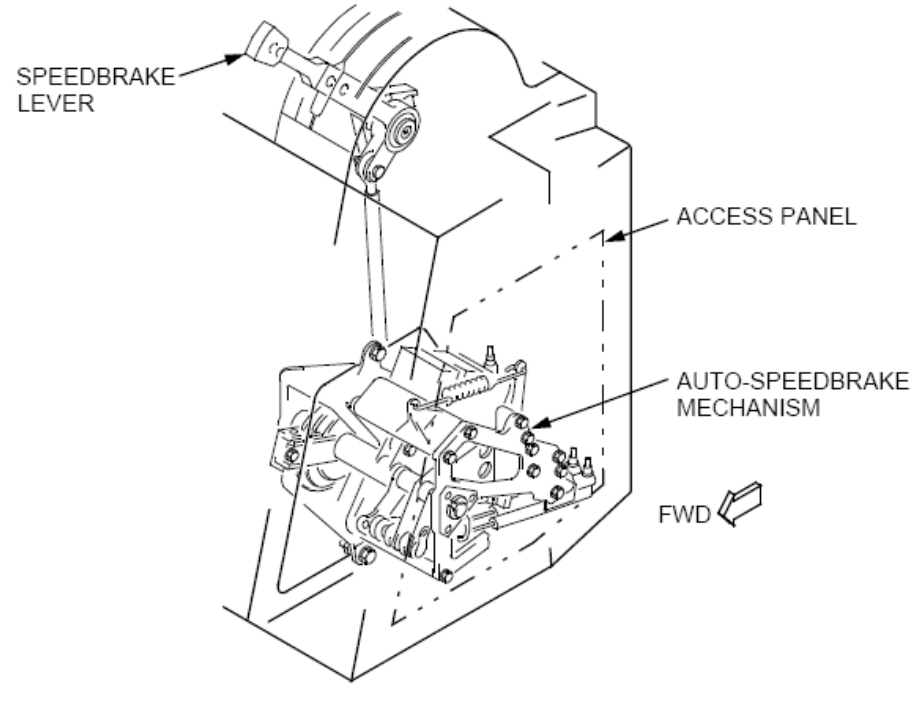


MISCELLANEOUS TEST PANEL
(-200/-300 SHOWN)

STALL WARNING TEST SYSTEM
27-32-1



AUTOMATIC FLAP LOAD RELIEF RETRACTION SYSTEM
27-51-1



SPEED BRAKES

SPEEDBRAKE CAUTION INDICATION SYSTEM
27-62-2

AUTO SPEEDBRAKE SYSTEM
27-62-1

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-03-01	FLT CONTROL SHUTOFF Valves	**N**	6	0	**C**	**(M)** May be inoperative OPEN.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-03-01	FLT CONTROL SHUTOFF Valve Panel – P61	___ FLT CONTROL SHUTOFF Valve(s) INOP

(M) PROCEDURES

WARNING: ENSURE PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

Verify affected valve(s) is open by pressurizing the appropriate hydraulic system and displacing control column or control wheel, as appropriate, while observing flight control deflection on EICAS.

1. Establish communications between the flight deck and ground or an observer. (EICAS control surface position may also be used.)
2. Pressurize only the hydraulic system that has the inoperative FLT CONTROL SHUTOFF Valve.

VALVE INOPERATIVE	FLIGHT DECK	GROUND OBSERVATION
L TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
L WING	Control Wheel Full Left	Observe left ailerons up
C TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
C WING	Control Wheel Full Left	Observe left inboard aileron up, right inboard aileron down
R TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
R WING	Control Wheel Full Right	Observe right ailerons up, left outboard aileron down

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-03-02	FLT CONTROL SHUTOFF OFF Lights	**N**	6	0	**C**	**(M)** May be inoperative provided associated valve is verified open PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-03-02	FLT CONTROL SHUTOFF Panel – P61	___ FLT CONTROL SHUTOFF Light(s) INOP

(M) PROCEDURES

WARNING: ENSURE PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

1. Establish communications between the flight deck and ground or an observer. (EICAS control surface position may also be used.)
2. Pressurize only the hydraulic system that has the inoperative FLT CONTROL SHUTOFF OFF light.

LIGHT INOPERATIVE	FLIGHT DECK	GROUND OBSERVATION
L TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
L WING	Control Wheel Full Left	Observe left ailerons up
C TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
C WING	Control Wheel Full Left	Observe left inboard aileron up, right inboard aileron down
R TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
R WING	Control Wheel Full Right	Observe right ailerons up, left outboard aileron down

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-08-01	Control Surface Position Indicating System	**N**	1	0	**C**	**(M)** May be inoperative provided a visual flight control check is accomplished PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-08-01	Near Lower EICAS Display	Control Surface Position Indicating System INOP

(M) PROCEDURES

WARNING: KEEP PERSONNEL AND EQUIPMENT CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

1. Establish communications - flight deck to ground or an observer.
2. Pressurize all hydraulic systems (engines, Electrically Driven, or Air Driven Hydraulic Pumps running).

FLIGHT DECK	GROUND OBSERVATION
Control Wheel Full Left	a. Observe that all left wing spoilers extend. NOTE: The two inboard spoilers will extend approximately 20°. The four outboard spoilers will extend approximately 45°. b. Observe left ailerons up, right ailerons down. NOTE: Inboard aileron deflection will be approximately 21° up or down. Outboard aileron deflection will be approximately 30° up and 15° down.
Control Wheel Full Right	a. Observe that all right wing spoilers extend (as above). b. Observe right ailerons up, left ailerons down (as above).
Control Column Full Aft then Full Forward	Observe both elevators up, then down. NOTE: Elevator deflection will be trailing edge approximately 28° up, 20° down.
Push Pedals for Full Left Rudder, then Full Right Rudder	Observe rudder moves left, then right. NOTE: Rudder deflection will be approximately 26° left or right.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-08-02	Flap Position Indicator System (Position Needles)	**Y**	2	1	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-08-02	Flap Position Indicator	___ Flap Position Indicator INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-11-01 Aileron Trim System	**N**	1	0	**C**	**(M)** May be inoperative provided: a) One autopilot operates normally, and b) Aileron trim system is verified centered.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-11-01	Aileron Trim Panel	Aileron Trim System INOP

(M) PROCEDURES

Verify the aileron trim system is centered.

1. Confirm aileron positioning on the lower EICAS display.
2. For aileron trim system centered, open and collar the P11 panel AILERON TRIM circuit breaker to prevent system movement.
3. For aileron trim system not centered, install a dummy link to center the system:
   a. Remove the aileron trim actuator (AMM 27-11-09/401).
   b. Cap and secure the electrical connector.
   c. Align rig pin holes A-6 and install the rigging pin.
   d. Install aileron trim actuator dummy link, part number A27088-18 or equivalent.
   e. Remove the rigging pin from pin holes A-6.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-11-02A	Outboard Aileron Lockout System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative unlocked provided maximum airspeed limit is 270 KIAS or 0.73 Mach, whichever is less.
27-11-02B	Outboard Aileron Lockout System (Indication System)	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided aileron lockout system is verified to operate normally PRIOR TO EACH DEPARTURE. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-11-02A	Near Lower EICAS Display	Outboard Aileron Lockout System INOP
27-11-02B	Near Lower EICAS Display	Outboard Aileron Lockout System INOP

(O) PROCEDURES

27-11-01A, 27-11-02B

Avoid large or abrupt aileron control inputs above maximum flap extension speed. Exercise caution to prevent excessive roll response.

(M) PROCEDURES

27-11-02A

Deactivate the aileron lockout actuators and verify the outboard ailerons are unlocked.

1. Open and collar the following P11 panel circuit breakers:
   a. AILERON LOCKOUT, LEFT
   b. AILERON LOCKOUT, RIGHT
2. Select STATUS on the EICAS DISPLAY panel to display the flight controls position indications.
3. Turn the control wheel to its full clockwise position and do these checks:
   a. Confirm the control wheel moves smoothly through its full travel range.
   b. Confirm the two left ailerons move down and the two right ailerons move up.
   c. Confirm the ailerons move smoothly through their full travel range.
4. Turn the control wheel to its full counterclockwise position and do these checks:
   a. Confirm the control wheel moves smoothly through its full travel range.
   b. Confirm the two left ailerons move up and the two right ailerons move down.
   c. Confirm the ailerons move smoothly through their full travel range.

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27-11-02B

PRIOR TO EACH DEPARTURE verify the aileron lockout system operates normally.

1. Supply hydraulic pressure (AMM 29-11-00/201) for the left, center, and right hydraulic systems.
2. Select STATUS on the EICAS DISPLAY panel to display the flight controls position indications.
3. Turn the control wheel to full left or right.
4. Confirm the outboard ailerons indicate full movement.
5. Press the P61 TEST panel L(R) AIR DATA COMPTR switch for 2 to 3 seconds.
6. Confirm the outboard aileron indication moves to neutral.
7. After approximately 35 seconds, confirm the outboard aileron indication moves back to full movement position corresponding to the control wheel.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-21-01 Rudder Ratio Light	**N**	1	0	**C**	**(M)** May be inoperative off provided: a) RUDDER RATIO message on EICAS is verified to operate normally, and b) Both control channels operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-21-01	Rudder Ratio Light	Rudder Ratio Light INOP

(M) PROCEDURES (Reproduced from M.M. 27-21-00-05)

1. Supply electrical power.
2. Make sure these circuit breakers on the overhead P11 panel are closed:

   a. EICAS (6 locations)
   b. 11A10 AIR DATA CMPTR L
   c. 11F30 AIR DATA CMPTR R
   d. 11L9 LEFT ENGINE OIL PRESS
   e. 11L36 RIGHT ENGINE OIL PRESS

3. Push the status button on the pilot's display select panel, P9, to show the rudder position indicator on the bottom EICAS display.
4. Make sure that these circuit breakers on the P11 panel are closed:

   a. 11H17 FLT SHUTOFF TAIL LEFT
   b. 11H18 FLT SHUTOFF TAIL CTR

5. Move the FLT CONTROL SHUTOFF TAIL L, C, AND R switches on the right side panel, P61, to ON. Make sure that the amber switch position legend lights are OFF.

   WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM ALL CONTROL SURFACES WHEN HYDRAULIC POWER IS SUPPLIED. AILERONS, ELEVATORS, RUDDER, FLAPS, SLATS, SPOILERS AND STABILIZER ARE FULLY POWERED SURFACES. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR WHEN HYDRAULIC POWER IS SUPPLIED.

6. Supply pressure to the left, center and right hydraulic systems.
7. Turn the captain's pedal adjustment crank full clockwise and then counterclockwise. Make sure that the rudder pedals move in a longitudinal direction.
8. Do the above step again for the first officer's controls.
9. Push the left and right pedals to their travel limits and release. Make sure the pedals move smoothly and do not need too much force. Make sure that the pedals go back to their neutral position.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-21-03	Rudder Trim Indication System	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Rudder trim actuator operates normally, b) Rudder control surface position indicating system operates normally, and c) Rudder trim is verified to be centered PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-21-03	Rudder Trim Indicator	Rudder Trim Indication System INOP

(M) PROCEDURES

1. Ensure rudder trim actuator operates normally:
   a. Establish electrical power and hydraulic power.
   b. Select STATUS on the EICAS display select panel to display the flight controls position indications.
   c. Rotate the rudder trim control to NOSE LEFT.
      1) On both Captain's and First Officer's sides, observe that left rudder pedals move forward and right rudder pedals move aft.
      2) Also observe that rudder position indication on EICAS indicates rudder moving to left.
   d. Rotate the rudder trim control to NOSE RIGHT.
      1) On both Captain's and First Officer's sides, observe that left rudder pedals move aft and that right rudder pedals move forward.
      2) Also observe that rudder position indication on EICAS indicates rudder moving to right.
2. Before each departure, verify rudder trim is centered:
   a. Return rudder trim to neutral position by rotating the rudder trim control as required until rudder pedals are aligned and rudder position indication on EICAS shows rudder is centered.
   b. Restore airplane to required configuration.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-32-01 Stall Warning Test Systems	**N**	2	0	**C**	**(M)** May be inoperative provided operation of associated systems is verified ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-32-01	Stall Warning Test – P61 Panel	___ Stall Warning Test System(s) INOP

(M) PROCEDURES

Check the Warning Electronics Unit (WEU) bite module on the P51 panel for fault indication. If a fault code is displayed perform proper maintenance. In the absence of board faults or interface anomalies, the airframe configuration code and option code will be displayed. If the stall warning test still fails, proceed with the following steps:

1. Check that trailing edge flaps and leading edge slats are fully retracted with flap lever in zero (flaps up) detent.
2. Provide electrical power.

WARNING: KEEP PERSONNEL AND EQUIPMENT CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

3. Pressurize center hydraulic system.
4. Position flap lever in 25 unit detent, check that flaps and slats extend.
5. Check that left and right angle-of-attack vanes are parallel to ground.
6. Provide a pressure source to pressurize upper left and/or upper right pitot-static probes to 150 knots (0.55 psig regulated air pressure) (AMM 34-11-00).
7. Check that left stall warning system is operational:
   a. Open PROBE HT, L AOA (P6) and AIR/GND SYS 1 (P11) circuit breakers.
   b. Check that left AOA vane is cool enough to touch. If not, wait until vane cools.
   c. Rotate left AOA vane counterclockwise (vane trailing edge up) approximately 20°, and check that left stick shaker shakes control columns.
   d. Rotate left AOA vane to original position, and check that left stick shaker stops shaking.
   e. Close PROBE HT, L AOA (P6) and AIR/GND SYS 1 (P11) circuit breakers.
8. Check that right stall warning system is operational:
   a. Open PROBE HT, R AOA (P6), and LDG GR POS AIR/GND SYS 2 and GR POS AIR/GND SYS 2 ALT (if installed) (P11) circuit breakers.
   b. Check that right AOA vane is cool enough to touch. If not, wait until vane cools.
   c. Rotate right AOA vane clockwise (Vane trailing edge up) approximately 20°, and check that right stick shaker shakes control columns.
   d. Rotate right AOA vane to original position, and check that right stick shaker stops shaking.
   e. Close PROBE HT, R AOA (P6), and LDG GR POS AIR/GND SYS 2 and GR POS AIR/GND SYS 2 ALT (if installed) (P11) circuit breakers.

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9. Position lever in the UP detent and check that flaps and slats retract.
10. Check that stick nudger system is operational.
    a. Open PROBE HT, L and R AOA (P6), and AIR/GND SYS 1, LDG GR POS AIR/GND SYS 2 and GR POS AIR/GND SYS 2 ALT (if installed) (P11) circuit breakers.
    b. Check that left and right AOA vanes are cool enough to touch. If not, wait until vane cools.
    c. Rotate left AOA vane counterclockwise and right AOA vane clockwise (both trailing edge up) approximately 20°, and
        1) Check that both control columns move forward and remain forward.
        2) Both stick shakers activate.
    d. Rotate the left (or right) AOA vane to its original position and check that:
        1) Both control columns return to original centered position
        2) The left (or right) stick shaker stops
        3) The right (or left) stick shaker continues to shake both columns
    e. Rotate the remaining AOA vane to original position and check that stick shaker activity ceases.
    f. Close PROBE HT, L and R AOA (P6), and AIR/GND SYS 1, LDG GR POS AIR/GND SYS 2 and GR POS AIR/GND SYS 2 ALT (if installed) (P11) circuit breakers.
11. Restore plane to normal.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-41-01	Control Wheel Trim Switch Systems **"DISP.APPR.REQ'D."**	**N**	2	1	**B**	**(M)** May be inoperative on non-flying pilot's side provided stabilizer trim system is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-41-01	Associated Stab Trim Indicator	___ Control Wheel Trim Switch INOP

NOTE: If the Captain's Control Wheel Trim Switches are affected, review the route of flight to determine if additional restrictions apply. Additional restrictions may include CAT II/III approaches or any other operation where the Captain is required to be the Pilot Flying.

(M) PROCEDURES

1. Provide electric power.
2. Provide left and center hydraulic systems power.

WARNING: KEEP PERSONNEL AND EQUIPMENT CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

3. Check that LEFT and CENTER STAB TRIM SHUTOFF VALVE circuit breakers (P11) are closed.
4. Place left stabilizer trim shutoff valve switch on control stand in NORM and center stabilizer trim shutoff valve switch in CUTOUT.

    a. Move either captain's or first officer's stabilizer trim control switches on control wheel up and down.
    b. Move both stabilizer manual trim levers (electric alternate trim switches) on control stand full forward and full aft, and check that stabilizer leading edge moves up and down.

5. Place left stabilizer trim shutoff valve switch in CUTOUT and center stabilizer trim shutoff valve switch in NORM.

    a. Move either captain's or first officer's stabilizer trim control switches on control wheel up and down.
    b. Move both stabilizer manual trim levers (electric alternate trim switches) on control stand full forward and full aft, and check that stabilizer leading edge moves up and down.

6. Place left stabilizer trim shutoff valve switch in NORM.
7. Remove electric and hydraulic power.
8. Check that no arm or control valve is failed in the energized position.

    a. Place the left and center stabilizer trim shutoff valve switches in NORM.
    b. Move the left stabilizer manual trim lever (electric alternate trim switch) on the control stand in both the airplane nose up and airplane nose down directions. Verify that the stabilizer does not move. If the stabilizer does move, an arm or control valve is failed in the energized position and dispatch is not allowed until repairs are made.
    c. Move the right stabilizer manual trim lever (electric alternate trim switch) on the control stand in both the airplane nose up and airplane nose down directions. Verify that the stabilizer does not move. If the stabilizer does move, an arm or control valve is failed in the energized position and dispatch is not allowed until repairs are made.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-41-02	Horizontal Stabilizer Primary Trim Channels **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Horizontal stabilizer trim is verified to operate normally using stabilizer trim levers (Alternate Stabilizer Trim Switches), b) Approach minimums do not require use of three autopilots, c) No arm or control valves are failed in energized position, and d) Associated autopilot is not used. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-41-02	Associated Stab Trim Indicator	___ Horizontal Stabilizer Primary Trim Channel INOP

(O) PROCEDURES

STAB TRIM light may illuminate. If light illuminates, trimming using the control wheel switches will be reduced to half the normal rate.

NOTE: **(M) PROCEDURES** confirm full trim rate is available from the alternate trim system prior to dispatch.

(M) PROCEDURES

NOTE: MEL relief under this item is for certain failures in one primary trim channel. A primary trim control channel consists of the control wheel stab trim switches and associated wiring through the respective left/right SAMs and STCMs. Depending on the failure, the STAB TRIM light may or may not illuminate. While it may not be possible to precisely determine the exact failure, dispatch is permitted with less than full trim rate available from the control wheel switches provided the following procedure confirms full rate trim is available through the alternate trim system.

Verify horizontal stabilizer trim operates normally using the stabilizer trim levers (or electric alternate stabilizer trim switches), and confirm no arm or control valve is failed in the energized position.

1. Provide electric power.
2. Provide left and center hydraulic systems power.

WARNING: KEEP PERSONNEL AND EQUIPMENT CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

CONTINUED NEXT PAGE

3. Confirm the following P11 panel circuit breakers are closed:
   a. SHUT OFF VALVE, STAB TRIM, LEFT
   b. SHUT OFF VALVE, STAB TRIM, C

4. Set the left stabilizer cutout switch on the control stand to NORM and the center stabilizer cutout switch to CUTOUT.

   a. Move either the captain's or the first officer's stabilizer trim control switches on the control wheel up and down. If the stabilizer does not move as commanded, the left stabilizer trim control module is inoperative.
   b. Move both stabilizer manual trim levers (or electric alternate trim switches) on the control stand full forward and full aft. Confirm the stabilizer leading edge moves up and down.

5. Set the left stabilizer cutout switch to CUTOUT and the center stabilizer cutout switch to NORM.

   a. Move either the captain's or the first officer's stabilizer trim control switches on the control wheel up and down. If the stabilizer does not move as commanded, the right stabilizer trim control module is inoperative.
   b. Move both stabilizer manual trim levers (or electric alternate trim switches) on the control stand full forward and full aft, and confirm that the stabilizer leading edge moves up and down.

6. Set the left stabilizer cutout switch to NORM.

   a. Move the left stabilizer manual trim lever (or electric alternate trim switch) on the control stand in both the airplane nose up and airplane nose down directions. Confirm that the stabilizer does not move.
   b. Move the right stabilizer manual trim lever (or electric alternate trim switch) on the control stand in both the airplane nose up and airplane nose down directions. Confirm that the stabilizer does not move.

7. Remove electrical and hydraulic power.
8. Placard the autopilot channel associated with the inoperative stabilizer trim control module (STCM) – DO NOT USE.

NOTE: It is not necessary to perform the (M) PROCEDURES for the inoperative autopilot.

	NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-48-01	STAB TRIM Indicators	**Y**	2	1	**C**	May be inoperative provided faulty indicator is not visible.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-48-01	Affected Stab Trim Indicator	___ STAB TRIM Indicator INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	AUTOMATIC FLAP LOAD RELIEF RETRACTION					
27-51-01A	Actuator Rod End Down (-300 CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative in normal (actuator extended) position provided flaps 30 are not used. NOTE: Flaps 25 may be used to AFM limit maximum landing weight.
27-51-01B	Actuator Rod End Up (-300 PW4000 -300ER PW4000, -3P6ER CF6-80C2, -300ER CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative in normal (actuator retracted) position provided Flaps 25 and Flaps 30 adjusted maximum landing weights are observed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-51-01A	Near Flap Position Indicator	Automatic Flap Load Relief INOP
27-51-01B	Near Flap Position Indicator	Automatic Flap Load Relief INOP

(O) PROCEDURES

27-51-01A

27-51-01A	**AUTOMATIC FLAP LOAD RELIEF RETRACTION**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 27-51-01A.**

CONTINUED NEXT PAGE

27-51-01B

27-51-01B	AUTOMATIC FLAP LOAD RELIEF RETRACTION
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (76G)** **-3P6ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** Flaps 30 Max Landing Weight 236,600 lbs. Flaps 25 Landing NOT permitted with 27-51-01B manual dispatch.

(M) PROCEDURES

27-51-01A

Confirm the automatic flap load relief actuator position.

1. Gain access to the actuator (AMM 27-51-30/401).
2. Confirm the actuator is in the extended (normal) position.
3. If needed, the actuator can be removed and replaced with a dummy link set per the following:
    a. Cap and secure the electrical connector.
    b. Remove the actuator (AMM 27-51-30/401).
    c. Install dummy link set P/N A27107-1.

27-51-01B

Confirm the automatic flap load relief actuator position.

1. Gain access to the actuator (AMM 27-51-30/401).
2. Confirm the actuator is in the retracted (normal) position.
3. If needed, the actuator can be removed and replaced with a dummy link set per the following.
    a. Cap and secure the electrical connector.
    b. Remove the actuator (AMM 27-51-30/401).
    c. Install dummy link set P/N A27107-1.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-61-01 Speed Brake Load Alleviation System (A/C 172,174,179,185-187, 191-192, 194, 1607-1613) **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Speedbrake handle forces are verified normal from full down to full up position, and b) Airspeed does not exceed 290 KIAS, or .84 Mach, whichever is lower, when inflight gross weight is in excess of 340,000 pounds (154,545 kg)

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-61-01	Spoiler Handle	Speed Brake Load Alleviation System Inop

(O) PROCEDURES

Speed restrictions apply to Restricted Critical Terrain Routes, refer to Airway Manual, Chapter 11.

27-61-01	**SPEED BRAKE LOAD ALLEVIATION SYSTEM *USE WITH AIRSPEED LIMITATION***
EFFECTIVITY	**A/C 172, 174, 179, 185-187, 191-192, 194, 1607-1613**
FLIGHT PLANNING REQUIREMENTS	Airspeed does not exceed 290 KIAS or .84 Mach, whichever is lower, when inflight gross weight is in excess of 340,000 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

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27-61-01	**SPEED BRAKE LOAD ALLEVIATION SYSTEM *USE WITH TAKEOFF WEIGHT LIMITATION***
EFFECTIVITY	**A/C 172, 174, 179, 185-187, 191-192, 194, 1607-1613**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Enter Structural Takeoff Weight of 340,000 lbs. under Aircraft Weight Limitations.

(M) PROCEDURES

Deactivate the speed brake autostow controller and verify speedbrake handle forces are normal.

1. Supply electrical power.
2. Confirm airplane is in GROUND mode.
3. Pull and secure SPDBRK AUTOSTOW circuit breaker located on the P6 panel.
4. Open the P11 panel AUTO SPEED BRAKE circuit breaker.
5. Set the speedbrake lever to UP and then back to DOWN. Confirm the speedbrake handle forces are normal throughout the range of motion.
6. Gain access to the speedbrake autostow controller (SAC).
7. Remove the airplane harness connector from the SAC and remove the cover from the adjacent test connector.
8. Install the airplane harness connector on the adjacent test connector and install the test cover on the SAC connector.
9. Close the P11 panel AUTO SPEED BRAKE circuit breaker.
10. Confirm the AUTO SPDBRK light is extinguished.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-62-01A	Auto Speed Brake System Without Speed Brake Load Alleviation System (All A/C except 172, 174, 179, 185-187, 191-192, 194, 1607-1613) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) System is deactivated, and b) Performance adjustments are applied.
27-62-01B	Auto Speed Brake System With Speed Brake Load Alleviation System (A/C 172, 174, 179, 185-187, 191-192, 194, 1607-1613) **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)**May be inoperative provided: a) System is deactivated, b) Speedbrake handle forces are verified normal from full down to full up position, c) Appropriate performance adjustments are applied, and d) Airspeed does not exceed 290 KIAS, or .84 Mach, whichever is lower, when inflight gross weight is in excess of 340,000 pounds (154,545 kg)

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-62-01A	AUTO SPD BRK Light	Auto Speed Brake System INOP
27-62-01B	AUTO SPD BRK Light	Auto Speed Brake System INOP

(O) PROCEDURES

27-62-01A, 27-62-01B

Extend speedbrakes manually for rejected takeoff or landing.

CAUTION: DO **NOT** DEPLOY SPEEDBRAKES MANUALLY UNTIL THE NOSEWHEEL IS ON THE GROUND. DEPLOYING SPEEDBRAKES MANUALLY BEFORE NOSEWHEEL TOUCHDOWN MAY CAUSE PRONOUNCED NOSE PITCH UP, INCREASING THE LIKELIHOOD OF A TAIL STRIKE.

1. For rejected takeoff:
   a. Simultaneously close the thrust levers, disengage the autothrottles and apply maximum manual wheel brakes or verify operation of RTO autobrakes.
   b. Manually raise the speedbrake lever.
   c. Apply the maximum amount of reverse thrust consistent with conditions.
2. For landing, do the QRH, AUTO SPEEDBRAKE, Non-Normal Checklist.
3. Speed restrictions apply to Restricted Critical Terrain Routes, refer to Airway Manual, Chapter 11.

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27-62-01A	AUTO SPEED BRAKE SYSTEM
EFFECTIVITY	**All A/C EXCEPT 172, 174, 179, 185-187, 191-192, 194, 1607-1613**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** Use RUNWAY ALLOWABLE LANDING WEIGHT for "MANUAL SPEED BRAKES" in Airports located on Performance & Planning webpage.

27-62-01B	AUTO SPEED BRAKE SYSTEM *USE WITH AIRSPEED LIMITATION*
EFFECTIVITY	**A/C 172, 174, 179, 185-187, 191-192, 194, 1607-1613**
FLIGHT PLANNING REQUIREMENTS	Airspeed does not exceed 290 KIAS or .84 Mach, whichever is lower, when inflight gross weight is in excess of 340,000 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** Use RUNWAY ALLOWABLE LANDING WEIGHT for "MANUAL SPEED BRAKES" in Airports located on Performance & Planning webpage.

27-62-01B	AUTO SPEED BRAKE SYSTEM *USE WITH TAKEOFF WEIGHT LIMITATION*
EFFECTIVITY	**A/C 172, 174, 179, 185-187, 191-192, 194, 1607-1613**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** Use RUNWAY ALLOWABLE LANDING WEIGHT for "MANUAL SPEED BRAKES" in Airports located on Performance & Planning webpage. **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Enter Structural Takeoff Weight of 340,000 lbs. under Aircraft Weight Limitations.

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(M) PROCEDURES

27-62-01A

Deactivate the auto speedbrake system.

1. Pull and secure AUTO SPEED BRAKE circuit breaker located on the P11 panel.
2. Place tape over the AUTO SPDBRK light or remove the bulb.

27-62-01B

Deactivate the speed brake autostow controller and the auto speedbrake system.

1. Supply electrical power.
2. Confirm airplane is in GROUND mode.
3. Pull and secure the following circuit breakers:
   a. P6 panel - SPDBRK AUTOSTOW.
   b. P11 panel - AUTO SPEED BRAKE
4. Place tape over the AUTO SPDBRK light or remove the bulb.
5. Set the speedbrake lever to UP and then back to DOWN. Confirm the speedbrake handle forces are normal throughout the range of motion.
6. Gain access to the speedbrake autostow controller (SAC).
7. Remove the airplane harness connector from the SAC and remove the cover from the adjacent test connector.
8. Install the airplane harness connector on the adjacent test connector and install the test cover on the SAC connector.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-62-02	Speed Brake Caution Indication System	**Y**	1	0	**C**	**(O)** May be inoperative provided speedbrake lever is not positioned beyond ARMED position inflight below 800 feet radio altitude or when landing flaps are extended.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-62-02	Speedbrake Caution Light	Speedbrake Caution Light INOP

(O) PROCEDURES

Do not position the speed brake lever beyond the arm detent inflight below 800 ft radio altitude or when landing flaps are extended.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-63-01 AUTO SPDBRK, SPOILERS, and STAB TRIM Lights	**N**	3	0	**C**	**(M)** May be inoperative provided associated EICAS message is verified to operate ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-63-01	Affected Light	AUTO SPDBRK / SPOILERS / STAB TRIM Light(s) INOP

(M) PROCEDURES

ONCE EACH FLIGHT DAY verify the associated advisory message operates normally.

For AUTO SPDBRK light inoperative:

1. Open the P11 panel AUTO SPEED BRAKE circuit breaker.
2. Confirm the AUTO SPEEDBRAKE advisory message shows on the top EICAS display.
3. Check left and right EICAS sources:
   a. Set the COMPUTER selector to L and confirm the AUTO SPEEDBRAKE advisory message shows on the top EICAS display.
   b. Set the P9 panel COMPUTER selector to R and confirm the AUTO SPEEDBRAKE advisory message shows on the top EICAS display.
   c. Set the COMPUTER selector to AUTO.
4. Close the open circuit breaker.
5. Confirm the AUTO SPEEDBRAKE advisory message is not displayed on the top EICAS display.

For SPOILERS light inoperative:

1. Set the COMPUTER selector to R.
2. Open the following P11 panel circuit breakers:
   a. FLT CONT ELEC 1L AC
   b. FLT CONT ELEC 2L AC
3. Confirm the amber SPOILERS advisory message is displayed on the upper EICAS screen.
4. Close the open circuit breakers.
5. Confirm the amber SPOILERS advisory message is not displayed on the upper EICAS screen.
6. Set the COMPUTER selector to L.
7. Open the following P11 panel circuit breakers:
   a. FLT CONT ELEC 1R AC
   b. FLT CONT ELEC 2R AC
8. Confirm the amber SPOILERS advisory message is displayed on the upper EICAS screen.
9. Set the COMPUTER selector to AUTO.
10. Confirm the amber SPOILERS advisory message remains displayed on the upper EICAS screen.
11. Close the open circuit breakers.
12. Confirm the amber SPOILERS advisory message is not displayed on the upper EICAS screen.

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For STAB TRIM light inoperative:

1. Supply electrical power (AMM 24-22-00/201).
2. Supply hydraulic pressure to the left and center hydraulic systems (AMM 29-11-00/201).
3. Confirm the following P11 panel circuit breakers are closed:
   a. STAB TRIM, CONT, LEFT
   b. STAB TRIM CONTROL, RIGHT
   c. SHUT OFF VALVE, STAB TRIM, LEFT
   d. SHUT OFF VALVE, STAB TRIM, C
   e. STAB TRIM POSITION IND, LEFT
   f. STAB TRIM POSITION IND, RIGHT
   g. STAB TRIM ALTN (if installed)
4. Set the stabilizer between 4 and 14 units.
5. Set the P61 panel FLT CONTROL SHUTOFF L TAIL switch ON.
6. Set the P61 panel FLT CONTROL SHUTOFF C TAIL switch ON.
7. Set the EICAS COMPUTER selector to L.
8. Set the C STAB TRIM switch to NORM.
9. Set the L STAB TRIM switch to CUTOUT.
10. Trim the stabilizer in the airplane nose down direction with the wheel mounted thumb switches and confirm the STAB TRIM advisory message displays on the upper EICAS screen.
11. Set the L STAB TRIM switch to NORM.
12. Trim the stabilizer in the airplane nose down direction with the wheel mounted thumb switches and confirm the STAB TRIM advisory message does not display on the upper EICAS screen.
13. Set the EICAS COMPUTER selector to AUTO.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-81-01	Leading Edge Slat Skew / Loss Detection System	**N**	1	0	**C**	**(M)** May be inoperative deactivated provided leading edge slat system is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
27-81-01	Near Flap Position Indicator	Leading Edge Slat Skew / Loss Detection System INOP

(M) PROCEDURES

1. Remove LE Slat Skew Detection Relay K2307 (P37 – Right Miscellaneous Equipment Panel).
2. Remove inoperative leading edge slat skew / loss detection cable as necessary.
3. Put airplane back to its usual condition.
4. Check LE slats as follows:

   a. Check that TE flaps and LE slats are in fully retracted position.
   b. Check that flap lever is in zero (FLAPS UP) detent.
   c. Provide electrical power.
   d. Pressurize center hydraulic system.
   e. Place flap lever in 1 unit detent. Check that LE slats extend to intermediate position, and that TE flaps remain in fully retracted position.
   f. Place flap lever in 20 unit detent. Check that TE flaps extend to intermediate position.
   g. Place flap lever in 30 unit detent. Check that TE flaps and LE slats move to fully extended position.
   h. Place flap lever to 20 unit detent. Check that TE flaps and LE slats retract to intermediate position.
   i. Place flap lever in 5 unit detent. Check that TE flaps retract to 5 unit detent position and that LE slats remain in intermediate position.
   j. Place flap lever in zero (FLAPS UP) detent. Check that the TE flaps move to fully retracted position and then the LE slats move to fully retracted position.
   k. Remove hydraulic power.
   l. Remove electrical power.

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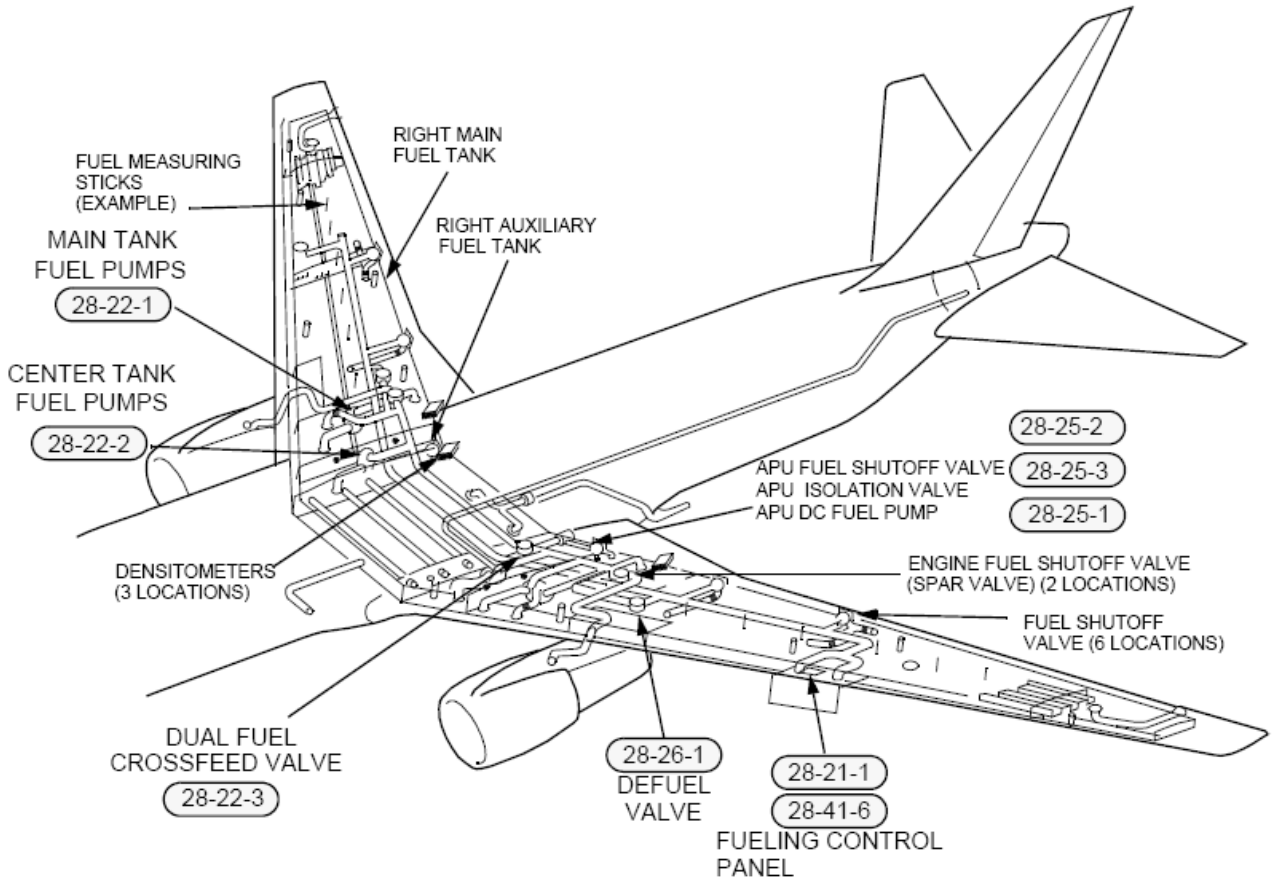
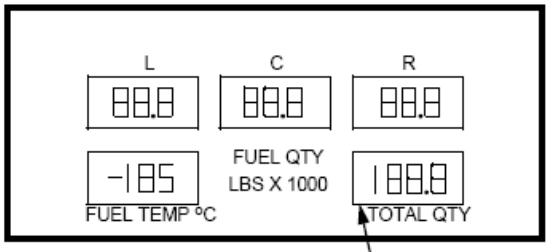


FUEL TEMPERATURE INDICATING SYSTEM
28-43-1



FUEL QUANTITY PROCESSOR CHANNELS
28-41-2

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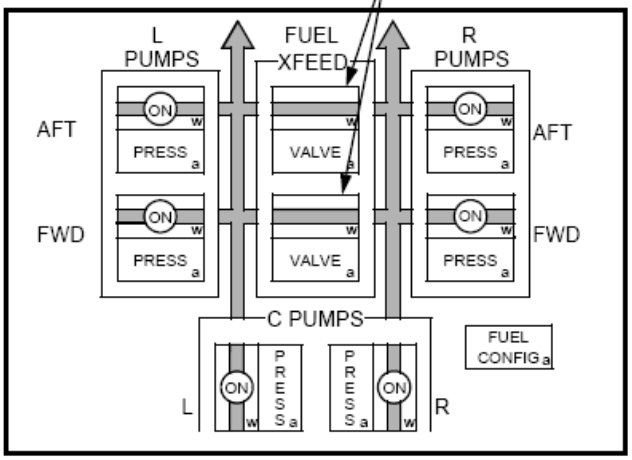
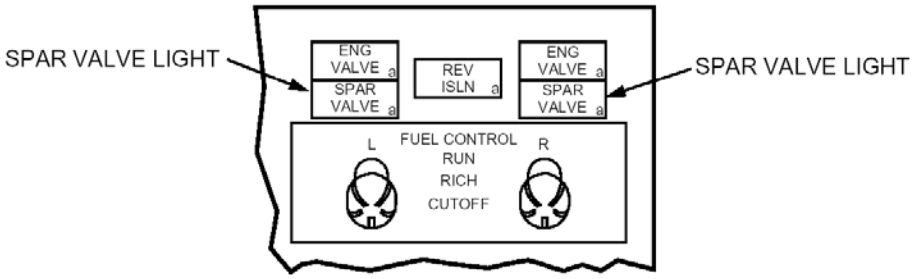


PUMP LOW PRESSURE LIGHTS
28-42-1

FUEL SYSTEM



SPAR VALVE
(ENGINE FUEL CUTOFF)
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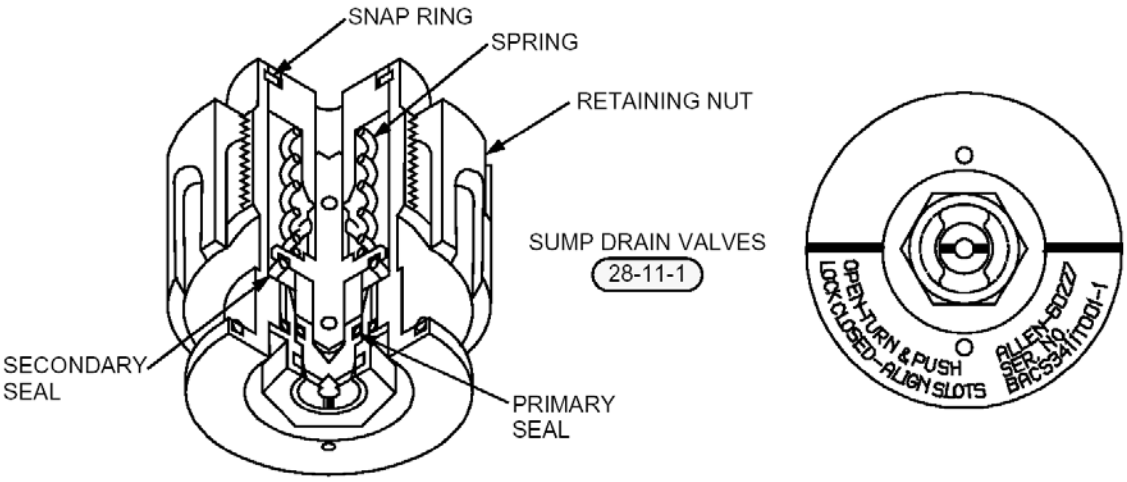
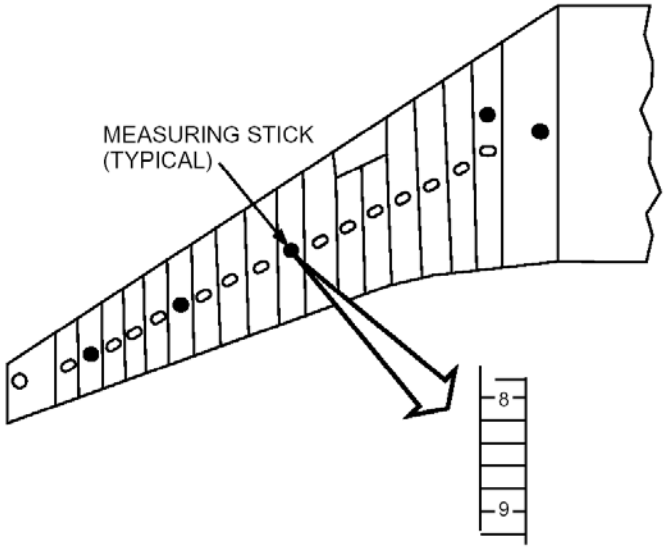
28-40-2





FUEL QUANTITY MEASURING STICK
28-44-1

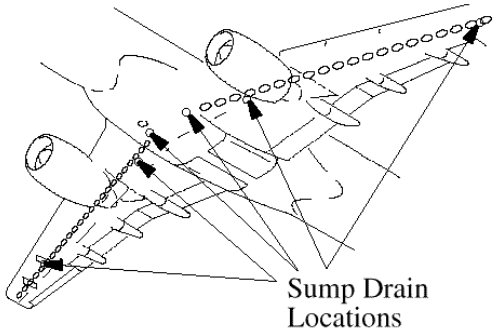
NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-11-01	Sump Drain Valves	**N**	6	5	**C**	**(M)** May be inoperative closed.

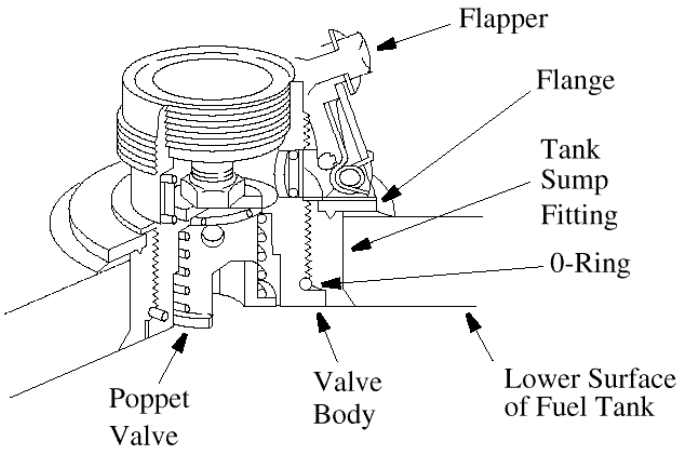
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-11-01	Fuel System Panel	___ Sump Drain Valve INOP

(M) PROCEDURES

See following illustrations for location and sketches of typical fuel sump drain valves.
Visually inspect exterior of valve location for evidence of fuel leakage.

NOTE: Assure that refueling equipment has not accumulated moisture before and after each fuel service.





MAIN OR SURGE FUEL TANK SUMP DRAIN VALVE (TYPICAL)

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
PRESSURE FUELING SYSTEM					
28-21-01A Pressure Fueling System	**Y**	1	0	**C**	**(M)** May be inoperative provided alternate procedures are used.
28-21-01B Fuel Shutoff Valves	**N**	6	0	**C**	**(M)** May be inoperative CLOSED.
28-21-01C Fuel Shutoff Valves **"DISP.APPR.REQ'D."**	**N**	6	0	**C**	**(O)(M)** May be inoperative OPEN if fuel jettison system is deactivated or not installed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-21-01A	1. Cockpit Fuel System Panel 2. Refueling Panel Master Switch	Pressure Fueling System INOP
28-21-01B	1. Cockpit Fuel System Panel 2. Associated F/Q Indicator on Refueling Panel	___ Fuel Shutoff Valve(s) INOP
28-21-01C	1. Cockpit Fuel System Panel 2. Associated F/Q Indicator on Refueling Panel	___ Fuel Shutoff Valve(s) INOP

(O) PROCEDURES

28-21-01C

Fuel jettison is not available.

(M) PROCEDURES

Note 1: Any fill valve function that operates normally may be used.

Note 2: The auto overfill system may be overridden with the overfill reset switch to fuel aircraft.

28-21-01A

1. Individual components or functions that operate normally may be used to fuel the airplane.
2. If the automatic function of the fuel shutoff valve(s) is inoperative, then utilize the manual electric function of the same valve(s). Refer to Fueling Procedures Manual, B767 Pressure Fueling, 767.20.

CONTINUED NEXT PAGE

28-21-01B

1. Gain access to the inoperative fueling shutoff valve(s).
2. Remove the lockwire on override thumbscrew.
3. Utilizing the override thumbscrew, open the fueling shutoff valve.
4. Fuel the airplane in accordance with established procedures.
5. Utilizing the override thumbscrew, close the fueling shutoff valve.
6. Replace the lockwire on override thumbscrew.

28-21-01C

-300ER PW4000 -3P6ER CF6-80C2 -300ER CF6-80C2

Secure the nozzle valve closed and the jettison transfer valves closed.

1. Securing the jettison nozzle valve closed.

    a. Deactivate the trailing edge flaps.
    b. Pull and secure the appropriate circuit breaker.

        1) Left (C1067) - located on panel 11M14.
        2) Right (C1068) - Located on panel 11M23.

    c. Access Nozzle Valve actuator located on rear spar of the applicable wing.
    d. Move manual override handle on actuator to the CLOSED position.
    e. Lockwire (inoperative) valve lever in closed position.
    f. Reactivate the trailing edge flaps.

2. Securing the jettison transfer valves closed.

    a. Install landing gear door locks.
    b. Pull and secure the appropriate circuit breaker.

        1) Left (C1065) - located on panel 11M13.
        2) Right (C1066) - located on panel 11M22.

    c. Access Jettison Transfer Valve through appropriate wheel well.
    d. Move manual override handle on the actuator to the CLOSED position.
    e. Lockwire (inoperative) valve lever in closed position.
    f. Remove landing gear door locks.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-21-02	Fueling Receptacle Cap -300ER PW4000 -3P6ER CF6-80C2 -300ER CF6-80C2	**Y**	2	0	**C**	May be inoperative or missing provided no leakage can be detected after refueling is complete.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-21-02	Logbook	___ Fueling Receptacle Cap INOP / Missing

NOTE: Aircraft not listed are not required to have Fueling Receptacle Cap installed.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-22-01A	Main Tank Fuel Pumps **"DISP.APPR.REQ'D."**	**Y**	4	3	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative deactivated provided: a) Inoperative pump is deactivated, b) Both main tank quantity indications operate normally, and c) Following minimum fuel quantities are retained in affected tank for flight conditions shown: TAKEOFF - 10,000 lbs. LANDING - 5,000 lbs.
28-22-01B	Automatic Function of Left FWD Pump	**Y**	1	0	**C**	**(O)** May be inoperative provided pump switchlight is verified to be in ON position prior to APU start.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-22-01A	Associated Boost Pump Switch	___ Main Tank Fuel Pump INOP
28-22-01B	LT FWD Boost Pump Switch	Auto Function of LT FWD Fuel Pump INOP

(O) PROCEDURES

28-22-01A

Use Normal fuel management with the following exceptions:

1. Ensure the following minimum fuel values are available for takeoff and landing.

	BOOST PUMP INOPERATIVE Minimum fuel quantities retained in the affected tank for the flight condition shown.
Takeoff	10,000 lbs.
Landing (At flight termination)	5,000 lbs.

2. The landing minimum fuel quantity must be considered unusable.

CONTINUED NEXT PAGE

28-22-01B

1. Start the APU by momentarily selecting START on the APU Selector.
2. Once the APU is running and AC power is available, press the left forward fuel pump to ON.

NOTE: Fuel for the APU operation normally comes from the left main tank. A DC fuel pump supplies the fuel when AC power is unavailable. When AC power becomes available, the left forward AC fuel pump is signaled to start regardless of its position. It is this automatic function which may be inoperative.

(M) PROCEDURES

28-22-01A

1. Turn associated pump switch OFF.
2. Pull and secure associated pump circuit breaker.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
28-22-02A	Center Tank Fuel Pumps **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)(M)** May be inoperative with center tank fueled provided: a) Fuel quantity in main tanks is adequate to reach a suitable airport if remaining pump fails at any time, b) Maximum zero fuel weight limit is reduced by weight of center tank fuel, c) Effect on airplane weight and balance, in event fuel cannot be used, is accounted for, d) Low PRESS light operates normally on remaining pump, e) Center tank and both main tank quantity indications operate normally, f) One crossfeed valve is open prior to takeoff and remains open until center tank pump is selected OFF, and g) Affected pump is deactivated.
28-22-02B	Center Tank Fuel Pumps **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(M)** May be inoperative provided: a) Center tank remains empty, b) Center tank is verified to be empty PRIOR TO EACH REFUELING, and c) Affected pumps are deactivated. **Repetitive Check Required (Yellow Placard)**
28-22-02C	Center Tank Fuel Pumps (-300ER aircraft only, except 1401-1404) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(M)** May be inoperative provided: a) Center tank remains empty, b) Center tank scavenge system is installed and operates normally, and c) Center tank fuel pumps are deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-22-02A	Associated Boost Pump Switch	___ CTR Tank Fuel Pump INOP
28-22-02B	Associated Boost Pump Switch	___ CTR Tank Fuel Pump(s) INOP
28-22-02C	Associated Boost Pump Switch	___ CTR Tank Fuel Pump (s) INOP

CONTINUED NEXT PAGE

(O) PROCEDURES

28-22-02A

If center tank fuel is to be used:

1. Verify center tank fuel is 24,400 pounds or less (22,000 pounds or less with wing tanks less than full). AWABS (or the Takeoff Performance Worksheet) will ensure that weight and balance limits have been satisfied providing the center tank fuel is 24,400 pounds or less (22,000 pounds or less with wing tanks less than full).

   NOTE: The aircraft will not balance with ballast/unusable fuel greater than 24,200 pounds

2. Fuel configuration should be all operable fuel boost pumps ON and crossfeed selector OPEN until center tank pumps are selected OFF.
3. When center tank pumps are selected OFF, position crossfeed selector CLOSE.

(M) PROCEDURES

28-22-02A

To deactivate the inoperative pump(s):

1. Select inoperative pump OFF.
2. Pull and secure the associated circuit breaker on the P6 panel.

28-22-02B

1. To deactivate the inoperative pump(s):
   a. Select inoperative pump OFF.
   b. Pull and secure the associated P6 panel circuit breaker:
2. Verify the center tank is empty PRIOR TO EACH REFUELING.
   a. Confirm the center tank is empty using the P5 panel fuel quantity indicator or the P28 fueling control panel indicator.
   b. If the fueling control panel indicator is inoperative refer to the Fueling Procedures Manual for alternate procedures.

28-22-02C

Deactivate both center tank pumps:

1. Select both center tank pumps OFF.
2. Pull and secure the associated P6 panel circuit breaker:

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-22-03A	Dual Fuel Crossfeed Valves **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(M)** Except for ER operations (ETOPS), one may be inoperative provided: a) Affected valve is secured closed, and b) Remaining valve is verified to operate normally.
28-22-03B	Dual Fuel Crossfeed Valves **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Affected valve is secured closed, b) Remaining valve is verified to operate normally, and c) Remaining valve is exercised during last hour of flight.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-22-03A	Associated Fuel Crossfeed Valve Switch	___ Fuel Crossfeed Valve INOP
28-22-03B	Associated Fuel Crossfeed Valve Switch	___ Fuel Crossfeed Valve INOP

(O) PROCEDURES

28-22-03B

During the last hour of cruise on all ETOPS flights, exercise the operative valve:

NOTE: For VALVE light inoperative, use the associated FWD(AFT) FUEL XFEED advisory message in lieu of the VALVE light.

1. Set the FUEL XFEED switch on. Confirm the VALVE light illuminates and extinguishes.
2. Set the FUEL XFEED switch off. Confirm the VALVE light illuminates and extinguishes.

(M) PROCEDURES

28-22-03A, 28-22-03B

Deactivate and secure the affected valve in the closed position and verify the remaining valve operates normally.

1. Pull and secure the associated P11 panel circuit breaker:
   a. FWD FUEL CROSSFEED VALVE
   b. AFT FUEL CROSSFEED VALVE
2. Gain access to the inoperative fuel crossfeed valve actuator (AMM 28-22-02/401).
3. Rotate the valve manual override lever to the closed position.
4. Lockwire the valve lever in the closed position.
5. Remove, cap, and stow the electrical connector.
6. Position an observer on an elevated platform to observe the operative crossfeed valve.
7. Supply electrical power (AMM 24-22-00/201).
8. Do the following steps several times to confirm valve operation:
   a. Set the operative FUEL XFEED switch on (bar in view), then off.
   b. Confirm the valve actuator manual override lever moves from the CLOSED position to OPEN, and then back to CLOSED.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-22-04	Center Tank Float Operated Shutoff Valves **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	May be inoperative provided center tank remains empty.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-22-04	Fuel System Control Panel	___ Center Tank Float Operated Shutoff Valve(s) INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-22-06	Universal Fault Interrupter (Automatic Shutoff System) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	May be inoperative provided associated center tank fuel pump is considered inoperative and deferred per MEL 28-22-02A, 28-22-02B or 28-22-02C as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-22-06	Associated Boost Pump Switch	___ Universal Fault Interupter (UFI) INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-25-01 APU (DC) Fuel Pump **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(M)** May be inoperative deactivated provided both left fuel tank boost pumps operate normally when APU is required for dispatch.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-25-01	Fuel System Control Panel	APU (DC) Fuel Pump INOP

(M) PROCEDURES

Pull and secure circuit breakers 11D34 Fuel DC Pump PWR.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
28-25-02A	APU Fuel Shutoff Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS) may be inoperative provided: a) APU is considered inoperative and deferred per MEL 49-11-01A, and b) Valve is secured CLOSED.
28-25-02B	APU Fuel Shutoff Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**B**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes and except for Outbound North America ER operations (ETOPS), may be inoperative provided: a) APU is considered inoperative and deferred per MEL 49-11-01B, and b) Valve is secured CLOSED.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-25-02A	Fuel System Control Panel	APU Fuel Shutoff Valve INOP
28-25-02B	Fuel System Control Panel	APU Fuel Shutoff Valve INOP

(M) PROCEDURES

28-25-02A, 28-25-02B

1. Pull and secure the APU FUEL VALVE circuit breaker on P6 panel.
2. Access to the APU fuel shutoff actuator is left wing rear spar STA 250.
3. Close valve by using the manual override lever.
4. Lockwire the valve lever in CLOSED position.
5. Remove, cap and stow electrical connector.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-25-03 APU Fuel Isolation Valve	**N**	1	0	**C**	**(M)** May be inoperative provided valve is secured closed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-25-03	Fuel System Control Panel	APU Fuel Isolation Valve INOP

(M) PROCEDURES

1. Open the FUEL DC PUMP CONT circuit breaker on the P11 panel.
2. Access to the APU fuel isolation actuator is left wing rear spar STA 250.
3. Close valve by using the manual override lever.
4. Lockwire valve lever in CLOSED position.
5. Remove, cap and stow electrical connector.
6. Close the FUEL DC PUMP CONT circuit breaker on the P11 panel.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-26-01	Defuel Valves	**N**	-	0	**C**	**(M)** May be inoperative CLOSED.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-26-01	Fuel System Control Panel	___ Defuel Valve(s) INOP

(M) PROCEDURES

Deactivate and secure the valve in the closed position.

1. Pull and secure the following circuit breakers:
   a. P34 panel, DEFUEL VALVES
   b. P6 panel, DEFUEL VALVES
2. Deactivate the flaps and slats:
   a. Depressurize right and center hydraulic systems (AMM 29-11-00/201).
   b. Open the P6 panel ALT FLAP PWR circuit breaker.
3. Gain access to the inoperative defueling valve (AMM 28-26-01/401).
4. Rotate the valve manual override lever to the CLOSED position.
5. Remove, cap and stow the electrical connector.
6. Activate the flaps and slats.
   a. Pressurize right and center hydraulic systems (AMM 29-11-00/201).
   b. Close the P6 panel ALT FLAP PWR circuit breaker.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-31-03 Fuel Jettison System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Jettison nozzle valves are secured closed, and b) Jettison transfer valves are secured closed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-31-03	Fuel System Control Panel	Fuel Jettison System INOP

(O) PROCEDURES

28-31-03

Refer to QRH, Maneuvers, Overweight Landing for information concerning Overweight Landing and / or Overweight Autoland Policy.

(M) PROCEDURES

28-31-03

Deactivate and secure the jettison nozzle valves and the jettison transfer valves in the closed position.

1. Secure the jettison nozzle valves closed:
   a. Deactivate the trailing edge flaps (AMM 27-51-00/201).
   b. Pull and secure the following P11 panel circuit breakers:
      1) JTSN NOZZLE VALVE-LEFT
      2) JTSN NOZZLE VALVE-RIGHT
   c. Gain access to the nozzle valve actuator (AMM 28-31-03/401).
   d. Move the manual override handle on the actuator to the CLOSED position.
   e. Lockwire the valve lever in the CLOSED position.
   f. Activate the trailing edge flaps (AMM 27-51-00/201).
2. Secure the jettison transfer valves closed:
   a. Install the landing gear door locks (AMM 32-00-15/201).
   b. Pull and secure the following P11 panel circuit breakers:
      1) FUEL JTSN CONT-LEFT
      2) FUEL JTSN CONT-RIGHT
   c. Gain access to the jettison transfer valve (AMM 28-31-04/401).
   d. Move the manual override handle on the actuator of the transfer valve to the CLOSED position.
   e. Lockwire the valve lever in the CLOSED position.
   f. Remove the landing gear door locks (AMM 32-00-15/201).

ITEM NO. NAME / DESCRIPTION	FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
CROSSFEED VALVE LIGHTS					
28-40-01A Single VALVE **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS), may be inoperative provided: a) One crossfeed valve is verified to operate normally, and b) Both main fuel quantity indications operate normally.
28-40-01B Dual VALVE **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(M)** May be inoperative provided: a) One crossfeed valve is verified to operate normally, and b) Both main fuel quantity indications operate normally.
28-40-01C Dual VALVE **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(M)** Except for ER operation (ETOPS), may be inoperative provided: a) Both crossfeed valves are verified to operate normally, and b) Both main fuel quantity indications operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-40-01A	Crossfeed VALVE Light	Crossfeed Valve Light INOP
28-40-01B	Affected Crossfeed VALVE Light	___ Crossfeed Valve Light INOP
28-40-01C	Affected Crossfeed VALVE Light(s)	Both Crossfeed Valve Lights INOP

(M) PROCEDURES

28-40-01A, 28-40-01B, 28-40-01C

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO ASSOCIATED CROSSFEED VALVE. RAPID ACTION OF DOORS MAY CAUSE INJURY OR DAMAGE IF LOCKS ARE NOT PROPERLY INSTALLED.

1. Open left main gear doors and install door locks.
2. Gain access to the crossfeed valve actuator. The actuator is located on the aft face of the rear spar in the left wheel well. Position an observer on an elevated platform to observe valve operation.
3. Provide electrical power.
4. At fuel control panel on overhead flight deck panel P5 (P61 Panel), position CROSSFEED valve switch ON (bar in view) then OFF.
5. In wheel well, observe that valve actuator manual override lever moves from CLOSED position to OPEN then back to CLOSED.
6. Repeat steps 4 and 5 several times to confirm valve operation.
7. As necessary, remove elevated platform and door locks. Close left gear doors.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-40-02	SPAR VALVE Lights	**Y**	2	0	**C**	**(M)** May be inoperative provided spar valve is verified to operate normally ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-40-02	Affected SPAR VALVE Light(s)	___ SPAR VALVE Light(s) INOP

(M) PROCEDURES

To verify operation of the spar valve without gaining access to the valve:

1. Start affected engine.

   NOTE: By opening the Fuel Control circuit breaker the engine fuel valve actuator will not operate. However, the spar valve actuator will not be affected.

2. Pull the applicable engine FUEL CONT VALVE (L/R) circuit breaker on P11 panel.
3. Move FUEL CONTROL switch on control stand to CUTOFF position.
4. Engine shutdown indicates proper operation of the Spar Valve. (Shutdown should occur in about 40 sec.)
5. Close previously opened FUEL CONT VALVE (L/R) circuit breaker on P11 panel.

To verify operation of the spar valve check without running Engines: *Maintenance is Required and Flight Crew May **Not** Placard*

1. Deactivate the flaps and slats:

   a. Depressurize right and center hydraulic systems.
   b. Pull the ALT FLAP PWR circuit breaker on main power distribution panel (P6) to deactivate secondary power source to flaps.

2. Gain access to the associated spar valve.

   a. For left engine spar valve, remove left trailing edge lower skin panel 551TB.
   b. For right engine spar valve, remove right trailing edge lower skin panel 651TB.

   NOTE: By opening the Fuel Control circuit breaker the engine fuel valve actuator will not operate. However, the spar valve actuator will not be affected.

3. Pull the following:

   a. The applicable engine FUEL CONT VALVE (L/R) circuit breaker on P11 panel.
   b. The applicable (L/R) ENG IGN 1 and (L/R) ENG IGN 2 circuit breakers on panel P11.
   c. The ENGINE STBY IGN 1 and ENGINE STBY IGN 2 circuit breakers on panel P11.

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4. Position ground observer to view the spar valve and perform the following:

   a. Move the fuel control switch to the RUN position.
   b. Verify movement of the manual override lever to the open position.

CAUTION: Do not rotate the engine fire handle. Failure to comply will result in fire extinguishing agent discharged into the engine nacelle.

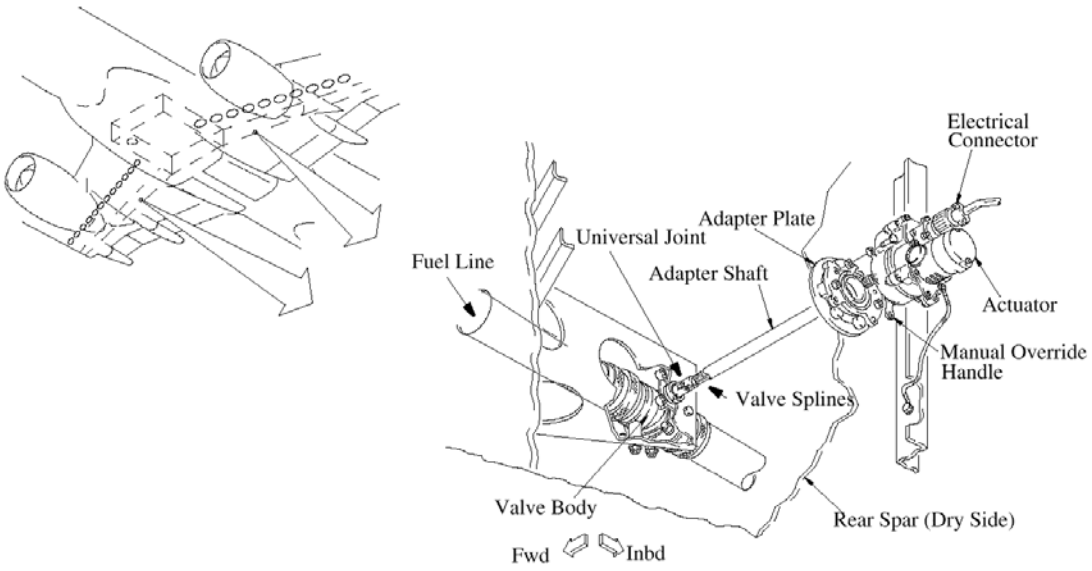
   c. Pull the respective fire handle and then push handle back to stored position.
   d. Verify that valve actuator manual override lever moves from the open position to closed and then back to open.
   e. Move the fuel control switch to the CUTOFF position.
   f. Verify movement of the manual override lever to the closed position.

5. Close applicable trailing edge lower skin panel.
6. Activate flaps and slats.

   a. Pressurize right and center hydraulic systems.
   b. Close ALT FLAP PWR circuit breaker on main power distribution panel (P6) in order to activate secondary power source to flaps.

7. Close the following:

   a. The applicable engine FUEL CONT VALVE (L/R) circuit breaker on P11 panel.
   b. The applicable (L/R) ENG IGN 1 and (L/R) ENG IGN 2 circuit breakers on panel P11.
   c. The ENGINE STBY IGN 1 and ENGINE STBY IGN 2 circuit breakers on panel P11.



Engine Fuel Shutoff Valve Adapter (Spar Valve)

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	FUEL TANK QUANTITY INDICATION SYSTEM (FLIGHT DECK)					
28-41-01A	Main Tank Indicators **DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)(M)** Except for ER Operations (ETOPS), may be inoperative provided: a) Fuel quantity in associated tank is verified by an alternate procedure PRIOR TO EACH DEPARTURE, b) Fuel flow indications operate normally, c) FMC FUEL is initialized with known total fuel quantity, d) Procedures to identify and contain an in-flight engine fuel leak are used, e) All main tank boost pumps operate normally, f) Fuel pump low PRESS lights for associated tank operate normally, and g) Center tank remains empty. NOTE: FUEL CONFIG advisory message for lateral imbalance may be inhibited. **Repetitive Check Required (Yellow Placard)**
28-41-01B	Center Tank Indicator (-300ER does not include 1401-1404) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Center tank remains empty, b) Center tank scavenge system is installed and operates normally, and c) Center tank fuel pumps are deactivated.
28-41-01C	Fuel Quantity Densitometers (Honeywell)	**N**	3	0	**C**	**(M)** May be inoperative provided associated densitometer(s) is deactivated.
28-41-01D	Fuel Quantity Densitometers (Simmonds)	**N**	3	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-41-01A	Associated F/Qty Indicator	___ Main Tank F/Qty Indicator INOP
28-41-01B	Associated F/Qty Indicator	Center Tank F/Qty Indicator INOP
28-41-01C	Associated F/Qty Indicator(s)	___ Fuel Quantity Densitometer(s) INOP
28-41-01D	Associated F/Qty Indicator(s)	___ Fuel Quantity Densitometer(s) INOP

CONTINUED NEXT PAGE

(O) PROCEDURES

28-41-01A

NOTE 1: For A/C 121-139 and 1401-1404:

Subtract 2,500 lbs. from all FMC calculated fuel computations.

NOTE 2: For A/C 171-199, 1200-1201, 1501-1521, 1601 and subs and 1701 and subs:

Subtract 3,500 lbs. from all FMC calculated fuel computations.

1. The flight must remain within 60 minutes of landing at a suitable airport.
2. Total fuel quantity indication will be blank.
3. Manually initialize FMC FUEL with a known total fuel quantity.
4. Operate the flight with fuel crossfeed valves closed (unless directed otherwise below).
5. Compare FMC CALCULATED fuel with the flight plan fuel remaining at each way-point or fix for which predicted fuel use is available.
6. FMC Progress Page 1 LAST waypoint FUEL may display 0.0.
7. Monitor fuel usage for any unusual decrease in fuel quantity and/or a fuel imbalance.
8. A fuel leak may be evidenced by one or more of the following:

   a. Fuel quantity decreasing at an abnormal rate.
   b. Excessive fuel flow.
   c. Fuel imbalance - an increasing fuel imbalance rate of approximately 2000 lb/hr (900 kg/hr) or more should be considered a fuel leak.

      NOTE: FUEL CONFIG advisory message or light may not display for a fuel imbalance condition when left or right FQIS is inoperative.

   d. Excessive lateral trim - at cruise conditions, an imbalance of 4000 lb (1816 kg) will require approximately one unit of aileron trim to hold wings level.
   e. Visual observation of fuel spray from the strut/engine.
   f. An engine flameout.

      NOTE: Optional procedures to confirm an engine fuel leak are contained in the QRH, Non-Normal Checklists, Engine Fuel Leak.

9. If an engine fuel leak is confirmed and conditions permit, shutdown the affected engine to stop the leak. After engine shutdown, all remaining fuel may be used for the operating engine.

CONTINUED NEXT PAGE

(M) PROCEDURES

NOTE: MEL relief for the following combinations of FQIS and other inoperative equipment may be limited or not allowed. Refer to each MMEL item.

ITEM	MEL ITEM
Main Tank Fuel Pumps	28-22-01
Center Tank Fuel Pumps	28-22-02
Crossfeed Valve Lights	28-40-01
Fuel Qty Processor Channels	28-41-02
Fuel Flow Indications	73-31-01

28-41-01A

1. PRIOR TO EACH DEPARTURE, verify alternate fueling procedures have been accomplished.
2. For alternate fueling procedures, refer to the following sections of the Fueling Procedures Manual:

   B767.40 B767 Inoperative Gauge
   B767.90.0 B767 Stick Chart Procedures
   B767.90.X B767-300/300ER Fuel Stick Charts (charts for sticks 1-8)

3. Install second MCO placard in a conspicuous location at the fueling station and place MCO tab on or adjacent to inoperative indicator.
4. With a fuel tank quantity indicator inoperative, the total fuel quantity indication will be blank and must be deferred per MEL 28-41-07A or 28-41-07B as appropriate.

28-41-01B

Deactivate the center tank fuel pumps.

1. Pull and secure the following P6 panel circuit breakers:

   a. FUEL OVRD PUMP, LEFT
   b. FUEL OVRD PUMP, RIGHT

2. With a fuel tank quantity indicator inoperative, the total fuel quantity indication will be blank and must be deferred per MEL 28-41-07A or 28-41-07B as appropriate

28-41-01C

Deactivate the associated Honeywell densitometer.

1. Open the following circuit breakers:

   a. P6 panel, FUELING QTY
   b. P34 panel, FUEL QTY REFUEL
   c. P11 panel, FUEL QTY #1
   d. P11 panel, FUEL QTY #2

2. Open and deactivate the landing gear doors. (AMM 32-00-15/201).
3. Gain access to the associated densitometer electronics unit (DEU) (AMM 28-41-03/401).
4. Disconnect, cap and stow the electrical connector from the DEU.
5. Close the landing gear doors (AMM 32-00-15/201).
6. Close the open circuit breakers.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FUEL QUANTITY PROCESSOR CHANNELS					
28-41-02A Honeywell FQIS (A/C 121-139, 171-180, 1501-1506) **"DISP.APPR.REQ'D."**	**N**	2	1	**B**	**(O)(M)** Except for ER operations (ETOPS), one channel may be inoperative provided: a) PRIOR TO EACH DEPARTURE (Logbook Entry Required), total fuel quantity is determined by measuring sticks or other acceptable means after each refueling, and agrees with fuel quantity indications, b) Inoperative channel is deactivated by an acceptable procedure, c) All flight deck fuel indications operate normally, d) Fuel flow indications operate normally, and e) FMC TOTALIZER FUEL quantity agrees with fuel quantity indications. **Repetitive Check Required (Yellow Placard)**
28-41-02B Simmonds FQIS (A/C 181-199, 1401-1404, 1521, 1200, 1201, 1601 and subs, 1701 and subs) **"DISP.APPR.REQ'D."**	**N**	2	1	**B**	**(O)** Except for ER operations (ETOPS), one channel may be inoperative provided: a) All flight deck fuel indications operate normally, b) Fuel flow indications operate normally, and c) FMC TOTALIZER FUEL quantity agrees with fuel quantity indications.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-41-02A	Associated F/Qty Indicator	___ Fuel Quantity Processor Channel INOP
28-41-02B	Associated F/Qty Indicator	___ Fuel Quantity Processor Channel INOP

(O) PROCEDURES

28-41-02A, 28-41-02B

1. The flight must remain within 60 minutes of landing at a suitable airport.
2. Prior to each engine start, confirm the FMC PERF INIT page FUEL is automatically initialized with the known fuel quantity. DO NOT manually enter fuel quantity.
3. Prior to each engine start, confirm fuel flow system inputs are valid on the FMC SENSOR STATUS page 1 - Left and Right EICAS OK.

CONTINUED NEXT PAGE

(M) PROCEDURES

28-41-02A - Honeywell FQIS

Deactivate the inoperative channel and PRIOR TO EACH DEPARTURE determine the total fuel quantity and confirm it agrees with the fuel quantity indications.

1. Supply electrical power (AMM 24-22-00/201).
2. Close the fueling panel door.
3. Confirm all EICAS circuit breakers are closed.
4. Press the P61 panel ECS/MSG switch.
5. For FUEL QTY BITE message displayed on EICAS, conduct a FQIS fault detection BITE check (AMM 28-41-00/501). Dispatch is permitted for the following code combinations: (A only), (B only), (D only), (A and D), and (B and D):
   a. For displayed codes A1 through A9, the fault is in channel 1. Deactivate channel 1:
      1) Pull and secure the following circuit breakers:
         a) P11 panel, FUEL QTY #1
         b) P34 panel, FUEL QTY REFUEL
   b. For displayed codes B1 through B9, the fault is in channel 2. Deactivate channel 2:
      1) Pull and secure the following circuit breakers:
         a) P11 panel, FUEL QTY #2
         b) P6 panel, FUELING QTY
   c. For displayed codes D1 through D9, a densitometer fault exists and must be deferred per MEL 28-41-01C.
6. For FUEL QTY BITE message not displayed on EICAS, conduct the following test with less than 15,000 lb total fuel:
   a. Open the following P11 panel circuit breakers:
      1) FUEL QTY #1
      2) FUEL QTY #2
   b. Confirm the fueling door is closed.
   c. Confirm the FUEL QTY displays are blank.
   d. Close the FUEL QTY #1 circuit breaker, wait 10 seconds, and record the indicated fuel quantities for each tank; this tests channel 1.
   e. Open the FUEL QTY #1 circuit breaker and then close the FUEL QTY #2 circuit breaker, wait 10 seconds, and record the indicated fuel quantity in each tank; this tests channel 2.
   f. Compare recorded quantities. If they differ by more than 400 lb for any tank, determine the actual fuel in each tank using measuring sticks.
      1) Refer to the following sections of the Fueling Procedures Manual for fuel measuring stick charts:
         a) B767.90.0 B767 Stick Chart Procedures
         b) B767.90.X B767-300/300ER Fuel Stick Charts (charts for sticks 1-8)
   g. Deactivate the channel that has the larger difference from the actual fuel quantity.
   h. For the channel that is not deactivated, close the open circuit breaker.
7. Fuel the airplane normally on ground power.

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8. PRIOR TO EACH DEPARTURE, confirm the accuracy of the operative channel:
   a. With the fueling door closed, cycle the power on the active channel by opening the associated FUEL QTY #1 or FUEL QTY #2 circuit breaker for 10 seconds, then closing it.
   b. With measuring sticks, determine the actual quantity of fuel in each tank.
      1) Refer to the following sections of the Fueling Procedures Manual for fuel measuring stick charts:
         a) B767.90.0 B767 Stick Chart Procedures
         b) B767.90.X B767-300/300ER Fuel Stick Charts (charts for sticks 1-8)
   c. Compare the measuring stick quantities with indicator quantity. Confirm they agree within the following tolerances:
      1) Main tank: +/- 1110 lb
      2) Center tank:
         a) Zero Bay: +/- 941 lb
         b) Two Bay: +/- 1640 lb
         c) Four Bay: +/- 2128 lb
9. Install second MCO placard and tab in a conspicuous location at the wing refueling station.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
28-41-06	Wing Fueling Station Quantity Indications	**Y**	3	0	**C**	**(M)** May be inoperative provided: a) Alternate fueling procedures are used, and b) Fuel quantity in associated tank is verified by an alternate means PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-41-06	Associated Refueling Panel F/Qty Indicator	___ Refueling Panel F/Qty Indicator(s) INOP

(M) PROCEDURES

NOTE 1: Use of this MEL item is limited to deferral of malfunctioning fueling panel fuel quantity indications. If flight deck fuel quantity indications are also inoperative, use MEL 28-41-01A or 28-41-01B as appropriate. Flight deck fuel quantity indications may be used as the alternate means to verify actual tank fuel quantity when dispatched under this MEL item.

NOTE 2: With the load select function inoperative at the external fueling station, automatic shutdown or overfill protection may not exist.

1. PRIOR TO EACH DEPARTURE, verify alternate fueling procedures have been accomplished.
2. Install second MCO placard in a conspicuous location at the fueling station and place MCO tab on or adjacent to inoperative indicator.
3. For alternate fueling procedures, refer to the following sections of the Fueling Procedures Manual:

   B767.40 B767 Inoperative Gauge
   B767.90.0 B767 Stick Chart Procedures
   B767.90.X B767-200/300/300ER Fuel Stick Charts (charts for sticks 1-8)

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-41-07A Total Fuel Quantity Indication	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) FMC is initialized with known total fuel quantity, b) Fuel flow indications operate normally, and c) Both FMCs operate normally.
28-41-07B Total Fuel Quantity Indication **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Main tank fuel quantity indicators operate normally, and b) Center tank fuel quantity indicator is considered inoperative and deferred per MEL 28-41-01B.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-41-07A	Total Fuel Quantity Indicator	Total Fuel Quantity Indicator INOP
28-41-07B	Total Fuel Quantity Indicator	Total Fuel Quantity Indicator INOP

(O) PROCEDURES

28-41-07A, 28-41-07B

NOTE 1: For A/C 121-139 and 1401-1404:

Subtract 2,500 lbs. from all FMC calculated fuel computations.

NOTE 2: For A/C 171-199, 1200-1201, 1501-1521, 1601 and subs and 1701 and subs:

Subtract 3,500 lbs. from all FMC calculated fuel computations.

1. Total fuel quantity must be calculated and manually initialized on the FMC Performance Initialization Page prior to engine start.
2. If total fuel quantity is inoperative as a result of an individual tank quantity indication, MEL restrictions for that item must be observed.
3. Prior to each engine start, confirm that fuel flow system inputs are valid. From the FMC select INIT REF, INDEX, MAINTENANCE, SENSORS. On the FMC SENSOR STATUS Page 1, check - Left and Right EICAS OK.
4. FMC Progress Page 1 LAST waypoint FUEL may display 0.0.
5. (Optional) Prior to each engine shut down, record FMC CALCULATED FUEL QTY. For flights not requiring additional fuel, this value may be used as a means of determining total fuel quantity.

   NOTE: FMC CALCULATED fuel quantity does not account for APU fuel burn. APU fuel burn is 220lb per hour.
6. If it is necessary to jettison fuel enroute, FMC total fuel quantity must be reinitialized with the fuel quantity remaining at the completion of jettison.

CONTINUED NEXT PAGE

7. In case of enroute failure of the FMC calculated total fuel quantity, flight crew must keep a fuel log for the remainder of the flight.

   NOTE 1: The PROGRESS page 1 display of FUEL quantity and ATA at the last waypoint prior to failure may be used as a starting point. In some failure modes, PROGRESS page 2 FUEL USED data may be available.

   NOTE 2: Aileron trim indication on the control wheel can be used to determine if a fuel imbalance condition exists. At cruise conditions, an imbalance of 4,000 lbs will require approximately one unit of aileron displacement to hold the wings level.

8. For center tank fuel quantity indicator considered inoperative:

   a. Defer the center tank fuel quantity indicator per MEL 28-41-01B.
   b. If FMC CALCULATED total fuel quantity is not available, use the two main tank fuel quantity indicators to calculate total fuel quantity.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
28-42-01A	Fuel Pump Low PRESS Lights **"DISP.APPR.REQ'D."**	**Y**	6	3	**C**	May be inoperative provided associated pump is deactivated and deferred per MEL 28-22-01A (Main Tank Fuel Pumps) or MEL 28-22-02B (Center Tank Fuel Pumps).
28-42-01B	Fuel Pump Low PRESS Lights	**Y**	6	3	**C**	**(M)** May be inoperative provided associated EICAS message is verified to operate normally ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-42-01A	Affected Fuel Pump Low PRESS Light(s)	___ Fuel Pump Low PRESS Light(s) INOP
28-42-01B	Affected Fuel Pump Low PRESS Light(s)	___ Fuel Pump Low PRESS Light(s) INOP

(M) PROCEDURES

28-42-01B

Verify the associated EICAS message operates normally ONCE EACH FLIGHT DAY.

1. Main tank pumps:
   a. With the crossfeed valves closed, turn off all fuel pumps.
   b. Confirm the L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are displayed.
   c. Turn on the operative main tank fuel pumps.
   d. Confirm the L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are not displayed.
   e. For operative main tank pumps, confirm the following associated advisory messages are not displayed:
      1) L FWD FUEL PUMP
      2) L AFT FUEL PUMP
      3) R FWD FUEL PUMP
      4) R AFT FUEL PUMP
   f. Open the crossfeed valves.
   g. One at a time, turn off the fuel pump associated with the inoperative light. Confirm the associated advisory message is displayed.
   h. Turn all fuel pumps off and close the crossfeed valves.

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2. Center tank pumps:

   a. With the crossfeed valves closed, turn off all fuel pumps.
   b. Confirm the L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are displayed.
   c. Turn on all center and main tank fuel pumps.
   d. Confirm the L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are not displayed.
   e. Confirm the CTR L FUEL PUMP and CTR R FUEL PUMP advisory messages are displayed:
   f. Open the fueling panel door.
   g. For operative center tank pumps, confirm the following associated advisory messages are not displayed:

      1) CTR L FUEL PUMP
      2) CTR R FUEL PUMP

   h. Close the fueling panel door.
   i. Turn off all fuel pumps.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-43-01	FUEL TEMP Indicating System	**Y**	1	0	**C**	**(O)** May be inoperative provided Total Air Temperature (TAT) is used as an indication of fuel temperature. NOTE: Static Air Temperature may be used provided appropriate ram rise factor is applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-43-01	FUEL TEMP Indicator	FUEL TEMP Indicator INOP

(O) PROCEDURES

1. Use total air temperature for fuel temperature.
2. Refer to the SAT conversion table below.

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	-22	-20	-19	-17
-55	-44	-39	-35	-34	-32	-31	-30	-29	-27	-26	-24	-23
-60	-49	-45	-40	-39	-38	-37	-35	-34	-33	-31	-30	-29
-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

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-44-01	Measuring Sticks	**Y**	16	0	**C**	May be inoperative provided fuel quantity is determined by other approved means.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
28-44-01	1. Cockpit Fuel System Panel 2. Associated F/Qty Indicator on Refueling Panel	___ Fuel Measuring Stick(s) INOP

NOTE: Use fuel quantity indicating system to fuel airplane. If fuel quantity indications are inoperative, refer to MEL item 28-41-01 or 28-41-06 as applicable.

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ATA 29 Contents

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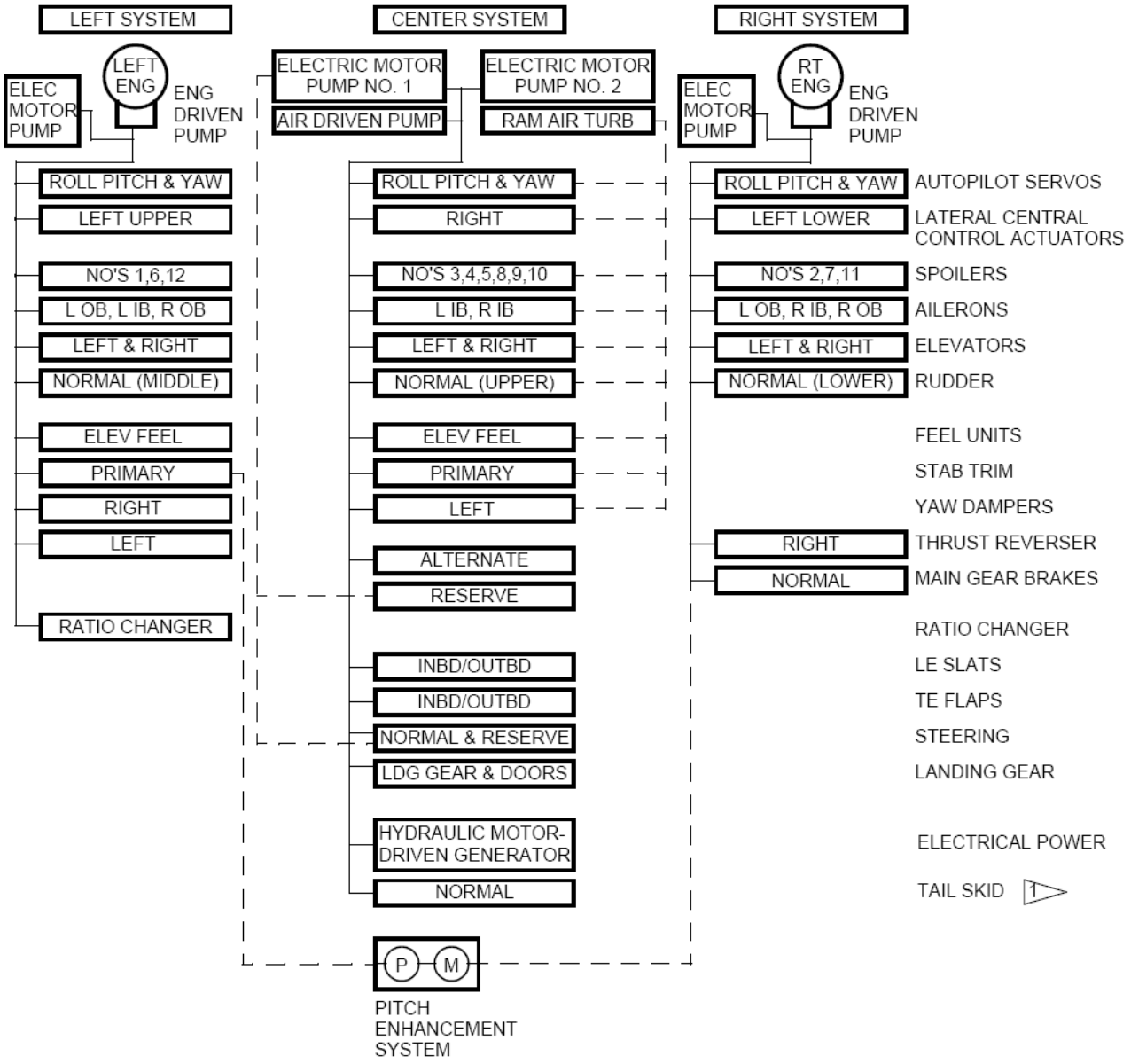
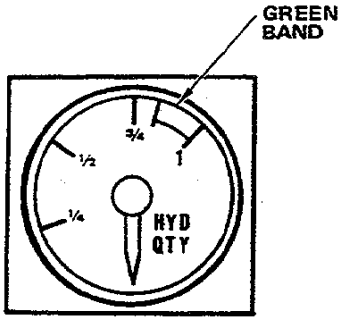
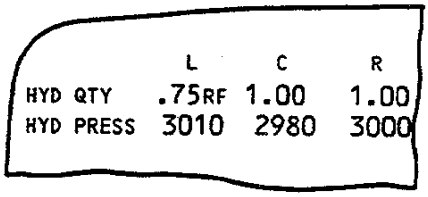
HYDRAULIC SYSTEM BLOCK DIAGRAM

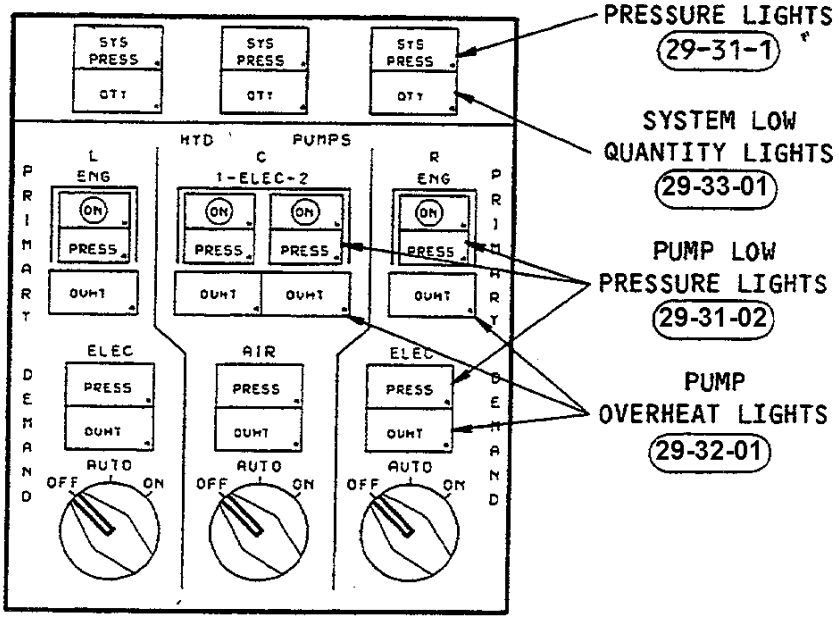




RESERVOIR SERVICE
QUANTITY INDICATOR
29-18-01



HYDRAULIC PRESSURE INDICATIONS
29-31-03
HYDRAULIC QUANTITY INDICATIONS
29-33-02



ADP CONTROLER
29-11-04

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-11-01	Engine Driven Hydraulic Pumps Depressurization Function	**Y**	2	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-11-01	Associated EDP Switch	___ Engine Driven Hydraulic Pump Depressurization Function INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-11-02	Center System (Electric) Hydraulic Pumps	**Y**	2	1	**C**	Pump No. 2 may be inoperative provided Air Driven Pump operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-11-02	Associated Center Electric Hydraulic Pump Switch	#2 Center System (Electric) Hydraulic Pump INOP

MAINTENANCE NOTE

If the following optional procedure is to be accomplished, *Maintenance is Required and Flight Crew May NOT Placard*

If desired, the inoperative center system No. 2 pump may be hydraulically isolated as follows:

1. Install MS plugs in case drain, pressure and supply hoses after draining hydraulic fluid.
2. Cap the pump supply, case drain and pressure connections.
3. Cap and stow the case drain, pressure and supply hoses.

NOTE: Hoses must be securely stowed to prevent chafing and/or excessive vibration during flight.

4. Open and collar circuit breaker 11L24 HYDRAULIC ELEC PUMP CENTER 2 (P11 panel).
5. Disconnect, cap and stow the pump electrical connector.

   NOTE: Electrical cable must be securely stowed to prevent chafing and/or excessive vibration during light.

6. Supply 50 PSIG pneumatic pressure to the Center Hydraulic System Reservoir.
7. Inspect the plugged drain case, pressure and supply hoses for external leakage. External leakage should not exceed AMM limits.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
29-11-03A Air Driven Pump (ADP) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** For ER operations (ETOPS) up to 120 minutes, may be inoperative provided: a) Hydraulic Motor Generator (HMG) is not required, b) Both center system electric pumps operate normally, and c) Appropriate performance adjustments are applied.
29-11-03B Air Driven Pump (ADP) **"DISP.APPR.REQ'D."**	**Y**	1	0	**A**	**(O)(M)** For ER operations (ETOPS) up to 180 minutes, may be inoperative provided: a) Both engine generators and APU generator operate normally, b) Both center system electric pumps operate normally, c) For ER operations (ETOPS) beyond 120 minutes, APU is started before reaching ETOPS segment, then operated continuously until within 60 minutes of a suitable airport, d) Center IRS operates normally, e) First officer's IRS instrument source select switch operates normally, f) Operations are limited to not more than three flight days before repair is made, and g) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-11-03A	ADP Switch	Air Driven Hydraulic Pump INOP
29-11-03B	ADP Switch	Air Driven Hydraulic Pump INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

29-11-03A

NOTE: During periods of high demand, C HYD SYS PRESS caution message and C HYD SYS MAINT status message may display. If the center hydraulic system pressure remains below 2800 psi for 60 seconds or more, with both engines running, then the C HYD SYS MAINT message will latch.

1. With the ADP inoperative, the landing gear retraction/extension times will increase to approximately 2½ times normal. Landing GEAR DISAGREE message may display.
2. Flap retraction and extension times will increase approximately 30%.
3. When the ADP is inoperative / OFF, the HMG will not operate.

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29-11-03A	AIR DRIVEN PUMP (ADP)
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

29-11-03A	AIR DRIVEN PUMP (ADP)
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 40,000 lbs. 2. Reduce T/O CLIMB LIMIT by 40,000 lbs. **LANDING** None

29-11-03B

NOTE: During periods of high demand, C HYD SYS PRESS caution message and C HYD SYS MAINT status message may display. If the center hydraulic system pressure remains below 2800 psi for 60 seconds or more, with both engines running, then the C HYD SYS MAINT message will latch.

1. With the ADP inoperative, the landing gear retraction/extension times will increase to approximately 2½ times normal. Landing gear disagree message may display.
2. Flap retraction and extension times will increase approximately 30%.
3. When the ADP is inoperative / OFF, the HMG will not operate.
4. For ER Operations beyond 120 minutes, APU is started before reaching the ETOPS segment, then operated continuously until within 60 minutes of a suitable airport.
5. If all AC power is lost, Captain's RDMI information may be lost. Captain's RDMI information may be recovered by selecting ALTN on the First Officer's IRS Instrument Source Selector Panel.

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29-11-03B	AIR DRIVEN PUMP (ADP)
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

29-11-03B	AIR DRIVEN PUMP (ADP)
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 40,000 lbs. 2. Reduce T/O CLIMB LIMIT by 40,000 lbs. **LANDING** None

(M) PROCEDURES

29-11-03A, 29-11-03B

Refer to Remarks or Exceptions Column.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
ADP CONTROLLER					
29-11-04A Auto Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Control is ON for takeoff and landing, b) Hydraulic Motor Generator (HMG) is not required, or control is ON continuously when HMG is required, c) OFF position operates normally, and d) Appropriate performance adjustments are applied.
29-11-04B ON Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	For ER operations (ETOPS) up to 120 minutes, may be inoperative provided: a) AUTO and OFF functions of ADP operate normally, and b) HMG is not required.
29-11-04C ON Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**A**	**(O)** For ER operations (ETOPS) up to 180 minutes, may be inoperative provided: a) AUTO and OFF functions of ADP operate normally, b) Both engine generators and APU generator operate normally, c) For ER operations (ETOPS) beyond 120 minutes, APU is started before reaching ETOPS segment, then operated continuously until within 60 minutes of a suitable airport, d) Center IRS operates normally, e) First officer's IRS instrument source select switch operates normally, f) Operations are limited to not more than three flight days before repair is made, and g) Appropriate performance adjustments are applied..

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-11-04A	ADP Switch	Air Driven Hydraulic Pump AUTO Mode INOP
29-11-04B	ADP Switch	Air Driven Hydraulic Pump ON Mode INOP
29-11-04C	ADP Switch	Air Driven Hydraulic Pump ON Mode INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. HMG is not required for non-ETOPS.

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(O) PROCEDURES

29-11-04A

Turn the ADP on at the following times:

1. On the ground prior to takeoff.
2. In-flight prior to flap extension.
3. At all times if hydraulic driven generator is required for dispatch.

29-11-04A	**ADP CONTROLLER – AUTO FUNCTION**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 3,600 lbs. 2. Reduce T/O CLIMB LIMIT by 3,600 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 3,600 lbs.

29-11-04C

1. For ER Operations beyond 120 minutes, APU is started before reaching the ETOPS segment, then operated continuously until within 60 minutes of a suitable airport.
2. If all AC power is lost, Captain's RDMI information may be lost. Captain's RDMI information may be recovered by selecting ALTN on the First Officer's IRS Instrument Source Selector Panel.

29-11-04C	**ADP CONTROLLER – ON FUNCTION**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-11-05 Electric Demand Pump (ACMP) AUTO Function	**Y**	2	1	**C**	One may be inoperative provided: a) Pump operates normally, and b) Associated pump is selected ON and remains on.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-11-05	Associated Electric Demand Pump Switch	___ Electric Demand Hydraulic Pump (ACMP) AUTO Function INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-18-01	Remote Hydraulic Quantity Indicator	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-18-01	Near Lower EICAS Display	Remote Hyd Quantity Indicator

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
HYDRAULIC LOW SYS PRESS LIGHTS					
29-31-01A Left Low SYS PRESS Light	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Associated pump low PRESS lights operate normally, b) Associated HYD SYS PRESS EICAS indication is verified to operate normally, and c) Left low pressure signal wire of PTU system is capped and stowed.
29-31-01B Right Low SYS PRESS Light	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Associated pump low PRESS lights operate normally, and b) Associated HYD SYS PRESS EICAS indication is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-31-01A	Left Hydraulic Low SYS PRESS Light	Left Hydraulic Low SYS PRESS Light INOP
29-31-01B	Right Hydraulic Low SYS PRESS Light	Right Hydraulic Low SYS PRESS Light INOP

(M) PROCEDURES

29-31-01A, 29-31-01B

1. Verify the associated HYD SYS PRESS EICAS indication operates normally as follows:

NOTE: The associated HYD SYS PRESS EICAS indication is driven by the same pressure switch that drives the Hydraulic Low SYS PRESS Light. If the light is inoperative due to a failure of the hydraulic system pressure switch, dispatch is not allowed until repairs are made. The following, in effect, verifies that the pressure switch operates normally.

a. Select all hydraulic pumps OFF.
b. Verify that the associated L (C or R) HYD SYS PRESS caution message is displayed on EICAS.
c. Select associated ACMP ON.
d. Verify that the associated L (C or R) HYD SYS PRESS caution message is not displayed on EICAS.

2. For Left SYS low SYS PRESS Light disconnect the left low pressure signal wire of the PTU (PES) system as follows:

NOTE: The Pitch Enhancement System (PES) utilizes the Power Transfer Unit (PTU) to transfer hydraulic power from the right hydraulic system to the stabilizer trim system should the left and center hydraulic systems fail.

a. Open the main equipment center access door 119AL (Ref. MM 06-41-00/201).
b. On the miscellaneous equipment panel, P37, disconnect the wire from Terminal Block 192, Terminal Z17 and wire 20C-20.

NOTE: The Z17 terminal is identified as 17 on TB 192 in the P37 panel.

c. Cap and stow the wire from TB192.
d. Make logbook entry stating PTU signal wire has been disconnected and must be reconnected before MCO is cleared.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	PUMP LOW PRESS INDICATION SYSTEMS					
29-31-02A	Left, Center, Right and Air Driven Pump PRESS Lights	**Y**	7	4	**C**	**(O)** One in each hydraulic system may be inoperative provided: a) Associated low SYS PRESS light operates normally, and b) Associated pump is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
29-31-02B	Engine Driven Pump Indication Systems **"Contact MCC"**	**Y**	2	1	**B**	**(O)** One may be inoperative provided: a) Associated demand pump AUTO function is considered inoperative and deferred per MEL 29-11-05, b) Associated low SYS PRESS light operates normally, and c) Associated pump is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
29-31-02C	Center System No. 2 Electric Pump Indication System	**Y**	1	0	**C**	May be inoperative provided: a) Air Driven Pump operates normally, and b) Associated pump is selected OFF.
29-31-02D	Air Driven Pump (ADP) Indication System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Both center system electric pumps operate normally, b) ADP is selected OFF, c) Hydraulic Motor Generator (HMG) is not required, and d) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-31-02A	Affected Pump LOW PRESS Light(s)	___ Pump LOW PRESS Light(s) INOP
29-31-02B	Pump LOW PRESS Light	___ Engine Driven Pump LOW PRESS Indication INOP
29-31-02C	Pump LOW PRESS Light	#2 CTR Electric Pump LOW PRESS Indication INOP
29-31-02D	Pump LOW PRESS Light	ADP LOW PRESS Indication INOP

CONTINUED NEXT PAGE

NOTE 1: Crew should be aware, in case of emergency, that the Center System No.2 Electric Pump (29-31-02B) and Air Driven Pump (29-31-02C) have been selected OFF as a precautionary measure to preclude un-announced low pressure.

NOTE 2: The HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS dispatch.

(O) PROCEDURES

29-31-02A, 29-31-02B

CAUTION: During ground operation check, to prevent hydraulic pump damage from overheat, do not operate pumps without minimum quantities of fuel in tanks.

NOTE: The pump being tested must be the only pump operating within the related hydraulic system at the time of the test.

AIR DRIVEN PUMP:

1. Associated SYS PRESS light must be illuminated.
2. Ensure that personnel are clear of flight controls.
3. With electrical power on airplane and pneumatic system pressure pressurized, turn air pump switch to AUTO or ON.
4. C HYD PRESS reading on EICAS must be 2800 to 3200 psig.
5. SYS PRESS light must extinguish.
6. Restore airplane to its required configuration.

ENGINE DRIVEN PUMP:

NOTE: An active brake source is required when operating an engine.

1. Associated SYS PRESS light must be illuminated.
2. Ensure that personnel are clear of flight controls.
3. With affected engine running, turn ENG pump switch to ON.
4. HYD PRESS reading on EICAS must be 2800 to 3200 psig.
5. SYS PRESS light must extinguish.
6. Restore airplane to its required configuration.

ELECTRIC DEMAND PUMP (ACMP):

1. Associated SYS PRESS light must be illuminated.
2. Ensure that personnel are clear of flight controls.
3. With electrical power on the airplane, press affected ELEC pump switch to ON.
4. HYD PRESS reading on EICAS must be 2800 to 3200 psig.
5. SYS PRESS light must extinguish.
6. Restore airplane to its required configuration.

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29-31-02D

1. The air driven pump has been selected OFF as a precautionary measure to preclude unannounced pump overheat; in case of emergency, it is available.
2. The HMG is powered by the center hydraulic system. If a complete electrical failure occurs the HMG will operate if the ADP is selected ON.
3. Refer to MEL 29-11-03A or MEL 29-11-03B as appropriate for ADP OFF (O) Procedures. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A or 29-11-03B as appropriate.

29-31-02D	**PUMP LOW PRESS INDICATION SYSTEM (AIR DRIVEN PUMP)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

29-31-02D	**PUMP LOW PRESS INDICATION SYSTEM (AIR DRIVEN PUMP)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 40,000 lbs. 2. Reduce T/O CLIMB LIMIT by 40,000 lbs. **LANDING** None

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-31-03	HYD PRESS Indications (EICAS)	**Y**	3	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-31-03	Near Lower EICAS Display	___ HYD PRESS Indication(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	PUMP OVHT INDICATION SYSTEMS					
29-32-01A	Left, Center, Right and Air Driven Pump OVHT Lights	**Y**	7	4	**C**	**(O)** One in each hydraulic system may be inoperative provided: a) Associated low SYS PRESS light or pump low PRESS light operates normally, and b) Associated pump is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
29-32-01B	Center System No. 2 Electric Pump Indication System	**Y**	1	0	**C**	May be inoperative provided: a) Air Driven Pump operates normally, and b) Associated pump is selected OFF.
29-32-01C	Air Driven Pump (ADP) Indication System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Both center system electric pumps operate normally, b) ADP is selected OFF, c) Hydraulic Motor Generator (HMG) is not required, and d) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-32-01A	Affected Pump OVHT Light(s)	___ Pump OVHT Light(s) and EICAS Message INOP
29-32-01B	Pump OVHT Light	#2 CTR Electric Pump OVHT Indication INOP
29-32-01C	Pump OVHT Light	ADP OVHT Indication INOP

NOTE 1: Crew should be aware, in case of emergency, that the Center System No.2 Electric Pump (29-32-01B) and Air Driven Pump (29-32-01C) have been selected OFF as a precautionary measure to preclude a potential overheat.

NOTE 2: The HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS dispatch.

NOTE 3: Associated pump EICAS message may be inoperative.

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(O) PROCEDURES

29-32-01A

CAUTION: During ground operation check, to prevent hydraulic pump damage from overheat, do not operate pumps without minimum quantities of fuel in tanks.

NOTE: The pump being tested must be the only pump operating within the related hydraulic system at the time of the test.

AIR DRIVEN PUMP:

1. Ensure that personnel are clear of flight controls.
2. With electrical power on airplane and pneumatic system pressurized, turn air pump switch to AUTO or ON.
3. C HYD PRESS reading on EICAS must be 2800 to 3200 psig.
4. C HYD TEMP reading on EICAS must be below 80°C after stabilization.
5. Restore airplane to its required configuration.

ENGINE DRIVEN PUMP:

1. Ensure that personnel are clear of flight controls.
2. With affected engine running, turn HYD PUMPS ENG switch to ON.
3. HYD PRESS reading on EICAS must be 2800 to 3200 psig.
4. HYD TEMP reading on EICAS must be below 80°C after stabilization.
5. Restore airplane to its required configuration.

NOTE: When running the right engine EDP the PTU will come on pressurizing the STAB TRIM circuits. The PTU can be deactivated by pulling the HYDRAULICS PUMP CONT circuit breaker on the P11 panel before engine start.

ELECTRIC DEMAND PUMP (ACMP):

1. Ensure that personnel are clear of flight controls.
2. With electrical power on the airplane, press affected HYD PUMPS ELEC switch to ON.
3. HYD PRESS reading on EICAS must be 2800 to 3200 psig.
4. HYD TEMP reading on EICAS must be below 80°C after stabilization.
5. Restore airplane to its required configuration.

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29-32-01C

1. The air driven pump has been selected OFF as a precautionary measure to preclude unannounced pump overheat; in case of emergency, it is available.
2. The HMG is powered by the center hydraulic system. If a complete electrical failure occurs the HMG will operate if the ADP is selected ON.
3. Refer to MEL 29-11-03A or MEL 29-11-03B as appropriate for ADP OFF (O) Procedures. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A or 29-11-03B as appropriate.

29-32-01C	**PUMP OVHT INDICATION SYSTEM (AIR DRIVEN PUMP)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

29-32-01C	**PUMP OVHT INDICATION SYSTEM (AIR DRIVEN PUMP)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 40,000 lbs. 2. Reduce T/O CLIMB LIMIT by 40,000 lbs. **LANDING** None

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-33-01A	Hydraulic System Low QTY or RSVR Lights	**N**	3	0	**C**	**(M)** May be inoperative provided HYD QTY indication is verified to operate normally.
29-33-01B	Hydraulic System Low QTY or RSVR Lights	**N**	3	0	**C**	**(M)** May be inoperative provided: a) Associated reservoir level(s) is verified normal PRIOR TO EACH DEPARTURE (Logbook Entry Required), b) Associated SYS PRESS lights operate normally, and c) With left hydraulic system low QTY or RSVR light(s) inoperative, left low quantity signal wire of PTU system is capped and stowed. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-33-01A	Affected Low QTY or RSVR Light(s)	___ Hyd System Low QTY / RSVR Light(s) INOP
29-33-01B	1. Affected Low QTY or RSVR Light(s) 2. Rsv Brakes & Strg Switch – P61	1. ___ Hyd System Low QTY / RSVR Light(s) INOP 2. Set Rsv Brakes & Strg Switch to Reset/Disable

(M) PROCEDURES

29-33-01A

1. Compare the HYD QTY indication on the EICAS status page and the reservoir level indication on the remote quantity indicator at the fill station
2. If it is necessary, service the hydraulic reservoir(s).
3. For an inoperative center hydraulic system Low QTY or RSVR light, set the P61 panel RESERVE BRAKES & STRG switch to the RESET / DISABLE position prior to dispatch.

NOTE: If "RF" or "O/FILL" is displayed on EICAS Status Display of HYD QTY, check / service prior to flight.

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29-33-01B

1. PRIOR TO EACH DEPARTURE, use the remote quantity indicator at the fill station to examine the quantity of hydraulic fluid in the applicable reservoir.
2. If it is necessary, service the hydraulic reservoir(s).
3. For an inoperative center hydraulic system Low QTY or RSVR light, set the P61 panel RESERVE BRAKES & STRG switch to the RESET / DISABLE position prior to dispatch.

NOTE: If the remote quantity indicator at the fill station is inoperative, you can use the sight gauge on the applicable reservoir(s).

For left hydraulic system low QTY or RSVR light(s) inoperative only, cap and stow the Power Transfer Unit (PTU) Signal Wire as follows:

1. Open the E/E access door.
2. On the miscellaneous equipment panel, P37, disconnect the wire from diode R397 terminal C (TB274) (Ref. Wiring Diagram 29-11-14).
3. Cap and stow the wire.
4. Make logbook entry stating PTU Signal Wire has been disconnected and **must** be reconnected before MCO is cleared.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-33-02 HYD QTY Indications	**N**	3	0	**C**	**(M)** May be inoperative provided: a) Associated reservoir level (s) is verified normal PRIOR TO EACH DEPARTURE (Logbook Entry Required), b) Associated SYS PRESS lights operate normally, and c) With left hydraulic system low QTY or RSVR light inoperative, left low quantity signal wire of PTU system is capped and stowed. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
29-33-02	1. Affected Low QTY or RSVR Light(s) 2. Rsv Brakes & Strg Switch – P61	1. Hyd System Low QTY / RSVR Light(s) INOP 2. Set Rsv Brakes & Strg Switch to Reset/Disable

(M) PROCEDURES

1. PRIOR TO EACH DEPARTURE, use the remote quantity indicator at the fill station to examine the quantity of hydraulic fluid in the applicable reservoir.
2. If it is necessary, service the hydraulic reservoir(s).
3. For an inoperative center hydraulic system Low QTY or RSVR light, set the P61 panel RESERVE BRAKES & STRG switch to the RESET / DISABLE position prior to dispatch.

NOTE: If the remote quantity indicator at the fill station is inoperative, you can use the sight gauge on the applicable reservoir(s).

For left hydraulic system low QTY or RSVR light(s) inoperative only, cap and stow the Power Transfer Unit (PTU) Signal Wire as follows:

1. Open the E/E access door.
2. On the miscellaneous equipment panel, P37, disconnect the wire from diode R397 terminal C (TB274) (Ref. Wiring Diagram 29-11-14).
3. Cap and stow the wire.
4. Make logbook entry stating PTU Signal Wire has been disconnected and **must** be reconnected before MCO is cleared.

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30-31-02C Angle of Attack (AOA) and Temperature (TAT) Probe Heat Lights 30-23
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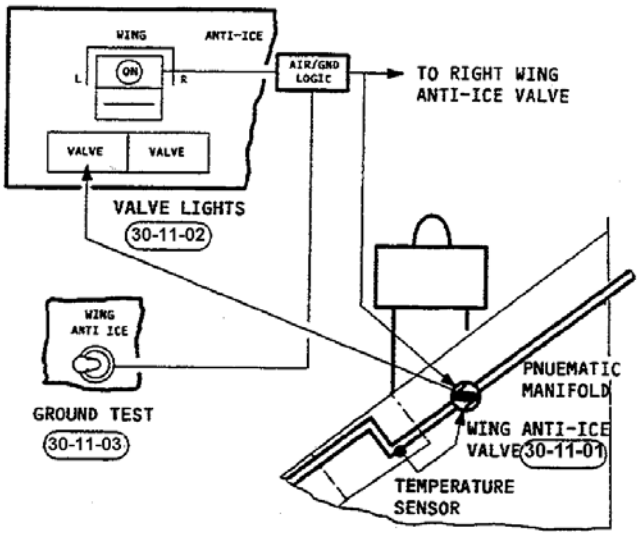
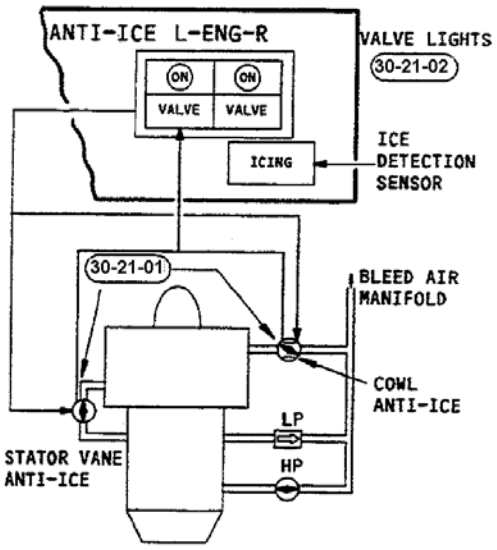
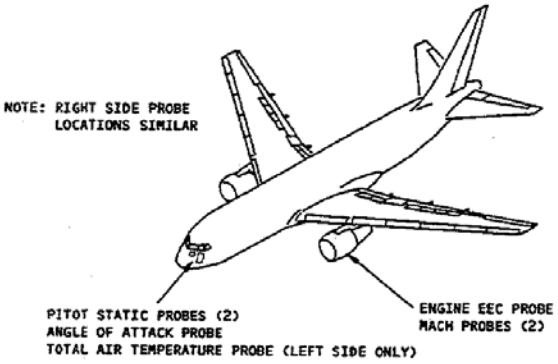


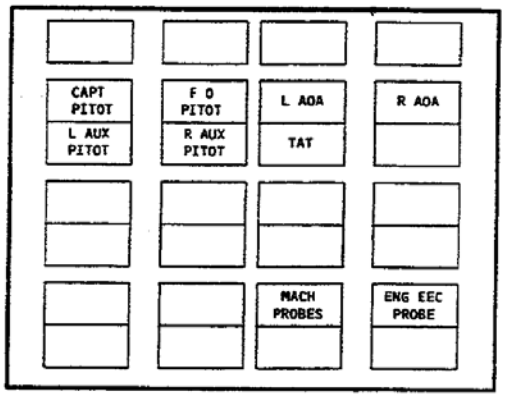
WING ANTI-ICE SCHEMATIC



ENGINE ANTI-ICE SCHEMATIC



PROBE LOCATIONS



OVERHEAD PANEL

A/A SENSOR HEAT SYSTEM
30-32-01

PITOT STATIC PROBE HEATER SYSTEMS
30-31-01

TAT PROBE HEATER SYSTEM
30-33-01

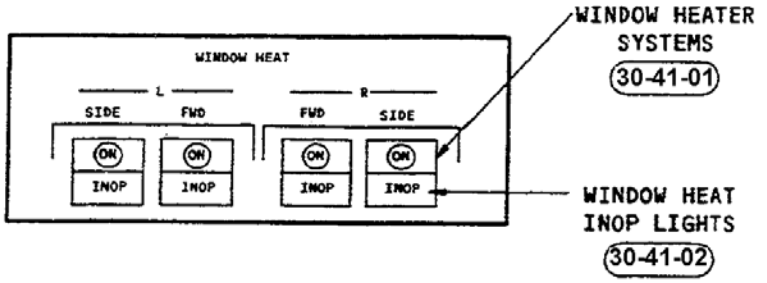
ENGINE MACH PROBE HEATER SYSTEM
30-34-02

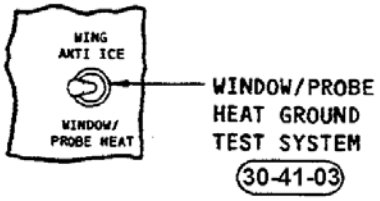
ENGINE EEC PROBE HEATER SYSTEM
30-34-01

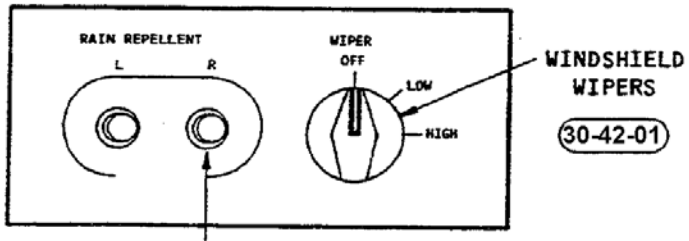
PROBE HEAT LIGHTS
30-31-02
30-31-05
Captain's and F/O's only

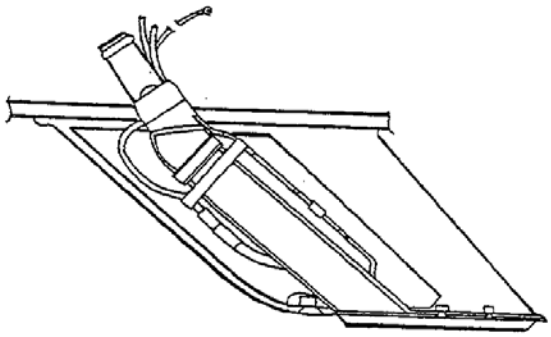
ENGINE MACH PROBE LIGHT
30-31-04

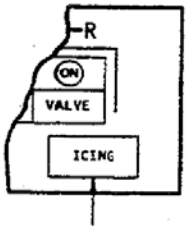
ENGINE EEC PROBE LIGHT
30-31-03


WINDOW HEAT
L
R
SIDE
FWD
FWD
SIDE
ON
INOP
WINDOW HEATER SYSTEMS
30-41-01
WINDOW HEAT INOP LIGHTS
30-41-02


WING ANTI ICE
WINDOW/ PROBE HEAT
WINDOW/PROBE HEAT GROUND TEST SYSTEM
30-41-03


RAIN REPELLENT
L
R
WIPER
OFF
LOW
HIGH
WINDSHIELD WIPERS
30-42-01
RAIN REPELLENT SYSTEM
30-43-01


DRAIN MAST HEATERS
30-71-01


R
ON
VALVE
ICING
ICE DETECTION SYSTEM
30-80-01

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-11-01 Wing Anti-Ice Valves **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative CLOSED provided airplane is not operated in known or forecast icing conditions. Theater Restrictions May Apply

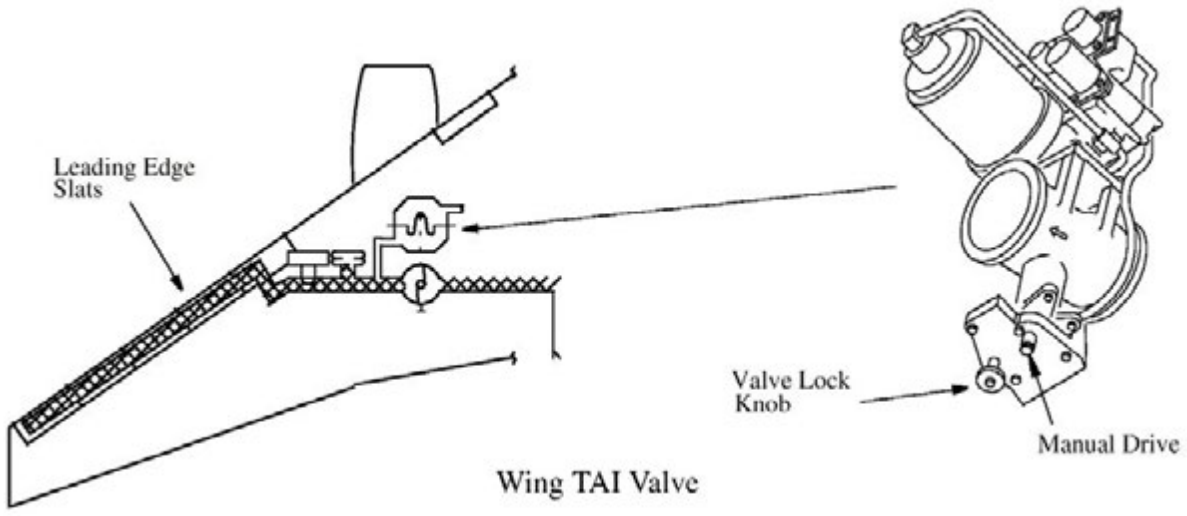
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-11-01	Wing Anti-Ice Switch	___ Wing Anti-Ice Valve(s) INOP CLOSED

(M) PROCEDURES

1. Check that ANTI-ICE WING switch on overhead panel is OFF.
2. Gain access to wing anti-ice valve through fixed wing upper panel 511PT (left wing) or 611PT (right wing).

> **WARNING:** TAI DUCT MAY BE HOT. ALLOW DUCT TO COOL BEFORE CLOSING VALVE. SEVERE BURNS MAY RESULT.

3. If valve is not closed, wrench manual drive nut (7/16 inch hex drive) counterclockwise to close valve.
4. Lift and rotate valve lock 90° clockwise to lock valve closed. A push button on the valve housing allows manual operation. The valve can only be locked in the full closed position.



Wing TAI Valve

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-11-02A	Wing Anti-Ice VALVE Lights	**Y**	2	0	**C**	**(O)** May be inoperative provided associated valve operates normally.
30-11-02B	Wing Anti-Ice VALVE Lights **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	May be inoperative provided associated valve(s) is inoperative and deferred per MEL 30-11-01.
30-11-02C	Wing Anti-Ice VALVE Lights	**Y**	2	0	**C**	May be inoperative provided associated EICAS Advisory message L/R WING ANTI-ICE operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-11-02A	Affected Wing Anti-Ice VALVE Light(s)	___ Wing Anti-Ice VALVE Light(s) INOP
30-11-02B	Affected Wing Anti-Ice VALVE Light(s)	___ Wing Anti-Ice VALVE Light(s) INOP
30-11-02C	Affected Wing Anti-Ice VALVE Light(s)	___ Wing Anti-Ice VALVE Light(s) INOP

(O) PROCEDURES

30-11-02A

When repositioning switch, observe duct pressure indicator for pressure fluctuation indicating movement of valve.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-11-03 Wing Anti-Ice Ground Test	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-11-03	Wing Anti-Ice Ground Test Switch – P61 Panel	Wing Anti-Ice Ground Test INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENGINE ANTI-ICE VALVES					
30-21-01A Engine Anti-Ice Valves (Cowl Valves) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative CLOSED provided airplane is not operated in known or forecast icing conditions. Theater Restrictions May Apply
30-21-01B Engine Anti-Ice Valves (Cowl Valves) (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative OPEN provided: a) High pressure shutoff valve is secured closed, b) Bleed air switch for associated engine remains OFF except when TAT is 10 degrees C or below, c) For operations with associated bleed air switch OFF, 1) APU is used as air source for Air Driven Pump (ADP) for takeoff, 2) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, 3) Airplane is not operated in known or forecast icing conditions, and 4) Airplane remains at or below FL 350, d) For operations with associated bleed air switch ON, a minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, e) Remaining (opposite) engine bleed system operates normally, f) Associated PRV operates normally, g) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, and h) Appropriate performance adjustments are applied. NOTE: Bleed air switch for associated engine may be selected ON when TAT is 10 degrees C or below. Theater Restrictions May Apply

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENGINE ANTI-ICE VALVES					
30-21-01C Engine Anti-Ice Valves (Cowl Valves) (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative OPEN provided: a) High pressure shutoff valve is secured closed, b) Bleed air switch for associated engine remains OFF except when TAT is 10 degrees C or below, c) For operations with associated bleed air switch OFF, 1) Appropriate performance penalties are applied, 2) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, 3) Airplane is not operated in known or forecast icing conditions, and 4) Airplane remains at or below FL 350, d) For operations with associated bleed air switch ON, a minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, e) Remaining (opposite) engine bleed system operates normally, f) Associated PRV operates normally, g) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, and h) Appropriate performance adjustments are applied. NOTE: Bleed air switch for associated engine may be selected ON when TAT is 10 degrees C or below. Theater Restrictions May Apply

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENGINE ANTI-ICE VALVES (Continued)					
30-21-01D Engine Anti-Ice Valves (Cowl Valves) (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative OPEN provided: a) High pressure shutoff valve is secured closed, b) Bleed air switch for associated engine remains OFF except when TAT is 10 degrees C or below, c) For operations with associated bleed air switch OFF, 1) APU is used as air source for Air Driven Pump (ADP) for takeoff, 2) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, 3) Airplane is not operated in known or forecast icing conditions, and 4) Airplane remains at or below FL 350, d) For operations with associated bleed air switch ON, a minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, e) Remaining (opposite) engine bleed system operates normally, f) Associated PRV operates normally, g) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, h) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, and i) Appropriate performance adjustments are applied. NOTE: Bleed air switch for associated engine may be selected ON when TAT is 10 degrees C or below. Theater Restrictions May Apply

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENGINE ANTI-ICE VALVES (Continued)					
30-21-01E Engine Anti-Ice Valves (Cowl Valves) (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative OPEN provided: a) High pressure shutoff valve is secured closed, b) Bleed air switch for associated engine remains OFF except when TAT is 10 degrees C or below, c) For operations with associated bleed air switch OFF, 1) Appropriate performance penalties are applied, 2) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, 3) Airplane is not operated in known or forecast icing conditions, and 4) Airplane remains at or below FL 350, d) For operations with associated bleed air switch ON, a minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, e) Remaining (opposite) engine bleed system operates normally, f) Associated PRV operates normally, g) Hydraulic Motor Generator (HMG) is considered inoperative and deferred per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate, h) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, and i) Appropriate performance adjustments are applied. NOTE: Bleed air switch for associated engine may be selected ON when TAT is 10 degrees C or below. Theater Restrictions May Apply

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-21-01A	Asociated Engine Anti-Ice Switch	___ Engine Anti-Ice Valve INOP CLOSED
30-21-01B	Asociated Engine Anti-Ice Switch	___ Engine Anti-Ice Valve INOP OPEN
30-21-01C	Asociated Engine Anti-Ice Switch	___ Engine Anti-Ice Valve INOP OPEN
30-21-01D	1. Asociated Engine Anti-Ice Switch 2. Near Upper EICAS Display	1. ___ Engine Anti-Ice Valve INOP OPEN 2. ___ THR REV Deactivated.
30-21-01E	1. Asociated Engine Anti-Ice Switch 2. Near Upper EICAS Display	1. ___ Engine Anti-Ice Valve INOP OPEN 2. ___ THR REV Deactivated.

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

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(O) PROCEDURES

30-21-01B

1. Set the engine anti-ice switch to OFF.

   NOTE: The anti-ice capability is addressed by use of bleed air switch position and engine N1 speed.

2. For TAT greater than 10 degrees C:

   a. Set the bleed air switch to OFF.
   b. Set the PACK control selector to OFF for the affected side. The remaining (opposite) AC pack will pressurize and condition the airplane.
   c. APU bleed air can be used to avoid ADP performance penalties. Average fuel consumption for APU operation is 220 lbs per hour.
   d. For takeoff and landing using APU as air source for ADP:

      1) Close the center isolation valve.
      2) Open the center isolation valve when the APU is shut down.

   e. Remain clear of icing conditions.
   f. Open the associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
   g. After flap retraction and after TAT is 10 degrees C or below, set the bleed air switch to ON.

3. For TAT 10 degrees C or below:

   a. Set the bleed air switch to ON.
   b. Close the associated bleed isolation valve, if applicable.
   c. Set the associated pack on, if applicable and if desired. The pack must be on for flight above FL350.

4. If icing conditions are encountered, maintain 70% (55% below 10,000 feet, except as required for landing) N1 on affected engine to ensure that adequate bleed air is available for anti-ice systems.
5. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:

   a. Confirm the manifold pressure on the affected side is less than 10 psi.
   b. Confirm the isolation valve on the affected side is closed.
   c. Confirm the air conditioning pack on the affected side is not selected OFF. Set the PACK control selector to AUTO or STBY.
   d. Advance the throttle to approximately 80% N2 to open the PRSOV and pack flow control valve.

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30-21-01B	**ENGINE ANTI-ICE VALVES (COWL VALVES OPEN) – ADP AVAILABLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 6,200 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 1.5%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 4,100 lbs. 2. Reduce T/O CLIMB LIMIT by 4,100 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 4,100 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 4,100 lbs.

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30-21-01C

1. Set the engine anti-ice switch to OFF.

   NOTE: The anti-ice capability is addressed by use of bleed air switch position and engine N1 speed.

2. For TAT greater than 10 degrees C:

   a. Set the bleed air switch to OFF.
   b. Set the PACK control selector to OFF for the affected side. The remaining (opposite) AC pack will pressurize and condition the airplane.
   c. For APU bleed air not available, the ADP will be unavailable for takeoff and landing, refer to MEL 29-11-03A or 29-11-03B as appropriate for (O) Procedures. Apply the performance corrections in this item in lieu of the performance corrections located in 29-11-03A or 29-11-03B as appropriate.
   d. Remain clear of icing conditions.
   e. Open the associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
   f. After flap retraction and after TAT is 10 degrees C or below, set the bleed air switch to ON.

3. For TAT 10 degrees C or below:

   a. Set the bleed air switch to ON.
   b. Close the associated bleed isolation valve, if applicable.
   c. Set the associated pack on, if applicable and if desired. The pack must be on for flight above FL350.

4. If icing conditions are encountered, maintain 70% (55% below 10,000 feet, except as required for landing) N1 on affected engine to ensure that adequate bleed air is available for anti-ice systems.
5. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:

   a. Confirm the manifold pressure on the affected side is less than 10 psi.
   b. Confirm the isolation valve on the affected side is closed.
   c. Confirm the air conditioning pack on the affected side is not selected OFF. Set the PACK control selector to AUTO or STBY.
   d. Advance the throttle to approximately 80% N2 to open the PRSOV and pack flow control valve.

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30-21-01C	**ENGINE ANTI-ICE VALVES (COWL VALVES OPEN) - ADP NOT AVAILABLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 6,200 lbs. 2. Increase BLOCK FUEL by 1.5%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF – TAT above 50°F (10°C) (Bleed air switch off)** 1. Reduce RATOW by 44,100 lbs. 2. Reduce T/O CLIMB LIMIT by 44,100 lbs. **TAKEOFF – TAT 50°F (10°C) or below (Bleed air switch on)** 1. Reduce RATOW by 4,100 lbs. 2. Reduce T/O CLIMB LIMIT by 4,100 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 4,100 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 4,100 lbs.

CONTINUED NEXT PAGE

30-21-01D

1. Set the engine anti-ice switch to OFF.

   NOTE: The anti-ice capability is addressed by use of bleed air switch position and engine N1 speed.

2. For TAT greater than 10 degrees C:

   a. Set the bleed air switch to OFF.
   b. Set the PACK control selector to OFF for the affected side. The remaining (opposite) AC pack will pressurize and condition the airplane.
   c. APU bleed air can be used to avoid ADP performance penalties. Average fuel consumption for APU operation is 220 lbs per hour.
   d. For takeoff and landing using APU as air source for ADP:

      1) Close the center isolation valve.
      2) Open the center isolation valve when the APU is shut down.

   e. Remain clear of icing conditions.
   f. Open the associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
   g. After flap retraction and after TAT is 10 degrees C or below, set the bleed air switch to ON.

3. For TAT 10 degrees C or below:

   a. Set the bleed air switch to ON.
   b. Close the associated bleed isolation valve, if applicable.
   c. Set the associated pack on, if applicable and if desired. The pack must be on for flight above FL350.

4. If icing conditions are encountered, maintain 70% (55% below 10,000 feet, except as required for landing) N1 on the affected engine to ensure adequate bleed air is available for anti-ice systems.
5. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:

   a. Confirm the manifold pressure on the affected side is less than 10 psi.
   b. Confirm the isolation valve on the affected side is closed.
   c. Confirm the air conditioning pack on the affected side is not selected OFF. Set the PACK control selector to AUTO or STBY.
   d. Advance the throttle to approximately 80% N2 to open the PRSOV and pack flow control valve.

CONTINUED NEXT PAGE

30-21-01D	**ENGINE ANTI-ICE VALVES (COWL VALVES OPEN) – ADP AVAILABLE**
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 4,100 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 1.0%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 3,300 lbs. 2. Reduce T/O CLIMB LIMIT by 3,300 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 3,300 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 3,300 lbs.

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30-21-01E

1. Set the engine anti-ice switch to OFF.

   NOTE: The anti-ice capability is addressed by use of bleed air switch position and engine N1 speed.

2. For TAT greater than 10 degrees C:

   a. Set the bleed air switch to OFF.
   b. Set the PACK control selector to OFF for the affected side. The remaining (opposite) AC pack will pressurize and condition the airplane.
   c. For APU bleed air not available, the ADP will be unavailable for takeoff and landing, refer to MEL 29-11-03A or 29-11-03B as appropriate for (O) Procedures. Apply the performance corrections in this item in lieu of the performance corrections located in 29-11-03A or 29-11-03B as appropriate.
   d. Remain clear of icing conditions.
   e. Open the associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
   f. After flap retraction and after TAT is 10 degrees C or below, set the bleed air switch to ON.

3. For TAT 10 degrees C or below:

   a. Set the bleed air switch to ON.
   b. Close the associated bleed isolation valve, if applicable.
   c. Set the associated pack on, if applicable and if desired. The pack must be on for flight above FL350.

4. If icing conditions are encountered, maintain 70% (55% below 10,000 feet, except as required for landing) N1 on the affected engine to ensure adequate bleed air is available for anti-ice systems.
5. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:

   a. Confirm the manifold pressure on the affected side is less than 10 psi.
   b. Confirm the isolation valve on the affected side is closed.
   c. Confirm the air conditioning pack on the affected side is not selected OFF. Set the PACK control selector to AUTO or STBY.
   d. Advance the throttle to approximately 80% N2 to open the PRSOV and pack flow control valve.

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30-21-01E	**ENGINE ANTI-ICE VALVES (COWL VALVES OPEN) - ADP NOT AVAILABLE**
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 4,100 lbs. 2. Increase BLOCK FUEL by 1.0%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF – TAT above 50°F (10°C) (Bleed air switch off)** 1. Reduce RATOW by 43,300 lbs. 2. Reduce T/O CLIMB LIMIT by 43,300 lbs. **TAKEOFF – TAT 50°F (10°C) or below (Bleed air switch on)** 1. Reduce RATOW by 3,300 lbs. 2. Reduce T/O CLIMB LIMIT by 3,300 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 3,300 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 3,300 lbs.

CONTINUED NEXT PAGE

(M) PROCEDURES

30-21-01A

Lock the cowl valve in the closed position.

1. Gain access to the affected cowl valve (AMM 30-21-03/401).
2. Position the cowl valve closed using the manual drive.
3. Lock the cowl valve in the closed position using the valve lock.
4. Set the associated ENGINE ANTI-ICE switch off and confirm the VALVE light is extinguished.

30-21-01B, 30-21-01C

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) Procedures for a listing of those items.

Lock the cowl valve open and lock the HPSOV closed.

1. Gain access to the affected cowl valve (AMM 30-21-03/401).
2. Position the cowl valve open using the manual drive.
3. Lock the cowl valve in the open position using the valve lock.
4. Set the associated ENGINE ANTI-ICE switch off and confirm the VALVE light is illuminated.
5. Lock the HPSOV closed using MEL 36-11-02 (M) procedures.
6. Defer the Hydraulic Motor Generator (HMG) per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate.

30-21-01D, 30-21-01E

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) Procedures for a listing of those items.

Lock the cowl valve open, lock the HPSOV closed, and deactivate and secure the thrust reverser in the forward thrust position.

1. Gain access to the affected cowl valve (AMM 30-21-03/401).
2. Position the cowl valve open using the manual drive.
3. Lock the cowl valve in the open position using the valve lock.
4. Set the associated ENGINE ANTI-ICE switch off and confirm the VALVE light is illuminated.
5. Lock the HPSOV closed using MEL 36-11-02 (M) procedures.
6. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.
7. Defer the Hydraulic Motor Generator (HMG) per MEL 24-25-01A, 24-25-01B, 24-25-01C or 24-25-01D as appropriate.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH		REPAIR CATEGORY	REMARKS OR EXCEPTIONS
30-21-02A	Engine Anti-Ice VALVE Lights **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(M)** May be inoperative provided associated valve is verified to operate normally before operating in known or forecast icing conditions.
30-21-02B	Engine Anti-Ice VALVE Lights **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	May be inoperative provided associated valve is inoperative and deferred per MEL 30-21-01A or 30-21-01B as appropriate.
30-21-02C	Engine Anti-Ice VALVE Lights **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** One may be inoperative provided associated EICAS Advisory message L/R ENG ANTI-ICE operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-21-02A	Affected Engine Anti-Ice VALVE Light	___ Engine Anti-Ice VALVE Light INOP
30-21-02B	Affected Engine Anti-Ice VALVE Light	___ Engine Anti-Ice VALVE Light INOP
30-21-02C	Affected Engine Anti-Ice VALVE Light	___ Engine Anti-Ice VALVE Light INOP

(O) PROCEDURES

30-21-02C

For CF6-80C or PW4000 engines: Substitute the L (R) ENG ANTI-ICE advisory message for the inoperative Engine Anti-ice VALVE lights in the ENGINE ANTI-ICE non-normal procedure .

(M) PROCEDURES

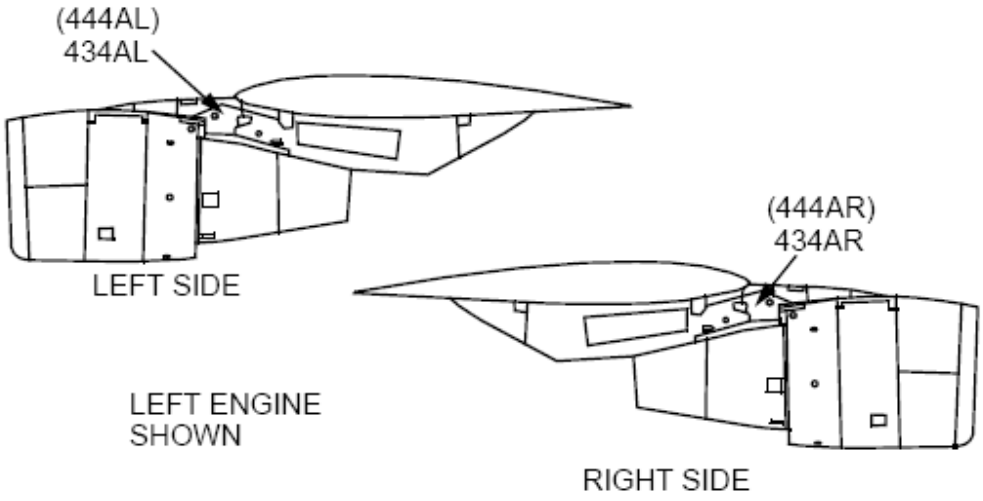
30-21-02A

Prior to flight into icing conditions, verify operation of engine anti-ice valve as follows:

1. Supply electrical power.
2. Pressurize the pneumatic system with either a ground air source or with APU.
3. Locate the appropriate engine anti-ice valve. Nacelle anti-ice valves are located in nacelle strut area above engine midpoint. Access panels are located on both sides of the engine strut:

CONTINUED NEXT PAGE

ENGINE	ACCESS PANELS
Left	434AL and 434AR
Right	444AL and 444AR



4. Use one of the following methods to verify valve operation.

   a. Method 1, listening for the solenoid:

      1) Station observer near affected valve.
      2) On wing and engine ANTI-ICE control panel (P-5), position associated L or R ENGINE switch light ON and then OFF. Ground observer should hear solenoid operate. If area is noisy, the access door or cowling may be opened to aid in hearing the solenoid and/or a mechanic's stethoscope may be used.

   b. Method 2, observing valve position:

      1) Gain access through the appropriate access panel to the associated engine anti-ice valve assembly on the engine anti-ice valve duct.
      2) Locate the valve position indicator hex nut adjacent to the valve manual override selector. The hex nut has a position pointer indicating OPEN or CLOSED. The manual override selector must remain at NORMAL.
      3) On wing and engine ANTI-ICE control panel (P-5), position associated L or R ENGINE switch light ON.

      CAUTION: IF THE PNEUMATIC AIR IS HOT (APPROXIMATELY 350 DEGREES F) DO NOT OPEN THE ENGINE INLET ANTI-ICE VALVE FOR MORE THAN 30 SECONDS. AFTER THE VALVE CLOSES, LET THE INLET COWL BECOME COOL. TOO MUCH HEAT CAN CAUSE DAMAGE TO THE INLET COWL.

      4) Visually confirm that the valve position indicator hex nut rotates to indicate OPEN.
      5) On wing and engine ANTI-ICE control panel (P-5), position associated L or R ENGINE switch light OFF.
      6) Visually confirm that the valve position indicator hex nut rotates to indicate CLOSED.

5. Release the pressure in the pneumatic system.
6. Restore airplane to its required configuration.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-31-01	Pitot-Static Probe Heater System **"DISP.APPR.REQ'D."**	**Y**	4	3	**B**	Except for ER operations (ETOPS) beyond 120 minutes, one probe heater may be inoperative provided airplane is not operated in visible moisture, or in known or forecast icing conditions.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-31-01	Overhead Annunciator Panel	___ Pitot-Static Probe Heater INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	PROBE HEAT LIGHTS					
30-31-02A	Probe Heat Lights (Except CAPT and F/O PITOT) **"Contact MCC"**	**Y**	5	0	**B**	**(M)** May be inoperative provided: a) Associated EICAS Advisory message is verified to operate normally, and b) Probe heater systems operate normally.
30-31-02B	Pitot Probe Heat Lights (Except CAPT and F/O PITOT) **"DISP.APPR.REQ'D."**	**Y**	2	1	**B**	May be inoperative provided associated probe heater is considered inoperative and deferred per MEL 30-31-01.
30-31-02C	Angle of Attack (AOA) and Temperature (TAT) Probe Heat Lights **"DISP.APPR.REQ'D."**	**Y**	3	1	**C**	May be inoperative provided associated probe heater is considered inoperative and deferred per MEL 30-32-01 or 30-33-01 as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-31-02A	Overhead Annunciator Panel	___ Probe Heat Light(s) INOP
30-31-02B	Overhead Annunciator Panel	___ Probe Heat Light INOP
30-31-02C	Overhead Annunciator Panel	___ Probe Heat Light(s) INOP

(M) PROCEDURES

30-31-02A

Verify the associated advisory message operates normally.

1. Supply electrical power (AMM 24-22-00/201).
2. Close all probe heat (pitot, AOA and TAT) and probe heat indication circuit breakers.
3. Confirm the PROBE HEAT message is displayed.
4. On the P61 TEST panel, hold the WING ANTI ICE - WINDOW/PROBE HEAT switch in the WINDOW/PROBE HEAT position.
5. Confirm no probe heat advisory messages are displayed.
6. Release the test switch.
7. Open the associated probe heat circuit breaker.
8. Hold the test switch in the WINDOW/PROBE HEAT position.
9. Confirm the associated probe heat advisory message annunciates:
    a. AUX PITOT
    b. L/R AOA PROBE
    c. L/R AUX PITOT
    d. L/R TAT PROBE
    e. STBY INST PITOT
    f. TAT PROBE
10. Close the open circuit breaker.
11. If desired, probe heater functions may be confirmed as follows (AMM 30-31-00/501):
    a. On the P61 TEST panel, hold the test switch in the WINDOW/PROBE HEAT position.
    b. Hold a hand near the probe and confirm probe is warming up. Release the test switch.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
30-31-05	CAPT PITOT and F/O PITOT Heat Indicating Systems (Heater OFF Monitor) **"DISP.APPR.REQ'D."**	**Y**	2	0	**B**	Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Pitot heater systems operate normally, b) Remaining probe heater indicating systems for operative probe heaters operate normally, and c) Airplane is not operated in known or forecast icing conditions.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-31-05	Overhead Annunciator Panel	CAPT PITOT / F/O PITOT Heat Indicating System(s) INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
30-32-01	Angle of Attack Sensor Heater Systems **"DISP.APPR.REQ'D."**	**Y** 2	1	**C**	**(M)** May be inoperative provided: a) Associated AOA vane is verified intact, b) Remaining probe heater indicating systems for operative probe heaters operate normally, and c) Airplane is not operated in known or forecast icing conditions.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-32-01	Overhead Annunciator Panel	___ AOA Sensor Heater INOP

(M) PROCEDURES

Loss of AOA vane heat is annunciated by the Advisory message L (R) AOA PROBE. Verify that the associated vane is intact by visually inspecting it to ensure that it is not bent or missing, and that it moves freely.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-33-01	Temperature (TAT) Probe Heater Systems **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Remaining probe heater indicating systems for operative probe heaters operate normally, b) Airplane is not operated in known or forecast icing conditions, c) Approach procedures do not require its use, and d) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-33-01	Overhead Annunciator Panel	TAT Probe Heater INOP

(O) PROCEDURES

1. For TAT probe heater system inoperative, the TMC considers temperature from the TAT to be invalid and disconnects the autothrottle (reference MEL Item 22-30-01).
2. On airplanes with Pegasus FMCs, both ADC sources are declared invalid when TAT probe heat is inoperative. LNAV and VNAV will be unavailable, waypoints in the FMC flight plan will not be sequenced, and performance predictions will be unavailable. Navigation calculations will be unaffected.
3. The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:

   a. Immediately Prior to Pushback:

      Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

   b. Before Takeoff:

      For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
30-34-01	Engine PT2 / TT2 Probe Heater Systems (PW4000) **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** May be inoperative provided: a) Both EEC's are switched to ALTN mode, b) N_1, N_2, and Fuel Flow systems on associated engine operate normally, c) Appropriate procedures, limitations and performance corrections are applied, and d) Approach procedures do not require its use. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-34-01	Overhead Annunciator Panel	___ Engine PT2 / TT2 Probe Heater INOP

(O) PROCEDURES

Use MEL 73-21-01 (O) Procedures (excluding performance corrections) for the appropriate engine type. Apply the following performance corrections in lieu of the performance corrections located in MEL 73-21-01.

CONTINUED NEXT PAGE

30-34-01	**ENGINE PT2/TT2 PROBE HEATER SYSTEMS**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. For STD + 10°C and below, reduce ENROUTE LIMIT WT by 54,000 lbs. 2. For up to STD + 20°C and below, reduce ENROUTE LIMIT WT by 56,000 lbs. 3. Increase BLOCK FUEL by 1.5%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	1. Performance weight corrections have been applied. 2. Refer to the ODM – Abnormal section for V-speeds and thrust settings.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF – Temperature 59°F and below** 1. Reduce RATOW by 44,500 lbs. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. **TAKEOFF – Temperature 60°F to 80°F** 1. Reduce RATOW by 44,500 lbs. plus 980 lbs. per °F above 59°F. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. plus 890 lbs. per °F above 59°F. **TAKEOFF – Temperature 81°F to 91°F** 1. Reduce RATOW by 65,000 lbs. plus 670 lbs. per °F above 80°F. 2. Reduce T/O CLIMB LIMIT by 62,500 lbs. plus 875 lbs. per °F above 80°F. **TAKEOFF – Temperature 92°F and above** 1. Reduce RATOW by 73,000 lbs. 2. Reduce T/O CLIMB LIMIT by 73,000 lbs. **LANDING – Temperature 56°F and below** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. **LANDING – Temperature 57°F to 80°F** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. plus 1,000 lbs. per °F above 56°F. **LANDING – Temperature 81°F to 91°F** Reduce LANDING CLIMB LIMIT WT by 64,000 lbs. plus 750 lbs. per °F above 80°F. **LANDING – Temperature 92°F and above** Reduce LANDING CLIMB LIMIT WT by 73,000 lbs. **OTHER CORRECTIONS** Refer to the ODM – Abnormal section for V-speeds and thrust settings.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FLIGHT DECK WINDOW HEAT SYSTEMS					
30-41-01A No. 1 (Fwd) Windows **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Airplane is not operated in known or forecast icing conditions, b) Both No. 2 (side) window heaters operate normally, c) Associated windshield pneumatic anti-fog system operates normally, and d) Affected window heat is deactivated.
30-41-01B No. 2 (Side) Windows	**N**	2	1	**C**	**(M)** May be inoperative provided: a) Both No. 1 (fwd) window heaters operate normally, and b) Affected window heat is deactivated.
30-41-01C No. 3 (Side) Windows	**N**	2	0	**C**	**(M)** May be inoperative provided affected window heat is deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-41-01A	Affected Window Heat Switch	___ Window Heat INOP
30-41-01B	Affected Window Heat Switch	___ Window Heat INOP
30-41-01C	Affected Window Heat Switch	___ Window Heat INOP

(M) PROCEDURES

30-41-01A, 30-41-01B, 30-41-01C

1. Deactivate affected flight deck window heater by pulling and securing associated circuit breaker as listed below:

L1 Window: L WINDOW HT NO. 1 (P36 Panel)	R1 Window: R WINDOW HT NO. 1 (P37 Panel)
L2 Window: L WINDOW HT NO. 2 (P37 Panel)	R2 Window: R WINDOW HT NO. 2 (P36 Panel)
L3 Window: L WINDOW HT NO. 3 (P37 Panel)	R3 Window: R WINDOW HT NO. 3 (P36 Panel)

NOTE: Pulling the circuit breaker for an inoperative No. 3 Window heater will illuminate the associated L(R) SIDE INOP light and set the associated L(R) SIDE WINDOW advisory message. This indicates a fault with either the No. 2 or No. 3 window heat.

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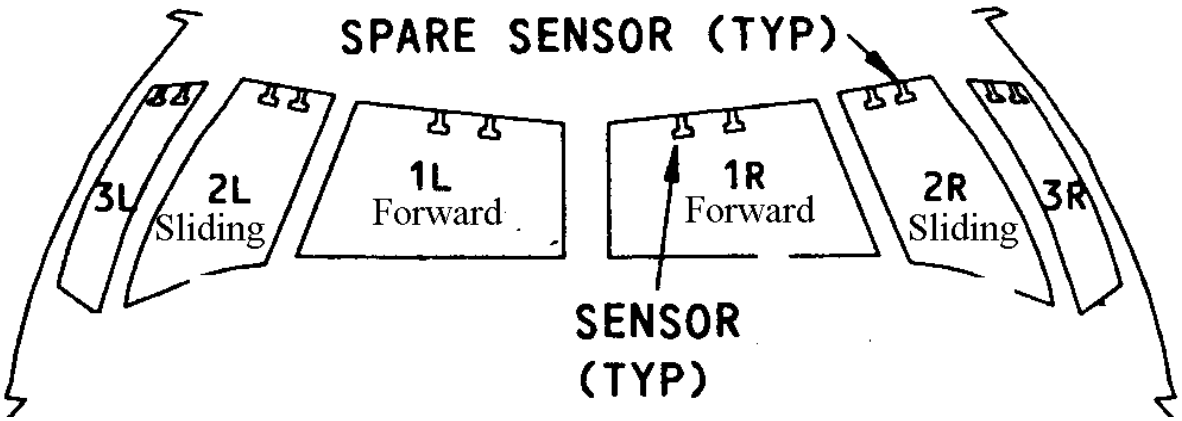
2. To test No. 2 window heat, turn ON the associated SIDE window heat switch and touch the window to verify window heat is operative.

   NOTE: Pulling the circuit breaker for an inoperative No. 2 window heater will illuminate the associated L(R) side window heat INOP light and set the associated L(R) SIDE WINDOW advisory message. This indicates a fault with either the No. 2 or No. 3 window heat.

3. To test No. 3 window heat, turn ON the associated SIDE window heat switch and touch the window to verify window heat is operative.

CONTROL CABIN WINDOWS (LOOKING FORWARD)



	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-41-02A Window Heat INOP Lights	**Y**	4	0	**C**	**(M)** May be inoperative provided associated window heat system is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
30-41-02B Window Heat INOP Lights **"DISP.APPR.REQ'D."**	**Y**	4	1	**C**	May be inoperative provided associated window heat system is inoperative and deferred per MEL 30-41-01A, 30-41-01B or 30-41-01C as appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-41-02A	Affected Window Heat INOP Light(s)	___ Window Heat INOP Light(s) INOP
30-41-02B	Affected Window Heat INOP Light(s)	___ Window Heat INOP Light(s) INOP

(M) PROCEDURES

30-41-02A

1. Provide electrical power to left and right main AC buses.
2. Press four WINDOW HEAT switches on P5 panel to OFF (OUT) position.
3. Verify the WINDOW HEAT message appears on the EICAS display. (This is an advisory level message.)
4. Press four WINDOW HEAT switches (P5) to ON (latched-in) position.
5. Verify none of the following EICAS messages are displayed (these are advisory level messages):

    a. WINDOW HEAT
    b. L SIDE WINDOW
    c. L FWD WINDOW
    d. R SIDE WINDOW
    e. R FWD WINDOW

6. Press the L FWD WINDOW HEAT Switch (P5) to the INOP (out) position.
7. Verify L FWD WINDOW message appears on the EICAS display.
8. Press the L FWD WINDOW HEAT switch (P5) to the ON (latched-in) position.
9. Press the R FWD WINDOW HEAT switch (P5) to the INOP (out) position.
10. Verify the R FWD WINDOW message appears on the EICAS display.
11. Press the R FWD WINDOW HEAT switch (P5) to the ON (latched-in) position.
12. Press the L SIDE WINDOW HEAT switch (P5) to the INOP (out) position.
13. Verify the L SIDE WINDOW message appears on the EICAS display.
14. Press the L SIDE WINDOW HEAT switch (P5) to the ON (latched-in) position.
15. Press the R SIDE WINDOW HEAT switch (P5) to the INOP (out) position.
16. Verify the R SIDE WINDOW message appears on the EICAS display.
17. Press the R SIDE WINDOW HEAT switch (P5) to the ON (latched-in) position.
18. Remove electrical power, if no longer required.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-41-03	Window / Probe Heat Ground Test System	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-41-03	WINDOW / PROBE HEAT Ground Test Switch – P61 Panel	WINDOW / PROBE HEAT Ground Test INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-42-01A	Windshield Wipers **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative provided: a) Airplane is not operated in precipitation within five statute miles of airport of departure or intended landing, and b) Approach minimums do not require its use. CAT II/III Not Authorized
30-42-01B	Windshield Wipers (High Speed)	**Y**	1	0	**C**	May be inoperative provided associated low speed operates normally.
30-42-01C	Windshield Wipers (Low Speed)	**Y**	1	0	**C**	May be inoperative provided associated high speed operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-42-01A	Windshield Wiper Panel	___ Windshield Wiper(s) INOP
30-42-01B	Windshield Wiper Panel	___ Windshield Wiper High Speed INOP
30-42-01C	Windshield Wiper Panel	___ Windshield Wiper Low Speed INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-71-01 Drain Mast Heaters **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(M)** May be inoperative provided water supply to associated galley, lavatory sink and drinking fountain is secured OFF.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-71-01	Logbook	___ Drain Mast Heater(s) INOP

(M) PROCEDURES

If drain mast heater(s) are inoperative, close affected water supply shutoff valves located as follows:

1. Galley shutoff valve.
   a. The location of each galley shutoff valve is given on an identification placard installed in the galley.
2. Lavatory sink shutoff valve.
   a. Each sink shutoff valve is located in the area below the sink.
3. Drinking fountain shutoff valve.
   a. Most drinking fountains have a shutoff valve located in the area just to the left of the fountain.
   b. Other drinking fountains are supplied from the shutoff valve at the adjacent lavatory sink.

If both drain mast heaters are inoperative *Maintenance is Required and Flight Crew May **Not** Placard*:

Pull and secure both "DRAIN MAST HTG." circuit breakers on P33 panel (E/E Compartment).

If forward or aft drain mast heater is inoperative, and it is desirable to deactivate either heater: *Maintenance is Required and Flight Crew May **Not** Placard*

1. Pull both "DRAIN MAST HTG" circuit breakers on P33 panel (E/E Compartment).
2. Open P37 panel - "MISC. ELEC EQUIP R" in E/E compartment.
3. Locate terminal board TB192, Block G20 **OR**,
   TB320, Block YA20F for 767-300 eff. 143-144, 185-201, 521, 601-613, 701-708.
4. Disconnect, cap and stow the applicable wire:
   a. Forward Mast - W1118-155-20.
   b. Aft Mast - W192-823-18 **OR**,
      W320-823-20 for 767-300 eff. 143-144, 185-201, 521, 601-613, 701-708.
5. Close P37 panel - "MISC. ELEC EQUIP R" in E/E compartment.
6. Close the two "DRAIN MAST HTG" circuit breakers on P33 panel.

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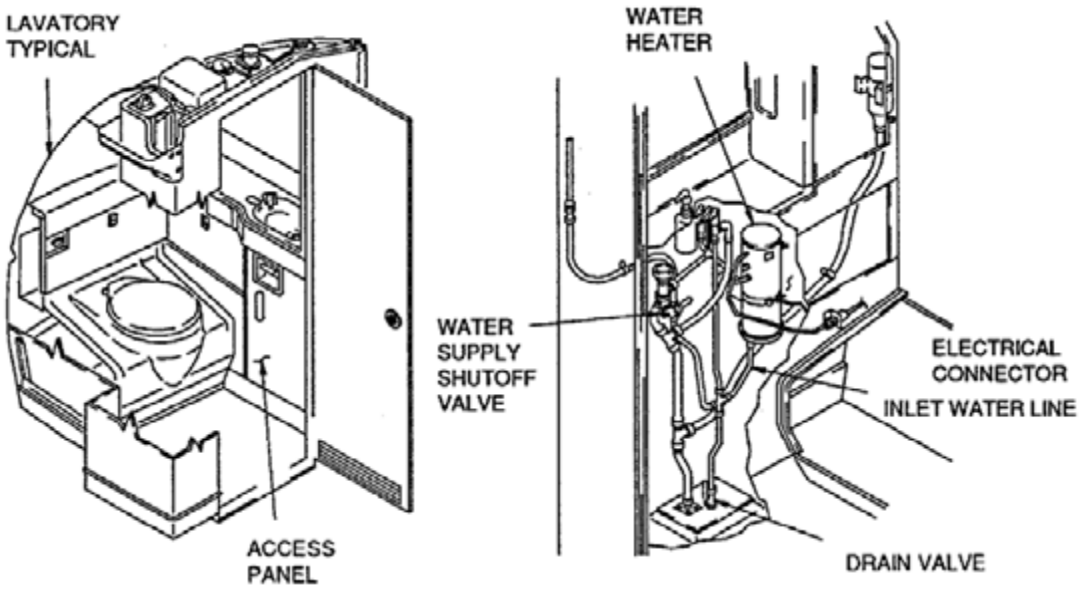
LAVATORY
TYPICAL
ACCESS
PANEL
WATER
HEATER
WATER
SUPPLY
SHUTOFF
VALVE
ELECTRICAL
CONNECTOR
INLET WATER LINE
DRAIN VALVE

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
WASTE SYSTEM HEATERS					
30-72-01A Drain Cap Gasket Heater	**Y** 1	0	**C**		**(M)** May be inoperative deactivated.
30-72-01B Rinse Hose Heater Boot	**Y** 1	0	**C**		**(M)** May be inoperative deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-72-01A	Logbook	Lav Drain Cap Gasket Heater INOP
30-72-01B	Logbook	Lav Rinse Hose Heater Boot INOP

(M) PROCEDURES

30-72-01A, 30-72-01B

1. Open the P33 panel circuit breaker associated with the waste system heater.
2. Disconnect, cap and stow the wire to the associated inoperative heater at panel P33.
3. Close the open circuit breaker.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-80-01A	Ice Detection System (Advisory)	**Y**	1	0	**D**	
30-80-01B	Ice Detection System (Primary)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
30-80-01A	Engine Anti-Ice Panel	Advisory Ice Detection System INOP
30-80-01B	Engine Anti-Ice Panel	Primary Ice Detection System INOP

NOTE: MEL 30-80-01A applies to aircraft with manual wing / engine anti-ice systems. MEL 30-80-01B applies to aircraft with automatic wing / engine anti-ice systems and provides relief for AUTO mode of wing and/or engine anti-ice systems.

(O) PROCEDURES

30-80-01B

Pilot must manually operate wing / engine anti-ice system(s) when in icing conditions.

NOTE: The ICE DETECTORS message may display during takeoff if the primary ice detection system is operated in the manual mode.

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ATA 31 Contents

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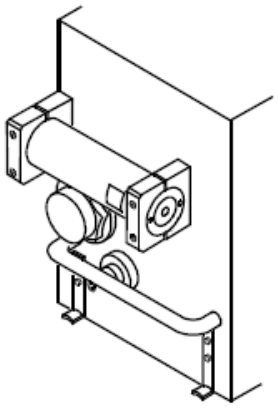
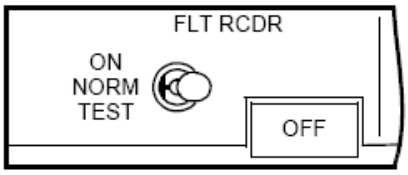
CLOCK

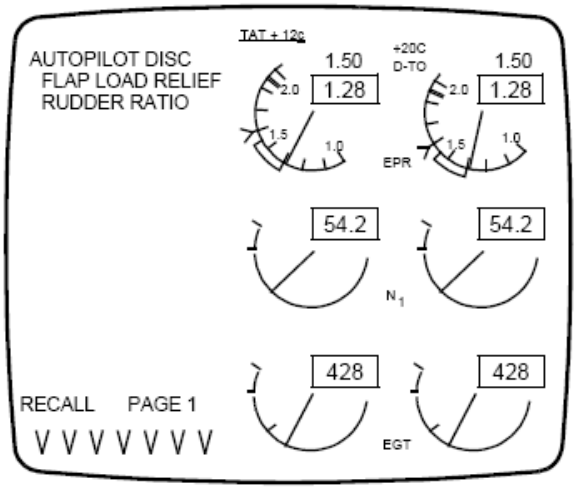
31-25-1





FLIGHT DATA
RECORDER SYSTEM

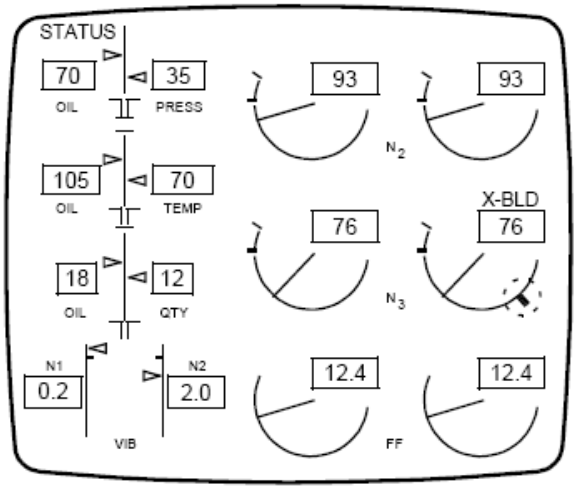
31-31-1



PRIMARY ENGINE PAGE

MASTER CAUTION/
WARNING SYSTEMS

31-51-1



SECONDARY ENGINE PAGE
ENGINE INDICATION AND CREW ALERTING SYSTEM (EICAS)

31-41-1

INDICATING/RECORDING SYSTEMS

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
31-25-01 Clocks	Y	2	1	C	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-25-01	Affected Clock	___ Clock INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
31-31-01A	Flight Data Recorder (FDR) System (Includes Digital Flight Data Acquisition Unit (DFDAU)) **"Contact MCC"**	**Y**	1	0	**A**	May be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, b) Airplane may not depart from ATL, JFK or LAX unless: 1. FDR failure occurs after pushback but prior to takeoff, **OR** 2. FDR repair was attempted but was not successful. c) In those cases where repair is attempted but not successful, aircraft may be dispatched on a flight or series of flights but shall not continue beyond ATL, JFK or LAX where repair must be accomplished prior to dispatch, d) It is required that MCC initiate a Corrective Action Required (CAR) for next designated airport (ATL, JFK or LAX), and e) Repairs are made within 3 flight days.
31-31-01B	FDR Recording Parameters Required by 14 CFR **"Contact MCC"**	**N**	-	-	**A**	Up to three (3) recording parameters may be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, and b) Repairs are made within 20 calendar days. NOTE: Refer to TOPP 40-20-40 for a listing of DFDR parameters required by FAR.
31-31-01C	FDR Recording Parameters Not Required by 14 CFR **"Contact MCC"**	**N**	-	0	**A**	May be inoperative provided repairs are made prior to completion of next heavy maintenance visit (PSV or higher). NOTE: Refer to TOPP 40-20-40 for a listing of DFDR parameters required by FAR.
31-31-01D	Quick Access Recorder (QAR)	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-31-01A	Flt Recorder OFF Light – P61 Panel	Flight Recorder INOP
31-31-01B	Flt Recorder OFF Light – P61 Panel	___ Flight Recorder Parameter INOP
31-31-01C	Flt Recorder OFF Light – P61 Panel	___ Flight Recorder Parameter INOP
31-31-01D	Flt Recorder OFF Light – P61 Panel	QAR INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
31-35-03	Aircraft Condition Monitoring System (ACMS)	**Y**	1	0	**D**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-35-03	Near Lower EICAS Display	ACMS INOP

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ENGINE INDICATING AND CREW ALERTING SYSTEMS (EICAS)					
31-41-01A Display Unit (DU) **"DISP.APPR.REQ'D."**	**Y**	2	1	**A**	**(O)(M)** Except for ER operations (ETOPS), one may be inoperative provided: a) Standby Engine Instruments operate normally and are turned ON, b) Cargo FIRE / OVHT test is performed PRIOR TO EACH DEPARTURE, c) Electronic Engine Control or autothrottle system operates normally, d) At least one autopilot operates normally, e) All EICAS computers operate normally, and f) Repairs or replacements are made within one flight day. NOTE: In event of an additional DU failure enroute, flight crew should consider landing as soon as practical. **Repetitive Check Required (Yellow Placard)**
31-41-01B Computer **"DISP.APPR.REQ'D."**	**Y**	2	1	**A**	**(O)(M)** Except for ER operations (ETOPS), one may be inoperative provided: a) Standby Engine Instruments operate normally and are turned ON, b) Electronic Engine Control or autothrottle operates normally, c) At least one autopilot operates normally, d) Both cathode ray tubes operate normally, and e) Repairs or replacements are made within one flight day. NOTE: In event of an additional computer failure enroute, flight crew should consider landing as soon as practical.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-41-01A	Affected EICAS Display	___ EICAS Display INOP
31-41-01B	EICAS Control Panel	___ EICAS Computer INOP

CONTINUED NEXT PAGE

(O) PROCEDURES

31-41-01A

1. Confirm the standby engine instruments are turned ON.
2. PRIOR TO EACH DEPARTURE, perform the cargo FIRE/OVHT test by pushing the ENG/APU/CARGO test switch on the Fire/Overheat Test panel.
3. If remaining EICAS DU fails inflight:

   a. Use SEI to observe engine parameters.
   b. Consider landing as soon as practical.
   c. Prior to descent, scan the overhead panel for possible abnormal indications.

31-41-01B

1. Before takeoff, with engines running, compare the engine display on EICAS with the standby engine instrument. Confirm the EICAS/SEI engine display differences are within the following tolerances:

PW Engines	
Engine Display	**EICAS/SEI Engine Display Cross-Compare Tolerance**
EPR	.01
EGT	12.0°C
N1	0.2%
N2	1.0%

GE Engines	
Engine Display	**EICAS/SEI Engine Display Cross-Compare Tolerance**
EGT	12.0°C
N1	0.2%
N2	1.0%

2. If the remaining EICAS computer fails:

   a. Use the SEI to observe engine parameters.
   b. Consider landing as soon as practical.
   c. Prior to descent, scan the overhead panel for possible abnormal indications.

3. FMC CALCULATED is not available. FMC uses SENSED FUEL (FQIS fuel).
4. The FMC may determine flight completion during high speed taxi resulting in high IRU residual ground speed.

CONTINUED NEXT PAGE

(M) PROCEDURES

31-41-01A

Deactivate the inoperative DU.

1. Pull and secure the P11 panel circuit breaker for the associated inoperative EICAS DU:
    a. For the upper DU, EICAS UPPER DSPL
    b. For the lower DU, EICAS LOWER DSPL

31-41-01B

Test the remaining operative computer and deactivate the inoperative computer (AMM 31-41-00/501).

1. Test the remaining (operative) computer as follows:
    a. Set the parking brake ON to enable the EICAS test function.
    b. Set the computer select switch to the operative computer.
    c. Press the P61 panel EICAS MAINT TEST switch.
    d. Confirm the TEST OK or SELF TEST COMPLETE message is displayed.
2. Pull and secure the P11 panel circuit breaker for the associated inoperative EICAS computer:
    a. For the left computer, L EICAS COMPUTER
    b. For the right computer, R EICAS COMPUTER

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
31-51-01A	Master Warning Lights (Pilot's Glare Shield)	**Y**	2	1	**C**	May be inoperative provided master warning aural system, and all discrete warning lights operate normally.
31-51-01B	Master Caution Lights (Pilot's Glare Shield)	**Y**	2	1	**C**	May be inoperative provided master caution aural system, and all discrete caution lights operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-51-01A	Affected Master Warning Light	___ Master Warning Light INOP
31-51-01B	Affected Master Caution Light	___ Master Caution Light INOP

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
31-61-04A EICAS Status Messages	**N**	-	0	**C**	**(O)(M)** May be inoperative provided associated equipment is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
31-61-04B EICAS Status Messages **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)(M)** May be inoperative provided dispatch deviations for associated equipment are observed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-61-04A	Near Lower EICAS Display	___ EICAS Status Message(s) INOP
31-61-04B	Near Lower EICAS Display	___ EICAS Status Message(s) INOP

(O) PROCEDURES and (M) PROCEDURES

31-61-04A, 31-61-04B

1. Dispatch with inoperative Status level messages is allowed by the provisions of this MEL item.
2. An inoperative message is a message that is displayed when there is no actual equipment fault. If an inoperative message is suspected, the airplane may be dispatched by either provision in this MEL item.
3. Dispatch is accomplished by verifying the equipment associated with the inoperative EICAS status message operates normally, or by observing the dispatch deviation(s) for the associated equipment, if available. The EICAS Cross Reference List in Section 1 of this manual can be used to locate the appropriate MEL item for possible dispatch.
4. Service letter 767-SL-31-032 dated March 8, 1994 gives procedures to verify normal operation of equipment known to experience nuisance EICAS messages. Status EICAS messages included in the service letter are contained on the following list:

   CABIN ALT AUTO 1
   CABIN ALT AUTO 2
   EICAS DISAGREE
   EICAS SCC
   FUEL QTY BITE
   FUEL QTY CHANNEL
   GND PROX BITE
   L, R ENG EEC C1
   L, R ENG FIRE LP1,2
   L, R IDG TEMP SENS

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
31-61-05	EICAS Signal Consolidation Card (SCC) **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)**May be inoperative provided: a) Fuel quantity indication is verified to operate normally PRIOR TO EACH DEPARTURE (Logbook Entry Required), and b) Dispatch deviations for associated equipment are observed. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
31-61-05	Near Lower EICAS Display	EICAS Signal Consolidation Card (SCC) INOP

(O) PROCEDURES

Review items deferred, per (M) Procedure, and reference associated (O) Procedure for TCAS system if deactivated per MEL 34-45-01A.

(M) PROCEDURES

1. Verify the flight deck fuel quantity indicators operate normally by accomplishing the fuel quantity system test from the P61 panel:
   a. (Honeywell FQIS - Ref. AMM 28-41-00-715-001 – Step G, Check of the Flight Deck Indicators).
   b. (Simmonds FQIs - Ref. AMM 28-41-00-715-002 – Step G, Check of the Flight Deck Indicators).

2. Systems and messages associated with the EICAS SCC vary depending on the hardware options on the airplane. Listed below are the EICAS messages which could be affected by SCC faults. Maintenance messages do NOT affect dispatch. Observe dispatch deviations for status messages listed below.

   M - Maintenance Level EICAS
   S - Status Level EICAS

   a. FUEL QTY CHANNEL /S/ See step 1 above. NO DISPATCH if message displayed.
   b. FUEL QTY IND /S/ See step 1 above. NO DISPATCH if message displayed.
   c. SLAT ISLN VAL /M/ Information only, does not affect dispatch.
   d. TCAS SYSTEM /S,M/ Ref. MEL 34-61-02.
   e. AFT WASTE SNSR /M/ Information only, does not affect dispatch.
   f. FWD WASTE SNSR /M/ Information only, does not affect dispatch.
   g. L SPOILER MDL 1 /M/ Information only, does not affect dispatch.
   h. L SPOILER MDL 2 /M/ Information only, does not affect dispatch.
   i. L SPOILER MDL 3 /M/ Information only, does not affect dispatch.
   j. R SPOILER MDL 1 /M/ Information only, does not affect dispatch.
   k. R SPOILER MDL 2 /M/ Information only, does not affect dispatch.
   l. R SPOILER MDL 3 /M/ Information only, does not affect dispatch.

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ATA 32 Contents

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32-41-02A BRAKE SOURCE Indication System 32-13
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LANDING GEAR DOOR LATCH PROXIMITY SENSOR 32-41
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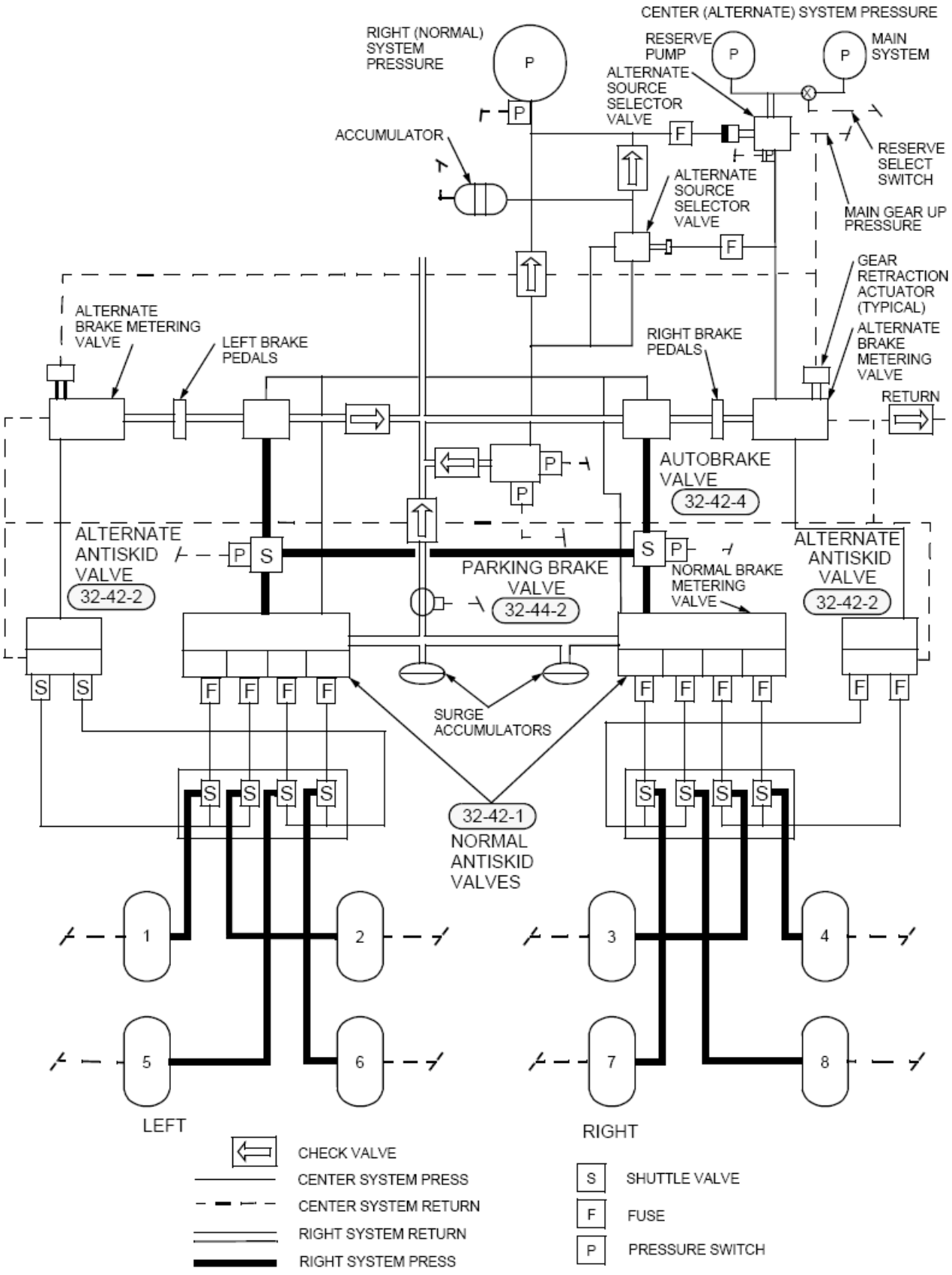
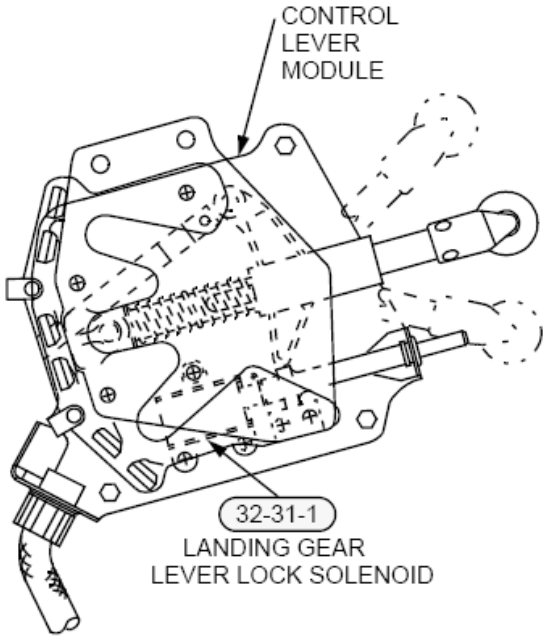

CENTER (ALTERNATE) SYSTEM PRESSURE
RIGHT (NORMAL) SYSTEM PRESSURE
RESERVE PUMP
MAIN SYSTEM
ALTERNATE SOURCE SELECTOR VALVE
ACCUMULATOR
RESERVE SELECT SWITCH
ALTERNATE SOURCE SELECTOR VALVE
MAIN GEAR UP PRESSURE
GEAR RETRACTION ACTUATOR (TYPICAL)
ALTERNATE BRAKE METERING VALVE
LEFT BRAKE PEDALS
RIGHT BRAKE PEDALS
ALTERNATE BRAKE METERING VALVE
RETURN
AUTOBRAKE VALVE
32-42-4
ALTERNATE ANTISKID VALVE
32-42-2
PARKING BRAKE VALVE
32-44-2
NORMAL BRAKE METERING VALVE
ALTERNATE ANTISKID VALVE
32-42-2
SURGE ACCUMULATORS
32-42-1
NORMAL ANTISKID VALVES
1
2
3
4
5
6
7
8
LEFT
RIGHT
CHECK VALVE
CENTER SYSTEM PRESS
CENTER SYSTEM RETURN
RIGHT SYSTEM RETURN
RIGHT SYSTEM PRESS
S SHUTTLE VALVE
F FUSE
P PRESSURE SWITCH

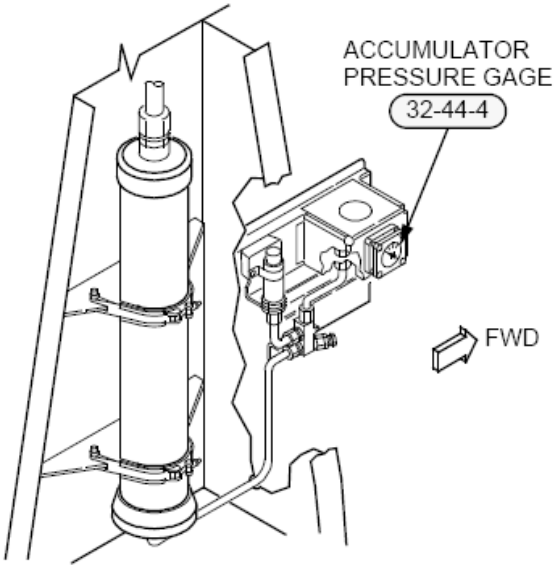


BRAKE SOURCE

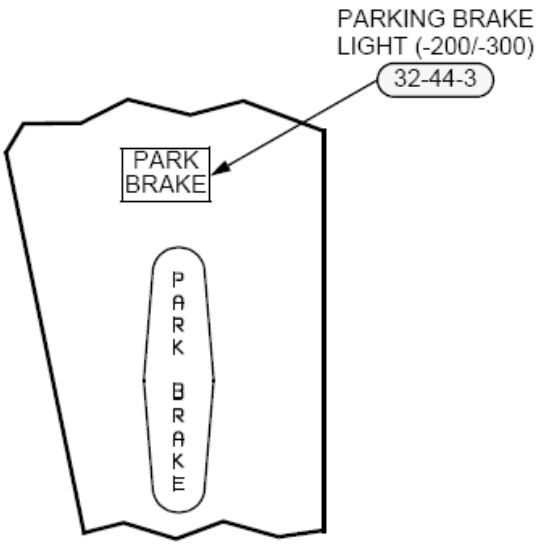
BRAKE SOURCE
INDICATION SYSTEM
32-41-2

ANTISKID

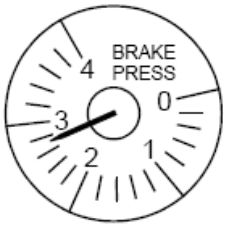
ANTISKID LIGHT
32-42-3



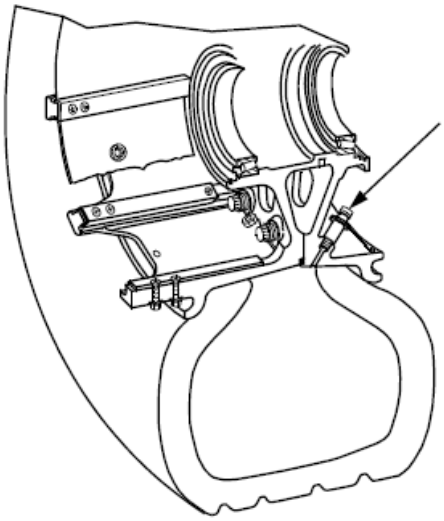
PARKING BRAKE ACCUMULATOR

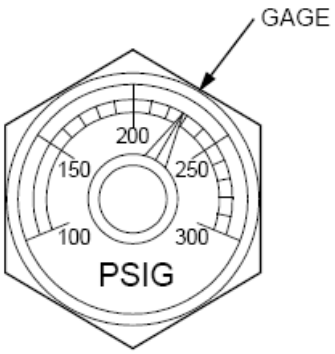


PARKING BRAKE
SYSTEM

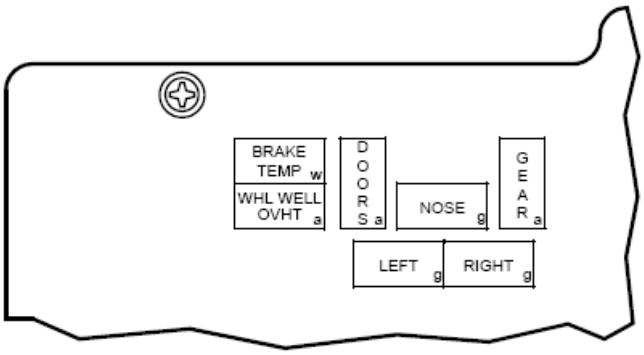


BRAKE PRESSURE
GAUGE
32-44-5

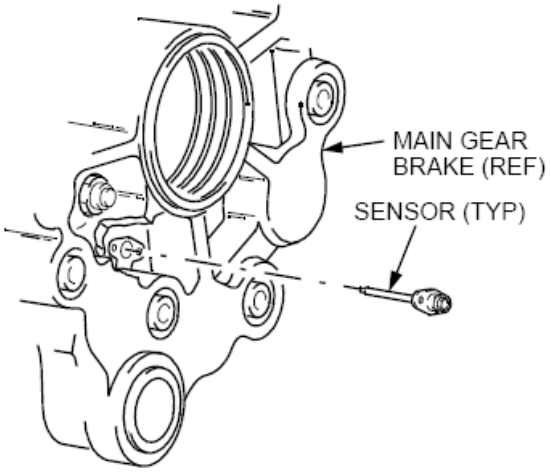


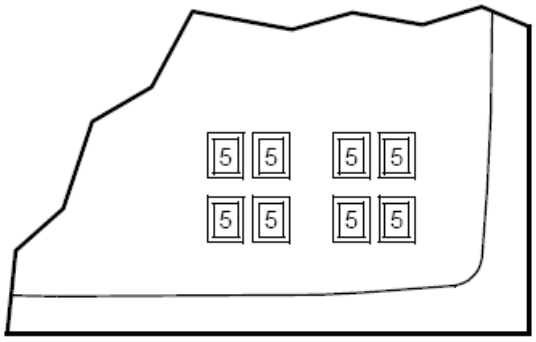


INTEGRAL TIRE PRESSURE
INDICATORS
32-45-1



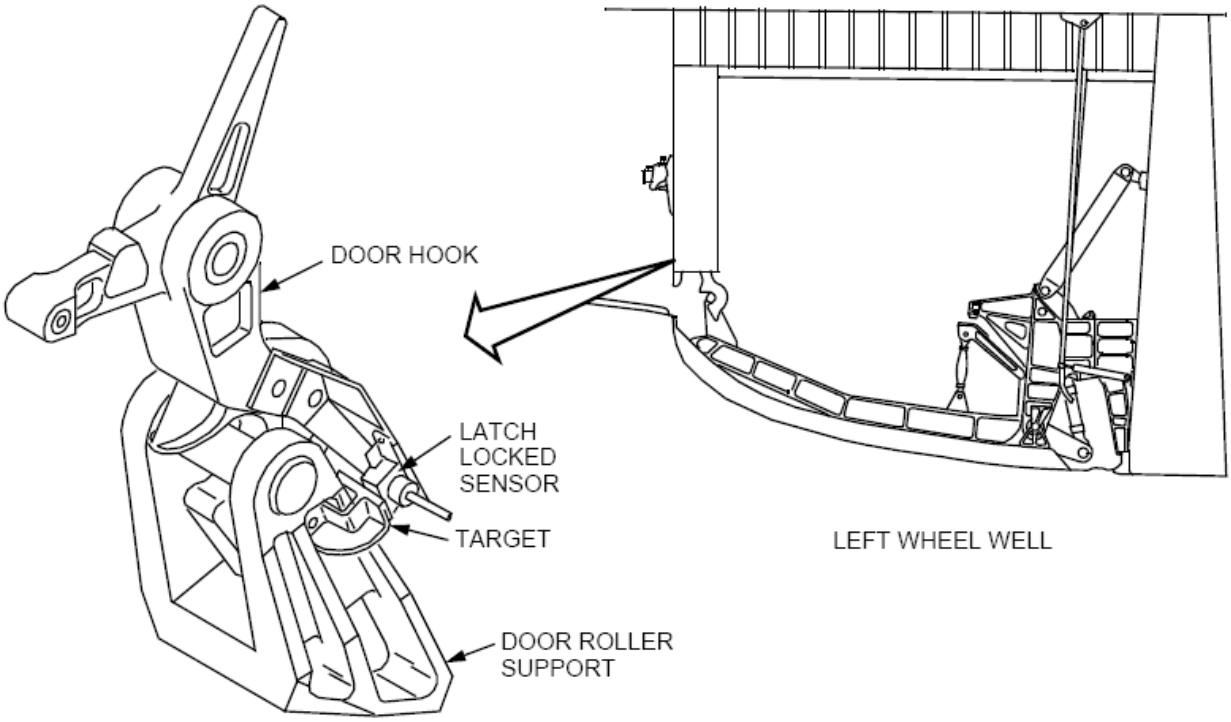
LANDING GEAR
DOORS LIGHT SYSTEM (-200/-300)
32-61-1



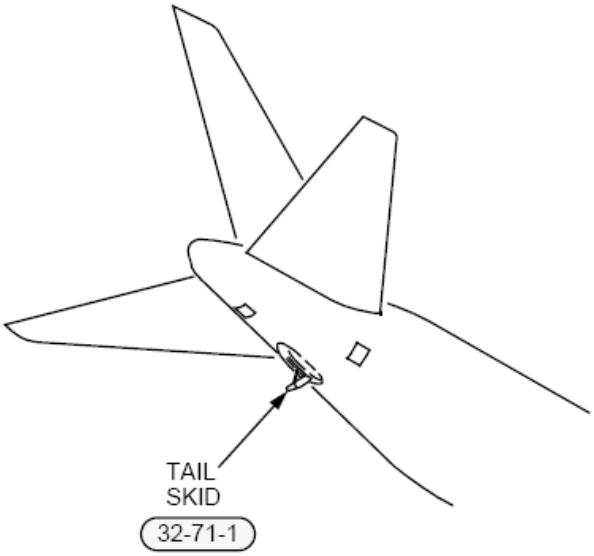


EICAS STATUS DISPLAY

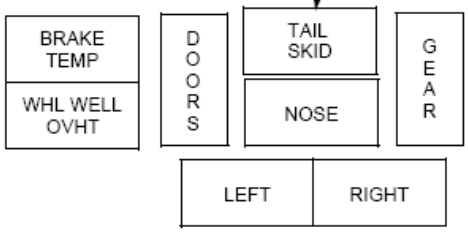
BRAKE
TEMPERATURE
MONITORING
SYSTEM (BTMS)
32-46-1



LANDING GEAR DOOR LATCH
PROXIMITY SENSOR
32-61-2



TAIL SKID
INDICATION
SYSTEM
32-71-2



ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
32-31-01	Landing Gear Lever Lock Solenoid	N	1	0	C	**(O)(M)** May be inoperative in latched position provided override mechanism is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-31-01	Near Landing Gear Handle	Landing Gear Lever Lock Solenoid INOP

(O) PROCEDURES

For gear retraction use the following procedure:

1. Push landing gear LOCK OVRD switch.
2. Position landing gear lever to UP.
3. After GEAR light extinguishes, position landing gear lever to OFF.

(M) PROCEDURES

Verify override mechanism operates normally.

1. Make sure the following circuit breakers on P11 panel are closed:
   a. 11U20, Landing Gear Lever Lock
   b. 11C30, Landing Gear Position AIR/GND SYS 1
   c. (-200) 11U24, Position AIR/GND SYS 2
   d. (-300, -300ER, -3P6ER) 11U23, Position AIR/GND SYS 2
2. Complete the following to verify the LOCK OVRD button operates normally:

> **WARNING:** MAKE SURE THE DOWNLOCKS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE MOVING THE CONTROL LEVER. WITHOUT THE DOWNLOCKS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   a. Install the downlocks for the nose and main landing gear.
   b. Supply electrical power.

> **WARNING:** MAKE SURE THAT PRESSURE IS REMOVED FROM THE CENTER HYDRAULIC SYSTEM BEFORE YOU MOVE THE LANDING GEAR CONTROL LEVER. FAST MOVEMENT OF THE MAIN GEAR DOORS AND THE TAIL SKID (IF APPLICABLE) CAN CAUSE INJURY OR DAMAGE.

   c. Depressurize the center hydraulic system.
   d. Pull and secure the LANDING GEAR LEVER LOCK circuit breaker on the overhead circuit breaker panel (P11).
   e. Make sure the lever cannot be moved to UP without the lever lock override button pushed in. Push the lever lock override button and make sure the control lever will move to UP.
   f. Move the landing gear control to DN. Make sure the green NOSE, LEFT, and RIGHT lights on panel P3-1 are on.
   g. Close the open circuit breaker.
   h. Remove electrical power if no longer required.
   i. Remove Landing Gear Downlocks from the Nose and Main Landing Gear.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-32-01	Main Gear Door Uplock Springs **"DISP.APPR.REQ'D."**	**N**	4	3	**B**	**(O)(M)** One spring on one door uplock mechanism may be missing provided speed does not exceed 270 KIAS/ 0.82 Mach.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-32-01	Near Landing Gear Handle	___ Main Gear Door Uplock Spring INOP

(O) PROCEDURES

Observe gear extended placard speed limit during all phases of flight.

(M) PROCEDURES

Remove any pieces of broken spring.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
32-41-01A	Wheel Brakes **"DISP.APPR.REQ'D."**	**N**	8	7	**C**	**(O)(M)** May be deactivated with a deactivation tool provided: a) Performance adjustments comply with one brake deactivated, b) Antiskid operates normally on remaining wheels, and c) Approach minimums do not require its use. CAT III Not Authorized
32-41-01B	Wheel Brakes **"DISP.APPR.REQ'D."**	**N**	8	7	**C**	**(O)(M)** One brake may be deactivated by capping off brake line provided: a) Takeoff performance is based on Landing Gear Extended, b) Takeoff and landing performance complies with one brake inoperative, c) After takeoff, gear remains extended for two minutes prior to retraction, d) Antiskid operates normally on remaining wheels, and e) Approach minimums do not require its use. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-41-01A	Near Brake Pressure Gauge	___ Wheel Brake INOP
32-41-01B	Near Brake Pressure Gauge	___ Wheel Brake INOP

CONTINUED NEXT PAGE

(O) PROCEDURES

32-41-01A Brake Disconnect Tool Installed:

Stopping distances will be increased with a brake deactivated.

32-41-01A	**WHEEL BRAKES – ASSOCIATED BRAKE DEACTIVATED WITH TOOL**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff Data is provided for DRY or SLP-WET runway conditions only. 2. Takeoffs using ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-41-01A.**

32-41-01B Brake Line Capped:

1. After takeoff, leave the landing gear extended for two minutes to allow the wheels to spin down prior to gear retraction.
2. The following flight deck affects will occur while the gear is extended:
   a. Gear down lights (NOSE, LEFT, RIGHT) will remain illuminated.
   b. Altitude alerting will not be available.
   c. If flaps are lowered to a landing flap position (25 or 30), GPWS Mode 3 (“Don’t Sink”) and Mode 4 (“Too Low Terrain”) will not be available.
   d. TCAS lower antenna will switch to omindirectional.
3. Takeoffs must be made using Flaps 5 with Normal power only.
4. Improved Climb Performance not authorized.

32-41-01B	**WHEEL BRAKES – ASSOCIATED BRAKE LINE CAPPED**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 1,500 lbs.
NOTES	1. AWABS Takeoff Data is provided for DRY or SLP-WET runway conditions only. 2. Takeoffs using ICY, 25 CTR or 50 CTR data are not authorized. 3. Brake Line Capped requires a significant weight penalty increase over Brake Deactivated by Tool (32-41-01A).
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-41-01B.**

CONTINUED NEXT PAGE

(M) PROCEDURES

32-41-01A Brake Disconnected

1. Install brake disconnect tool as follows (see following illustrations):

   NOTE 1: Boeing P/N A32001-1 bag of parts includes Dowty deactivation tool P/N 2-7461-1 which is usable on S274T120-4, -6 and -8 shuttle valves.

   NOTE 2: Boeing P/N A32080-1 bag of parts includes Boeing deactivation tool P/N A32080-4 which can be used on all dash numbers of the S274T120 shuttle valves. Dowty deactivation tool P/N 2-7461-3 is also usable on all S274T120 shuttle valves.

   a. Check that landing gear door locks are properly installed.
   b. Check that landing gear downlocks are properly installed and wheels are adequately chocked.
   c. Depressurize right and center hydraulic systems.
   d. Open ALT FLAP PWR circuit breaker on main power distribution panel P6. This deactivates the flaps' electrical power source.
   e. Release parking brakes by supplying electrical power and depressing both brake pedals fully and releasing. Check that PARK BRAKE light on P10 panel extinguishes.

   NOTE: Parking brakes may be released by operating either the Captain's or First Officer's brake pedals.

   f. Discharge parking brake accumulator hydraulic pressure by use of either the Captain's or First Officer's brake pedals. Fully depress and release both pedals at the same time, ten times minimum, until cockpit brake pressure gauge no longer moves down.
   g. Gain access to antiskid shuttle valve module through wing trailing edge inboard lower wing structure access panel (551TB LH, 651TB RH) located forward of main gear support beam and immediately outboard of gear trunnion door.

CAUTION: Remove only the shuttle valve slide plug. Removal of the shuttle valve can result in injury due to rapid ejection of the valve.

   h. Remove appropriate antiskid shuttle valve slide plug (just the slide plug, not the shuttle valve) from the module (See Table 1 and following illustrations to identify which slide plug to remove).

   NOTE: Table 1 identifies which shuttle valve slide plug should be removed to deactivate a particular brake.

TABLE 1

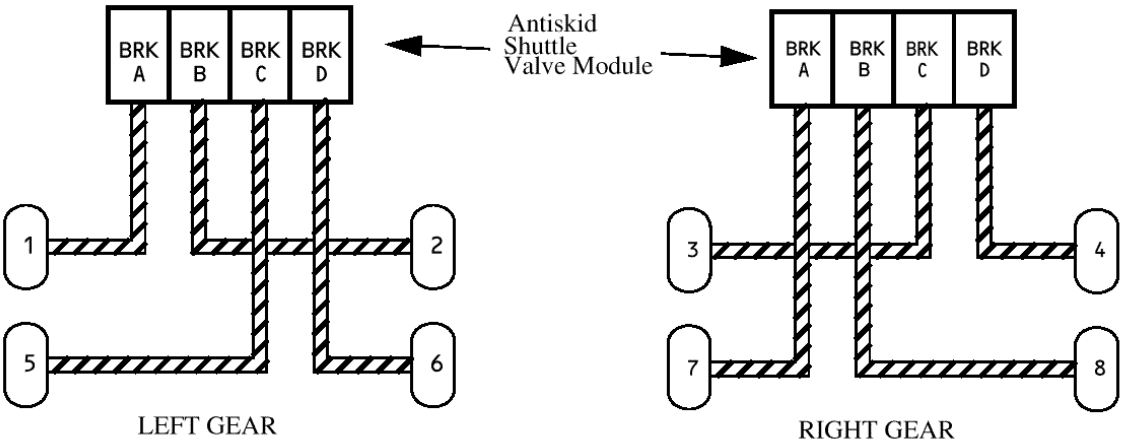
LEFT GEAR WHEEL BRAKE	LEFT ANTISKID SHUTTLE VALVE MODULE		RIGHT GEAR WHEEL BRAKE	RIGHT ANTISKID SHUTTLE VALVE MODULE
No. 1 (FWD OUTBD)	* VALVE "BRK A"		No. 3 (FWD INBD)	* VALVE "BRK C"
No. 2 (FWD INBD)	* VALVE "BRK B"		No. 4 (FWD OUTBD)	* VALVE "BRK D"
No. 5 (AFT OUTBD)	* VALVE "BRK C"		No. 7 (AFT INBD)	* VALVE "BRK A"
No. 6 (AFT INBD)	* VALVE "BRK D"		No. 8 (AFT OUTBD)	* VALVE "BRK B"

* IDENTIFICATION IS MARKED ON MODULE

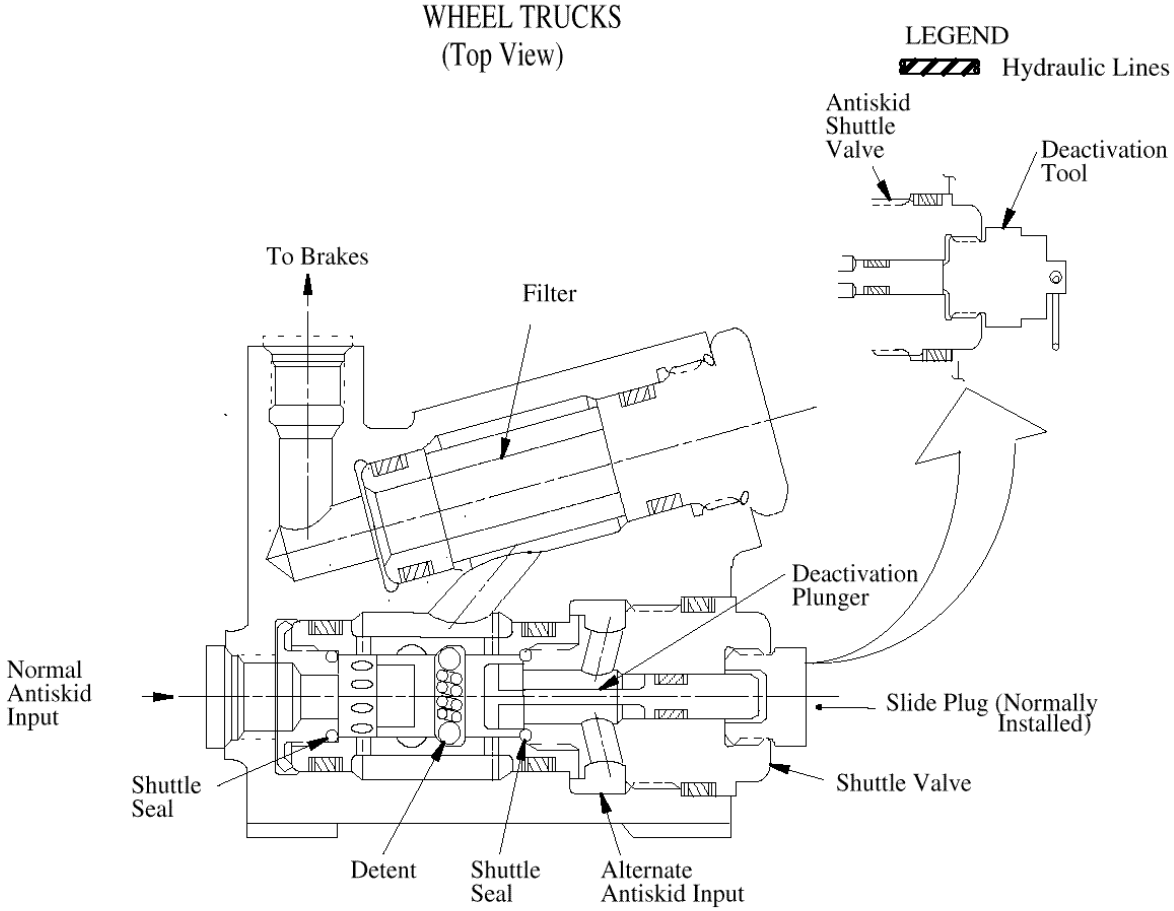
   i. Install special brake dispatch disconnect tool in place of removed shuttle valve end cap. Tighten disconnect tool to 50 pound-inches, and lockwire.
   j. Gain access to the antiskid / autobrake control unit on shelf E1-1 of the main electronic / electrical equipment center.
   k. Position brake test disable selector to the brake which was deactivated.

CONTINUED NEXT PAGE

2. Test proper deactivation of wheel brake:
   a. Pressurize right hydraulic system.
   b. Depress and release either Captain's or First Officer's brake pedals several times. Check that brake wear indicator pins (or pistons and adjustors) on deactivated brake do not move or change position, while movement is observed for all other brakes.
   c. Restore airplane to its required configuration. Leave the antiskid / autobrake control unit selector in the disabled brake position for dispatch.



WHEEL TRUCKS
(Top View)



ANTISKID SHUTTLE VALVE MODULE

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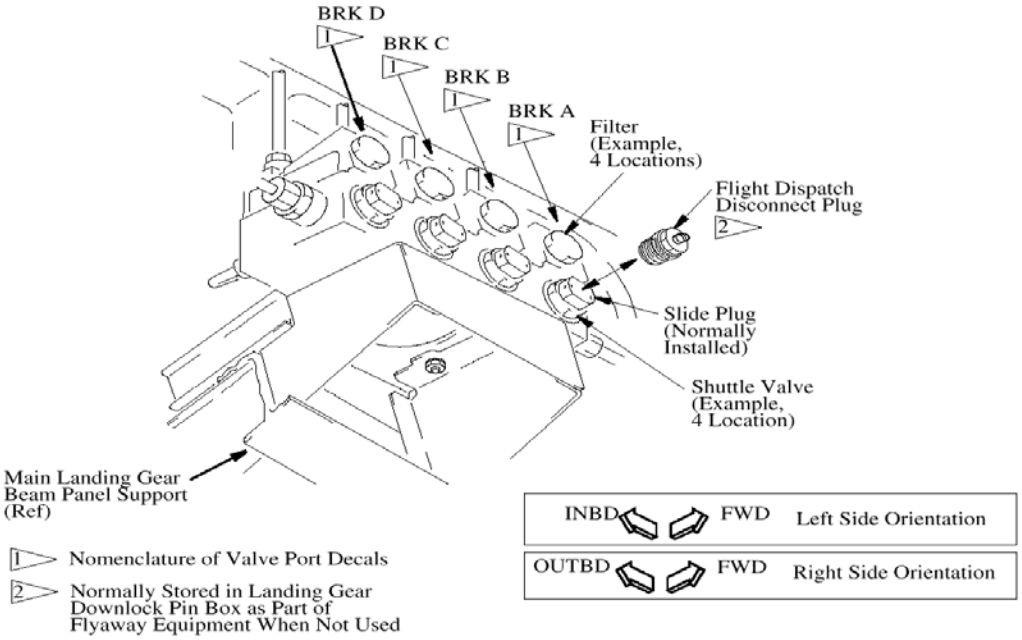

ANTISKID SHUTTLE VALVE MODULE

32-41-01B Brake Line Capping

1. Disconnect the brake line at the brake disconnect fitting as follows:

   a. Check that landing gear downlocks are properly installed and wheels are adequately chocked.
   b. Depressurize right and center hydraulic systems.
   c. Supply electrical power.
   d. Release parking brakes by supplying electrical power and depressing both brake pedals fully and releasing. Check that PARK BRAKE light on P10 panel extinguishes.

NOTE: Parking brakes may be released by operating either the Captain's or First Officer's brake pedals.

   e. Discharge hydraulic pressure from parking brake accumulator by use of either the Captain's or First Officer's brake pedals. Fully depress and release both pedals at the same time, ten times minimum. Ensure the cockpit brake pressure gauge no longer moves down.
   f. Uncouple the Brake Disconnect - Brake Hose Half and attach the hose to the landing gear truck using suitable tywrap(s) (3 ea DL PN 012211702 or 1 ea DL PN 211201293). This will not interfere with brake rotation when the gear is retracted.

      NOTE 1: The part of the Brake Disconnect that is attached to the hose is called the Brake Disconnect - Brake Hose Half. The part of the Brake Disconnect that is attached to the brake is called the Brake Disconnect - Brake Half.

      NOTE 2: The Brake Disconnect incorporates a pressure release function in the Brake Half; there is no need to open the brake bleed fitting for dispatch.

   g. Gain access to the antiskid / autobrake control unit on shelf E1-1 of the main electronic / electrical equipment center.
   h. Position brake test disable selector to the position for the brake which was deactivated (to inhibit fault annunciations associated with the deactivated brake).
   i. Pressurize right hydraulic system.
   j. Apply brake pressure by depressing brake pedal and check for leaks.
   k. Restore airplane to its required configuration.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
32-41-02A	BRAKE SOURCE Indication System	**N**	1	0	**C**	**(O)(M)** May be inoperative provided associated EICAS advisory message is verified to operate normally.
32-41-02B	BRAKE SOURCE Indication System **"Contact MCC"**	**N**	1	0	**B**	**(M)** May be inoperative provided: a) C and R hydraulic low SYS PRESS lights operate normally, and b) Normal and alternate brake systems and brake accumulator are verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-41-02A	BRAKE SOURCE Light	BRAKE SOURCE Indication INOP
32-41-02B	BRAKE SOURCE Light	BRAKE SOURCE Indication INOP

(O) PROCEDURES

32-41-02A

Use the EICAS advisory level BRAKE SOURCE message for the non-normal checklist procedure in lieu of the BRAKE SOURCE light.

(M) PROCEDURES

32-41-02A

To verify BRAKE SOURCE advisory message operates normally:

1. Provide electrical and hydraulic power (L, C, R) to the airplane systems.
2. On P5 overhead panel, select right and center hydraulics to OFF.
3. Verify BRAKE SOURCE advisory message is displayed on EICAS.
4. On P5 overhead panel, select right and center hydraulics to AUTO.
5. Verify BRAKE SOURCE advisory message is not displayed on EICAS.

32-41-02B

Flight dispatch is permitted with the BRAKE SOURCE indicator light and associated EICAS advisory message inoperable if the following procedures are accomplished. Check that normal and alternate hydraulic brake systems, and brake accumulator are operational:

1. Check that landing gear down locks are installed and wheels are adequately chocked.
2. Release parking brakes by depressing both Captain's or First Officer's brake pedals to the stops and releasing.
3. Pressurize the right hydraulic system with one electric pump. Observe R SYS PRESS light is not illuminated.

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4. Pressurize the center hydraulic system with one electric pump. Observe C SYS PRESS light is not illuminated.
5. Depress and release both Captain's or First Officer's brake pedals ten times minimum. Brake pressure indicator should dip momentarily (2000 to 2500 psi) at brake application.

   NOTE: Both brake pedals should be depressed and released at the same time. Pause a minimum of five seconds after each brake application before the next application.

6. Check that BRAKE PRESS pressure gage on first officer's main instrument panel P3 indicates 2850 to 3500 psig.
7. Depressurize the right hydraulic system without applying brakes. Observe R SYS PRESS light illuminates.
8. Depress and release both captain's or first officer's brake pedals. Observe that brake pressure gage does not dip with brake application, and that center system pressure (EICAS ELEC / HYD page) momentarily dips (2000 to 2500 psig) at each brake application.
9. Check that BRAKE PRESS pressure gage on P3 panel indicates 2850 to 3500 psig.

10. Depressurize the center hydraulic system without applying brakes.
11. Depress and release both captain's or first officer's brake pedals seven times minimum.
12. Check that BRAKE PRESS pressure gage on P3 panel indicates a lower value each time the brakes are applied. Final pressure should be about 850 - 1200 psig.

    NOTE: If step 12. is successfully passed, the accumulator is correctly serviced.

13. Restore airplane to its required configuration.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
32-41-03	Gear Retraction Braking System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) After takeoff, gear remains down for two minutes before retraction, and b) Takeoff performance is based on Landing Gear Extended.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-41-03	Near Landing Ger Handle	Gear Retraction Braking System INOP

(O) PROCEDURES

1. After takeoff, leave the landing gear extended for two minutes to allow the wheels to spin down prior to gear retraction.
2. Takeoffs must be made using Flaps 5 with Normal power only.

32-41-03	**GEAR RETRACTION BRAKING SYSTEM**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 1,500 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-41-03.**

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
32-42-01A	Antiskid System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)(M)** May be inoperative provided: a) Performance adjustments are applied for antiskid inoperative operations, and b) Approach minimums do not require its use. CAT III Not Authorized
32-42-01B	Antiskid System (Channels) **"DISP.APPR.REQ'D."**	**N**	8	7	**C**	**(O)(M)** One channel and associated brake may be inoperative (BRAKE DEACTIVATED) provided: a) Brake is deactivated and is deferred per MEL 32-41-01A, b) Performance adjustments are applied for selected procedure, and c) Approach minimums do not require its use. CAT III Not Authorized
32-42-01C	Antiskid System (Channels) **"DISP.APPR.REQ'D."**	**N**	8	7	**C**	**(O)(M)** One channel and associated brake may be inoperative (BRAKE LINE CAPPED) provided: a) Brake is deactivated and is deferred per MEL 32-41-01B, b) Performance adjustments are applied for selected procedure, and c) Approach minimums do not require its use. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-42-01A	1. ANTISKID Light 2. Autobrake Switch	1. Antiskid System INOP 2. Do NOT Use Autobrakes
32-42-01B	ANTISKID Light	___ Antiskid Channel INOP – Brake Deactivation Tool Installed
32-42-01C	ANTISKID Light	___ Antiskid Channel INOP – Brake Line Capped

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(O) PROCEDURES

32-42-01A

1. Normal Power Only.
2. Tailwind takeoffs not authorized.
3. Do not use autobrakes. Set the AUTO BRAKES selector to OFF.
4. When stopping after landing and for refused takeoffs:
   a. Close thrust levers and raise speedbrakes.
   b. Initiate wheel braking using light pedal pressure and increase as ground speed decreases.
5. For a transducer fault, ALTN ANTISKID status message will remain displayed. For a subsequent enroute loss of the right hydraulic system the ANTISKID light and advisory message will illuminate. Braking effectiveness on the alternate system is reduced - brake with caution.

32-42-01A	**ANTISKID SYSTEM**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff Data is provided for DRY runway conditions only. 2. Takeoffs using SLP-WET, ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-42-01A.**

32-42-01B Brake Deactivated With Tool

Stopping distances will be increased with a brake deactivated.

NOTE: For a transducer fault, ALTN ANTISKID status message will remain displayed. For a subsequent enroute loss of the right hydraulic system the ANTISKID light and advisory message will illuminate. Braking effectiveness on the alternate system is reduced - brake with caution.

32-42-01B	**ANTISKID SYSTEM (CHANNELS) – ASSOCIATED BRAKE DEACTIVATED WITH TOOL**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff Data is provided for DRY or SLP-WET runway conditions only. 2. Takeoffs using ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-42-01B.**

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32-42-01C Brake Line Capped

For brake line capped use MEL 32-41-01B (O) Procedures. Apply the following performance corrections in lieu of the performance corrections located in 32-41-01B.

NOTE: For a transducer fault, ALTN ANTISKID status message will remain displayed. For a subsequent enroute loss of the right hydraulic system the ANTISKID light and advisory message will illuminate. Braking effectiveness on the alternate system is reduced - brake with caution.

32-42-01C	**ANTISKID SYSTEM (CHANNELS) – ASSOCIATED BRAKE LINE CAPPED**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 1,500 lbs.
NOTES	1. AWABS Takeoff Data is provided for DRY or SLP-WET runway conditions only. 2. Takeoffs using ICY, 25 CTR or 50 CTR data are not authorized. 3. Brake Line Capped requires a significant weight penalty increase over Brake Deactivated by Tool (32-42-01B).
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-42-01C.**

(M) PROCEDURES

32-42-01A

Deactivate two or more inoperative antiskid channels or deactivate the entire system.

NOTE: It is recommended that inoperative antiskid channels are deactivated and operative channels remain operative. Step 1 is provided to deactivate only the inoperative channels for dispatch. Alternately, step 2 is provided to deactivate the entire antiskid system.

1. Deactivate inoperative antiskid channels using either procedure A or B below (operative channels remain available).
   a. Deactivate the inoperative channels using antiskid advisory messages:
      1) With electrical power on the airplane, open the following P11 panel circuit breakers. The ANTISKID OFF advisory message should appear.
         a) LDG GR ANTISKID 1-5
         b) LDG GR ANTISKID 2-6
         c) LDG GR ANTISKID 3-7
         d) LDG GR ANTISKID 4-8
      2) One at a time, close each circuit breaker and perform the following:
         a) If the ANTISKID OFF advisory message remains with the circuit breaker closed, this pair of channels is faulty. Pull and secure the circuit breaker.
         b) If the ANTISKID OFF advisory message is no longer displayed and the advisory message ANTISKID displays, this pair of channels is operative. Re-open the circuit breaker for this pair of operative channels prior to checking other channels.

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3) After all four pairs of channels have been checked, close the circuit breakers for all operative channels.
4) Set the AUTO BRAKES selector to OFF.

b. Deactivate the inoperative channels using BITE check:

1) Gain access to the antiskid/autobrake control unit (AMM 32-42-01/401).
2) Note all faults by pressing BIT until TEST END.
3) Clear faults by pushing RESET.
4) Note recurrent faults by pressing BIT until TEST END.
5) Pull and secure the P11 panel LDG GR ANTISKID 1-5 circuit breaker for channels that display the following fault codes:

a) XDCR1
b) XDCR5
c) BOX 1-5

6) Pull and secure the P11 panel LDG GR ANTISKID 2-6 circuit breaker for channels that display the following fault codes:

a) XDCR2
b) XDCR6
c) BOX 2-6

7) Pull and secure the P11 panel LDG GR ANTISKID 3-7 circuit breaker for channels that display the following fault codes:

a) XDCR3
b) XDCR7
c) BOX 3-7

8) Pull and secure the P11 panel LDG GR ANTISKID 4-8 circuit breaker for channels that display the following fault codes:

a) XDCR4
b) XDCR8
c) BOX 4-8

9) Set the AUTO BRAKES selector to OFF.

2. Deactivate the antiskid system as follows:

a. Pull and secure the following P11 panel circuit breakers:

1) LDG GR ANTISKID 1-5
2) LDG GR ANTISKID 2-6
3) LDG GR ANTISKID 3-7
4) LDG GR ANTISKID 4-8

b. Set the AUTO BRAKES selector to OFF.

32-42-01B

Deactivate the brake (Deactivation Tool Installed) associated with the one inoperative antiskid channel and defer per MEL 32-41-01A.

32-42-01C

Deactivate the brake (Brake Line Capped) associated with the one inoperative antiskid channel and defer per MEL 32-41-01B.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
32-42-02A	Alternate Antiskid Valves **"DISP.APPR.REQ'D."**	**Y**	4	0	**C**	**(O)(M)** May be inoperative provided: a) Manual braking capability on alternate brake system is verified on associated wheels, b) Normal antiskid system operates normally, and c) Approach minimums do not require its use. CAT III Not Authorized
32-42-02B	Alternate Antiskid Valves **"DISP.APPR.REQ'D."**	**N**	4	0	**C**	**(O)(M)** May be inoperative provided: a) Manual braking capability on alternate brake system is verified on associated wheels, b) Performance adjustments are applied for antiskid inoperative operations, and c) Approach minimums do not require its use. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-42-02A	ANTISKID Light	___ Alternate Antiskid Valve(s) INOP
32-42-02B	ANTISKID Light	___ Alternate Antiskid Valve(s) INOP

(O) PROCEDURES

32-42-02A

Inoperative Alternate Antiskid Valves do not affect the normal braking system. However, flight crew should be aware that loss of the right hydraulic system enroute will result in illumination of the ANTISKID light and message; indicating braking effectiveness on the alternate system is reduced. If this occurs, brake with caution.

CONTINUED NEXT PAGE

32-42-02B

1. Tailwind takeoffs not authorized.
2. Normal Power Only.
3. Select AUTO BRAKES OFF.
4. Use moderate braking action, consistent with runway conditions, for stopping.

32-42-02B	**ALTERNATE ANTISKID VALVES**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff Data is provided for DRY runway conditions only. 2. Takeoffs using SLP-WET, ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-42-02B.**

(M) PROCEDURES

32-42-02A, 32-42-02B

1. Verify that manual braking capability is available on affected wheels as follows:
   a. Provide electrical power.
   b. Chock wheels.
   c. Release parking brake.
   d. Depressurize right hydraulic system.
   e. Provide center system hydraulic power.
   f. Depress and release brake pedals. Observe brake wear indicator pins on each brake to check that brakes apply and release.
   g. If brakes apply and release on all brakes, manual braking capability on the alternate brake system is verified and dispatch is allowed without further maintenance action.
2. If manual braking is not available, *Maintenance Is Required and Flight Crew May NOT Placard.* use one of the following procedures.

   NOTE: Two procedures are provided for deactivating an inoperative alternate anti-skid valve. The first procedure deactivates the anti-skid system and requires that AFM performance decrements be applied. The second procedure deactivates the inoperative alternate anti-skid valve and the normal anti-skid/autobrake system continues to operate normally.

   a. Deactivate anti-skid system for affected brakes by opening appropriate circuit breakers.
      1) If brakes which do not apply are on the left gear, pull and secure the ANTISKID 1-5 and/or the ANTISKID 2-6 circuit breakers.
      2) If brakes which do not apply are on the right gear, pull and secure the ANTISKID 3-7 and/or the ANTISKID 4-8 circuit breakers.
      3) Depress and release brake pedals. Observe brake unit wear indicator pins to check that all brakes apply and release.
      4) If brakes apply and release on all brakes, manual braking capability on the alternate brake system is verified and dispatch is allowed.

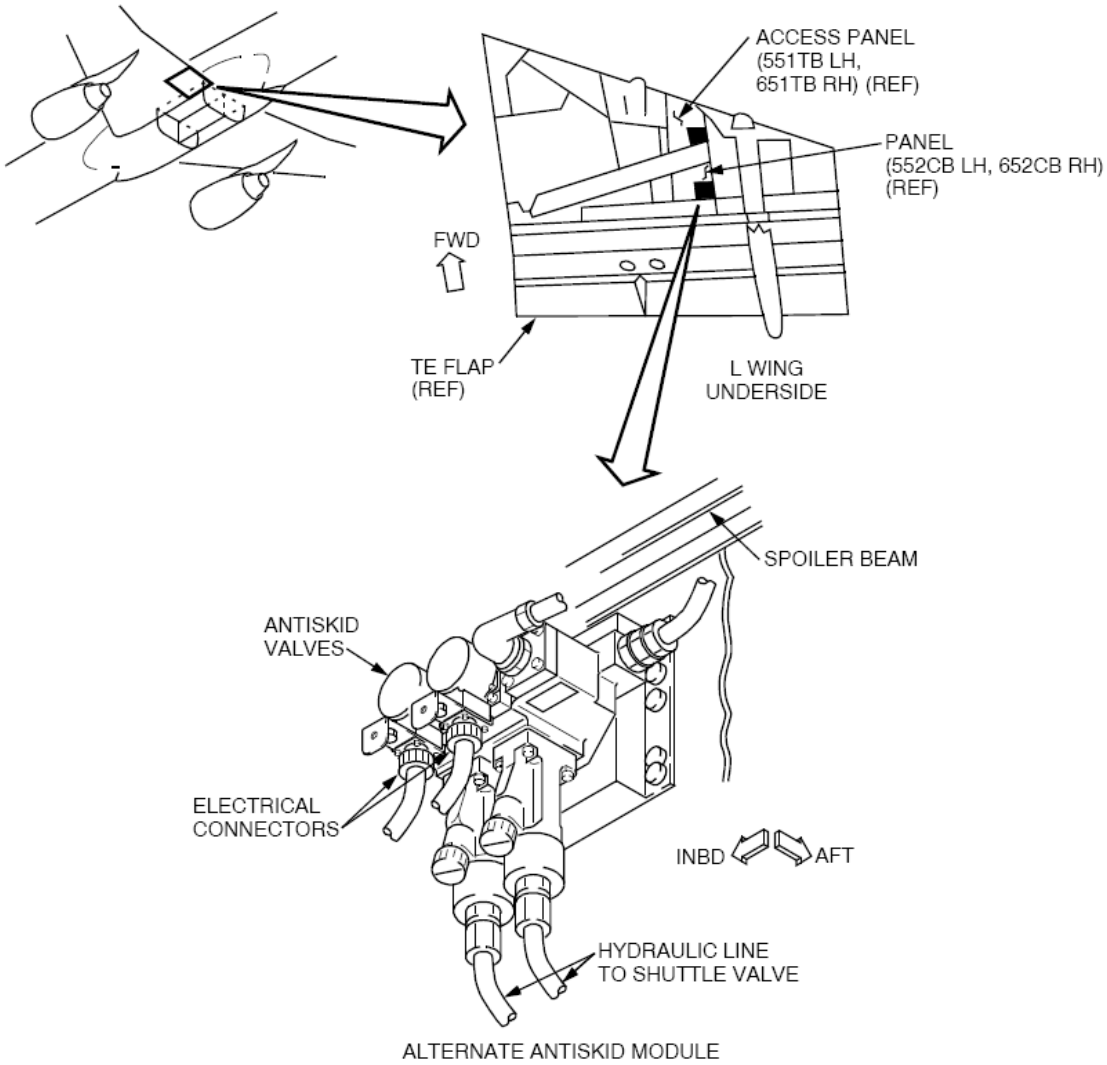
CONTINUED NEXT PAGE

b. Deactivate alternate anti-skid valve(s) for affected brakes.

1) Disconnect and stow connector for affected alternate antiskid valve (see illustration).

WHEELS	VALVE NUMBER	VALVE LOCATION
1 and 2	V37	L Wing, Outboard
3 and 4	V39	R Wing, Outboard
5 and 6	V38	L Wing, Inboard
7 and 8	V40	R Wing, Inboard

2) Depress and release brake pedals. Observe brake unit wear indicator pins to check that all brakes apply and release.
3) If brakes apply and release on all brakes, manual braking capability on the alternate brake system is verified and dispatch is allowed.



	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-42-03A ANTISKID Light	**N**	1	0	**C**	**(M)** May be inoperative provided antiskid system is verified to operate normally.
32-42-03B ANTISKID Light **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Performance adjustments are applied for antiskid inoperative operations, and b) Approach minimums do not require its use. <u>CAT III</u> Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-42-03A	ANTISKID Light	ANTISKID Light INOP
32-42-03B	1. ANTISKID Light 2. Autobrake Switch	1. ANTISKID Light INOP 2. Do NOT Use Autobrakes

(O) PROCEDURES

32-42-03B

1. Do not use autobrakes.
2. Normal Power Only.
3. Tailwind takeoffs not authorized.
4. When stopping after landing and for refused takeoffs.
   a. Close thrust levers and raise speedbrakes.
   b. Initiate wheel braking using very light pedal pressure and increase as ground speed decreases.

32-42-03B	**ANTISKID LIGHT**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff data is provided for DRY runway conditions only. 2. Takeoffs using SLP-WET, ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-42-03B.**

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(M) PROCEDURES

32-42-03A

1. Verify that antiskid system operates normally as follows:

    a. With electrical power on airplane and wheels chocked, release parking brake.
    b. Gain access to the antiskid / autobrake control unit on the E1-1 shelf in the main electronic / equipment center. Perform the following:

        1) Press the BIT switch to recall all faults until the unit display reads TEST END. Check that no PARK BRAKE message (indicating parking brake control / valve disagreement) is indicated in test.
        2) Press the RESET switch to clear memory.
        3) Note recurrent faults by pressing BIT until "TEST END" is displayed.

    c. Restore airplane to its required configuration.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-42-04A	Autobrake System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided AUTO BRAKES light is not illuminated with autobrake switch OFF.
32-42-04B	Autobrake System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative with AUTO BRAKES light illuminated and autobrake switch OFF provided autobrake solenoid valve is verified closed.
32-42-04C	Autobrake System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative with AUTO BRAKES light illuminated and autobrake switch OFF provided module is deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-42-04A	Autobrake Switch	Autobrake System INOP
32-42-04B	Autobrake Switch	Autobrake System INOP
32-42-04C	Autobrake Switch	Autobrake System INOP

CONTINUED NEXT PAGE

(M) PROCEDURES

32-42-04B

1. Apply electrical power to the airplane.
2. Chock the wheels.
3. Release the parking brake.
4. Retard both thrust levers.
5. Place the AUTO BRAKES selector switch to OFF.
6. Pressurize the right hydraulic system.
7. If the AUTOBRAKE light is not illuminated, the autobrake solenoid valve is closed. Dispatch is allowed without further maintenance action.

If the AUTO BRAKE light remains illuminated, perform the following:

1. Depressurize the RIGHT and CENTER hydraulic systems.
2. Pump the brake pedals until the brake accumulator pressure indicator on the First Officer's panel will reduce no further (approximately 1000 psi).

   If the AUTO BRAKE light remains illuminated after performing step 3, then an autobrake solenoid valve pressure switch or indication system malfunction is indicated and the autobrake solenoid valve is closed.

   If the AUTO BRAKE light is no longer illuminated, the autobrake solenoid valve has failed open and the autobrake valve module must be hydraulically deactivated.

32-42-04C Autobrake Module Deactivation

1. Depressurize the RIGHT and CENTER hydraulic systems.
2. Depressurize the RIGHT hydraulic system reservoir.
3. Pump the brake pedals until the brake accumulator pressure gage on the First Officer's panel will reduce no further (approximately 1000 psi)
4. Pull the following circuit breakers on the overhead circuit breaker panel P11:

   a. 11U12, AUTOBRK ANTISKID TEST IND1
   b. 11U21, AUTOBRK ANTISKID TEST IND2

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO AUTOBRAKE MODULE. RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

5. Locate the autobrake valve module located on the keel beam web support bracket near the forward bulkhead of the right main gear wheel well.
6. Remove, cap, and stow four electrical connectors D2196, D2198, D2200, and D2202.

   NOTE: The autobrake valve module may be deactivated and left in place, or it can be removed. Interconnection between the BRAKE and RETURN lines, either through the valve or interconnect tube, is required to ensure that a (potential) leaky autobrake shuttle valve cannot result in an inability to release brakes when the pilot's pedals are released.

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7. Perform step a. or step b.

   a. To disable the autobrake valve module in place:

      1) Disconnect and plug system pressure hydraulic line at module with BACP20AU8J, K or S.
      2) Cap the valve pressure port with BACC14AD8J or equivalent.

   OR

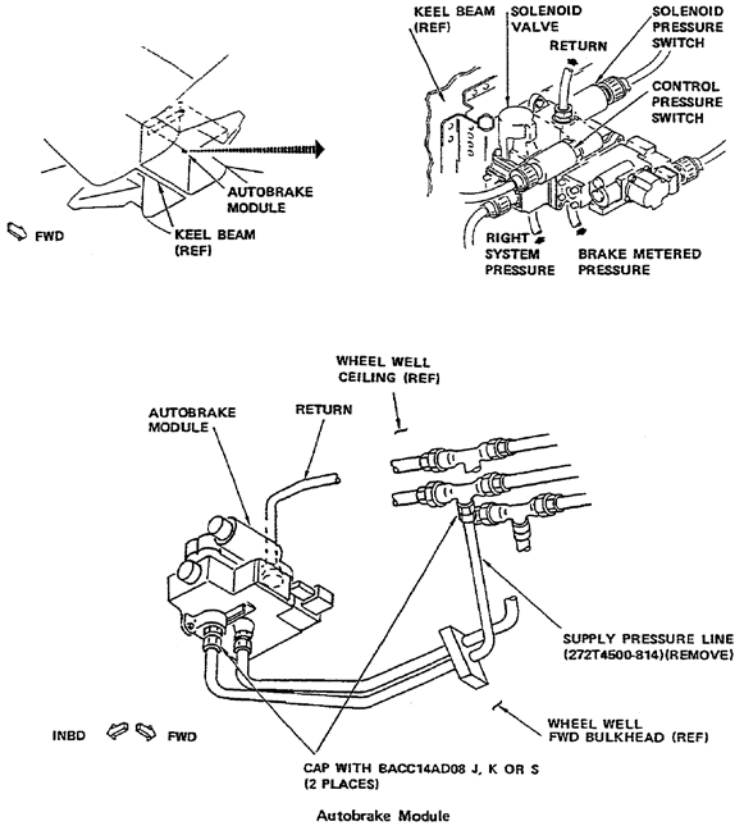
   b. To remove the autobrake valve module:

      1) Remove the autobrake valve module.
      2) Disconnect and plug the system pressure hydraulic line at module with BACP20AU8J, K or S.
      3) Interconnect the brake and return lines with a suitable section of tubing or flexible hose.

8. Close the following circuit breakers on the P11 panel:

   a. 11U12, AUTOBRK ANTISKID TEST IND1
   b. 11U21, AUTOBRK ANTISKID TEST IND2

9. Restore right hydraulic system power and check for leaks.
10. Restore the airplane to its normal configuration.



Autobrake Module

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-42-05	Taxi Speed Indication	**Y**	1	0	**D**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-42-05	Taxi Speed Indicator	Taxi Speed Indication INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
32-44-02	Parking Brake Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**B**	**(O)(M)** May be inoperative closed provided: a) Performance adjustments are applied for antiskid inoperative operations, and b) Approach minimums do not require its use. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-44-02	1. Near Parking Brake Handle 2. Autobrake Switch	1. Parking Brake Valve INOP 2. Do NOT Use Autobrakes

(O) PROCEDURES

Antiskid system is inoperative. Do not use autobrakes.

1. Set AUTO BRAKES selector to OFF.
2. Normal Power Only.
3. Tailwind takeoffs not authorized.
4. When stopping after landing and for refused takeoffs.
   a. Close thrust levers and raise speedbrakes.
   b. Initiate wheel braking using light pedal pressure and increase as ground speed decreases.

32-44-02	**PARKING BRAKE VALVE**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff data is provided for DRY runway conditions only. 2. Takeoffs using SLP-WET, ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-44-02.**

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(M) PROCEDURES

Confirm the parking brake valve is fully closed.

1. Supply electrical power (AMM 24-22-00/201).
2. Ensure wheels are adequately chocked.
3. Release the parking brake
4. Pull and secure the P6 panel PARKING BRAKE VALVE circuit breaker.
5. Gain access to the parking brake valve (AMM 32-44-04/401).
6. Set the override lever on the parking brake valve to POS 2.

   a. For airplanes with antiskid switch:

      With the parking brake released and ANTISKID switch ON, confirm the antiskid light and the ANTISKID OFF advisory message are annunciated. Leave antiskid switch ON.

   b. For airplanes without antiskid switch:

      With the parking brake released, confirm the antiskid light and the ANTISKID OFF advisory message are annunciated.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
32-44-03A PARK BRAKE Light	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Parking brake valve operates normally, and b) Antiskid light is verified operational ONCE EACH FLIGHT DAY. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**
32-44-03B PARK BRAKE Light **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Performance adjustments are applied for antiskid inoperative operations, and b) Approach minimums do not require its use. CAT III Not Authorized
32-44-03C PARK BRAKE Light	**Y**	1	0	**C**	**(O)** May be inoperative provided EICAS Advisory message PARKING BRAKE is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-44-03A	PARK BRAKE Light	PARK BRAKE Light INOP
32-44-03B	1. PARK BRAKE Light 2. Autobrake Switch	1. PARK BRAKE Light INOP 2. Do NOT Use Autobrakes
32-44-03C	PARK BRAKE Light	PARK BRAKE Light INOP

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(O) PROCEDURES

32-44-03B

1. When releasing parking brakes:
   a. Check that ANTISKID light on P5 panel is extinguished.
   b. If the light is illuminated, flight will be with the antiskid inoperative, but leave antiskid ON.
2. Normal Power Only.
3. Tailwind takeoffs not authorized.

32-44-03B	**PARK BRAKE LIGHT**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	1. AWABS Takeoff data is provided for DRY runway conditions only. 2. Takeoffs using SLP-WET, ICY, 25 CTR or 50 CTR data are not authorized.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 32-44-03B.**

32-44-03C

1. When parking brake is set, ensure advisory EICAS message PARKING BRAKE is displayed.
2. When releasing parking brake:
   a. Check that ANTISKID light (P5 panel) is extinguished.
   b. If ANTISKID light is illuminated, dispatch must be with antiskid system inoperative, but leave antiskid switch (if installed) selected ON.

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(M) PROCEDURES

32-44-03A

1. Select antiskid switch ON (if installed).
2. Provide electrical power to the hydraulic brake and parking brake systems. Provide right hydraulic system pressure.
3. Ensure PARKING BRAKE circuit breaker on main power distribution panel P6 is closed.Set parking brakes by pulling PARK BRAKE handle on quadrant stand panel P10 and depressing both Captain's brake pedals to their stops and releasing.
4. Check that ANTISKID indicator light on pilot's overhead panel P5 is not illuminated.
5. Open PARKING BRAKE circuit breaker.
6. After approximately 3 seconds verify that ANTISKID light illuminates.
7. Release parking brake by depressing the brake pedals.
8. Close PARKING BRAKE circuit breaker and verify that ANTISKID light extinguishes.
9. Set parking brakes by pulling PARK BRAKE handle on quadrant stand panel P10 and depressing both Captain's brake pedals to their stops and releasing.
10. Position and hold the configuration test switch (P61 panel) in the "T/O" position.
11. Verify PARKING BRAKE takeoff warning message is displayed.
12. Release parking brakes.
13. Verify PARKING BRAKE takeoff warning message is not displayed.
14. Verify ANTISKID light is extinguished.
15. Release configuration test switch (P61 panel).
16. Pull PARKING BRAKE circuit breaker.
17. Verify ANTISKID light is extinguished (wait at least three seconds).
18. Restore airplane to its required configuration.

32-44-03D, 32-44-03E

1. Establish communication between the ground and flight deck.
2. Ensure that the parking brake is set.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-44-04	Brake Accumulator Pressure Indicator (Wheel Well)	**N**	1	0	**C**	May be inoperative provided associated flight deck indication operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-44-04	Near Brake Pressure Indicator	Wheel Well Brake Accumulator Pressure Indicator INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
32-44-05	BRAKE PRESS Indicator (Flight Deck)	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Brake accumulator air charge is verified normal ONCE EACH FLIGHT DAY, and b) Right low SYS PRESS light operates normally. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-44-05	BRAKE PRESS Indicator	BRAKE PRESS Indicator INOP

(M) PROCEDURES

1. Check that landing gear downlocks are installed and wheels are chocked.
2. With the right and center hydraulic systems depressurized check that the R SYS PRESS indicator light on pilot's overhead panel P5 is illuminated.
3. Provide electrical power to hydraulic brake system.
4. Pressurize the right hydraulic system. Verify that the R SYS PRESS indicator light on P5 panel is extinguished.
5. Gain access to accumulator on the aft inboard side of the right wheel well.

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED BEFORE GAINING ACCESS TO PARKING BRAKE ACCUMULATOR. RAPID ACTION OF DOORS MAY CAUSE INJURY OR DAMAGE, IF LOCKS ARE NOT PROPERLY INSTALLED.

6. Check that pressure indicator located just forward of accumulator indicates 3000 to 3500 psig.
7. Turn off the hydraulic pump.
8. Discharge hydraulic pressure from parking brake accumulator by use of either the Captain's or the First Officer's brake pedals. Fully depress and release both pedals at the same time. Ten times minimum. Verify R SYS PRESS indicator light is illuminated.

   NOTE: Pause a minimum of 5 seconds after each brake application before next application.

9. Verify accumulator pressure is 850 to 1200 psig.

   NOTE: On a day cooler than 68°F(20°C), proper accumulator pressure is below 1000 psi. Correct pressure as a function of ambient temperature is identified on a placard near the accumulator.

10. Restore airplane to its required configuration.

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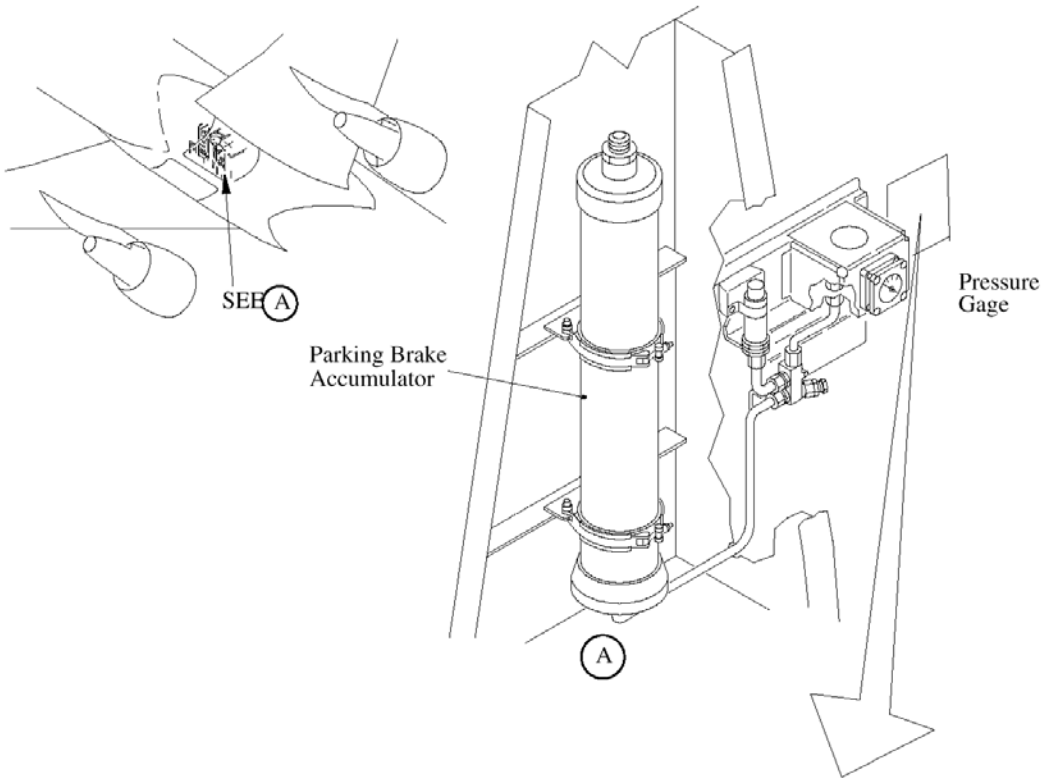

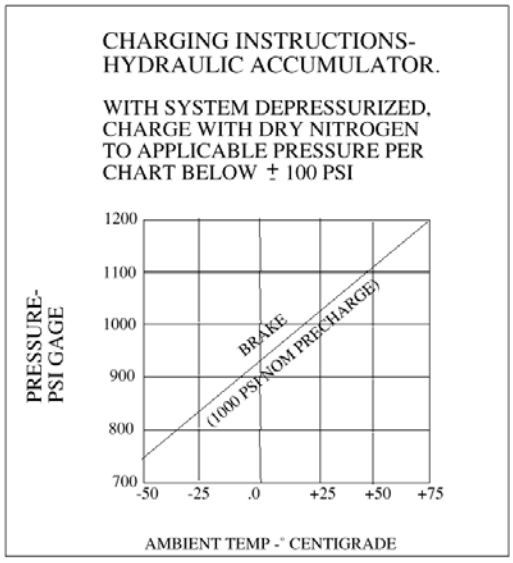

BRAKE PRESSURE GAUGE

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-45-02	Nose Wheel Spin Brakes (Snubbers)	**N**	2	0	**C**	**(M)** May be damaged or missing.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-45-02	Near Brake Pressure Indicator	___ Nose Wheel Spin Brake(s) INOP / Missing

(M) PROCEDURES

NOTE: Another name for Nose Wheel Snubbers is Nose Wheel Spin Brake.

1. Ensure there are no exposed bolts or metal pieces which could cut the tire.
2. If part of the brake shoe pad is missing, remove any exposed bolts / rivets as necessary.
3. If the spring arm is broken, remove the bolts and remaining piece.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-46-01	Brake Temperature Monitoring System (BTMS)	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-46-01	Near BRAKE TEMP Light	BTMS INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-51-01	Rudder Pedal Nose Wheel Steering **"DISP.APPR.REQ'D."**	**N**	1	0	**B**	**(O)(M)** May be inoperative provided: a) Approach minimums do not require its use, and b) All taxi, takeoffs and landings are made by the pilot with access to an operating tiller. CAT III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-51-01	Near Nose Wheel Steering Tiller	Rudder Pedal Nose Wheel Steering INOP

(O) PROCEDURES

CAUTION: 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.

Flight crew member with access to the tiller will be flying, and the following procedures shall be used.

Takeoff: The crewmember should steer the airplane, manipulating the steering wheel control by hand, until the rudder becomes effective (approximately 40 to 60 kts). The crewmember not flying should assist by keeping the wings level and a light forward pressure on the control column until the tiller is no longer required for steering.

Landing: The crewmember with access to the tiller should use the rudder and steering wheel control as required during the landing roll. The other crewmember should assist by keeping the wings level and a forward pressure on the control column.

(M) PROCEDURES

1. Verify that rudder pedal interconnect mechanism failure will not jam other system controls by visually inspecting mechanism below flight compartment floor.
2. Test tiller steering system as follows:

   a. Check that landing gear ground lock pins are installed.
   b. Move towing lever on steering metering valve module to the TOW POSITION and install towing lever lockpin.
   c. Using Captain's tiller, operate steering through full left and right envelope and verify that no system binding occurs.
   d. Restore airplane to its required configuration.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-61-01	Landing Gear DOORS Light System	**N**	1	0	**C**	**(M)** May be inoperative provided EICAS advisory message GEAR DOORS is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-61-01	Landing Gear DOORS Light	Landing Gear DOORS Light INOP

(M) PROCEDURES

WARNING: RAPID ACTION OF DOORS MAY CAUSE INJURY OR DAMAGE IF LOCKS ARE NOT PROPERLY INSTALLED.

1. Open main gear doors and install door locks.
2. Confirm that advisory level message GEAR DOORS illuminates after 35 second time delay.
3. Remove door locks and close main gear doors.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
LANDING GEAR DOOR LATCH PROXIMITY SENSOR					
32-61-02A System One **"DISP.APPR.REQ'D."**	**N**	4	3	**C**	**(O)(M)** May be inoperative provided: a) Appropriate performance adjustments are applied, and b) Remaining system one and all system two sensors are verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
32-61-02B System Two	**N**	4	3	**C**	**(O)(M)** May be inoperative provided: a) Manual function of the Passenger Notice System operates normally and procedures for its use are used, and b) All system one and remaining system two sensors are verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-61-02A	Near Landing Gear DOORS Light	___ Ldg Gear Door Latch Prox Sensor INOP
32-61-02B	Near Landing Gear DOORS Light	___ Ldg Gear Door Latch Prox Sensor INOP

(O) PROCEDURES

32-61-02A

NOTE: With SYS 1 landing gear door latch proximity sensor inoperative, the ADP will operate continuously with the ADP switch in the AUTO position.

To extend air driven pump life, the ADP should be turned OFF except as follows:

1. Turn the ADP ON on the ground prior to takeoff.
2. Turn the ADP ON in flight prior to flap extension.
3. Turn the ADP ON at all times if hydraulic driven generator is required for dispatch.

NOTE: The HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

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32-61-02A	LANDING GEAR DOOR LATCH PROXIMITY SENSOR (SYSTEM ONE)
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 3,600 lbs.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 3,600 lbs. 2. Reduce T/O CLIMB LIMIT by 3,600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 3,600 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 3,600 lbs.

32-61-02B

NOTE: An inoperative System Two sensor will render the Flight Deck Automatic Function of the Passenger Notice System inoperative.

Operate Passenger Notice System manually. Automatic function will be inoperative.

(M) PROCEDURES

32-61-02A, 32-61-02B

1. Locate Proximity Switch Electronics Unit (PSEU) in main E/E equipment center.
2. Perform BITE check - inoperative sensor will be listed for SYS 1and SYS 2 on PSEU instruction placard as L LATCH LOCKED, R LATCH LOCKED, L NOSE DOOR CLOSED, or R NOSE DOOR CLOSED.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-71-01 Tail Skid **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Tail skid is secured in extended position, b) Water supplies associated with aft drain mast are secured OFF, and c) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-71-01	Near TAIL SKID Light	Tail Skid INOP

(O) PROCEDURES

32-71-01	**TAIL SKID**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 2,600 lbs. 2. Increase BLOCK FUEL by 1.4%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 1,400 lbs. 2. Reduce T/O CLIMB LIMIT by 1,400 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 1,400 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 1,400 lbs.

(M) PROCEDURES

1. Dispatch is not recommended if there is hydraulic fluid leakage from the tail skid actuation system.
2. Shut off water supplies associated with aft drain mast.
3. Secure tail skid in fully extended position.

NOTE: Display of the tail skid light and TAILSKID advisory message, with landing gear lever in the DN position, indicates that tail skid is not fully extended.

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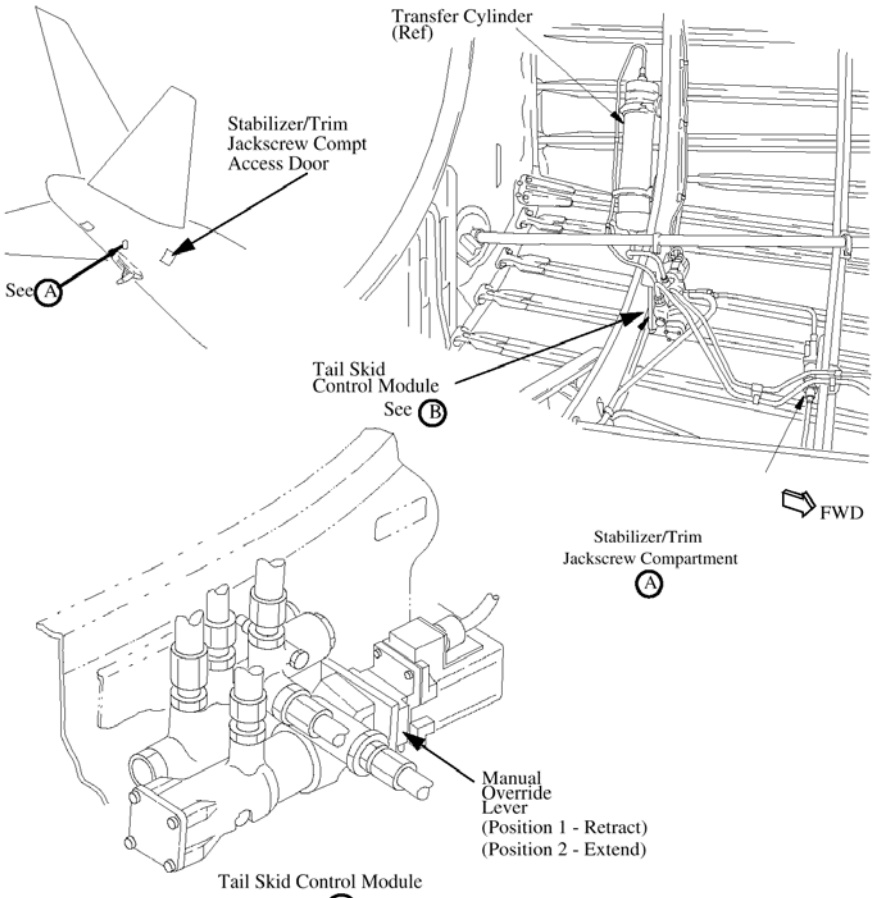
a. Pull and secure circuit breaker TAIL SKID on overhead (P11) panel.
b. Check that landing gear lever at pilot's panel (P3) is in the DN detent.
c. Check that center hydraulic system is powered.
d. Open Stabilizer / Trim Jackscrew Compartment access door, 312AR.
e. If tail skid is not fully extended, perform the following:

WARNING: CHECK THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF TAIL SKID AREA BEFORE MOVING TAIL SKID CONTROL MODULE MANUAL OVERRIDE LEVER. PLACING THE MANUAL OVERRIDE LEVER IN POSITION 2 WILL EXTEND THE TAIL SKID. RESULTING MOVEMENT MAY CAUSE EQUIPMENT DAMAGE OR PERSONNEL INJURY.

1) Move manual override lever on tail skid control module to POSITION 2 (extend) and check that tail skid extends fully.

f. Check that TAIL SKID advisory level EICAS message and TAIL SKID light on P3 panel are extinguished.
g. From outside the airplane, check that there is no evidence of hydraulic fluid from the tail skid shock strut / actuator.
h. Close stabilizer / trim jackscrew compartment access door, 312AR.



TAIL SKID INSTALLATION

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-71-02A	Tail Skid Indication System	**N**	1	0	**C**	May be inoperative provided tail skid retraction mechanism is inoperative and deferred per MEL 32-71-01.
32-71-02B	Tail Skid Indication System	**N**	1	0	**C**	**(M)** May be inoperative provided tail skid extend / retract function is verified to operate normally ONCE EACH FLIGHT DAY (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
32-71-02C	Tail Skid Indication System **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Tail skid is secured in extended position, b) Water supplies associated with aft drain mast are secured OFF, and c) Appropriate performance adjustments are applied.
32-71-02D	Tail Skid Indication System (TAIL SKID Light)	**Y**	1	0	**C**	May be inoperative provided EICAS message TAILSKID operates normally.
32-71-02E	Tail Skid Indication System (Proximity Switch System)	**N**	1	0	**C**	**(M)** May be inoperative provided tail skid extend / retract function is verified to operate normally ONCE EACH FLIGHT DAY (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
32-71-02A	Near TAIL SKID Light	Tail Skid Indication INOP
32-71-02B	Near TAIL SKID Light	Tail Skid Indication INOP
32-71-02C	Near TAIL SKID Light	Tail Skid Indication INOP
32-71-02D	Near TAIL SKID Light	Tail Skid Indication INOP
32-71-02E	Near TAIL SKID Light	Tail Skid Indication INOP

CONTINUED NEXT PAGE

(O) PROCEDURES

32-71-02C

32-71-02C	TAIL SKID INDICATION SYSTEM
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 2,600 lbs. 2. Increase BLOCK FUEL by 1.4%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 1,400 lbs. 2. Reduce T/O CLIMB LIMIT by 1,400 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 1,400 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 1,400 lbs.

(M) PROCEDURES

32-71-02B, 32-71-02E

NOTE: The tailskid extension and retraction can be checked two ways.

1. Accomplish the following if using the tailskid control module.
   a. Supply electrical power.
   b. Pressurize the center hydraulic system and hydraulic reservoir.
   c. Gain access to the Stabilizer / Trim Jackscrew Compartment via the access door.
   d. Clear tail skid area. Put the tail skid manual override lever on the tail skid control module to the retract position.
   e. Ensure the tailskid is retracted.
   f. Clear tail skid area. Put the manual override lever on the tail skid control module to the extended position.
   g. Ensure the tailskid is extended.

CONTINUED NEXT PAGE

2. Accomplish the following if using the flight deck landing gear control lever.

   a. Supply electrical power.
   b. Pressurize the center hydraulic system and hydraulic reservoir.

WARNING: INSTALL THE GEAR DOWNLOCKS IN ALL LANDING GEAR BEFORE MOVING GEAR CONTROL LEVER TO PREVENT INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

   c. Install downlocks on the nose and main landing gears.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN THE LANDING GEAR CONTROL LEVER IS MOVED. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

   d. From the flight deck, move the landing gear control lever to the UP position.
   e. Ensure the tailskid retracts.
   f. Move the landing gear control lever to DN position.
   g. Ensure the tailskid extends.
   h. Remove the gear downlocks.

32-71-02C

1. Shut off water supplies associated with aft drain mast
2. Secure tail skid in fully extended position.

   NOTE: Illumination of the tail skid light and related EICAS message, with landing gear lever in the DN position, indicates that tail skid is not fully extended.

   a. Pull and secure circuit breaker TAIL SKID on overhead (P11) panel.
   b. Check that landing gear lever at pilot's panel (P3) is in the DN detent.
   c. Check that center hydraulic system is powered.
   d. Open Stabilizer / Trim Jackscrew Compartment access door, 312AR.
   e. If tail skid is not fully extended, perform the following:

      1) Clear tail skid area. Move manual override lever on tail skid control module to POSITION 2 (extend) and check that tail skid extends fully.

   f. Check that TAIL SKID light on P3 panel is extinguished.
   g. Check tail skid components and hydraulic lines for leaks.

      NOTE: Tail skid shock strut / actuator must be checked for leaks from outside of airplane.

   h. Close stabilizer / trim jackscrew compartment access door, 312AR.

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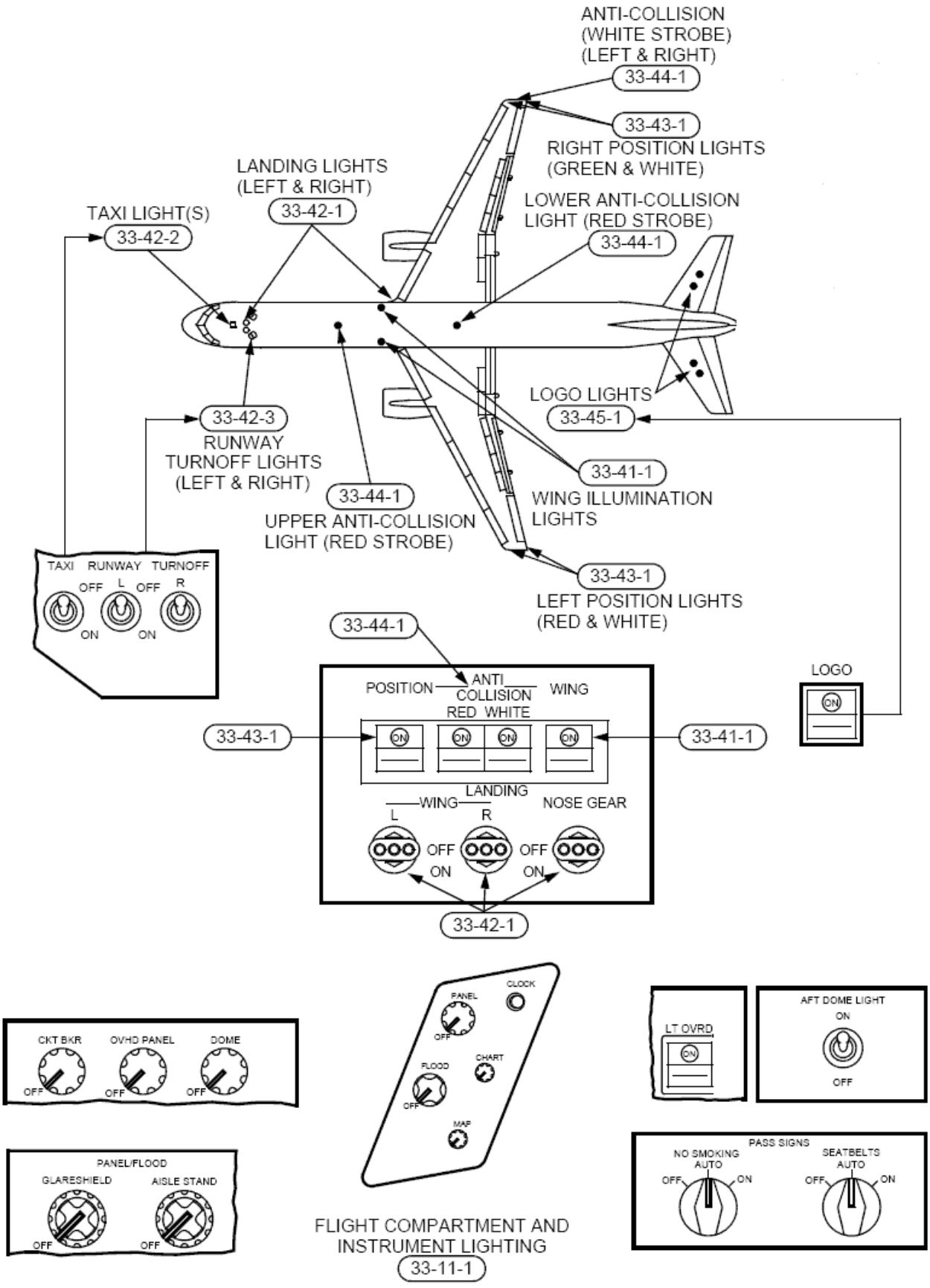
ANTI-COLLISION
(WHITE STROBE)
(LEFT & RIGHT)
33-44-1
33-43-1
RIGHT POSITION LIGHTS
(GREEN & WHITE)
LANDING LIGHTS
(LEFT & RIGHT)
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OFF L OFF R
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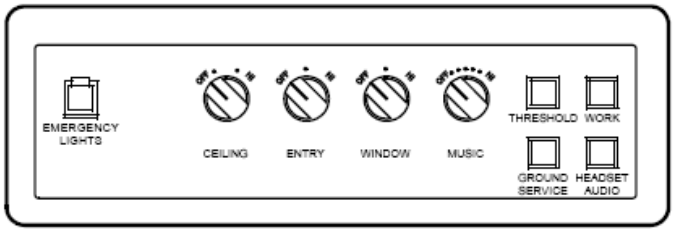
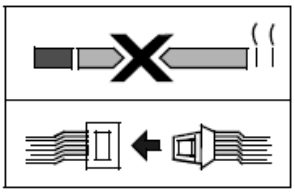
WING
L R
NOSE GEAR
OFF ON OFF ON
33-42-1
CKT BKR
OVHD PANEL
DOME
OFF OFF OFF
PANEL/FLOOD
GLARESHIELD
AISLE STAND
OFF OFF
PANEL
CLOCK
OFF
CHART
FLOOD
OFF
MAP
FLIGHT COMPARTMENT AND
INSTRUMENT LIGHTING
33-11-1
LT OVRD
ON
AFT DOME LIGHT
ON
OFF
PASS SIGNS
NO SMOKING
AUTO
OFF ON
SEATBELTS
AUTO
OFF ON



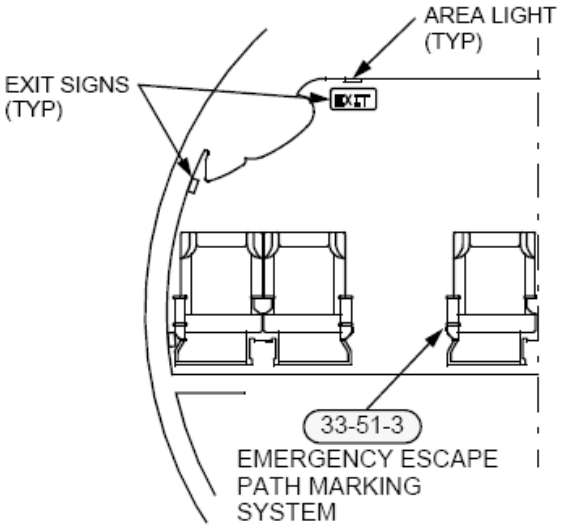
CABIN INTERIOR ILLUMINATION

33-21-1

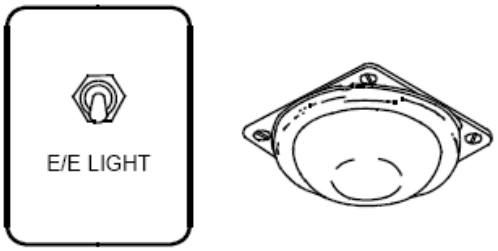


PASSENGER INFORMATION SIGNS

33-24-1

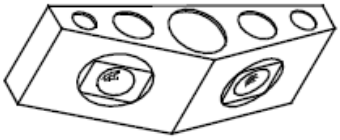


PASSENGER COMPARTMENT (RIGHT SIDE)

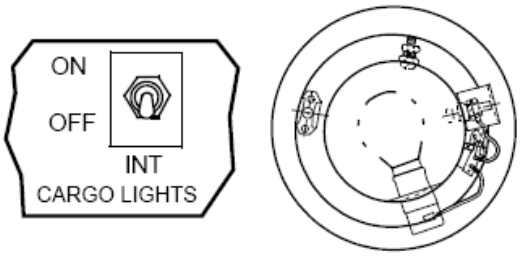


E/E EQUIPMENT CENTER LIGHT (TYPICAL)

33-31-4



MAIN WHEEL WELL LIGHTS

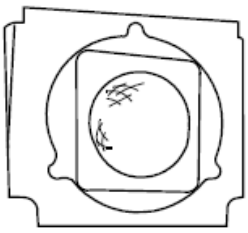


AFT CARGO COMPARTMENT LIGHT

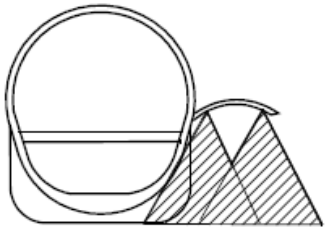
33-37-1

WHEEL WELL LIGHTS

33-31-1

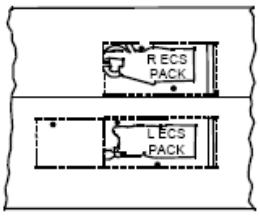


TYPICAL NOSE WHEEL WELL LIGHT

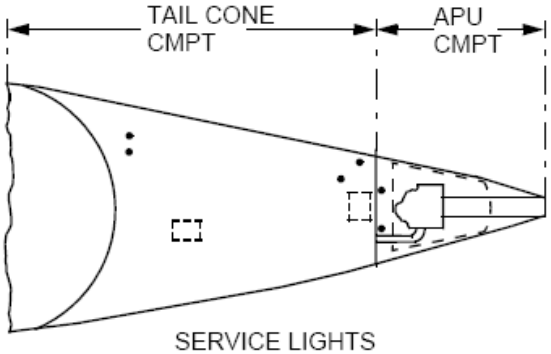


EXTERIOR CARGO LOADING AREA LIGHTS

33-31-2

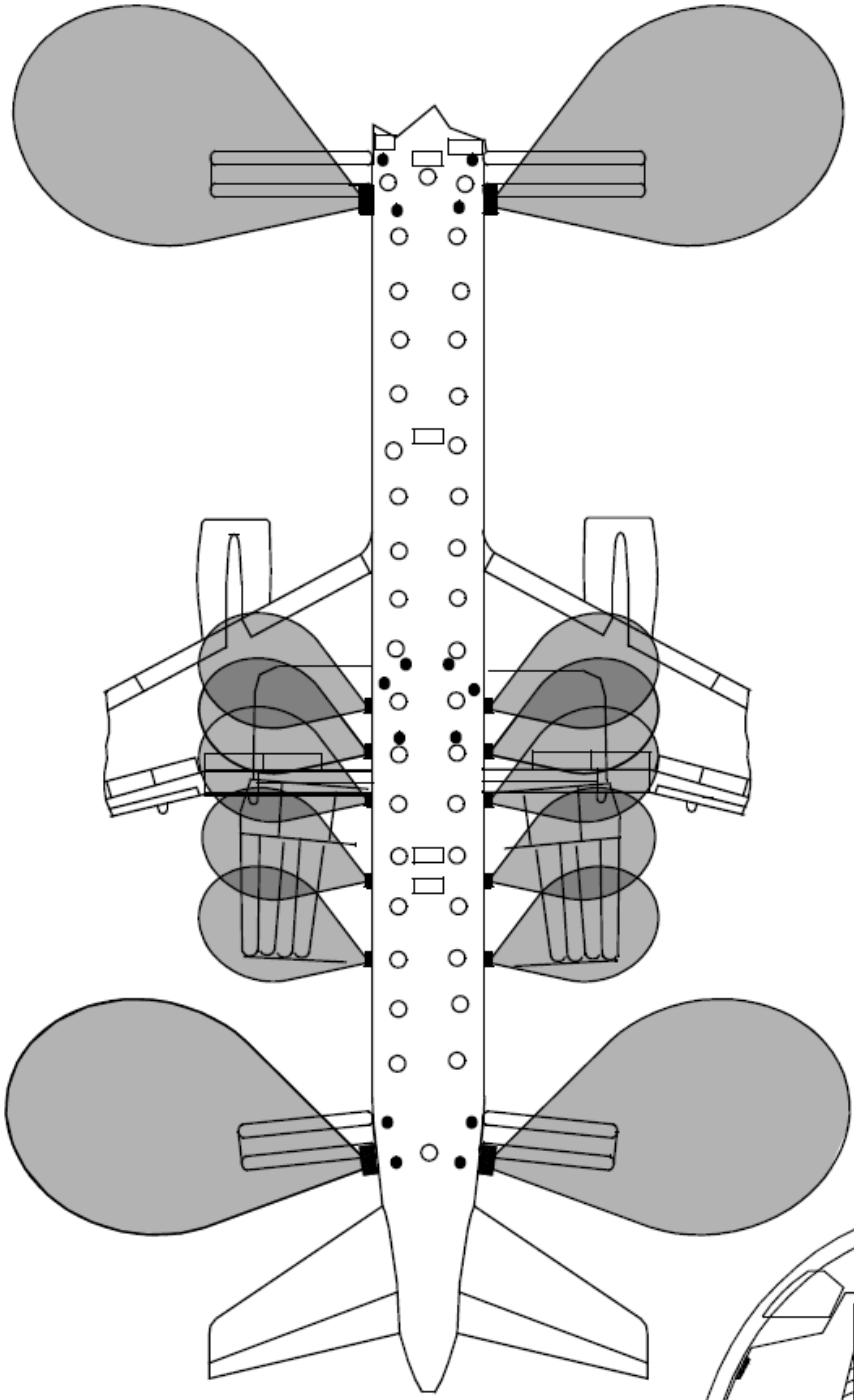


ECS BAY



SERVICE LIGHTS

33-31-3

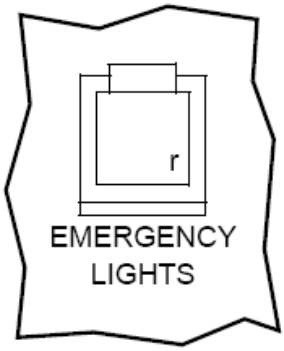


INTERIOR EMERGENCY LIGHTING SYSTEM
33-51-1

EXTERIOR EMERGENCY LIGHTING SYSTEM
33-51-2

FLOOR PROXIMITY EMERGENCY ESCAPE PATH MARKING SYSTEM
33-51-3

OVERHEAD PANEL



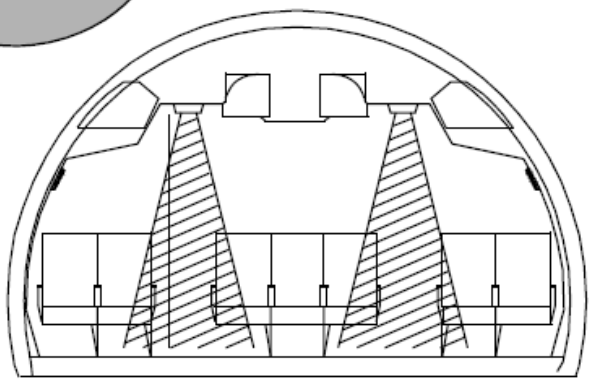
FWD FLIGHT ATTENDANT PANEL

EXIT SIGN

AISLE LIGHT

EXIT LOCATOR SIGN

EXTERIOR SLIDE ILLUMINATION LIGHT



AISLE LIGHTS (TYPICAL)

INTERIOR EMERGENCY LIGHTING SYSTEM
33-51-1

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
33-11-01	Flight Compartment and Instrument Lighting System	**Y** -	-	**C**	Individual lights not required for an emergency procedure may be inoperative provided: a) Remaining lighting system lights are sufficient to clearly illuminate all required instruments, controls and other devices for which it is provided, b) Remaining lighting system lights are positioned so that direct rays are shielded from flight crewmembers eyes, and c) Lighting configuration and intensity is acceptable to flight crew. NOTE: Individual button/switch lights and/or annunciations/indications are excluded from this relief.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-11-01	Near Associated Lighting Control	___ Cockpit Lighting INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MASTER DIM AND TEST SYSTEM					
33-16-01A Test Function	**Y**	1	0	**C**	**(M)** May be inoperative provided intended function of associated light(s) is verified.
33-16-01B Dim Function	**Y**	1	0	**C**	May be inoperative provided: a) BRT functions operate normally, and b) Light intensity is acceptable to flight crew for type and duration of operations.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-16-01A	Near Master Dim and Test Switch	Master Dim and Test System Test Function INOP
33-16-01B	Near Master Dim and Test Switch	Master Dim and Test System Dim Function INOP

(M) PROCEDURES

33-16-01A

Verify the intended function of individual lights by testing the associated indication/alerting system to ensure that the affected light functions as intended.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	CREW REST ILLUMINATION SYSTEM					
33-20-02A	Lower Lobe Attendant Rest Main Light	**Y**	1	0	**C**	May be inoperative provided the seat reading light operates normally.
33-20-02B	Lower Lobe Attendant Rest Vestibule Light	**Y**	1	0	**C**	May be inoperative provided main light operates normally.
33-20-02C	Lower Lobe Flight Crew Rest Main Lights	**Y**	3	2	**C**	One may be inoperative
33-20-02D	Lower Lobe Flight Crew Rest Ladder Lights	**Y**	4	2	**C**	Up to two lights may be inoperative provided they are not adjacent to each other.
33-20-02E	Main Cabin Crew Rest Dome Light	**Y**	1	0	**C**	May be inoperative provided the reading lights operate normally.
33-20-02F	Crew Rest Bunk Lights	**Y**	-	0	**C**	May be inoperative provided associated bunk reading light is operational.
33-20-02G	Flashlight/Holder Assembly	**Y**	-	0	**C**	**(O)** May be inoperative or missing provided crewmember in associated bunk has a flashlight of equivalent characteristics readily available.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-20-02A	Logbook	Lower Lobe Attendant Rest Main Light INOP
33-20-02B	Logbook	Lower Lobe Attendant Rest Vestibule Light INOP
33-20-02C	Logbook	___Lower Lobe Flight Crew Rest Main Light INOP
33-20-02D	Logbook	____Lower Lobe Flight Crew Rest Ladder Light(s) INOP
33-20-02E	Logbook	Main Cabin Crew Rest Dome Light INOP
33-20-02F	Logbook	____ Crew Rest Bunk Light(s) INOP
33-20-02G	Logbook	___ Crew Rest Flashlight/Holder Assembly INOP

(O) PROCEDURES

33-20-02G

Verify that crewmember in bunk with associated inoperative/missing flighlight has a flashlight of equivalent characteristics readily available.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CABIN INTERIOR ILLUMINATION					
33-21-01A Cabin Interior Illumination with Non-Photoluminescent Emergency Escape Path Marking System **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	Individual lights may be inoperative provided: a) Sufficient lighting remains for crewmembers to perform their duties, and b) For night ER operations (ETOPS) beyond 60 minutes of landing at a suitable airport, at least 75% of night lights operate normally.
33-21-01B Flight Deck Door Security Lighting System **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used to visually observe personnel requesting flight deck entry.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-21-01A	Near Associated Lighting Control	___ Cabin Lighting INOP
33-21-01B	Near Associated Lighting Control	___ Flight Deck Door Security Lighting System INOP

(O) PROCEDURES

33-21-01B

Captain to brief Purser / FL to utilize a flashlight to illuminate the area outside the flight deck door to allow visual verification.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
PASSENGER LIGHTED INFORMATION SIGNS					
33-24-01A No Smoking / Fasten Seat Belt / Return to Seat **"DISP.APPR.REQ'D."**	**Y**	-	-	**C**	**(M)** May be inoperative provided: a) Associated passenger seat or lavatory is not occupied from which a passenger lighted information sign is not readily legible, and b) Associated seat or lavatory must be blocked and placarded DO NOT OCCUPY. NOTE: These provisos are not intended to prohibit lavatory use or inspections by crewmembers.
33-24-01B No Smoking / Fasten Seat Belt / Return to Seat	**Y**	-	-	**C**	**(O)** May be inoperative and affected passenger seat(s) or lavatories may be occupied provided: a) PA system operates normally, and b) PA system is used to to notify passengers and cabin crew when associated sign(s) are placed on or off.
33-24-01C No Smoking / Fasten Seat Belt / Return to Seat **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, and c) Alternate procedures are used.
33-24-01D Aural Tone System	**Y**	1	0	**C**	
33-24-01E Flight Deck Automatic Function	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Manual control function operates normally, and b) Alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-24-01A	Near No Smoking / FSB Switch	___ No Smoking / Fasten Seat Belt Sign INOP
33-24-01B	Near No Smoking / FSB Switch	___ No Smoking / Fasten Seat Belt Sign INOP
33-24-01C	Near No Smoking / FSB Switch	___ No Smoking / Fasten Seat Belt Sign INOP
33-24-01D	Near No Smoking / FSB Switch	No Smoking / Fasten Seat Belt Aural Tone INOP
33-24-01E	Near No Smoking / FSB Switch	No Smoking / Fasten Seat Belt AUTO Function INOP

CONTINUED NEXT PAGE

(O) PROCEDURES

33-24-01B, 33-24-01E

Refer to the FOM for when the pilot in command is required to notify passengers when seat belts should be fastened and smoking prohibited.

NOTE: No Smoking signs normally extinguish on takeoff when the landing gear is retracted and illuminate during landing as the landing gear is extended. The Fasten Seat Belt signs normally extinguish on takeoff when the flaps and landing gear are up and illuminate when the flaps or landing gear are extended.

33-24-01C

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.

(M) PROCEDURES

33-24-01A

NOTE: 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.

1. Tapes or ropes of conspicuous contrasting colors must be installed to block access to unusable seats.
2. Conspicuous signs or placards shall be placed in appropriate locations to indicate seats which are not to be occupied by passengers or cabin attendants.
3. No maintenance action required if the following alternate operations procedures are used.

	NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-24-03	Lower Lobe Crew Rest No Smoking / Fasten Seat Belt Signs **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(M)** May be inoperative provided affected seat or bunk is placarded INOP - DO NOT USE. NOTE: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-24-03	Logbook	___ Lower Lobe Crew Rest No Smoking/Fasten Seat Belt Sign(s) INOP

(M) PROCEDURES

1. A placard stating “INOPERATIVE - DO NOT USE”, must be placed in a conspicuous location in the affected seat or bunk(s).
2. Affected bunk(s) curtains must be stowed.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-31-01	Main Wheel Well and Nose Wheel Well Service Area Lights	**Y**	6	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-31-01	Exterior Light Control Panel	___ Wheel Well Light(s) INOP

	NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-31-02	Exterior Cargo Loading Area Lights	**Y**	-	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-31-02	Exterior Light Control Panel	___ Cargo Loading Area Light(s) INOP

NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD		REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION	REMARKS OR EXCEPTIONS	
33-31-03	Service Lights	NOTE: Relief for the ECS bay, APU and tailcone area and the electrical equipment center service lights has been moved to MEL Item 25-20-01, Nonessential Equipment and Furnishings.	

NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD		REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION			REMARKS OR EXCEPTIONS
33-31-04 Electrical Equipment Center Lights			NOTE: Relief for the ECS bay, APU and tailcone area and the electrical equipment center service lights has been moved to MEL Item 25-20-01, Nonessential Equipment and Furnishings.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-37-01A	Cargo Compartment Sill Lights	**Y**	-	0	**C**	
33-37-01B	Cargo Compartment Lights **"DISP.APPR.REQ'D."**	**Y**	24	0	**C**	**(O)** May be inoperative provided procedures do not require their use.
33-37-01C	Cargo Compartment Lights Lens	**N**	-	0	**C**	**(M)** May be broken/missing provided associated light is deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-37-01A	Exterior Light Control Panel	___ Cargo Door Sill Light(s) INOP
33-37-01B	Exterior Light Control Panel	___ Cargo Compartment Light(s) INOP
33-37-01C	Exterior Light Control Panel	___ Cargo Compartment Light Lens Broken/Missing

(O) PROCEDURES

33-37-01B

Remaining operative lighting must be adequate for safe loading of cargo compartment.

(M) PROCEDURES

33-37-01C

1. Ceiling lamps and wall mounted lamps have a microswitch to remove power. For sill lights, remove power at the associated cicuit breaker on P35, P39, P87 or P33 C/B panel. Refer to System Schematics Manual.
2. Remove light bulb.
3. Tape over the fixture with fiberglass bag bin tape.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-41-01 Wing Illumination Lights **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative provided ground de-icing procedures do not require their use.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-41-01	Exterior Light Control Panel	___ Wing Illumination Light(s) INOP

(O) PROCEDURES

Adequate lighting must be available for ground deice operations at night.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-42-01A Landing Lights	**Y**	4	2	**C**	One nose gear and/or one wing mounted light may be inoperative.
33-42-01B Landing Lights **"DISP.APPR.REQ'D."**	**Y**	4	0	**C**	May be inoperative for day operations.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-42-01A	Exterior Light Control Panel	___ Landing Light(s) INOP
33-42-01B	Exterior Light Control Panel	___ Landing Light(s) INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-42-02 Taxi Lights	**Y**	2	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-42-02	Exterior Light Control Panel	___ Taxi Light(s) INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-42-03 Runway Turnoff Lights	**Y**	2	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-42-03	Exterior Light Control Panel	___ Runway Turnoff Light(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	POSITION LIGHTS					
33-43-01A	Position Lights (A/C without winglets) **"DISP.APPR.REQ'D."**	**Y**	8	0	**C**	May be inoperative for day operations.
33-43-01B	Position Lights (A/C without winglets)	**Y∗**	8	4	**C**	One stationary light on forward and aft tip of each wing may be inoperative.
33-43-01C	Forward Position Lights Module (A/C with winglets)	**Y**	4	2	**C**	One stationary forward position light LED module on leading edge of each winglet may be inoperative.
33-43-01D	Forward Position Lights Module (A/C with winglets) **"DISP.APPR.REQ'D."**	**Y**	4	0	**C**	May be inoperative for day operations.
33-43-01E	Aft Position Lights Module (A/C with winglets) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative for day operations.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-43-01A	Exterior Light Control Panel	___ Position Light(s) INOP
33-43-01B	Exterior Light Control Panel	___ Position Light(s) INOP
33-43-01C	Exterior Light Control Panel	___ Forward Position Light Module(s) INOP
33-43-01D	Exterior Light Control Panel	___ Forward Position Light Module(s) INOP
33-43-01E	Exterior Light Control Panel	___ Aft Position Light Module(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-44-01A	Anti-Collision Lights (Red Strobes / White Strobes) **"DISP.APPR.REQ'D."**	**Y**	4	0	**C**	May be inoperative for day operations.
33-44-01B	Anti-Collision Lights (Red Strobes / White Strobes) **"DISP.APPR.REQ'D."**	**Y**	4	2	**C**	Upper and lower red fuselage strobe lights may be inoperative provided wing tip white strobe lights operate normally.
33-44-01C	Anti-Collision Lights (Red Strobes / White Strobes) **"DISP.APPR.REQ'D."**	**Y**	4	2	**C**	Wing tip white strobe lights may be inoperative provided upper and lower red fuselage strobe lights operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-44-01A	Exterior Light Control Panel	___Anti-Coll / Strobe Lights INOP
33-44-01B	Exterior Light Control Panel	___Anti-Coll / Strobe Lights INOP
33-44-01C	Exterior Light Control Panel	___Anti-Coll / Strobe Lights INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-45-01 Logo Lights	**Y**	4	0	**D**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-45-01	Exterior Light Control Panel	___ Logo Light(s) INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
INTERIOR EMERGENCY LIGHTING SYSTEMS					
33-51-01A Interior Emergency Lighting System (Battery Powered)	**Y**	-	-	**C**	Light assemblies installed in ceiling above each main aisle may be inoperative provided no two adjacent (same aisle) light assemblies are inoperative.
33-51-01B Interior Emergency Lighting System (Battery Powered) **"DISP.APPR.REQ'D."**	**Y**	-	-	**A**	Lights/signs exclusively associated with one door, slide or emergency exit may be inoperative provided: a) Associated door or slide is considered inoperative and deferred per MEL 52-11-04, and b) Repairs are made within 1 flight day.
33-51-01C Interior Emergency Lighting System (Battery Powered) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, and c) Alternate procedures are used.
33-51-01D Crew Rest Emergency Lights **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(M)** May be inoperative provided: a) Associated Crew Rest is not used and personal items are removed, and b) Crew Rest door is closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-51-01A	Emergency Lighting Switch	___ Interior Emergency Light(s) INOP
33-51-01B	Emergency Lighting Switch	___ Interior Emergency Light(s) INOP
33-51-01C	Emergency Lighting Switch	___ Interior Emergency Light(s) INOP
33-51-01D	Emergency Lighting Switch	___ Crew Rest Emergency Light(s) INOP

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(O) PROCEDURES

33-51-01C

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.

(M) PROCEDURES

33-51-01D

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Install placard INOPERATIVE – DO NOT ENTER.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-51-02	Exterior Emergency Lighting System (Battery Powered) **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	May be inoperative for day operations.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-51-02	Emergency Lighting Switch	Exterior Emergency Lights INOP

MAINTENANCE NOTE:

If this item is deferred due to MEL 52-71-01 (M) PROCEDURE, it may be necessary to replace an associated exterior emergency light system battery pack(s).

	NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-51-03A	Non-Photoluminescent Emergency Escape Path Marking System	**Y**	-	-	**C**	Minimum allowable lighting configuration is as follows: a) At least one light bulb in any light assembly must operate for that assembly to be functional, b) In first and business classes, each seat must have at least one functional white light assembly, c) In coach class, no more than one consecutive white light assembly may be inoperative, d) Where there are red light assemblies, all must be functional, and e) No more than two bulbs in each flood light may be inoperative.
33-51-03B	Non-Photoluminescent Emergency Escape Path Marking System **"DISP.APPR.REQ'D."**	**Y**	-	-	**A**	Lights/signs exclusively associated with one door, slide or emergency exit may be inoperative provided: a) Associated door, slide or emergency exit is considered inoperative and deferred per MEL 52-11-04A or 52-11-04B as appropriate, and b) Repairs are made within 1 flight day.
33-51-03C	Non-Photoluminescent Emergency Escape Path Marking System **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(O)** May be inoperative provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, and c) Alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
33-51-03A	Emergency Lighting Switch	___ Non-Photoluminescent Emergency Escape Path Marking Light(s) INOP
33-51-03B	Emergency Lighting Switch	___ Non-Photoluminescent Emergency Escape Path Marking Light(s) INOP
33-51-03C	Emergency Lighting Switch	___ Non-Photoluminescent Emergency Escape Path Marking Light(s) INOP

NOTE: At least one light bulb in any light assembly must operate normally for that assembly to be operative.

(O) PROCEDURES

33-51-03C

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.

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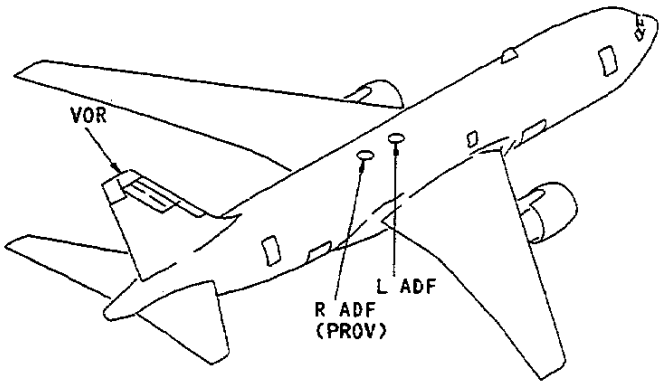
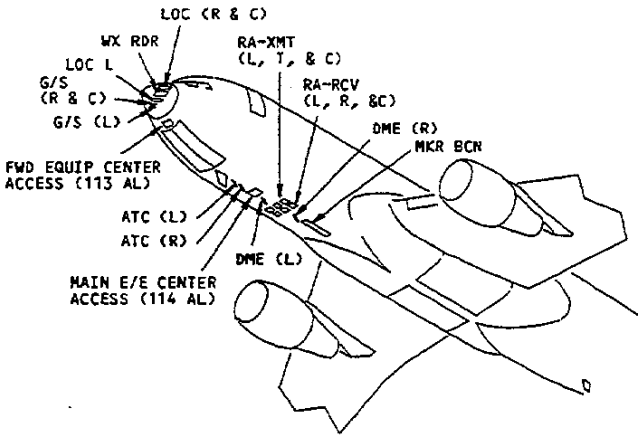
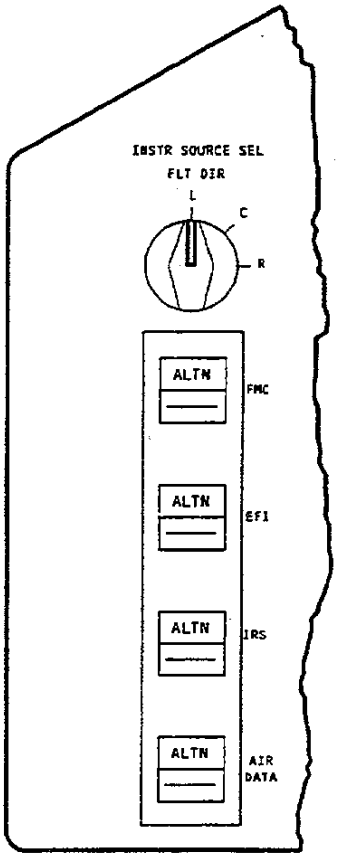




NAVIGATIONAL SYSTEMS ANTENNA LOCATION

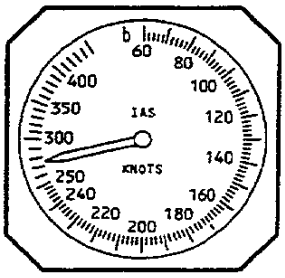


INSTRUMENT SOURCE SELECT SWITCH

34-00-01

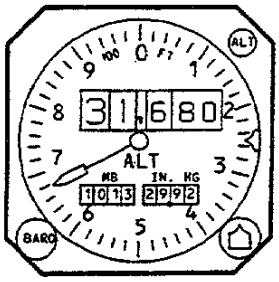
MACH/AIRSPEED WARNING

34-13-02



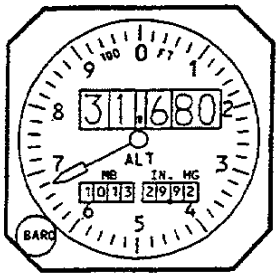
STANDBY AIRSPEED INDICATOR

34-13-03



ELECTRIC ALTIMETERS

34-13-04

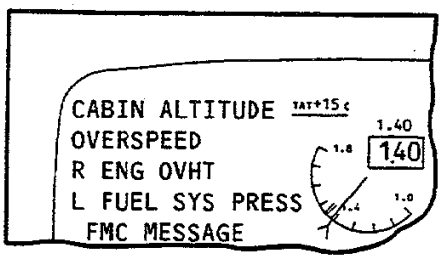


STANDBY ALTIMETER

34-13-05

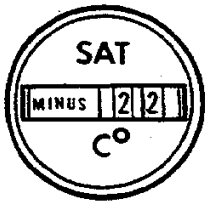
STANDBY ALTIMETER VIBRATOR

34-13-06



TOTAL AIR TEMPERATURE INDICATION (EICAS)

34-13-07

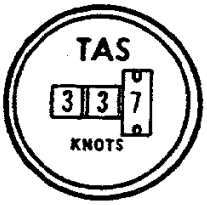


STATIC AIR TEMPERATURE INDICATOR

34-13-08

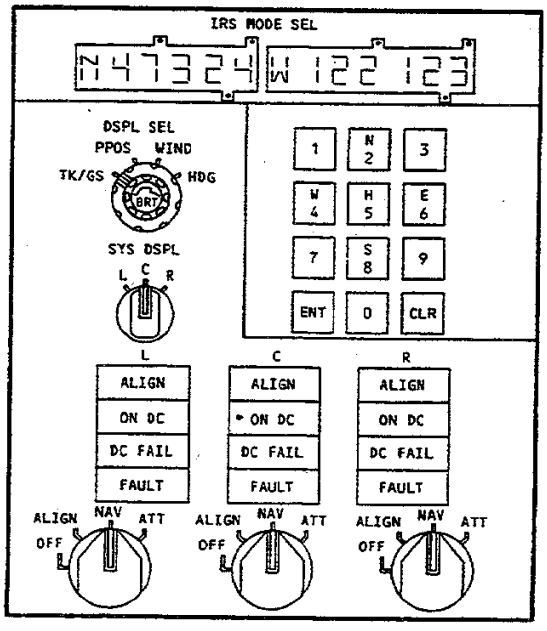
TRUE AIRSPEED INDICATOR

34-13-09



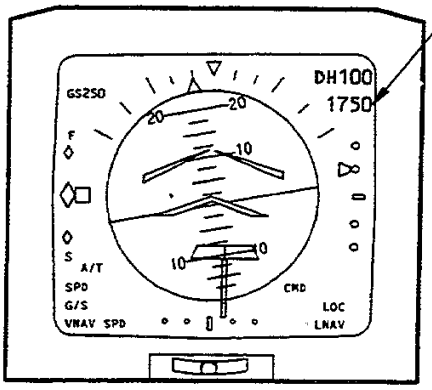
ALTITUDE ALERTING SYSTEM

34-16-01



INERTIAL REFERENCE SYSTEMS

34-21-01

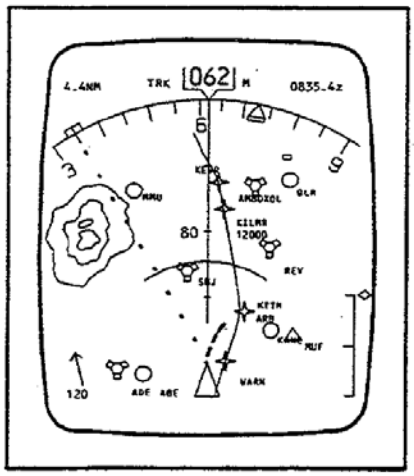


RADIO ALTITUDE (ALTIMETERS)

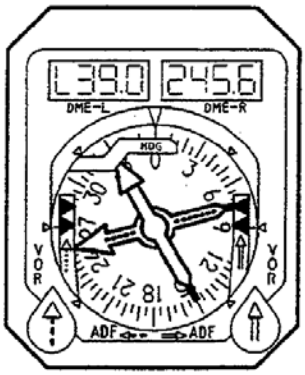
34-33-01

ATTITUDE DIRECTOR INDICATORS

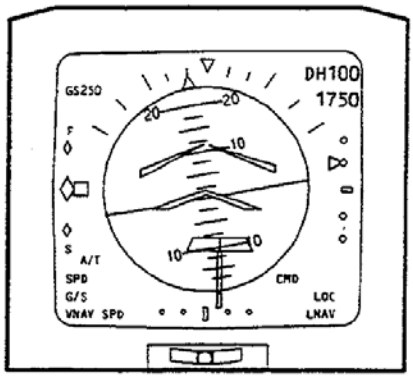
34-22-01



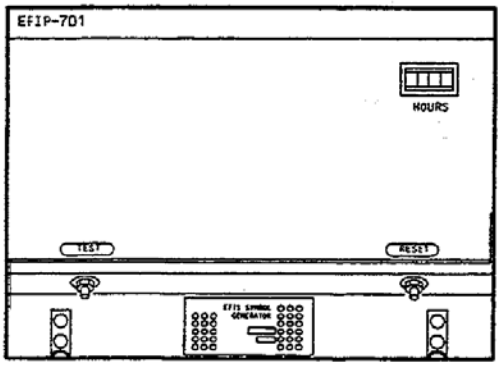
HORIZONTAL SITUATION INDICATOR
(MAP MODE SHOWN)
34-22-02



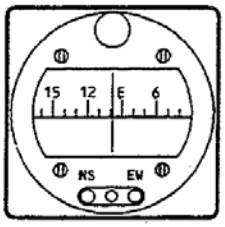
MAGNETIC INDICATOR (RDMI)
34-22-03



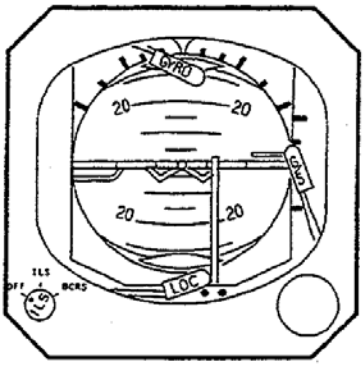
FLIGHT DIRECTOR DISPLAYS
34-22-04



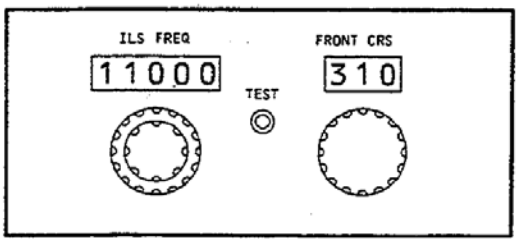
EFIS SYMBOL GENERATOR
34-22-05



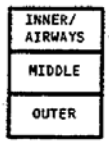
MAGNETIC COMPASS
34-23-01



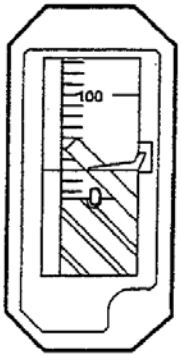
STANDBY ATTITUDE INDICATOR
34-24-01



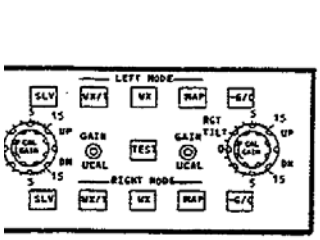
ILS SYSTEM
34-31-01



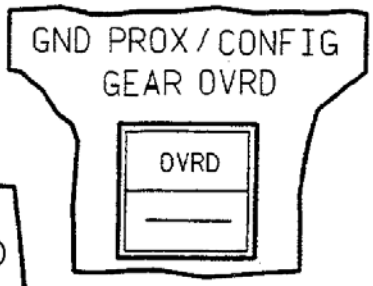
MARKER BECON
SYSTEM
34-32-01

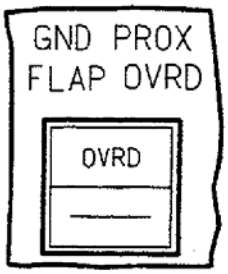


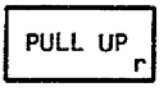
RADIO ALTITUDE
INDICATOR
34-33-02

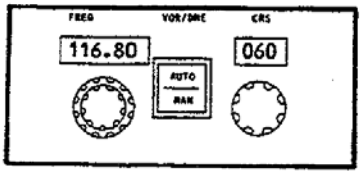


WEATHER RADAR SYSTEM
34-43-01



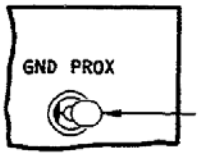






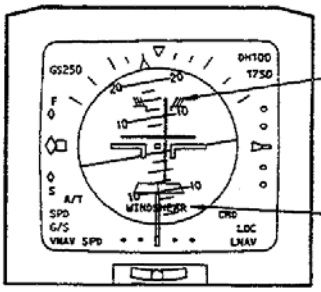
VOR NAVIGATION SYSTEM
34-51-01

DME SYSTEM
34-55-01



GND PROX TEST SWITCH

GROUND PROXIMITY WARNING SYSTEM
34-46-01

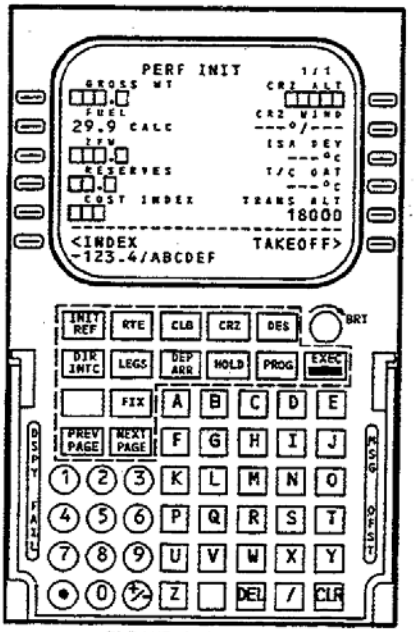


PITCH LIMIT INDICATOR

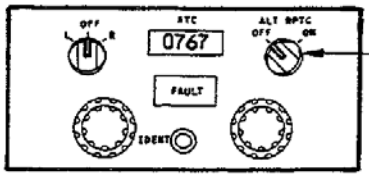
WARNING INDICATING

WINDSHEAR GUIDANCE AND ALERTING SYSTEM
34-46-02

WINDSHEAR LIGHT

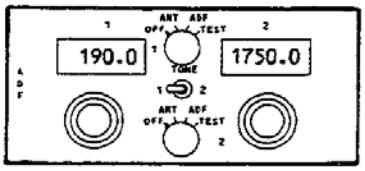


FLIGHT MANAGEMENT COMPUTER SYSTEM
34-61-01



ALTITUDE REPORTING SELECTOR
34-53-01

ATC PANEL



RADIO COMPASS (ADF)
34-57-01

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
34-00-00L	LLM Category II/III Status (Lower Landing Minimums) **"DISP.APPR.REQ'D."** Administrative Control Item	**N**	-	-	**(O)(M)** Aircraft restricted to CAT I due to AMT is non-AFQ authorized. NOTE: This Item Number is only used for deferring the CAT II/III status of the aircraft and MCC authorization is required prior to its usage or removal. <u>CAT II/III</u> Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-00-00L	Adjacent to each PFD.	CAT II/III NOT AUTHORIZED

(O) PROCEDURES

CAT II - Not Authorized.
CAT III - Not Authorized.

(M) PROCEDURES

1. The AMT will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate MEL Item Number.
2. The deferral code LLM must also be entered on the log page and the placard when deferring this item.
3. MCC authorization is required prior to its usage or removal.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-00-10R RNP-10 Status **"DISP.APPR.REQ'D."** Administrative Control Item	**N**	-	-		**(O)(M)** Authorized by MCC when: a) RNP-10 airspace operations cannot be used, and b) No specific MEL item applies. NOTE 1: Dispatch to remove equipment code “R” and NAV code “RNP10” from the flight plan. NOTE 2: This Item Number is only used for deferring the RNP-10 status of the aircraft and MCC authorization is required prior to its usage or removal. <u>RNP-10 Operations</u> Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-00-10R	Adjacent to each PFD.	RNP-10 AIRSPACE OPERATIONS NOT AUTHORIZED

(O) PROCEDURES

RNP-10 airspace operations – Not Authorized.

(M) PROCEDURES

1. The AMT will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate MEL Item Number.
2. The deferral code RNP must also be entered on the log page and the placard when deferring this item.
3. MCC authorization is required prior to its usage or removal.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-00-01A	Instrument Source Select Switches **"DISP.APPR.REQ'D."**	**Y**	10	-	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative provided: a) Associated instruments operate from isolated sources, and b) Inoperative switches are not moved in flight.
34-00-01B	Instrument Source Select Switches **"DISP.APPR.REQ'D."**	**Y**	10	3	**C**	**(O)** May be inoperative provided: a) Associated instruments operate from isolated sources, b) Inoperative switches are not moved in flight, and c) At least one FMC, EFI, and IRS switch must operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-00-01A	Affected Instrument Source Select Switch(es)	___ Source Select Switch(es) INOP
34-00-01B	Affected Instrument Source Select Switch(es)	___ Source Select Switch(es) INOP

(O) PROCEDURES

34-00-01A, 34-00-01B

Ensure instruments are operating from isolated sources as follows:

1. FLT DIR Source Selector:
   a. Set the captain's or first officer's unaffected source selector so both pilot's instruments are operating from different sources.
   b. Set the captain's and first officer's F/D switches ON.
   c. For the affected source selector, remove power from the associated FCC by opening the associated circuit breaker:
      1) FLT CONT CMPTR PWR, L
      2) FLT CONT CMPTR PWR, C
      3) FLT CONT CMPTR PWR, R
   d. Confirm the flight director command bars disappear on the associated ADI and remain in view on the opposite side ADI.
   e. Close the open circuit breaker.
   f. For the unaffected source selector, remove power from the associated FCC by opening the associated circuit breaker:
      1) FLT CONT CMPTR PWR, L
      2) FLT CONT CMPTR PWR, C
      3) FLT CONT CMPTR PWR, R

CONTINUED NEXT PAGE

g. Confirm the flight director command bars disappear on the associated ADI and remain in view on the opposite side ADI.
h. Close the open circuit breaker.
i. Do not move the inoperative source selector in flight.

2. FMC Switch or NAV Source Selector:

a. Set an operative NAV source selector to the offside FMC.
b. Confirm a green FMC L or FMC R annunciation does not appear in the lower center portion of the HSI.
c. Set the NAV source selector to the original selection.
d. Do not move the inoperative source selector in flight.

3. EFI Switch:

a. Set the HSI mode selector to VOR on the captain's side, and set ILS or APP on the first officer's side.
b. Confirm the selected modes are displayed on each HSI.
c. Do not move the inoperative EFI switch in flight.

4. IRS Switch:

a. Set only the center IRS mode selector switch in ALIGN position.
b. Confirm at least one ADI has normal background (shaded sky and ground).
c. Do not move the inoperative IRS switch in flight.

5. AIR DATA Switch:

a. Set the L AIR DATA COMPTR TEST switch in the test position and confirm test data (airspeed, altitude, etc.) are displayed on only one pilot's instruments.
b. Do not move the inoperative AIR DATA switch in flight.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MACH INDICATORS / COMMAND AIRSPEED CURSORS					
34-13-01A Mach Indicators	**Y**	2	1	**C**	
34-13-01B Mach Indicators **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative provided: a) Airplane remains at or below FL 300, and b) A placard with this limitation is affixed to instrument panel.
34-13-01C Command Airspeed Cursors	**Y**	2	0	**C**	
34-13-01D External Airspeed Markers (Bugs)	**Y**	8	2	**C**	**(O)** May be inoperative or missing provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-13-01A	Affected Mach/Airspeed Indicator	___ Mach Indicator INOP
34-13-01B	Affected Mach/Airspeed Indicator	1. Both Mach Indicators INOP 2. Airplane must remain at or below FL 300
34-13-01C	Affected Mach/Airspeed Indicator	___ Command Airspeed Cursor(s) INOP
34-13-01D	Affected Mach/Airspeed Indicator	___ Airspeed Bug(s) INOP / Missing

(O) PROCEDURES

34-13-01D

1. Prior to departure, flight crew should crosscheck / confirm V-speeds.
2. At least one external airspeed bug or command airspeed cursor should be available on each airspeed Indicator. These should be set to V1 prior to takeoff, and to final approach speed prior to approach/landing.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-13-02	Mach / Airspeed Warning Systems (Visual and Aural) **"Contact MCC"**	**Y**	2	1	**B**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-13-02	Associated Mach/Airspeed Indicator	___ Mach / Airspeed Warning System INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-13-06	Standby Altimeter Vibrator **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided VMC exists at departure and arrival airports.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-13-06	Near Standby Altimeter	Standby Altimeter Vibrator INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-13-08	Static Air Temperature (SAT) Indicator (Center Panel)	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-13-08	Near SAT Indicator	SAT Indicator INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-13-09	True Airspeed (TAS) Indicator (Center Panel)	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-13-09	Near TAS Indicator	TAS Indicator INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-13-10	Speed Command (Fast-Slow) Indicators	**Y**	2	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-13-10	Near Associated EADI	___ Speed Command Indicator(s) INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-16-01A	Altitude Alerting System **"DISP.APPR.REQ'D."**	**Y**	1	0	**A**	**(O)** May be inoperative provided: a) Autopilot with altitude hold and altitude capture operates normally, b) Enroute operations do not require its use, c) Airplane does not depart from ATL, JFK or LAX, and d) Repairs are made within three flight days. <u>RVSM Operations</u> Not Authorized
34-16-01B	Altitude Alerting System (Aural Alert)	**Y**	1	0	**C**	May be inoperative provided: a) Visual alert operates normally, and b) Autopilot with altitude hold and altitude capture operates normally.
34-16-01C	Altitude Alerting System (Visual Alert)	**Y**	1	0	**C**	May be inoperative provided: a) Aural alert operates normally, and b) Autopilot with altitude hold and altitude capture operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-16-01A	Autopilot MCP	Altitude Alerting System INOP
34-16-01B	Autopilot MCP	Altitude Alerting System Aural Alert INOP
34-16-01C	Autopilot MCP	Altitude Alerting System Visual Alert INOP

(O) PROCEDURES

34-16-01A

1. Enroute operations that require altitude alerting (such as RVSM) may not be conducted.
2. Use the autopilot and altitude hold for all operations for which it is appropriate.
3. Cross-check the altitude displays between the captain's and first officer's PFDs upon reaching and departing an assigned altitude. Periodically cross-check altitude indications when maintaining an assigned altitude.
4. Pilot monitoring should call out approaching and departing assigned altitudes.
5. Flight crew must be aware that the usual alerts for altitude deviations will not occur.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
INERTIAL REFERENCE SYSTEMS (IRS)					
34-21-01A IRS without Hydraulic Motor Generator (HMG) Installed **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(O)(M)** Left may be inoperative provided: a) Approach minimums do not require its use, and b) Center is selected and isolation is verified ONCE EACH FLIGHT DAY (Logbook Entry Required). CAT III Not Authorized **Repetitive Check Required (Yellow Placard)**
34-21-01B IRS without Hydraulic Motor Generator (HMG) Installed **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(O)(M)** Right may be inoperative for Day VMC flight provided center is selected and isolation is verified ONCE EACH FLIGHT DAY (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
34-21-01C IRS without Hydraulic Motor Generator (HMG) Installed **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	Center may be inoperative provided approach minimums do not require its use.
34-21-01D IRS with Hydraulic Motor Generator (HMG) Installed **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(O)(M)** Except for ER Operations (ETOPS), left or right may be inoperative provided: a) Approach minimums do not require its use, b) Center is selected and isolation is verified ONCE EACH FLIGHT DAY (Logbook Entry Required), and c) First officer's IRS instrument source select switch operates normally. CAT III Not Authorized **Repetitive Check Required (Yellow Placard)**
34-21-01E IRS with Hydraulic Motor Generator (HMG) Installed **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(O)(M)** Right may be inoperative provided: a) Approach minimums do not require its use, b) Center is selected and isolation is verified ONCE EACH FLIGHT DAY (Logbook Entry Required), and c) First officer's IRS instrument source select switch operates normally. CAT III Not Authorized **Repetitive Check Required (Yellow Placard)**

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
	INERTIAL REFERENCE SYSTEMS (IRS) (Continued-)					
34-21-01F	IRS with Hydraulic Motor Generator (HMG) Installed **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	Center may be inoperative for Day VMC flight.
34-21-01G	IRS Mode Selector Panel - Display and Keyboard Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided both FMCS CDUs operate normally.
34-21-01H	IRS Mode Selector Panel - Display and Keyboard Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	Except for ER Operations (ETOPS), may be inoperative provided one FMCS CDU operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-21-01A	Associated IRS Control Panel	___ IRS INOP
34-21-01B	Associated IRS Control Panel	___ IRS INOP
34-21-01C	Associated IRS Control Panel	___ IRS INOP
34-21-01D	Associated IRS Control Panel	___ IRS INOP
34-21-01E	Associated IRS Control Panel	___ IRS INOP
34-21-01F	Associated IRS Control Panel	___ IRS INOP
34-21-01G	IRS Mode Selector Panel	IRS Mode Selector Panel INOP
34-21-01H	IRS Mode Selector Panel	IRS Mode Selector Panel INOP

(O) PROCEDURES

34-21-01A, 34-21-01B

To ensure display of the flight director bars:

1. For left IRU inoperative, set the left FLT DIR source selector to C prior to takeoff.
2. For right IRU inoperative, set the right FLT DIR source selector to C prior to takeoff.
3. Inflight, set the center A/P ENGAGE switch to engage the autopilot.

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34-21-01D, 34-21-01E

1. To ensure display of the flight director bars:
   a. For left IRU inoperative, set the left FLT DIR source selector to C prior to takeoff.
   b. For right IRU inoperative, set the right FLT DIR source selector to C prior to takeoff.
   c. Inflight, set the center A/P ENGAGE switch to engage the autopilot.
2. For operations on standby battery power, the captain's RDMI information may be lost. If the center IRU is operating normally, the captain's RDMI can be restored by switching the first officer's INSTR SOURCE SEL IRS switch to ALTN.

(M) PROCEDURES

34-21-01A, 34-21-01B, 34-21-01D, 34-21-01E

NOTE: IRUs are interchangeable.

Select the center IRU and verify IRU data source isolation ONCE EACH FLIGHT DAY.

1. Set the associated INSTR SOURCE SEL IRS switch to ALTN.
2. Set the IRS mode selector to ALIGN for one of the operating IRU.
3. Confirm one (not both) pilot's EADI and EHSI lose attitude and heading information.
4. Set the IRS mode selector to NAV.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-22-03A	Radio Distance Magnetic Indicators (RDMI)	**Y**	2	1	**C**	Right may be inoperative.
34-22-03B	Radio Distance Magnetic Indicators (RDMI) **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	Left may be inoperative provided flight is restricted to Day VMC.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-22-03A	Affected RDMI	___ RDMI INOP
34-22-03B	Affected RDMI	___ RDMI INOP

ITEM NO.	NAME / DESCRIPTION	FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
34-22-04A	Flight Director Systems **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(O)** May be inoperative provided takeoff and approach minimums do not require their use. NOTE 1: Windshear guidance may be unavailable. NOTE 2: For TAKEOFF, Flight Director must be displayed on Captain's EADI with visibility less than 1600 RVR (1/4 mile).
34-22-04B	Flight Director Systems **"DISP.APPR.REQ'D."**	**Y**	3	0	**C**	**(O)** May be inoperative provided: a) Takeoff and approach minimums do not require their use, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized NOTE 1: Windshear guidance may be unavailable. NOTE 2: For TAKEOFF, Flight Director must be displayed on Captain's EADI with visibility less than 1600 RVR (1/4 mile).
34-22-04C	Flight Director (Displays) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) Takeoff and approach minimums do not require their use, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized NOTE 1: Windshear guidance may be unavailable. NOTE 2: For TAKEOFF, Flight Director must be displayed on Captain's EADI with visibility less than 1600 RVR (1/4 mile).

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-22-04A	Autopilot MCP	___ Flight Director INOP
34-22-04B	Autopilot MCP	___ Flight Director(s) INOP
34-22-04C	Autopilot MCP	___ Flight Director Display(s) INOP

(O) PROCEDURES

34-22-04A

Use LT or RT FLT DIR INSTR SOURCE SEL to display center (C) flight director on LT or RT EADI as required.

34-22-04B, 34-22-04C

1. Use LT or RT FLT DIR INSTR SOURCE SEL to display center (C) flight director on LT or RT EADI as required.
2. Review the destination weather and approach charts to determine if an approach may be conducted with available Flight Directors.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
34-22-05A	Electronic Flight Instrument (EFIS) Symbol Generators **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(M)** Except for ER operations (ETOPS), one may be inoperative provided symbol generator isolation is verified PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
34-22-05B	Electronic Flight Instrument (EFIS) Symbol Generators **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(M)** L or R may be inoperative provided symbol generator isolation is verified PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-22-05A	Associated EFI Switch	___ EFIS Symbol Generator INOP
34-22-05B	Associated EFI Switch	___ EFIS Symbol Generator INOP

(M) PROCEDURES

34-22-05A, 34-22-05B

1. The COMPARATOR BITE status level message needs to be resolved prior to dispatch. This may be done by selecting either the captain or the first officer to ALTN EFI. If the message does not extinguish, then refer to FIM 34-22-00.
2. Left EFIS Symbol Generator Inoperative. Verify the Captain’s and First Officer’s symbol generators are isolated by performing the following:
   a. With Captain’s EFI switch in ALT and the First Officer’s EFI switch in normal (BLANK) configuration, place the First Officer's HSI Mode Selector to the VOR expanded mode and the Captain's HSI Mode Selector to the ILS or APP mode.
   b. Observe that VOR R is annunciated on the First Officer's HSI.
3. Center EFIS Symbol Generator Inoperative. Verify the Captain’s and First Officer’s symbol generators are isolated by performing the following:
   a. With Captain's and First Officer’s EFI switch in normal (BLANK) configuration, place the First Officer's HSI Mode Selector to the VOR expanded mode and the Captain's HSI Mode Selector to the ILS or APP mode.
   b. Observe that VOR R is annunciated on the First Officer's HSI.
   c. Place the Captain's HSI Mode Selector to the VOR expanded mode and the First Officer's HSI Mode Selector to the ILS or APP mode.
   d. Observe that VOR L is annunciated on the Captain's HSI.
4. Right EFIS Symbol Generator Inoperative. Verify the Captain’s and First Officer’s symbol generators are isolated by performing the following:
   a. With First Officer’s EFI switch in ALT and the Captain’s EFI switch in normal (BLANK) configuration, place the Captain's HSI Mode Selector to the VOR expanded mode and the First Officer's HSI Mode Selector to the ILS or APP mode.
   b. Observe that VOR L is annunciated on the Captain's HSI.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	EFIS CONTROLS					
34-22-06A	EFIS Control Panel Switches (NAV AID / ARPT / RTE DATA / WPT / WXR / TERR)	**Y**	12	6	**C**	One switch for each function may be inoperative provided procedures do not require their use.
34-22-06B	EFIS Control Panel Decision Height Indication	**Y**	2	0	**C**	May be inoperative. NOTE: Flight crew use EADI DH indication.
34-22-06C	HSI Selector - MAP Position **"Contact MCC"**	**Y**	2	1	**B**	**(O)** May be inoperative provided: a) Both FMCs operate normally, and b) Alternate procedures are used.
34-22-06D	HSI Selector - PLAN Position **"Contact MCC"**	**Y**	2	1	**B**	**(O)** May be inoperative provided: a) Both FMCs operate normally, and b) Alternate procedures are used.
34-22-06E	HSI Range Selector	**Y**	2	1	**C**	May be inoperative provided both FMCs operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-22-06A	EFIS Control Panel	___ EFIS Panel Switch(es) INOP
34-22-06B	EFIS Control Panel	___ EFIS Panel DH Indication INOP
34-22-06C	EFIS Control Panel	___ EFIS Panel MAP Position INOP
34-22-06D	EFIS Control Panel	___ EFIS Panel PLAN Position INOP
34-22-06E	EFIS Control Panel	___ EFIS Panel HSI Range Selector INOP

(O) PROCEDURES

34-22-06C, 34-22-06D

Use appropriate HSI mode and FMC CDU page to display desired flight information.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-22-08	Pitch Limit Indicators	**Y**	2	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-22-08	Associated EADI	___ PLI INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-23-01A	Magnetic Compass (Standby) **"Contact MCC"**	**Y**	1	0	**B**	May be inoperative provided three IRS stabilized compass systems operate normally.
34-23-01B	Magnetic Compass (Standby) **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Two IRS stabilized compass systems operate normally, and b) Airplane is operated with dual independent navigation capability, and under positive radar control by ATC on enroute portion of flight.
34-23-01C	Magnetic Compass (Standby) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative for flights that are entirely within areas of magnetic unreliability provided at least two stabilized directional gyro systems are installed, operative, and used in conjunction with approved free gyro navigation techniques.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-23-01A	Magnetic Compass	Magnetic Compass INOP
34-23-01B	Magnetic Compass	Magnetic Compass INOP
34-23-01C	Magnetic Compass	Magnetic Compass INOP

(O) PROCEDURES

34-23-01B, 34-23-01C

Flight crew must insure that planned routes comply with limitations.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
STANDBY ATTITUDE / ILS INDICATOR					
34-24-01A Standby Attitude **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	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.
34-24-01B ILS Indication	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-24-01A	Standby Attitude / ILS Indicator	Standby Attitude Indicator INOP
34-24-01B	Standby Attitude / ILS Indicator	Standby ILS Indication INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-25-01	Instrument Comparator Unit	**Y**	1	0	**D**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-25-01	Near Captain's EADI	Instrument Comparator Unit INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
34-31-01A	ILS Systems **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(M)** Left or right may be inoperative provided takeoff and approach minimums do not require its use. CAT III Not Authorized
34-31-01B	ILS Systems **"DISP.APPR.REQ'D."**	**Y**	3	1	**C**	**(M)** Left and right may be inoperative provided takeoff and approach minimums do not require their use. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-31-01A	Associated VOR/ILS Control Panel	___ ILS System(s) INOP
34-31-01B	Associated VOR/ILS Control Panel	Left and Right ILS System INOP

(M) PROCEDURES

34-31-01A, 34-31-01B

1. For one inoperative ILS, the NO LAND 3 advisory message will be displayed.
2. For more than one inoperative ILS, the NO AUTOLAND advisory message will be displayed.
3. For left ILS inoperative, the ground proximity warning system mode 5 (glideslope deviation) will be inoperative and must be deferred per MEL 34-46-01D.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
34-32-01	Marker Beacon System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided approach minimums do not require its use. NOTE 1: Inner Marker is required for CAT II RA/NA. NOTE 2: May be required as noted on approach plate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-32-01	Captain's Marker Lights	Marker Beacon System INOP

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
RADIO ALTIMETER (RA) SYSTEMS (EADI)					
34-33-01A Radio Altimeter Systems **"DISP.APPR.REQ'D."**	**Y**	3	2	**C**	**(O)** May be inoperative provided: a) EGPWS is supplied with altitude data, b) Approach minimums or operating procedures do not require its use, and c) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT III Not Authorized
34-33-01B Radio Altimeter Systems **"DISP.APPR.REQ'D."**	**Y**	3	1	**C**	**(O)(M)** May be inoperative provided: a) EGPWS is supplied with altitude data, b) Approach minimums or operating procedures do not require its use, and c) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. NOTE: If the left and right Radio Altimeter are inoperative, TCAS will be inoperative and must be deferred per MEL 34-45-01A. CAT II/III Not Authorized
34-33-01C Radio Altimeter Systems **"DISP.APPR.REQ'D."**	**Y**	3	0	**A**	**(O)(M)** May be inoperative provided: a) Approach minimums or operating procedures do not require its use, b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, and c) Repairs are made within two flight days. NOTE: If the left and right Radio Altimeter are inoperative, TCAS will be inoperative and must be deferred per MEL 34-45-01A. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-33-01A	Associated EADI	___ Radio Altimeter System INOP
34-33-01B	Associated EADI	___ Radio Altimeter System(s) INOP
34-33-01C	Associated EADI	___ Radio Altimeter System(s) INOP

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(O) PROCEDURES

34-33-01A, 34-33-01B, 34-33-01C

1. If the left radio altimeter is failed, the flight crew should expect to see the following flight deck effects:
   a. If the landing gear is not down and locked, the flaps are retracted, and either engine throttle is at idle the CONFIG warning light will illuminate and the GEAR NOT DOWN warning message will annunciate. The siren will not sound and the master warning lights will not illuminate.
   b. If the landing gear is not down and locked, the flaps are not fully retracted and either engine throttle is at idle, the gear not down warning will operate normally. The CONFIG warning light will illuminate, the GEAR NOT DOWN warning message will annunciate, the siren will sound and the master warning lights will illuminate.
   c. If the landing gear is not down and locked, the flaps are set at 25 or 30, and the throttles are at any position, the gear not down warning will operate normally. The CONFIG warning light will illuminate, the GEAR NOT DOWN warning message will annunciate, the siren will sound and the master warning lights will illuminate.
2. For one RA inoperative, the autoland status annunciators will indicate NO LAND 3.
3. For more than one RA inoperative, the autoland status annunciators will indicate NO AUTOLAND.
4. If both the left and right Radio Altimeters are inoperative, TCAS will be inoperative and must be deferred per MEL 34-45-01A.

(M) PROCEDURES

34-33-01B

For left RA inoperative, operation of the test switch for the landing configuration warning will show the function to be faulty. Flap-based monitoring modes of the landing configuration remain operational and, if desired, can be verified as follows:

1. Open the P11 panel LANDING GEAR POSITION AIR/GND SYS 1 circuit breaker.
2. Open the P11 panel LANDING GEAR POSITION AIR/GND SYS 2 circuit breaker.
3. With landing flaps, all warning indications will be activated.
4. With flaps up, the configuration warning light and associated warning message will illuminate with at least one throttle at idle.
5. Close the circuit breakers opened in Steps 1. and 2. above.
6. If both the left and right Radio Altimeters are inoperative, TCAS will be inoperative and must be deferred per MEL 34-45-01A.

34-33-01C

Operation of the test switch for the landing configuration warning will show the function to be faulty. Flap-based monitoring modes of the landing configuration remain operational and, if desired, can be verified as follows:

1. Open the P11 panel LANDING GEAR POSITION AIR/GND SYS 1 circuit breaker.
2. Open the P11 panel LANDING GEAR POSITION AIR/GND SYS 2 circuit breaker.
3. With landing flaps, all warning indications will be activated.
4. With flaps up, the configuration warning light and associated warning message will illuminate with at least one throttle at idle.
5. Close the circuit breakers opened in Steps 1. and 2. above.
6. If both the left and right Radio Altimeters are inoperative, TCAS will be inoperative and must be deferred per MEL 34-45-01A.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
WEATHER RADAR SYSTEM					
34-43-01A Weather Radar System **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Aircraft is not dispatched in IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar, may reasonably be expected along the route to be flown, b) Alternate procedures are used, and c) Windshear Warning and Guidance System (Reactive) operates normally (ref. Reactive Windshear, MEL 34-46-01F). NOTE: For ETOPS operations beyond 120 minutes, one weather radar system is required. Theater Restrictions May Apply
34-43-01B Weather Radar System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Aircraft is not dispatched in IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar, may reasonably be expected along the route to be flown, and b) Alternate procedures are used. NOTE: For ETOPS operations beyond 120 minutes, one weather radar system is required. Theater Restrictions May Apply
34-43-01C Indicators	**Y**	3	1	**C**	
34-43-01D WXR ON Light	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
34-43-01E GAIN UCAL Light / BELOW CAL Lamp	**Y**	1	0	**D**	
34-43-01F Predictive Windshear	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Alternate procedures are used, and b) Windshear Warning and Guidance System (Reactive) operates normally (ref. Reactive Windshear, MEL 34-46-01F).
34-43-01G Predictive Windshear **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used.

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MEL ITEM	TAB LOCATION	PLACARD TEXT
34-43-01A	Weather Radar Control Panel	Weather Radar System INOP
34-43-01B	Weather Radar Control Panel	Weather Radar System INOP
34-43-01C	Weather Radar Control Panel	___ Weather Radar Indicator(s) INOP
34-43-01D	Weather Radar Control Panel	WXR ON Light(s) INOP
34-43-01E	Weather Radar Control Panel	GAIN UCAL Light INOP
34-43-01F	Weather Radar Control Panel	Predictive Windshear INOP
34-43-01G	Weather Radar Control Panel	Predictive Windshear INOP

(O) PROCEDURES

34-43-01A, 34-43-01B

1. Refer to FCTM, Non-Normal Maneuvers, Windshear.
2. Review Standard Callout procedures. Refer to Operations Manual, Volume 1, Normal Procedures, Standard Callouts.

34-43-01D

Determine status of the weather radar by viewing the EHSI display. Some weather radars annunciate GAIN, MODE, and TILT on the display when the weather radar is ON. If these annunciations are not available, WXR status may be determined by observing the EHSI for rastor and return indications. If no return is indicated and there is doubt about the status of the radar, the antenna may be tilted downward to determine if ground return is indicated on the EHSI.

34-43-01F, 34-43-01G

1. Refer to FCTM, Non-Normal Maneuvers, Windshear.
2. Review Standard Callout procedures. Refer to Operations Manual, Volume 1, Normal Procedures, Standard Callouts.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	TRAFFIC COLLISION AND AVOIDANCE SYSTEM (TCAS)					
34-45-01A	TCAS System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)(M)** May be inoperative provided: a) System is deactivated and secured, and b) Enroute or approach procedures do not require its use. Theater Restrictions May Apply
34-45-01B	Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display System(s)	**Y**	2	1	**C**	May be inoperative on non-flying pilot side provided: a) TA and RA visual display operates normally on flying pilot side, and b) TA and RA audio function operates normally on flying pilot side.
34-45-01C	Resolution Advisory (RA) Display System(s)	**Y**	2	1	**C**	May be inoperative on non-flying pilot side.
34-45-01D	Resolution Advisory (RA) Display System(s)	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) Traffic Alert (TA) visual display and audio functions operate normally, b) TA only mode is selected by crew, and c) Enroute or approach procedures do not require its use.
34-45-01E	Traffic Alert (TA) Display System(s)	**Y**	3	0	**C**	**(O)** May be inoperative provided: a) RA visual display and audio functions operate normally, and b) Enroute or approach procedures do not require its use.
34-45-01F	Audio Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	May be inoperative provided enroute or approach procedures do not require use of TCAS. Theater Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-45-01A	TCAS Control Panel	TCAS System INOP
34-45-01B	TCAS Control Panel	TCAS Combined TA/RA Display INOP
34-45-01C	TCAS Control Panel	TCAS RA Display INOP
34-45-01D	TCAS Control Panel	TCAS RA Display INOP
34-45-01E	TCAS Control Panel	TCAS TA Display INOP
34-45-01F	TCAS Control Panel	TCAS Audio Function INOP

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(O) PROCEDURES

34-45-01A

TCAS must be operative on routes outbound from the Continental United States to destinations outside the Continental United States, except Canada.

34-45-01D, 34-45-01E

Monitor the operative indications and advisories and respond as appropriate.

(M) PROCEDURES

34-45-01A

Pull and secure the TCAS circuit breaker.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
GROUND PROXIMITY WARNING SYSTEM (GPWS)					
34-46-01A GPWS System **"Contact MCC"**	**Y**	1	0	**A**	**(O)** May be inoperative provided: a) Alternate procedures are used, and b) Repairs are made within 2 flight days. Refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
34-46-01B Modes 1 – 4 **"Contact MCC"**	**Y**	1	0	**A**	**(O)** May be inoperative provided: a) Alternate procedures are used, and b) Repairs are made within 2 flight days. Refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
34-46-01C Test Mode **"Contact MCC"**	**Y**	1	0	**A**	**(O)** May be inoperative provided: a) GPWS is considered inoperative and deferred per MEL 34-46-01A, and b) Repairs are made within 2 flight days.
34-46-01D Glideslope Deviation (Mode 5) **"Contact MCC"**	**Y**	1	0	**B**	
34-46-01E Advisory Callouts (Mode 6) **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used.
34-46-01F Windshear Mode (Reactive) (Mode 7)	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Alternate procedures are used, and b) Predictive Windshear Detection and Avoidance System operates normally (ref. Predictive Windshear, MEL 34-43-01F).
34-46-01G Windshear Mode (Reactive) (Mode 7) **"Contact MCC"**	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used.
34-46-01H Terrain Awareness Function **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Alternate procedures are used, and b) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. Theater Restrictions May Apply
34-46-01I Terrain Displays	**Y**	3	1	**C**	
34-46-01J Terrain Displays **"Contact MCC"**	**Y**	3	0	**B**	

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MEL ITEM	TAB LOCATION	PLACARD TEXT
34-46-01A	Near GND PROX Switch	GPWS INOP
34-46-01B	Near GND PROX Switch	GPWS Mode ___ INOP
34-46-01C	Near GND PROX Switch	GPWS Test Mode INOP
34-46-01D	Near GND PROX Switch	GPWS Glideslope Deviation Mode INOP
34-46-01E	Near GND PROX Switch	GPWS Advisory Callout ___ INOP
34-46-01F	Near GND PROX Switch	GPWS Reactive Windshear Mode INOP
34-46-01G	Near GND PROX Switch	GPWS Reactive Windshear Mode INOP
34-46-01H	Near TERR OVRD Switch	TERR Mode INOP
34-46-01I	Near EFIS Control Panel TERR Switch	___ TERR Display INOP
34-46-01J	Near EFIS Control Panel TERR Switch	___ TERR Display INOP

(O) PROCEDURES

34-46-01A, 34-46-01B, 34-46-01C, 34-46-01E, 34-46-01H

1. Review Standard Callout procedures. Refer to Operations Manual, Volume 1, Normal Procedures, Standard Callouts.
2. Preflight briefing to include review of terrain and/or obstructions in the proximity of the departure and arrival airports.
3. Pilot not flying should monitor flight path during takeoff, approach and landing, and alert the pilot flying if any of the following conditions exist:

    a. Excessive descent rate.
    b. Excessive terrain closure rate.
    c. Altitude loss after takeoff or go-around.
    d. Unsafe terrain clearance while not in the landing mode.
    e. Deviation from glideslope.

4. When Terrain Awareness Function/Displays are affected, review the destination weather and approach charts to determine if an approach may be conducted without the use of Terrain Awareness Function/Displays.

34-46-01F, 34-46-01G

1. The WINDSHEAR SYS advisory message will be displayed.
2. Refer to FCTM, Non-Normal Maneuvers, Windshear.
3. Review Standard Callout procedures. Refer to Operations Manual, Volume 1, Normal Procedures, Standard Callouts.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
34-51-01	VOR Navigation Systems **"DISP.APPR.REQ'D."**	**Y**	2	1	**D**	Right only may be inoperative provided approach minimums do not require its use.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-51-01	VOR/DME Control Panel	RT VOR INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-53-01A	ATC Transponders and Automatic Altitude Reporting Systems	**Y**	2	1	**C**	
34-53-01B	ATC Transponder and Automatic Altitude Reporting Systems **"DISP.APPR.REQ'D."**	**Y**	2	0	**B**	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. <u>RVSM Operations</u> Not Authorized NOTE: TCAS and ADS-B will be inoperative.
34-53-01C	Mode S Elementary and Enhanced Downlink Aircraft Reportable Parameters not Required by 14 CFR **"DISP.APPR.REQ'D."**	**Y**	2	0	**A**	May be inoperative provided: a) Operations do not require its use, and b) Repairs are made prior to completion of next heavy maintenance visit.
34-53-01D	ADS-B Squitter Transmissions **"DISP.APPR.REQ'D."**	**Y**	2	0	**D**	May be inoperative provided operations do not require its use.
34-53-01E	ADS-B Squitter Transmissions **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are used. NOTE: Any ADS-B Out function that operates normally may be used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-53-01A	ATC Transponder Control Panel	___ ATC Transponder / Automatic Altitude Reporting Systems INOP
34-53-01B	ATC Transponder Control Panel	Both ATC Transponders / Automatic Altitude Reporting Systems INOP
34-53-01C	ATC Transponder Control Panel	___ ATC Transponder(s) / Mode S Reporting Function INOP
34-53-01D	ATC Transponder Control Panel	___ ATC Transponder(s) / ADS-B Squitter Transmission INOP
34-53-01E	ATC Transponder Control Panel	___ ATC Transponder(s) / ADS-B Squitter Transmission INOP

(O) PROCEDURES

34-53-01E

For one inoperative ADS-B Out, select transponder to operative side.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
34-55-01	Distance Measuring Equipment (DME) Systems **"DISP.APPR.REQ'D."**	**Y** 2	1	**D**	May be inoperative provided: a) Approach minimums do not require its use, and b) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. NOTE: One or more of these systems may be required as noted on approach plate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-55-01	Associated VOR/ILS Control Panel	___ DME INOP

NOTE: When one or both of the DME's are inoperative the use of FMC for HSI MAP updating will be unavailable.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-57-01	Radio Compass (ADF) Systems **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	One or both ADFs may be inoperative provided enroute or approach procedures do not require its use. NOTE: One or more of these systems may be required as noted on the approach plate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-57-01	Associated ADF Control Panel	___ ADF INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ACSS SURVEILLANCE PROCESSOR					
34-58-02A ACSS Surveillance Processor **"DISP.APPR.REQ'D."** (Only effective on In-Trail Procedures evaluation A/C, see EA 01-484329-03)	**Y**	1	0	**B**	**(M)** May be inoperative provided: a) Automatic Dependent Surveillance-Broadcast (ADS-B) is considered inoperative, and b) TCAS is considered inoperative and deferred per MEL 34-45-01A. Theater Restrictions May Apply
34-58-02B Automatic Dependent Surveillance-Broadcast (ADS-B) Functionality **"DISP.APPR.REQ'D."** (Only effective on In-Trail Procedures evaluation A/C, see EA 01-484329-03)	**Y**	1	0	**D**	May be inoperative provided: a) Routing restrictions for ADS-B are observed, b) Procedures do not require its use, and c) In-Trail Procedures, Merging & Spacing and CAVS operations are prohibited.
34-58-02C Cockpit Display of Traffic Information (CDTI) Functionality **"DISP.APPR.REQ'D."** (Only effective on In-Trail Procedures evaluation A/C, see EA 01-484329-03)	**Y**	1	0	**D**	May be inoperative provided: a) Procedures do not require its use, and b) In-Trail Procedures, Merging & Spacing and CAVS operations are prohibited. NOTE: ADS-B data transmissions may continue.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-58-02A	TCAS Control Panel	ACSS Surveillance Processor INOP
34-58-02B	TCAS Control Panel	ACSS Surveillance Processor ADS-B Functionality INOP
34-58-02C	Electronic Flight Bag Display	Cockpit Display of Traffic Information (CDTI) INOP

(M) PROCEDURES

34-58-02A

TCAS is considered inoperative and must be deferred per MEL 34-45-01A.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-60-03A Global Positioning Systems **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	May be inoperative provided: a) Enroute operations do not require their use, b) IRUs operate normally, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. NOTE: May be required as noted on approach plate. Theater Restrictions May Apply
34-60-03B Global Positioning Systems **"DISP.APPR.REQ'D."**	**Y**	2	1	**D**	One may be inoperative provided RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. NOTE: May be required as noted on approach plate. Theater Restrictions May Apply

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-60-03A	Associated MCDU	___ GPS INOP
34-60-03B	Associated MCDU	___ GPS INOP

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FLIGHT MANAGEMENT COMPUTER SYSTEMS (FMCS)					
34-61-01A FMC (Including CDU / HMCDU / MCDU) **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS), may be inoperative provided RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. Theater Restrictions May Apply
34-61-01B FMC (Including CDU / HMCDU / MCDU) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)(M)** Except for ER Operations (ETOPS), may be inoperative provided: a) Both Fuel Quantity Indicating Systems (FQIS) processor channels are verified to operate normally, b) All flight deck fuel quantity indications operate normally, and c) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. Non-Precision Approaches (VNAV Method) NOT Authorized with Both FMCs INOP Theater Restrictions May Apply
34-61-01C FMC **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)(M)** For long-range navigation operations, including ER Operations (ETOPS), one FMC may be inoperative provided: a) Two Hybrid Multifunctional Control Display Units (HMCDU) or Multifunctional Control Display Units (MCDU) capable of alternate navigation are installed and operate normally, and b) RNAV operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. Theater Restrictions May Apply

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
FLIGHT MANAGEMENT COMPUTER SYSTEM (FMCS) (Continued)					
34-61-01D Navigation Databases **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be out of currency provided: a) Current aeronautical charts or current Nav Database is used to verify navigation fixes PRIOR TO EACH DEPARTURE, b) Pilot or Flight Control use charts or RVAL tool to verify status and suitability of navigation facilities used to define route of flight, c) Approach navigation radios are manually tuned and identified, and d) Dispatch will not file a flight plan requiring RNAV data that is identified as changed within the current database. Refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. **Repetitive Check Required (Yellow Placard)**
34-61-01E FMC Annunciator Light	**N**	1	0	**C**	**(M)** May be inoperative provided the CDU MSG light and EICAS Advisory message FMC MESSAGE are verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
34-61-01A	Associated FMS CDU / MCDU	___ FMC INOP
34-61-01B	Associated FMS CDU / MCDU	___ FMC INOP
34-61-01C	Associated FMS CDU / MCDU	___ FMC INOP
34-61-01D	Associated FMS CDU / MCDU	___ FMCS Navigation Database Not Current
34-61-01E	FMC Annunciator Light	FMC Annunciator Light INOP

(O) PROCEDURES

34-61-01A, 34-61-01B, 34-61-01C

1. Review the destination weather and approach charts to determine if an approach may be conducted using available equipment (FMC/CDU/HMCDU/MCDU).
2. For dispatch with both FMC's inoperative, enter airplane present position using IRS Mode Selector Panel (Reference Operations Manual, Supplementary Procedures - Flight Management, Navigation).

CONTINUED NEXT PAGE

3. For all operations with one FMC inoperative:

   a. IRS alignment must be completed before the airplane moves.
   b. For operations requiring Enhanced Mode S transmissions:

      1) Ensure selected transponder matches operative FMC.
      2) Selected transponder must be operational.

   c. Use of LNAV and VNAV with flight director:

      1) For airplanes without HMCDU/MCDU:

         a) On the side with the inoperative FMC, set the FMC switch to ALTN.
         b) LEFT FMC INOPERATIVE - When operating in flight director mode with both F/D switches ON, LNAV and VNAV will engage if the right auto pilot is engaged or only the right F/D is ON. Turning OFF the left F/D switch would allow use of LNAV and VNAV, but only the right flight director would operate.

            PROCEDURE: After liftoff (with F/D in TO mode), use HDG SEL and FL CH modes as desired until right autopilot is engaged. Then use LNAV and VNAV as desired.

         c) RIGHT FMC INOPERATIVE - When operating in flight director mode with both F/D switches ON, LNAV and VNAV will engage. If the left or center autopilot is engaged, LNAV and VNAV will remain engaged.

            PROCEDURE: After liftoff (with F/D in TO mode), use HDG SEL and FL CH modes as desired until left or center autopilot is engaged. Then use LNAV and VNAV as desired.

      2) For airplanes with HMCDU/MCDU:

         a) On the side with the inoperative FMC, set the NAV source selector to the opposite FMC or the on-side CDU.
         b) LEFT FMC INOPERATIVE - When operating in flight director mode with both F/D switches ON, LNAV and VNAV will engage if the captain's NAV source selector is set to R FMC or L CDU. Otherwise, LNAV and VNAV will engage if the right autopilot is engaged or only the right F/D is ON. Turning off the left F/D switch would allow use of LNAV and VNAV, but only the right flight director would operate.

            PROCEDURE: After liftoff (with F/D in TO mode), use HDG SEL and FL CH modes as desired until captain's NAV source selector is moved to an alternate source, or right autopilot is engaged. Then use LNAV and VNAV as desired.

         c) RIGHT FMC INOPERATIVE - When operating in flight director mode with both F/D switches ON, LNAV and VNAV will engage. If the first officer's NAV source selector is set to L FMC or R CDU, LNAV and VNAV will engage with any autopilot engaged. Otherwise, LNAV and VNAV will engage if the left or center is engaged or the left F/D is ON.

            PROCEDURE: After liftoff (with F/D in TO mode), use HDG SEL and FL CH modes as desired until first officer's NAV source selector is moved to an alternate source, or left or center autopilot is engaged. Then use LNAV and VNAV as desired.

   d. During VOR approaches, one pilot must have raw data from the VOR associated with the approach displayed on the RDMI, RMI, or HSI in the VOR mode no later than the final approach fix.

4. For long-range navigation operations with one FMC inoperative:

   NOTE 1: NAV source selector with CDU-L and CDU-R positions must be installed.
   NOTE 2: One FMC, in conjunction with two IRS systems in navigation mode and two HMCDU or MCDU will meet the requirements for dispatch.

CONTINUED NEXT PAGE

Prior to takeoff accomplish the following as appropriate:

a. For an inoperative left FMC:

1) Set the captain's NAV source selector to FMC-R to load data from the right FMC into the left CDU.

NOTE: The NAV source selector should remain in this position for at least one minute after flight planning is completed or after any flight plan modifications prior to takeoff.

2) After a minimum of one minute, set the captain's NAV source selector to CDU-L.
3) Confirm the captain's HSI Map display changes to a simplified route display without normal navigation database symbology. "CDU-L" should be displayed on the HSI/ND. This confirms availability of the Alternate Navigation system.
4) Prior to takeoff, set the captain's NAV source selector to FMC-R.

b. For an inoperative right FMC:

1) Set the first officer's FMC NAV source selector to FMC-L to load data from the left FMC into the right CDU.

NOTE: The NAV source selector should remain in this position for at least one minute after flight planning is completed or after any flight plan modifications prior to takeoff.

2) After a minimum of one minute, set the first officer's NAV source selector to CDU-R.
3) Observe that first officer's HSI Map display changes to a simplified route display without normal navigation database symbology. "CDU-R" should be displayed on the HSI/ND. This confirms availability of the Alternate Navigation system.
4) Prior to takeoff, set the first officer's NAV source selector to FMC-L.

34-61-01D

Select the route to be flown from the (non-current) data base. Check the intended route against current Jeppesen pages for agreement of all navigation data, using applicable departure, enroute and arrival charts or RVAL tool. If all information agrees, the FMS may be used normally on the route which was checked. Each new route must be checked in the same manner. Any time the FMS data does not agree with current Jeppesen information, manual tuning and course selection must be accomplished.

(M) PROCEDURES

34-61-01A

If the WARN ELEX status message is annunciated then dispatch is not allowed.

34-61-01B

Verify both FQIS processor channels operate normally, and verify the WARN ELEX status message is not annunciated.

1. Perform the following test to confirm FQIS processor channels operate normally:

NOTE: It is preferable that this test be performed with less than 15,000 lb (7000 kg) total fuel.

a. Apply electrical power (AMM 24-22-00/201).
b. Close the fueling panel door.
c. Open the P11 panel FUEL QTY 1 and FUEL QTY 2 circuit breakers.

CONTINUED NEXT PAGE

d. Confirm the FUEL QTY displays have gone blank.
e. To test the FQIS processor channels:

1) Close the FUEL QTY 1 circuit breaker, wait ten seconds, and record the indicated fuel quantity for each tank (processor channel 1 test).
2) Open the FUEL QTY 1 circuit breaker and then close the FUEL QTY 2 circuit breaker, wait 10 seconds and record the indicated fuel quantity for each tank (processor channel 2 test).
3) Close the open circuit breaker.
4) Compare the recorded quantities. If quantities differ by 400 lb (200 kg) or less per tank, the fuel quantity indicating processor unit is acceptable.

2. If the WARN ELEX status message is annunciated then dispatch is not allowed.

34-61-01C

If the WARN ELEX status message is annunciated then dispatch is not allowed.

34-61-01E

Verify the CDU MSG light and FMC MESSAGE advisory message operate normally.

1. Confirm the MSG annunciator on the CDU operates normally:

a. Push or push and hold the P5 panel IND LTS TEST switch.
b. Confirm the CDU annunciator light MSG illuminates.
c. Release the IND LTS TEST switch.
d. Confirm the MSG light extinguishes.

2. Confirm the FMC MESSAGE advisory message operates normally:

NOTE: This test requires two people, one in the flight compartment and one in the main equipment center.

a. Open the P11 panel FMCS CMPTR RIGHT circuit breaker.
b. Push the CLR key on the left CDU to clear all messages on the left CDU.
c. Push the TEST button on the front of the left FMC.
d. Confirm the FMC MESSAGE advisory message is shown.
e. Close the open circuit breaker.
f. Open the P11 panel FMCS CMPTR LEFT circuit breaker.
g. Push the CLR key on the right CDU to clear all messages on the right CDU.
h. Push the TEST button on the front of the right FMC.
i. Confirm the FMC MESSAGE advisory message is shown.
j. Close the open circuit breaker.

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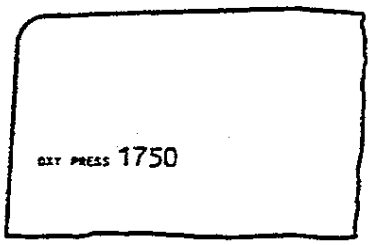
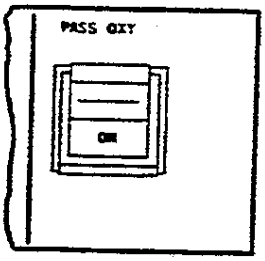
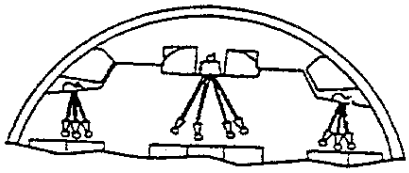


CREW OXYGEN
PRESSURE INDICATION
(EICAS)
35-11-02



PORTABLE
OXYGEN BOTTLE
WITH SMOKE
MASK ATTACHED

PORTABLE OXYGEN
DISPENSING UNIT
35-31-01



PASSENGER OXYGEN
SYSTEM
35-21-01

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CREW OXYGEN SYSTEM					
35-11-02A Pressure Indication (EICAS) **"Contact MCC"**	**N**	1	0	**B**	**(M)** May be inoperative provided oxygen supply is verified to be above minimum required PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
35-11-02B Cylinder Gage	**N**	1	0	**C**	May be inoperative provided pressure indication (EICAS) operates normally.
35-11-02C Overboard Discharge Indicator Discs	**Y**	1	0	**C**	**(O)** May be damaged or missing.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
35-11-02A	Near Lower EICAS Display	EICAS O2 Pressure Indication INOP
35-11-02B	Near Lower EICAS Display	Crew O2 Cylinder Gage Indicator INOP
35-11-02C	Near Lower EICAS Display	O2 Overboard Discharge Indicator Discs DAMAGED / MISSING

(O) PROCEDURES

35-11-02C

Verify that oxygen pressure is adequate for dispatch:

1. Select EICAS status page and note the oxygen pressure.
2. Select 100% on the NORMAL/100% switch.
3. Push down and hold the RESET/TEST SLIDE lever.
4. Observe that the yellow cross appears momentarily in the FLOW indicator.
5. Push and hold the EMERGENCY/TEST selector.

   a. While holding RESET/TEST SLIDE lever down, push the EMERGENCY TEST selector and observe that the yellow cross appears in the FLOW indicator.
   b. Observe that the oxygen pressure did not decrease during the test.

CONTINUED NEXT PAGE

(M) PROCEDURES

35-11-02A

Verify system pressure at the indicator on the cylinder.

-300 CF6-80A2

CYLINDER TEMP		NUMBER OF CREW USING OXYGEN & MINIMUM PRESSURE		
°C	°F	2	3	4
-10	14	600	860	1110
-5	23	610	875	1130
0	32	620	890	1150
5	41	635	910	1175
10	50	645	925	1195
15	59	655	940	1215
20	70	670	960	1240
25	77	680	975	1255
30	86	690	990	1280
35	95	700	1005	1300
40	104	715	1020	1320
45	113	725	1040	1340
50	122	735	1055	1360

-300 PW4000
-300ER PW4000
-300ER CF6-80C2
-3P6ER CF6-80C2

CYLINDER TEMP		NUMBER OF CREW USING OXYGEN & MINIMUM PRESSURE		
°C	°F	2	3	4
-10	14	430	600	770
-5	23	440	610	785
0	32	445	620	800
5	41	455	635	815
10	50	460	645	830
15	59	470	655	840
20	70	480	670	860
25	77	485	680	870
30	86	495	690	885
35	95	505	700	900
40	104	510	715	915
45	113	520	725	930
50	122	530	735	945

CONTINUED NEXT PAGE

Cylinder Pressure at 21°C (70°F)	Pressure Correction for each 5°C (10°F) * PSI
400	7
600	11
800	14
1000	17
1200	21
1400	24
1600	28
1800	31
2000	34

If ambient temperature is above 21°C (70°F), add increment shown. If ambient temperature is below 21°C (70°F), subtract increment shown. This table is volume independent (this tables applies to any size cylinder).

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
PROTECTIVE BREATHING EQUIPMENT SMOKE HOODS					
35-20-01A Passenger Cabin	**Y**	-	4	**C**	May be inoperative, missing or removed provided: a) Inoperative units are removed from passenger cabin, b) Remaining units are redistributed throughout passenger cabin as follows: 1) Locations adjacent to 2 HALON fire extinguishers must be operative. 2) Locations adjacent to 2 other operative fire extinguishers must be operative, c) Flight crew briefs Flight Attendants on location of remaining units prior to departure, and d) Location placarding of inoperative, missing or removed units is removed or obscured.
35-20-01B PBE Smoke Hood Seals (Cockpit and Passenger Cabin)	**Y**	-	-	**C**	**(M)** May be broken or missing.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
35-20-01A	Logbook	___ PBE INOP
35-20-01B	Logbook	___ PBE Seal Broken / Missing

(M) PROCEDURES

35-20-01B - ONE SEAL BROKEN OR MISSING

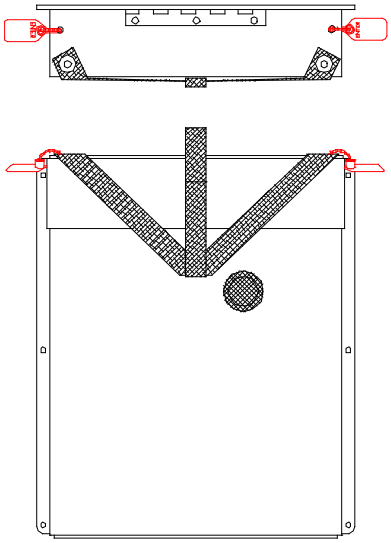
With one seal missing, the PBE is airworthy.

NOTE: Install the 2nd seal prior to flight or at the next Delta Maintenance station.

CONTINUED NEXT PAGE

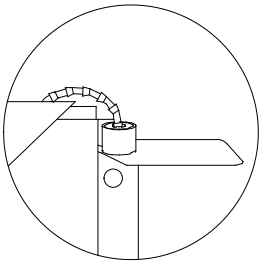
35-20-01B - TWO SEALS BROKEN OR MISSING

1. With both seals missing, remove the PBE and inspect for obvious damage (punctures, rips in pouch etc.).
2. If no obvious damage is found, reseal PBE in container.
3. If PBE is damaged, *Maintenance is Required* to replace the PBE.



SEAL REPLACEMENT:

1. Thread tail of seal through container side, then through the hole in the door, and finally through the “ENTER” side of the seal flag.
2. If both seals are being replaced, start both seals before tightening.
3. Pull seal tight to tamper proof the door in the closed position.
4. Cut off tail protruding through the flag.



ITEM NO. NAME / DESCRIPTION	FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
PASSENGER OXYGEN SYSTEM					
35-21-01A Passenger Oxygen System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	**(O)** May be inoperative provided: a) Flight is not conducted where minimum altitude enroute is above 14,000 feet MSL, b) Both air conditioning packs operate normally, c) All other components of pressurization system operate normally, d) Airplane remains at or below FL 250, e) Portable oxygen units are provided for 10% of passengers, and f) Passengers are appropriately briefed.
35-21-01B Passenger Oxygen System **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	May be inoperative provided flight is conducted at or below 10,000 feet MSL.
35-21-01C Passenger Service Units (PSU) **"DISP.APPR.REQ'D."**	**Y**	-	-	**B**	**(M)** May be inoperative with no flight altitude restriction provided: a) Associated seats are blocked and placarded to prevent occupancy, b) Associated flight attendant seat is considered inoperative and deferred per MEL Item 25-25-01A or 25-25-01B as appropriate, and c) Associated lavatory door is locked closed and placarded "INOPERATIVE – DO NOT ENTER" and deferred per MEL Item 38-30-01B. NOTE: These provisos are not intended to prohibit lavatory inspections by crewmembers.
35-21-01D Automatic Presentation System **"DISP.APPR.REQ'D."**	**N**	1	0	**B**	**(M)** May be inoperative provided: a) Manual deployment system is verified to operate normally, and b) Airplane remains at or below FL 300.
35-21-01E Crew Rest Passenger Service Units (PSU) **"DISP.APPR.REQ'D."**	**Y**	-	0	**B**	**(M)** May be inoperative with no flight altitude restriction provided affected seats/bunk(s) are blocked and placarded INOPERATIVE - DO NOT USE. NOTE: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

CONTINUED NEXT PAGE

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
	PASSENGER OXYGEN SYSTEM (Continued)					
35-21-01F	Lower Lobe Flight Crew / Attendant Rest Altitude Alert Horn **"DISP.APPR.REQ'D."**	**Y**	2	0	**B**	**(M)** May be inoperative with no flight altitude restriction provided: a) Associated Crew Rest is not used and personal items are removed, and b) Crew Rest door is locked and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
35-21-01A	Near PASS OXY Switch	Passenger Oxygen System INOP
35-21-01B	Near PASS OXY Switch	Passenger Oxygen System INOP
35-21-01C	Near PASS OXY Switch	Passenger Oxygen ___ PSU INOP
35-21-01D	Near PASS OXY Switch	Passenger Oxygen Automatic Presentation System INOP
35-21-01E	Near PASS OXY Switch	___ Crew Rest Passenger Oxygen PSU INOP
35-21-01F	Near PASS OXY Switch	Lower Lobe Crew Rest Altitude Alert Horn INOP

(O) PROCEDURES

35-21-01A

NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See MEL 21-51-01A (O) PROCEDURES for a listing of those items.

1. Plan flight over route with minimum altitudes enroute equal to or lower than 14,000 feet.
2. Maximum flight altitude shall not exceed FL 250.
3. Prior to flight, the pilot in command shall brief cabin crew on the alternate emergency procedures that will be used.

CONTINUED NEXT PAGE

(M) PROCEDURES

35-21-01C

1. Close the inoperative PSU door and secure it using adhesive tape.
2. Install Seat INOP Block-Out Cover part number 25-5136-001 per ERA 10-485792-14MA.
3. In the event that the Seat INOP Block-Out Cover is not available the MCC must be contacted to schedule the installation of a Seat INOP Block-Out Cover at the next maintenance station the cover is available.
4. Placard the blocked off seat(s) "DO NOT OCCUPY."
5. When instructed to placard seat(s) “DO NOT OCCUPY”, use a Seat INOP Block-Out Placard part number 11-0972-001 per ERA 10-485792-14MA. If Seat INOP Block-Out Placard is not available it is acceptable to apply one or two sections of 2 inch wide masking tape as required over the head rest area with the words “UNSERVICEABLE – DO NOT USE” printed neatly and legibly in 1.5 inch black or red letters.

35-21-01D

Verify the manual deployment system operates normally by performing the "Manual Deployment Test of Passenger Oxygen Masks" procedure in the Operational Test (AMM 35-21-00/501).

35-21-01E

1. A placard stating “INOPERATIVE - DO NOT USE”, must be placed in a conspicuous location in the affected seat/bunk(s).
2. Affected bunk(s) curtains must be stowed.

35-21-01F

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Install placard INOPERATIVE – DO NOT ENTER.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
35-31-01A	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	8	6	**C**	**(O)(M)** May be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01B	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	11	5	**C**	**(O)(M)** Except for ER Operations (ETOPS), may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01C	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	11	6	**C**	**(O)(M)** Except for ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01D	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	11	10	**C**	**(O)(M)** For ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01E	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	12	5	**C**	**(O)(M)** Except for ER Operations (ETOPS), may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01F	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	12	6	**C**	**(O)(M)** Except for ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.

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		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
35-31-01G	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	12	10	**C**	**(O)(M)** For ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01H	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	15	5	**C**	**(O)(M)** Except for ER Operations (ETOPS), may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01I	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	15	9	**C**	**(O)(M)** Except for ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01J	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	15	14	**C**	**(O)(M)** For ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01K	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	17	6	**C**	**(O)(M)** Except for ER Operations (ETOPS), may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01L	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	17	11	**C**	**(O)(M)** Except for ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.

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		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
35-31-01M	Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	17	16	**C**	**(O)(M)** For ER Operations (ETOPS) beyond 120 minutes, may be unserviceable or missing provided: a) Required distribution of serviceable cylinders is maintained throughout aircraft, and b) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility.
35-31-01N	Portable Oxygen Dispensing Units (Cylinder and Mask) (Cabin-Supplemental) **"DISP.APPR.REQ'D."**	**Y**	24	20	**C**	**(O)(M)** May be unserviceable or missing provided: a) No more than one unit is inoperative in the same location, b) Supplemental oxygen is required for route intended to be flown, and c) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility. NOTE: Supplemental Portable Oxygen Dispensing units are normally installed only on aircraft scheduled to fly routes which require supplemental oxygen.
35-31-01O	Crew Rest Portable Oxygen Dispensing Units (Cylinder and Mask) **"DISP.APPR.REQ'D."**	**Y**	-	0	**C**	**(M)** May be unserviceable or missing provided: a) Cylinders not properly serviced are replaced, serviced, or removed at next available maintenance facility, and b) Associated Crew Rest module is deactivated CLOSED and deferred per MEL 25-25-07A, 25-25-07B, or 25-25-07C as appropriate.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
35-31-01A	Logbook	___ Portable O2 Cylinder(s) INOP / Missing
35-31-01B	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01C	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01D	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01E	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01F	Logbook	___ Portable O2 Cylinder(s) INOP / Missing
35-31-01G	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01H	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01I	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01J	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01K	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01L	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01M	Logbook	___ Portable O2 Cylinder (s) INOP / Missing
35-31-01N	Logbook	___ Supplemental Portable O2 Cylinder (s) INOP / Missing
35-31-01O	Logbook	___ Crew Rest Portable O2 Cylinder (s) INOP / Missing

NOTE 1: Some aircraft configurations use dual port portable oxygen cylinders. In the event the above dispatch minimums cannot be met, contact MCC for ER/A authorizing substitution with single port oxygen cylinders. *Maintenance is Required and Flight Crew May **Not** Placard* if substitution is required.

NOTE 2: The following table lists the various aircraft configurations. Cabin and Crew Portable Oxygen Cylinders are covered by different MEL sub-items.

A/C	Cabin Portable Oxygen Qty	Crew Portable Oxygen Qty	EO Ref.
1607-1613	11	3	Post EO 01-485063-03 VA 81141MA Rev F
171-186, 1200-1201, 1601-1606, 1701-1708	15	-	Pre Flat Bed Mod
	11	1	Post Flat Bed EO 01-499498-03 rev A
187-199	15	-	Pre Flat Bed Mod
	12	1	Post Flat Bed EO 01-499498-03 rev A
121 - 139	8	-	Post Economy Comfort EO 01-499680-03 rev A
1401-1404	17	-	Post Economy Comfort EO 01-499680-03 rev A
1501-1506, 1521	15	-	Pre Flat Bed Mod
	12	1	Post Flat Bed Mod EA 01-508118-03 / AA 2565-01020

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(O) PROCEDURES

35-31-01A, 35-31-01B, 35-31-01C, 35-31-01D, 35-31-01E, 35-31-01F, 35-31-01G, 35-31-01H, 35-31-01I, 35-31-01J, 35-31-01K, 35-31-01L, 35-31-01M, 35-31-01N

Ensure cabin crew (Purser / FL) is notified of the unserviceable cylinder and its location.

(M) PROCEDURES

35-31-01A, 35-31-01B, 35-31-01C, 35-31-01D, 35-31-01E, 35-31-01F, 35-31-01G, 35-31-01H, 35-31-01I, 35-31-01J, 35-31-01K, 35-31-01L, 35-31-01M, 35-31-01N

1. Ensure serviceable cylinders are evenly distributed throughout the cabin.
2. Remove mask / hose assembly from the unserviceable unit. Secure the mask in a location where it can be retrieved at the next available maintenance facility.

   a. Disconnect mask assembly from oxygen cylinder outlet by rotating hose fitting ½ turn and pulling out.

3. Place a piece of masking tape over the pressure gage of oxygen cylinder and label INOP. Position the unserviceable cylinder in holder and fasten quick release clamp.
4. Using tape or other suitable means, cover affected oxygen cylinder location placarding.

   NOTE: For locations with two oxygen cylinders installed, do **NOT** cover placard if remaining cylinder is operative.

35-31-01O

1. Remove mask / hose assembly from the unserviceable unit. Secure the mask in a location where it can be retrieved at the next available maintenance facility.

   a. Disconnect mask assembly from oxygen cylinder outlet by rotating hose fitting ½ turn and pulling out.

2. Place a piece of masking tape over the pressure gage of oxygen cylinder and label INOP. Position the unserviceable cylinder in holder and fasten quick release clamp.
3. Deactivate the associated Crew Rest Module closed and defer per MEL 25-25-07A, 25-25-07B, or 25-25-07C as appropriate

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ATA 36 Contents

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36-11-05 APU BLEED Check Valve 36-19
36-11-06 L and R Bleed ISLN Valves 36-20
36-11-07A Center Bleed Isolation Valve 36-21
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36-12-02A Fan Air (Precooler) Control Systems 36-45
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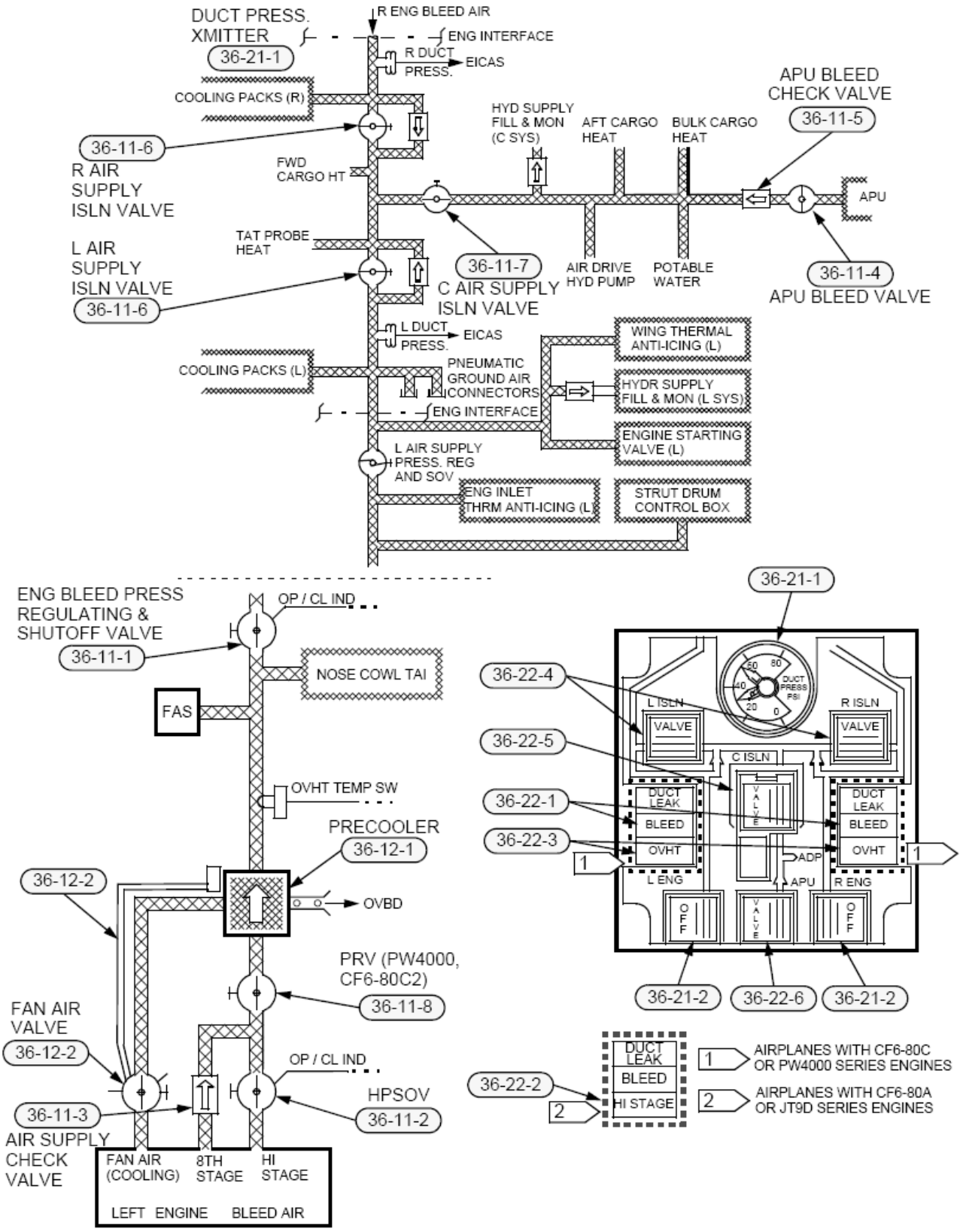
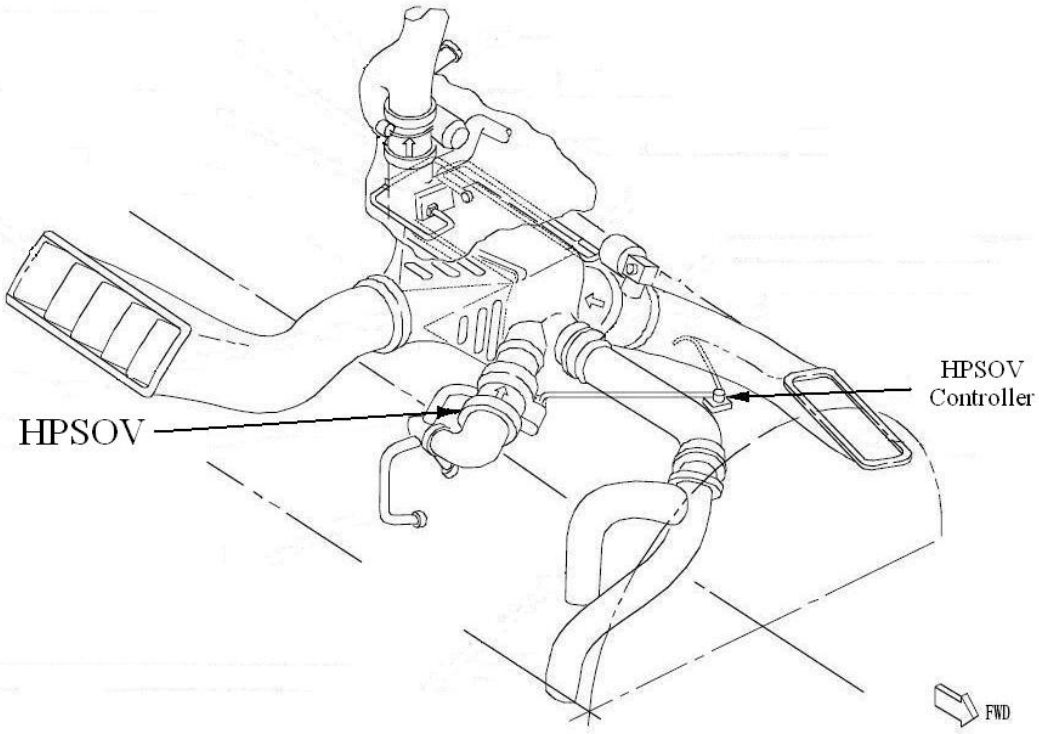


PNEUMATIC SYSTEM (GE, PW ENGINES)



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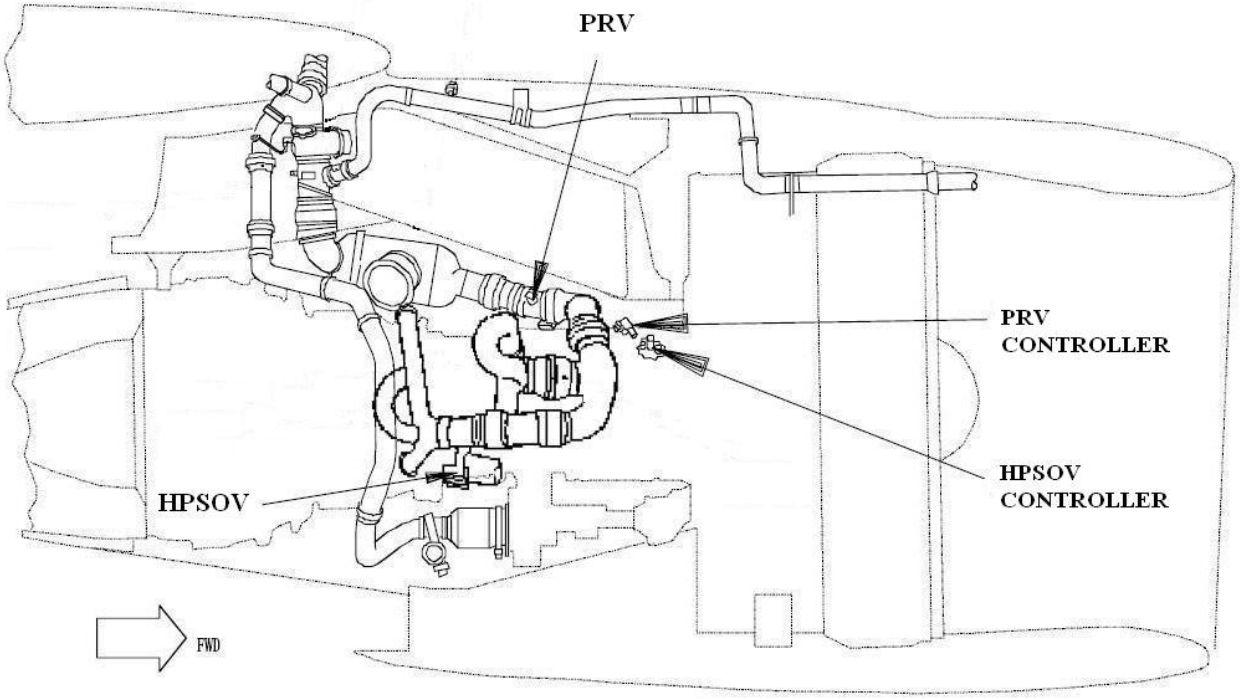
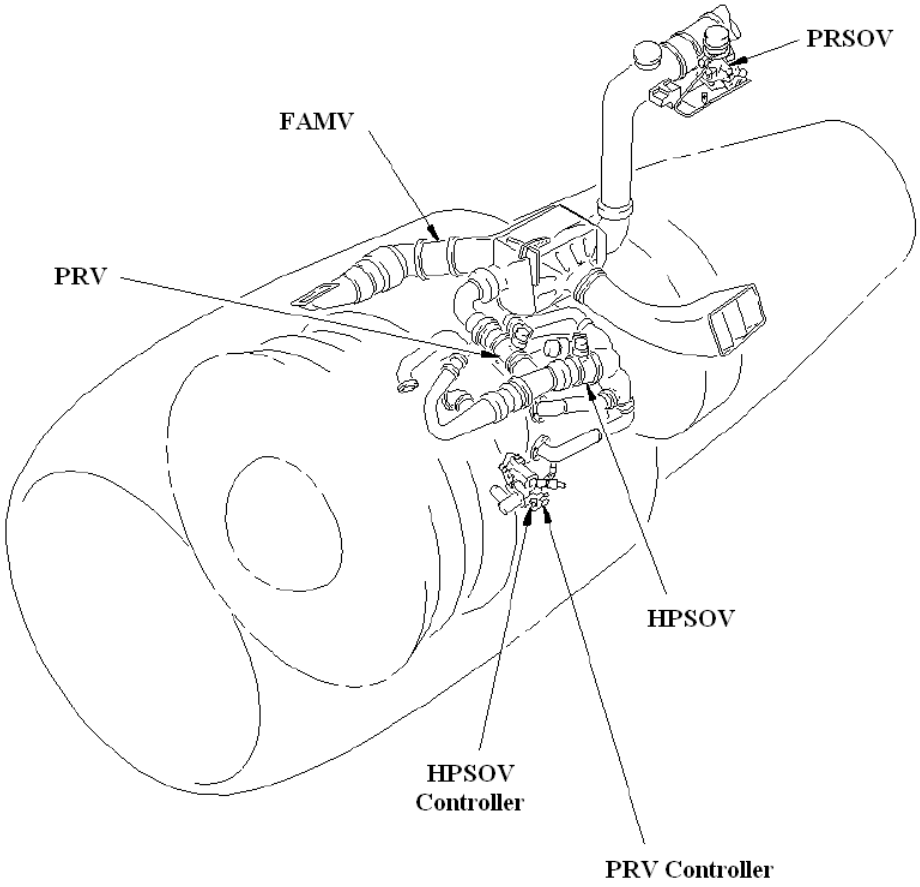


(CF6-80C2)



(PW4000)

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENG BLEED PRESSURE REGULATING AND SHUTOFF VALVES (PRSOV)					
36-11-01A ENG Bleed Pressure Regulating and Shutoff Valves (PRSOV) (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided: a) PRSOV is secured closed, b) Associated engine BLEED switch remains OFF, c) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, d) Airplane is not operated in known or forecast icing conditions, e) APU is used as air source for ADP for takeoff, f) Remaining (opposite) engine bleed system operates normally, g) Airplane remains at or below FL 350, h) Hydraulic Motor Generator (HMG) is not required, and i) Appropriate performance corrections are applied.
36-11-01B ENG Bleed Pressure Regulating and Shutoff Valves (PRSOV) (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided: a) PRSOV is secured closed, b) Associated engine BLEED switch remains OFF, c) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, d) Airplane is not operated in known or forecast icing conditions, e) Appropriate performance corrections are applied, f) Remaining (opposite) engine bleed system operates normally, g) Airplane remains at or below FL 350, and h) Hydraulic Motor Generator (HMG) is not required.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
	ENG BLEED PRESSURE REGULATING AND SHUTOFF VALVES (PRSOV) (Continued)					
36-11-01C	ENG Bleed Pressure Regulating and Shutoff Valves (PRSOV) (CF6-80C2 & PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided: a) PRSOV is secured closed, b) Associated engine BLEED switch remains OFF, c) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, d) Airplane is not operated in known or forecast icing conditions, e) APU is used as air source for ADP for takeoff, f) Remaining (opposite) engine bleed system operates normally, g) Airplane remains at or below FL 350, h) Hydraulic Motor Generator (HMG) is not required, i) Associated fan air modulation valve is secured in intermediate position, and j) Appropriate performance corrections are applied.
36-11-01D	ENG Bleed Pressure Regulating and Shutoff Valves (PRSOV) (CF6-80C2 & PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided: a) PRSOV is secured closed, b) Associated engine BLEED switch remains OFF, c) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, d) Airplane is not operated in known or forecast icing conditions, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, and g) Hydraulic Motor Generator (HMG) is not required, h) Associated fan air modulation valve is secured in intermediate position, and i) Appropriate performance corrections are applied.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-01A	Associated Engine Bleed Switch	___ PRSOV INOP
36-11-01B	Associated Engine Bleed Switch	___ PRSOV INOP
36-11-01C	Associated Engine Bleed Switch	___ PRSOV INOP
36-11-01D	Associated Engine Bleed Switch	___ PRSOV INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-11-01A

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated ENG bleed air switch to OFF.
5. Set associated PACK control selector to OFF.
6. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

36-11-01A	**ENG BLEED PRESSURE REGULATING AND SHUTOFF VALVES (PRSOV)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** None

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36-11-01B

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated ENG bleed air switch to OFF.
6. Set associated PACK control selector to OFF.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
8. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-11-01B	**ENG BLEED PRESSURE REGULATING AND SHUTOFF VALVES (PRSOV)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

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36-11-01C

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated ENG bleed air switch to OFF.
5. Set associated PACK control selector to OFF.
6. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

36-11-01C	**ENG BLEED PRESSURE REGULATING AND SHUTOFF VALVES (PRSOV)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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36-11-01D

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated ENG bleed air switch to OFF.
6. Set associated PACK control selector to OFF.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
8. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-11-01D	**ENG BLEED PRESSURE REGULATING AND SHUTOFF VALVES (PRSOV)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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(M) PROCEDURES

NOTE: For an engine bleed system to be operating normally, the following items associated with that system must be operative:

MEL ITEM	ENGINE	ITEM
36-11-01	CF6-80A2, CF6-80C2, PW4000	ENG BLEED Pressure Regulating and Shutoff Valves (PRSOV)
36-11-02	CF6-80A2, CF6-80C2, PW4000	High Pressure Shutoff Valve (HPSOV) Systems
36-11-03	CF6-80A2, CF6-80C2, PW4000	Intermediate Pressure Check Valves (IPCV)
36-11-07	CF6-80A2, CF6-80C2, PW4000	Center Bleed Isolation Valve
36-11-08	CF6-80C2, PW4000	Engine Pressure Regulating Valve (PRV) Systems
36-12-01	CF6-80A2, CF6-80C2, PW4000	Precoolers
36-12-02	CF6-80A2, CF6-80C2, PW4000	Fan Air (Precooler) Control Systems
36-22-01	CF6-80A2, CF6-80C2, PW4000	BLEED Lights
36-22-02	CF6-80A2	HI STAGE Lights
36-22-03	CF6-80C2, PW4000	OVHT Lights

36-11-01A, 36-11-01B

Lock the PRSOV in the closed position.

1. Set the associated ENG bleed air switch to OFF. Confirm the OFF light illuminates and the bar light extinguishes.
2. Gain access to the inoperative PRSOV.
3. Confirm the visual position indicator on the PRSOV shows the valve is closed. For PRSOV not closed, use a wrench to turn the override hex nut until the valve is closed.
4. Unscrew the deactivation bolt from the stowed position. Confirm the deactivation arm aligns with the threaded hole in the valve body. Install the deactivation bolt through the deactivation arm and screw into the valve body.

36-11-01C, 36-11-01D

Lock the PRSOV in the closed position, and lock the fan air modulation valve in the intermediate position.

1. Set the associated ENG bleed air switch to OFF. Confirm the OFF light illuminates and the bar light extinguishes.
2. Gain access to the inoperative PRSOV.
3. Confirm the visual position indicator on the PRSOV shows the valve is closed. For PRSOV not closed, use a wrench to turn the override hex nut until the valve is closed.
4. Unscrew the deactivation bolt from the stowed position. Confirm the deactivation arm aligns with the threaded hole in the valve body. Install the deactivation bolt through the deactivation arm and screw into the valve body.
5. Lock the fan air modulation valve in the intermediate position using MEL 36-12-02A (M) PROCEDURES.

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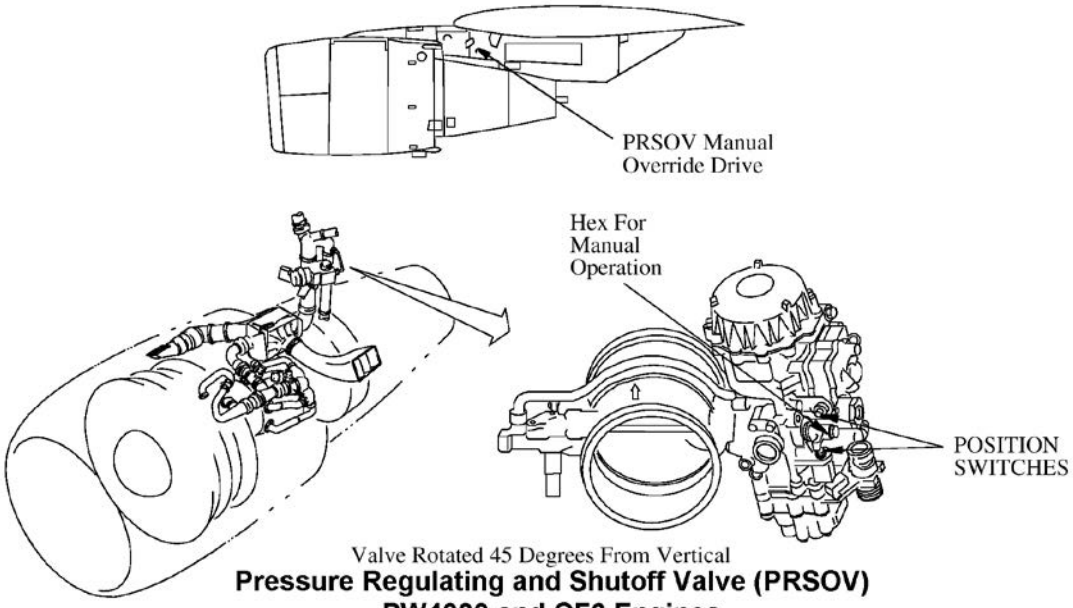

Pressure Regulating and Shutoff Valve (PRSOV)
PW4000 and CF6 Engines

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-02A	High Pressure Shutoff Valves (HPSOV) Systems (CF6-80A2 & PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Valve is secured closed, b) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, and d) Hydraulic Motor Generator (HMG) is not required.
36-11-02B	High Pressure Shutoff Valves (HPSOV) Systems (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Valve is secured closed, b) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, d) Hydraulic Motor Generator (HMG) is not required, and e) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-02A	Associated Engine Bleed Switch	___ HPSOV INOP
36-11-02B	Associated Engine Bleed Switch	___ HPSOV INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-11-02A

1. For icing conditions maintain 70% (55% below 10,000 feet MSL - except as required for landing) N1 on affected engine.
2. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish engine bleed air OFF and PACK OFF lights:
   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is set to AUTO or STBY.
   d. Advance throttle to approximately 80% N2 to open PRSOV and pack flow control valve.
3. CF6-80A2 Only: For a fault in the indication system the engine BLEED light may illuminate and L/R ENG BLEED VALVE message may annunciate at high thrust settings.
4. PW4000 Only: For a fault in the indication system the engine BLEED light may illuminate and L/R ENG HPSOV message may annunciate at high thrust settings.

CONTINUED NEXT PAGE

36-11-02B

1. For icing conditions maintain 70% (55% below 10,000 feet MSL - except as required for landing) N1 on affected engine.
2. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish engine bleed air OFF and PACK OFF lights:
   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is set to AUTO or STBY.
3. For a fault in the indication system the engine BLEED light may illuminate and L/R ENG HPSOV message may annunciate at high thrust settings

(M) PROCEDURES

NOTE 1: For an engine bleed system to be operating normally, certain items associated with that system must be operative. Refer to MEL 36-11-01 (M) PROCEDURES for a listing of those items.

NOTE 2: The HPSOV is interchangeable with the PRV.

36-11-02A

Lock the HPSOV in the closed position.

1. Gain access to the HPSOV (AMM 36-11-07/401).
2. Remove the locking pin from the cap on the end of the HPSOV actuator.
3. Turn the manual override hex nut until the position indicator is in the closed position.
4. Insert and screw tight the locking pin in the locking hole in the bellcrank arm.
5. For a fault in the closed position switch, install the HPSOV Jumper tool (20M-8801) located in the MCO pouch to prevent illumination, at high thrust settings, of the associated engine BLEED light and L(R) ENG BLEED VALVE (CF6-80A2) or L(R) ENG HPSOV (PW4000) advisory message (SSM 36-11-07 and SSM 36-11-08).

   NOTE 1: If the HPSOV Jumper tool is not available the HPSOV may still be deferred; however, the associated BLEED light and L/R ENG BLEED VAL (CF6-80A2) or L/R ENG HPSOV (PW4000) message may appear at high thrust settings.

   NOTE 2: This procedure will not preclude similar indications caused by wiring faults.

   a. CF6-80A2 engines Link to Learning Video – (36-11-02A)
      1) Disconnect connector D24 from high pressure controller M495.
      2) Install HPSOV Jumper onto D24
      3) Cap and stow connector D24.

   b. PW4000 engines Link to Learning Video – (36-11-02A)
      1) Disconnect connector D10984 from high pressure controller M7191.
      2) Install HPSOV Jumper onto D10984.
      3) Cap and stow connector D10984.

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36-11-02B

Lock the HPSOV in the closed position, and deactivate and secure the associated thrust reverser in the forward thrust position.

1. Gain access to the HPSOV (AMM 36-11-07/401).
2. Remove the locking pin from the cap on the end of the HPSOV actuator.
3. Turn the manual override hex nut until the position indicator is in the closed position.
4. Insert and screw tight the locking pin in the locking hole in the bellcrank arm.
5. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.
6. For a fault in the closed position switch, install the HPSOV Jumper tool (20M-8801) located in the MCO pouch to prevent illumination, at high thrust settings, of the associated engine BLEED light and L(R) ENG HPSOV advisory message (SSM 36-11-07 and SSM 36-11-08).

   NOTE 1: If the HPSOV Jumper tool is not available the HPSOV may still be deferred; however, the associated BLEED light and L/R ENG HPSOV message may appear at high thrust settings.

   NOTE 2: This procedure will not preclude similar indications caused by wiring faults.

   a. CF6-80C2 engines Link to Learning Video – (36-11-02B)

      1) Disconnect connector D10984 from high pressure controller M7191.
      2) Install HPSOV Jumper onto D10984.
      3) Stow connector D10984.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-03A	Intermediate Pressure Check Valves (IPCV) (CF6-80A2 & PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative open provided: a) Associated HPSOV is secured closed, b) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, and d) Hydraulic Motor Generator (HMG) is not required.
36-11-03B	Intermediate Pressure Check Valves (IPCV) (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative open provided: a) Associated HPSOV is secured closed, b) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, d) Hydraulic Motor Generator (HMG) is not required, and e) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-03A	Associated Engine Bleed Switch	___ IP Check Valve INOP
36-11-03B	Associated Engine Bleed Switch	___ IP Check Valve INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-11-03A

1. For icing conditions maintain 70% (55% below 10,000 feet MSL - except as required for landing) N1 on affected engine.
2. The engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:
   a. Confirm the manifold pressure on the affected side is less than 10 psi.
   b. Confirm the isolation valve on the affected side is closed.
   c. Confirm the air conditioning pack on the affected side is set to AUTO or STBY.
   d. Advance the throttle to approximately 80% N2 to open the PRSOV and pack flow control valve.

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36-11-03B

1. For icing conditions maintain 70% (55% below 10,000 feet MSL - except as required for landing) N1 on affected engine.
2. The engine bleed air OFF light and PACK OFF light may illuminate with the engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:

   a. Confirm the manifold pressure on the affected side is less than 10 psi.
   b. Confirm the isolation valve on the affected side is closed.
   c. Confirm the air conditioning pack on the affected side is set to AUTO or STBY.

(M) PROCEDURES

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. Refer to MEL 36-11-01 (M) PROCEDURES for a listing of those items.

36-11-03A

Lock the associated HPSOV in the closed position.

1. Gain access to the HPSOV (AMM 36-11-07/401).
2. Remove the locking pin from the cap on the end of the HPSOV actuator.
3. Turn the manual override hex nut until the position indicator is in the closed position.
4. Insert and screw tight the locking pin in the locking hole in the bellcrank arm.

36-11-03B

Lock the associated HPSOV in the closed position, and deactivate and secure the associated thrust reverser in the forward thrust position.

1. Gain access to the HPSOV (AMM 36-11-07/401).
2. Remove the locking pin from the cap on the end of the HPSOV actuator.
3. Turn the manual override hex nut until the position indicator is in the closed position.
4. Insert and screw tight the locking pin in the locking hole in the bellcrank arm.
5. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
36-11-04	APU BLEED Valve **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Valve is CLOSED, and b) Bleed switch remains OFF. NOTE: When the pneumatic function of the APU is inoperative, the APU will continue to be capable of generating electrical power.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-04	APU BLEED Switch	1. APU BLEED Valve INOP 2. Do NOT Use APU Bleed Air

(M) PROCEDURES

NOTE: Dispatch is not allowed if the APU is required by other procedures. Refer to MEL 49-11-01A and 49-11-01B (O) PROCEDURES for a listing of items that require APU availability for dispatch.

Close the APU air supply shutoff valve.

1. Set the P5 panel APU bleed air switch to OFF.
2. Pull and secure the P11 panel AIR SUPPLY APU BLEED POWER circuit breaker.
3. Gain access to APU air supply shutoff valve (36-11-10/401).
4. Set the position indicator on the APU air supply shutoff valve to CLOSE.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-05 APU BLEED Check Valve **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	May be inoperative provided APU bleed valve remains closed, except for engine start. NOTE: When the pneumatic function of the APU is inoperative, the APU will continue to be capable of generating electrical power.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-05	APU BLEED Switch	1. APU BLEED Check Valve INOP 2. Except for engine start, do NOT use APU Bleed Air

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-06 L and R Bleed ISLN Valves **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Valve is CLOSED except for engine start, b) Airplane is not operated in known or forecast icing conditions, and c) Both engine bleed valves operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-06	Associated ISLN Valve Switch	1. ___ Bleed ISLN Valve INOP 2. Except for engine start, ___ ISLN Valve must remain CLOSED

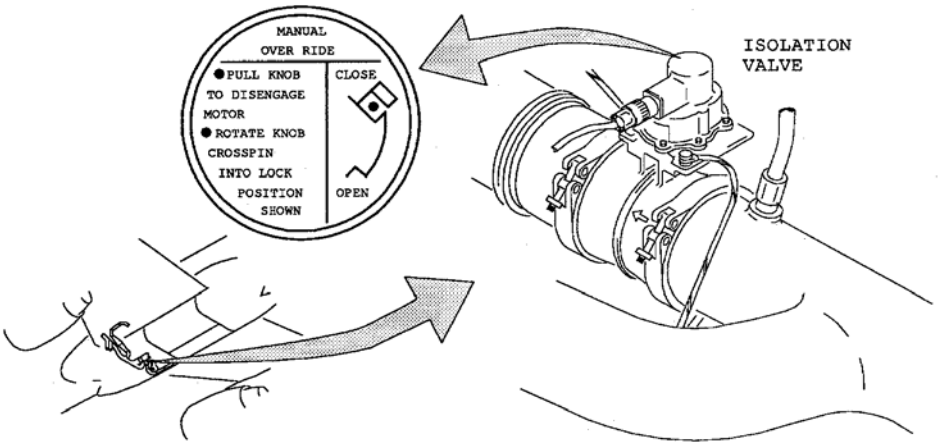
(M) PROCEDURES

NOTE: Inoperative valve must be manually positioned for engine start and then closed prior to departure.

1. Pull and secure applicable circuit breaker on overhead circuit breaker panel (P11).

   a. L ISLN VLV PWR 11S12
   b. R ISLN VLV PWR 11S21

2. Open applicable left or right ECS access door.
3. Manually position override lever to OPEN for applicable engine start.
4. Following start of applicable engine, manually position manual override lever to CLOSE.
5. Close applicable left or right ECS access door.



ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
36-11-07A	Center Bleed Isolation Valve **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Valve remains closed except for engine start, b) APU is used as air source for ADP for takeoff and landing, c) Both center electrical hydraulic pumps operate normally, d) Airplane remains at or below FL 270, e) Hydraulic Motor Generator (HMG) is not required, and f) Appropriate performance corrections are applied. NOTE: No live animals or temperature sensitive cargo may be carried in the aft or bulk cargo compartment.
36-11-07B	Center Bleed Isolation Valve **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Valve remains closed except for engine start, b) Appropriate performance corrections are applied, c) Both center electrical hydraulic pumps operate normally, d) Airplane remains at or below FL 270, and e) Hydraulic Motor Generator (HMG) is not required. NOTE: No live animals or temperature sensitive cargo may be carried in the aft or bulk cargo compartment.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-07A	C ISLN Valve Switch	1. C ISLN Valve INOP 2. Except for engine start, C ISLN Valve must remain CLOSED
36-11-07B	C ISLN Valve Switch	1. C ISLN Valve INOP 2. Except for engine start, C ISLN Valve must remain CLOSED

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

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(O) PROCEDURES

36-11-07A

1. For takeoff and landing use APU as air source for ADP.
2. Flight must remain at or below FL 270.
3. No live animals or temperature sensitive cargo may be carried in the aft or bulk cargo compartment since heat will not be available.

36-11-07A	**CENTER BLEED ISOLATION VALVE**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 700 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 700 lbs.

36-11-07A	**CENTER BLEED ISOLATION VALVE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

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36-11-07B

1. HMG is not available.
2. Flight must remain at or below FL 270.
3. No live animals or temperature sensitive cargo may be carried in the aft or bulk cargo compartment since heat will not be available.
4. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-11-07B	CENTER BLEED ISOLATION VALVE
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 36,000 lbs. 2. Reduce T/O CLIMB LIMIT by 36,000 lbs. **LANDING** None

36-11-07B	CENTER BLEED ISOLATION VALVE
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 40,000 lbs. 2. Reduce T/O CLIMB LIMIT by 40,000 lbs. **LANDING** None

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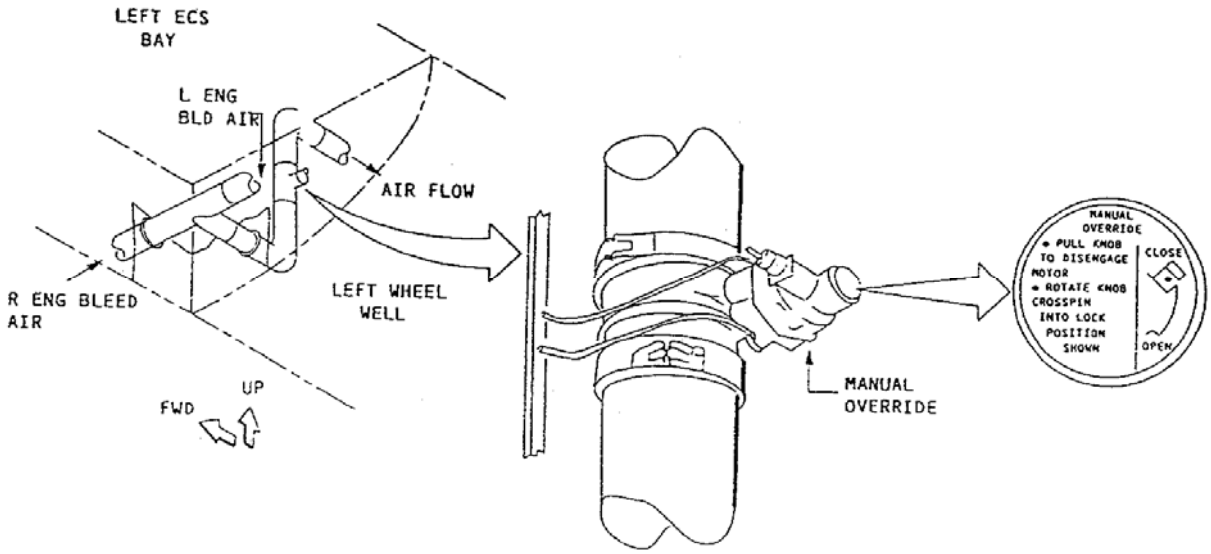
(M) PROCEDURES

36-11-07A, 36-11-07B

Lock the isolation valve in the closed position after engine start.

1. For APU air used for starting an engine, the center isolation valve must be manually opened prior to engine start and manually closed after engine is started. *Maintenance is Required and Flight Crew May **Not** Placard.*
2. Pull and secure the P11 panel AIR SUPPLY ISOLATION VALVE POWER, CTR circuit breaker.



NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-08A Engine Pressure Regulating Valve (PRV) Systems (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative secured CLOSED provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, c) Airplane is not operated in known or forecast icing conditions, d) APU is used as air source for ADP for takeoff, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, g) Hydraulic Motor Generator (HMG) is not required, h) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, i) Associated fan air modulation valve is secured in intermediate position, and j) Appropriate performance corrections are applied.
36-11-08B Engine Pressure Regulating Valve (PRV) Systems (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative secured CLOSED provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, c) Airplane is not operated in known or forecast icing conditions, d) Remaining (opposite) engine bleed system operates normally, e) Airplane remains at or below FL 350, f) Hydraulic Motor Generator (HMG) is not required, g) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, h) Associated fan air modulation valve is secured in intermediate position, and i) Appropriate performance corrections are applied.

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS (Continued)					
36-11-08C Engine Pressure Regulating Valve (PRV) Systems (CF6-80C2) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative OPEN provided: a) Associated HPSOV is secured closed, b) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, c) Associated pressure regulating valve will open fully pneumatically, d) APU is used as air source for ADP for takeoff, e) Associated ENG bleed air switch remains OFF, except when alternate procedures require its use, f) Airplane remains at or below FL 350, g) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, h) Hydraulic Motor Generator (HMG) is not required, i) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, j) Remaining (opposite) engine bleed system operates normally, k) Associated fan air modulation valve is secured in intermediate position, and l) Appropriate performance corrections are applied.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS (Continued)					
36-11-08D	Engine Pressure Regulating Valve (PRV) Systems (CF6-80C2) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative OPEN provided: a) Associated HPSOV is secured closed, b) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, c) Associated pressure regulating valve will open fully pneumatically, d) Associated ENG bleed air switch remains OFF, except when alternate procedures require its use, e) Airplane remains at or below FL 350, f) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, g) Hydraulic Motor Generator (HMG) is not required, h) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, i) Remaining (opposite) engine bleed system operates normally, j) Associated fan air modulation valve is secured in intermediate position, and k) Appropriate performance corrections are applied.
36-11-08E	Engine Pressure Regulating Valve (PRV) Systems (PW4000) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative CLOSED provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, c) Airplane is not operated in known or forecast icing conditions, d) APU is used as air source for ADP for takeoff, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, g) Center Hydraulic Motor Generator (HMG) is not required, h) Associated fan air modulation valve is secured in intermediate position, and i) Appropriate performance corrections are applied.

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ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS (Continued)					
36-11-08F	Engine Pressure Regulating Valve (PRV) Systems (PW4000) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative CLOSED provided: a) Associated ENG bleed air switch remains OFF, b) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, c) Airplane is not operated in known or forecast icing conditions, d) Remaining (opposite) engine bleed system operates normally, e) Airplane remains at or below FL 350, f) Center Hydraulic Motor Generator (HMG) is not required, g) Associated fan air modulation valve is secured in intermediate position, and h) Appropriate performance corrections are applied.
36-11-08G	Engine Pressure Regulating Valve (PRV) Systems (PW4000) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative OPEN provided: a) Associated HPSOV is secured closed, b) Associated pressure regulating valve will open fully pneumatically, c) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, d) Remaining (opposite) engine bleed system operates normally, and e) Hydraulic Motor Generator (HMG) is not required.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-11-08A	Associated Engine Bleed Switch	___ Engine PRV INOP
36-11-08B	Associated Engine Bleed Switch	___ Engine PRV INOP
36-11-08C	Associated Engine Bleed Switch	___ Engine PRV INOP
36-11-08D	Associated Engine Bleed Switch	___ Engine PRV INOP
36-11-08E	Associated Engine Bleed Switch	___ Engine PRV INOP
36-11-08F	Associated Engine Bleed Switch	___ Engine PRV INOP
36-11-08G	Associated Engine Bleed Switch	___ Engine PRV INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-11-08A

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated ENG bleed air switch to OFF.
5. Set associated PACK control selector to OFF.
6. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

36-11-08A	**ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS**
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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36-11-08B

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated ENG bleed air switch to OFF.
6. Set associated PACK control selector to OFF.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
8. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-11-08B	**ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS**
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-11-08C

1. Flight must remain at or below FL350.
2. The flight must remain within 120 minutes of landing at a suitable airport.
3. Set associated ENG bleed air switch to OFF.
4. Set associated PACK control selector to OFF.
5. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
7. For icing conditions maintain 70% (55% below 10,000 feet except as required for landing) N1 on affected engine.
8. For opposite side bleed system failure, after accomplishing associated non-normal checklists, accomplish the following steps:
   a. For continued pressurization:
      1) For PRV failed open side set ENG bleed air switch to ON.
      2) For PRV failed open side set PACK control selector to AUTO
   b. If the non-normal checklist does not preclude opening the isolation valve, wing anti-ice capability is available:
      1) Set opposite side ISOLATION switch to ON.

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36-11-08C	ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-11-08D

1. HMG is not available.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated ENG bleed air switch to OFF.
5. Set associated PACK control selector to OFF.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
7. For icing conditions maintain 70% (55% below 10,000 feet except as required for landing) N1 on affected engine.

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8. For opposite side bleed system failure, after accomplishing associated non-normal checklists, accomplish the following steps:

   a. For continued pressurization:

      1) For PRV failed open side set ENG bleed air switch to ON.
      2) For PRV failed open side set PACK control selector to AUTO

   b. If the non-normal checklist does not preclude opening the isolation valve, wing anti-ice capability is available:

      1) Set opposite side ISOLATION switch to ON

9. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-11-08D	**ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS**
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-11-08E

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated ENG bleed air switch to OFF.
5. Set associated PACK control selector to OFF.
6. For takeoff and landing using APU as air source for ADP:

   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.

7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

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36-11-08E	ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-11-08F

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated ENG bleed air switch to OFF.
6. Set associated PACK control selector to OFF.
7. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
8. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-11-08F	ENGINE PRESSURE REGULATING VALVE (PRV) SYSTEMS
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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36-11-08G

1. The flight must remain within 120 minutes of landing at a suitable airport.
2. For icing conditions maintain 70% (55% below 10,000 feet except as required for landing) N1 on affected engine.

(M) PROCEDURES

NOTE 1: The HPSOV is interchangeable with the PRV.
NOTE 2: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) PROCEDURES for a listing of those items.

36-11-08A, 36-11-08B

Lock the PRV in the closed position and secure the thrust reverser in the forward thrust position.

1. Gain access to the PRV (AMM 36-11-18/401).
2. Lock the PRV in the closed position:
   a. Remove the locking pin from the cap on the end of the PRV actuator.
   b. Turn the manual override hex nut on the PRV until the position indicator is in the closed position.
   c. Install the locking pin in the locking hole of the bellcrank arm. Tighten the pin.
3. Set the associated ENG bleed air switch to OFF. Confirm the OFF light illuminates and the flow bar is not displayed.
4. Secure the fan air modulation valve in the intermediate position using MEL 36-12-02A (M) PROCEDURES.
5. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.

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36-11-08C, 36-11-08D

Lock the HPSOV in the closed position and verify the PRV will open fully pneumatically.

1. Gain access to the PRV (AMM 36-11-18/401).
2. Lock the HPSOV closed using MEL 36-11-02A (M) PROCEDURES.
3. Confirm the PRV will open fully pneumatically:
    a. Set the associated ENG bleed air switch ON.
    b. Gain access to the PRSOV (AMM 36-11-09/401).
    c. Manually open the PRSOV.
    d. Pressurize the manifold.
    e. Release the PRSOV. The valve should remain open.
    f. Manually wrench the PRV partially open.
    g. Confirm the valve pneumatically opens to full open by observing the position indicator on valve.
    h. Remove manifold pressure.
4. Set the associated ENG bleed air switch to OFF. Confirm the OFF light illuminates and the flow bar is not displayed.
5. Secure the fan air modulation valve in the intermediate position using MEL 36-12-02A (M) PROCEDURES.
6. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.
7. Disconnect, cap and stow the electrical connector from the air supply overpressure switch (AMM 36-21-03).

36-11-08E, 36-11-08F

Lock the PRV in the closed position.

1. Gain access to the PRV (AMM 36-11-18/401).
2. Lock the PRV in the closed position:
    a. Remove the locking pin from the cap on the end of the PRV actuator.
    b. Turn the manual override hex nut on the PRV until the position indicator is in the closed position.
    c. Install the locking pin in the locking hole of the bellcrank arm. Tighten the pin.
3. Set the associated ENG bleed air switch to OFF. Confirm the OFF light illuminates and the flow bar is not displayed.
4. Secure the fan air modulation valve in the intermediate position using MEL 36-12-02A (M) PROCEDURES.

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36-11-08G

Lock the HPSOV in the closed position and verify the PRV will open fully pneumatically.

1. Gain access to the PRV (AMM 36-11-18/401).
2. Lock the HPSOV closed using MEL 36-11-02A (M) PROCEDURES.
3. Confirm the PRV will open fully pneumatically:
    a. Set the associated ENG bleed air switch to ON.
    b. Gain access to the PRSOV (AMM 36-11-09/401).
    c. Manually open the PRSOV.
    d. Pressurize the manifold.
    e. Release the PRSOV. The valve should remain open.
    f. Manually wrench the PRV partially open.
    g. Confirm the valve pneumatically opens to full open by observing the position indicator on valve.
    h. Remove manifold pressure.
4. Set the associated ENG bleed air switch to OFF. Confirm the OFF light illuminates and the flow bar is not displayed.
5. Disconnect, cap and stow the electrical connector from the air supply overpressure switch (AMM 36-21-03).

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
36-12-01A	Precoolers (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Airplane may be dispatched with damage to one precooler and associated ducting between HPSOV, IPCV and PRSOV provided: a) Associated HPSOV is secured closed, b) Associated PRSOV is secured closed, c) Associated low pressure bleed duct is blocked by an approved tool, d) Airplane is not operated in known or forecast icing conditions, e) Hydraulic Motor Generator (HMG) is not required, f) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, g) Remaining (opposite) engine bleed system operates normally, h) Airplane remains at or below FL 350, i) APU is used as air source for ADP for takeoff, j) Associated fan air modulation valve is secured in intermediate position, and k) Appropriate performance corrections are applied.
36-12-01B	Precoolers (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Airplane may be dispatched with damage to one precooler and associated ducting between HPSOV, IPCV and PRSOV provided: a) Associated HPSOV is secured closed, b) Associated PRSOV is secured closed, c) Associated low pressure bleed duct is blocked by an approved tool, d) Airplane is not operated in known or forecast icing conditions, e) Hydraulic Motor Generator (HMG) is not required, f) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, g) Remaining (opposite) engine bleed system operates normally, h) Airplane remains at or below FL 350, i) Associated fan air modulation valve is secured in intermediate position, and j) Appropriate performance corrections are applied.

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
PRECOOLERS (Continued)					
36-12-01C Precoolers (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations beyond 120 minutes, airplane may be dispatched with damage to one precooler and associated ducting between PRV and PRSOV provided: a) Associated PRV is secured closed, b) Associated PRSOV is secured closed, c) Airplane is not operated in known or forecast icing conditions, d) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, g) APU is used as air source for ADP for takeoff, h) Hydraulic Motor Generator (HMG) is not required, i) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, j) Associated fan air modulation valve is secured in intermediate position, and k) Appropriate performance corrections are applied.
36-12-01D Precoolers (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations beyond 120 minutes, airplane may be dispatched with damage to one precooler and associated ducting between PRV and PRSOV provided: a) Associated PRV is secured closed, b) Associated PRSOV is secured closed, c) Airplane is not operated in known or forecast icing conditions, d) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, g) ADP inoperative penalties are applied, h) Hydraulic Motor Generator (HMG) is not required, i) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01, j) Associated fan air modulation valve is secured in intermediate position, and k) Appropriate performance corrections are applied.

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	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
PRECOOLERS (Continued)					
36-12-01E Precoolers (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations beyond 120 minutes, airplane may be dispatched with damage to one precooler and associated ducting between PRV and PRSOV provided: a) Associated PRV is secured closed, b) Associated PRSOV is secured closed, c) Airplane is not operated in known or forecast icing conditions, d) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, g) APU is used as air source for ADP for takeoff, h) Hydraulic Motor Generator (HMG) is not required, i) Associated fan air modulation valve is secured in intermediate position, and j) Appropriate performance corrections are applied.
36-12-01F Precoolers (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** Except for ER operations beyond 120 minutes, airplane may be dispatched with damage to one precooler and associated ducting between PRV and PRSOV provided: a) Associated PRV is secured closed, b) Associated PRSOV is secured closed, c) Airplane is not operated in known or forecast icing conditions, d) Associated bleed isolation valve is opened after takeoff and closed before approach and landing, e) Remaining (opposite) engine bleed system operates normally, f) Airplane remains at or below FL 350, g) Hydraulic Motor Generator (HMG) is not required, h) Associated fan air modulation valve is secured in intermediate position, and i) Appropriate performance corrections are applied.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-12-01A	Associated Engine Bleed Switch	___ Engine Precooler INOP
36-12-01B	Associated Engine Bleed Switch	___ Engine Precooler INOP
36-12-01C	Associated Engine Bleed Switch	___ Engine Precooler INOP
36-12-01D	Associated Engine Bleed Switch	___ Engine Precooler INOP
36-12-01E	Associated Engine Bleed Switch	___ Engine Precooler INOP
36-12-01F	Associated Engine Bleed Switch	___ Engine Precooler INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-12-01A

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated PACK control selector to OFF.
5. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

36-12-01A	**PRECOOLERS**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,600 lbs. 2. Reduce T/O CLIMB LIMIT by 5,600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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36-12-01B

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated PACK control selector to OFF.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
7. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-12-01B	**PRECOOLERS**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 41,000 lbs. 2. Reduce T/O CLIMB LIMIT by 41,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-12-01C

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated PACK control selector to OFF.
5. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

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36-12-01C	PRECOOLERS
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-12-01D

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated PACK control selector to OFF.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
7. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

36-12-01D	PRECOOLERS
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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36-12-01E

1. Remain clear of icing conditions.
2. Flight must remain at or below FL350.
3. The flight must remain within 120 minutes of landing at a suitable airport.
4. Set associated PACK control selector to OFF.
5. For takeoff and landing using APU as air source for ADP:
   a. Close center isolation valve.
   b. Open center isolation valve when APU is shut down.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.

36-12-01E	**PRECOOLERS**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground. 3. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

36-12-01F

1. HMG is not available.
2. Remain clear of icing conditions.
3. Flight must remain at or below FL350.
4. The flight must remain within 120 minutes of landing at a suitable airport.
5. Set associated PACK control selector to OFF.
6. Open associated bleed isolation valve for enroute operations. Open after takeoff and close prior to approach.
7. The ADP is unavailable, refer to MEL 29-11-03A (O) PROCEDURES. Apply the following performance corrections in lieu of the performance corrections located in 29-11-03A.

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36-12-01F	**PRECOOLERS**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% for Fan Air Valve secured in the intermediate position.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 45,000 lbs. 2. Reduce T/O CLIMB LIMIT by 45,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

(M) PROCEDURES

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) PROCEDURES for a listing of those items.

36-12-01A, 36-12-01B

Lock the HPSOV and the PRSOV in the closed position, and block the low pressure bleed duct.

1. Lock the HPSOV closed using MEL 36-11-02A (M) PROCEDURES.
2. Lock the PRSOV closed using MEL 36-11-01A (M) PROCEDURES.
3. Remove the intermediate pressure check valve (AMM 36-11-06/401).
4. Block the low pressure bleed duct by installing a dummy check valve (Boeing approved tool P/N A36006) in place of the intermediate pressure check valve. Tighten the couplings in accordance with AMM 36-11-06/401.
5. Lock the fan air valve in the intermediate position using MEL 36-12-02A (M) PROCEDURES.

36-12-01C, 36-12-01D

Lock the PRV and the PRSOV in the closed position, and deactivate and secure the associated thrust reverser in the forward thrust position.

1. Lock the PRV closed using MEL 36-11-08E (M) PROCEDURES.
2. Lock the PRSOV closed using MEL 36-11-01A (M) PROCEDURES.
3. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.
4. Lock the fan air valve in the intermediate position using MEL 36-12-02 (M) PROCEDURES.

36-12-01E, 36-12-01F

Lock the PRV and the PRSOV in the closed position.

1. Lock the PRV closed using MEL 36-11-08E (M) PROCEDURES.
2. Lock the PRSOV closed using MEL 36-11-01A (M) PROCEDURES.
3. Lock the fan air valve in the intermediate position using MEL 36-12-02A (M) PROCEDURES.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-12-02A	Fan Air (Precooler) Control Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** Except for ER operations (ETOPS), beyond 120 minutes, may be inoperative provided: a) Associated fan air modulation valve is secured in an intermediate position, and b) Appropriate performance adjustments are applied.
36-12-02B	Fan Air (Precooler) Control Systems **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** Except for ER operations (ETOPS), beyond 120 minutes, may be inoperative provided: a) Associated fan air modulation valve is secured full open, b) Appropriate performance adjustments are applied, and c) Airplane is not operated in known or forecast icing conditions.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-12-02A	Associated Engine Bleed Switch(es)	___ Fan Air Control System(s) INOP
36-12-02B	Associated Engine Bleed Switch(es)	___ Fan Air Control System(s) INOP

(O) PROCEDURES

36-12-02A

36-12-02A	**FAN AIR (PRECOOLER) CONTROL SYSTEMS**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 5,000 lbs. 2. Increase BLOCK FUEL by 0.6% per inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 5,000 lbs. 2. Reduce T/O CLIMB LIMIT by 5,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 5,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 5,000 lbs.

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36-12-02B

Remain clear of icing conditions.

36-12-02B	FAN AIR (PRECOOLER) CONTROL SYSTEMS
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 7,000 lbs. 2. Increase BLOCK FUEL by 1.2% per inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 7,000 lbs. 2. Reduce T/O CLIMB LIMIT by 7,000 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 7,000 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 7,000 lbs.

(M) PROCEDURES

36-12-02A

Lock the FAMV in an intermediate position.

1. Gain access to the FAMV (AMM 36-11-16/401).
2. Remove the lockpin from the fan air valve actuator body.
3. Lock the valve in the intermediate position.
4. Install the lockpin through the locking crank into the locking pin slot.

36-12-02B

Lock the FAMV full open.

1. Gain access to the FAMV (AMM 36-11-16/401).
2. Disconnect the temperature control pressure line from the fan air valve. Cap the control pressure line and secure it to the valve.
3. For valve not in full open position, turn the locking crank to the full open position.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-21-01	Bleed Air DUCT PRESS Indicating System (DUCT PRESS Indicators - P5 Panel)	**Y**	2	1	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-21-01	DUCT PRESS Indicator	___ DUCT PRESS Indicator INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-21-02	Engine Bleed Air OFF Lights	**Y**	2	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-21-02	Affected Engine Bleed Air OFF Light(s)	___ Engine Bleed Air OFF Light(s) INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-01A BLEED Lights (CF6-80A2 & PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured CLOSED, b) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, and c) Remaining (opposite) engine bleed system operates normally, and d) Hydraulic Motor Generator (HMG) is not required.
36-22-01B BLEED Lights (CF6-80C2 **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured CLOSED, b) A minimum of 70% (55% below 10,000 feet MSL) N1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, d) Hydraulic Motor Generator (HMG) is not required, and e) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-22-01A	Affected BLEED Light	___ BLEED Light INOP
36-22-01B	Affected BLEED Light	___ BLEED Light INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-22-01A

1. Maintain a minimum of 70% (55% below 10,000 feet MSL except as required for landing) N1 on the affected engine in icing conditions.
2. The engine bleed air OFF light and pack OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and pack OFF lights:
   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is not selected OFF.
   d. Advance throttle to approximately 80% N2.

CONTINUED NEXT PAGE

36-22-01B

1. Maintain a minimum of 70% (55% below 10,000 feet MSL except as required for landing) N1 on the affected engine in icing conditions.
2. The engine bleed air OFF light and pack OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and pack OFF lights:

   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is not selected OFF.
   d. Advance throttle to approximately 80% N2.

(M) PROCEDURES

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) PROCEDURES for a listing of those items.

36-22-01A

Lock the HPSOV closed using MEL 36-11-02A (M) PROCEDURES.

36-22-01B

Lock the HPSOV in the closed position, and deactivate and secure the associated thrust reverser in the forward thrust position.

1. Lock the HPSOV closed using MEL 36-11-02A (M) PROCEDURES.
2. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-02	HI STAGE Lights (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured closed, b) A minimum of 70% (55% below 10,000 feet MSL) N_1 is maintained on associated engine in icing conditions, and c) Remaining (opposite) engine bleed system operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-22-02	Affected HI STAGE Light	___ HI STAGE Light INOP

(O) PROCEDURES

1. Maintain a minimum of 70% (55% below 10,000 feet MSL except as required for landing) N1 on the affected engine in icing conditions.
2. The engine bleed air OFF light and pack OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and pack OFF lights:
   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is not selected OFF.
   d. Advance throttle to approximately 80% N2.

(M) PROCEDURES

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) PROCEDURES for a listing of those items.

Lock the HPSOV closed using MEL 36-11-02A (M) PROCEDURES.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
36-22-03A	OVHT Lights (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured closed, b) A minimum of 70% (55% below 10,000 Feet MSL) N_1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, and d) Hydraulic Motor Generator (HMG) is not required.
36-22-03B	OVHT Lights (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured closed, b) A minimum of 70% (55% below 10,000 Feet MSL) N_1 is maintained on associated engine in icing conditions, c) Remaining (opposite) engine bleed system operates normally, d) Hydraulic Motor Generator (HMG) is not required, and e) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-22-03A	Affected OVHT Light	___ OVHT Light INOP
36-22-03B	Affected OVHT Light	___ OVHT Light INOP

NOTE: HMG is required for ETOPS routes if an IDG or APU generator is inoperative. The HMG is not required for non-ETOPS.

(O) PROCEDURES

36-22-03A

1. Maintain a minimum of 70% (55% below 10,000 feet MSL except as required for landing) N1 on affected engine when in icing conditions.
2. For HPSOV locked closed, the engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:
   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is not selected OFF.
   d. Advance throttle to approximately 80% N2.

CONTINUED NEXT PAGE

36-22-03B

1. Maintain a minimum of 70% (55% below 10,000 feet MSL except as required for landing) N1 on affected engine when in icing conditions.
2. For HPSOV locked closed, the engine bleed air OFF light and PACK OFF light may illuminate with engine at idle under certain conditions. To extinguish the engine bleed air OFF and PACK OFF lights:
   a. Confirm manifold pressure on affected side is less than 10 psi.
   b. Confirm isolation valve on affected side is closed.
   c. Confirm air conditioning pack on affected side is not selected OFF.
   d. Advance throttle to approximately 80% N2.

(M) PROCEDURES

NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See MEL 36-11-01 (M) PROCEDURES for a listing of those items.

36-22-03A

Lock HPSOV closed using MEL 36-11-02A (M) PROCEDURES.

36-22-03B

Lock the HPSOV in the closed position, and deactivate and secure the associated thrust reverser in the forward thrust position.

1. Lock HPSOV closed using MEL 36-11-02A (M) PROCEDURES.
2. The associated thrust reverser must be deactivated and deferred per MEL 78-31-01.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-04	L and R Bleed ISLN Valve Lights	**Y**	2	1	**C**	**(O)** May be inoperative provided associated duct pressure indicator operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-22-04	Affected Bleed ISLN Valve Light	___ Bleed ISLN Valve Light INOP

(O) PROCEDURES

If proper operation of an Isolation Valve is in question, refer to the ECS synoptic page on EICAS and/or Duct Pressure indications.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-05	C Bleed ISLN Valve Light	**Y**	1	0	**C**	

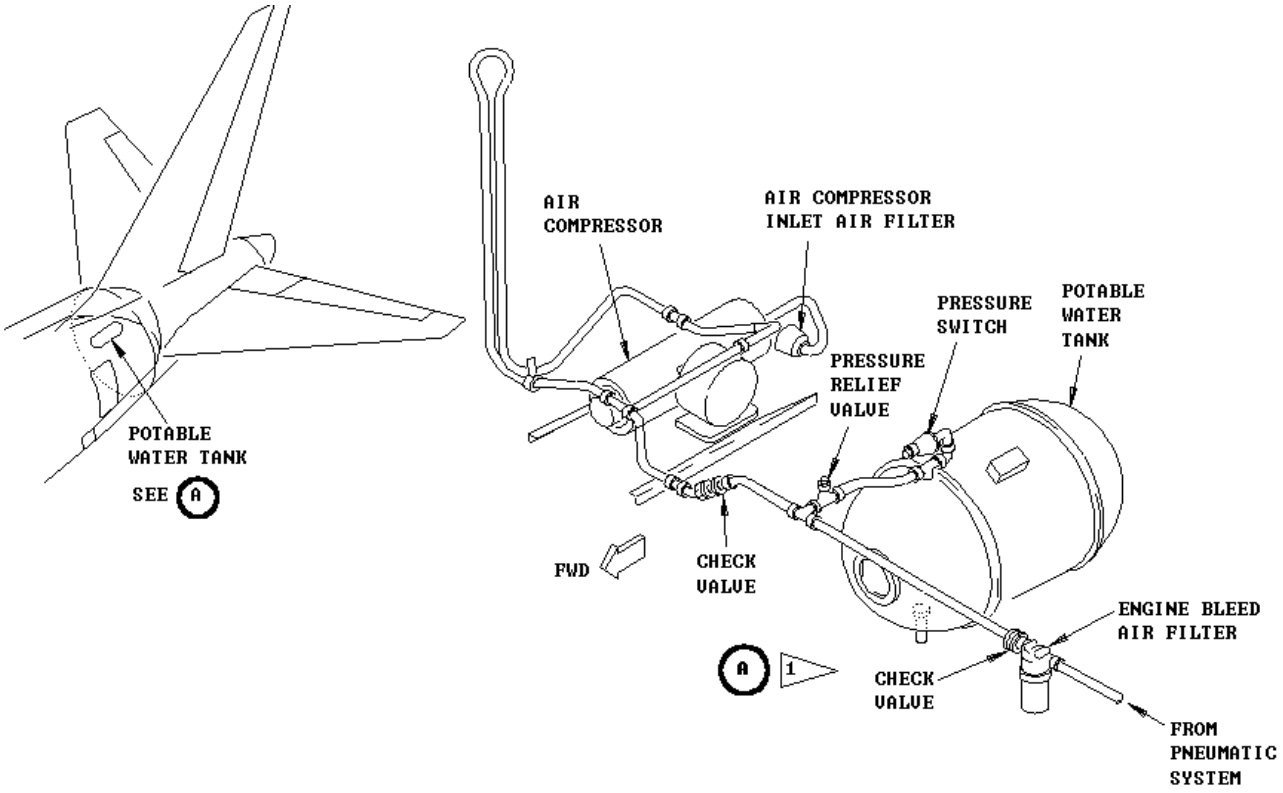
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-22-05	C Bleed ISLN Valve Light	C Bleed ISLN Valve Light INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-06	APU Bleed VALVE Light	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
36-22-06	APU Bleed VALVE Light	APU Bleed VALVE Light INOP

ATA 38 Contents

38-10-01A Potable Water Systems 38-4
38-30-01A Lavatory Galley / Waste Systems (Including Wheelchair Accessible Lavatories) 38-6
38-32-01 Tank Precharge Control Systems 38-8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PRESSURE
SWITCH
POTABLE
WATER
TANK
PRESSURE
RELIEF
VALVE
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FWD
CHECK
VALVE
ENGINE BLEED
AIR FILTER
A
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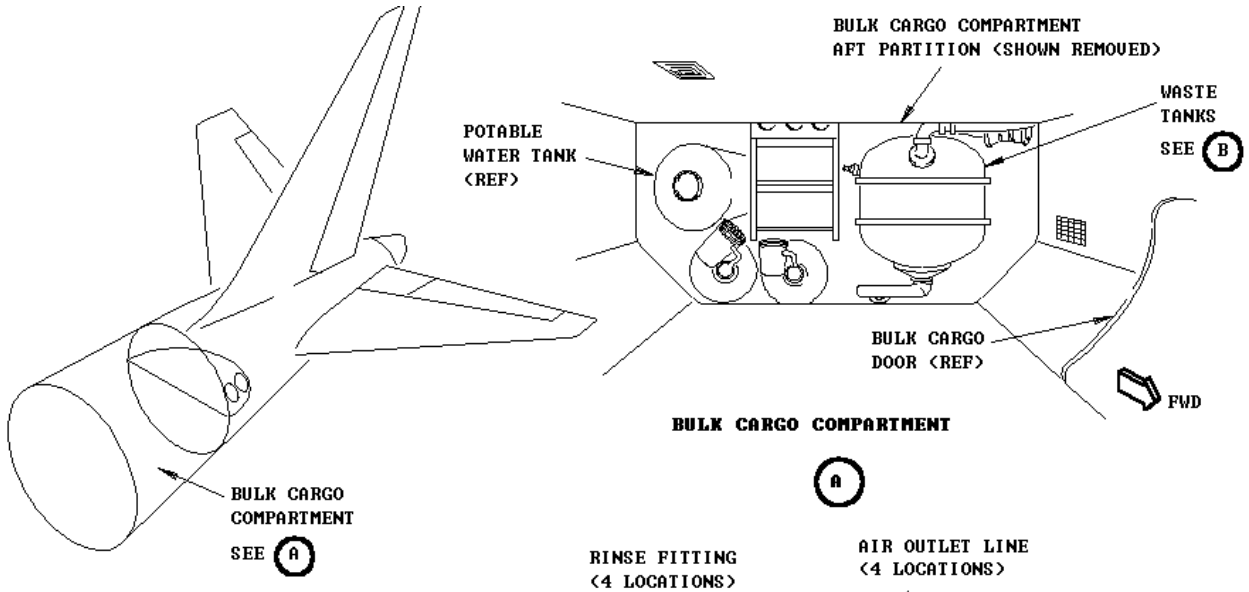
CHECK
VALVE
FROM
PNEUMATIC
SYSTEM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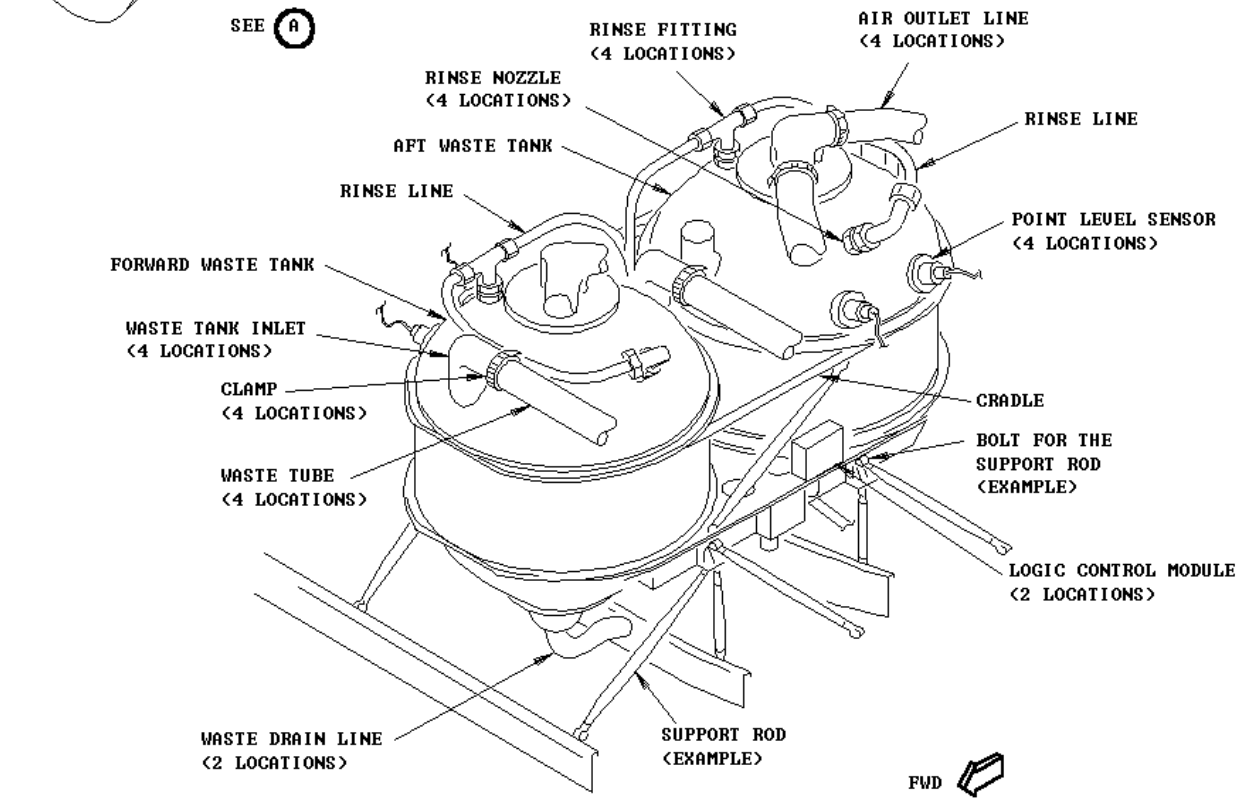
AFT PARTITION (SHOWN REMOVED)
WASTE TANKS
SEE B
POTABLE WATER TANK (REF)
BULK CARGO DOOR (REF)
FWD
BULK CARGO COMPARTMENT
A
BULK CARGO COMPARTMENT
SEE A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AIR OUTLET LINE (4 LOCATIONS)
RINSE NOZZLE (4 LOCATIONS)
RINSE LINE
AFT WASTE TANK
RINSE LINE
POINT LEVEL SENSOR (4 LOCATIONS)
FORWARD WASTE TANK
WASTE TANK INLET (4 LOCATIONS)
CLAMP (4 LOCATIONS)
CRADLE
BOLT FOR THE SUPPORT ROD (EXAMPLE)
WASTE TUBE (4 LOCATIONS)
LOGIC CONTROL MODULE (2 LOCATIONS)
WASTE DRAIN LINE (2 LOCATIONS)
SUPPORT ROD (EXAMPLE)
FWD
WASTE TANKS
B
1
1 AIRPLANES WITH 2 RINSE NOZZLES EACH TANK

Waste Tanks

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
38-10-01A Potable Water Systems	**N**	-	-	**C**	**(M)** Individual components may be inoperative provided: a) Associated components are deactivated or isolated, and b) Associated system components are verified not to have leaks. NOTE: Any portion of the system which operates normally may be used.
38-10-01B Potable Water Systems **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) System is drained, and b) Procedures are established to ensure that system is not serviced.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
38-10-01A	Logbook	Potable Water ___ INOP
38-10-01B	Logbook	Potable Water System INOP

(O) PROCEDURES

38-10-01B

38-10-01B	**POTABLE WATER SYSTEM**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use OEW correction for "Drain Potable Water System" in ALM – Weight and Balance Section.

Captain to brief Purser / FL as follows:

1. Each hour, a small bottle or cup of water must be poured down every lavatory toilet to prevent clogging.
2. Galley water and coffee makers can **not** be used.

CONTINUED NEXT PAGE

(M) PROCEDURES

38-10-01A

1. Deactivate inoperative system component(s) and isolate as necessary.
2. Ensure system is properly serviced.
3. Check deactivated component(s) for leakage. No leakage allowed.

38-10-01B

1. Drain potable water system.
2. Install INOPERATIVE - DO NOT SERVICE placard on the inside of exterior service panel to ensure system is not serviced.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
38-30-01A Lavatory Galley / Waste Systems (Including Wheelchair Accessible Lavatories) **"Contact MCC"**	**N**	-	-	**C**	**(M)** Individual components may be inoperative provided: a) Associated components are deactivated or isolated, and b) Associated system components are verified not to have leaks. NOTE: Any portion of system that operates normally may be used.
38-30-01B Lavatory Galley / Waste Systems (Including Wheelchair Accessible Lavatories) **"DISP.APPR.REQ'D."**	**N**	-	0	**C**	**(M)** Associated lavatory system(s) may be inoperative provided: a) Associated components are deactivated or isolated to prevent leaks, b) The Pilot-in-command will determine if flight duration is acceptable if the two most FWD lavatories are unusable, and c) Associated lavatory door(s) is secured closed and placarded "INOPERATIVE – DO NOT ENTER". NOTE: These provisos are not intended to prohibit inspections by crewmembers.
38-30-01C Lavatory Waste System Vacuum Blowers	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Associated vacuum blower is deactivated, and b) Lavatories affected by inoperative vacuum blower are not used on the ground or at flight altitudes below 16,000 feet. NOTE: Affected toilets will not flush on the ground or at altitudes below 16,000 feet MSL. Toilets will flush normally above 16,000 feet MSL due to aircraft differential pressure.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
38-30-01A	Logbook	___ Lavatory System ___ INOP
38-30-01B	Logbook	___ Lavatory System(s) INOP
38-30-01C	Logbook	___ Lavatory Vacuum Blower INOP

OPERATIONS NOTE

No changes to security procedures or passenger seating are required for an inoperative forward lavatory.

CONTINUED NEXT PAGE

(O) PROCEDURES

38-30-01C

Captain to brief Purser / FL that Flight Attendants are to lock affected lavatories below 16,000 feet and unlock affected lavatories above 16,000 feet.

(M) PROCEDURES

38-30-01A

1. Deactivate inoperative system component(s) and isolate as necessary (ref. AMM 38-32-00).
2. Ensure system is properly serviced.
3. Check deactivated component(s) for leakage. No leakage allowed.

38-30-01B

NOTE: Individual lavatories, or all lavatories associated with an inoperative waste tank may be inoperative.

1. Deactivate inoperative system component(s) as necessary (ref. AMM 38-32-00). No leakage allowed.
2. For known, suspected or reported leaks at a lavatory servicing panel, associated waste tank must be drained per AMM 12-17-01.
3. Lock lavatory door(s) closed and install INOPERATIVE – DO NOT ENTER placard on the exterior of each inoperative lavatory.
4. If waste tank is drained, install WASTE TANK “X” INOPERATIVE - DO NOT SERVICE placard on the inside of exterior service panel.

38-30-01C

1. For the applicable system, pull and secure the associated VACUUM BLOWER LAV SYSTEM 1 circuit breaker on the Left Misc Electrical Equipment Panel P36.
2. For the applicable system, pull and secure the associated VACUUM BLOWER LAV SYSTEM 2 circuit breaker on the Right Misc Electrical Equipment Panel P37.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
38-32-01	Tank Precharge Control Systems	**N**	2	0	**C**	**(M)** May be inoperative provided applicable precharge control valve is secured in open position.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
38-32-01	Logbook	___ Tank Precharge Control System(s) INOP

(M) PROCEDURES

The precharge control valve has to be open or bypassed in order to rinse the waste tank and then precharge waste tank with the proper chemical.

1. Gain access to the precharge control valve.
2. Remove, cap and stow the wires to the precharge control valve.
3. Do either step "a" or steps "b - d".

    a. Manually secure the precharge control valve to the open position,

    OR

    b. Disconnect the rinse line from the inlet and outlet of the precharge control valve.
    c. Remove bolts and valve as necessary.
    d. Connect rinse lines with suitable short tube.

4. Service waste tank precharge with 6 gallons of chemical precharge.

ATA 46 Contents

46-20-01A Electronic Flight Bag (EFB) Systems 46-2
46-20-01C Airport Moving Map Database 46-2

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ELECTRONIC FLIGHT BAG (EFB) SYSTEMS					
46-20-01A Electronic Flight Bag (EFB) Systems	**Y**	2	1	**C**	NOTE: Any function, program or document which operates normally may be used.
46-20-01B Electronic Flight Bag (EFB) Systems **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are used. NOTE: Any function, program or document which operates normally may be used.
46-20-01C Airport Moving Map Database	**Y**	2	0	**D**	**(O)** May be out of date provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
46-20-01A	EFB	___ EFB System(s) INOP
46-20-01B	EFB	Both EFB System(s) INOP
46-20-01C	EFB	___ Airport Moving Map Database(s) Out of Date

(O) PROCEDURES

46-20-01B

1. Refer to the FOM, Administration, Manuals, for flight carry requirements.
2. In-Trail Procedures will not be available.

46-20-01C

Refer to paper airport diagrams for ground operations.

ATA 47 Contents

47-11-01A Nitrogen Generation System (NGS).....47-2
47-11-01B Nitrogen Generation Performance 47-2

ITEM NO.	NAME / DESCRIPTION	FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	NITROGEN GENERATION SYSTEM (NGS)					
47-11-01A	Nitrogen Generation System (NGS)	**N**	1	0	**A**	**(M)** May be inoperative off provided: a) NGS shutoff valve is deactivated closed, and b) Repairs are made within 10 flight days
47-11-01B	Nitrogen Generation Performance	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
47-11-01A	Center Display Control Panel	Nitrogen Generation System INOP
47-11-01B	Center Display Control Panel	Nitrogen Generation Performance Degraded

NOTE 1: This aircraft has an EICAS alert Status message indication “NITROGN GEN PERF” or NITROGN GEN SYS”.

NOTE 2: For the EICAS Status alert message “NITROGN GEN PERF”, use MEL 47-11-01B.

(M) PROCEDURES

47-11-01A

Deactivate the NGS shutoff valve in the closed position.

1. Gain access to the NGS shutoff valve through the following access door:

Number	Name / Location
193GL	ECS Components, Conditioned Air Connection, Pressure Relief Door

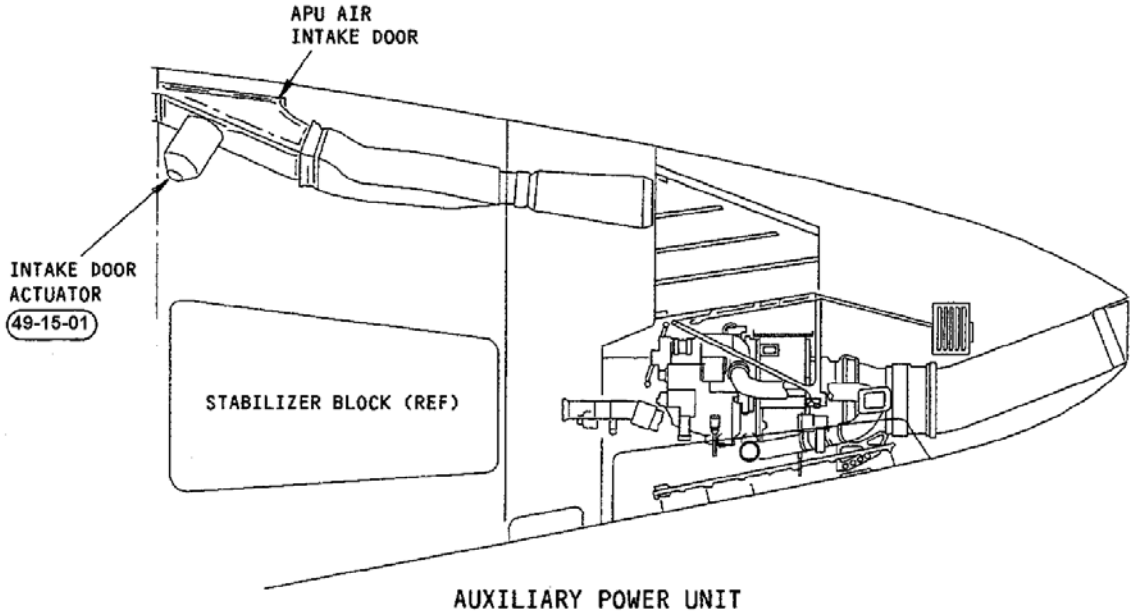
NOTE: The NGS shutoff valve is found aft of the thermal control unit (TCU), between the bleed air inlet duct and the ozone converter.

WARNING: DO NOT TOUCH THE COMPONENTS OF THE NITROGEN GENERATION SYSTEM WHEN THEY ARE HOT. WHEN THE COMPONENTS ARE HOT, THEY CAN CAUSE INJURIES TO PERSONNEL.

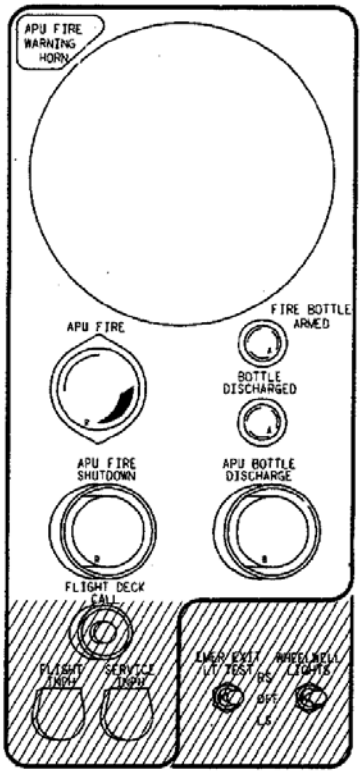
2. Turn the manual lock arm to the closed position.
3. Align the hole in the manual lock arm with the threaded boss on the NGS shutoff valve.
4. Remove the manual lockbolt from the NGS shutoff valve body.
5. Install the manual lockbolt through the hole in the manual lock arm.
6. Tighten the bolt to 25 +/-5 in-lb.

ATA 49 Contents

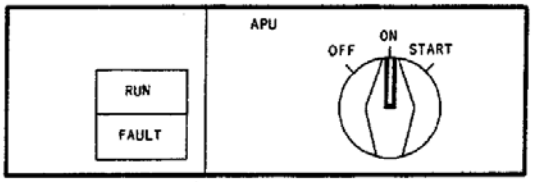
AUXILIARY POWER UNIT (APU) 49-3
49-11-01A Auxiliary Power Unit (APU) 49-3
49-11-01C Pneumatic Function 49-3
49-11-01D APU System - Cold Soak Not Verified 49-4
49-15-01A APU Air Intake Door Actuation System - Door Closed 49-8
49-61-01 APU External Control System 49-13
49-70-01 APU FAULT Light 49-14
49-70-02 APU RUN Light 49-15
49-71-01 APU EGT Indication (EICAS) 49-16
49-72-01 APU Time Totalizer (Hourmeter) 49-17
49-73-01 APU RPM Indication 49-18
49-94-01A APU OIL QTY Indication 49-19



AUXILIARY POWER UNIT
49-11-01

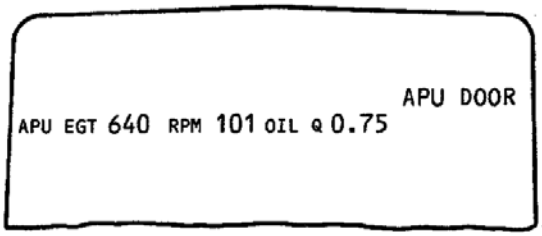


APU REMOTE CONTROL PANEL
49-61-01



FAULT LIGHT 49-70-01

RUN LIGHT 49-70-02



EGT INDICATION 49-71-01

RPM INDICATION 49-73-01

OIL QUANTITY INDICATION 49-94-01

(EICAS)

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
AUXILIARY POWER UNIT (APU)					
49-11-01A Auxiliary Power Unit (APU) **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(O)(M)** Except for ER operations (ETOPS), may be inoperative provided: a) Both engine generators operate normally, b) Both engine generator's (IDGs) Log Book history for past 30 days is reviewed and approved by MCC prior to deferral, and c) Procedures do not require its use. NOTE: Use of coastal routing is recommended for operations from Alaska "to" 48 contiguous states. Theater Restrictions May Apply
49-11-01B Auxiliary Power Unit (APU) **"DISP.APPR.REQ'D."**	**N**	1	0	**B**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes and except for Outbound North America ER operations (ETOPS), may be inoperative provided: a) Both engine generators operate normally, b) Hydraulic Motor Generator (HMG) is verified to operate normally, and c) Procedures do not require its use. NOTE: Use of coastal routing is recommended for operations from Alaska "to" 48 contiguous states. Theater Restrictions May Apply
49-11-01C Pneumatic Function **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative provided procedures do not require its use. NOTE 1: Use MEL 36-11-04 (M) Procedures to close the APU bleed valve. NOTE 2: When the pneumatic function of the APU is inoperative, the APU will continue to be capable of generating electrical power.

CONTINUED NEXT PAGE

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
AUXILIARY POWER UNIT (APU) (Continued)					
49-11-01D APU System - Cold Soak Not Verified **"DISP.APPR.REQ'D."** Administrative Control Item	**Y**	1	1	**B**	**(O)(M)** Inflight verification of cold soak start capability has not been accomplished. **ER (ETOPS) operations Not Authorized:** a) APU is shut down before takeoff and remains OFF until cold soak start is attempted, and b) Cold soak inflight start of APU may be accomplished after at least two flight hours at or above FL270.
49-11-01E APU System - Cold Soak Not Verified **"DISP.APPR.REQ'D."** Administrative Control Item	**N**	1	1	**B**	**(O)(M)** Inflight verification of cold soak start capability has not been accomplished. **ER (ETOPS) operations beyond 120 minutes Not Authorized:** a) Hydraulic Motor Generator (HMG) is verified to operate normally PRIOR TO EACH DEPARTURE if the flight is dispatched on an ETOPS route up to 120 minutes, b) Both engine generators operate normally, c) APU is shut down before takeoff and remains OFF until cold soak start is attempted, and d) Cold soak inflight start of APU may be accomplished after at least two flight hours at or above FL270. **Repetitive Check Required (Yellow Placard)**
49-11-01F APU System - Cold Soak Not Verified **"DISP.APPR.REQ'D."** Administrative Control Item	**N**	1	1	**A**	**(O)(M)** Inflight verification of cold soak start capability has not been accomplished. **ER (ETOPS) operations Authorized:** a) APU oil quantity is serviced to full, b) APU is started on the ground, c) APU remains operating until 2 hours prior to top of descent, d) A cold soak APU start will be accomplished, e) Authorization limited to one flight, and f) Performance Corrections are applied.

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-11-01A	APU Start Switch	APU INOP
49-11-01B	APU Start Switch	APU INOP
49-11-01C	APU Bleed Switch	APU Bleed Air INOP
49-11-01D	APU Bleed Switch	APU System – Cold Soak Not Verified
49-11-01E	APU Bleed Switch	APU System – Cold Soak Not Verified
49-11-01F	APU Bleed Switch	APU System – Cold Soak Not Verified

(O) PROCEDURES

49-11-01A, 49-11-01B

1. Dispatch is not allowed if the APU is required by other procedures. MEL dispatch procedures for the following inoperative equipment require APU availability:

MEL ITEM NO.	ITEM
24-11-01	Engine Generator Systems (IDG, GCB)
24-25-01	Hydraulic Motor Generators (HMG)
24-25-02	Hydraulic Motor Generator Valves
24-31-03	Standby Power Main/APU Battery Tie System
26-18-01	DUCT LEAK Detection Systems
30-21-01	Engine Anti-Ice Valves
36-11-01	ENG BLEED Pressure Regulating and Shutoff Valves (PRSOV)
36-11-07	Center Bleed Isolation Valve
36-11-08	Engine Pressure Regulating Valve (PRV) Systems
36-12-01	Precoolers

2. If External Power is not available, refer to 767-300 Operations Manual, Volume 1, Supplementary Procedures, Engines, APU for Engine Battery Start procedures.
3. For APU removed, the APU FAULT light may remain illuminated, and advisory messages APU BLD VAL, APU FUEL VAL, and APU GEN OFF may display after engine start.

49-11-01A **49-11-01B**	**AUXILIARY POWER UNIT (APU) - REMOVED**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use OEW correction for “APU” in ALM – Weight and Balance Section.

CONTINUED NEXT PAGE

49-11-01D, 49-11-01E

1. APU is shut down before takeoff.
2. The start attempt must be initiated at the top of descent or at such time that will ensure a 2-hour cold soak at FL270 or above. Refer to Volume 1, Supplementary Procedures, Engines, APU.
3. In-flight start data will be entered into the Aircraft Log Book by the flight crew.

49-11-01F

1. Start APU prior to pushback.
2. The APU shall be shut down at least 2 hours, prior to top of decent, and a cold soak APU start accomplished. Refer to Volume 1, Supplementary Procedures, Engines, APU.
3. In-flight start data will be entered into the Aircraft Log Book by the flight crew.

49-11-01F	**APU SYSTEM – COLD SOAK NOT VERIFIED**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 1,800 lbs. 2. Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 700 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 700 lbs.

49-11-01F	**APU SYSTEM – COLD SOAK NOT VERIFIED**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 220 lbs. per hour for APU usage inflight and on the ground.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

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(M) PROCEDURES

49-11-01A

The APU may be removed (AMM 49-11-02/201). *Maintenance is Required and Flight Crew May **Not** Placard*. When removing the APU for dispatch:

1. Ensure that the equipment removed is weighed.
2. Ensure weight and balance is updated.

49-11-01B

1. Verify the hydraulic motor generator (HMG) operates normally by performing the Operational Test (AMM 24-25-00/501).
2. The APU may be removed (AMM 49-11-02/201). When removing the APU for dispatch:
   a. Ensure that the equipment removed is weighed.
   b. Ensure weight and balance is updated.

49-11-01C

1. Use MEL 36-11-04 (M) Procedures to close the APU bleed valve.
2. When the pneumatic function of the APU is inoperative, the APU will continue to be capable of generating electrical power.

49-11-01E

For ER Operations beyond 120 minutes Not Authorized:

Verify HMG operates normally. Refer to item 24-00-02B APU Driven Generator, (M) PROCEDURES. *Maintenance is Required and Flight Crew May **Not** Placard*.

49-11-01F

Service APU oil quantity to full.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
49-15-01A	APU Air Intake Door Actuation System - Door Closed **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS), may be inoperative secured CLOSED provided APU is considered inoperative and deferred per MEL 49-11-01A.
49-15-01B	APU Air Intake Door Actuation System - Door Closed **"DISP.APPR.REQ'D."**	**N**	1	0	**B**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative secured CLOSED provided APU is considered inoperative, and is deferred per MEL 49-11-01B.
49-15-01C	APU Air Intake Door Actuation System - Door Fully Open **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Door is deactivated in FULL OPEN position, and b) Performance corrections are applied.
49-15-01D	APU Air Intake Door Actuation System - Door in Any Position **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative with door in ANY position provided: a) Procedures do not requires use of APU, b) APU is not used, c) Flight remains within 120 minutes of landing at a suitable airport, and d) Performance corrections are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-15-01A	APU Start Switch	APU Air Intake Door Actuation System INOP CLOSED
49-15-01B	APU Start Switch	APU Air Intake Door Actuation System INOP CLOSED
49-15-01C	APU Start Switch	APU Air Intake Door Actuation System INOP Fully OPEN
49-15-01D	APU Start Switch	APU Air Intake Door Actuation System INOP ___

NOTE: Partially open door may cause reverse rotation of the APU with less than normal bearing lubrication. Therefore, it may be desirable to limit the time in this configuration. Reverse rotation is not present with the door inoperative in the fully open or fully closed position

CONTINUED NEXT PAGE

(O) PROCEDURES

49-15-01C

1. With the APU air intake door inoperative in the fully open position, the APU may be used on the ground and in flight.
2. Buffeting may occur when door is in the open position.

49-15-01C	**APU AIR INTAKE DOOR ACTUATION SYSTEM (DOOR FULLY OPEN)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 1,800 lbs. 2. Increase BLOCK FUEL by 0.7%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 700 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 700 lbs.

49-15-01C	**APU AIR INTAKE DOOR ACTUATION SYSTEM (DOOR FULLY OPEN)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.7%.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

CONTINUED NEXT PAGE

49-15-01D

1. With the APU air intake door inoperative in the partially open position, the APU is inoperative.
2. Buffeting may occur when door is in the partially open position.

49-15-01D	**APU AIR INTAKE DOOR ACTUATION SYSTEM (DOOR IN ANY POSITION)**
EFFECTIVITY	**-300 CF6-80A2 (763)**
FLIGHT PLANNING REQUIREMENTS	1. Reduce ENROUTE LIMIT WT by 1,800 lbs. 2. Increase BLOCK FUEL by 0.7%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 600 lbs. 2. Reduce T/O CLIMB LIMIT by 600 lbs. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 700 lbs. 2. Reduce LANDING CLIMB LIMIT WT by 700 lbs.

49-15-01D	**APU AIR INTAKE DOOR ACTUATION SYSTEM (DOOR IN ANY POSITION)**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.7%.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

CONTINUED NEXT PAGE

(M) PROCEDURES

49-15-01A, 49-15-01B, 49-15-01C

If door positioning is required, manually position as follows:

1. Remove hydraulic power to left, right, and center systems (Ref AMM 29-11-00).
2. Select (P5 panel) APU master control switch to OFF.
3. Select (P61 panel) L, C, R FLT CONTROL SHUTOFF TAIL switches to OFF.
4. Select (P10 control stand panel) L and C STAB TRIM shutoff switches to CUTOUT and attach DO-NOT-OPERATE tags.
5. Open the following circuit breakers and attach DO-NOT-CLOSE tags:

    a. P11 panel, L-FLT CONT SHUTOFF TAIL (C1011)
    b. P11 panel, CTR-FLT CONT SHUTOFF TAIL (C1013)
    c. P11 panel, R-FLT CONT SHUTOFF TAIL (C1012)
    d. P11 panel, STAB TRIM SHUTOFF L (C1528)
    e. P11 panel, STAB TRIM SHUTOFF C (or CTR) (C1529)
    f. P11 panel, APU ALTN CONT (C1391)
    g. P49 panel on E6 rack, APU PRIME CONT (C1383)
    h. P49 panel on E6 rack, APU INLET DOOR ACT (or ACTR) (C1385)

6. Open lower service access door to gain access to actuator from inside the airplane.
7. Hand crank door actuator to position door, if required.

    a. Disconnect, cap, and stow inlet door actuator electrical connector (D502) (disables air intake door when INLET DOOR ACT circuit breaker is closed).
    b. Insert 1/4 inch square drive into manual/electrical selector shaft located on the lower end of the actuator. Push inward and rotate counterclockwise (about 90 degrees) until manual drive socket is exposed.

CAUTION: Do not over-torque manual drive. If resistance is felt, actuator damage may result.

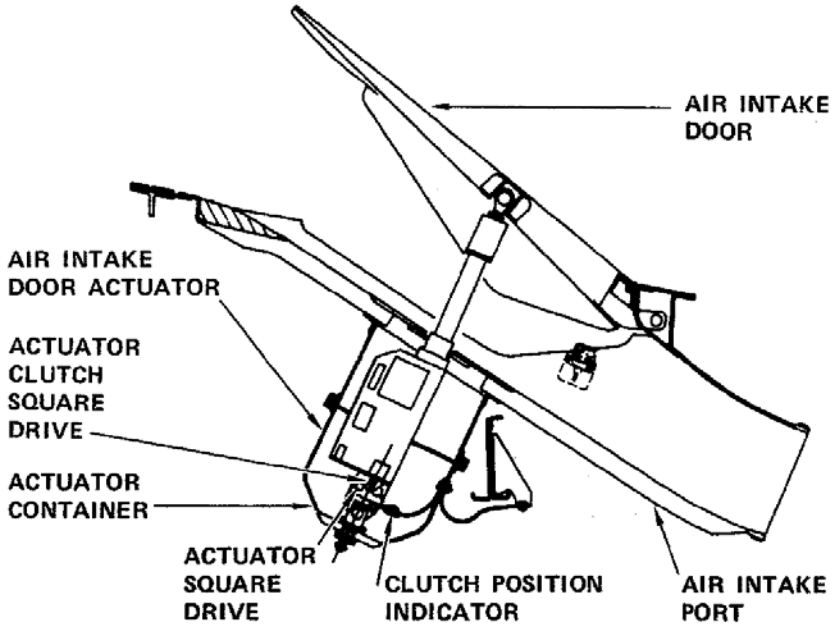
    c. For closed position, insert square drive into revealed socket and turn clockwise until air intake door is closed.
    d. For open position, insert square drive into revealed socket and turn counterclockwise until air intake door is open.
    e. Insert 1/4 inch square drive into manual/electrical selector shaft. Push inward and rotate clockwise (about 90 degrees) until manual drive socket is covered.

CONTINUED NEXT PAGE

8. Close lower access service door.
9. Remove tags and close circuit breakers:

    a. P11 panel, L-FLT CONT SHUTOFF TAIL (C1011)
    b. P11 panel, CTR-FLT CONT SHUTOFF TAIL (C1013)
    c. P11 panel, R-FLT CONT SHUTOFF TAIL (C1012)
    d. P11 panel , STAB TRIM SHUTOFF L (C1528)
    e. P11 panel , STAB TRIM SHUTOFF CENTER (C1529)
    f. P11 panel, APU ALTN CONT (C1391)
    g. P49 panel on E6 rack, APU PRIME CONT (C1383)
    h. P49 panel on E6 rack, INLET DOOR ACT (or ACTR) (C1385)

10. Place (P61 panel) L, C, and R FLT CONTROL SHUTOFF TAIL switches to ON.
11. Remove tags and select (P10 control stand panel) L and C STAB TRIM shutoff switches to NORM.



APU Air Intake Door and Actuator

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-61-01	APU External Control System	**Y**	1	0	**C**	May be inoperative and APU used, provided a qualified operator remains in vicinity of flight deck APU control.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-61-01	APU Start Switch	APU External Control System INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-70-01	APU FAULT Light	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-70-01	APU FAULT Light	APU FAULT Light INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-70-02	APU RUN Light	**Y**	1	0	**C**	**(O)** May be inoperative provided another acceptable means to verify APU condition is available and used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-70-02	APU RUN Light	APU RUN Light INOP

(O) PROCEDURES

APU STARTUP

Monitor APU RPM and EGT on EICAS, load APU when APU RPM is 95% or greater.

APU SHUTDOWN

1. Position APU VALVE switch to OFF. Check to see that APU VALVE light does not illuminate.
2. Wait 120 seconds for APU cool down.
3. Turn APU selector switch to OFF.
4. Wait 20 seconds, observe APU FAULT light momentarily illuminates to indicate APU fuel valve is in transit to closed.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-71-01	APU EGT Indication (EICAS)	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-71-01	Near Lower EICAS Display	APU EGT Indication INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-72-01	APU Time Totalizer (Hourmeter)	**Y**	1	0	**C**	**(M)** May be inoperative provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-72-01	APU Hourmeter	APU Hourmeter INOP

(M) PROCEDURES

No maintenance action or alternate procedures are required. Delta's APU Maintenance Program allows for inoperative APU Hourmeters provided repair is accomplished within the time limit specified in the MEL (ref. Repair Category above).

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-73-01	APU RPM Indication	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-73-01	Near Lower EICAS Display	APU RPM Indication INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
49-94-01A	APU OIL QTY Indication **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative provided APU is considered inoperative and is deferred per MEL 49-11-01A.
49-94-01B	APU OIL QTY Indication **"DISP.APPR.REQ'D."**	**Y**	1	0	**B**	Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided APU is considered inoperative, and is deferred per MEL 49-11-01B.
49-94-01C	APU OIL QTY Indication	**N**	1	0	**C**	**(M)** May be inoperative provided oil quantity is verified by visual inspection of sight glass oil level PRIOR TO EACH DEPARTURE. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
49-94-01A	Near Lower EICAS Display	APU OIL QTY Indication INOP
49-94-01B	Near Lower EICAS Display	APU OIL QTY Indication INOP
49-94-01C	Near Lower EICAS Display	APU OIL QTY Indication INOP

(M) PROCEDURES

49-94-01C

PRIOR TO EACH DEPARTURE, verify oil quantity.

1. Inspect the APU oil level sight glass.
2. Confirm the oil is at FULL level.

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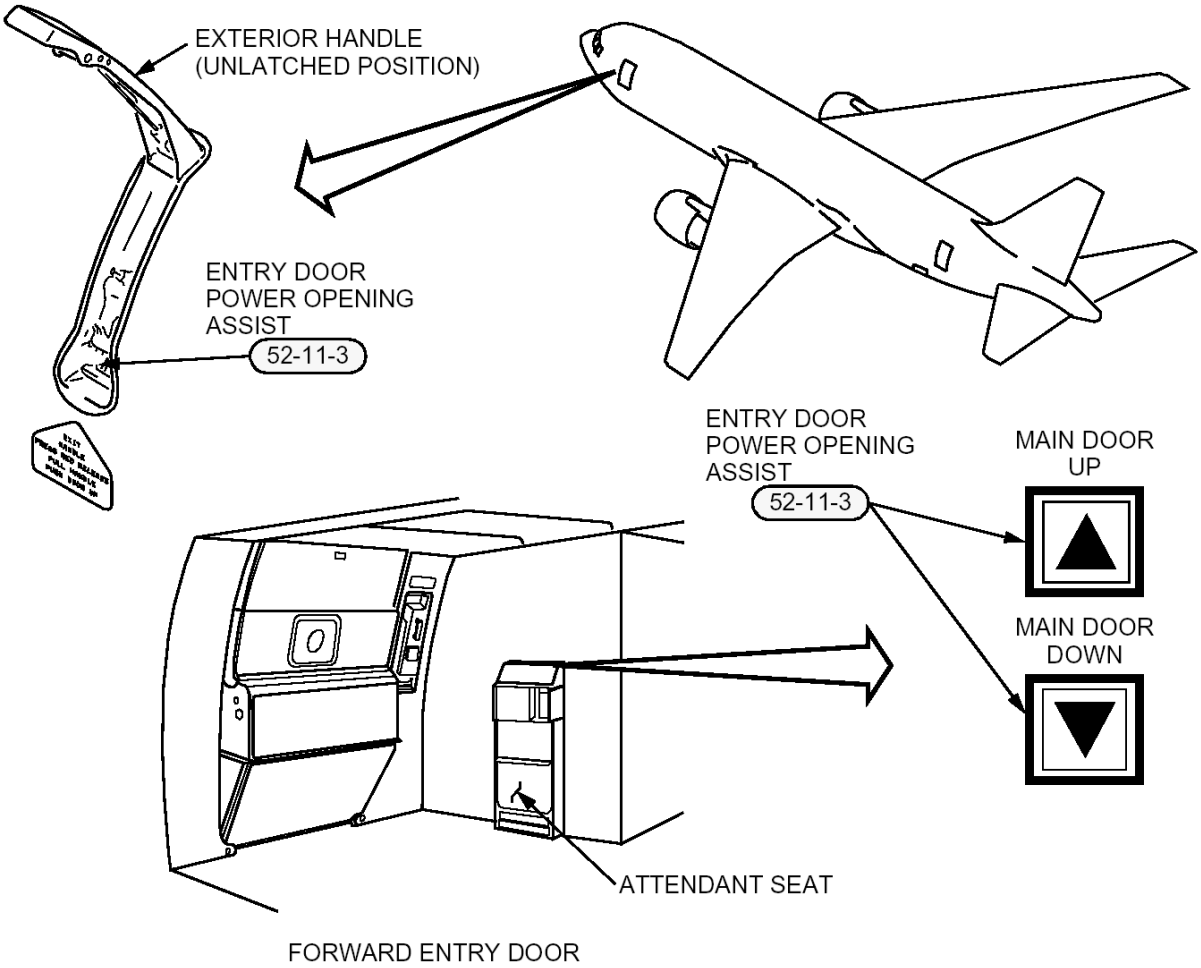
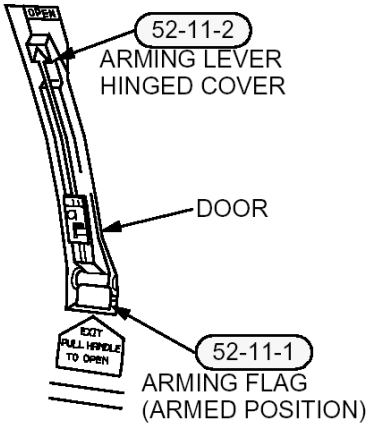
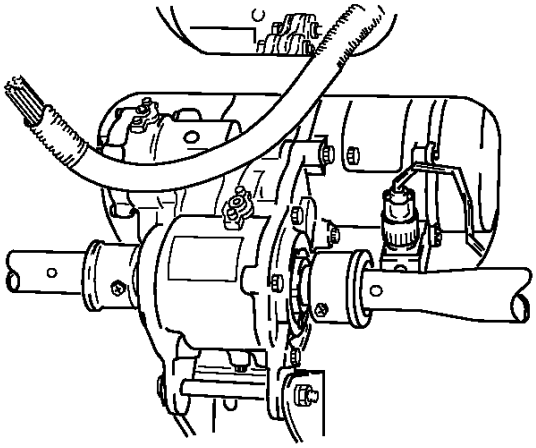


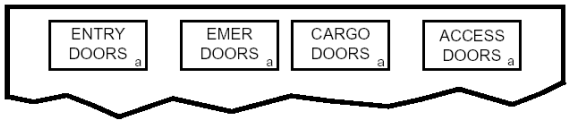
FORWARD ENTRY DOOR



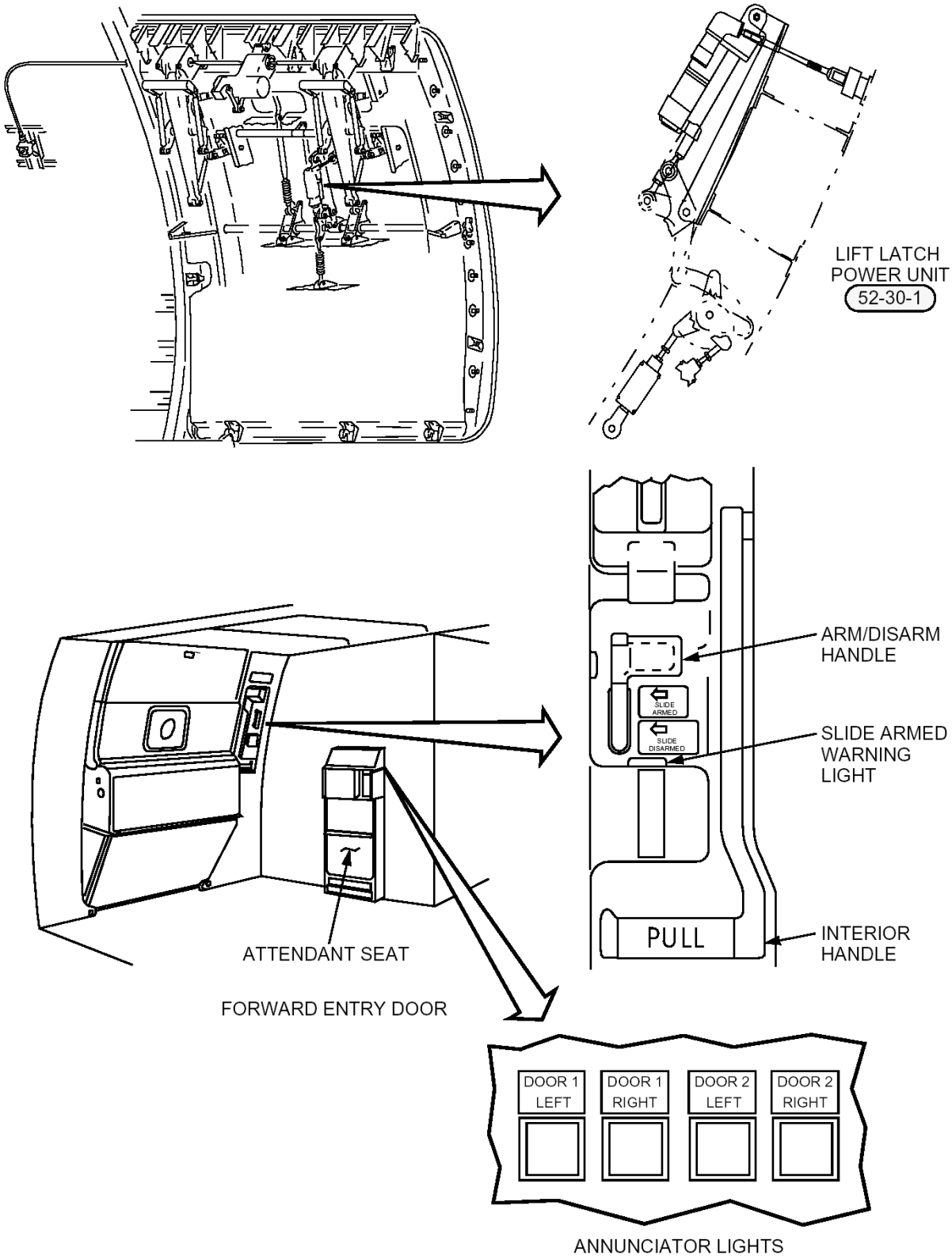


HINGE POWER UNIT

CARGO DOOR HINGE
POWER UNIT AND
MANUAL DRIVE
52-30-1



DOOR INDICATION SYSTEM
52-71-1



ENTRY/SERVICE DOOR SLIDE ARMED INDICATING SYSTEM

52-73-1

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			
52-11-01	Main Entry / Service Door Armed Indicators	Y: 4	0	C	**(M)** May be inoperative provided mode select mechanism is visually checked to be in "SLIDE ARMED" mode PRIOR TO EACH DEPARTURE and in "SLIDE DISARM" mode prior to a non-emergency opening. NOTE: This item covers both the EMERGENCY ONLY Arming Flag and the Slide Status Warning Light. **Repetitive Check Required (Yellow Placard)**

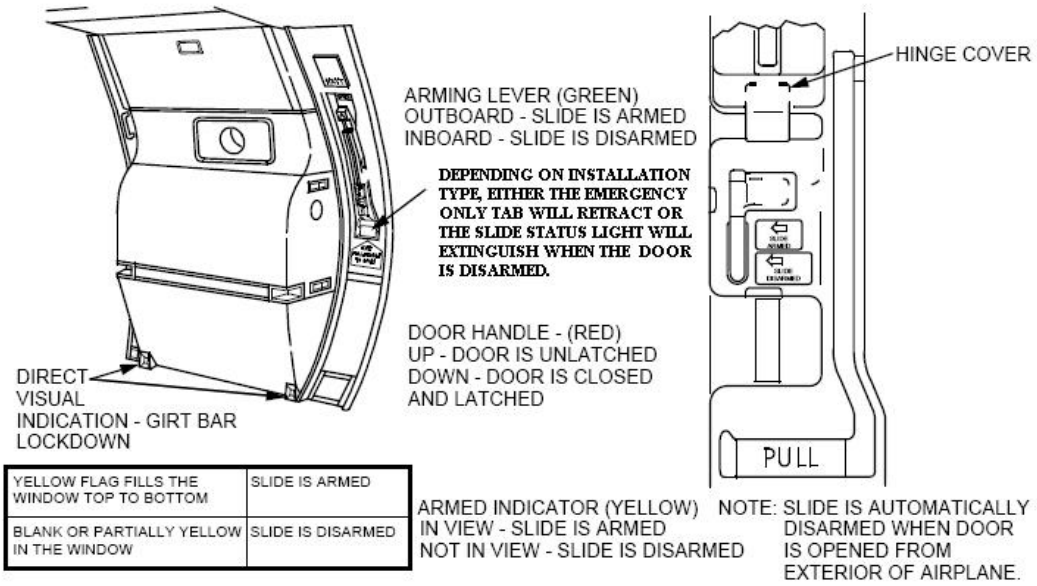
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-11-01	Overhead Annunciator Panel	___ Main Entry / Service Door EMERGENCY ONLY Armed Indicator(s) INOP

(M) PROCEDURES

Inform Flight Crew that "door no. __" requires a visual check of slide arm / disarmed condition. Check to see that door operates normally otherwise.

OPERATIONS NOTE

Slide arming / disarming can be verified by checking both the position of slide arming lever and visual indication of girt bar lock down. Door must be armed prior to departure from the blocks and not disarmed until block arrival.



		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-11-02	Main Entry / Service Door Arming Lever Hinged Covers	**Y**	-	0	**C**	May be damaged or missing.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-11-02	Overhead Annunciator Panel	___ Main Entry / Service Door Arming Lever Hinged Cover(s) INOP / Damaged / Missing

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-11-03	Entry Door Power Opening Assist	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-11-03	Entry Door Power Control Switch	Fwd Entry Door Power Opening Assist INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-11-04A Main Entry Doors / Slides / Emergency Exits **"DISP.APPR.REQ'D."**	**Y**	-	-	**A**	**(O)(M)** One may be inoperative or slide missing provided: a) All other main entry doors are fully operational, b) Affected door is not used for passenger loading, c) A conspicuous barrier strap or rope and a placard stating that door is inoperative shall be placed across inoperative door, d) Emergency exit sign and floor proximity lights associated with inoperative exit must be covered to obscure signs and lights, e) Passengers must be briefed not to use affected door, f) Passenger seats associated with inoperative door shall be blocked off with conspicuous tapes or ropes that contrast with interior prior to loading passengers. Only the seats in these areas shall be blocked; main passenger aisles, cross aisles, and exit areas must not be blocked, g) Conspicuous signs and placards shall be placed in appropriate locations indicating these seats are not to be occupied by passengers, h) Seated capacity must not exceed rated capacity of remaining pairs of exits, i) For extended range / overwater operations, occupancy shall not exceed normal rated capacity of slide / rafts, or remaining slide / rafts, or rated overload capacity of slide/rafts remaining after loss of one additional slide / raft of greatest capacity, whichever is least, j) Blocked seating layouts and evacuation procedures must be developed and approved by FAA certificate holding office for inclusion in operator's manual, and k) Repairs are made within one flight day. NOTE 1: Weight and balance manifest must be revised as necessary to ensure proper loading limits are observed. NOTE 2: Cabin attendants may be stationed in vicinity of each door within blocked area.

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NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-11-04B Main Entry Doors / Slides / Emergency Exits **"DISP.APPR.REQ'D."**	**Y**	-	1	**C**	**(O)(M)** May be inoperative or missing provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR for non-passenger carrying operations, c) A conspicuous barrier strap or rope and a placard stating that door is inoperative shall be placed across inoperative door, d) Emergency exit sign and floor proximity lights associated with inoperative exit must be covered to obscure sign and lights, e) Inoperative doors are not used for loading, f) Each person carried has unobstructed access from their seat to an operative door, g) Safety briefing includes location of inoperative doors and instructions not to use them, and h) Alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-11-04A	Overhead Annunciator Panel	___ Main Entry Door / Slide INOP / MISSING
52-11-04B	Overhead Annunciator Panel	___ Main Entry Door / Slide INOP / MISSING

(O) PROCEDURES

52-11-04A

Flight crew members and passengers must be briefed prior to takeoff and landing regarding exit that cannot be used for emergency evacuation.

NOTE: Information for Slide / Raft and Remote Raft capacity is located in the In-Flight Service On-board Manual Chapter 3, Emergency Procedures.

52-11-04B

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried.
2. Inoperative doors are **not** to be used for loading.
3. Captain will brief persons authorized to be carried on flight about safety and evacuation procedures.
4. Arming of the passenger entry doors using the mode select handles in the automatic position (red band) prior to taxi, takeoff and landing includes the inoperative doors with or without the escape slide removed.

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(M) PROCEDURES

52-11-04A

1. Close and latch the door normally (from exterior or interior).
2. Cycle the interior arming lever from disarm to armed and then back to disarm.
3. Verify that the associated door EICAS message is NOT present.

   NOTE: This operation will extend the exterior disarm lever to the flush position and will latch the exterior handle in the closed position.

4. Cover the emergency exit sign of the affected door so that it is not visible.
5. Cover or otherwise obscure the floor proximity escape path marking system lights unique to the inoperative door.
6. Block the inoperative door with a conspicuous barrier strap or rope.
7. Block unusable passenger seats with conspicuous tape or ropes.
8. Refer to ALM, Section 461, Slide / Raft Inoperative, for blocked seating layout.

52-11-04B

1. Block the inoperative doors with a conspicuous barrier strap or rope and placard as inoperative.
2. Cover the emergency exit signs unique to the inoperative doors.
3. Cover the floor proximity escape path marking system lights unique to the inoperative doors.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	LOWER CARGO DOORS					
52-30-01A	Cargo Door Lift / Latch Mechanism (Small Door)	**N**	-	-	**C**	Either manual or electric mode on each door may be inoperative.
52-30-01B	Cargo Door Lift / Latch Mechanism (Small Door)	**N**	-	0	**C**	**(M)** Manual and electric modes may be inoperative provided associated door is verified closed and locked PRIOR TO EACH DEPARTURE (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
52-30-01C	Cargo Door Hinge Power Units and Manual Hinge Drive Systems (Small Door)	**N**	-	-	**C**	Either manual or electric mode on each door may be inoperative.
52-30-01D	Cargo Door Hinge Power Units and Manual Hinge Drive Systems (Small Door)	**N**	-	0	**C**	**(M)** Manual and electric modes may be inoperative provided associated door is verified closed and locked PRIOR TO EACH DEPARTURE (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
52-30-01E	Cargo Door Hook / Latch System Electrical Function (Large Door)	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Manual function operates normally, b) There is no damage to hook-latch mechanism, c) There is no damage to latch/lock mechanism, d) Door is closed and locked using an accepted maintenance procedure, and e) All latch cams are visually confirmed to be in closed position, PRIOR TO EACH DEPARTURE (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
52-30-01F	Cargo Door Lift System (Large Door)	**N**	1	0	**C**	Either manual or electric mode may be inoperative.
52-30-01G	Cargo Door Lift System (Large Door)	**N**	1	0	**C**	**(M)** Manual and electric modes may be inoperative provided door is verified closed and locked PRIOR TO EACH DEPARTURE (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-30-01A	Overhead Annunciator Panel	___ Cargo Door Lift / Latch Mechanism(s) INOP
52-30-01B	Overhead Annunciator Panel	___ Cargo Door Lift / Latch Mechanism(s) INOP
52-30-01C	Overhead Annunciator Panel	___ Cargo Door Hinge Power Units / Manual Hinge Drive System(s)
52-30-01D	Overhead Annunciator Panel	___ Cargo Door Hinge Power Units / Manual Hinge Drive System(s)
52-30-01E	Overhead Annunciator Panel	Fwd Cargo Door Hook / Latch Electrical Function INOP
52-30-01F	Overhead Annunciator Panel	Fwd Cargo Door Lift System INOP
52-30-01G	Overhead Annunciator Panel	Fwd Cargo Door Lift System INOP

(M) PROCEDURES

NOTE: If only the electrical mode of either the lift/latch mechanism or the hinge power unit is inoperative, the manual mode can be used. (AMM 52-33-00/201, 52-34-00/201 or 52-35-00/201).

52-30-01B, 52-30-01D

PRIOR TO EACH DEPARTURE, verify the associated door is closed and locked.

1. Confirm no message pertaining to cargo doors is displayed.
2. Confirm the amber CARGO DOORS light on the flight deck overhead panel is extinguished.
3. Confirm the door is faired with the fuselage.
4. Confirm the vent doors are fully closed.
5. Confirm each vent door springs back to the fully closed position after being pushed open (inward at the top) approximately 3 inches and suddenly released.

52-30-01E

PRIOR TO EACH DEPARTURE, confirm the associated door is closed and locked.

1. Visually confirm no damage exists to the hook-latch and latch-lock systems.
2. Open and close the door manually (AMM 52-33-00/201).

52-30-01G

PRIOR TO EACH DEPARTURE, verify the associated door is closed and locked.

1. Confirm no message pertaining to cargo doors is displayed.
2. Confirm the amber CARGO DOORS light on the flight deck overhead panel is extinguished.
3. Confirm the door is faired with the fuselage.
4. Confirm the vent doors moved from open to fully closed during locking.
5. Confirm each vent door springs back to fully closed position after being pushed open (inward at the top) approximately 3 inches and suddenly released.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CARGO DOOR CONTROL PANEL INDICATING SYSTEM					
52-30-03A Cargo DOOR OPEN Light (Std Door)	**Y**	-	0	**C**	May be inoperative provided DOOR CLOSED light operates normally.
52-30-03B Cargo DOOR CLOSE Light (Std Door)	**N**	-	0	**C**	**(M)** May be inoperative provided: a) Door Indication System for associated door is verified to operate normally, and b) Door is visually verified closed, latched and locked PRIOR TO EACH DEPARTURE (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
52-30-03C Cargo DOOR OPEN and DOOR CLOSED Lights (Large Door)	**N**	2	0	**C**	**(M)** May be inoperative provided door is visually verified closed, latched, and locked, PRIOR TO EACH DEPARTURE (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-30-03A	Overhead Annunciator Panel	___ Cargo Door Open Light INOP
52-30-03B	Overhead Annunciator Panel	___ Cargo Door Close Light INOP
52-30-03C	Overhead Annunciator Panel	FWD Cargo Door ___ Light INOP

(M) PROCEDURES

52-30-03B

Verify the indication system for the associated door operates normally, and before each departure verify the associated door is closed, latched, and locked.

1. Confirm the indication system for the associated door operates normally:
   a. Close, latch and lock all cargo doors.
   b. Confirm no message pertaining to cargo doors is displayed.
   c. Confirm the amber CARGO DOORS light on the flight deck overhead panel is extinguished.
   d. Open (unlatch) the associated cargo door.
   e. Confirm the vent doors are fully open.
   f. Confirm the associated FWD CARGO DOOR or AFT CARGO DOOR message is displayed.
   g. Confirm the amber CARGO DOORS light on the flight deck overhead panel is illuminated.

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2. PRIOR TO EACH DEPARTURE, confirm the associated door is closed, latched and locked:

    a. Close the associated door.
    b. Confirm the door is faired with the fuselage.
    c. Confirm the vent doors are fully closed.
    d. Confirm no message pertaining to cargo doors is displayed.
    e. Confirm the amber CARGO DOORS light on the flight deck overhead panel is extinguished.

52-30-03C

Verify the associated door is closed, latched, and locked before each departure.

1. Confirm no message pertaining to cargo doors is displayed.
2. Confirm the amber CARGO DOORS light on the flight deck overhead panel is extinguished.
3. Confirm the door is faired with the fuselage.
4. Confirm the door is fully latched by viewing, through the door's viewport, the stripe on each latch cam is in the limits of the larger alignment mark on the adjacent latch pin fitting.
5. Confirm the vent doors moved from open to fully closed during locking.
6. Confirm the latch lock handle and associated release button are faired with the fuselage.

		NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION						REMARKS OR EXCEPTIONS
52-34-01	Cargo Door Stop Fitting Bearing Plates (Std Doors Only)	**N**	-	-	**C**	One on forward and aft side of each cargo door frame may be missing.	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-34-01	Overhead Annunciator Panel	___ Cargo Door Stop Fitting Bearing Plates INOP / Missing

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-35-01	Bulk Cargo Door Balance Mechanism **"DISP.APPR.REQ'D."**	**N**	1	0	**C**	**(M)** May be inoperative provided a safety hold open device is used when door is in open position.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-35-01	Overhead Annunciator Panel	Bulk Cargo Door Balance Mechanism INOP

(M) PROCEDURES

NOTE: The door weighs approximately 130 pounds.

1. Open Bulk Cargo Door to full open position.
2. There is an up lock strap on the cargo compartment ceiling to hold the door open if the counterbalance is inoperative. Engage the strap by looping it over the lower stop of the aft door frame.
3. Using suitable orange or yellow 3" tape, install placard near exterior door handle that states, CAUTION: DOOR COUNTERBALANCE INOP. USE UP-LOCK STRAP ON THE CARGO COMPARTMENT CEILING TO HOLD THE DOOR.

ITEM NO.	NAME / DESCRIPTION	FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	CREW REST DOORS					
52-50-02A	Main Cabin Crew Rest Entry Door **"DISP.APPR.REQ'D."**	**Y**	1	0	**C**	**(M)** The door may be inoperative provided: a) Crew Rest is not used and personal items are removed, and b) Crew Rest door is locked closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.
52-50-02B	Lower Lobe Flight Crew / Attendant Rest Main Entry Doors **"DISP.APPR.REQ'D."**	**Y**	4	0	**C**	**(M)** The Main Entry Door and/or the Main Entry Hatch may be inoperative provided: a) Associated Crew Rest is not used and personal items are removed, and b) Crew Rest door is secured closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.
52-50-02C	Lower Lobe Flight Crew / Attendant Rest Emergency Escape Hatch **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(M)** May be inoperative provided: a) Emergency Escape hatch is verified secured closed, b) Crew Rest is not used and personal items are removed, and c) Crew Rest door is locked closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisos are not intended to prohibit crew rest inspections by crewmembers. NOTE 2: Coordinate with OCC to determine if alternate crew rest accommodations are authorized for the intended flight. Contact ROC to block seats when appropriate.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-50-02A	Logbook	Main Cabin Crew Rest Door INOP
52-50-02B	Logbook	Lower Lobe ____ Rest Main Door/Hatch INOP
52-50-02C	Logbook	Lower Lobe Crew Rest Hatch Door INOP

(M) PROCEDURES

52-50-02A, 52-50-02B

1. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

2. Secure the associated crew rest entrance door closed.
3. Install placard INOPERATIVE – DO NOT ENTER.

52-50-02C

1. Verify that the Emergency Escape hatch is secured in the closed position.
2. Remove all personal items from the associated crew rest.

   NOTE: Blankets, pillows and other items normally used in the crew rest may remain.

3. Secure the associated crew rest entrance door closed.
4. Install placard INOPERATIVE – DO NOT ENTER.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	JAMCO FLIGHT DECK SECURITY DOOR					
52-51-05A	JAMCO Flight Deck Security Door Automatic Locking System	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Automatic locking system is deactivated, b) Mechanical Latch Pin Lock operates normally and is used to lock door, and c) Alternate procedures are used for locking and unlocking flight deck door using Mechanical Latch Pin Lock.
52-51-05B	Door Automatic Locking Solenoids	**N**	2	1	**C**	**(M)** May be inoperative provided remaining solenoid is verified to operate normally.
52-51-05C	Door Aural Warning System	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Door AUTO UNLK Light is verified to operate normally, and b) Alternate procedures are used.
52-51-05D	Door LOCK FAIL Light	**Y**	1	0	**C**	**(M)** May be inoperative off provided automatic lock controls are verified to operate normally.
52-51-05E	Door AUTO UNLK Light	**Y**	1	0	**C**	**(O)(M)** May be inoperative off provided: a) Automatic lock controls are verified to operate normally, b) Door aural warning system operates normally, and c) Alternate procedures are used.
52-51-05F	Door UNLK Switch Position	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Door can be opened manually from flight deck, b) Remaining automatic lock controls are verified to operate normally, and c) Alternate procedures are used.
52-51-05G	Cabin Entry Keypad	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
52-51-05H	Keypad Indicator Lights	**Y**	3	0	**C**	**(O)(M)** May be inoperative provided: a) Keypad is verified to operate normally, and b) Alternate procedures are used.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-51-05A	Cockpit Door Control Panel	Cockpit Door Automatic Locking System INOP
52-51-05B	Cockpit Door Control Panel	Cockpit Door Locking Solenoid INOP
52-51-05C	Cockpit Door Control Panel	Cockpit Door Aural Warning System INOP
52-51-05D	Cockpit Door Control Panel	Cockpit Door LOCK FAIL Light INOP
52-51-05E	Cockpit Door Control Panel	Cockpit Door AUTO UNLK Light INOP
52-51-05F	Cockpit Door Control Panel	Cockpit Door UNLK Switch Position INOP
52-51-05G	Cockpit Door Control Panel	Cabin Entry Keypad INOP
52-51-05H	Cockpit Door Control Panel	Cabin Entry Keypad Indicator Light(s) INOP

(O) PROCEDURES

52-51-05A, 52-51-05C, 52-51-05E, 52-51-05F, 52-51-05G

Refer to 767 QRH, Non-Normal Checklist, Doors, LOCK FAIL, for procedures to follow when flight deck security door automatic locking system is inoperative.

NOTE: The FAA has authorized the use of the Mechanical Latch Pin for MEL dispatch. Disregard “Latch Pin For Ground Use Only, Do Not Use During Flight” placard when dispatched under this MEL.

52-51-05H

During preflight briefing, advise the Flight Leader of the following procedures for inoperative keypad LEDs:

Red LED Inoperative – Cabin crew to communicate with flight crew via interphone to confirm cockpit door lock status as necessary.

Green LED Inoperative – Door is set to unlock 60 seconds after correct access code is entered on keypad. Use a watch to time the unlock sequence. Audible cues such as cockpit door unlock tone and mechanical sounds of door lock solenoid releasing will aid in determining when cockpit door is unlocked.

Amber LED Inoperative – Sixty seconds after correct access code is entered on keypad, the green LED will illuminate and the door will unlock.

(M) PROCEDURES

52-51-05A

Pull and secure two circuit breakers identified as FLT DECK DR PWR-1 on the P11-3 Overhead C/B panel and the FLT DECK DR PWR-2 on the P11-6 Overhead C/B panel.

52-51-05B

1. For primary solenoid inoperative, pull and secure FLT DECK DR PWR-1 C/B.
   a. Close flight deck door and verify door is locked.
2. For secondary solenoid inoperative, pull and secure FLT DECK DR PWR-2 C/B.
   a. Close flight deck door and verify door is locked.

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52-51-05C

1. Close and lock the flight deck door.
2. Have an assistant select the proper code on the keypad.
3. Verify the AUTO UNLK light illuminates.

52-51-05D

1. Close circuit breakers identified as FLT DECK DR PWR-1 on the P11-3 Overhead C/B panel and the FLT DECK DR PWR-2 on the P11-6 Overhead C/B panel.
2. Open FLT DECK DR PWR-1 C/B.
3. Close flight deck door and verify door is locked.
4. Close FLT DECK DR PWR-1 and open FLT DECK DR PWR-2 C/B.
5. Close flight deck door and verify door is locked.
6. Close FLT DECK DR PWR-2 C/B.
7. Select UNLK on cockpit door control panel located on P5 overhead panel.
8. Verify door unlocks.

52-51-05E

1. With flight deck door automatic locking system energized, close the flight deck door.
2. Select the UNLK positions on the rotary switch on the door lock controller panel on the P5 pilots overhead panel and verify the flight deck door unlocks.
3. Close and lock the flight deck door.
4. Have an assistant select the proper code on the keypad.
5. Verify the aural warning chime sounds intermittently with increasing volume for 60 seconds followed by a door unlock condition.

52-51-05F

1. Close circuit breakers identified as FLT DECK DR PWR-1 on the P11-3 Overhead C/B panel and the FLT DECK DR PWR-2 on the P11-6 Overhead C/B panel.
2. Open FLT DECK DR PWR-1 C/B.
3. Close flight deck door and verify door is locked.
4. Close FLT DECK DR PWR-1 and open FLT DECK DR PWR-2 C/B.
5. Close flight deck door and verify door is locked.
6. Close FLT DECK DR PWR-2 C/B.

52-51-05H

1. Close and lock the flight deck door.
2. Have an assistant select the proper code on the keypad.
3. Verify that door unlocks after a 60 second time delay.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-51-06	JAMCO Flight Deck Security Door Mechanical Latch Pin Lock	**Y**	1	0	**C**	**(M)** May be inoperative off provided automatic lock system is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-51-06	Cockpit Door Control Panel	Cockpit Door Mechanical Latch Pin INOP

(M) PROCEDURES

NOTE: If the Latch Pin is found to be damaged or inoperative it must **not** be used until it can be replaced. This is to prevent accidental locking of the flight deck door when flight deck is unoccupied.

1. Verify two circuit breakers identified as FLT DECK DR PWR-1 on the P11-3 Overhead C/B panel and the FLT DECK DR PWR-2 on the P11-6 Overhead C/B panel are closed.
2. Close flight deck door and verify door is locked.
3. Select UNLK on cockpit door control panel located on P5 overhead panel.
4. Verify door unlocks.
5. Close flight deck door.
6. Have an assistant select the proper code on the keypad.
7. Verify the following:

    a. The AUTO UNLK light illuminates
    b. The aural warning chime sounds intermittently with increasing volume for 60 seconds.
    c. Door unlocks after 60 second time delay.

8. Close flight deck door.
9. Have an assistant select the proper code on the keypad.
10. Prior to the end of the 60 second time delay, select DENY on the door control panel on P5 overhead panel.
11. Verify door unlock sequence terminates and door remains locked.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-71-01	Door Indication System	**N**	1	0	**C**	**(M)** May be inoperative provided associated door(s) is verified closed, latched and locked PRIOR TO EACH DEPARTURE (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-71-01	Overhead Annunciator Panel	___ Door Warning Light INOP

(M) PROCEDURES

Verify the affected door is closed, latched and locked PRIOR TO EACH DEPARTURE.

1. Entry / Service Doors:
    a. Disarm the slide using the interior arm/disarm lever.
    b. Open the door.
    c. Push the red exterior disarm lever to full the inboard position (disarm).
    d. Move the interior door handle to the closed position. The exterior door handle should then be flush with the skin, and the exterior red disarm lever should stay inboard.
    e. Cycle the interior arm/disarm lever from DISARM to ARM and then return to DISARM.
    f. Confirm the exterior door handle and red disarm lever are flush with the exterior skin.
    g. Move the interior door handle to the open position, then close the door and latch using the interior door handle.
    h. Arm the door slide using the interior arm/disarm lever.
    i. For door light illuminated or inoperative (extinguished):
        1) Confirm the primary latch (viewed through interior viewing port in upper door liner) is in its normally locked position, that is, the latch pin has crossed the guide fitting clevis.
        2) Confirm the yellow flags completely fill (from top to bottom) the floor lever girt bar lock down windows.

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For door light remains ON:

a) Fully close and latch the respective entry/service door providing nuisance indication.
b) Perform a sensor target test for the door closed sensor on the respective entry/service door (SSM 32-09-01).
c) For the applicable door closed sensor, check that the “Target Near” indicator illuminates on the PSEU BITE panel display.

Door	Sensor	Effectivity
Door L Fwd	Sensor # 194	All airplanes.
Door R Fwd	Sensor #196	All airplanes.
Door L Mid	Sensor #221	Airplanes with mid entry/service doors.
Door R Mid	Sensor #222	Airplanes with mid entry/service doors.
Door L Mid	Sensor #192	Airplanes with one escape hatch over each wing.
Door R Mid	Sensor #193	Airplanes with one escape hatch over each wing.
Door L Mid Fwd	Sensor #192	Airplanes with two escape hatches over each wing.
Door R Mid Fwd	Sensor #193	Airplanes with two escape hatches over each wing.
Door L Mid Aft	Sensor #216	Airplanes with two escape hatches over each wing.
Door R Mid Aft	Sensor #217	Airplanes with two escape hatches over each wing.
Door L Aft	Sensor #204	All airplanes.
Door R Aft	Sensor #206	All airplanes.

d) If the "Target Far" indicator illuminates with the applicable door fully closed and locked, the associated exterior emergency light(s) will be activated when the door is armed. The airplane may be dispatched in this condition provided the Exterior Emergency Lighting System (Battery Powered) is also deferred per MEL 33-51-02.

2. Emergency Exit Doors:

a. Inside cabin:

1) Confirm the operating handle is in the closed position.

b. Outside cabin:

1) Confirm the door is flush with the fuselage.
2) Confirm the door exterior handle and vent door are flush with the fuselage.
3) Confirm the gap between bottom of the door skin and the body skin is 0.25 inches or less.

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3. Off-wing Compartment Doors: For airplanes having integrators with unlatched and latch levers:

NOTE: Reference TOPP 40-30-05, Section IX, Appendix D. RII verification of Off-Wing Escape System Inflation Bottle Pin, Removed and Stowed is required when a task references the pin removal.

a. Disarm the inflation cylinder: Reference AMM 25-65-00-042-001, Items A. through F., Step (3) (a) through (d).
b. Open the integrator access door.
c. For integrators with secondary lock mechanism, remove pin A and rotate the secondary lock mechanism lever down out of the latch shaft slot.
d. Rotate the unlatch lever aft to unlatch the slide compartment door.
e. Manually push in the side compartment door (along the middle top edge) and rotate the unlatch lever forward to the stop pin. While manually holding in the door, rotate the latch lever forward to latch the door. The door should be pulled inboard to fair-to-skin by the latches. Rotate the latch lever aft to the former position.
f. For integrators with secondary lock mechanism, rotate the secondary lock mechanism lever up into the latch shaft slot and insert pin A. Confirm the shear pin is installed and intact.
g. Confirm the cross pin is fully forward in the housing slot.
h. Confirm the lifter has vertical free play (can be moved up from its rest position without raising locking pin B).
i. Confirm the latch lever is rotated aft against the aft stop.
j. Confirm locking pin B is fully down against the integrator piston, in the piston detent and blocking aft movement of the latch shaft.
k. Close the integrator access door.
l. Arm the inflation cylinder Reference AMM 25-65-00-442-010, Item G. Steps (11) and (12).

4. Off-wing Compartment Doors: For airplanes having integrators with lock handle:

NOTE: Reference TOPP 40-30-05, Section IX, Appendix D. RII verification of Off-Wing Escape System Inflation Bottle Pin, Removed and Stowed is required when a task references the pin removal.

a. Disarm the inflation cylinder: Reference AMM 25-65-00-042-001, Items A. through F., Step (3) (a) through (d).
b. Open the integrator access door.
c. Pull the integrator lock handle outboard (approximately 0.4 inches) to the unlock position. Insert a 1/4 drive wrench in the latch/unlatch cam and rotate the cam aft, driving the cross pin full aft in the slot to open the compartment door latch.
d. NOTE: A detent may be felt at the midpoint of the 0.4 inch travel of the lock handle between the locked and unlocked positions. Move the lock handle past the mid-travel detent, ensuring full 0.4 inch travel between the locked and unlocked positions.
e. Pull the lock handle further outboard to the safety position. Open the slide compartment door.
f. Push the lock handle inboard to the unlock position. Push in the slide compartment door manually and rotate the latch/unlatch cam driving the cross pin full forward in the slot. The slide compartment door should be pulled to skin by the latches.
g. Push the lock handle inboard (approximately 0.4 inches) to the locked position.
h. NOTE: A detent may be felt at the midpoint of the 0.4 inch travel of the lock handle between the locked and unlocked positions. Move the lock handle past the mid-travel detent, ensuring full 0.4 inch travel between the locked and unlocked positions.
i. Confirm the cross pin is fully forward in the slot.
j. Confirm the lock handle is pushed fully inboard to the locked position.
k. Close the integrator access door.
l. Arm the inflation cylinder Reference AMM 25-65-00-442-010, Item G. Steps (11) and (12).

CONTINUED NEXT PAGE

5. Standard (Small) Forward and Aft Cargo Doors:

   a. Confirm the door is faired with the fuselage.
   b. Confirm the vent doors are fully closed.
   c. Confirm the DOOR CLOSE light is illuminated on the exterior door control panel.

6. Large Forward and Aft Cargo Doors:

   a. Confirm the door faired with the fuselage.
   b. Confirm the vent doors moved from open to fully closed or open no more than 0.28 inch at the lower edge during locking.
   c. Look through 12 latch viewing windows on the external side of the cargo door and confirm the green alignment mark on the main latch cam is fully in limits of the larger green alignment mark on the main latch pin fitting.
   d. Confirm the latch lock handle and associated release button are faired with the fuselage.

7. Bulk Cargo Door:

   a. Confirm the door is faired with the fuselage.
   b. Confirm the latch handle is faired with the fuselage.
   c. Push on the door to confirm it is latched.

8. Over-wing Escape Hatch:

   a. Confirm the emergency pull handle is in the normal hatch closed position.
   b. For airplanes with maintenance handle, confirm the maintenance handle is in the normal hatch closed position.
   c. Confirm the hatch lining is flush with the cabin lining top to bottom.
   d. Push out at the top of the hatch. Confirm there is no looseness.

9. Forward Access Door or E/E Access Door:

   a. Confirm the door is faired with the fuselage.
   b. Confirm the door latch handle is faired with the door.
   c. Confirm the door does not open inward/upward when pushed upon by hand (confirm latch pin engagement).

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-73-01	Entry / Service Door Slide Armed Indicating Light System	**Y**	1	0	**C**	

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
52-73-01	FWD Entry Door Warning Panel	Entry / Service Door Slide Armed Light INOP

ATA 53 Contents

53-00-00V RVSM Status 53-2

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
53-00-00V	RVSM Status **"DISP.APPR.REQ'D."** Administrative Control Item	**N**	-	-		**(O)(M)** Authorized by MCC when: a) RVSM operations cannot be used, b) No specific MEL item applies, and c) The aircraft must remain at or below FL280. NOTE 1: Dispatch to remove flight plan equipment code “W”. NOTE 2: This Item Number is only used for deferring the RVSM status of the aircraft and MCC authorization is required prior to its usage or removal. <u>RVSM Operations</u> Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
53-00-00V	Adjacent to each PFD.	RVSM OPERATIONS NOT AUTHORIZED

(O) PROCEDURES

1. RVSM operations – Not Authorized.
2. Limit altitude to FL280 or below.

(M) PROCEDURES

1. The AMT will be instructed by MCC to create a new log page in the aircraft logbook using the appropriate MEL Item Number.
2. The deferral code VSM must also be entered on the log page and the placard when deferring this item.
3. MCC authorization is required prior to its usage or removal.

ATA 56 Contents

56-31-01 Entry / Service Door Viewport Heated Pane(s) 56-2

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
56-31-01	Entry / Service Door Viewport Heated Pane(s) **"Contact MCC"**	**Y**	4	0	**B**	**(M)** May be inoperative provided heated panes are deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
56-31-01	Overhead Annunciator Panel	Entry / Service Door Viewport Heat INOP

(M) PROCEDURES

Pull and secure the 11U32, DOOR WINDOW HEATER circuit breaker.

ATA 73 Contents

	ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS	73-3
73-21-01A	EEC	73-3
73-21-01C	EEC NORM Mode	73-3
73-21-01E	EEC C1 Faults	73-3
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	ELECTRONIC ENGINE CONTROL (EEC) INOP/NORM/ALTN LIGHTS	73-8
73-21-02A	EEC INOP Lights)	73-8
73-21-02C	EEC NORM / ALTN Lights	73-8
73-21-03A	Fuel Control ENG VALVE Lights	73-10
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73-21-08A	Minimum Ground Idle	73-11
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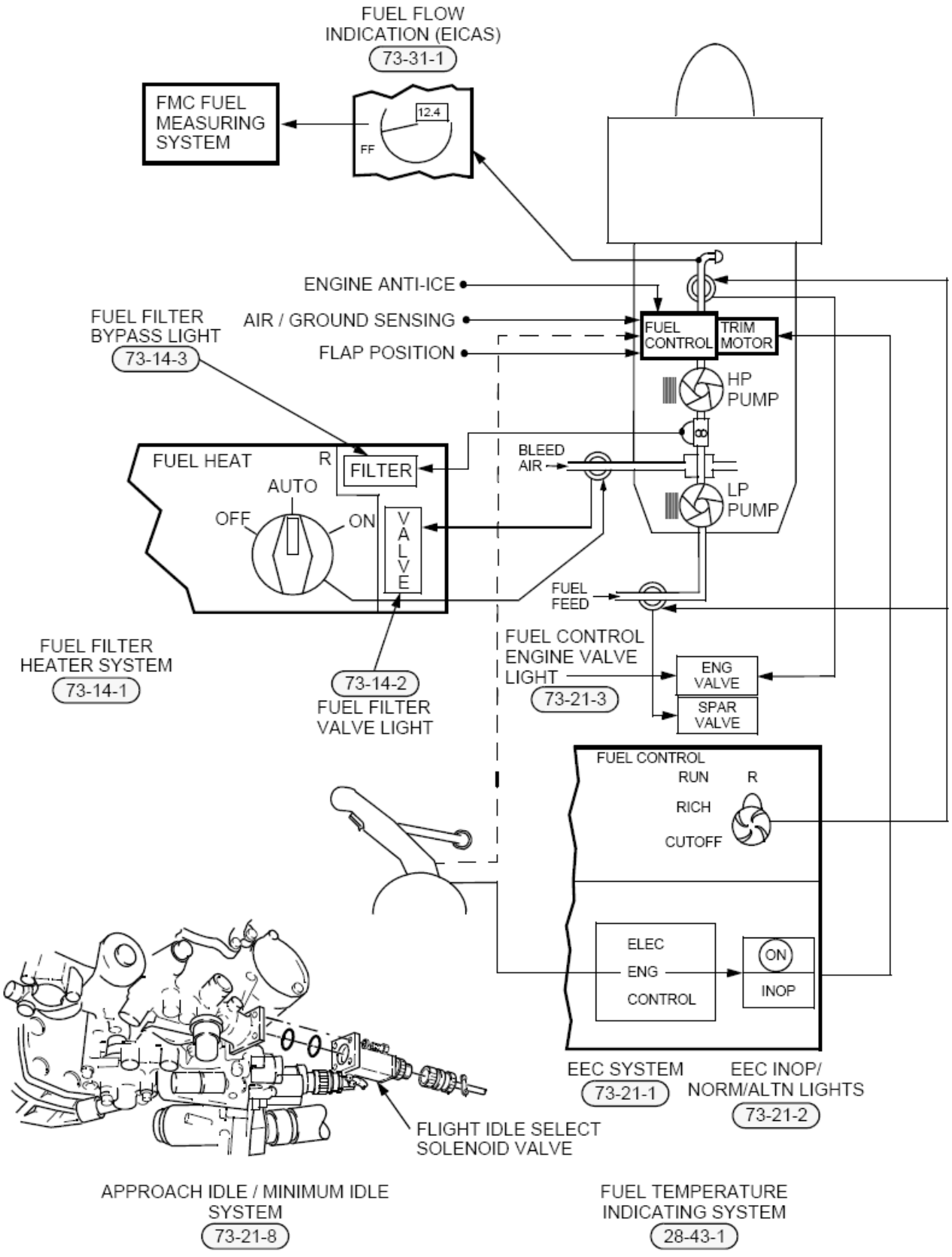
FUEL FLOW INDICATION (EICAS)
73-31-1
FMC FUEL MEASURING SYSTEM
12.4
FF
ENGINE ANTI-ICE
AIR / GROUND SENSING
FLAP POSITION
FUEL FILTER BYPASS LIGHT
73-14-3
FUEL CONTROL
TRIM MOTOR
HP PUMP
LP PUMP
BLEED AIR
FUEL HEAT
R
FILTER
AUTO
OFF
ON
VALVE
FUEL FEED
FUEL FILTER HEATER SYSTEM
73-14-1
73-14-2
FUEL FILTER VALVE LIGHT
FUEL CONTROL ENGINE VALVE LIGHT
73-21-3
ENG VALVE
SPAR VALVE
FUEL CONTROL
RUN
R
RICH
CUTOFF
ELEC
ENG
CONTROL
ON
INOP
EEC SYSTEM
73-21-1
EEC INOP/ NORM/ALTN LIGHTS
73-21-2
FLIGHT IDLE SELECT SOLENOID VALVE
APPROACH IDLE / MINIMUM IDLE SYSTEM
73-21-8
FUEL TEMPERATURE INDICATING SYSTEM
28-43-1

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS					
73-21-01A	EEC (CF6-80A2) (CF6-80C2 non FADEC) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** Except for ER operations, may be inoperative provided both EECs are OFF.
73-21-01B	EEC (CF6-80C2 non FADEC) **"DISP.APPR.REQ'D."**	**Y**	2	0	**A**	**(O)** May be inoperative provided: a) Both EECs are OFF, and b) Repairs are made within 3 flight days.
73-21-01C	EEC NORM Mode (PW4000) **"DISP.APPR.REQ'D."**	**Y**	2	1	**C**	**(O)** May be inoperative provided: a) Both engines are operated in alternate (ALTN) mode, b) Appropriate procedures, limitations and performance corrections are applied, and c) Approach procedures do not require its use. CAT II/III Not Authorized
73-21-01D	EEC NORM Mode (CF6-80C2 FADEC)	**Y**	2	0	**C**	**(O)** May be inoperative provided both engines are operated in alternate (ALTN) mode.
73-21-01E	EEC C1 Faults (PW4000)	**Y**	-	-	**A**	May be dispatched with C1 faults provided repairs are made in 20 days established by PWA engine Type Certificate Data Sheet number E24NE note 19.
73-21-01F	EEC C1 Faults (CF6-80C2 FADEC) **"Contact MCC"**	**N**	-	-	**A**	**(M)** May be dispatched with EEC C1 faults provided repairs are made within the time limits specified in Table 1 on page 73-7.
73-21-01G	EEC C2 Faults (All PW4000) **"Contact MCC"**	**Y**	-	-	**A**	May be dispatched with EEC C2 Faults provided repairs are made within 1,000 operating hours.
73-21-01H	EEC C2 Faults (CF6-80C2 FADEC) (Single Channel 353-14) **"Contact MCC"**	**N**	-	-	**A**	**(M)** May be dispatched with EEC C2 Faults provided repairs are made within the time limits specified in Table 1 on page 73-7.
73-21-01I	EEC C2 Faults (CF6-80C2 FADEC) (All Except Single Channel 353-14) **"Contact MCC"**	**N**	-	-	**A**	**(M)** May be dispatched with EEC C2 Faults provided repairs are made within the time limits specified in Table 1 on page 73-7.

NOTE 1: If L ENG CONTROL or R ENG CONTROL EICAS msg is displayed, dispatch is NOT allowed.

NOTE 2: PW4000 and GE FADEC may be dispatched with status message L (R) ENG EEC C1 displayed on one or two engines.

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MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
73-21-01A	Associated EEC Switch	___ EEC INOP
73-21-01B	Associated EEC Switch	___ EEC INOP
73-21-01C	Associated EEC Switch	___ EEC NORM Mode INOP
73-21-01D	Associated EEC Switch	___ EEC NORM Mode INOP
73-21-01E	Associated EEC Switch	___ EEC C1 Faults Displayed
73-21-01F	Associated EEC Switch	___ EEC C1 Faults Displayed
73-21-01G	Associated EEC Switch	___ EEC C2 Faults Displayed
73-21-01H	Associated EEC Switch	___ EEC C2 Faults Displayed
73-21-01I	Associated EEC Switch	___ EEC C2 Faults Displayed

(O) PROCEDURES

73-21-01A, 73-21-01B

1. Set both ELEC ENG CONT switches to OFF.
2. There will be no command sector N1.
3. Do NOT use Autothrottles for Takeoff with both EECs off. Autothrottles may be used for all other phases of flight including go-around.
4. Set thrust manually and observe thrust limits.
5. As thrust levers are advanced to full power, EEC OFF EICAS caution message will appear and caution aural will sound.
6. Do not operate from runways shorter than 5000 ft.
7. For CF6-80A2 Engines ONLY, refer to B767 ODM, Abnormal section, MEL Related Items, "V_1 Min for EEC OFF" for V speeds and thrust settings.
8. Input Takeoff data into FMS CDU Takeoff Reference page data or Set the Thrust Mode Panel.
   a. N1 will be 3-5% higher than for EEC operative.
   b. Observe EGT and N1 for possible overtemps and overboosts with EEC inoperative.
9. The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:
   a. Immediately Prior to Pushback:

      Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

   b. Before Takeoff:

      For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

CONTINUED NEXT PAGE

73-21-01C

1. Set both ELEC ENG CONT switches to ALTN.

CAUTION: Advancing thrust levers fully forward may result in engine overboost or overtemp.

2. Autothrottle is not available.
3. Thrust setting at takeoff is accomplished by manually setting thrust on engine with EPR available, then matching the N1 value for the non-EPR engine to the resulting N1 from the engine with EPR available.
4. Refer to B767 ODM, Abnormal section, MEL SUPPORT, "V_1 ADJUSTMENT - EEC ALT MODE" for V speeds and thrust settings.
5. Associated EPR, if displayed, may be unreliable.
6. The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:

   a. Immediately Prior to Pushback:

      Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

   b. Before Takeoff:

      For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

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73-21-01C	**EEC NORM MODE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. For STD + 10°C and below, reduce ENROUTE LIMIT WT by 54,000 lbs. 2. For up to STD + 20°C and below, reduce ENROUTE LIMIT WT by 56,000 lbs. 3. Increase BLOCK FUEL by 1.5%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	1. Performance weight corrections have been applied. 2. Refer to the ODM – Abnormal section for V-speeds and thrust settings.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF – Temperature 59°F and below** 1. Reduce RATOW by 44,500 lbs. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. **TAKEOFF – Temperature 60°F to 80°F** 1. Reduce RATOW by 44,500 lbs. plus 980 lbs. per °F above 59°F. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. plus 890 lbs. per °F above 59°F. **TAKEOFF – Temperature 81°F to 91°F** 1. Reduce RATOW by 65,000 lbs. plus 670 lbs. per °F above 80°F. 2. Reduce T/O CLIMB LIMIT by 62,500 lbs. plus 875 lbs. per °F above 80°F. **TAKEOFF – Temperature 92°F and above** 1. Reduce RATOW by 73,000 lbs. 2. Reduce T/O CLIMB LIMIT by 73,000 lbs. **LANDING – Temperature 56°F and below** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. **LANDING – Temperature 57°F to 80°F** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. plus 1,000 lbs. per °F above 56°F. **LANDING – Temperature 81°F to 91°F** Reduce LANDING CLIMB LIMIT WT by 64,000 lbs. plus 750 lbs. per °F above 80°F. **LANDING – Temperature 92°F and above** Reduce LANDING CLIMB LIMIT WT by 73,000 lbs. **OTHER CORRECTIONS** Refer to the ODM – Abnormal section for V-speeds and thrust settings.

CONTINUED NEXT PAGE

73-21-01D

1. Set both ELEC ENG CONT switches to ALTN.

CAUTION: Advancing thrust levers fully forward may result in engine overboost or overtemp.

2. Autothrottle may be used.

(M) PROCEDURES

73-21-01F, 73-21-01H, 73-21-01I

Interrogate PIMU to determine actual C1/C2 fault and refer to table below:

Table 1

Type Fault	**Repair Limit**	
EEC C1 Faults	300 operating hours	NOTE: EEC C1 fault repair limits established by CF6-80C2 Engine Manual GEK 92451, Task 05-51-73-200-801.
EEC C2 Faults	500 operating hours	
Single channel 353-14 Fault ❶	300 operating hours	
Dual channel 353-14 Fault ❷	NO DISPATCH	

❶ PIMU Message –FMV Feedback. A single channel 353-14 shows up as a C2 fault, however it is to be treated as shown in table.
❷ Dual channel 353-14 will generate a ENG CONTROL message.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ELECTRONIC ENGINE CONTROL (EEC) INOP/NORM/ALTN LIGHTS					
73-21-02A EEC INOP Lights (CF6-80A2) (CF6-80C2 non FADEC) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative provided both EECs are OFF.
73-21-02B EEC INOP Lights (CF6-80C2 non FADEC) **"DISP.APPR.REQ'D."**	**Y**	2	0	**A**	**(O)** For ER operations (ETOPS), may be inoperative provided: a) Both EECs are OFF, and b) Repairs are made within three flight days.
73-21-02C EEC NORM / ALTN Lights (PW4000) **"DISP.APP.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) Both EECs are operated in alternate (ALTN) mode, b) Appropriate procedures, limitations and performance corrections are applied, and c) Approach procedures do not require its use. <u>CAT II/III</u> Not Authorized
73-21-02D EEC NORM / ALTN Lights (CF6-80C2 FADEC) **"DISP.APP.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided both EECs are switched to alternate (ALTN) mode.

NOTE: If L ENG CONTROL or R ENG CONTROL EICAS msg is displayed, dispatch is NOT allowed.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
73-21-02A	Affected EEC INOP Light(s)	___ EEC INOP Light(s) INOP
73-21-02B	Affected EEC INOP Light(s)	___ EEC INOP Light(s) INOP
73-21-02C	Affected EEC NORM / ALTN Light(s)	___ EEC NORM / ALTN Light(s) INOP
73-21-02D	Affected EEC NORM / ALTN Light(s)	___ EEC NORM / ALTN Light(s) INOP

(O) PROCEDURES

73-21-02A, 73-21-02B

Use MEL 73-21-01 (O) procedures for the appropriate engine type.

CONTINUED NEXT PAGE

73-21-02C

Use MEL 73-21-01 (O) procedures (excluding performance corrections) for the appropriate engine type. Apply the following performance corrections in lieu of the performance corrections located in 73-21-01.

73-21-02C	**EEC NORM / ALTN LIGHTS**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. For STD + 10°C and below, reduce ENROUTE LIMIT WT by 54,000 lbs. 2. For up to STD + 20°C and below, reduce ENROUTE LIMIT WT by 56,000 lbs. 3. Increase BLOCK FUEL by 1.5%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	1. Performance weight corrections have been applied. 2. Refer to the ODM – Abnormal section for V-speeds and thrust settings.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF – Temperature 59°F and below** 1. Reduce RATOW by 44,500 lbs. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. **TAKEOFF – Temperature 60°F to 80°F** 1. Reduce RATOW by 44,500 lbs. plus 980 lbs. per °F above 59°F. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. plus 890 lbs. per °F above 59°F. **TAKEOFF – Temperature 81°F to 91°F** 1. Reduce RATOW by 65,000 lbs. plus 670 lbs. per °F above 80°F. 2. Reduce T/O CLIMB LIMIT by 62,500 lbs. plus 875 lbs. per °F above 80°F. **TAKEOFF – Temperature 92°F and above** 1. Reduce RATOW by 73,000 lbs. 2. Reduce T/O CLIMB LIMIT by 73,000 lbs. **LANDING – Temperature 56°F and below** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. **LANDING – Temperature 57°F to 80°F** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. plus 1,000 lbs. per °F above 56°F. **LANDING – Temperature 81°F to 91°F** Reduce LANDING CLIMB LIMIT WT by 64,000 lbs. plus 750 lbs. per °F above 80°F. **LANDING – Temperature 92°F and above** Reduce LANDING CLIMB LIMIT WT by 73,000 lbs. **OTHER CORRECTIONS** Refer to the ODM – Abnormal section for V-speeds and thrust settings.

73-21-02D

Use MEL 73-21-01 (O) procedures for the appropriate engine type.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-21-03A	Fuel Control ENG VALVE Lights	**Y**	2	0	**C**	**(M)** May be inoperative provided associated engine fuel valve is verified to operate normally.
73-21-03B	Fuel Control ENG FUEL VAL Indication System (GE FADEC & PW4000)	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated engine valve is verified to operate normally, and b) Associated EICAS message is deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
73-21-03A	Affected ENG VALVE Light(s)	___ Fuel Control ENG VALVE Light(s) INOP
73-21-03B	Associated ENG FUEL VAL Light	___ Fuel Control ENG FUEL VAL Light INOP

(O) PROCEDURES

73-21-03B

Start the affected engine using normal start procedures.

NOTE: If engine fuel valve fails in the open position, engine may continue to run for approximately 1 minute after the fuel control switch is positioned to CUT OFF. Notify maintenance if this occurs.

(M) PROCEDURES

73-21-03A

1. With the affected engine running, pull the SPAR FUEL VALVE circuit breaker (P6 panel).
2. Place FUEL CONTROL switch in the CUTOFF position.
3. If the engine stops running the valve is operating properly.
4. Reset SPAR FUEL VALVE circuit breaker.

73-21-03B

1. With the affected engine running, pull the SPAR FUEL VALVE circuit breaker (P6 panel).
2. Place FUEL CONTROL switch in the CUTOFF position.
3. If the engine stops running the valve is operating properly.
4. Reset SPAR FUEL VALVE circuit breaker.
5. Open right fan cowl and right thrust reverser half on affected engine. For PW, also open the left fan cowl and left thrust reverser half on the affected engine.
6. For GE FADEC, perform one of the following:
   a. Disconnect, cap and stow the D13304 connector from the associated hydro-mechanical control unit (HMU).
   OR
   b. Disconnect ground wire W5324-010-20 from grounding stud GD5955DC, located on upper forward right side of engine. Reinstall unaffected wires on grounding stud and secure with a new locknut.
7. For PW4000, disconnect ground wire W3506-457R-16 from grounding stud GD6595DC, located on upper forward left side of engine. Reinstall unaffected wires on grounding stud and secure with a new locknut.
8. Install protective closure on disconnected wire/ground lug, using heat-resistant tape or shrink sleeve. Secure protected wire as appropriate.
9. Close thrust reverser and fan cowl(s).

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
MINIMUM GROUND IDLE SYSTEMS						
73-21-08A	Minimum Ground Idle (CF6-80A2 and CF6-80C2 non-FADEC) **"DISP.APPR.REQ'D."**	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) Flight idle operates normally, and b) Appropriate performance adjustments are applied.
73-21-08B	Minimum Ground Idle (PW 4000 and CF6-80C2 FADEC) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Flap actuated approach idle is verified to operate normally, and b) Appropriate performance adjustments are applied.
73-21-08C	Continuous Ignition Actuated Approach Idle (PW 4000 and CF6-80C2 FADEC) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided flap actuated approach idle is verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
73-21-08A	Near Associated EEC Switch(es)	___ Minimum Ground Idle INOP
73-21-08B	Near Associated EEC Switch(es)	___ Minimum Ground Idle INOP
73-21-08C	Near Associated Start Switch(es)	___ Continuous Ignition Actuated Approach Idle INOP

(O) PROCEDURES

73-21-08A

73-21-08A	**MINIMUM GROUND IDLE**
EFFECTIVITY	**-300 CF6-80A2 (763)** **-3P6ER CF6-80C2 (NON-FADEC) (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 3,100 lbs. 2. Reduce T/O CLIMB LIMIT by 3,100 lbs. **LANDING** Reduce RWY ALLOWABLE LANDING WT by 3,100 lbs.

CONTINUED NEXT PAGE

73-21-08B

73-21-08B	**MINIMUM GROUND IDLE**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (FADEC) (76G)**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 3,100 lbs. 2. Reduce T/O CLIMB LIMIT by 3,100 lbs. **LANDING** Reduce RWY ALLOWABLE LANDING WT by 3,100 lbs.

73-21-08C

Flights should be conducted to avoid thunderstorm activity by over flight or circumnavigation. To the maximum extent possible, heavy rain or hail should also be avoided. Weather radar, pilot reports, and flight crew observations may be used by the flight crew to determine when heavy rain or hail is anticipated. Should flight in heavy rain or hail be encountered or anticipated, accomplish the following procedure:

GE CF6-80C2 FADEC ENGINES

Condition: Heavy rain or hail encountered or anticipated.

ENGINE START SELECTORS.....CONT

(Provides flameout protection)

If TAT is 10 degrees C or below:

ANTI-ICE SWITCHES.....ON

(Maintains a minimum thrust setting of approach idle).

If TAT is above 10 degrees C:

AUTOTHROTTLES (If engaged).....DISENGAGE

(Prevents autothrottle reduction below desired setting during descent. Autothrottle may remain engaged during takeoff, climb, and cruise).

THRUST LEVERS.....SET

Set a minimum of 50% N1 at or above 10,000 ft., 45% N1 below 10,000 ft. except for landing.

NOTE: In heavy precipitation engine parameter fluctuations may occur, particularly, a noticeable drop in EGT. Engine parameters will return to normal immediately upon leaving the area of heavy precipitation.

CONTINUED NEXT PAGE

PW4000 ENGINES

Condition: Heavy rain or hail encountered or anticipated.

ANTI-ICE SWITCHES.....ON

(Maintains a minimum thrust setting of approach idle and provides continuous ignition).

If TAT is above 10 degrees C

ENGINE START SELECTORS.....CONT

(Provides flameout protection)

AUTOTHROTTLES (If engaged).....DISENGAGE

(Prevents autothrottle reduction below desired setting during descent. Autothrottle may remain engaged during takeoff, climb, and cruise).

THRUST LEVERS.....SET

Set a minimum of 50% N1 at or above 10,000 ft., 45% N1 below 10,000 ft. except for landing

NOTE: In heavy precipitation engine parameter fluctuations may occur, particularly, a noticeable drop in EGT. Engine parameters will return to normal immediately upon leaving the area of heavy precipitation.

(M) PROCEDURES

73-21-08B

Verify flap actuated approach idle operates normally.

1. Confirm the flaps are stowed.
2. Set both ENGINE ANTI-ICE switches to OFF.
3. Set both ENGINE START selectors to OFF.
4. Start the engines normally.
5. Record the following minimum idle data from the EICAS secondary performance page after the engines have stabilized:
    a. For PW4000:
        1) Engine 1 N2
        2) Engine 1 BURN PR
        3) Engine 2 N2
        4) Engine 2 BURN PR
    b. For CF6 FADEC:
        1) Engine 1 N2
        2) Engine 1 PS3
        3) Engine 2 N2
        4) Engine 2 PS3
6. For PW4000:
    a. Compare the recorded minimum idle data for each engine to the minimum idle N2 target values in the Trim Check Table (AMM 71-01-02/201).
        1) For minimum idle data N2 that matches the targeted value (+/- tolerance), minimum idle operates normally.
        2) For minimum idle data N2 that does not match the targeted value (+/- tolerance), compare the above minimum idle data BURN PR to the minimum idle burner pressure target values in the Trim Check Table.
        3) For minimum idle data BURN PR that matches the targeted value (+/- tolerance), minimum idle operates normally.

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7. For CF6 FADEC:

   a. Compare the recorded minimum idle data for each engine to the minimum idle N2 target values in the Trim Check Table (AMM 71-01-02/201).

      1) For minimum idle data N2 that matches the targeted value (+/- tolerance), minimum idle operates normally.
      2) For minimum idle data N2 that does not match the targeted value (+/- tolerance), compare the above minimum idle data PS3 (PSIA) to the compressor discharge static pressure target values in the Trim Check Table.
      3) For minimum idle data PS3 (PSIA) that matches the targeted value (+/- tolerance), minimum idle operates normally.

8. Open the following P11 panel circuit breakers:

   a. GR POS AIR/GND SYS 2 ALT
   b. LDG GR POS AIR/GND SYS 2
   c. AIR/GRD SYS 1

9. Set the flaps to the 30 degree position.
10. Record the following approach idle data from the EICAS secondary performance page after the engines have stabilized.

    a. Engine 1 N2
    b. Engine 2 N2

11. Compare the recorded approach idle data for each engine to the approach idle N2 target values in the Trim Check Table (AMM 71-01-02/201).

    a. For approach idle data N2 that matches the targeted value (+/- tolerance), flap actuated approach idle operates normally.

12. Set the flaps to the stowed position.
13. Close the open circuit breakers.

73-21-08C

Verify flap actuated approach idle operates normally.

1. Confirm the flaps are stowed.
2. Set both ENGINE ANTI-ICE switches to OFF.
3. Set both ENGINE START selectors to OFF.
4. Start the engines normally.
5. Open the following P11 panel circuit breakers:

   a. GR POS AIR/GND SYS 2 ALT
   b. LDG GR POS AIR/GND SYS 2
   c. AIR/GRD SYS 1

6. Set the flaps to the 30 degree position.
7. Record the following approach Idle data from the EICAS secondary performance page after the engines have stabilized.

   a. Engine 1 N2
   b. Engine 2 N2

8. Compare the recorded approach idle data for each engine to the approach idle N2 target values in the Trim Check Table (AMM 71-01-02/201).

   a. For approach idle data N2 that matches the targeted value (+/- tolerance), flap actuated approach idle operates normally.

CONTINUED NEXT PAGE

9. Set the flaps to the stowed position.
10. Set both ENGINE START selectors to CONT.
11. Record the following continuous ignition actuated approach idle data from the EICAS secondary performance page after the engines have stabilized.
    a. Engine 1 N2
    b. Engine 2 N2
12. Compare the recorded approach idle data for each engine to the approach idle N2 target values in the Trim Check Table (AMM 71-01-02/201).
    a. For approach idle data N2 that matches the targeted value (+/- tolerance), continuous ignition actuated approach idle operates normally.
    b. For approach idle data N2 that does not match the targeted value (+/- tolerance), continuous ignition actuated approach idle is inoperative.
13. Set both ENGINE START selectors to AUTO.
14. Close the open circuit breakers.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-21-09	Engine Supplemental Control Units (PW4000)	**Y**	2	0	**C**	**(M)** May be inoperative provided affected unit(s) is deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
73-21-09	Near Associated EEC Switch(es)	___ Engine SCU INOP

(M) PROCEDURES

Deactivate the inoperative unit by opening and collaring the P11 panel circuit breaker for the associated engine:

1. EEC/SCU PWR L ENG
2. EEC/SCU PWR R ENG

NOTE: Ground test power will not be available to the EEC.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-31-01A	Fuel Flow Indications (CF6)	**Y**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Associated N1 and N2 indications operate normally, and b) Main tank fuel quantity indicators operate normally.
73-31-01B	Fuel Flow Indications (PW4000)	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Associated N1, N2, and EPR indications operate normally, and b) Main tank fuel quantity indicators operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
73-31-01A	Near Lower EICAS Display	___ Fuel Flow Indicator INOP
73-31-01B	Near Lower EICAS Display	___ Fuel Flow Indicator INOP

(O) PROCEDURES

73-31-01A, 73-31-01B

1. FMC CALCULATED, associated engine FUEL USED and FUEL USED TOT indications are inoperative.
2. The FMC may determine flight completion during high speed taxi resulting in high IRU residual ground speed.
3. Aileron trim indication on the control wheel can be used to determine if a fuel imbalance condition exists. At cruise airspeeds, an imbalance of 4000 lb will require approximately one unit of aileron displacement to hold wings level.
4. In case of enroute failure of FQIS, the flight crew must keep a fuel log for the remainder of the flight.

   Sample Fuel Log. Condition: Both engines operating; FQIS inflight failure

TIME	EICAS FUEL FLOW	TOTAL FUEL BURN (both engines)	TOTAL FUEL REMAINING
1200 UT	-	-	109,000
1300 UT	5000	10,000	99,000
1400 UT	4900	9800	89,200

CONTINUED NEXT PAGE

a. Starting time for the fuel log is the time at the last known waypoint, found via FMC.
b. EICAS FUEL FLOW is in lb/hr as shown on EICAS secondary display or EICAS compact displays. This is the fuel flow indicated from the operative fuel flow sensor.
c. TOTAL FUEL BURN is EICAS FUEL FLOW multiplied by 2. Assume fuel flow on each engine is the same.
d. TOTAL REMAINING FUEL starts at the last known recorded total fuel remaining data point, found via FMC. As time progresses, TOTAL FUEL REMAINING is start fuel minus TOTAL FUEL BURN.
e. The starting data point for this fuel log is recorded by the FMC at the last waypoint prior to FQIS failure. This is found as follows:

    1) POS REPORT page:

        a) Line 1 displays:

            (1) Last Waypoint
            (2) Time
            (3) Altitude

        b) Line 5 displays:

            (1) POS FUEL. This is the Total Fuel Remaining at the last waypoint displayed on line 1.

(M) PROCEDURES

73-31-01A

No additional procedures are required.

73-31-01B

For an intermittent fuel flow transmitter, deactivate the transmitter:

NOTE: An intermittent transmitter may cause a FUEL DISAGREE message on the FMC in conjunction with an EICAS DISAGREE status message.

1. Supply electrical power (AMM 24-22-00/201).
2. Confirm the following associated circuit breakers are closed:

    a. P11 panel, L ENG FUEL CONTROL VLV & EEC CH B RST
    b. P6 panel, L SPAR FUEL VALVE
    c. P11 panel, R ENG FUEL CONTROL VLV & EEC CH B RST
    d. P6 panel, R SPAR FUEL VALVE

3. Confirm the associated FUEL CONTROL switch is in CUT OFF.
4. Open the following associated circuit breakers:

    a. P11 panel, L ENG FUEL CONTROL VLV & EEC CH B RST
    b. P6 panel, L SPAR FUEL VALVE
    c. P11 panel, R ENG FUEL CONTROL VLV & EEC CH B RST
    d. P6 panel, R SPAR FUEL VALVE

5. Gain access to the fuel flow transmitter (AMM 73-31-01/401).
6. Disconnect, cap and stow the fuel flow transmitter electrical connector.
7. Install a protective cover over the cap on the transmitter connector.
8. Close the open circuit breakers.

ATA 74 Contents

74-00-01A Ignition Systems 74-2

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
74-00-01A	Ignition Systems **"DISP.APPR.REQ'D."**	**Y∗**	4	3	**A**	**(O)** May be inoperative provided: a) Ignition selector remains in BOTH position, b) Engine anti-ice systems operate normally on associated engine, and c) Repair is made within 1 flight day.
74-00-01B	Ignition Systems **"DISP.APPR.REQ'D."**	**Y**	4	2	**C**	**(O)** Except for ER operations (ETOPS), one per engine may be inoperative provided: a) Ignition selector remains in BOTH position, and b) Engine anti-ice systems operates normally on associated engine(s).

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
74-00-01A	Near Ignition Switch	___ Ignition System INOP
74-00-01B	Near Ignition Switch(es)	___ Ignition System(s) INOP

(O) PROCEDURES

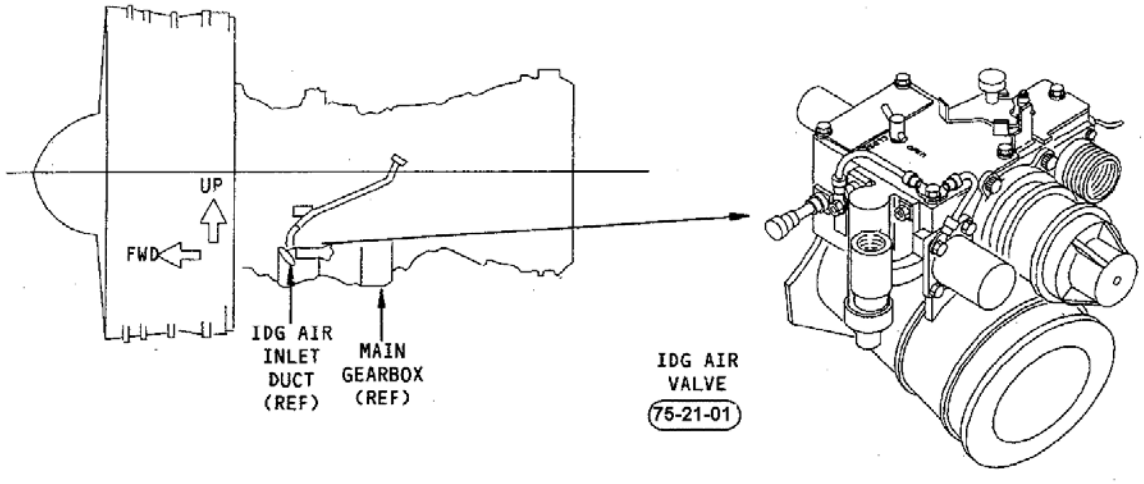
74-00-01A, 74-00-01B

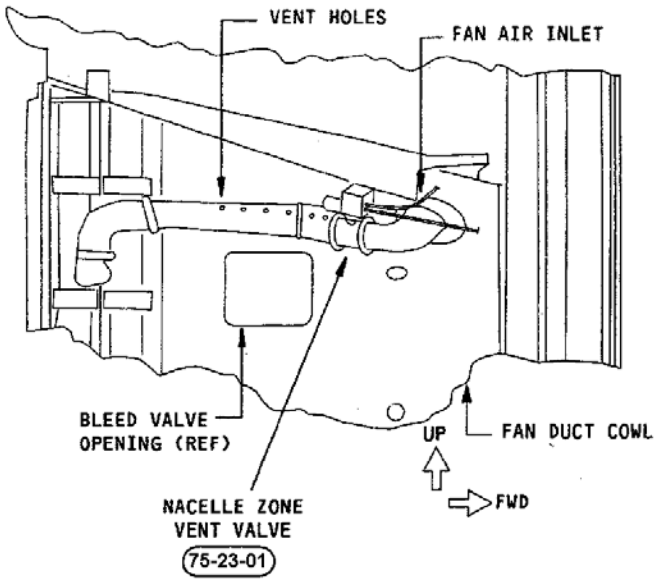
Ground: Select operative igniter (1 or 2) or select BOTH to start engine. After engine start select BOTH.

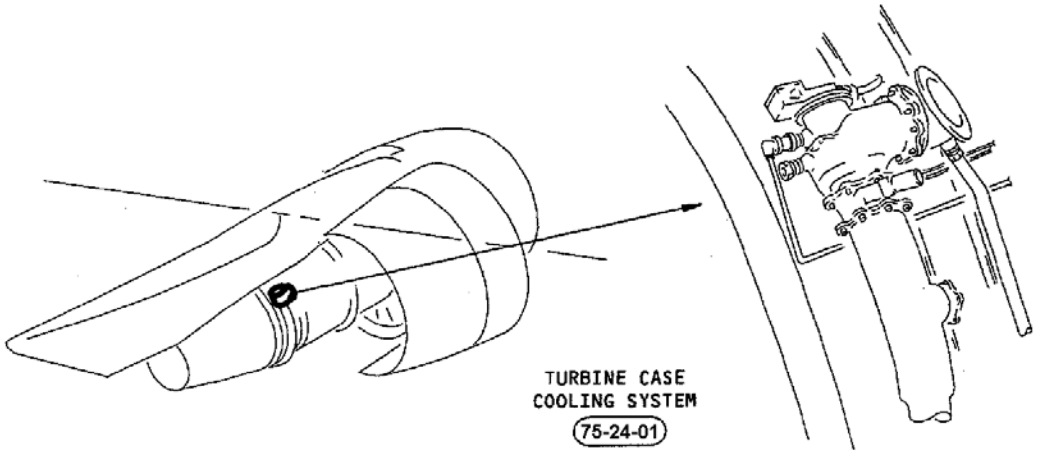
In-flight: Maintain Ignition Selector in the BOTH position.

ATA 75 Contents

75-21-01A IDG Air / Oil Cooler Valves 75-3
75-21-02A Engine Air / Oil Cooler Valves 75-10
75-23-01A Core Compartment Cooling Valves 75-12
75-24-01 Turbine Case Cooling Systems 75-14
75-24-02 Turbine Vane and Blade Cooling (TVBC) Valves 75-16


UP
FWD
IDG AIR INLET DUCT (REF)
MAIN GEARBOX (REF)
IDG AIR VALVE
75-21-01


VENT HOLES
FAN AIR INLET
BLEED VALVE OPENING (REF)
UP
FAN DUCT COWL
FWD
NACELLE ZONE VENT VALVE
75-23-01


TURBINE CASE COOLING SYSTEM
75-24-01

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
75-21-01A	IDG Air / Oil Cooler Valves (CF6-80A2) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(M)** May be inoperative open.
75-21-01B	IDG Air / Oil Cooler Valves (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)**May be inoperative provided: a) Valve(s) is deactivated open, and b) Appropriate performance adjustments are applied.
75-21-01C	IDG Air / Oil Cooler Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)**May be inoperative provided: a) If engine *AOC operates normally* and IDG is **connected**, fuel tank temperature remains above -42 degrees C throughout flight, b) Valve(s) are deactivated open, and c) Appropriate performance adjustments are applied.
75-21-01D	IDG Air / Oil Cooler Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)**May be inoperative provided: a) If engine *AOC operates normally* and IDG is **disconnected**, fuel tank temperature remains above -36 degrees C throughout flight, b) Valve(s) are deactivated open, and c) Appropriate performance adjustments are applied.
75-21-01E	IDG Air / Oil Cooler Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)**May be inoperative provided: a) If engine *AOC is inoperative* open and IDG is **connected**, fuel tank temperature remains above -34 degrees C throughout flight, b) Valve(s) are deactivated open, and c) Appropriate performance adjustments are applied.
75-21-01F	IDG Air / Oil Cooler Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)**May be inoperative provided: a) If engine *AOC is inoperative* open, and IDG is **disconnected**, fuel tank temperature remains above -30 degrees C throughout flight, b) Valve(s) are deactivated open, and c) Appropriate performance adjustments are applied.

CONTINUED NEXT PAGE

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
75-21-01A	Near Lower EICAS Display	___ IDG Air / Oil Cooler Valve(s) inop
75-21-01B	Near Lower EICAS Display	___ IDG Air / Oil Cooler Valve(s) inop
75-21-01C	Near Lower EICAS Display	___ IDG Air / Oil Cooler Valve(s) inop
75-21-01D	Near Lower EICAS Display	___ IDG Air / Oil Cooler Valve(s) inop
75-21-01E	Near Lower EICAS Display	___ IDG Air / Oil Cooler Valve(s) inop
75-21-01F	Near Lower EICAS Display	___ IDG Air / Oil Cooler Valve(s) inop

(O) PROCEDURES

75-21-01B

75-21-01B	**IDG AIR / OIL COOLER VALVES**
EFFECTIVITY	**-3P6ER CF6-80C2 (76G)** **-300ER CF6-80C2 (76G)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

75-21-01C

75-21-01C	**IDG AIR / OIL COOLER VALVES**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

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75-21-01D

75-21-01D	IDG AIR / OIL COOLER VALVES
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

75-21-01E

75-21-01E	IDG AIR / OIL COOLER VALVES
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

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75-21-01F

75-21-01F	IDG AIR / OIL COOLER VALVES
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

(M) PROCEDURES

75-21-01A

Check that valve is in open position as follows:

1. Pull IDG VALVE circuit breaker (P11) for valve to be locked open.

WARNING: FAILURE TO FOLLOW 767 MAINTENANCE MANUAL 78-31-00 COULD RESULT IN INJURY TO PERSONNEL AND / OR DAMAGE TO FAN COWL, CORE COWL, AND FAN DUCT COWL AND THRUST REVERSER.

2. Open fan duct and thrust reverser left half.
3. Using flashlight, look into valve and verify valve is in open position. (Position indicator on valve should point to OPEN.) If valve is closed, perform steps (a) thru (f).

   NOTE: If valve is open, go to step 4.

   a. Using flats on bottom of vane shaft, manually wrench valve to open position. Hold valve open.
   b. Using flashlight, look into valve and verify valve is in open position.

      NOTE: If valve cannot be opened, replace IDG Air / Oil Heat Exchanger Air Shutoff Valve.

   c. While holding valve open, press manual lock pin on valve inward (toward valve).
   d. Release vane shaft (used to hold valve open in step (1).
   e. Using flashlight, look into valve and verify valve is in open position. Replace valve if closed.

CONTINUED NEXT PAGE

4. Press manual lock pin on valve inward (toward valve).

WARNING: FAILURE TO FOLLOW MAINTENANCE MANUAL 78-31-00 COULD RESULT IN INJURY TO PERSONNEL AND / OR DAMAGE TO FAN COWL, CORE COWL, AND FAN DUCT COWL AND THRUST REVERSER.

5. Close fan duct cowl and thrust reverser left half.
6. Close applicable IDG VALVE circuit breaker (P11).

75-21-01B

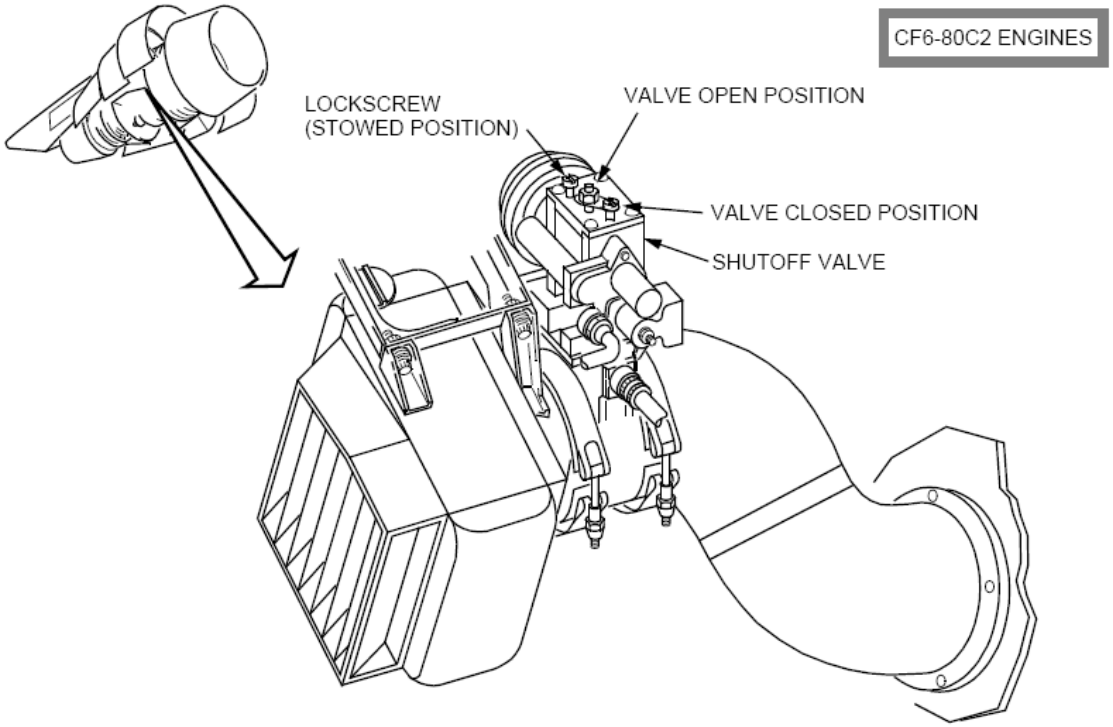
1. Pull the circuit breaker(s) listed below for the associated engine (s).

C837	M4	LEFT ENG IDG VALVE
C838	M31	RIGHT ENG IDG VALVE

2. Open right thrust reverser half.

WARNING: FAILURE TO DEACTIVATE THRUST REVERSER FOR GROUND MAINTENANCE COULD RESULT IN INADVERTENT THRUST REVERSER OPERATION WITH POSSIBLE INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

2. Verify valve in open position by noting position lever (on top of valve) is set to the OPEN position.
3. Disconnect, cap and stow electrical connector D11046 and D11780 from valve.
4. Secure valve in open position by removing stowed lock screw and inserting lock screw down through hole in position lever and into threaded hole in valve plate.
5. Close right thrust reverser half.
6. Close circuit breaker(s) pulled in step 1.



IDG AIR/OIL HEAT EXCHANGER

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75-21-01C, 75-21-01D, 75-21-01E, 75-21-01F

1. Pull the following overhead panel P11 circuit breakers for applicable engine:

   a. 11M4 L ENG IDG VALVE
   b. 11M31 R ENG IDG VALVE

2. Open right fan cowl cover.

WARNING: FAILURE TO DEACTIVATE THRUST REVERSER FOR GROUND MAINTENANCE COULD RESULT IN INADVERTENT THRUST REVERSER OPERATION WITH POSSIBLE INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

3. Deactivate thrust reverser for ground maintenance.
4. Open right core cowl panel.

WARNING: FAILURE TO FOLLOW 78-31-00/201 WHEN OPENING THRUST REVERSERS COULD RESULT IN INJURY TO PERSONNEL AND / OR DAMAGE TO EQUIPMENT.

5. Open right thrust reverser.
6. Accomplish either steps a. and b. or accomplish step c.

   a. Remove fan exit liner segment at 4 o'clock position of intermediate case.
   b. Visually verify valve is in open position by looking at position indicator.
   c. Using a mirror, look through the fan exit liner opening at the 4 o'clock position of the intermediate case. Visually verify the valve is in the open position.

7. Disconnect electrical connector D11046 from V350 IDG Oil Cooler Fan Air Shutoff Valve Assembly (Ref. SSM 24-11-01). Install protective closures and secure harness end.
8. If steps 6a and 6b were done, install fan exit liner segment at 4 o'clock position of intermediate case.
9. Close right thrust reverser.
10. Close right core cowl panel.
11. Return thrust reverser to service.
12. Close right fan cowl cover.
13. Close circuit breaker(s) opened in step 1.

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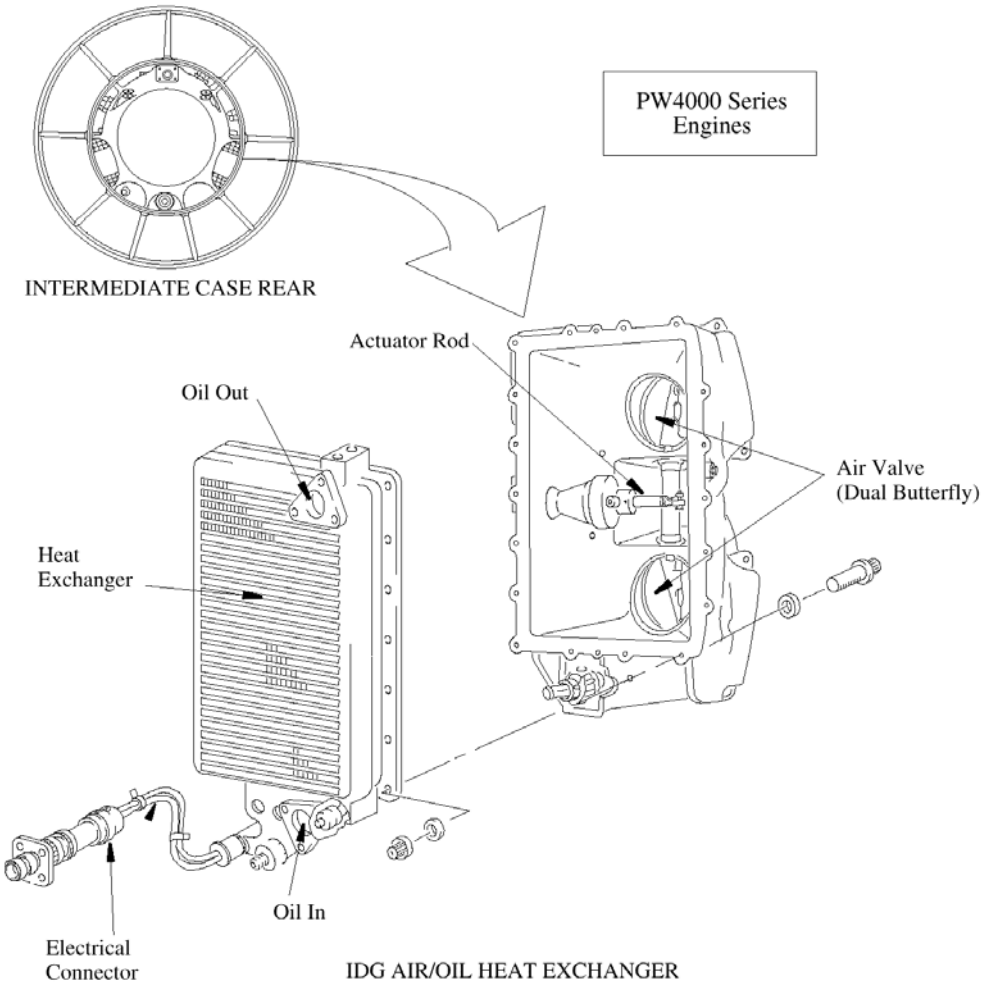

IDG AIR/OIL HEAT EXCHANGER

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
75-21-02A	Engine Air / Oil Cooler Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) If IDG is **connected**, fuel tank temperature remains above -34 degrees C throughout flight, b) Valve(s) are deactivated open, and c) Appropriate performance adjustments are applied.
75-21-02B	Engine Air / Oil Cooler Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) If IDG is **disconnected**, fuel tank temperature remains above -30 degrees C throughout flight, b) Valve(s) are deactivated open, and c) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
75-21-02A	Near Lower EICAS Display	___ Engine Air / Oil Cooler Valve(s) INOP
75-21-02B	Near Lower EICAS Display	___ Engine Air / Oil Cooler Valve(s) INOP

(O) PROCEDURES

75-21-02A

The associated L/R ENG EEC C1 message will be displayed.

75-21-02A	**ENGINE AIR / OIL COOLER VALVES**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

CONTINUED NEXT PAGE

75-21-02B

The associated L/R ENG EEC C1 message will be displayed.

75-21-02B	**ENGINE AIR / OIL COOLER VALVES**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 2,000 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,000 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 2,000 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 2,000 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 2,000 lbs. for each inoperative valve.

(M) PROCEDURES

75-21-02A, 75-21-02B

Deactivate the inoperative valve in the open position.

1. Gain access to the valve (AMM 79-21-09/401).
2. Verify the valve is open using one of the following:
   a. Remove the fan exit liner segment at position No. 6 (AMM 72-34-03/401) and confirm the valve is open.
   b. Using a mirror, look through the fan exit liner forward of fan exit liner segment No. 6 and confirm the valve is open.
3. Disconnect, cap and stow electrical connector W3P17 from V357 Air/Oil Heat Exchanger valve (SSM 73-21-08).
4. The associated L/R ENG EEC C1 message will be displayed.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
NACELLE ZONE VENTILATION VALVES (PW4000) AND CORE COMPARTMENT COOLING VALVES (CF6-80C2)					
75-23-01A Core Compartment Cooling Valves (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(M)** May be inoperative provided affected valve remains open.
75-23-01B Nacelle Zone Ventilation Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Associated valve remains open, and b) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
75-23-01A	Near Lower EICAS Display	___ Core Compartment Cooling Valve(s) INOP
75-23-01B	Near Lower EICAS Display	___ Nacelle Zone Ventilation Valve(s) INOP

(O) PROCEDURES

75-23-01B

75-23-01B	**NACELLE ZONE VENTILATION VALVES**
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,700 lbs. for each inoperative valve.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 1,700 lbs. for each inoperative valve. 2. Reduce T/O CLIMB LIMIT by 1,700 lbs. for each inoperative valve. **LANDING** 1. Reduce RWY ALLOWABLE LANDING WT by 1,700 lbs. for each inoperative valve. 2. Reduce LANDING CLIMB LIMIT WT by 1,700 lbs. for each inoperative valve.

CONTINUED NEXT PAGE

(M) PROCEDURES

75-23-01A

Secure the inoperative valve in the open position.

1. Gain access to the valve (AMM 75-23-01/401).
2. Remove the lock screw from the core compartment cooling valve housing.
3. Turn the manual override handle to the OPEN position.
4. Install the lock screw in the manual override handle and into the core compartment cooling valve housing.

75-23-01B

Secure the inoperative valve in the open position.

1. Gain access to the valve (AMM 75-23-02/401).
2. Visually determine the nacelle ventilation shutoff valve is in the open position.
3. Secure the valve in the open position:
   a. For valve open, remove the cotter pin and push the lock pin into the actuator shaft.
   b. For valve closed, manually open the valve. Remove the cotter pin and push the lock pin into the actuator shaft.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
75-24-01	Turbine Case Cooling Systems (CF6-80A2) (CF6-80C2 FADEC) (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided: a) Associated turbine case cooling valve remains closed, and b) Appropriate performance adjustments are applied.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
75-24-01	Near Lower EICAS Display	___ Turbine Case Cooling System(s) INOP

(O) PROCEDURES

75-24-01	**TURBINE CASE COOLING SYSTEMS**
EFFECTIVITY	**-300 CF6-80A2 (763)** **-300 PW4000 (763)** **-300ER PW4000 (76L)** **-300ER CF6-80C2 (FADEC) (76G)**
FLIGHT PLANNING REQUIREMENTS	1. On CF6-80A2 engines, increase BLOCK FUEL by 0.5% for each inoperative valve. 2. On PW4000 engines, increase BLOCK FUEL by 0.75% for each inoperative valve. 3. On CF6-80C2 (FADEC) engines, increase the BLOCK FUEL by 1.0% for each inoperative valve.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

CONTINUED NEXT PAGE

(M) PROCEDURES

Determine the inoperative valve is in the closed position.

1. For PW4000:
   a. Gain access to the valve (AMM 75-24-03/401).
   b. Disconnect the TCC air valve control cable aft rod end from the HPT case cooling air shutoff valve idler arm.
      1) Remove the nut and bolt which attach the rod end to the valve lever.
      2) Remove the lockwire from the rod end jam nut.
      3) Loosen the jam nut and remove the rod end.
      4) Stow the rod end, nut, and bolt.
   c. Confirm the HPT and LPT case cooling air shutoff valves are in the closed position.
   d. For valves not in the closed position, manually position the valves to the closed position.
2. For CF6-80A or CF6-80A2:
   a. Gain access to the valve (AMM 75-24-01/401)
   b. For bellows indicator button or valve position indicator button protruding on the altitude sensor, perform the following:
      1) Disconnect the CDP (PS3) tube from the altitude sensor.
      2) Plug the CDP (PS3) tube and cover the altitude sensor CDP (PS3) port.
3. For CF6 FADEC:
   a. Select the EPCS maintenance page.
   b. Confirm the HPT TCC valve and LPT TCC valve (if installed) are in the closed position, 0 to 10% as indicated on the EPCS page.
   c. Open the following P11 panel circuit breakers for the associated engine:
      1) Left engine:
         a) EEC PWR L ENG CH A
         b) EEC PWR L ENG CH B
      2) Right engine:
         a) EEC PWR R ENG CH A
         b) EEC PWR R ENG CH B
   d. Gain access to the valve (AMM 75-24-01/401).
   e. Disconnect, cap and stow the two electrical connectors from the HPT TCC valve and LPT TCC valve (if installed) on the affected engine.
   f. Close the open circuit breakers.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	REMARKS OR EXCEPTIONS
75-24-02	Turbine Vane and Blade Cooling (TVBC) Valves (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	0	**C**	**(M)** May be inoperative provided associated turbine cooling valves are deactivated open.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
75-24-02	Near Lower EICAS Display	___ Turbine Vane and Blade Cooling (TVBC) Valve(s) INOP

(M) PROCEDURES

If the turbine vane and blade cooling air (TVBCA) valves are inoperative due to valve failure or HPC secondary flow control valve and TVBCA valve solenoid failure, verify valves are in open position as follows:

1. Open the fan cowl panel.

WARNING: FAILURE TO DEACTIVATE THE THRUST REVERSER FOR GROUND MAINTENANCE COULD RESULT IN INADVERTENT THRUST REVERSER OPERATION WITH POSSIBLE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

2. Deactivate the thrust reverser for ground maintenance.
3. Open the core cowl panel.
4. Open thrust reverser halves.

WARNING: FAILURE TO FOLLOW 767 MAINTENANCE MANUAL 78-31-00 COULD RESULT IN INJURY TO PERSONNEL AND / OR DAMAGE TO FAN COWL CORE COWL, AND FAN DUCT COWL AND THRUST REVERSER.

5. Check if the visual position indicator on left TVBCA valve or on right TVBCA valve position switch, as applicable, is in the protruded position.
6. Disconnect Servo Air Tube nut from applicable TVBCA valve.
7. Install plug in Servo Air Tube and protective cap on valve adapter. Stow tube securely.
8. Close thrust reverser halves.
9. Close the core cowl panel.
10. Activate the thrust reverser.
11. Close the fan cowl panel.

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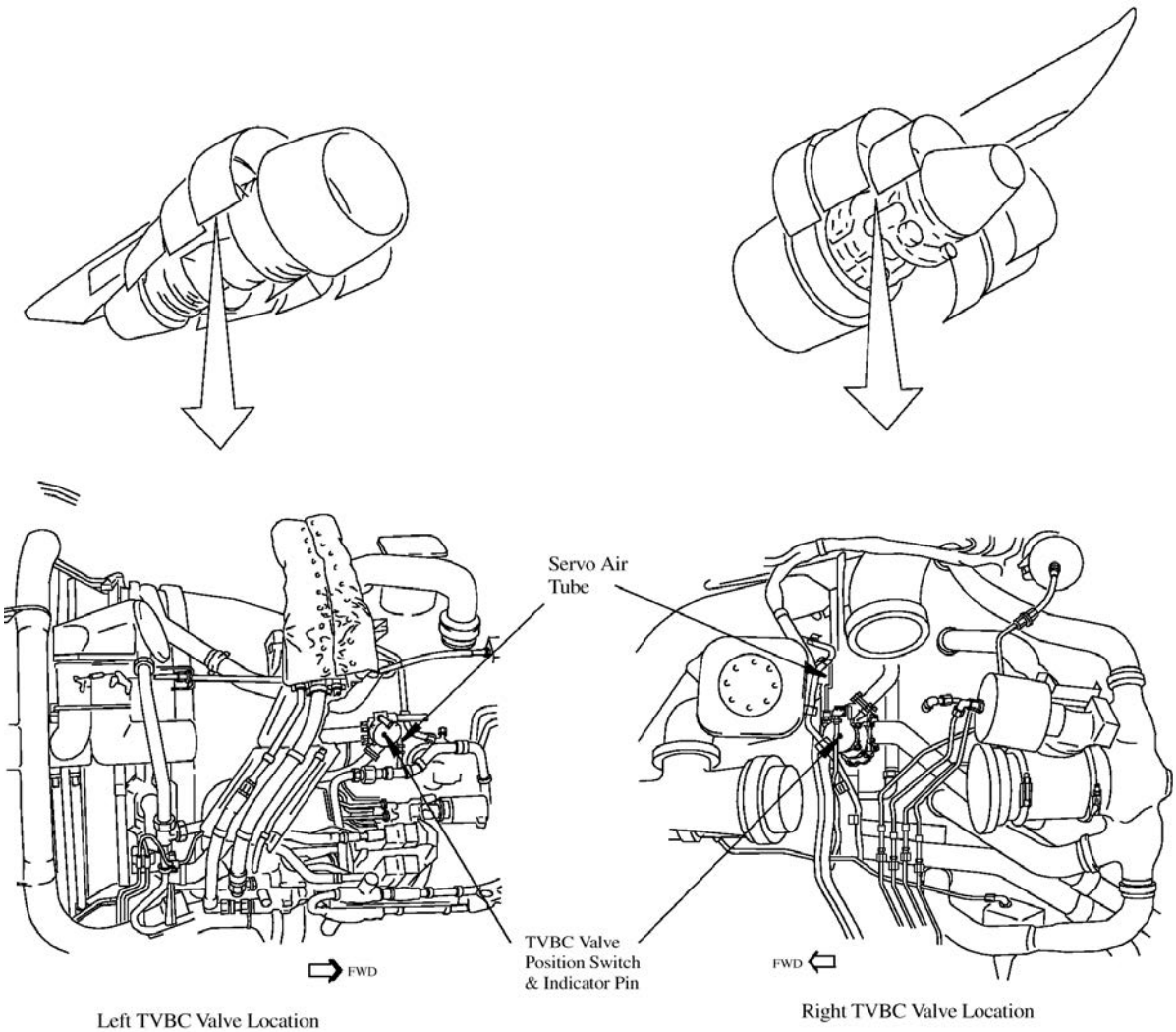

PW 4000 TURBINE AIR COOLING SYSTEM

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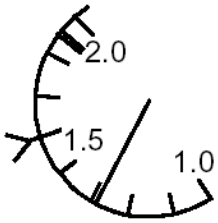
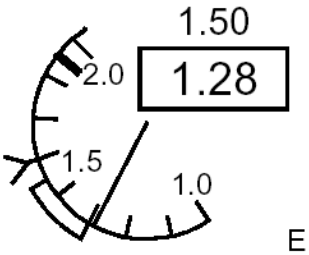
ATA 77 Contents

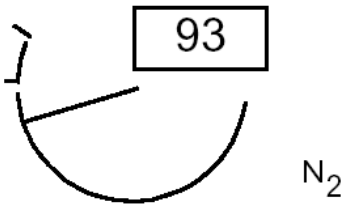
77-00-01 Target Parameter Indications 77-3
77-11-01 Engine Pressure Ratio (EPR) Systems 77-4
77-12-02 N2 Tachometer Systems (EICAS) 77-6
77-21-01A EGT Indications (Standby Engine Indicator) 77-7
77-31-01A Vibration Indicating Systems 77-8
77-31-01B Compressor Rear Frame (CRF) Accelerometers 77-8



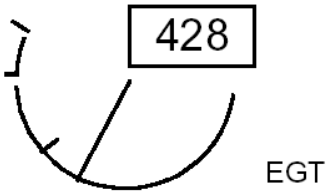
TARGET PARAMETER INDICATIONS
77-00-1



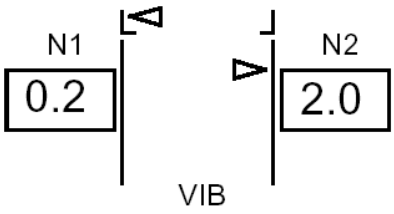
ENGINE PRESSURE RATIO SYSTEMS
77-11-1



N2 TACHOMETER SYSTEM
77-12-2



EGT INDICATIONS
77-21-1



VIBRATION INDICATION SYSTEMS (BROAD BAND)
77-31-1

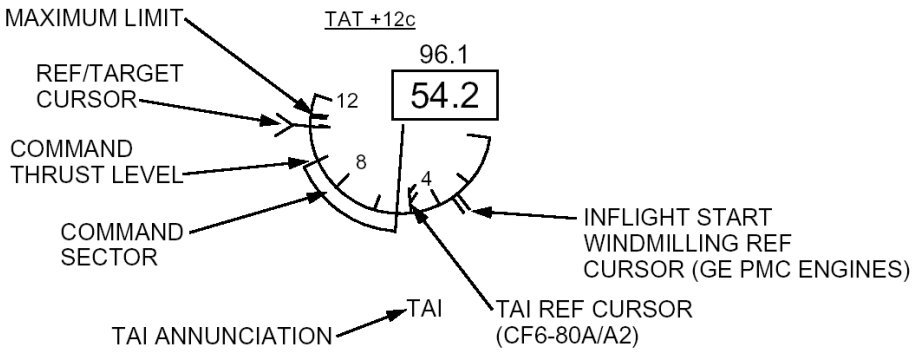
ENGINE INDICATIONS

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
77-00-01	Target Parameter Indications	**Y** -	0	**C**	**(O)** Observe that desired values are obtained by monitoring EICAS indications.

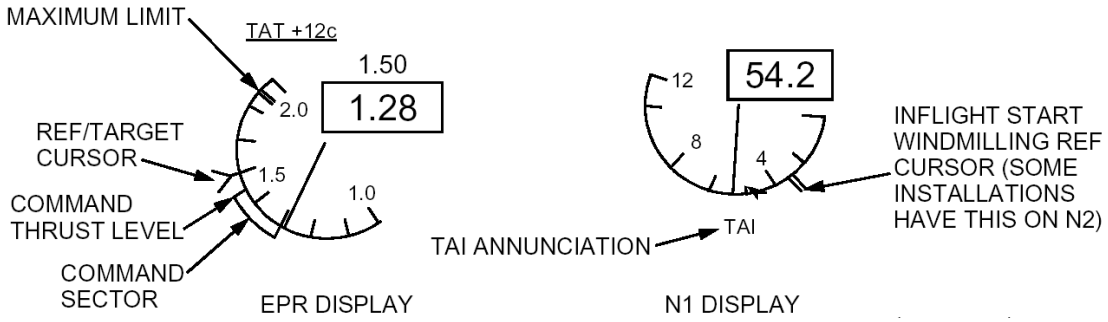
MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
77-00-01	Near Upper EICAS Display	___ Target Parameter Indication INOP

(O) PROCEDURES

1. Observe that desired values are achieved. Only items indicated by arrows may be inoperative (may not appear on display).
2. Autothrottles may still operate, but are set at maximum thrust on takeoff and climb.



GE ENGINES



PW4000 ENGINES

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
77-11-01	Engine Pressure Ratio (EPR) Systems (PW4000) **"DISP.APPR.REQ'D."**	**Y** 2	1	**C**	**(O)** EICAS and/or STANDBY indications for one engine may be inoperative provided: a) Both EECs are switched to ALTN mode, b) Appropriate procedures, limitations, and performance corrections are applied, c) N2 EICAS indications for both engines operate normally, d) Fuel flow indications for associated engine operate normally, e) Approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
77-11-01	Near Upper EICAS Display	___ EPR Indication INOP

(O) PROCEDURES

1. Set both ELEC ENG CONT switches to ALTN.

   NOTE: Advancing thrust levers fully forward may result in engine overboost or overtemp.

2. Autothrottle is not available.
3. Thrust setting at takeoff is accomplished by manually setting thrust on engine with EPR available, then matching the N1 value for the non-EPR engine to the resulting N1 from the engine with EPR available.
4. Refer to B767 ODM, Abnormal section, MEL SUPPORT, "V_1 ADJUSTMENT - EEC ALT MODE" for V speeds and thrust settings.
5. The Automatic Runway Position Updating feature is inoperative. **For Non-GPS equipped aircraft only**:

   a. Immediately Prior to Pushback:

      Accomplish a Fast Realignment to refine the IRS NAV position (Reference Volume 1, SP.11, for Fast Realignment procedure).

   b. Before Takeoff:

      For an RNAV departure, if aircraft map position is greater than 1,000 feet from the actual runway takeoff position, or cannot be determined, request radar vectors to the first fix.

CONTINUED NEXT PAGE

77-11-01	ENGINE PRESSURE RATIO (EPR) SYSTEMS
EFFECTIVITY	**-300 PW4000 (763)** **-300ER PW4000 (76L)**
FLIGHT PLANNING REQUIREMENTS	1. For STD + 10°C and below, reduce ENROUTE LIMIT WT by 54,000 lbs. 2. For up to STD + 20°C and below, reduce ENROUTE LIMIT WT by 56,000 lbs. 3. Increase BLOCK FUEL by 1.5%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	1. Performance weight corrections have been applied. 2. Refer to the ODM – Abnormal section for V-speeds and thrust settings.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF – Temperature 59°F and below** 1. Reduce RATOW by 44,500 lbs. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. **TAKEOFF – Temperature 60°F to 80°F** 1. Reduce RATOW by 44,500 lbs. plus 980 lbs. per °F above 59°F. 2. Reduce T/O CLIMB LIMIT by 43,900 lbs. plus 890 lbs. per °F above 59°F. **TAKEOFF – Temperature 81°F to 91°F** 1. Reduce RATOW by 65,000 lbs. plus 670 lbs. per °F above 80°F. 2. Reduce T/O CLIMB LIMIT by 62,500 lbs. plus 875 lbs. per °F above 80°F. **TAKEOFF – Temperature 92°F and above** 1. Reduce RATOW by 73,000 lbs. 2. Reduce T/O CLIMB LIMIT by 73,000 lbs. **LANDING – Temperature 56°F and below** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. **LANDING – Temperature 57°F to 80°F** Reduce LANDING CLIMB LIMIT WT by 40,000 lbs. plus 1,000 lbs. per °F above 56°F. **LANDING – Temperature 81°F to 91°F** Reduce LANDING CLIMB LIMIT WT by 64,000 lbs. plus 750 lbs. per °F above 80°F. **LANDING – Temperature 92°F and above** Reduce LANDING CLIMB LIMIT WT by 73,000 lbs. **OTHER CORRECTIONS** Refer to the ODM – Abnormal section for V-speeds and thrust settings.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
77-12-02	N2 Tachometer Systems (EICAS) **"Contact MCC"**	**Y**	2	1	**B**	**(O)** One N2 indication may be inoperative provided only indication function is inoperative.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
77-12-02	Near Upper EICAS Display	___ N2 Indication INOP

(O) PROCEDURES

Use the SEI N2 RPM indication for engine operation.

1. Set the standby engine indicator (SEI) selector to ON.
2. Start the engine normally using the SEI N2 RPM indication.

   NOTE: If N2 RPM and start valve operation and indications are normal, satisfactory operation of the N2 tachometer is confirmed.

3. The SEI N2 RPM indication may be used for any procedure requiring N2 RPM.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
77-21-01A	EGT Indications (Standby Engine Indicator) (CF6)	**Y**	2	1	**C**	May be inoperative provided: a) EGT EICAS indication operates normally, and b) N2 EICAS indications for both engines operate normally.
77-21-01B	EGT Indications (Standby Engine Indicator) (PW4000)	**Y**	2	1	**C**	May be inoperative provided: a) EGT EICAS indication operates normally, b) N2 EICAS indications for both engines operate normally, and c) EPR EICAS indications for both engines operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
77-21-01A	Near Standby Engine Indicator	___ Standby Engine Indicator - EGT Indication INOP
77-21-01B	Near Standby Engine Indicator	___ Standby Engine Indicator - EGT Indication INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
VIBRATION INDICATING SYSTEMS					
77-31-01A Vibration Indicating Systems	**Y**	2	1	**C**	
77-31-01B Compressor Rear Frame (CRF) Accelerometers (CF6-80C2 FADEC)	**N**	2	0	**C**	**(M)** May be inoperative deactivated.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
77-31-01A	Near Lower EICAS Display	___ Vibration Indicating System INOP
77-31-01B	Near Lower EICAS Display	___ Compressor Rear Frame (CRF) Accelerometer(s) INOP

(M) PROCEDURES

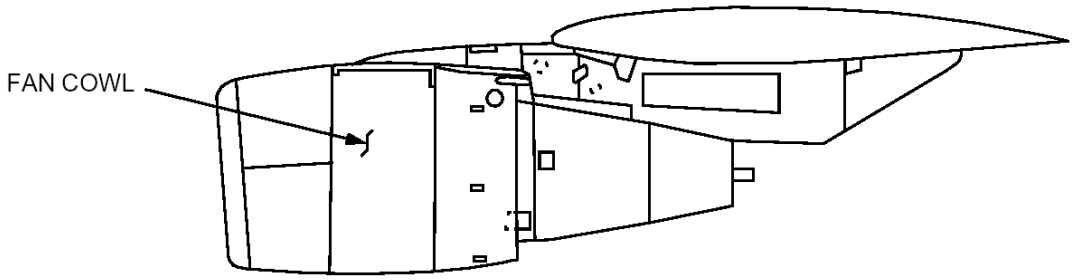
77-31-01B

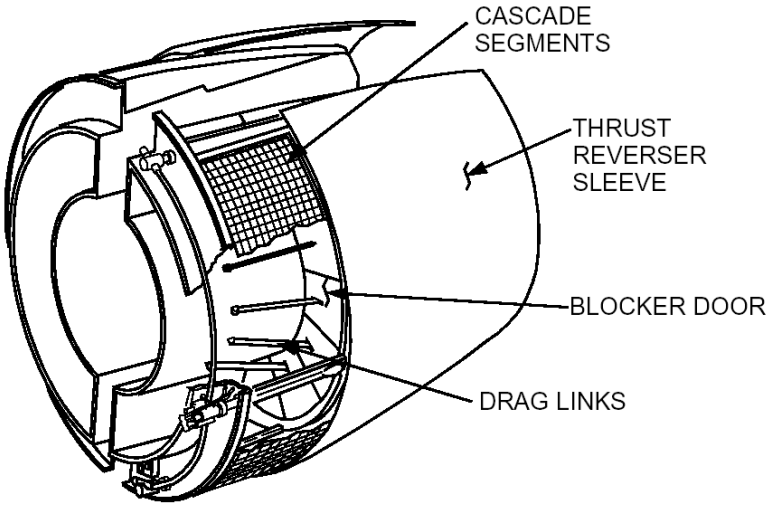
Deactivate the inoperative accelerometer.

1. Open the VIB MONITOR circuit breaker located on the P11 panel.
2. Gain access to the accelerometer by opening the left fan cowl panel (AMM 71-11-04/201) and left thrust reverser (AMM 78-31-00/201).
3. Disconnect, cap and stow the electrical connector from the external accelerometer.
4. Close the VIB MONITOR circuit breaker located on the P11 panel.

ATA 78 Contents

78-31-01 Thrust Reversers 78-3
78-34-01 REV ISLN Valve Light 78-7
78-34-02 Engine Reverse Lever Interlocks 78-9
78-34-03 Thrust Reverser PRSOV 78-10
78-36-01 REV Unlock Indications 78-11
78-36-02 Full REV Position Indications 78-12
78-36-03 Reverser Position Sensing Systems 78-13



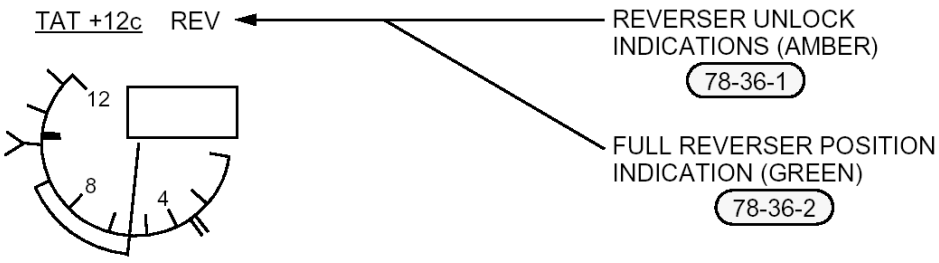


FAN DUCT COWL AND THRUST REVERSER (SLEEVE DEPLOYED)

THRUST REVERSERS
78-31-1

REV ISLN

REVERSER ISOLATION VALVE LIGHT
78-34-1



TAI

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-31-01 Thrust Reversers **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided inoperative reverser is secured in forward thrust position. NOTE: During landing roll-out, differential braking may be required to maintain directional control.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-31-01	Near Upper EICAS Display	___ Thrust Reverser INOP

(O) PROCEDURES

Flight deck effects:

1. REV ISLN light illuminated on ground (inhibited in air).
2. L(R) REV ISLN VAL advisory message (inhibited in air).
3. L(R) REV ISLN VAL status message illuminated.
4. CF6-80C2 (PMC and FADEC): IDLE DISAGREE advisory message annunciation during application of thrust reverse.

(M) PROCEDURES

Deactivate and secure the thrust reverser in the forward thrust position.

CF6-80A2

1. Confirm the sync locks are in the locked position by performing the Thrust Reverser Sync Lock Integrity Test (AMM 78-34-07/501).
2. For left thrust reverser inoperative:
   a. Pull and secure the P11 panel T/R CONT, L ENG circuit breaker.
   b. Open the P11 panel T/R IND, LEFT ENG circuit breaker.
3. For right thrust reverser inoperative:
   a. Pull and secure the P11 panel T/R CONT, R ENG circuit breaker.
   b. Open the P11 panel T/R IND, RIGHT ENG circuit breaker.
4. Open the fan cowl panels (AMM 71-11-04/201).
5. Confirm the thrust reverser sleeves are in the fully stowed and locked position (See AMM 78-31-00/201 for manual stowing procedure).

CONTINUED NEXT PAGE

6. Gain access to the thrust reverser isolation valve (AMM 06-43-00/201).
7. Locate the isolation valve and push the deactivation slide into the housing if exposed. Install the pin to hold the slide in the deactivation position (AMM 78-31-00/201). Lockwire the pin.

   NOTE: Isolation valve deactivation pin is stowed in the cockpit spare bulb storage box (0.125 inch diameter x 1.1 inch long drilled end pin).

8. Close the thrust reverser isolation valve access door (AMM 06-43-00/201).
9. Obtain red deactivation pins from storage locations (AMM 78-31-00/201).
10. Remove the plug from the outer sleeve located near the center locking hydraulic actuator access panel.
11. Install the plug on the torque box where the deactivation pin was removed.
12. Install the red deactivation pin through the sleeve into the underlying structure.
13. Close the fan cowl panels (AMM 71-11-04/201).
14. For left thrust reverser inoperative:

    a. Close the P11 panel T/R IND, LEFT ENG circuit breaker.
    b. Pull and secure the P11 panel T/R SSL CONTTOL, L ENG circuit breaker.

15. For right thrust reverser inoperative:

    a. Close the P11 panel T/R IND, RIGHT ENG circuit breaker.
    b. Pull and secure the P11 panel T/R SSL CONTROL, R ENG circuit breaker.

16. Remove damaged or broken drag links (AMM 78-31-15/401). Tape blocker doors shut.

CF6-80C2

1. For left thrust reverser inoperative:

   a. Open the P11 panel T/R IND, LEFT ENG circuit breaker.
   b. Pull and secure the P11 panel T/R CONT, L ENG circuit breaker.
   c. Pull and secure the P11 panel T/R CONT ALT, L ENG circuit breaker.

2. For right thrust reverser inoperative:

   a. Open the P11 panel T/R IND, RIGHT ENG circuit breaker.
   b. Open the P11 panel T/R IND ALT, R ENG circuit breaker.
   c. Pull and secure the P11 panel T/R CONT, R ENG circuit breaker.
   d. Pull and secure the P11 panel T/R CONT ALT, R ENG circuit breaker.

3. Open the fan cowl panels (AMM 71-11-04/201).
4. Remove the two bolts securing the lockout plate over the lower CDU manual drive pad and remove the plate (two places).
5. Do the Thrust Reverser Electro-Mechanical Brake and Flexshaft - Adjustment/Test procedure (AMM 78-34-07/501). Leave the fan cowls open upon completion of the test.
6. Stow the thrust reverser halves (AMM 78-31-00/201).
7. Remove one, two, or three red deactivation plates from the lower torque box of each reverser half. Install the plates on the lock points on each reverser half with bolts (two bolts per deactivation plate). It may be necessary to drive the CDU or the angle gearboxes at the manual drive pads to align the holes in the translating cowls with the lock points. The CDU brakes and the electro-mechanical brakes (if installed) must be manually released to drive the CDU or angle gearboxes (Ref AMM 78-31-00/201).

   NOTE: The red deactivation plates are designed as lock out indicators; they are not lock out retention devices. Installation of at least one plate is recommended, but not required.

8. At both CDUs, install the lockout plate with the square drive inserted into the manual drive pad. Tighten bolts to 33-37 pound-inches.

CONTINUED NEXT PAGE

9. For CF6-80C2 FADEC ONLY, confirm the thrust reverser position feedback sensors (RVDT) on both CDUs are properly installed and rigged as follows:
   a. Apply ground test power to the EEC.
   b. Confirm the thrust reverser position (T/RR, T/RL, Channels A and B) reads between -2% and +2%. Use the EICAS EPCS page.
   c. If required, re-rig the RVDT (AMM 78-36-03/401).
10. Return the CDU brake release handles and, if installed, the electro-mechanical brake release handles to the normal, brake engaged position (AMM 78-31-00/201).
11. Close the fan cowl panels (71-11-04/201).
12. For left thrust reverser inoperative:
    a. Close the P11 panel T/R IND, LEFT ENG circuit breaker.
    b. Pull and secure the P11 panel T/R SSL CONT, L ENG circuit breaker.
13. For right thrust reverser inoperative:
    a. Close the P11 panel T/R IND, RIGHT ENG circuit breaker.
    b. Close the P11 panel T/R IND ALT, R ENG circuit breaker.
    c. Pull and secure the P11 panel T/R SSL CONT, R ENG circuit breaker.
14. Remove damaged or broken drag links (AMM 78-31-15/401). Tape blocker doors shut.

PW4000

1. For left thrust reverser inoperative:
   a. Open the P11 panel T/R IND, LEFT ENG circuit breaker.
   b. Pull and secure the P11 panel T/R CONT, L ENG circuit breaker.
2. For right thrust reverser inoperative:
   a. Open the P11 panel T/R IND, RIGHT ENG circuit breaker.
   b. Open the P11 panel T/R IND ALT, R ENG circuit breaker.
   c. Open the P11 panel T/R CONT ALT, R ENG circuit breaker.
   d. Pull and secure the P11 panel T/R CONT, R ENG circuit breaker.
3. Open the fan cowl panels (AMM 71-11-04/201).
4. Confirm the thrust reverser sleeves are in the fully stowed and locked position (see AMM 78-31-00/201 for Thrust Reverser Operation – Retract (Manual Method)).
5. Gain access to the thrust reverser isolation valve (AMM 06-43-00/201).
6. Do the Thrust Reverser Sync Lock Integrity Test (AMM 78-34-13/501)

   NOTE: Thrust reverser deactivation for flight dispatch includes hydraulic deactivation of the stow valve and motorized isolation valve, and mechanical deactivation of the thrust reverser sleeves.

7. For hydraulic deactivation, perform the following:
   a. Obtain thrust reverser isolation valve deactivation pin, stowed in the cockpit spare bulb storage box (0.125 inch diameter x 1.1 inch long drilled end pin).

   CAUTION: DO NOT PUT A DEACTIVATION PIN IN THE BYPASS VALVE MANUAL OVERRIDE LEVER OF THE STOW VALVE FOR FLIGHT DISPATCH. CONFIRM THE BYPASS VALVE MANUAL OVERRIDE LEVER IS LOCKWIRED IN THE EXTENDED POSITION OR SPRING LOADED TO THE EXTENDED POSITION.

   b. Put deactivation pin into the deactivation slide of the stow valve housing and install lockwire.

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c. To deactivate the motorized isolation valve, pull the manual override lever fully up and install the lockwire.
d. Remove the electrical connector from the motorized valve.
e. Install protective caps and stow the electrical connector.

8. Close the thrust reverser isolation valve access door (AMM 06-43-00/201).
9. Remove the red deactivation pins from the storage bracket below the lower non-locking actuator located on the bottom of the thrust reverser torque box.
10. Remove the two plugs from the outer sleeve located near the center locking hydraulic actuator access panel.
11. Install plugs on the reverser torque box where the two deactivation pinswere removed.
12. For the left and right reverser sleeve halves, install a red deactivation pin through the sleeve into the underlying structure. Apply anti-seize compound BMS 3-28 (DAL P/N 034201538) to pin and insert threads.

    NOTE: The top of the deactivation pins will be above the skin surface of the translating sleeve when installed.

13. Close the fan cowl panels (Ref AMM 71-11-01/201).
14. For left thrust reverser inoperative:

    a. Close the P11 panel T/R IND, LEFT ENG circuit breaker.
    b. Pull and secure the P11 panel T/R SSL CONT, L ENG circuit breaker.

15. For right thrust reverser inoperative:

    a. Close the P11 panel T/R IND, RIGHT ENG circuit breaker.
    b. Close the P11 panel T/R IND ALT, R ENG circuit breaker.
    c. Close the P11 panel T/R CONT ALT, R ENG circuit breaker.
    d. Pull and secure the P11 panel T/R SSL CONT, R ENG circuit breaker.

16. Remove damaged or broken drag links (AMM 78-31-15). Tape blocker doors shut.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-34-01	REV ISLN Valve Light	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided reverser isolation valve and reverser unlock indications are verified to operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-34-01	REV ISLN Valve Light	REV ISLN Valve Light INOP

(O) PROCEDURES

1. In flight, assume reversers may be armed.
2. A subsequent system failure could render a reverser inoperative.

(M) PROCEDURES

Verify the reverser isolation valve and reverser unlock indications operate normally.

1. For an intermittent flashing light, the airplane may be dispatched in this condition provided the Thrust Reverser is also deferred per MEL 78-31-01.
2. For REV ISLN light failed to illuminate:
   a. Open one of the following P11 panel circuit breakers:
      1) L ENG T/R IND
      2) R ENG T/R IND
   b. Confirm the REV ISLN VAL (or associated L or R REV ISLN VAL) advisory message appears.
   c. For advisory message displayed but light not illuminated, placard the light INOP.
   d. Close the open circuit breaker.
3. For REV ISLN light on:
   a. For REV ISLN VAL (L or R REV ISLN VAL) advisory message displayed, the airplane may be dispatched in this condition provided the Thrust Reverser is also deferred per MEL 78-31-01.

      NOTE: On airplanes that display the REV ISLN VAL advisory message, access the maintenance page to determine which thrust reverser is causing the fault.

   b. For REV ISLN VAL (L or R REV ISLN VAL) advisory message not displayed:
      1) Open the following P11 panel circuit breakers:
         a) L ENG T/R IND
         b) R ENG T/R IND

CONTINUED NEXT PAGE

2) Confirm the REV ISLN VAL (L and R REV ISLN VAL) advisory message is displayed.

NOTE: On airplanes that display the REV ISLN VAL advisory message, access the maintenance page to confirm both L and R REV ISLN VAL messages appear.

3) For both messages displayed, placard the REV ISLN light INOP.
4) For both messages not displayed, the airplane may be dispatched in this condition provided the Thrust Reverser is also deferred per MEL 78-31-01 for which the message did not appear.
5) Close the open circuit breakers.

4. Confirm the thrust reverser system operates normally.

a. With electrical power on the airplane and the L and R hydraulic systems powered, cycle each reverser independently.

NOTE: For CF6-80C2, the engines do not require hydraulic systems powered. However, a pneumatic source is required to operate the reverser.

WARNING: ENSURE THAT THRUST REVERSER AREA IS CLEAR; INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT COULD OCCUR.

b. Monitor for normal operation of reverser and unlock indications.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-34-02	Engine Reverse Lever Interlocks (PW4000) (CF6-80C2 FADEC)	**Y**	2	1	**C**	**(O)** May be inoperative extended or retracted. NOTE: Associated reverser thrust is limited to reverse idle when inoperative retracted.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-34-02	Near Upper EICAS Display	___ Engine Reverse Lever Interlocks INOP

(O) PROCEDURES

INOPERATIVE EXTENDED:

When selecting reverse thrust, pull both reverse levers up to the normal interlock position and apply reverse thrust as required when the operative interlock releases.

NOTE: If the interlock is inoperative extended, there will be no physical stop for that reverse thrust lever when it is pulled up to the interlock position. The EEC will still protect the engine by not letting reverse thrust increase above idle until the thrust reverser sleeves are sufficiently deployed.

INOPERATIVE RETRACTED:

When selecting reverse thrust, pull both reverse levers up to the normal interlock position. Use normal thrust reversing technique on the operative system and if it appears that the rudder authority is becoming limited during deceleration, return lever to reverse idle detent.

NOTE: If the interlock is inoperative retracted (Interlock position), it will not be physically possible to move that reverse thrust lever beyond reverse idle, even when the reverser sleeves are fully deployed.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-34-03	Thrust Reverser PRSOV (CF6-80C2) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided associated thrust reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-34-03	Near Upper EICAS Display	___ Thrust Reverser PRSOV INOP

(O) PROCEDURES

Use MEL 78-31-01 (O) procedures.

(M) PROCEDURES

Deactivate and secure the thrust reverser in the forward thrust position.

1. Visually confirm the thrust reverser has no visible damage, and the thrust reverser sleeve is in alignment.
2. Secure the thrust reverser in the forward thrust position and defer per MEL 78-31-01.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-36-01 REV Unlock Indications **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) No thrust reverser damage exists which would adversely affect airplane operation, and b) Associated thrust reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-36-01	Near Upper EICAS Display	___ REV Unlock Indication INOP

(O) PROCEDURES

Use MEL 78-31-01 (O) procedures.

(M) PROCEDURES

Verify no thrust reverser damage exists, and deactivate and secure the thrust reverser in the forward position.

1. Visually confirm the thrust reverser has no visible damage, and the thrust reverser sleeve is in alignment.
2. Secure the thrust reverser in the forward thrust position and defer per MEL 78-31-01.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-36-02	Full REV Position Indications	**Y**	2	0	**C**	May be inoperative provided associated reverser unlock indication operates normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-36-02	Near Upper EICAS Display	___ Full REV Position Indication(s) INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
78-36-03	Reverser Position Sensing Systems (CF6-80C2 FADEC) (PW4000) **"DISP.APPR.REQ'D."**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided associated reverser is considered inoperative and deferred per MEL 78-31-01.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
78-36-03	Near Upper EICAS Display	___ Reverser Position Sensing System INOP

(O) PROCEDURES

Use MEL 78-31-01 (O) procedures.

(M) PROCEDURES

Secure the thrust reverser in the forward thrust position and defer per MEL 78-31-01.

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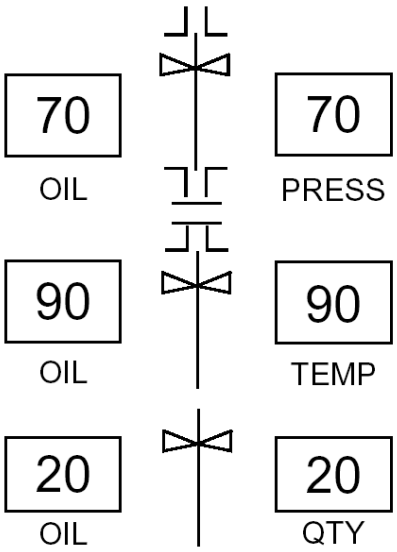

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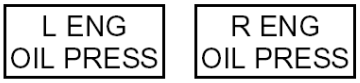

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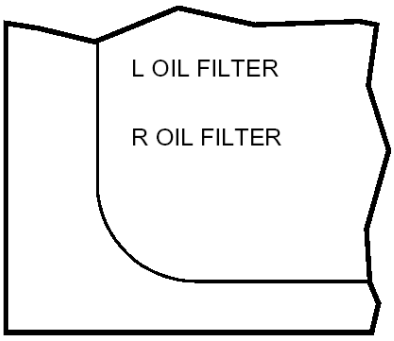

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79-34-1

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
79-31-01 OIL QTY Indications **"Contact MCC"**	**N**	2	1	**B**	**(M)** May be inoperative provided: a) Oil tank is filled to recommended capacity PRIOR TO EACH DEPARTURE (Log Book Entry Required), b) There is no evidence of above normal oil consumption or leakage, c) Associated ENG OIL PRESS and OIL TEMP indications operate normally, and d) Associated low ENG OIL PRESS light operates normally. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
79-31-01	Near Lower EICAS Display	___ OIL QTY Indication INOP

(M) PROCEDURES

1. Inspect engine exterior for signs of leakage.
2. Fill affected engine oil tank (ref. AMM 12-13-01 for servicing procedures and limitations).

   NOTE: The AMM specifies time limits for oil servicing after engine shutdown. If it is necessary to run or dry motor the engine prior to servicing, the flight crew may accomplish this task if qualified maintenance personnel are not available.

WARNING: WAIT A MINIMUM OF FIVE MINUTES AFTER ENGINE SHUTDOWN BEFORE REMOVING THE OIL TANK FILLER CAP, TO ALLOW PRESSURE TO BLEED OFF. HOT OIL GUSHING FROM TANK MAY CAUSE SEVERE BURNS.

3. Examine engine exterior, including fan stream area, for evidence of oil leakage.
4. Contact MCC to ensure oil consumption is within limits.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
79-33-01	Low ENG OIL PRESS Light System	**Y**	2	1	**C**	May be inoperative provided associated OIL PRESS, TEMP, and QTY indications operate normally.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
79-33-01	Affected Low ENG OIL PRESS Light	___ Low ENG OIL PRESS Light INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ENGINE BEARING NO. 3 SCAVENGE OIL TEMPERATURE INDICATIONS					
79-34-01A L(R) SCAV TEMP 1 (PW4000)	**Y**	2	1	**A**	**(M)** May be dispatched with one message displayed provided repairs are made within three flight days.
79-34-01B L(R) SCAV TEMP 2 (PW4000)	**Y**	2	1	**A**	**(M)** May be dispatched with one message displayed provided repairs are made within ten flight days.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
79-34-01A	Near Lower EICAS Display	___ SCAV TEMP 1 Status Message Displayed
79-34-01B	Near Lower EICAS Display	___ SCAV TEMP 2 Status Message Displayed

(M) PROCEDURES

79-34-01A

If the Status level EICAS message 'L(R) SCAV TEMP 1' is displayed, the differential oil temperature across the No. 3 bearing is 'Hot.'

79-34-01B

If the Status level EICAS message 'L(R) SCAV TEMP 2' is displayed, the differential oil temperature across the No. 3 bearing is 'Warm.'

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
79-34-02	ENG OIL TEMP Sensing Elements (CF6-80A2, CF6-80C2 Non-FADEC)	**Y**	4	2	**C**	**(O)** One element on each engine may be inoperative provided both engine oil temperature indications are available from one EICAS computer.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
79-34-02	Near Lower EICAS Display	___ ENG OIL TEMP Sensing Element(s) INOP

(O) PROCEDURES

Position the EICAS computer selector on the forward electronics panel to AUTO, L, or R as necessary to display both engine oil temperatures at the same time.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
79-35-01	Engine Oil Filter Bypass Warning Systems **"Contact MCC"**	**N**	2	0	**B**	**(M)** May be inoperative provided: a) It is verified that malfunction is in alerting system, and b) Main oil screen is checked for presence of contaminants PRIOR TO EACH DEPARTURE. (Log Book Entry Required) **Repetitive Check Required (Yellow Placard)**

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
79-35-01	Near Lower EICAS Display	___ Oil Filter Bypass Warning System(s) INOP

(M) PROCEDURES

1. Determine if malfunction is in the alerting (bypass warning) system.

   a. If L or R ENG OIL FILTER advisory message remains longer than one minute after engine shutdown, then the bypass warning system is faulty.
   b. If L or R ENG OIL FILTER advisory message disappears within one minute of engine shutdown, perform Oil Filter Bypass Warning System test to determine if Differential Pressure Switch is faulty.

2. Disable the associated faulty Oil Filter Bypass Warning System as follows:

   a. Pull and secure the circuit breakers EICAS CMPTR LEFT and EICAS CMPTR RIGHT on the P11 panel.
   b. Cap and stow electrical connector at Engine Oil Filter Differential Pressure Switch.
   c. Close the circuit breakers EICAS CMPTR LEFT and EICAS CMPTR RIGHT on the P11 panel.
   d. Ensure L(R) OIL FILTER advisory message is not displayed.

3. PRIOR TO EACH DEPARTURE perform the following:

   a. Check the associated oil filter element for contamination.
   b. Check Master Chip Detector for contamination.
   c. Install a new filter element or clean strainer.

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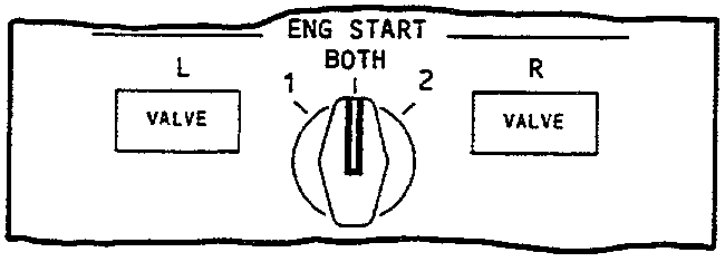
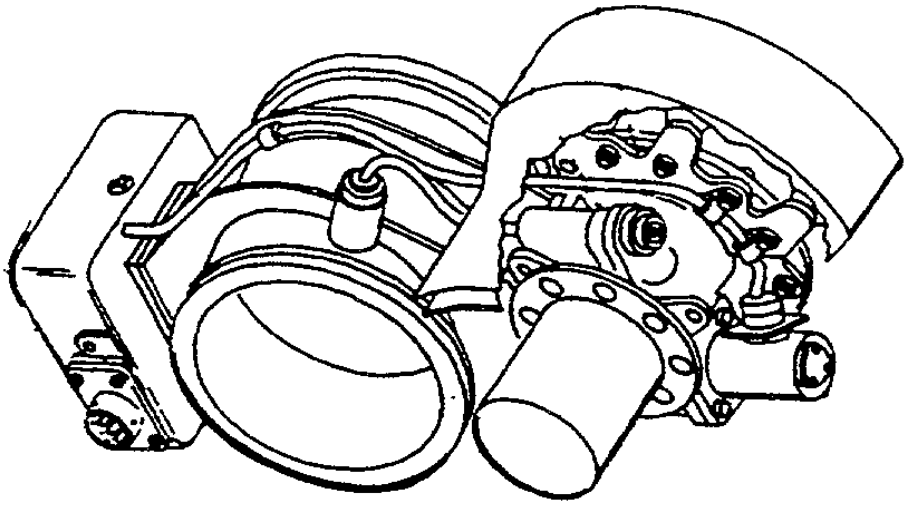


ENGINE START
VALVE LIGHTS

80-00-01



ENGINE START
VALVES

80-00-02

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
80-00-01 Engine Start VALVE Lights	**Y**	2	1	**C**	**(O)** One may be inoperative provided associated valve is verified closed after engine start.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
80-00-01	Affected Engine Start VALVE Light	___ Engine Start VALVE Light INOP

(O) PROCEDURES

ENGINE START PROCEDURE

1. Start affected engine first, using pneumatic duct pressure indication to ensure that start valve has closed. Use normal start procedures except for the following:

   a. Place engine bleed air switch for associated engine in the OFF position.

      NOTE: All pneumatic duct isolation switches should be ON.

   b. When ENG START selector is moved to GND position, observe a drop in duct pressure, followed by a partial recovery.
   c. After engine reaches 50% N2 RPM:

      1) Observe that ENG START selector returns to AUTO position.
      2) Observe that duct pressure returns to its original level. This verifies start valve closure.

2. If duct pressure does not return to original level (also evidenced by an EICAS STARTER CUTOUT message): *Maintenance is Required and the Flight Crew May NOT Placard*

   a. Accomplish STARTER CUTOUT procedure, per QRH Non-Normal Section (Engines, APU).
   b. Call Maintenance to close start valve manually.
   c. Dispatch is **not** allowed. See MEL 80-00-02.

CAUTION: Manual operation of the start valve without air pressure in start duct may damage valve.

3. After start valve has been closed, restore bleed air system to required configuration.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
80-00-02 Engine Start Valves	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Associated start VALVE light operates normally, and b) Manual override start procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
80-00-02	Associated Engine Start Switch	___ Engine Start Valve INOP

(O) PROCEDURES

Use normal engine start procedures except:

1. Announce “OPEN START VALVE.” Set the engine start selector to GND.
2. At 50% N2 announce “CLOSE START VALVE.” Confirm the engine start selector returns to AUTO, and the start VALVE light momentarily illuminates, then extinguishes.

NOTE: For inflight start of the associated engine, use a windmilling start.

(M) PROCEDURES

Start the associated engine by manual override of the starter air valve (AMM 71-00-00/201).

1. Establish communication with the flight crew.
2. Install the starter control valve drive extension through the access port for the starter valve.
3. Upon command from the flight crew, turn the drive extension to open the starter control valve and hold in the OPEN position.
4. Upon command from the flight crew, close the starter control valve.
5. Remove the drive from the access port.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
80-11-02	Starter Switch Holding / Cutout Systems	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

MEL ITEM	MCO TAB LOCATION	MCO PLACARD TEXT
80-11-02	Associated Engine Start Switch(es)	Starter Switch Holding / Cutout System(s) INOP

(O) PROCEDURES

1. Start the associated engine(s) using normal engine start procedures with the flight crew manually holding and/or releasing the ENG START selector.
2. Position the ENG START selector to the GND position and hold if required.
3. Position the ENG START selector to the AUTO position at 50% N2.

Caution: Delaying rotation of the eng start selector to the auto position can cause starter overspeed and damage.

4. Verify that the start VALVE light on the overhead panel momentarily illuminates, then extinguishes.

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